

REGULAR CALENDAR

March 1, 2022

HOUSE OF REPRESENTATIVES

REPORT OF COMMITTEE

**The Majority of the Committee on Resources,
Recreation and Development to which was referred HB
1071,**

**AN ACT relative to wake surfing. Having considered
the same, report the same with the following resolution:
RESOLVED, that it is INEXPEDIENT TO LEGISLATE.**

Rep. Gregg Hough

FOR THE MAJORITY OF THE COMMITTEE

**MAJORITY
COMMITTEE REPORT**

Committee:	Resources, Recreation and Development
Bill Number:	HB-1071
Title:	relative to wake surfing.
Date:	March 1, 2022
Consent Calendar:	REGULAR
Recommendation:	INEXPEDIENT TO LEGISLATE

STATEMENT OF INTENT

This bill sought to increase the shore distance required for wake boarding from 150 ft, to 250 ft away from NH shorelines. The committee majority heard convincing testimony that enforcement of a separate and unique distance rule for this one activity, separate and distinct from all other activities, would be problematic and cause confusion for boaters and the general public alike. Many boats and activities generate wakes, but only wake surfing would be subject to this added setback. Testimony also showed wake surfing is generally of better quality further from shore and away from other boats and property. Further, the committee heard testimony that wake surfing can be done in a manner whereby any wave action will be directed away from the shore. The majority was also impressed with the boating industry and Marine Patrol actively promoting an information campaign focused toward those who participate in wake boating; promoting safety, best practices and respectful behavior to others on our lakes. The broadcasting of 2,363 radio ads was part of that "Wake Responsibly" campaign in 2021. It should be noted that 1179 people signed in opposed to this bill (63% opposed). The majority of the committee recommends this bill be deemed inexpedient to legislate.

Vote 11-10.

Rep. Gregg Hough
FOR THE MAJORITY

Original: House Clerk
Cc: Committee Bill File

REGULAR CALENDAR

Resources, Recreation and Development

HB 1071, relative to wake surfing. **MAJORITY: INEXPEDIENT TO LEGISLATE. MINORITY: OUGHT TO PASS.**

Rep. Gregg Hough for the **Majority** of Resources, Recreation and Development. This bill sought to increase the shore distance required for wake boarding from 150 ft, to 250 ft away from NH shorelines. The committee majority heard convincing testimony that enforcement of a separate and unique distance rule for this one activity, separate and distinct from all other activities, would be problematic and cause confusion for boaters and the general public alike. Many boats and activities generate wakes, but only wake surfing would be subject to this added setback. Testimony also showed wake surfing is generally of better quality further from shore and away from other boats and property. Further, the committee heard testimony that wake surfing can be done in a manner whereby any wave action will be directed away from the shore. The majority was also impressed with the boating industry and Marine Patrol actively promoting an information campaign focused toward those who participate in wake boating; promoting safety, best practices and respectful behavior to others on our lakes. The broadcasting of 2,363 radio ads was part of that "Wake Responsibly" campaign in 2021. It should be noted that 1179 people signed in opposed to this bill (63% opposed). The majority of the committee recommends this bill be deemed inexpedient to legislate. **Vote 11-10.**

Original: House Clerk

Cc: Committee Bill File

REGULAR CALENDAR

March 1, 2022

HOUSE OF REPRESENTATIVES

REPORT OF COMMITTEE

**The Minority of the Committee on Resources,
Recreation and Development to which was referred HB
1071,**

**AN ACT relative to wake surfing. Having considered
the same, and being unable to agree with the Majority,
report with the recommendation that the bill OUGHT
TO PASS.**

Rep. Suzanne Gottling

FOR THE MINORITY OF THE COMMITTEE

**MINORITY
COMMITTEE REPORT**

Committee:	Resources, Recreation and Development
Bill Number:	HB 1071
Title:	relative to wake surfing.
Date:	March 1, 2022
Consent Calendar:	REGULAR
Recommendation:	OUGHT TO PASS

STATEMENT OF INTENT

HB 1071 is a modest proposal to require any watercraft creating the conditions necessary for wake surfing remain 250 feet from shore, docks, and other boats. At present, the distance required is 150 feet. Citizens in favor of this bill who use our waterbodies for recreation sent individualized emails describing the effects of larger, more powerful wakes on their ability to safely navigate in small, unpowered vessels such as kayaks, canoes, rowing shells, and paddleboards. Others detailed their reluctance to sit on the dock after large waves swept their chairs and cushions into the water. Boats tied up at a dock were damaged by the heaving waves and dock boards pulled loose. Many parents and grandparents noted the frightening effect of the waves on small children playing in shallow water. Owners of shoreline properties lamented the loss of their shoreline due to erosion. Small and large lake associations expressed concern about the effect on the quality of water resulting from higher, more powerful wave action. The Department of Environmental Services (DES) spoke in approval of this modest protection of a valuable NH asset, its waterbodies, while protecting the right of citizens to use these assets. Opponents of the bill testified that education and enforcement are sufficient to limit the possible damage caused by the large waves needed for wake surfing. However, the hundreds of communications from supporters of the bill make it clear that these are not sufficient. Opponents also stated enforcement would be a problem with a change in distance. The Captain of Marine Patrol told the committee enforcement by Marine Patrolmen would not be a problem as they are highly trained in monitoring distances and many use laser devices for even more accuracy. The opponents also felt that wake surfing was being singled out with a higher than 150-foot required separation distance. However, "ski craft" must be 300 feet from shore. Most of the objections included the fear that extension of the distance was a step in banning wake surfing. The intent of the bill is quite the opposite. By increasing the safe passage distance for this activity, wake surfers can continue to enjoy the activity and, because the large waves will be further from shore, those enjoying sunbathing on their docks can also enjoy their time by the water. The minority believes family fun does not diminish proportionate to one's distance from shore, docks, and other boats.

Original: House Clerk
Cc: Committee Bill File

Rep. Suzanne Gotting
FOR THE MINORITY

Original: House Clerk
Cc: Committee Bill File

REGULAR CALENDAR

Resources, Recreation and Development

HB 1071, relative to wake surfing. **OUGHT TO PASS.**

Rep. Suzanne Gottling for the **Minority** of Resources, Recreation and Development. HB 1071 is a modest proposal to require any watercraft creating the conditions necessary for wake surfing remain 250 feet from shore, docks, and other boats. At present, the distance required is 150 feet. Citizens in favor of this bill who use our waterbodies for recreation sent individualized emails describing the effects of larger, more powerful wakes on their ability to safely navigate in small, unpowered vessels such as kayaks, canoes, rowing shells, and paddleboards. Others detailed their reluctance to sit on the dock after large waves swept their chairs and cushions into the water. Boats tied up at a dock were damaged by the heaving waves and dock boards pulled loose. Many parents and grandparents noted the frightening effect of the waves on small children playing in shallow water. Owners of shoreline properties lamented the loss of their shoreline due to erosion. Small and large lake associations expressed concern about the effect on the quality of water resulting from higher, more powerful wave action. The Department of Environmental Services (DES) spoke in approval of this modest protection of a valuable NH asset, its waterbodies, while protecting the right of citizens to use these assets. Opponents of the bill testified that education and enforcement are sufficient to limit the possible damage caused by the large waves needed for wake surfing. However, the hundreds of communications from supporters of the bill make it clear that these are not sufficient. Opponents also stated enforcement would be a problem with a change in distance. The Captain of Marine Patrol told the committee enforcement by Marine Patrolmen would not be a problem as they are highly trained in monitoring distances and many use laser devices for even more accuracy. The opponents also felt that wake surfing was being singled out with a higher than 150-foot required separation distance. However, "ski craft" must be 300 feet from shore. Most of the objections included the fear that extension of the distance was a step in banning wake surfing. The intent of the bill is quite the opposite. By increasing the safe passage distance for this activity, wake surfers can continue to enjoy the activity and, because the large waves will be further from shore, those enjoying sunbathing on their docks can also enjoy their time by the water. The minority believes family fun does not diminish proportionate to one's distance from shore, docks, and other boats.

Original: House Clerk

Cc: Committee Bill File

HOUSE COMMITTEE ON RESOURCES, RECREATION AND DEVELOPMENT

EXECUTIVE SESSION on HB 1071

BILL TITLE: relative to wake surfing.

DATE: February 23, 2022

LOB ROOM: 305 - 307

MOTIONS: **INEXPEDIENT TO LEGISLATE**

Moved by Rep. Hough

Seconded by Rep. Harb

Vote: 11-10

CONSENT CALENDAR: NO

Statement of Intent: Refer to Committee Report

Respectfully submitted,

Rep Juliet Harvey-Bolia, Clerk

HOUSE COMMITTEE ON RESOURCES, RECREATION AND DEVELOPMENT

EXECUTIVE SESSION on HB 1071

BILL TITLE: relative to wake surfing.

DATE: 2-23-22

LOB ROOM:

MOTION: (Please check one box)

- OTP
- ITL
- Retain (1st year)
- Adoption of Amendment # _____ (if offered)
- Interim Study (2nd year)

Moved by Rep. Hough Seconded by Rep. Harb Vote: 11-10

MOTION: (Please check one box)

- OTP
- OTP/A
- ITL
- Retain (1st year)
- Adoption of Amendment # _____ (if offered)
- Interim Study (2nd year)

Moved by Rep. _____ Seconded by Rep. _____ Vote: _____

MOTION: (Please check one box)

- OTP
- OTP/A
- ITL
- Retain (1st year)
- Adoption of Amendment # _____ (if offered)
- Interim Study (2nd year)

Moved by Rep. _____ Seconded by Rep. _____ Vote: _____

MOTION: (Please check one box)

- OTP
- OTP/A
- ITL
- Retain (1st year)
- Adoption of Amendment # _____ (if offered)
- Interim Study (2nd year)

Moved by Rep. _____ Seconded by Rep. _____ Vote: _____

CONSENT CALENDAR: ___ YES X NO

Minority Report? X Yes ___ No If yes, author, Rep: Grotting Motion: _____

Respectfully submitted: J. Harvey-Bolia
Rep Juliet Harvey-Bolia, Clerk



2022 SESSION

Resources, Recreation and Development

Bill #: 1071 Motion: FTL AM #: _____ Exec Session Date: 2-23-22

<u>Members</u>	<u>YEAS</u>	<u>Nays</u>	<u>NV</u>
Renzullo, Andrew Chairman	✓		
Harb, Robert D. Vice Chairman	✓		
Hough, Gregg	✓		
Gould, Linda R.	✓		
Horgan, James F.	✓		
Creighton, Jim L.	✓		
Dodge, Dustin	✓		
Harvey-Bolia, Juliet Clerk	✓		
Healey, Robert V.	✓		
Mayville, Mary L.	✓		
Post, Lisa C.M.	✓		
Smith, Suzanne J.		✓	
Spang, Judith T. <u>WESTON</u>		✓	
Grassie, Chuck W.		✓	
Gottling, Suzanne H.		✓	
Cohen, Bruce L.		✓	
Connors, Erika F.		✓	
Vail, Suzanne M.		✓	
Kelley, Eamon P.		✓	
Moran, Melbourne R. <u>PEREZ</u>		✓	
Egan, Timothy T.		✓	
	11	10	

HOUSE COMMITTEE ON RESOURCES, RECREATION AND DEVELOPMENT

PUBLIC HEARING ON HB 1071

BILL TITLE: relative to wake surfing.

DATE: February 9, 2022

LOB ROOM: 305 - 307 **Time Public Hearing Called to Order:** 1:05 p.m.

Time Adjourned: 4:15 p.m.

Committee Members: Reps. Renzullo, Harb, Harvey-Bolia, Hough, Gould, Horgan, Creighton, Dodge, Mayville, Post, Suzanne Smith, Grassie, Gottling, Cohen, Connors, Moran and Egan

Bill Sponsors:

Rep. Gottling
Rep. Weston

Rep. Deshaies
Rep. Tanner

Rep. J. MacDonald
Rep. Ebel

TESTIMONY

* Use asterisk if written testimony and/or amendments are submitted.

Rep. SuzaneGottling introduced the bill and spoke in favor of it saying that it is not a step towards banning wake surfing. She stated that the bill addresses environmental concerns by increasing the buffer between the wakesurfer and the shoreline.

Rep. Suzanne Smith spoke in favor of the bill saying that the bill doesn't apply to wakeboats only wake surfers. Smith discussed a wake wave study and stated that extending the buffer will help mitigate damage to the shores.

John Walley, NH Marine Trades Association said he opposes the bill saying that public education is a better choice. He stated that the bill is creating confusion by addressing wakesurfing but not wakeboats. He stated that boater education works and reduces fatalities. The new wakeboats have the ability to point the wake away from the shore. He added that boaters already has a difficult time judging 150ft and that increasing the distance to 250ft will complicate the issue.

David Neils, NHDES said that DES does not take a position on the bill. He likes that the bill addresses the activity type instead of the craft. Protecting the shoreline is of concern and this bill may mitigate erosion concerns.

Jodi Grimbilas and Mike Farrelly, NHMTA and Watersports Industry Association:

Farrelly, opposed the bill stating that the "NH Wake Responsibly Campaign" spent \$58,000 to educate boaters to wake responsibly. The three tenets of the campaign is to stay 200ft from shore, play music at reasonable levels and minimize repetitive passes.

Grimbilas stated that if the bill passes it would pass the most stringent standards. She listed about 10 to 15 other states and their wakeboats setbacks. The setbacks were all about 100ft-200ft. Complaints about wake boats have dropped in the past year.

June Fichter, Lake Sunapee Protective Association, spoke in favor of the bill saying the distance needs to be increased.

The Raymond Family. Steve Raymond opposed the bill and states that ice, improper development and other factors cause more erosion to the shoreline than wakeboating. He stated that the bill would add confusion.

Michelle Davis, NH Lakes, spoke in favor of the bill.

Shane Carey spoke in opposition saying that there is another study about wakeboating and erosion and that we should wait for that study to draw conclusions.

Susan Price, Fish and Game Commissioner, speaking for herself, spoke in favor of the bill for safety concerns, among others. She wasn't sure how many boats she has owned.

Scott Fitzgerald, spoke in opposition

Dan McCafferty, Spindle Point Association, spoke in favor of the bill.

Evan Goldner, small water sports business owner, spoke in opposition to the bill, saying that the bill would eliminate the ability of people to wake surf on rivers.

Larry Briggs spoke in favor of the bill.

Tonya Knightly spoke in opposition to the bill.

Carl Lehner spoke in favor of the bill.

Ryan Laliberte and family spoke against the bill.

Brett Nigro spoke against the bill. He added that heavy boats create bigger wakes and that he has not seen damaging erosion effects of wakeboats.

Respectfully submitted,

Rep. Juliet Harvey-Bolia

Clerk

SIGN UP SHEET

To Register Opinion If Not Speaking

Bill # HB 1071 Date 2/9/22
 Committee Resources, Recreation + Development

** Please Print All Information **

Name	Address	Phone	Representing	(check one)	
				Pro	Con
Rep Christy Barber			Merrimack 19	X	
Joyce Weston	Grafton 8			X	
Daniel Wettergreen			Laconia NH		X
Ryan Cardelle	Gilford	603-279-8306	Gilford NH		X
Jason St. Gelais	Meredith		Meredith NH		X
Tonya Knightly	Northwood	603-23-7050			X
Stephen Raymond	Manchester	603-494-4189	Manchester NH		X
Sammy Raymond	Manchester	603-396-9052			X
Emily Raymond	Manchester	603-396-9052	Manchester NH		X
Dan Lemieux	Meredith	603-328-6105			X
Crystal Laliberte	Bow	603-731-1739			X
Shane Laliberte	Bow	603-545-7777			X
Ryan Laliberte	Bow				X
Samantha Laliberte	Concord	603-856-5641			X
Julie Marsh	Gilford	603-387-4341			X
Travis Williams	Meredith	603-455-0268			X
Linda Karpowicz	Meredith	603-271-9929			
Andrea Cambreaux	Plymouth	603-731-0821	NH Lakes	X	
Steve Wolf	New London	802-733-9110			X
Matthew Galin	Tuftonboro	603-651-7640			X
Dan McCafferty	Meredith	978-761-4103		X	
David Dieme	Hudson	603-880-1338			X
Keith Mayotte	Bedford	603-475-8707			X

House Remote Testify

Resources, Recreation and Development Committee Testify List for Bill HB1071 on 2022-02-09

Export to Excel

<u>Name</u>	<u>City, State</u> <u>Email Address</u>	<u>Title</u>	<u>Representing</u>	<u>Position</u>	<u>Testifying</u>	<u>Non-Germane</u>	<u>Signed Up</u>
Paskell, Tyler	Moultonborough, NH tjpaskell@gmail.com	A Member of the Public	Myself/ and our family	Oppose	No	No	2/2/2022 4:52 PM
fratiello, john	Gloucester, MA jfrat3@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 4:57 PM
Vinick, Michael	Sunapee, NH mvinick@ductandvent.com	A Member of the Public	Myself / My Family	Oppose	No	No	2/2/2022 5:01 PM
Hancock, Ryan	Northfield, NH rhancock54@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 5:06 PM
Gratton, Guillaume	Bedford, MA gratton.guillaume@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 5:07 PM
Bockley, Erich	Belmont, NH erichbockley@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 5:08 PM
DiNovi, Tony	Moultonborough, NH Tony@dinovi.net	A Member of the Public	Myself	Oppose	No	No	2/2/2022 5:21 PM
A.Smith, Stanford	Moultonborough, NH stanfordsmith240@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 5:26 PM
Trottier, Richard	LITCHFIELD, NH ricktrottier61@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 5:28 PM
Morriss, Candace	Tuftonboro, NH Candacemorriss@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 5:28 PM
Green, Brian	Pelham, NH green.bj@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 5:30 PM
Beaudoin, Bryan	MOULTONBOROUGH, NH beaudoin.bryan@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 5:32 PM
Broome, Zane	Jaffrey, NH broomez@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 5:33 PM

Woolso, Spencer	New London, NH spencer0221@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 5:35 PM
Sawyer, Drew	Moultonborough, NH drewts@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 5:46 PM
Hennig, Alex	Gilford, NH achennig@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 5:53 PM
Patenaude Vannoy, Caitlin	Moultonboro, NH Cpatenaude214@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 6:00 PM
Irving, Charles	Moultonboro, NH Cirving@divnpt.net	A Member of the Public	Myself	Oppose	No	No	2/2/2022 6:20 PM
Ulfelder, Jenny	Holliston, MA jennyulf@verizon.net	A Member of the Public	Myself	Oppose	No	No	2/2/2022 6:24 PM
wolf, stephen	new london, NH swolf@conteches.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 6:25 PM
Davis, Mark	Draper, UT mfdlax13@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/2/2022 6:32 PM
Giampietro, Dennis	Nashua, NH dennisgiampietro@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 6:36 PM
Weldon, Kent	Center Harbor, NH kweldon@Thl.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 6:37 PM
Herweck, Cynthia	Nashua, NH cindyherweck@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 6:37 PM
Leinsing, Karl	DOVER, NH kleinsing@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/2/2022 6:42 PM
Leinsing, Sully	DOVER, NH lambogallardo@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/2/2022 6:46 PM
Leinsing, Amy & Sarah	DOVER, NH gt2rscs@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 6:47 PM
Woolson, Tyler	New London, NH tlwoolso@comcast.net	A Member of the Public	Myself/family	Oppose	No	No	2/2/2022 7:07 PM
Woolson, Kimberly	New London, NH kjwoolso@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 7:10 PM
McMath, Amy	Dover, NH amyelizabeth@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 7:12 PM
Weidner, Daniel F.	Bedford, NH weidner-28@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/2/2022 7:19 PM

Mallinger, james	New London, NH jamie.mallinger@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 7:19 PM
Weidner, Jennifer	Bedford, NH Jweidner97@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/2/2022 7:19 PM
Weidner, Bob	Wolfeboro, NH Weidnerbob@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/2/2022 7:20 PM
Paul, David	Sunapee, NH Dppaul1414@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 7:26 PM
Morin, Gregory	East Longmeadow, MA gregmorin@charter.net	A Member of the Public	Myself/family	Oppose	No	No	2/2/2022 7:53 PM
Mallinger, Ella	New London, NH ellamallinger79@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 8:33 PM
McInerney, Matthew	New London, NH Mgmciner@iu.edu	A Member of the Public	Myself/ my family	Oppose	No	No	2/2/2022 8:39 PM
DeMille, Sarah	New London, NH sarah.demille@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 8:42 PM
Weidner, Janet	Wolfeboro, NH weidnerjanet@ comcast.net	A Member of the Public	Myself & my family	Oppose	No	No	2/2/2022 8:43 PM
McSweeney, Yianni	New London, NH yiannimc42@gmail.com	A Member of the Public	Myself and my girlfriend	Oppose	No	No	2/2/2022 8:45 PM
DeMille, Emma	New London, NH Emma.demille@gmail.com	A Member of the Public	Myself and family	Oppose	No	No	2/2/2022 8:48 PM
Kreitler, Susan	New london, NH Susan.kreitler@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 8:59 PM
Rose, Brian	Sunapee, NH brsrose@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/2/2022 9:16 PM
Hollinger, Will	New London, NH Willshollinger@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 9:58 PM
Joyner, Jonathan	Moultonborough, NH jajoyner12@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 9:58 PM
Hurwitz, Jennifer	Bedford, MA Jhurwitz@stersol.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 10:05 PM
Kreitler, Samantha	New London, NH sam.mcinerney.sm@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 10:17 PM
Hurwitz, Ronia	Meredith, NH Hurwizzle.d2k11@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/2/2022 11:08 PM

blackshaw, richard	Georges mills, NH rick@blackshaw.us	A Member of the Public	Myself	Oppose	No	No	2/3/2022 12:32 AM
Withrow, Leanne	Pelham, NH Slwithrow17@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 7:02 AM
Anderson, Keith	Strafford, NH Keith.anderson82@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 7:16 AM
Anderson, Nichole	Strafford, NH Me2nic@aol.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 7:18 AM
Hauck, Sara	Indianapolis, IN sjmac811@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 7:36 AM
Blackshaw, Carson	Sunapee, NH Carson@blackshaw.us	A Member of the Public	Myself	Oppose	No	No	2/3/2022 7:44 AM
Wonser, Michelle	Epping, NH chelle_221@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 9:04 AM
Morrison, Joshua	Gilford, NH joshuapmorrison@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 9:25 AM
Chase, Kara	Belmont, NH Kara@aaronchase.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 9:26 AM
Bormes, Michael	Belmont, NH Mbormes@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 9:35 AM
Connelly, Greg	Alton Bay, NH greg@firesidelivingNH.com	A Member of the Public	Myself/family	Oppose	No	No	2/3/2022 9:48 AM
Pollock, Brooks	Portsmouth, NH bpollock141@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 9:53 AM
Choe, Michael	Wolfeboro, NH Mchoe@charlesbank.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 10:04 AM
Quandt, Robert	Moultonborough, NH robert.quandt@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 10:08 AM
Davis, Ashley	Gilford, NH ashley.davis@fourseasonssir.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 10:10 AM
Gagnon, Kaitryn	Belmont, NH kaitryn0829@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/3/2022 10:11 AM
Leclair, Hannah	Belmont, NH Hanner0717@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 10:16 AM
Fountain, Trent	Laconia, NH fountaintrent37@yahoo.com	A Member of the Public	Myself/family	Oppose	No	No	2/3/2022 10:16 AM

Searle, Donny	Gilford, NH dfsmedia9@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 10:18 AM
Petersen, Mark	Alton, NH mpetersen@interimhealthcare.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 10:24 AM
Rivinius, Gregg	Bedford, NH rivinius@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 10:25 AM
Mitchell, Mason	Belmont, NH masemikematt@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 10:38 AM
Mohr, Eva	Lee, NH wakebabe99@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/3/2022 10:57 AM
Marion, Amylee	Concord, NH Amylee.marion@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 10:58 AM
Marshall, Larkin	Bristol, NH Larkin.gause@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 10:58 AM
Schuttinger, Bryan	Hooksett, NH Schuttingerb@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:03 AM
Meeken, Lisa	meredith, NH Lisa@hkplaconia.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:09 AM
Quisenberry, David	Moultonborough, NH thepinesnh@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:11 AM
Mayotte, Karen	Bedford, NH Kmmayotte@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:19 AM
Whalley, Logan	Bow, NH Lawhalley@aol.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:40 AM
Drouin, Cameron	Alton, NH cameron.drouin@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:42 AM
redmond, maria	laconia, NH mariareds222@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:44 AM
Dawson, Ted	New London, NH Teddawson72@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:44 AM
West, James	Gilford, NH Jimwestct@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:44 AM
Whalley, John	Gilford, NH jlwhalley@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:44 AM
Street, Steve	Londonderry, NH steve.street@me.com	A Member of the Public	Myself / Family	Oppose	No	No	2/3/2022 11:47 AM

Street, Stacie	Moultonborough, NH staciestreet@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:50 AM
DesMarais, Arthur	Gilford, NH Adesmarais22@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:50 AM
Why, Gregory	Wolfeboro, NH gregwhy19@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:52 AM
King, Nick	Hudson, NH Kingn227@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:52 AM
Collins, Michael	Meredith, NH Mpc3588@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:53 AM
Caron, Brittany	Derry, NH Dlnaking@msn.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:53 AM
King, Darrin	Derry, NH Dlnaking@msn.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:53 AM
lemay, christopher	bedford, NH lemaynh@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:54 AM
Carlson, Stephen	Windham, NH stevecarlson2003@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:55 AM
Whalley, Connor	Bow, NH cepifany@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 11:55 AM
Pascucci, David	Gilford, NH tylerpascucci@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/3/2022 11:55 AM
Griffin, Michelle	Alton, NH lilone003@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 12:02 PM
Avery, Maxwell	Wolfeboro, NH maxwell.c.avery@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/3/2022 12:02 PM
Dupes, Brian	Londonderry, NH bdupes27@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 12:04 PM
whalley, Jennifer	bow, NH jjwhalley@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/3/2022 12:05 PM
Jeffreys, Bart	Gilford, NH bart@parafunalia.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 12:12 PM
pearl, josh	Loudon, NH Jlpearl@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/3/2022 12:14 PM
Langridge, Ryan	Litchfield, NH ryan.langridge@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 12:18 PM

Dolan, Anthony	Sunapee, NH anthony@dolanre.com	A Member of the Public	Myself/myfamily	Oppose	No	No	2/3/2022 12:22 PM
Messenger, Rob	Sunapee, NH robm@legacymortgagellc.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 12:26 PM
Bedard, Josh	Gilford, NH Jbedard40@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 12:33 PM
Bartley, Bill	Barnstead, NH est1960@live.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 12:34 PM
Hall, Christopher	Milton, NH Switchback08@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/3/2022 12:42 PM
Casali, John	Alton, MA jcasali@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/3/2022 12:57 PM
Stone, Bob	Tilton, NH boatnut13@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 12:59 PM
O'shea, Karen	Barnstead, NH Keosheal@hotmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/3/2022 1:03 PM
Beardsley, Robert	Gilford, NH beardsleybobby@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 1:06 PM
Farrelly, Michael	Concord, NH mfarrelly99@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 1:10 PM
Simone, Tony	Intervale, NH tonysimone3@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 1:10 PM
Dominick, Nicholas	Tilton, NH npdominick@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 1:11 PM
Simone, Jenny	Intervale, NH tonysimone3@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 1:13 PM
Crawford, Stephen	Moultonborough, NH shopping64@mac.com	A Member of the Public	Myself/family	Oppose	No	No	2/3/2022 1:23 PM
Marchand, Diane	Tilton, NH Deb52959@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 1:40 PM
Whalley, Purr	Alton Bay, NH Purrwhalley@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 1:41 PM
Gatti, Elizabeth	New London, NH amazing_05rugby@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 1:42 PM
Marchand, Cassie	Tilton, NH Cmmarchand423@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 1:45 PM

Blackshaw, Brook	Sunapee, NH brook@blackshaw.us	A Member of the Public	Myself	Oppose	No	No	2/3/2022 1:50 PM
Kasparian, David	Meredith, NH dave.kasparian@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 1:56 PM
Irwin, Christopher	Enfield, NH crit111@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 1:56 PM
Kasparian, Lisa	Meredith, NH lmcg23@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 1:56 PM
Kasparian, Dave	Meredith, NH dkasparian@dcdevelopment.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 1:57 PM
Brown, Lloyd	Alton, NH gusbrownfbi@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 2:02 PM
Urffer, Kathy	Brattleboro, VT kurffer@ctriver.org	A Lobbyist	Connecticut River Conservancy	Support	No	No	2/3/2022 2:03 PM
Boynton, David	Greenland, NH daveboynton@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/3/2022 2:15 PM
Sturgess, Mike	Tilton, NH Msturgg23@aol.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 2:15 PM
Marchand, Thomas	Tilton, NH Thomascmarchand@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 2:17 PM
Stasio, Dennis Jr.	Danville, NH dsjr65@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/3/2022 2:25 PM
Zahoruiko, Alex	Barnstead, NH awzahoruiko@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 2:30 PM
Simone, Jennifer	Interval, NH jennysimone1@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/3/2022 3:54 PM
Graham, Marlene	Strafford, NH marlene.graham@juno.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 4:02 PM
Dusseault, Jennell	Hooksett, NH Jennellie@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 4:51 PM
Dusseault, Kevin	Hooksett, NH Keveeno@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/3/2022 4:52 PM
Irwin, Jessica	Enfield, NH javeryxx@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 5:16 PM
Knightly, Scott	Northwood, NH scottk@envirovantage.com	A Member of the Public	Myself and My family	Oppose	No	No	2/3/2022 5:37 PM

Simone, Meghan	Bartlett, NH meg@megsimone.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 5:45 PM
Feeley, Michael	Alton, NH CF02026@yahoo	A Member of the Public	Myself	Oppose	No	No	2/3/2022 6:21 PM
Brough, James	Gilford, NH Jamesbrough17@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 6:31 PM
Hodson, April	Wolfboro, NH Aprilaloha@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 6:37 PM
Hodson, Marc	Wolfboro, NH Hodsonmarc@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 6:39 PM
Avery, Jean	Grantham, NH jeanaveryskis@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 6:40 PM
Lee, Robert	Salem, NH BLee@Insulectro.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 7:11 PM
Napoli-Lee, Lori	Salem, NH Lnapoli_1999@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 7:13 PM
Doumoussiari, Leah	Litchfield, NH Doumole@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 7:35 PM
Bergeron, Keith	Enfield, NH epd312@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 7:39 PM
Waite, Cory	Sanbornton, NH Coryw.waite@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 7:49 PM
Taylor JR, Keith R	Moultonboro, NH ktaylorjr@me.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 8:32 PM
Lounsbury, Molly	Moultonborough, NH Mjlounsbury@gmail.com	A Member of the Public	Myself	Support	No	No	2/3/2022 8:55 PM
Kulcsar, Amy	Gilford, NH Kulcsarj@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 9:05 PM
Hutchens, Chris	Deerfield, NH chrishutchens1@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 9:12 PM
Diamond, Will	Georges Mills, NH Will@Diamondnh.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 9:19 PM
Marchand, Hana	Tilton, NH Hge6692@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/3/2022 10:05 PM
Bajor, Eric	Pelham, NH Eric.bajor@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 5:00 AM

Rohrer, Thomas	Meredith, NH tomrohrer@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 6:42 AM
Flanders, Dana	Gilford, NH Deflanders@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:34 AM
Levasseur, Marc	Alton, NH Marc.rlevasseur@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:39 AM
Davis, Daniel	Hooksett, NH ruger517@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 9:15 AM
whitcher, michael	strafford, NH mdw@whitcher.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 9:39 AM
Swain, Scott	Meredith, NH scott@swainrep.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 10:17 AM
Altieri, Steve	Tilton, NH Saltieri@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 10:20 AM
MacDonald, Sandie	Wolfeboro, NH sandiemac419@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 10:29 AM
MacDonald, Randy	Alton, NH rsmac0815@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 10:29 AM
Mcelroy, Lisa	Georges Mills, NH Lisa@mcelroy.org	A Member of the Public	Myself	Oppose	No	No	2/4/2022 10:52 AM
Janeway, Elizabeth	Webster, NH Ecjway1@aol.com	A Member of the Public	Myself	Support	No	No	2/4/2022 11:18 AM
Picard, Candice	Pelham, NH candicejp@aol.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 11:37 AM
whitcher, marcy	strafford, NH mdw@whitcher.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 11:37 AM
Hussey, Chris	Windham, NH Chrisusseyepa@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 11:54 AM
ALGEO, PATRICK	LITCHFIELD, NH algeopatrick@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 11:55 AM
Picard, Paul	Pelham, NH paulpicard3@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 12:02 PM
Preston, Randall	Alton, NH randallpreston6107@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 12:22 PM
Montesano, Alexia	Dover, NH alexiascottm@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/4/2022 1:16 PM

Deacon, Jeffrey	New London, NH jeffdeacon@tds.net	A Member of the Public	Myself	Oppose	No	No	2/4/2022 1:31 PM
Briggs, Larry	Newbury, NH larryabriggs@yahoo.com	A Member of the Public	Myself	Support	No	No	2/4/2022 2:00 PM
Desmond, Angela	North Andover, MA salesadmin@eastcoastflightcraft.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 2:05 PM
Canova, Kaire	Danvers, MA Kaire@eastcoastflightcraft.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 2:07 PM
Greer, Stuart	Sunapee, NH bsgreer@msn.com	A Member of the Public	Myself	Support	No	No	2/4/2022 2:12 PM
Johnson, Sara	Manchester, NH saraj0462@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 2:24 PM
Padilla, Karina	Middleton, MA ap@eastcoastflightcraft.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 3:54 PM
Florio, Brendan	Laconia, NH brendanflorio@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 4:34 PM
Hunt, Rebecca	Park City, UT srhunt8@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 5:14 PM
Hunt, Stuart	Park City, UT shunt8@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 5:14 PM
Hunt, Andrew	Park City, UT adhunt108@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 5:15 PM
Hunt, Maren	Park City, UT marenvhunt@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 5:16 PM
Marks, Nisa	Henniker, NH nisa.marks@gmail.com	A Member of the Public	Myself	Support	No	No	2/4/2022 5:24 PM
Wells, Lee	Andover, NH leewells.locustfarm@gmail.com	A Member of the Public	Myself	Support	No	No	2/4/2022 5:27 PM
Edris, Christopher	Sandown, NH Chriedris@gmail.com	A Member of the Public	Myself	Support	No	No	2/4/2022 5:34 PM
King, Jennifer	North Hampton, NH king.jen@comcast.net	A Member of the Public	Myself	Support	No	No	2/4/2022 5:36 PM
Freeman, Bruce	Strafford, NH BLFreeman5@aol.com	A Member of the Public	myself and as Board Chair of NH LAKES	Support	No	No	2/4/2022 5:41 PM
Abrams, Kally	Errol, NH Kally.abrams@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 5:49 PM

Rich, Martha	Enfield, NH martha.rich@thet.net	A Member of the Public	Myself	Support	No	No	2/4/2022 6:05 PM
Goldner, Kristen	Hooksett, NH kristen.prattt@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 6:14 PM
mcCarthy, Bethann	Hopkinton, NH Bmccarthy860@gmail.com	A Member of the Public	Myself	Support	No	No	2/4/2022 6:21 PM
Rice, Gary	Hopkinton, NH Garyrice@tds.net	A Member of the Public	Myself	Support	No	No	2/4/2022 6:24 PM
Rice, Elizabeth	Hopkinton, NH emrice4@gmail.com	A Member of the Public	Myself	Support	No	No	2/4/2022 6:33 PM
Gagnon, Jennifer	Belmont, NH Niffa@metrocast.net	A Member of the Public	Myself	Oppose	No	No	2/4/2022 6:49 PM
Gagnon, Chris	Belmont, NH chrisgsonic@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 6:51 PM
Guardiano, Sherry	Keene, NH saguardiano@gmail.com	A Member of the Public	Myself	Support	No	No	2/4/2022 6:52 PM
Whalley, Mia	Gilford, NH mia.s.whalley@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 6:58 PM
Parker, Scott	Moultonborough, NH Carott_parker@msn.com	A Member of the Public	Myself	Support	No	No	2/4/2022 7:00 PM
Rich, Sheila	Pembroke, NH War_she@msn.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:03 PM
Morrison, Melissa	Gilford, NH Melissa@redanchorwellness.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:07 PM
Kofoed, Spencer	Moultonborough, NH Sskofoed@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:10 PM
Detwiller, Daniel	Moultonborough, NH dtdetwiller@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/4/2022 7:16 PM
Hentz, Trevor	Meredith, NH trevorhentz14@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:17 PM
Carr, Sandra	Madison, NH lpcslc@yahoo.com	A Member of the Public	Myself	Support	No	No	2/4/2022 7:17 PM
Knauss, Dieter	Rye, NH dieterknauss@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:19 PM
Jewell, Rick	Belmont, NH Rickjewell15@aol.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:21 PM

Hughes, Nick	Moultonborough, NH nickhughes2019@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:22 PM
Clarenbach, Miles	Moultonborough, NH Mjclarenbach@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:23 PM
Guffey, Matt	Lempster, NH Mattguffey@gmail.com	A Member of the Public	Myself	Support	No	No	2/4/2022 7:24 PM
Davies, Gavyn	Tuftonboro, NH gavyndavies@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:24 PM
Koutsos, Alexander	Nashua, NH alexkoutsos12@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:25 PM
Bedard, Rebecca	GILFORD, NH reba81582@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:26 PM
siegel, noa	wolfeboro, NH boomerlab1@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:26 PM
Edgre, Kim	Belmont, NH Kmjarc@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:26 PM
Siano, Matt	Laconia, NH sianomatt7@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:31 PM
Fradkin, Haley	Moultonborough, NH Hafradkin@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:34 PM
Dow, Cris	Wolfeboro, NH cris.dow@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:36 PM
Nelson, Connor	Alton, NH connorn2614@gmail.com	A Member of the Public	Myself/ Family	Oppose	No	No	2/4/2022 7:37 PM
Siano, Amanda	Laconia, NH Amanda.siano4@hmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:45 PM
Dupont, Lindsey	Rye, NH Lindsey.dupont@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:46 PM
Bauer, Meghan	Moultonborough, NH Meghanpbauer@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:47 PM
Hughes, Pamela	Bedford, NH Nhmittany@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:47 PM
Bauer, Zach	Moultonborough, NH Bauerzc@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:47 PM
Ptiman, Tim	Chichester, NH Tjpitman@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:52 PM

Musgrave, Nathan	Bedford, NH Nate.musgrave@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:53 PM
Whalley, Brian	Meredith, NH Service@hkplaconia.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:54 PM
Obrien, Lucas	Wolfeboro, NH Lukeskier33@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 7:59 PM
Hughes, Ari	Moultonborough, NH arihughes@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/4/2022 8:06 PM
Stecher, Gunnar	Gilford, NH gunnar.stec@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:06 PM
Dudley, Jo Beth	Dalton, NH jbdmtns@gmail.com	A Member of the Public	Myself	Support	No	No	2/4/2022 8:15 PM
Woodworth, Lee	Laconia, NH Lwoodworth@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:23 PM
woodworth, pam	Laconia, NH pamwoodworth83@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:25 PM
Stephens, Meghan	Moultonborough, NH mbsstephens@yahoo.com	A Member of the Public	Myself, my family	Oppose	No	No	2/4/2022 8:27 PM
pelletier, Jamie	Laconia, NH jgpelletier83@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:34 PM
Detwiller, Cameron	Concord / Moultonborough, NH cadetwiller@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:36 PM
McGowan, Alanna	Laconia, NH lannaab@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:36 PM
Watts, Jessica	Portsmouth, NH Watts.jessicaa@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:39 PM
McGowan, Scott	Laconia, NH Mcgowansc57@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:39 PM
Goldberg, Emily	Wolfeboro, NH rose.horse@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:40 PM
Robbins, Amy	Meredith, NH amy.robbins139@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:42 PM
Van flandern, Michael	Moultonborough, NH Mcvf15@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:46 PM
Goldberg, Victoria	Ossipee, NH Victoria.Goldberg@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:47 PM

Callahan, Bob	Gilford, NH wabunaki@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:47 PM
Bricker, James	Merideth, NH Brickman560@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 8:48 PM
Morrill, Taylor	Laconia, NH Misstater3@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 9:03 PM
Donnelly, Kathryn	New Hampton, NH kgdonnelly135@yahoo.com	A Member of the Public	Myself/family	Oppose	No	No	2/4/2022 9:05 PM
Haddock, Miranda	Wolfeboro, NH Mirandajhaddock@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 9:07 PM
Jaran, Jacquelyn	Gilford, NH jacquelynmjaran@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 9:08 PM
Garland, Nia	New Durham, NH nia.g106@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 9:10 PM
Stafford, Jack	Laconia, NH nhjack123@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/4/2022 9:15 PM
Whalley, Jim	Bow, NH Jjwhalley@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/4/2022 9:18 PM
Luby, Jenna	Wolfeboro, NH Jenna101mx@gmail.com	A Member of the Public	Myself/ Family	Oppose	No	No	2/4/2022 9:19 PM
Bradley, James	Gilford, NH jamesbradley5294@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 9:19 PM
Cole, Liz Ryan	Lyme, NH lizryancole@me.com	A Member of the Public	Myself and my hospitality business on a NH pond	Support	No	No	2/4/2022 9:24 PM
Olsen, Mark	Gilford, NH msolsen8@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/4/2022 9:34 PM
Jezak, Samantha	Belmont, NH stjezak@syr.edu	A Member of the Public	Myself	Oppose	No	No	2/4/2022 9:47 PM
Yardley, Janet	Nelson, NH Joyrley21@gmail.com	A Member of the Public	Myself	Support	No	No	2/4/2022 9:49 PM
Banks, Matthew	Bedford, NH Mattbanks22@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 9:51 PM
Bennett, Cameron	Moultonborough, NH crbenet@hotmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/4/2022 9:58 PM
DeMatos, Grace	Laconia, NH dematos.grace@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 10:38 PM

Hart, Ashley	Gilford, NH ashleymhart14@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 10:43 PM
Joy, Ryan	Gilford, NH ryanjoy1@bu.edu	A Member of the Public	Myself	Oppose	No	No	2/4/2022 10:47 PM
Redmond, Sienna	Laconia, NH sleepyred24@gmail.com	A Member of the Public	Myself/ My Family	Oppose	No	No	2/4/2022 10:52 PM
Hecka, Kamila	Laconia, NH kamahec@yahoo.com	A Member of the Public	Myself/family	Oppose	No	No	2/4/2022 10:55 PM
Gunnell, Dalin	Gilford, NH gunner6720@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 11:30 PM
Gunnell, Olivia	Gilford, NH oosgunnell@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 11:30 PM
Searle, Keith	Gilford, NH Kmsearle@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 11:32 PM
Atwood, Emma	Haverhill, MA emmaatwood@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/4/2022 11:37 PM
Bartlett, Avy	Laconia, NH Avybartlettso@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/5/2022 12:01 AM
Cantin, Julia	Gilford, NH jbcantin@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 12:13 AM
Beardsley, Susan	Gilford, NH Sjbeardsley5@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 1:13 AM
Beardsley, Sue	Gilford, NH Suebeardsley@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 1:18 AM
Beardsley, Jenny	Gilford, NH Beardaleyj98@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 1:19 AM
Pescinski, Jade	Chichester, NH jpescinski@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/5/2022 2:37 AM
Copeland, Michaela	Meredith, NH mmcopeland1@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 5:11 AM
McConnell, Elizabeth	Laconia, NH Lizwmcconnell@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 6:50 AM
Perras, Steve	Gilford, NH SDPerras@Comcast.net	A Member of the Public	Myself	Oppose	No	No	2/5/2022 7:08 AM
Bishop, Kirk	Sunapee, NH kcbishop18@gmail.com	A Member of the Public	Myself and the Watershed Committee of the Lake Sunapee	Support	No	No	2/5/2022 7:20 AM

			Protective Association				
Cole, Brandon	Gilford, NH brandoncole500@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 7:28 AM
Hwang, Frank	Gilford, NH hwangfr@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 7:31 AM
Powell, Andrew	Moultonborough, NH aspowell16@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 7:46 AM
Donahue, Liv	Moultonborough, NH livraynedonahue@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 7:46 AM
Powell, Scott	Moultonborough, NH spowell@alphamg.org	A Member of the Public	Myself	Oppose	No	No	2/5/2022 7:47 AM
Powell, Barb	Moultonborough, NH bgpowell@optonline.net	A Member of the Public	Myself	Oppose	No	No	2/5/2022 7:47 AM
Street, Sam	Moultonborough, NH Ramsam03@icould.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 7:48 AM
Guyotte, Arthur	Gilford, NH joseph.guyotte@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 7:51 AM
Stroud, Favian	Laconia, NH sracing84@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 7:55 AM
Stroud, Courtney	Laconia, NH Courtstew@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 7:56 AM
Wolf, Mike	Rye, NH mwolf2005@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 8:00 AM
Adams, Abigail	Wolfeboro, NH abigailandbri@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 8:07 AM
Chase, Aaron	Belmont, NH aaron@aaronchase.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 8:10 AM
D'Arcy, Rosemary	Bristol, NH Rvdarcy@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 8:31 AM
Adams, Paul	Amherst, NH adamsfinservices@aol.com	A Member of the Public	Myself	Support	No	No	2/5/2022 8:38 AM
Morriss, Alexander	Tuftsboro, NH Alexmorriss@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 8:46 AM
Morriss, Brady	Tuftsboror, NH Bradmorriss@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 8:48 AM
Raymond, Stephen	Manchester, NH, NH	A Member of the	Myself	Oppose	No	No	2/5/2022 8:56 AM

	stephen.raymond@gza.com	Public					
Saef, Jeffrey	Moultonborough, NH jeffsaef@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 8:57 AM
Raymond, Samantha	Manchester, NH samraychloe@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 9:00 AM
Raymond, Emily	Manchester, NH elimy76@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 9:01 AM
de Peyster, Deborah	Concord, NH ddepeyster@mac.com	A Member of the Public	Myself	Support	No	No	2/5/2022 9:05 AM
Lindsey, Nancy	New London, NH nancymlindsey@comcast.net	A Member of the Public	Myself	Support	No	No	2/5/2022 9:08 AM
Kutner, Jack	Newbury, NH jack.kutner@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 9:16 AM
Davis, Claud	Moultonborough, NH crjmt@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 9:19 AM
McNulty, Paige	Moultonborough, NH pmcnulty04@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 9:20 AM
Davis, Rebecca	Moultonborough, NH crjmt@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 9:21 AM
Davis, Matthew	Moultonborough, NH matthewthelocksmith@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 9:23 AM
Peterson, Taylor	Wolfeboro, NH ctaylorpeterson@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 9:25 AM
Stought, Jeffrey	Newbury, NH jeffstought@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 9:36 AM
Holmes, Elizabeth	Deering, NH elizabeth.holmes.nh@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 9:40 AM
Costin, Susan	Mouktonborough, NH susancostin@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 9:43 AM
San Souci, Donald	Spofford, NH donald.sansouci@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 9:45 AM
Mullen, Margaret	Alton, NH Pbmullen@themullens.net	A Member of the Public	Myself	Support	No	No	2/5/2022 9:47 AM
Ashworth, Daniel	Gilford, NH dan@ashworthawards.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 9:48 AM
Hastings, Dana	Rindge, NH	A Member of the	Myself	Support	No	No	2/5/2022 9:50 AM

	chipha41@gmail.com	Public					
Maloney, Steven	Manchester, NH smaloney@manchesternh.gov	A Member of the Public	Myself	Oppose	No	No	2/5/2022 9:51 AM
Maloney, Stephanie	Manchester, NH Stephriley06@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 9:53 AM
Maloney, Steffany	Derry, NH Smalmanch@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 9:55 AM
Harrison, James	Georges Mills, NH jim.m.harrison@comcast.net	A Member of the Public	Myself	Support	No	No	2/5/2022 10:05 AM
Callahan, Marcy	Gilford, NH wabunaki@metrocast.net	A Member of the Public	Myself	Oppose	No	No	2/5/2022 10:06 AM
Gelzer, Andrea	Newbury, NH a.gelzer@snet.net	A Member of the Public	Myself	Support	No	No	2/5/2022 10:09 AM
Gonzalez, Alexander	Windham, NH Turntu@mac.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 10:20 AM
Grue, Brandon	Hudson, NH ecfservicetpm@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 10:22 AM
STEWART, EMILY	Newbury, NH HARPERDOG960@GMAIL.COM	A Member of the Public	Myself	Support	No	No	2/5/2022 10:26 AM
Dugar, Bob	Peabody, MA ecfservicetpm@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 10:30 AM
Doherty, Nick	Billerica, MA nickecfsservice@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 10:31 AM
Stockton, Robert	Newbury, NH rstockton9214@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 10:31 AM
Mignault, Dan	Billerica, MA dan.ecfservicema@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 10:31 AM
Capozzi, Thomas	Newbury, NH tjcapozzi@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 10:31 AM
Salzar, Garrett	Billerica, MA garret.ecfrecon@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 10:31 AM
Field, Brian	Newbury, NH bfield107@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 10:32 AM
Spinale, Matthew	Alton, NH mattspinale@aol.com	A Member of the Public	Myself	Support	No	No	2/5/2022 10:35 AM
Spinale, Corinne	Alton, NH	A Member of the	Myself	Support	No	No	2/5/2022 10:37 AM

	cvspn@aol.com	Public					
Wilder, Dan	Rindge, NH danwilder17@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 10:45 AM
Callahan, Sharon	Sunapee, NH sharongcallahan@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 10:46 AM
Carter, Lilian	Deering, NH lcarter0914@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 10:48 AM
Callahsn, Thomas	Sunapee, NH Tvcallahan2019@gmsil.com	A Member of the Public	Myself	Support	No	No	2/5/2022 10:51 AM
Pratt, Thomas	Hooksett, NH Drthpratt@aol.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 10:54 AM
Norris, David	Lunenburg, MA dnorris28@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 10:59 AM
Henry, Bruce	wolfeboro, NH bhen2525@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/5/2022 11:02 AM
Harrison, Janice	Georges Mills, NH kajimo130@comcast.net	A Member of the Public	Myself	Support	No	No	2/5/2022 11:15 AM
Norris, Janelle	Lunenburg, MA Jenorris20@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 11:21 AM
Price, Katherine	Portsmouth, NH Price.katherine@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 11:33 AM
Wilson, Donald	Rindge, NH Dvwilson62@yahoo.com	A Member of the Public	Myself	Support	No	No	2/5/2022 11:34 AM
Redfield, Douglas	Rindge, NH dredfields@yahoo.com	A Member of the Public	Myself	Support	No	No	2/5/2022 11:41 AM
Redfield, Debra	Rindge, NH dredfields@yahoo.com	A Member of the Public	Myself	Support	No	No	2/5/2022 11:41 AM
Jackson, Jay	Moultonborough, NH jayjacksonmarketing@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 11:55 AM
Lynch, Conor	Alton, NH Clynch2001@outlook.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 11:55 AM
Vagos, Manuel	Newbury, NH Mjvagos@icloud.com	A Member of the Public	Myself	Support	No	No	2/5/2022 11:56 AM
Sweet, Lynn	Strafford, NH lynnsweet@metrocast.net	An Elected Official	Myself	Oppose	No	No	2/5/2022 11:56 AM
Sweet, Scott	Strafford, NH	A Member of the	Myself	Oppose	No	No	2/5/2022 11:57 AM

	Sweetslogging@metrocast.net	Public					
Medeiros, Catie	Greenland, NH Catiemed@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 12:10 PM
Wolf, Anita	New London, NH awolfrdh@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/5/2022 12:11 PM
Whitcher, Jack	Strafford, NH whitcher@metrocast.net	A Member of the Public	Myself	Oppose	No	No	2/5/2022 12:12 PM
Whitcher, Ryan	Strafford, NH rstocksandfinance@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 12:12 PM
Bruck, Robin	Hooksett, NH rjbruck1964@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 12:15 PM
Saef, Emily	Moultonborough, NH emilysaef@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 12:18 PM
Knightly, Tonya	Northwood, NH tonyak@envirovantage.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 12:50 PM
Warshell, Elaine	Moultonborough, NH ewarshell@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 1:04 PM
Lattanzio, Dale	Windham, NH dlattanzio@comcast.net	A Member of the Public	Myself	Support	No	No	2/5/2022 1:14 PM
Kelsey, Suzannah	Hopkinton, NH slidedubv5@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 1:25 PM
Putnam, Deborah	New London, NH ddputnam50@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 1:35 PM
Thompson, FD	Hampstead, NH darbdane@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 1:42 PM
Burritt, Arthur	Newbury, NH Millenbuzz@msn.com	A Member of the Public	Myself	Support	No	No	2/5/2022 2:22 PM
Przekaza, Kelly	Gilford, NH Kprzekaza1@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 2:28 PM
Burritt, Joan	Newbury, NH Joanburritt@comcast.net	A Member of the Public	Myself	Support	No	No	2/5/2022 2:28 PM
Hochman, Merle	Sunapee, NH kappieh@aol.com	A Member of the Public	Myself	Support	No	No	2/5/2022 2:35 PM
Lehner, Carl	Holderness, NH carl.lehner7@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 3:25 PM
Wolf, Christina	New London, NH	A Member of the	Myself	Oppose	No	No	2/5/2022 3:40 PM

	chrissy.wolf1@gmail.com	Public					
Haflich, Brant	New London, NH cyclismo13@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 3:41 PM
Stought, Oliver	Newbury, NH ostought@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 3:41 PM
Thompson, Francie	Hampstead, NH francie.thompson@gmail.com	An Elected Official	Myself	Support	No	No	2/5/2022 3:44 PM
Wolf, Cara	New London, NH caraleighwolf@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 3:56 PM
Price, Pamela	Sunapee, NH ppricenh@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 4:14 PM
Price, Russ	Sunapee, NH russwrp@aol.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 4:34 PM
Ashworth, Madison	Gilford, NH Madiash@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/5/2022 4:46 PM
Hodson, Andrea	Harrisville, NH sphrsupport@gmail.com	An Elected Official	Myself	Support	No	No	2/5/2022 5:21 PM
Tsetsilas, Olivia	Windham, NH Livitsetsilas@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 5:35 PM
Brown, Kelly	Windham, NH pricekel@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 5:37 PM
LaMois, Leslie	Harrisville, NH lamois@me.com	A Member of the Public	Myself	Support	No	No	2/5/2022 5:39 PM
Goldner, Wayne	Bedford, NH wlgoldner@outlook.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 5:52 PM
Goldner, Laura	Bedford, NH lhgoldner@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 5:52 PM
Lauersen, Lars	Tuftonboro, NH llauersen97@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 6:39 PM
Larsen, Matt	Wakefield, NH mwlarsen1@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 6:46 PM
Beauchamp, Noah	Norton, MA nbeauchamp14@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 6:48 PM
Bascom, Carter	Sutton, NH chbascom@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 6:49 PM
Ryan, Kilian	York, ME	A Member of the	Myself	Oppose	No	No	2/5/2022 6:52 PM

	Kiliann.ryan@gmail.com	Public					
Ollila, Jake	Goffstown, NH Jake.ollila@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 6:57 PM
Hayes, Ashlynn	Brighton, MA ashlynnh99@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/5/2022 7:20 PM
McGuire, Heather	Houston, TX heath.mcguire21@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 7:22 PM
Levoy, Annie	Boston, MA annielevoy@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 7:32 PM
Smith, Christopher	sunapee, NH cms@myfairpoint.net	A Member of the Public	Myself	Support	No	No	2/5/2022 8:14 PM
Currier, Sarah	Sanbornton, NH Scurrier.performance@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 8:27 PM
Clemence, Grace	Wolfburro, NH Grace.r.clemence@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 8:41 PM
Kamenetskiy, Ada	Wolfboro, NH adelia.kamenetskiy.bch@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 8:59 PM
Howell, Michelle	New London, NH Mehowell10@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 9:07 PM
Hoene, Ernest	Moultonborough, NH Emaxhoene21@gmail.com	A Member of the Public	Myself	Support	No	No	2/5/2022 9:18 PM
Sottak, Elaine	Belmont, NH Esottak@metrocast.net	A Member of the Public	Myself/ family	Oppose	No	No	2/5/2022 10:21 PM
Christiansen, Jennifer	Dover, NH Jenny.Christiansen@mac.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 11:40 PM
Christiansen, Ian	Dover, NH IrChristiansen@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 11:42 PM
Christiansen, Kurt	Dover, NH Kurt.Christiansen@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 11:43 PM
Christensen, Chelsi	North Hampton, NH Chelsi.Christensen@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 11:44 PM
Anderton, Terry	Hampton Falls, NH Terry@wagz.com	A Member of the Public	Myself	Oppose	No	No	2/5/2022 11:45 PM
Thompson, Sarah	Hampstead, NH smt785@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 1:48 AM
Tether, Harry	Sunapee, NH	A Member of the	Myself	Support	No	No	2/6/2022 7:33 AM

	harrytether@gmail.com	Public					
Dhemecourt, Andre	Concord, NH adhemecour@aol.com	A Member of the Public	Myself	Support	No	No	2/6/2022 8:17 AM
Dooley, Richard F	Windham, NH rfdoolley01@aol.com	A Member of the Public	Myself	Support	No	No	2/6/2022 8:52 AM
Higgins, Susan	Strafford, NH suemac2867@aol.com	A Member of the Public	Myself	Support	No	No	2/6/2022 9:03 AM
Goldner, Evan	Hooksett, NH evan@watermonkeycamp.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 9:12 AM
Silva, Robert	Hooksett, NH bruce.silva@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/6/2022 9:27 AM
Haffner, Kimberly	Manchester, NH kphaffner@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 9:50 AM
Godbout, Paul	Hooksett, NH Paulegodbout@gmail.com	A Member of the Public	Myself and family	Oppose	No	No	2/6/2022 9:52 AM
Vazquez, Raul	Manchester, NH Vtwin.rider9@yahoo.com	A Member of the Public	Myself/family	Oppose	No	No	2/6/2022 9:53 AM
Eugene, Vincent	Northwood, NH V296@mac.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 9:58 AM
Campbell, Tyson	Dunbarton, NH mxer725rx@yahoo.com	A Member of the Public	Myself/Family	Oppose	No	No	2/6/2022 10:04 AM
Stephens, Brie	Moultonborough, NH brie@lakeliferealty.net	A Member of the Public	Myself	Oppose	No	No	2/6/2022 10:06 AM
Azzi, Alexander	Manchester, NH AlexanderAzzi@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 10:14 AM
Strathie, Paul	Windham, NH pjstrathie@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 10:16 AM
Bussiere, Scott	hookett, NH homesbysab@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 10:18 AM
Crevier, Matthew	Salem, NH mjcrevier@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 10:22 AM
Crevier, Heather	Salem, NH HCrevier229@students.CCSNH.edu	A Member of the Public	Myself	Oppose	No	No	2/6/2022 10:23 AM
Goodlin, Patricia	New London, NH pdennygoodlin@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 10:33 AM
Mayotte, Keith	Bedford, NH	A Member of the	Myself	Oppose	No	No	2/6/2022 10:36 AM

	keith@redbrickclothing.com	Public					
Wilder, Diane	Rindge, NH dianewilder1@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 10:50 AM
Brodeur, Joseph	Hooksett, NH Tkdski@comcast.net	A Member of the Public	Myself / my family	Oppose	No	No	2/6/2022 10:57 AM
Cole-Tucker, Hale	New London, NH hale@tuckersnh.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 10:58 AM
St.George, Diane	Rindge, NH dstgeorge@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 10:58 AM
Calhoun, Barbara	Sunapee, NH barbaracalhoun4@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 11:02 AM
Scott, Ray	Hooksett, NH Rayscott603@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 11:08 AM
Dunlap, Carlos	Sunapee, NH cdunlap@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 11:27 AM
Gordon, KB	Sunapee, NH andkatnh@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 11:55 AM
LaFleur, Constance	Spofford, NH cmlafleur06@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 12:07 PM
Evans, Mark	Londonderry, NH mrevans542@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 12:12 PM
Dale, Karen	New London, NH Karentdale@aol.com	A Member of the Public	Myself	Support	No	No	2/6/2022 12:23 PM
Romagnoli, Ben	Meredith, NH Bpromagn@syr.edu	A Member of the Public	Myself	Oppose	No	No	2/6/2022 12:32 PM
Dale, Paul	New London, NH paulbdale@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 12:39 PM
Greenyer, Paul	New Ipswich, NH Pgreenyer@comcast.net	A Member of the Public	Myself	Support	No	No	2/6/2022 12:55 PM
Gates, Jerome	Moultonborough, NH jerome.w.gates@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 1:10 PM
Lattanzio, Laura	Windham, NH Laura82910@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 1:38 PM
Page, Nicole	80 Cascade rd, NH npagenh@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 1:49 PM
Harris, Steve	Auburn, NH	A Member of the	Myself	Oppose	No	No	2/6/2022 1:56 PM

	Ccsofnh@comcast.net	Public					
Vasta, Doreen	Windham, NH Dvasta@comcast.net	A Member of the Public	Myself	Support	No	No	2/6/2022 2:15 PM
Vasta, David	Windham, NH Dvasta@comcast.net	A Member of the Public	Myself	Support	No	No	2/6/2022 2:15 PM
Desmarais, Marylou	Webster, NH lou575@aol.com	A Member of the Public	Myself	Support	No	No	2/6/2022 2:46 PM
Normandin, Laurel	Gilford, NH laurelnormandin3@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 2:51 PM
Marks, Laura	Newbury, NH LEWM53@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 3:55 PM
Marks, Thomas	Newbury, NH tmarks52@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 4:24 PM
Dowey, Nancy	Bristol, NH nancydowey@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 4:27 PM
Ohanian, Peter	Windham, NH peter.ohanian@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 4:33 PM
Messina, Suzan	Windham, NH smessina@messinlawoffice.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 4:34 PM
Karagozian, Karin and	Center Harbor, NH karinkaragozian@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 4:40 PM
Miceli, David	Groton, MA david.a.miceli@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 4:49 PM
sullivan, Carey	Newbury, NH Casullivan56@yahoo.com	A Member of the Public	Myself	Support	No	No	2/6/2022 4:59 PM
Pierce, Nicole	Bristol, NH n.piercek@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 5:00 PM
Karagozian, Harold	Center Harbor, NH hck03226@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 5:01 PM
Deveau, Jason	Bristol, NH jdeveau@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 5:07 PM
Lemoui, Claude	Canaan, NH claude.lemoui@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 5:17 PM
Shannon, William	Washington, NH wsshan49@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 5:20 PM
Sprowl, Michelle	Manchester, NH	A Member of the	Myself	Oppose	No	No	2/6/2022 5:22 PM

	Sprowlmm@comcast.net	Public					
Delfosse, Betsy	Sunapee, NH Betsy.delfosse@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 5:37 PM
Valli, Molly	Brookline, NH mhvalli687@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 5:47 PM
Miceli, Olivia	Bristol, NH Oliviarae@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 5:49 PM
Giovagnoli, Brian	Briatol, NH briangiovagnoli7@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 6:03 PM
zurheide, karen	New London, NH zurheides@aol.com	A Member of the Public	Myself	Support	No	No	2/6/2022 6:13 PM
Giovagnoli, Sara	Hooksett, NH srtwin89@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 6:20 PM
Poulin, Louis	Hudson, NH Poulinl@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/6/2022 7:04 PM
Robinson, Carrie	Bristol, NH Crtwin@cox.net	A Member of the Public	Myself	Oppose	No	No	2/6/2022 7:08 PM
marino, deb	Sunapee, NH dbmarino6@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 7:27 PM
Van Flandern, Geoffrey	Moultonborough, NH geoffvf@comcast.net	A Member of the Public	Myself / My Family	Oppose	No	No	2/6/2022 7:35 PM
Poulin, Nicole	Nashua, NH npoulin2@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 8:24 PM
Green, Shirley	Enfield, NH shirley.a.green@comcast.net	A Member of the Public	Myself	Support	No	No	2/6/2022 8:55 PM
leonard, ed	moultonborough, NH eleonard@appliedcomm.com	A Member of the Public	Myself	Support	No	No	2/6/2022 9:35 PM
Leonard, Jane	moultonborough, NH janesleonard@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 9:37 PM
Valli, Marc	Brookline, NH Machva@gmail.com	A Member of the Public	Myself	Support	No	No	2/6/2022 9:49 PM
Macallister, Derek	Nelson, NH Dmacpro@yahoo.com	A Member of the Public	Myself	Support	No	No	2/6/2022 9:55 PM
Scotto, Tony	Center Harbor, NH tony_scotto@yahoo.com	A Member of the Public	Myself	Support	No	No	2/6/2022 9:56 PM
Tipping, David	Bedford, NH	A Member of the	Myself	Oppose	No	No	2/6/2022 10:33 PM

	dtipping@gmail.com	Public					
Giovagnoli, Brad	Barrington, NH brad.giovagnoli8@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/6/2022 10:47 PM
MacNeil, Elizabeth	Newton, NH Lizmacneil12@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 3:58 AM
O'Callaghan, Rick	Meredith, NH rickoc45@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 6:26 AM
Wise, Bettina	Sunapee, NH 3wise@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 6:52 AM
Arnold, Lynn	Sunapee, NH lfarnold2@aol.com	A Member of the Public	Myself	Support	No	No	2/7/2022 7:19 AM
Corriveau, Diane	Wolfeboro, NH dianebcorriveau@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 7:30 AM
Romagnoli, Robert	Meredith, NH bromagnoli@abscope.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 7:33 AM
Hill, Thomas	Newbury, NH thilllh97@aol.com	A Member of the Public	Myself	Support	No	No	2/7/2022 7:35 AM
Hill, Marilyn	Newbury, NH Marihill203@aol.com	A Member of the Public	Myself	Support	No	No	2/7/2022 7:37 AM
Farnham, Shawn	Concord, NH shawn.farnham@outlook.com	A Member of the Public	Myself	Support	No	No	2/7/2022 7:54 AM
Cook, Kathleen	Sunapee, NH kikicook@aol.com	A Member of the Public	Myself	Support	No	No	2/7/2022 7:59 AM
Johansson, Shelby	Munsonville, NH Shelbyjo@aol.com	A Member of the Public	Myself	Support	No	No	2/7/2022 8:07 AM
Meulenbroek, Pieter	ALTON BAY, NH pmeulenb@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 8:11 AM
Meulenbroek, Betty Jane	ALTON BAY, NH bettymeulenbroek@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 8:12 AM
GAMACHE, BRIAN	BELMONT, NH briangamachenh@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 8:19 AM
MacConnell, Teriko	Newport, NH terikomac@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 8:20 AM
Rhodes, David	Newbury, NH djrhodes36@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 8:26 AM
Girald, Nancy	New London, NH	A Member of the	Myself and the Little Lake Sunapee	Support	No	No	2/7/2022 8:48 AM

	giraldnancy@gmail.com	Public	Protective Association Board				
mcmahon, benjamin	nottingham, NH benjamingmcmahon@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 8:52 AM
Wujcik, Tracy	Ashland, NH graytracy1024@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 9:09 AM
spence, john	pelham, NH spence5646@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/7/2022 9:25 AM
Taub, Gideon	Hollis, NH getaub@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 9:26 AM
Miles, Paula	Gilford, NH pmiles1535@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 9:26 AM
Taub, McKenzie	Hollis, NH getaub@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 9:26 AM
Pastir, Linda	Wolfeboro, NH linda.pastir4@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 9:37 AM
Lemieux, Daniel	Meredith, NH fourthquater@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 9:47 AM
Caristi, Robert	Gilford, NH Robby2358@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 9:50 AM
Alcaraz, Bill	Tuftonboro, NH walcaraz2290@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 10:01 AM
Cardella, Ryan	Gilford, NH Lasvegasinvestments@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 10:05 AM
Liakas, Andrfe	Gilford, NH drewliakas@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 10:15 AM
MINNICK, DARREN	LACONIA, NH dhm1973@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 10:18 AM
Nelson, Nick	Columbus, OH Npnelson713@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 10:20 AM
Abbott, David	Moultonborough, NH dabbott911@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 10:30 AM
Abbott, Nancy	Londonderry, NH nancy.abbott@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 10:31 AM
Houle, Ken & Sue	Milton, NH hoolks@metrocast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 10:32 AM
St.George-Dorr,	Rindge, NH	A Member of the	Myself	Oppose	No	No	2/7/2022 10:32 AM

Holly	hollyd02035@comcast.net	Public					
Abbott, Avery	Londonderry, NH aaa1102@wildcats.unh.edu	A Member of the Public	Myself	Oppose	No	No	2/7/2022 10:33 AM
Laliberte, Crystal	Bow, NH claliberte@reiservice.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 10:37 AM
Laliberte, Shane	Bow, NH slaliberte@reiservice.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 10:38 AM
Laliberte, Ryan	Bow, NH sksinc@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 10:38 AM
Ryder, Lucy	Nelson, NH Lucy.Ryder@hotmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 10:39 AM
Kelly, Michael	Sunapee, NH mgkelly3@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 10:44 AM
Barton, Riley	Londonderry, NH bartonrb16@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 10:46 AM
Merriman, John	Georges Mills, NH jrm70a@hotmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 10:47 AM
Griggs, Alfred	Sunapee, NH griggs.al@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 10:49 AM
Hayward, Dan	Sunapee, NH d_hayward@yahoo.com	A Member of the Public	Myself	Support	No	No	2/7/2022 10:50 AM
Bushueff, Catherine	Sunapee, NH agawamdesigns@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 10:51 AM
M MacIntyre, Fleur	Sunapee, NH fleuri121@yahoo.com	A Member of the Public	Myself	Support	No	No	2/7/2022 10:52 AM
Berenson, Susan	Sunapee, NH Swberenson@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 10:53 AM
Todd, Nancy	New London, NH Nancygtodd@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 10:55 AM
Fingeroth, Harriet	Newbury, NH harriet.fingeroth@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 10:56 AM
Bordes, Mike	Laconia, NH Mikebordes@gmail.com	An Elected Official	Myself	Oppose	No	No	2/7/2022 10:59 AM
Bolsinger, Brien	Sunapee, NH Brienbolsinger@mac.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:01 AM
Nickerson, Jillian	Gilford, NH	A Member of the	Myself	Oppose	No	No	2/7/2022 11:01 AM

	jillian.nickerson17@gmail.com	Public					
Nickerson, Guy	Gilford, NH guy@spinnakercontract.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:02 AM
Oldman, Michele	Georges Mill's, NH Soldman2@aol.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:02 AM
Hause, Skip	Sunapee, NH Skiphause@hotmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:02 AM
Edinger, Clinton	Concord, NH Cedinger10@hotmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/7/2022 11:02 AM
McCarthy, Matthew	Wolfeboro, NH emsflyer84@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:03 AM
Bolsinger, Lorraine	Sunapee, NH Lorraine.bolsinger@outlook.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:04 AM
Brophy, Thomas	Sunapee, NH thomasjbrophy@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:05 AM
Ivey, Lovelynn	Newport, NH Lovelynn@Lovelynn.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:08 AM
Berenson, Bradford	Sunapee, NH bradberenson@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:08 AM
Wright, Bruce	Gilford, NH baw42cat@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:10 AM
Cantin, John	Rindge, NH john.cantin@yahoo.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:12 AM
Carr, Dylan	Alton, NH Dylanc@goodhueboat.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:13 AM
Jautz, Kristin	Sunapee, NH kristinjautz@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:15 AM
Beeson, Elizabeth	Holderness, NH esbeeson@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:15 AM
Sample, Kate	Newbury, NH stought@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 11:16 AM
Uicker, Barry	GILFORD, NH buicker@silversands.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:18 AM
Capozzi, Patrick	Newbury, NH Patcapozzi@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:19 AM
Cetron, Betsy	New London, NH	A Member of the	Myself	Support	No	No	2/7/2022 11:19 AM

	betsycetron@gmail.com	Public					
Jautz, Ken	Sunapee, NH ken.jautz@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:21 AM
McLoughlin, Susan	Newbury, NH sm.stuff@comcat.net	A Member of the Public	Myself	Support	No	No	2/7/2022 11:23 AM
Onos, Jeremy	Gilford, NH Onosfamily4@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:24 AM
Bruni, Mark	Sunapee, NH mjbruni85@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:24 AM
Bruni, Lisa	Sunapee, NH l.bruni@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 11:26 AM
dasilva, jake	Moultonborough, NH Jake@dasilvamotorsports.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:27 AM
Silverstein, Jacob	Sunapee, NH jacob.s@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:27 AM
Fraser, Gabriel	Belmont, NH gfraser0503@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:27 AM
Solky, Benjamin	Alton Bay, NH solkemon@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:28 AM
Olney, Pam	New London, NH olneyp44@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:28 AM
Whitney, Emmy	Alton Bay, NH emmywhitney@yahoo.com	A Member of the Public	Myself/Family	Oppose	No	No	2/7/2022 11:30 AM
Meehan, Dan	Gilford, NH gemmadan1@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:31 AM
Joerger, Eric	Nashua, NH Airech@aol.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:33 AM
Hill, George	Sunapee, NH grhill5@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:34 AM
Fleming, Dr. Dan	Gilford, NH Danflemingdc@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:35 AM
ST GELAIS, JASON	Meredith, NH jasonstgelais2012@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:39 AM
Doherty, Sarah	Gilford, NH s.k.m.doherty@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:42 AM
Reed, Scott	Sunapee, NH	A Member of the	Myself	Support	No	No	2/7/2022 11:42 AM

	smreed1965@gmail.com	Public					
Wilén, Bruce	Windham, NH Bruce.wilen@icloud.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:43 AM
Koeppen, Douglas	Sunapee, NH oldougnewtricks@msn.com	A Member of the Public	Myself	Support	No	No	2/7/2022 11:45 AM
Worrall, Hanna	Wellesley, MA hanna.worrall@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:46 AM
Schmieg, Andrea	New London, NH aschmieg@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 11:46 AM
Kulcsar, John	Gilford, NH kulcsarj@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:46 AM
Uicker, Chrysoula	Gilford, NH Uickers@metrocast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:47 AM
Douglas, Jon	Alton, NH douglasmarinellc@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:48 AM
Nickerson, Warner	Gilford, NH warner.nickerson@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:48 AM
Schmieg, Daniel	Ne London, NH dgschmieg@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 11:56 AM
Lemay, Frank & Joyce	Chichester, NH frankl@milestonenh.com	A Member of the Public	Myself and my wife	Support	No	No	2/7/2022 12:02 PM
Southwell, Marcy	Alton, NH msouthwell14@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 12:03 PM
Segalimi, Linda	George's mills, NH Lindasegalini@yahoo.com	A Member of the Public	Myself	Support	No	No	2/7/2022 12:12 PM
Driscoll, Meghan	Sunapee, NH meghankdriscoll@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 12:14 PM
Hussey, Debra	Sunapee, NH dghussey@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 12:17 PM
Weaver, Andrea	Gilford, NH andeweaver@comcast.net	A Member of the Public	Myself/family	Oppose	No	No	2/7/2022 12:20 PM
Bennett, Mona	Sunapee, NH mona.bennett@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 12:23 PM
Collins, Ruth	Sunapee, NH ruthanne.collins@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 12:24 PM
Canaday, Cynthia	New London, NH	A Member of the	Myself	Support	No	No	2/7/2022 12:27 PM

	cynthia.canaday@gmail.com	Public					
Canaday, John	New London, NH woodycanaday3@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 12:27 PM
Sencabaugh, William	Sunapee, NH williamsencabaugh@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 12:29 PM
O'Connell, Cynthia	Moultonborough, NH cindy@winnisquamwatershed.org	A Lobbyist	Winnisquam Watershed Network	Support	No	No	2/7/2022 12:29 PM
Dooley, Barbara	Windham, NH bcalt@aol.com	A Member of the Public	Myself	Support	No	No	2/7/2022 12:31 PM
Leitch, Andrew	Laconi, NH A.leitch618@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 12:31 PM
Feibel, Samuel	Sunapee, NH sam1soxfan@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 12:36 PM
Harrison, Jill	Greenland, NH jill..m.harrison@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 12:38 PM
Burchard, Marion	Sunapee, NH Marion.bur@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 12:38 PM
Meehan, John	Alton Bay, NH jlmllc2013@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 12:44 PM
Block, Jim	Etna, NH jim@jimblockphoto.com	A Member of the Public	Myself	Support	No	No	2/7/2022 12:44 PM
Weinstein, Ethan	Sunapee, NH eweinstein13@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 12:46 PM
Brown, Julie	Wolfeboro, NH jbrownng@hotmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 12:47 PM
Gioiosa, John	Gilford, NH jbgconstruction@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 12:48 PM
Gehr, Gerald	Sunapee, NH gerald.gehr@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 12:51 PM
Buttermore, Shannon	Gilford, NH ksgkc02479@live.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 12:52 PM
Licata-gehr, Eloise	Sunapee, NH eloise.licata-gehr@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 12:53 PM
Cronin, Michael J	Hampstead, NH mikecronin28@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 12:56 PM
Silverstein, Noa	Sunapee, NH	A Member of the	Myself	Oppose	No	No	2/7/2022 12:56 PM

	noaelyse@gmail.com	Public					
Solky, Ana	Alton Bay, NH anasolky@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 12:56 PM
Benson, Luke	Goffstown, NH Luke_benson@hotmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/7/2022 12:57 PM
Nunez, Mary Elisabeth	Sunapee, NH nunez.liz@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 12:58 PM
Mrozienski, Cheryl	Strafford, NH cmrozien@yahoo.com	A Member of the Public	Myself	Support	No	No	2/7/2022 12:59 PM
Sharp, Anne	Sunapee, NH sharp0508@hotmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:02 PM
Lehner, Michael	Greenfield, NH mclehner@mcdonald-lehner.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:05 PM
Lilja, Ronald	Freedom, NH Ronlilja@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:07 PM
Keenan, Peter	Newbury, NH pfksunapee@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:11 PM
Ryan, Mark	Laconia, NH markvryan@verizon.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:12 PM
Prevo, James	Sunapee, NH jimprevo@me.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:16 PM
Mailly, Todd	Newbury, NH tmailly@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 1:16 PM
Shea, Caitlin	Hingham, MA Caitlin.w.shea@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:16 PM
Harris, Frances	Sunapee, NH FELLENHARRIS@GMAIL.COM	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:17 PM
Goott, Nicole	Center Harbor, NH nicole.goott@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:19 PM
Stone, Mark	Alton, NH mrstone5t@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:22 PM
Shea, Brian	Alton, NH brianshea@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:23 PM
Foster, Mark	Alton, NH mnrfooster@atlanticbb.net	A Member of the Public	Myself	Support	No	No	2/7/2022 1:25 PM
Foster, Roseann	Alton, NH	A Member of the	Myself	Support	No	No	2/7/2022 1:26 PM

	mnrfooster@atlanticbb.net	Public					
Donovan, Lisa	Wolfeboro, NH donovan.lisa3@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:26 PM
Clark, Heather	Epping, NH berg1992@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:26 PM
Anissian, Laura	Sunapee, NH anissian96@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:29 PM
D'Anna, Lori	Meredith, NH Ldanna12@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:30 PM
Paskell, Victoria	Moultonboro, NH Victoriapaskell10@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:31 PM
HIRSHBERG, Nancy	Wolfeboro, NH nancy@nhirshberg.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:33 PM
Trites, Tom	Wolfeboro, NH Tom@tomtrites.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:34 PM
Dodier, Erik	New Durham, NH erik@pixelmedia.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:35 PM
Paskell, Maryann	Moultonboro, NH Jmsmst@aol.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:36 PM
Gorman, Ardie	Wolfeboro, NH Junk@aol.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:37 PM
Paskell, James	Moultonboro, NH Jepaskell@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:37 PM
Macioce, Frank	Sunapee, NH fmacioce@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 1:38 PM
Shoulla, Chris	Moultonborough, NH c.shoulla@icloud	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:39 PM
Dewey, Dale	Sunapee, NH dnd@snet.net	A Member of the Public	Myself	Support	No	No	2/7/2022 1:39 PM
Greenwald, Willard	Wolfeboro Falls, NH wgreenwald3@ne.twcbc.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:39 PM
Dickison, Gage	Concord, NH g.dickison2@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:43 PM
Brewster, Mark	Moultonborough, NH mebrewster@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:44 PM
Krages, Bert	Portland, OR	A Member of the	Myself	Support	No	No	2/7/2022 1:44 PM

	bert@krages.com	Public					
Osborne, Jason	Auburn, NH HouseRepOffice@leg.state.nh.us	An Elected Official	House Majority Office	Oppose	No	No	2/7/2022 1:50 PM
Burke, Sheila	Meredith, NH sannburk@yahoo.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:51 PM
Taylor, Tim	Strafford, NH tim@tbtaylor.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:51 PM
Brickman, Blake	Wolfeboro, NH Blakeb@goodhueboat.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:51 PM
McMahon, Haley	Nottingham, NH hbreig@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:53 PM
Justice, Valerie	Wolfeboro, NH rebel817@yahoo.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:53 PM
Dupak, Peter	Laconia, NH ichaserocks@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:54 PM
Kelleher, Kaitlyn	Concord, NH kskelleh53@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:54 PM
Sandoval, Kellie	Gilford, NH Kelliewelsh13@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:56 PM
Zeller, Stephanie	Gilford, NH qtxoxo7290@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:56 PM
Paskell, Justin	Moultonborough, NH Paskell10@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 1:58 PM
Abear, Jon	Holderness, NH Jondavidbear@aol.com	A Member of the Public	Myself	Oppose	No	Yes	2/7/2022 1:58 PM
Stigum, Victoria	Holderness, NH vgstigum@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:59 PM
Driscoll, John	Sunapee, NH john.driscoll.jr@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 1:59 PM
Lunetta, Cameron	meredith, NH cameronclunetta@gmail.com	A Member of the Public	Myself and my family	Oppose	No	No	2/7/2022 1:59 PM
Fioravanti, Barbara	Tuftonboro, NH barbfioravanti@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 2:01 PM
Brewster, Regan	Moltonborough, NH rmbrewster1321@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 2:01 PM
Kmito, Ben	Moultonborough, NH	A Member of the	Myself/Family	Oppose	No	No	2/7/2022 2:01 PM

	bkmito@yahoo.com	Public					
Lindsay, Jake	Durham, NH jakeclindsay@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 2:02 PM
Trice, Donald and Lorraine	Wolfeboro, GA dontrice39@gmail.com	A Member of the Public	Ourselves	Support	No	No	2/7/2022 2:02 PM
Bouton, John	New London, NH jbcare225@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 2:02 PM
Wanzer, Paula	Meredith, NH ucanu@myfairpoint.net	A Member of the Public	Myself	Support	No	No	2/7/2022 2:04 PM
Evans, Michael	Hampton, NH Michael03@comcast.net	A Member of the Public	Myself and Family	Oppose	No	No	2/7/2022 2:13 PM
Harris, Sarah	Sunapee, NH sally.h@verizon.net	A Member of the Public	Myself	Support	No	No	2/7/2022 2:13 PM
Van de Poll, Rick	Center Sandwich, NH rickvdp@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 2:14 PM
Trice, Donald & Lorraine	Wolfeboro, NH dontrice39@gmail.com	A Member of the Public	Ourselves	Support	No	No	2/7/2022 2:18 PM
Gioiosa, Kathleen	Gilford, NH Katiegioiosa@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 2:18 PM
Morneau, Sue	Sunapee, NH sunapee2013@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 2:19 PM
Rockwell, Susan	Meredith, NH srockwell@metrocast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 2:19 PM
Scarpetti, Paul	Hooksett, NH Sierrahomesnh@gmail.com	A Member of the Public	Myself/family of four	Oppose	No	No	2/7/2022 2:21 PM
Ruedig, Barbara	Concord, NH bruedig@hotmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 2:21 PM
Bergdahl, Jerilyn	Charlotte, VT dbergdahl@gmavt.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 2:22 PM
Eliassen, Thomas	Sunapee, NH tre@tripyramid.com	A Member of the Public	Myself	Support	No	No	2/7/2022 2:32 PM
Smith, David	Freedom, NH dsmith@ossipeelake.org	A Member of the Public	Myself	Support	No	No	2/7/2022 2:32 PM
McCurdy, Debra	Manchester, NH Barbershop140@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 2:36 PM
Winer, Helaine	Sunapee, NH	A Member of the	Myself	Support	No	No	2/7/2022 2:37 PM

	hawiner526@gmail.com	Public					
Lindquist, Chris	Dunbarton, NH chris@bowautoparts.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 2:38 PM
SLOSBERG, PAUL	Bedford, NH PAULSLOSBERG@GMAIL.COM	A Member of the Public	Myself	Oppose	No	No	2/7/2022 2:38 PM
Cretella, Albert	Newbury, NH awcretella@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 2:39 PM
STUART, RUTH	Center Sandwich, NH rnstuart@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 2:41 PM
Cote, Lynn	Manchester, NH lynnieloo2@hotmail.com	A Member of the Public	Myself	Oppose	No	Yes	2/7/2022 2:42 PM
Pratt, Jonathan	Wolfeboro, NH jpratt3@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 2:43 PM
Dodier, Scott	Dover, NH dodier.scott@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 2:43 PM
Williams, Travis	Meredith, NH Coolwatercharters@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 2:43 PM
Schifrin, Mark	Moultonboro, NH schifrin@orfg.com	A Member of the Public	Myself	Support	No	No	2/7/2022 2:44 PM
Dodier, Rachel	North Hampton, NH rachelsdodier@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 2:51 PM
Mills, Kristin	Newbury, NH Kristin.Mills@icloud.com	A Member of the Public	Myself	Support	No	No	2/7/2022 2:53 PM
Conaty, Bill	Sunapee, NH bill.conaty@yahoo.com	A Member of the Public	Myself	Support	No	No	2/7/2022 2:54 PM
Crozer, Katie	Sunapee, NH katiecrozer@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 2:56 PM
Hemphill, Logan	Wolfeboro, NH loganhemphill@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 2:56 PM
Puccio, Timothy	Gilford, NH t_puccio@yahoo.com	A Member of the Public	My sell	Oppose	No	Yes	2/7/2022 3:03 PM
Blodget, Francis	WOLFEBORO, NH mal@fmblodget.com	A Member of the Public	Myself	Support	No	No	2/7/2022 3:04 PM
Dodier, Hale	North Hampton, NH haledodier@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 3:05 PM
D'Entremont, Kevin	Alton bay, NH	A Member of the	Myself	Oppose	No	No	2/7/2022 3:07 PM

	DEntremont.kevin@gmail.com	Public					
Constant, Courtney	Center Harbor, NH courtneycconstant93@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 3:08 PM
Englund, Janet	Meredith, NH janetenglund76@gmail.com	A Member of the Public	Starr King Unitarian Universalist Fellowship	Support	No	No	2/7/2022 3:08 PM
Belisle, Richard	Manchester, NH Richard@belislemachine.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 3:09 PM
Leighton, Brent	Center Harbor, NH leib011@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 3:10 PM
Woods, Beverly	Wolfeboro, NH citizen@beverlywoods.net	A Member of the Public	Myself	Support	No	No	2/7/2022 3:10 PM
Mathison, Susan	Plymouth, NH familyofrowers@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 3:14 PM
Packard, LMAC Chair, David	Geoffstown, NH appliedforce52@gmail.com	A Member of the Public	Lakes Management Advisory Committee	Support	No	No	2/7/2022 3:18 PM
Wilks, Rowena	New London, NH rowenawilks@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 3:19 PM
Workman, Corey	Andover, NH Workmancorey88@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 3:20 PM
Farrelly, Donna	Concord, NH farrelly5@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 3:26 PM
Eldridge, Robert	Hooksett, NH bobeldridge1@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 3:28 PM
Galanis, Mary Ellen	Wolfeboro, NH megalanis@msn.com	A Member of the Public	Myself	Support	No	No	2/7/2022 3:29 PM
Rudnick, Harvey	New London, NH Harvey.Rudnick@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 3:29 PM
Dupak, V Dawn	Laconia, NH dawndupak@hotmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 3:30 PM
Douglas, Ashley	Alton, NH ashley_as@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 3:31 PM
Katz, Matthew	Sunapee, NH Fitzkatz@msn.com	A Member of the Public	Myself	Support	No	No	2/7/2022 3:35 PM
Hirshberg, Suan	Wolfeboro, NH susan1228@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 3:38 PM
Wall, John	Wolfeboro, NH	A Member of the	Myself	Support	No	No	2/7/2022 3:39 PM

	john.wall3@yahoo.com	Public					
McCalmont, Regina	Sunapee, NH GinaMcCalmont@aol.com	A Member of the Public	Myself	Support	No	No	2/7/2022 3:40 PM
Simoneau, Michael	Manchester, NH msimoneau@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 3:40 PM
Reisdorf, John	Portsmouth, NH jhreisdorf@live.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 3:42 PM
Hirshberg, Zea	Wolfeboro, NH zhirshberg@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 3:43 PM
Templeton, Chris	Gilford, NH Chris@goodhueboat.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 3:43 PM
Young, William	Meredith, NH Meredithislandassociation@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 3:48 PM
Henck, Douglas	Sunapee, NH dhenck@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 3:50 PM
Howell, Joshua	Wolfeboro, MA joshfhowell@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 3:57 PM
E Royce, Norman	Deerfield, NH normroyce@yahoo.com	A Member of the Public	Myself	Support	No	Yes	2/7/2022 4:00 PM
Oulundsen, Nils	Wolfeboro, NH Nilsoulundsen@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 4:03 PM
Martin-Royce, Judith	Northwood, NH Judymartinroyce@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 4:04 PM
Cook, Danielle	Gilford, NH danielle@daniellecookphotography.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 4:04 PM
Forest, Keith	Gilford, NH kfo711@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 4:05 PM
Blodget, Anne	Wolfeboro, NH Anneblodget@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 4:08 PM
Brophy, Jane	Sunapee, NH janebrophy@aol.com	A Member of the Public	Myself	Support	No	No	2/7/2022 4:09 PM
Hansen, Christina	Epsom, NH Christina2hansen@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 4:10 PM
Kent, Peter	Wolfeboro, NH Pkent@snet.net	A Member of the Public	Myself	Support	No	No	2/7/2022 4:14 PM
Osler, Lois	Sandwich, NH	A Member of the	Myself	Support	No	No	2/7/2022 4:15 PM

	bonnieosler@gmail.com	Public					
Gracey, Catherine	Newbury, NH Catherine_gracey@urmc.Rochester.edu	A Member of the Public	Myself	Support	No	No	2/7/2022 4:19 PM
Stevens, Timothy	Newbury, NH timothy_stevens@urmc.rochester.edu	A Member of the Public	Myself	Support	No	No	2/7/2022 4:23 PM
Quackenbos, Peter	Sunapee, NH peter@quackenbos.com	A Member of the Public	Myself	Support	No	No	2/7/2022 4:24 PM
Nichols, Philip	Sanbornton, NH pnichols@metrocast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 4:27 PM
Arnold, Becky	Wolfeboro, NH rsarnoldrn@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 4:28 PM
Fraize, Tim	Sunapee, NH tfraizr_2001@yahoo.com	A Member of the Public	Myself	Support	No	No	2/7/2022 4:38 PM
Cano, Christine	E. Montpelier, VT mermaid@myfairpoint.com	A Member of the Public	Myself	Support	No	No	2/7/2022 4:42 PM
Farrelly, Madelyn	Concord, NH Mmfarrelly2@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 4:45 PM
Diamond, Priscilla	Sunapee, NH pkatediamond@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 4:47 PM
Keeler, Kathryn	Wolfeboro, NH Keeler.kathy@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 4:47 PM
Nesheim, William	Holderness, NH bill.nesheim@gmail.com	A Member of the Public	Myself	Neutral	No	No	2/7/2022 4:49 PM
Duhaime, Kathleen	Concord, NH Kathleenduhaime9@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 4:53 PM
Seely, Anne Marie	Moultonborough, NH Amaroun14@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/7/2022 4:54 PM
kopp, peyton	Concord, NH peytonkopp@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 4:55 PM
Bryer, Kelly	Thornton, NH kbryer@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 5:00 PM
Burdon, Brooke	Durham, NH brooke.burdon@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:01 PM
Sanders, Laurie	Sunapee, MA Sandersfive@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 5:01 PM
Vitko, Ty	Dover, NH	A Member of the	Myself	Oppose	No	No	2/7/2022 5:03 PM

	Tyvitko45@gmail.com	Public					
Biese, David	Meredith, NH dbiese01@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 5:06 PM
Biese, Ann	Meredith, NH dbiese01@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 5:06 PM
Starbuck, Jonathan	Spofford, NH starbuckjv@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:07 PM
Starbuck, Valerie	Spofford, NH starbuckjv@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:08 PM
Vaas, Elaine	Strafford, NH evs664@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 5:10 PM
Twardosky, Tucker	Merrimack, NH Tucktwardosky@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:10 PM
Leighton, Scott	Dover, NH sleighton352@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:10 PM
Leighton, Eric	Dover, NH leighton.eric@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:11 PM
Vitko, Suzanne	Dover, NH S.vitko@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:11 PM
Cantwell, John	Holderness, NH Jdcantwelljr@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:13 PM
Clark, Jeanine	Tuftonboro, NH jpcclark@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:14 PM
Mazzocca, Augustus	West Hartford, CT mazzocca@uchc.edu	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:14 PM
Burgess, Paul	Northwood, NH psburgess@myfairpoint.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:14 PM
Baum, Holly	Manchester, NH hollycbaum@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:15 PM
Burgess, Stacey	Northwood, NH psburgess@myfairpoint.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:15 PM
Burgess, Peter	Northwood, NH pburgess199@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:15 PM
Robbins-Murphy, Jeannine	Thornton, NH j9robbins@verizon.net	A Member of the Public	Myself	Support	No	No	2/7/2022 5:20 PM
St Pierre, Doris	Manchester, NH	A Member of the	Myself	Oppose	No	No	2/7/2022 5:23 PM

	Dstpie@comcast.net	Public					
Fingeroth, Richard	Newbury, NH rick.fingeroth@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 5:25 PM
wachs, marvin	Bedford, NH woxid@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 5:27 PM
wachs, Irena	Bedford, NH woxid41@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 5:28 PM
Post, Axel	Barrington, NH axelpost5@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:30 PM
Driscoll, Nicholas	Leawood, KS Driscoll.Nicholas.c@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 5:39 PM
Vitko, Tom	New durham, NH Tom@airvacuumcorporation.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 5:44 PM
DeAugustinis, Cherie	Sunapee, NH Witchway1@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 5:56 PM
Meehan, Gemma	Gilford, NH gemmadan1@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:00 PM
HORSKEN, CHARLES	Wolfeboro, NH crhorsken@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 6:01 PM
HORSKEN, Louise	Wolfeboro, NH crhorsken@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 6:02 PM
Connolly, Jean	New London, NH jroninconnolly@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 6:02 PM
Durgin, Cody	Laconia, NH Codydurgin@ymail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:03 PM
Carter, Deborah	Sunapee, NH debhcarter@yahoo.com	A Member of the Public	Myself	Support	No	No	2/7/2022 6:05 PM
White, Jennifer	Gilford, NH Mommawhite906@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:06 PM
Gagnon, Catherine	Gilford, NH Kaynh@metrocast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:07 PM
Morrisette, Felicia	Gilford, NH Feliciamorrisette13@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:08 PM
Drewes, Steven	Concord, NH Sgdrew03@gmail.com	A Member of the Public	Myself	Oppose	No	Yes	2/7/2022 6:08 PM
Rouse, Matthew	Gilford, NH	A Member of the	Myself	Oppose	No	No	2/7/2022 6:09 PM

	Mrouse0131@gmail.com	Public					
Bridge, Adam	Concord, NH adam.bridge@hotmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 6:10 PM
Patterson, Jeff	Moultonborough, NH jeffpatterson.lincoln@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:10 PM
White, Carly	Belmont, NH whitecarly83@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/7/2022 6:11 PM
White, Cameron	Gilford, NH 96sjwhite@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:12 PM
Cotton, Anita	Andover, NH jtcotton80@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 6:15 PM
Brewster Jr, Mark	Moultonborough, NH Brewstermar@thayer.org	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:17 PM
Lyon-Blomstedt, Cynthia	GROTON, CT clblo@sbcglobal.net	A Member of the Public	Myself	Support	No	No	2/7/2022 6:19 PM
Sapere, Colby	Moultonborough, NH colbysapere7109@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:26 PM
Balenger, Brenda	Sunapee, NH bbalenger@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 6:26 PM
Beardsley, David	Sunapee, NH dlbeard@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 6:30 PM
Berge, Brianna	Gilford, NH brianna.c.berge@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:31 PM
Berge, Jack	Bedford, NH bergejack@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:33 PM
Brewster, Jill	Moultonborough, NH Jbrewster@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:36 PM
Neylon, Roberta	Laconia, NH rpneylon@metrocast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:36 PM
Beardsley, Brenda	Sunapee, NH bbsbears@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 6:38 PM
Pascucci, Kelsey	Gilford, NH kelseyascucci@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/7/2022 6:41 PM
Nash, Alfred	Canterbury, NH 49anash@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:43 PM
Carter, Anthony	Sunapee, NH	A Member of the	Myself	Support	No	No	2/7/2022 6:45 PM

	arcarter@cox.net	Public					
Carter, Natividad	Sunapee, NH natycarter1@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 6:46 PM
Edes, Steve	Lebanon (home).& Newbury, NH Gonecanoeing13@hotmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 6:49 PM
Welch, Jeff	Gilford, NH Jeff0744@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:53 PM
Perkins, Scott	Duluth, GA Scttprkns@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:56 PM
Jeffreys, Merry	Gilford, NH msjeffreys@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 6:59 PM
Mccurdy, Scott	Manchester, NH Sdmac40@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 7:02 PM
Young, Mary	Northwood, NH maba40@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 7:10 PM
Fournier, Bryan	Goffstown, NH fournierbryan@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 7:10 PM
Lachance, Carl	East Williston, NY carl.lachance@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 7:11 PM
Oulundsen, Maxwell	Exeter, NH Maxwell.Oulundsen@tufts.edu	A Member of the Public	Myself	Oppose	No	No	2/7/2022 7:12 PM
Stack, Meghan	Concord, NH mstack2323@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 7:16 PM
Wollaeger, Wendy	Stoddard, NH wwollaeger@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 7:16 PM
Oulundsen, Pamela	Exeter, NH poulundsen@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 7:20 PM
Stroud, Addison	Laconia, NH addisonstroud10@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 7:22 PM
Kaiser, Christin W.	Wolfeboro, NH cwk04@justemail.net	A Member of the Public	Myself	Support	No	No	2/7/2022 7:23 PM
Pitman, Douglas	Bristol, NH Doug-chb@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 7:27 PM
Pitman, Janna	Chichester, NH jtocci77@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 7:32 PM
Berge, Lisa	Bedford, NH	A Member of the	Myself	Oppose	No	No	2/7/2022 7:50 PM

	lisaberge92@gmail.com	Public					
Dionne, David	Laconia, NH dave.dionne@mammothfire.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 7:52 PM
Langelier, Sandra	Derry, NH sandylangelier@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 7:54 PM
Farrelly, Daniel	Weare, NH drfarrelly90@gmail.com	A Member of the Public	Myself	Oppose	No	Yes	2/7/2022 8:01 PM
Bowen, Elizabeth	Sunapee, NH ebsaff@yahoo.com	A Member of the Public	Myself	Support	No	No	2/7/2022 8:04 PM
Laliberte, Samantha	Concord, NH sammy3196@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 8:06 PM
Morris, Geoff	Bedford, NH Gmtrainsdogs@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 8:08 PM
Carleton, Christina	Tuftonboro, NH Cmcarleton@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 8:10 PM
Galvin, Matthew	Tuftonboro, NH Mvmgalvin@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 8:11 PM
Rousseau, David	Gilford, NH Nvranuff1@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 8:14 PM
Conlon, Renz	Rindge, NH renz.conlon0715@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 8:21 PM
Silva, Edward	Wakefield, NH Ed1523@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 8:22 PM
Varian, Lanie	Sunapee, NH baci505@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 8:26 PM
Demers, Marcie-Lynne	Gilmanton, NH marijobi@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 8:26 PM
Demers, William H	Gilmanton, NH Whdemers29@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 8:30 PM
Pechinsky, Geoffrey	Wolfeboro, NH gpechinsky@hotmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 8:31 PM
Nichol, Timothy	Sunapee, NH nichti02@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 8:32 PM
Saari, Christine	Guilford, CT csaari@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 8:36 PM
Willscher, Lynn	wolfeboro falls, NH	A Member of the	Myself	Support	No	No	2/7/2022 8:41 PM

	lwillscher@yahoo.com	Public					
Cook, Bradford	Wolfeboro, NH bscook23@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 8:41 PM
Curran, James	Hooksett, NH curranjamest@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/7/2022 8:44 PM
Morneau, Charles	Sunapee, NH cmorneau@belmontllc.com	A Member of the Public	Myself	Support	No	No	2/7/2022 8:57 PM
Snow, Kevin	Canterbury, NH Ksnow24@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 8:59 PM
Fowler, Alissa	Moultonborough, NH Aliss.leonard@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 9:00 PM
Fowler, Nathaniel	Moultonborough, NH Nathanielfowler@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 9:01 PM
MacCallum, Peter	Epsom, NH Pmaccallum@metrocast.net	A Member of the Public	Myself	Oppose	No	No	2/7/2022 9:03 PM
Dionne, Jason	Belmont, NH Jay2281@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 9:19 PM
Polleys, Gisela	Sunapee, NH Gigipolleys@yahoo.com	A Member of the Public	Myself	Support	No	No	2/7/2022 9:21 PM
Straight, Ronald	Sunapee, NH rmstraight369@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 9:26 PM
Odonnell, Natalie	Effingham, NH Natco21@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 9:26 PM
Connolly, Jessica	Concord, NH jessbonenfant@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 9:27 PM
Winter, Bill	Exeter, NH bill.winter@comcast.net	A Member of the Public	Myself	Support	No	No	2/7/2022 9:28 PM
Heckel, Nancy	Sutton, NH nancy.a.heckel@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 9:29 PM
Brisson, Alison	Strafford, NH Alison@diningbydesign.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 9:31 PM
Dexter, Benjamin	Manchester, NH car.dexterb@gmail.com	A Member of the Public	Myself	Support	No	No	2/7/2022 9:32 PM
Gay, Brad	New London, NH bradfordgay@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 9:35 PM
Burgess, Samantha	Dover, NH	A Member of the	Myself	Oppose	No	No	2/7/2022 9:52 PM

	Samantha.maccallum@outlook.com	Public					
Hughes, Morgan	Bedford, NH morgan.hughes1998@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 9:55 PM
Bradley, Joe	Windham, NH jbradley0227@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 10:38 PM
Lachance, Maura	East Williston, NY maura.dantuono@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 10:52 PM
Waterman, Keith	Alton, NH watermanmarine@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/7/2022 11:37 PM
Harris, Christopher	New London, NH Christophercharris@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:05 AM
MAZZOCHI, BRUCE	ALTON BAY, NH Brucemazzoichi@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:32 AM
Holbrook, Carolyn	Wolfeboro, NH cholbrook2@aol.com	A Member of the Public	Myself	Support	No	No	2/8/2022 6:35 AM
Wallace, Carol	Sunapee, NH cpwallace27@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:02 AM
Greenberg, Amy	Newbury, NH agreenberg70@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:10 AM
Saint Louis, Carrie	Sunapee, NH Carriestevens@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:20 AM
Mooradian, John	Newbury, NH Moorajh@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:21 AM
Donnery, Ann	New London, NH Eadonnery@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:38 AM
Wright, KC	New London, NH rocknwoods@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:40 AM
Reynolds, Carin	Lebanon, NH carin.reynolds@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:42 AM
Miller, David	New Durham, NH davidvmiller@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:48 AM
DiVincenzo, Deanna	Sunapee, NH deannatk@aol.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:50 AM
Ellis, Robert	Sandwich, NH Bob.Ellis.biz@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:52 AM
Walsh, Lynne	Melvin Village, NH	A Member of the	Myself	Oppose	No	No	2/8/2022 7:55 AM

	lynnewalsh14@gmail.com	Public					
Puccio, Jack	Gilford, NH jack.puccio2019@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:57 AM
Lyons, Elizabeth	SUNAPEE, NH eklyonsco@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:57 AM
Dunne, Lorie	Effingham, NH ladunne97@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:59 AM
Larsen, Robert and sylvia	New Londin, NH Larsen.bob23@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:59 AM
Hills, Wendy	Rumney, NH wendylhills@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:04 AM
Grace, Liz	Campton, NH lgracesbb@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:08 AM
Bowen, John	New London, NH, NH bowen@photogear.com	A Member of the Public	Myself/Family	Support	No	No	2/8/2022 8:11 AM
Karrick, David	Warner, NH davidonpumpkinhill@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:15 AM
Tilson, Thomas	Sunapee, NH Ttilson@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:18 AM
Tilson, Susan	Sunapee, NH Ttilson@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:19 AM
Ventola, Mark	Newbury, NH MVENTOLA@SHEEHAN.COM	A Member of the Public	Myself	Support	No	No	2/8/2022 8:31 AM
Dontonville, Anne	Enfield, NH Ardontonville@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:35 AM
Dontonville, Roger	Enfield, NH rdontonville@gmail.com	An Elected Official	Myself	Support	No	No	2/8/2022 8:35 AM
Morello, Michael	Holderness, NH enmorello4@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:36 AM
Reinhard, Dr. Kj	Hanover, NH Reinhard-adler@post.harvard.edu	A Member of the Public	Myself	Support	No	No	2/8/2022 8:38 AM
Fellows, Sallie	Holderness, NH sallie.fellows@leg.state.nh.us	An Elected Official	Myself	Support	No	No	2/8/2022 8:39 AM
Miller, Angie	Plymouth, NH angiecmiller74@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:40 AM
Gedaminski, John	Newbury, NH	A Member of the	Myself	Support	No	No	2/8/2022 8:43 AM

	J32080@yahoo.com	Public					
Mulcahy, Leslie	SUNAPEE, NH mulcahy.le@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:44 AM
Reney, Faith	Sunapee, NH Fwreney@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:45 AM
Bonenfant, Marc	Epsom, NH nospark2002@live.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:46 AM
Gassman, Bill	Moultonborough, NH alta@roadrunner.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:46 AM
Etchells, Liam	Barnstead, NH etchellsliam_1@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:47 AM
Tremblay, Karrie	Epsom, NH karrie@maccallumsboathouse.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:49 AM
Cadorette, Nathaniel	Hooksett, NH Npdmmi7@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:49 AM
Tucker, Katherine	Wilmot, NH katherine.s.tucker@valley.net	A Member of the Public	Myself	Support	No	No	2/8/2022 8:51 AM
Getchell, Kristen	Sunapee, NH kgetchell@babson.edu	A Member of the Public	Myself	Support	No	No	2/8/2022 8:53 AM
Van Gessel, Yvonne	Holderness, NH vangessel@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:53 AM
Whiting, Ellyssia	Thorton, NH Ewhiting79@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:55 AM
Bello, Deena	Newbury, NH bello1313@ymail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:59 AM
Fuller, Grace	EFFINGHAM, NH snowfarm1777@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:01 AM
Bourque, Denis	Gilford, NH BoatNH@aol.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:02 AM
kinzler, carol	New London, NH carol.a.kinzler@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:05 AM
Kuczewski, Sean	Northwood, NH seank815@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:05 AM
Kinzler, Thomas	New london, NH Tbk19@aol.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:06 AM
Getchell, Janice	Sunapee, NH	A Member of the	Myself	Support	No	No	2/8/2022 9:06 AM

	jgetchell749@gmail.com	Public					
Daly, Erin	laconia, NH erinldaly@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:08 AM
Graichen, Erin	Exeter, NH egraichen@nhlakes.org	A Member of the Public	Myself	Support	No	No	2/8/2022 9:10 AM
Keeler, Margaret	New London, NH peg5keeler@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:17 AM
MacKenzie, Marcella	Meredith, NH marcelmacnz@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:18 AM
Karageorges, Linda	Meredith, SC zewski1@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:18 AM
Junius, Elizabeth	Sunapee, NH Bjunius52@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:22 AM
Cunningham, William	Gilford, NH bcheckerberry@metrocast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 9:22 AM
EVans, Robert	Sunapee, NH n1be@juno.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:23 AM
Bowen, James	Nelson, NH jbsbowen@gmail.com	A Member of the Public	Myself/family	Support	No	No	2/8/2022 9:25 AM
Heald, Justin	Barrington, NH justin.heald@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:27 AM
Mulcahy, Steve	SUNAPEE, NH slmulcahy42@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:30 AM
Oka, Paul	Moultonborough, NH poka00@hotmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:33 AM
Lin, John	Holderness, NH jclin57@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:34 AM
Kochinskas, Susan	Rindge, NH flocksholm@icloud.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:36 AM
Cox, Michael	Deerfield, NH Mcox@precisionstoreworks.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:39 AM
Lemieux, Matt	Manchester, NH mattlemieux2003@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:40 AM
Cox, Jennifer	Deerfield, NH jcox@precisionstoreworks.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:42 AM
Cox, Jen	Epsom, NH	A Member of the	Myself	Oppose	No	No	2/8/2022 9:42 AM

	Shcove38@gmail.com	Public						
Altschiller, Debra	STRATHAM, NH debra.altschiller@leg.state.nh.us	An Elected Official	Stratham	Support	No	No	2/8/2022 9:43 AM	
Weston, Joyce	Plymouth, NH jweston14@roadrunner.com	An Elected Official	Myself	Support	No	No	2/8/2022 9:44 AM	
Thompson, Melissa	Newbury, NH melissaathompson@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 9:44 AM	
mccarthy, ken	windham, NH kennymac83@hotmail.com	A Member of the Public	Myself	Support	No	Yes	2/8/2022 9:47 AM	
Cox, Mike	Epsom, NH Mcox7142@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:48 AM	
Cox, Megan	Epsom, NH megan.cox1@snhu.edu	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:49 AM	
Cox, Nick	Deerfield, NH Blackhawksnmc@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:51 AM	
Zuch, Robert	Moultonborough, NY rzuch13@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:51 AM	
Cox, Elli	Deerfield, NH 18ellibells@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:56 AM	
Stern, Judith	Moultonborough, NH Judistern1@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:56 AM	
Pike, Marcy	Sunapee, NH marcyvpike@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:57 AM	
Pike, Alan	Sunapee, NH Agpike1966@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:58 AM	
Wettergreen, Dan	Laconia, NH danwettergreen@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:59 AM	
Suplee, Ryan	BARRINGTON, NH rsuplee13@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:00 AM	
Thomason, Karin	Moultonborough, NH Kthomaso@wellesley.edu	A Member of the Public	Myself	Support	No	No	2/8/2022 10:02 AM	
Myers, Dorothy	BARRINGTON, NH dorojean@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:03 AM	
Callaway, Leigh	Springfield, NH lcallaway@myfairpoint.net	A Member of the Public	Myself	Support	No	No	2/8/2022 10:08 AM	
O'Brien, Susan	Moultonborough, NH	A Member of the	Myself	Support	No	No	2/8/2022 10:10 AM	

	Mrs_ob@comcast.net	Public					
Layton, Russell	New London, NH rlayton@alumni.stanford.edu	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:17 AM
Lane, Connie	Concord, NH connie.lane@leg.state.nh.us	An Elected Official	Merrimack District 12	Support	No	No	2/8/2022 10:18 AM
Foote, Christina	Kittery, ME cjfoote24@gmail.com	A Member of the Public	Myself	Oppose	No	Yes	2/8/2022 10:20 AM
Schwartz, Carla	Meredith, NH carlalist@gmail.com	A Member of the Public	Myself	Support	No	Yes	2/8/2022 10:21 AM
Gordon, Margaret	Weare, NH Megordon98@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:22 AM
Regan, Sheila	Moultonborough, NH sheilar990@roadrunner.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:22 AM
tenn, john	Bedford, NH johntenn@tennandtenn.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:24 AM
Pidgeon, Dawna	Enfield, NH dawna.pidgeon@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 10:25 AM
Eliassen, Marion	Sunapee, NH midge.eli@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 10:26 AM
Purcell, Charles	Gilford, NH Charlespurcellphone@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:26 AM
Marshall, Eric	Bridgewater, NH marshall418@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:27 AM
moody, larry	East Wakefield, NH larrychermoody@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:28 AM
tretter, jack	Alton Bay, NH tretjack@aol.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:30 AM
Mara, Jessica Kuncik	Dunbarton, NH jlkuncik@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:32 AM
Kramer, Robert	Bow, NH kramer56@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 10:32 AM
Samuelson, Lynne	Rindge, NH lasgriffs@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:32 AM
Hanson, Frances	Holderness, NH kayhanson@hotmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:32 AM
Nichols, Annette	Center Harbor, NH	A Member of the	Myself	Support	No	No	2/8/2022 10:35 AM

	Ajsn@att.net	Public					
Dipre, Christine	Rindge, NH cdipreemail@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:36 AM
Bradley, Mary Ellen	Newbury, NH Meb3280@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:37 AM
Ferguson, Jeannie	strafford, NH Jferguson@metrocast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 10:38 AM
Sinatra, William	Sunapee, NH Bill.sinatra@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:38 AM
Koziak, Daniel	Littleton, MA dkoziak@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:39 AM
Hamblet, Joan	Portsmouth, NH jhamblet4@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:39 AM
Connors, James	Wolfeboro, NH jaconnorsjr@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:40 AM
Van Magness, Frederick	Moultonborough, NH fvanmagness@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:41 AM
Dudley, Andrea	Wolfeboro, NH andrea.dudley@moosepoint.org	A Member of the Public	Myself	Support	No	No	2/8/2022 10:46 AM
Haines, Janet Miller	New London, NH janetmillerhaines@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:46 AM
Crabtree, Robert	Moultonbourogh, NH Rcrabtree@colonialtoyotact.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:47 AM
von Roesgen, Claude	Meredith, NH claudio@qunect.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:48 AM
Payne, Marilyn	Northwood, NH Mert81104@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:50 AM
pace, leonard	new london, NH cinderfella.len@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:50 AM
Feller, Thomas	Merrimack, NH Fellbill@mac.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:50 AM
pace, Elizabeth	new london, NH epace1957@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:50 AM
Putnam, William	SUNAPEE, NH LOWELL.PUTNAM@LOWELL.EDU	A Member of the Public	Myself	Support	No	No	2/8/2022 10:51 AM
Backon, Jacob	Sunapee, NH	A Member of the	Myself	Support	No	No	2/8/2022 10:52 AM

	jrbakon@gmail.com	Public					
Frazier, Mary	Auburn, NH dougandmary@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:52 AM
TEther, Suzanne	Sunapee, NH sjtether@aol.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:52 AM
Bean, Winsor	Concord, NH winsorbean12@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:53 AM
Schmidt, Helmut	Sunapee, NH hrschm1dt@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 10:55 AM
Watkins, Barbara	Harrisville, NH bcw18117@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:55 AM
Watkins, Robert	Harrisville, NH bcw18117@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:57 AM
FERBER, PETER	Alton, NH ferber@tds.net	A Member of the Public	Myself	Support	No	No	2/8/2022 11:01 AM
Siano, Robert	PEPPERELL, MA rvsianom5@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:02 AM
Dintaman, Dale	Rindge, NH dintaman.dw@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:03 AM
Keating, Madeline	New London, NH mbkeating02@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:05 AM
NEWTON, JEFFREY	MOULTONBOROUGH, NH jeffrey.newton@verizon.net	A Member of the Public	Myself	Support	No	No	2/8/2022 11:05 AM
Wazir, Safiya	Concord, NH S.wazir@leg.state.nh.us	An Elected Official	Myself and my constituents	Support	No	No	2/8/2022 11:05 AM
Stottlar, Jeremy	Wolfeboro, NH jstot29@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:08 AM
Atherton, Scott	Derry, NH kangayop@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:11 AM
Langsdorf, Anne	Grantham, NH alangsdorf@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:12 AM
McKee, Suzanne	Sunapee, NH sueandgreg@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 11:13 AM
Boisvert, Sharon	New Boston, NH shamac31@msn.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:13 AM
Gajarsa, Arthur	Holderness, NH	A Member of the	Myself	Support	No	No	2/8/2022 11:13 AM

	gajarsaa@gmail.com	Public					
Landers, Amy	Tilton, NH alanders@lakesregion.org	A Member of the Public	Lakes Region Tourism Association	Oppose	No	No	2/8/2022 11:16 AM
Baldwin, Beth	Wolfeboro, NH Bb77mer@aol.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:19 AM
Oka, Madeline	Moultonborough, NH madeline@oka.us	A Member of the Public	Myself	Support	No	No	2/8/2022 11:20 AM
Driscoll, Jean	Sunapee, NH jean_driscol@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:20 AM
Widerstrom, Sally	Plymouth, NH sallyswid@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:23 AM
Kelly, Barry	Tuftonboro, NH clowncar@sbcglobal.net	A Member of the Public	Myself	Support	No	No	2/8/2022 11:24 AM
Perrault, Kelsey	Concord, NH Kelsey.perrault@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:25 AM
Vachon, Karen	Sunapee, NH kdvachon@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:25 AM
Wensberg, Garrett	Strafford, NH garrett@amigraphics.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:27 AM
Martindale, James	Sunapee, NH jmartindale@navint.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:27 AM
regan, clement	moultonborough, NH clementwilliamregan@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:28 AM
McCarthy, Gary	Windham, NH gmccarthy0391@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 11:32 AM
Brown, Valerie	Moultonborough, NH vjbrown@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:33 AM
Ayres, Susan	New London, NH warren.ayres@verizon.net	A Member of the Public	Myself and extended family who own lakeside property	Support	No	No	2/8/2022 11:33 AM
Davis, Thomas	Moultonborough, NH tomtheace4@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:34 AM
Lachance, Sophie	Bedford, MA sophielachance19@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:35 AM
Dupee, Daniel	Strafford, NH bowlakerentals@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:36 AM
Gudrian, Trevor	Gilford, NH	A Member of the	Myself	Oppose	No	No	2/8/2022 11:36 AM

	gudriant11@gmail.com	Public					
winkel, hans	Wolfeboro, NH hans@dha-architects.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:36 AM
Boucher, Elizabeth	Concord, NH Eliztaber@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:36 AM
Gratton, Laurie	Bedford, MA laurie.gratton@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:36 AM
Gratton, Xavier	Bedford, MA xavier.gratton13@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:37 AM
Heaslip, Derek	Lynnfield, MA Dheaslip@yahoo.com	A Member of the Public	Family	Oppose	No	No	2/8/2022 11:38 AM
Boucher, Travis	Concord, NH North.boucher@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:38 AM
Gudrian, Bryan	Gilford, NH bgudrian@generaldigital.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:39 AM
Oot, Christopher	Chesterfield, NH chrisvoot1@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:40 AM
Gudrian, Alec	Gilford, NH Gudriana55@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:41 AM
Immelt, Amelie	New London, NH amelie.immelt@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:42 AM
Wilson, Barbara	Sunapee, NH Bwilson0470@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:42 AM
Dickey, Rebecca	Newbury, NH rdickey19@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:43 AM
Reid, Shannon	Epsom, NH sreid@metrocast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:44 AM
Knapp, Eric	Sunapee, NH eeknapp@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:45 AM
Gwynn, Virginia	Sunapee, NH ginny.gwynn@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:47 AM
Blunt, shelby	New London, NH sdblunt@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 11:51 AM
Lesiak, Margaret	Sunapee, NH marples1701@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:52 AM
Savia, Marie	Gilford, NH	A Member of the	Myself	Oppose	No	No	2/8/2022 11:55 AM

	mariesavia@aol.com	Public					
Dawson, Trina	New London, NH Trinakate@yahoo.com	A Member of the Public	Myself	Oppose	No	Yes	2/8/2022 11:55 AM
Temple, Mark	Brentwood, NH mtemps@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:55 AM
Noble, John	Brookline, NH Jtnoble1@msn.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:55 AM
Silva, Marc	Sanbornville, NH Marc.Silva.40@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:55 AM
Carroll, Georgia	New London, NH gcareycarroll@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:55 AM
Noble, Jan	Brookline, NH Janbarrick@msn.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:56 AM
Savi, Philip	Gilford, NH psavia58@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:57 AM
Hawkes, David	SANDY, UT hawkesda@outlook.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:58 AM
Chaisson, Brian	Sunapee, NH brchaisson@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:00 PM
Derkrikorian, Craig	Litchfield, NH jace1181@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:00 PM
Savia, Milana	Gilford, NH milanasavia@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:03 PM
Immelt, Catherine	LUTHERVILLE TIMONIUM, MD cassie.immelt@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 12:03 PM
Hatfield, Erik	Moultonboro, NH Hatfieldski@yahoo.com	A Member of the Public	Myself	Oppose	No	Yes	2/8/2022 12:07 PM
Plant, Chris	Woburn, MA Chrisplant103@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:09 PM
Sheehan, Virginia	CONCORD, NH vlsymmes@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 12:10 PM
Oxton, Josh	moultonborough, NH joxton55@yahoo.com	A Member of the Public	Myself/family	Oppose	No	No	2/8/2022 12:11 PM
Hatfield, Adam	Moultonboro, NH Apahatfield@verizon.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:14 PM
Hatfield, Mia	Moultonboro, MA	A Member of the	Myself	Oppose	No	No	2/8/2022 12:14 PM

	mhatfield@gocva.com	Public					
Puglisi, Angelo	Newmarket, NH apuglisi27@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:15 PM
marquis, william	gilford, NH Bill@stephensmarquis.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:15 PM
Tremblay, RMAC Chair, Michele L.	Penacook, NH mlt@naturesource.net	A Member of the Public	Rivers Management Advisory Committee	Support	No	No	2/8/2022 12:15 PM
Ry, Nicole	Lowell, MA Blued13@msn.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:15 PM
Puglisi, Calvin	Rye, NH calvin@studioadesign.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:17 PM
Dwyer, Timothy	Hooksett, NH timdwyer456@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 12:18 PM
Ostrom, Frieda	Sunapee, NH cwofho@myfairpoint.net	A Member of the Public	Myself	Support	No	No	2/8/2022 12:19 PM
plant, brianne	Woburn, MA briannemplant@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:20 PM
Bloch, Roger	Springfield, NH rbbloch@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 12:20 PM
McClay, Matthew	New London, NH Pleasantacres@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:22 PM
Grote, Walter	Sunapee, NH Wegrote@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:23 PM
Derkrikorian, Kristen	LITCHFIELD, NH kryserk@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:23 PM
fell, erica	moultonboro, NH ericaafell@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:26 PM
Finneron, Meaghan	New London, NH meaghan.finneron@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:27 PM
Castle, Donald	Springfield, NH don@dwcastle.com	A Member of the Public	Myself	Support	No	No	2/8/2022 12:29 PM
Beauchemin, Carol	Newbury, NH, NH carolb6916@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 12:30 PM
Rust, Jessica	Sandy, UT jessirust@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:31 PM
Sidman, Ashley	Gilford, NH	A Member of the	Myself	Oppose	No	No	2/8/2022 12:34 PM

	asidman@jnjholding.com	Public					
West, Kim	Gilford, NH kimwest_ct@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:34 PM
MacCallum, Donald	Epsom, NH donymacc47@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:36 PM
Manning, Reed	Laconia, NH manning.rt@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/8/2022 12:38 PM
Gudrian, Sandra	Laconia, NH sgudrian@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:39 PM
Correia, Joseph	Sunapee, NH hcorr@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 12:39 PM
Raimo, Mark	Concord, NH Mraimo58@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:40 PM
Crawford, Mark	Moltonborough, NH mac5tt@virginia.edu	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:41 PM
Lynch, Claudia	Wolfeboro, NH cllynch78@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 12:41 PM
AYOTTE, CLAUDETTE	Laconia, NH ayotte@metrocast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 12:42 PM
Fisher, David	Wolfeboro, NH dnfisher@mac.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:42 PM
Kimborowicz, Heidi	Dracut, MA chakimba@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:42 PM
Szwedski, Danielle	Northwood, NH Dts0513@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:43 PM
Floyd, Janes	Meredith, NH jim@thelmaworld.com	A Member of the Public	Myself	Support	No	No	2/8/2022 12:43 PM
Fagan, Mark	Hampton Falls, NH Mwf17@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:44 PM
Hendrickson, Ray	Hebron, NH rhendrickson@christianbook.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:44 PM
Brady, Adam	Manchester, NH asbrady12@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:44 PM
AYOTTE, NORMAN	LACONIA, NH nayotte41@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 12:44 PM
Stewart, Andrew	Litchfield, NH	A Member of the	Myself	Oppose	No	No	2/8/2022 12:45 PM

	apstewart07@gmail.com	Public					
Fredericks, Ricker	Durham, NH Ricker409@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:46 PM
Keaveny, Brian	Ridgefield, CT btk24@aol.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:46 PM
Traquair, Darlene	Belmont, NH dtraquair@silversands.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:46 PM
Leahy, Matt	Concord, NH mleahy@forestsociety.org	A Lobbyist	Society for the Protection of NH Forests	Support	No	No	2/8/2022 12:46 PM
Schneider, Danie	Sunapee, NH dschn@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 12:46 PM
Albing, Robin	Springfield, NH robin.k.albing@dartmouth.edu	A Member of the Public	Myself	Support	No	No	2/8/2022 12:49 PM
Dube, Michael	Laconia, NH mdubejr@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:49 PM
Fisher, Lola	Wolfeboro, NH lolaf2001@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:51 PM
Philbrook, Patty	Wakefield, NH president@pineriverpond.org	A Member of the Public	Pine River Pond Association	Support	No	No	2/8/2022 12:53 PM
Gudrian, Aaron	Laconia, NH aagudrian@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:54 PM
White, Steven	Bristol, NH stevenfwhite@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:54 PM
White, Sherri	Bristol, NH sherrilwhite17@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:55 PM
Hamilton, Lars	Greenland, NH larshamilton603@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:57 PM
Small, Robert	Boston, MA Smallrob@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 12:57 PM
Downes, Kathleen	Chesterfield, NH caseydown@cox.net	A Member of the Public	Myself	Support	No	No	2/8/2022 12:58 PM
Bond, Abby	Meredith, NH Abbythompsonbond@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:00 PM
Flory, James	Dover, NH Jamesflory16@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:00 PM
Fisher, Sebastian	Wolfeboro, NH	A Member of the	Myself	Oppose	No	No	2/8/2022 1:01 PM

	sbfisher01@yahoo.com	Public					
Purcell, Kevin	gilford, NH suitboy@live.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:02 PM
Silva, Lauren	Sanbornville, NH simma1211@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:06 PM
Cote, Zackery	Nottingham, NH worldcupzac@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:06 PM
Kennell, Melissa	Gilford, NH dentistmom@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/8/2022 1:09 PM
McFarlin, Ashleigh	Grantham, NH ashleighmcfarlin@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:11 PM
Harding, Robyn	Meredith, NH Whitianteach@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:14 PM
Reiser, Jaime	Bordentown, NJ jaimelynn.jr20@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:15 PM
Kelly, Cindy	Tuftonboro, NH cbk6@sbcglobal.net	A Member of the Public	Myself	Support	No	No	2/8/2022 1:17 PM
Watson, Todd	Gilford, NH Todd_watson17@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:17 PM
Todd, Jaden	Pittsburgh, PA jtodd2333@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:18 PM
Badman, Dennis	East Wakefield, NH dennisbadman@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:18 PM
Steers, Courtney	Tilt on, NH Csteers86@aol.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:18 PM
Crawford, Shannon	Moltonborough, NH Scrawf055@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:19 PM
Willwerth, Sara	East Wakefield, NH willwerthsara@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:19 PM
Lehrman, Jeanne	Pittsburgh, PA jlehrman2333@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:19 PM
Lee, Kevin	Gilford, NH misterkevinlee@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:20 PM
Marquis, Cody	Gilford, NH cody@stephensmarquis.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:20 PM
Kingsbury, Brigitte	Cape Elizabeth, ME	A Member of the	Myself	Support	No	No	2/8/2022 1:21 PM

	brigittekingsbury@gmail.com	Public					
Pascarelli, Alison	Holderness, NH avpascarelli@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:21 PM
LaBrie, David	CAMPTON, NH dllabrie@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:22 PM
youngman, chad	holderness, NH chad.youngman@allenlund.coom	A Member of the Public	Myself	Support	No	No	2/8/2022 1:23 PM
Roma, Claudia	Medina, OH croma@kent.edu	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:24 PM
Pallaria, John	Windham, NH jpallaria@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:25 PM
Norcross, Gloria	Manchester, NH gloriaknorcross@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:25 PM
Roma, Claud	Hinckley, OH claudia.roma.100@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:25 PM
Lidbeck, Dag	Wilmot, NH gracehillco@gmail.com	A Member of the Public	Myself	Oppose	No	Yes	2/8/2022 1:26 PM
Orpin, David	Nashua, NH dorpin@alphagraphics.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:27 PM
Coolidge, Sophie	Sandwich, NH sccoolidge@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:27 PM
Rudnick, Elaine	New London, NH elainerudnick@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:27 PM
Simons, Michael	Ashland, NH michaelbsimons@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:29 PM
Gorman, John	Flemington, NJ John.a.gorman@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:29 PM
Pillow, Gail	Tuftonboro, NH Gepillow@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 1:30 PM
Thompson, Jesse	Gilford, NH jesse@ndprecast.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:31 PM
Daigneault, Sam	Holderness, NH sdaigneault12@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:31 PM
Orff, Eric	Epsom, NH eorff@aol.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:32 PM
Tuttle, Thomas	Concord, NH	A Member of the	Myself	Oppose	No	No	2/8/2022 1:33 PM

	Thomas.tuttle12@gmail.com	Public					
Meyer, Eric	Windham, NH Emeyer99@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:34 PM
Nazer, Corey	Gilford, NH corey.nazer@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:35 PM
Twombly, Will	Center Harbor, NH wtsd@rcn.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:35 PM
Blackwelder, Derek	Gilford, NH blackwelder_derek@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:36 PM
caruso, Kyle	derry, NH ky.caru97@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:36 PM
Clarenbach, Parker	Moultonborough, NH imparker@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:36 PM
Cone, Timothy	Antrim, NH tcone@gsinet.net	A Member of the Public	Myself	Support	No	No	2/8/2022 1:37 PM
tyler-hanig, eve	Medford, MA jadeve333@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:37 PM
Mastine, Erin	Gilford, NH emastine1980@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:38 PM
Ludwig, Ember	Plymouth, NH edlpublic@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:38 PM
Wernig, Jason	Gilford, NH jwernig1975@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:40 PM
Marquis, Melissa	Gilford, NH melissa@stephensmarquis.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:42 PM
Balanoff, Krystal	Northwood, NH kcbalanoff@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:43 PM
Boulton, Brianna	Kissimmee, FL Brilb99@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:43 PM
Lesniak, Michael	Gilford, NH m.lesniak@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:45 PM
Hildebrand, Mark	MEREDITH, NH hilde@metrocast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 1:46 PM
Lovett, Elizabeth	HOLDERNESS, NH ttevol2002@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:46 PM
Gaudio, Matt	Windham, NH	A Member of the	Myself	Oppose	No	No	2/8/2022 1:47 PM

	Mcg369@yahoo.com	Public					
Marquis, Jenna	Windham, NH spang.jenna@gmail.com	A Member of the Public	Myself & Family	Oppose	No	No	2/8/2022 1:48 PM
Allen, Morgan	Epsom, NH morgibrett8@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:49 PM
Hodges, Elizabeth	Springfield, NH perryhodges666@gmail.com	A Member of the Public	Baptist Pond Protective Association	Support	No	No	2/8/2022 1:50 PM
Usher, Laura	Holderness, NH Laurausher@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 1:50 PM
Sutcliffe Jr., George D.	Holderness, NH biffsutcliffe@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:50 PM
Sawyer, Jim	Gilford, NH Jim123jjen@metrocast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:51 PM
Coraine, Anthony	Litchfield, NH atcoraine@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/8/2022 1:52 PM
Downing, Wendy	MOULTONBOROUGH, NH wendy@wendybooker.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:54 PM
Silva, Marisa	Middleton, MA marisa.fumicello@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:55 PM
Flores-Jon, Jana	Ashland, NH lightworkbiz@mac.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:55 PM
COOPER, CLAUDIA	Holderness, NH cooper.claudia.g@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:56 PM
Parent, Noah	Manchester, NH noah2147@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:57 PM
Donnelly, Sadie	Strafford, NH sdonnelly417@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:58 PM
Thomas, John C.	Ashland, NH jthomas@waremalcomb.com	A Member of the Public	Myself	Support	No	No	2/8/2022 1:58 PM
Crawford, Michael	Moltonborough, NH mcrawford964@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:59 PM
Savia, Charlotte	Cedar valley, UT Charlottesv912@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:59 PM
Kolesar, danika	Manchester, NH danika.kolesar@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 1:59 PM
Tarry, Charles	Manhattan, NY	A Member of the	Myself	Oppose	No	No	2/8/2022 2:01 PM

	Ctarry@verizon.net	Public					
O'Connell, Sarah	Holderness, NH sarah.f.oconnell@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 2:03 PM
Swaney, Mackenzie	North Hollywood, CA Mackenzie.Swaney.2@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:05 PM
Peterson, Justin	Northwood, NH Jpski36@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:06 PM
Langfeld, Elizabeth	Wolfeboro, NH elizabethlangfeld@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:08 PM
Sanford, Lynn	Moultonborough, NH lynnksanford@aol.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:11 PM
Buckley, Joseph	Center Barnstead, NH rxbuck67@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:11 PM
Ayd, Joseph	Towson, MD aydjoseph@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:11 PM
Buckley, Kathleen	Center Barnstead, NH rxbuck67@hotmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:12 PM
Rust, River	Sandy, UT rivrust@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:12 PM
Schwegler, Eric	Windham, NH eschwegs@gmail.com	A Member of the Public	Myself / family	Oppose	No	Yes	2/8/2022 2:13 PM
Sanford, Brian	Moultonborgh, NH BrianGSanford@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:13 PM
Heckel, David	South Sutton, NH dheckel77@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:14 PM
VLcek, Joseph	Dunstable, MA Joseph_VLcek@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:16 PM
Pillow, James	Tuftonboro, NH Jgpillow@comcast. Net	A Member of the Public	Myself	Support	No	No	2/8/2022 2:17 PM
Coleman, Kimberlee	Ashland, NH kimberlee@krclaw.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:18 PM
Westberg, Cliff	Gilford, NH Jeep89yj@hotmail.co	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:22 PM
Dearborn, Samantha	Holderness, NH Squamk@hotmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:23 PM
Brown, Anna	Northwood, NH	A Member of the	Myself	Oppose	No	No	2/8/2022 2:24 PM

	annamarietbrown@ymail.com	Public					
Hemphill, Penny	Wolfeboro, NH pennyhemphill@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:25 PM
Gagnon, Martha	Hooksett, NH mgpa2@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 2:26 PM
Fisher, Brian	Deerfield, NH Wileyfish@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:26 PM
Axne, Joseph	Westmoreland, NH JosephAxne@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:26 PM
Gagnon, Gary	Hooksett, NH mgpa2@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 2:26 PM
Fisher, Rebecca	Deerfield, NH R_b_cca@msn.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:27 PM
Teeson, Jenna	Holderness, NH jennateeson@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:28 PM
Taylor, Frances	Holderness, NH egg lady5@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:29 PM
McCusker, Kevin	Rindge, NH kfmccusker@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:29 PM
Pilette, Marsha	Moultonborough, NH mjpilette@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:29 PM
Hemphill, Jackson	Wolfeboro, NH jacksonhemphill25@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:31 PM
Hemphill, Bennett	Wolfeboro, NH bennetthemphill25@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:32 PM
Hemphill, Campbell	Wolfeboro, NH campbellhemphill25@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:33 PM
Riopel, Ashley	Laconia, NH Ashleyriopel419@gmail.com	A Member of the Public	Myself	Oppose	No	Yes	2/8/2022 2:34 PM
Manning, Claire	Laconia, NH cmpersonal@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:37 PM
Bruck, Jenny	Mont Vernon, NH drjenny@sccvitality.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:40 PM
Strayhorn, Louise	Holderness, NH LSTRAYHORN@COMCAST.NET	A Member of the Public	Myself	Support	No	No	2/8/2022 2:43 PM
Hlebichuk, Korey	Mont Vernon, NH	A Member of the	Myself and my family	Oppose	No	No	2/8/2022 2:43 PM

	kbuyit@icloud.com	Public						
Riege, Meg	Hartford, VT megriege@hotmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:44 PM	
Arteaga, Mario	Chicago, IL marioarteaga99@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:45 PM	
Morss, Elizabeth	Holderness, NH emorss@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 2:47 PM	
Cook, Amy	BRADFORD, NH amywebstercook@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:48 PM	
Kenney, Larry	Laconia, NH larrykenney057@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:49 PM	
Mills, George	Bristol, NH mswlogo@hotmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:49 PM	
Avonti, Harry	Swanzey, NH H.avonti@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:52 PM	
Hendrick, Jared	New york, NY Jared.hendrick@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:52 PM	
Howe, Matthew	Effingham, NH director@gmcg.org	A Lobbyist	Green Mountain Conservation Group	Support	No	No	2/8/2022 2:52 PM	
Avonti, Shirley	Swanzwy, NH Shirleyavonti@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 2:53 PM	
COLEMAN, DONALD	Ashland, NH dwcoleman82@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:57 PM	
Warren, Lee	North Sandwich, NH leewarren1@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 2:58 PM	
legault, denise	Atkinson, NH denise_legault@uml.edu	A Member of the Public	Myself	Support	No	No	2/8/2022 2:59 PM	
DiPietro, Andrew	Mirror lake, NH Adipietro@climatezone.biz	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:00 PM	
Maldon, Jonathan	Meredith, NH Maldonmail@aol.com	A Member of the Public	Myself and my family	Oppose	No	No	2/8/2022 3:02 PM	
Sweeney, Bryan	Holderness, NH bryan_sweeney@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 3:05 PM	
Carty, Brendan	Meredith, NH cartyb44@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:05 PM	
Green, Tom	Portland, ME	A Member of the	Family	Oppose	No	No	2/8/2022 3:06 PM	

	eballstars14@gmail.com	Public					
Axne, Eva	Columbia, NH Maeday56@aol.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:07 PM
pratt, Sydney	hooksett, NH sydneypratt7@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:08 PM
Walsh, Colleen	Meredith, NH coselige@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:10 PM
King, Kerri	Sanbornton, NH Nhminicooper@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 3:11 PM
Jackson, Richard	sunapee, NH rsjmd9@aol.com	A Member of the Public	Myself	Support	No	No	2/8/2022 3:15 PM
Gordon, L	Center Harbor, NH pawnee.library@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 3:15 PM
Tarry, William	Moultenborough, NH Ctarry11@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:15 PM
Heaps, John	Bedford, NH Jjheaps98@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:15 PM
Boyd, Jack	Manchester, NH jackboydmail@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:15 PM
Crawford, Rose	Moultonborough, NH Rose64@mac.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:15 PM
Robson, Jennifer	Concord, NH jenrobson@mac.com	A Member of the Public	Myself	Support	No	No	2/8/2022 3:18 PM
Ferland, Lisa	New London, NH Lisafferland@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:21 PM
Ferland, Denis	New London, NH denismferland@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:24 PM
Bruck, Dax	Hooksett, NH daxbruck@outlook.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:27 PM
Ferguson, Thomas	Portsmouth, NH thosferguson@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 3:27 PM
Riggs, Una	Fort Walton Beach, FL uriggs@ncsu.edu	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:30 PM
gurney, george	Center Harbor, NH wegurneys@gmail.com	A Member of the Public	Myself, my wife and son	Support	No	No	2/8/2022 3:30 PM
Dworkin, Victoria G.	Ctr Sandwich, NH	A Member of the	Myself	Support	No	No	2/8/2022 3:32 PM

	vicky.dworkin@gmail.com	Public					
Marquis, Nick	Gilford, NH Nmarquissma@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:33 PM
Sumsion, Brett	Wolfeboro, NH bsumsion@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:33 PM
McCloskey, Brian	Villanova, PA bmccloskey@sjprep.org	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:36 PM
Smith, Boyd	Concord, NH Pemigw1@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 3:37 PM
Lewis, Anne	Holderness, NH annelewis@clermontconsultinggroup.com	A Member of the Public	Myself	Support	No	No	2/8/2022 3:38 PM
Twombly, Martha	Hebron, NH marthamosaic@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 3:42 PM
Werner, Karen	Amherst, NH kswerner.nh@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 3:42 PM
Sauer, Virginia	Center Harbor, NH gbsauer@aol.com	A Member of the Public	Myself	Support	No	No	2/8/2022 3:43 PM
Rochbert, Leah	Rindge, NH Lrochbert@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 3:45 PM
Sauer, Robert	Center Harbor, NH robert.b.sauer@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 3:51 PM
SMITH, WAYNE	Andover, NH wayneandroxanne@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 3:55 PM
Williams, John	Brookline, NH jdubbs77@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:55 PM
Johnson, Brady	Northwood, NH bradyaj@bu.edu	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:55 PM
Storer, Jim	Meredith, NH jstorerj@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 3:58 PM
totten, william	Gilford, NH billt72@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 4:01 PM
Judd, Brooke	Allenstown, NH Brookemaern@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 4:01 PM
ONeill, Patricia	Holderness, NH Missponeill@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:02 PM
ONeill, Daniel	Holderness, NH	A Member of the	Myself	Support	No	No	2/8/2022 4:03 PM

	Dfoneillmd@gmail.com	Public					
Marsh, David	Bristol, NH goboldly@msn.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:03 PM
Clarke, Roberta	Center Harbor, NH rclarke@bu.edu	A Member of the Public	Myself	Support	No	No	2/8/2022 4:06 PM
Wilder, Russell	Alton, NH russwilder@msn.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:06 PM
MCLAUGHLIN, William	Sunapee, NH william.mclaughlin849@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:08 PM
LaMoreaux, Andrea	Plymouth, NH alamoreaux@nhlakes.org	A Lobbyist	NH LAKES, President	Support	No	No	2/8/2022 4:11 PM
Hughes, Robert	Meredith, NH jeh.hughes@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:13 PM
Fleischer, Carl	Holderness, NH c.fleischer@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 4:13 PM
Tilley, James	Gilford, NH jwtilley@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 4:13 PM
Lovejoy, Martha	Hopkingon, NH martielovejoy@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:14 PM
Webster, Peter	Holderness, NH websterco@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:16 PM
Buller, Steven	New London, NH Seb456@aol.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:17 PM
Hinkle, Brennan	MOULTONBOROUGH, NH brennanhinkle@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 4:18 PM
Rivinius, Emily	Bedford, NH Em_driscoll@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 4:18 PM
Anderson, Scott	Alexandria, NH scotta404@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:21 PM
dibona, dorothy	kensington and Meredith, NH skibones@rcn.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:22 PM
Westberg, Kari	Gilford, NH kmwest05@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 4:23 PM
Macdonald, Robert	Melvin Village, NH rmacdonald@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/8/2022 4:24 PM
Reed, Barry	Hampstead, NH	A Member of the	Myself	Support	No	No	2/8/2022 4:26 PM

	reed.barryj@gmail.com	Public					
Pratt, Kim	Bedford, NH gotr4@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 4:27 PM
Nigro, Larissa	Windham, NH larissamnigro@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 4:28 PM
Dempsey, Elizabeth	Moultonborough, NH elizabethgdempsey@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:28 PM
Walsh, Anne	New London, NH Annelwalsh@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:29 PM
Moloney, BrendanThanks	Brookline, NH brendanmoloney@msn.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 4:30 PM
Dougherty, Mark	Cicero, IN N3mark@iCloud.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 4:30 PM
Lindgren, Eric	NEW LONDON, NH cpgcio@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:34 PM
Calmer, Cathleen	Hancock, NH forestcalmer@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:37 PM
Murray, Roger	Wolfeboro, NH rfmurray1@myfairpoint.net	A Member of the Public	Myself	Support	No	No	2/8/2022 4:38 PM
Seger, Jerrienne	Sunapee, NH anne.seger603@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 4:39 PM
Rigby, John	Washington, NH jrigby_houston1@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 4:44 PM
Rigby, Holly	Washington, NH hrigby_houston1@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 4:44 PM
Sawtelle, Devin	Lee, NH Devin.Sawtelle@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 4:57 PM
Larrere, Jason	Gilford, NH jaylarrere@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 4:57 PM
Rebidue, Dylann	New London, NH dylann.rebidue1127@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:00 PM
West, Brianna	New London, NH brwest2000@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:00 PM
Gershun, Boo	Meredith, NH boo@campboo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:01 PM
DeLuca, William	Windham, NH	A Member of the	Myself	Oppose	No	No	2/8/2022 5:02 PM

	bdelucaiii@comcast.net	Public					
Cushman, David	Sunapee, NH Davidcushman@me.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:02 PM
Akiyama, Neil	Meredith, NH boo@campboo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:02 PM
West, Alyxandria	New London, NH amwest2021@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:03 PM
Fitzgerald, Scott	New London, NH sfitzgerald@kearsarge.org	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:03 PM
Binder, Carole	Hebron, NH carolebinder@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:03 PM
Bennett, Joan	Manchester, NH joan@writeconnect.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:04 PM
Palumbo, Maria	Fowler, OH Miabellapal82@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:04 PM
West, Angus	Holderness, NH angus.west@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 5:04 PM
Ling, John	Arlington, FL lingmeister@aol.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:05 PM
Weidner, Abigail	BEdford, NH aweidner27@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:06 PM
Weidner, Colton	Bedford, NH cweidner29@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:07 PM
DeLuca, Steven	Windham, NH ne14stevo@aol.com	A Member of the Public	Myself/family	Oppose	No	No	2/8/2022 5:07 PM
Smith, Peter	Sunapee, NH psmith@citizensenergy.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:07 PM
Weidner, Anna	Bedford, NH mweidner31@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:07 PM
Saul, Albert	Holderness, NH amsaul54@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:09 PM
Rylander, R F	Sunapee, NH brylander@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:09 PM
Schneider, Margaret	Sunapee, NH kiki603@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 5:09 PM
Laliberte, Kelly	Concord, NH	A Member of the	Myself	Oppose	No	No	2/8/2022 5:09 PM

	klaliberte1@comcast.net	Public					
Foulger, Doug	Laguna Beach, CA dougfoulger@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:09 PM
Bennett, Dick	Manchester, NH dickinsonbennett@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:09 PM
Weidner, Mike	Litchfield, NH weidnerrn@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:10 PM
Gintz, David	Londonderry, NH dgintz@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:11 PM
Weidner, Devin	Litchfield, NH devinbug@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:11 PM
Thrasher, Shawn	Windham, NH sthramer76@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:12 PM
Thrasher, Ashley	Windham, NH Ashley@crowenergysolutions.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:13 PM
Deluca, Marisa	Windham, NH Mdeluca@aane.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:13 PM
Szymansky, Melissa	Salem, NH Meszymansky@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:13 PM
Szymansky, Ken	Salem, NH ken@stoveshoppe.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:14 PM
sidmore, jason	DEERFIELD, NH JASON.SIDMORE@WALTER-TOOLS.COM	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:14 PM
sidmore, heather	DEERFIELD, NH hsidmore1@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:15 PM
Dana, Diane	Londonderry, NH nhdsd12@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:15 PM
Cushman, Clair	Sunapee, NH clair.cushman@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 5:16 PM
Wilson, Jean	Sunapee, NH jnwilson1@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 5:16 PM
STRAPP, HENRY	Center Harbr, NH chip.strapp001@rcn.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:17 PM
HYATT, PETER	ALTON, NH LFD19C1@GMAIL.COM	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:18 PM

Monkiewicz, Matthew	Laconia, NH mattm9351@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/8/2022 5:18 PM
Spada, Len	Sunapee, NH Lenspada@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:18 PM
HYATT, KATHLEEN	ALTON, NH KMHYATT@GMAIL.COM	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:18 PM
Monkiewicz, Jennifer	Laconia, NH jennmm0628@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/8/2022 5:19 PM
HYATT, RONALD	ALTON, NH RONALD.HYATT@GMAIL.COM	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:19 PM
HYATT, ALAN	ALTON, NH APHYATT@GMAIL.COM	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:20 PM
Nahikian, Vahram	Hooksett, NH vnahikian@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:23 PM
Coolidge, Peter	Holderness, NH pcoolidge603@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:23 PM
Baldwin, Marie Anne	Gilford, NH ma@nwfdcs.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:25 PM
Tuttle, Jon	Concord, NH Jon.tuttle@zajacllc.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:26 PM
O'Donnell, Linda	Spofford, NH lindahodonnell@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:26 PM
McDuffee, Brandon	Gilford, NH Brandonsmcduffee@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:26 PM
Basile, Rebecca	Windham, NH Rmadanjian@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:27 PM
Scarborough, Dave	Madison, NH dwscarborough@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:28 PM
Livens, Jay	Holderness, NH jlivens@sloan.mit.edu	A Member of the Public	Myself	Support	No	No	2/8/2022 5:28 PM
Buller, Stevn	New London, NH stevene.buller@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:31 PM
Walton, Kenneth	Chesterfield, NH krwper038@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:33 PM
Buller, Steven E	New London, NH stevene.buller@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:35 PM

Porter-Zuckerman, Eve	Sandwich, NH epz@mac.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:37 PM
Patenaude, Pamela	Moultonboro, NH Patenaudepam@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:39 PM
Patenaude, Charles	Moultonboro, NH Chuckpampat@msn.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:40 PM
Valentine, Elizabeth	Holderness, NH lisa.v.bennett@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:44 PM
Davis, Theresa	Newbury, NH tdavis@daviscos.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:44 PM
Iannetta, Dan	Natick, MA dan.iannetta@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:44 PM
Stevenson, Amberly	Kent, OH ajs72601@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:44 PM
Vincent, Gwendylan	Windham, NH gwendylanvin@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:44 PM
Walton, Pamela	Chesterfield, NH krwper038@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:45 PM
Vincent, Darrin	Windham, NH darrinvincent@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:46 PM
Vincent, Diana	Windham, NH dvincentvs@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:46 PM
Doughman, Christopher	Wolfeboro, NH chris.doughman@gmail.com	A Member of the Public	Myself	Support	No	Yes	2/8/2022 5:49 PM
Duggan, Timothy	SUNAPEE, NH tduggan@shawsheenair.com	A Member of the Public	Myself/family	Oppose	No	No	2/8/2022 5:50 PM
Brown, Charles	Concord, NH Thomas.brown7849@outlook.com	State Agency Staff	Myself	Oppose	No	No	2/8/2022 5:50 PM
ROBINSON, JOHN	New London, NH JOHNKELLYROBINSON@GMAIL.COM	A Member of the Public	Myself and my Family	Oppose	No	No	2/8/2022 5:52 PM
Zipkin, Tully	Newton, NH tullyz58@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:54 PM
Moore, Robert	Cornish, NH Robertmoore1025@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/8/2022 5:54 PM
Martens, Robert	Bridgewater, NH Bobsuznh@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 5:54 PM

Zipkin, Susan	Newton, NH suezipper@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:55 PM
Lawson, Annie	Nottingham, NH Anniexlawsonx@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 5:58 PM
green, william	Etna, NH william.r.green@dartmouth.edu	A Member of the Public	Myself	Support	No	No	2/8/2022 5:58 PM
Coolidge, Richard	Center Sandwich, NH rlcoolidge@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 6:01 PM
Axne, Andrea	Westmoreland, NH andreaaxne@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:01 PM
Catino, Pamela	New London, NH pscatino@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:02 PM
Hanson, Adrienne	Alton Bay, NH ahansonltd@mac.com	A Member of the Public	Myself/my family	Oppose	No	No	2/8/2022 6:02 PM
Donald, Mackenzie	Seaport, MA Mdonald94@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:03 PM
Powers, Michael	Walpole, NH Mpowers121@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:05 PM
Ciardelli, Matt	Hollis, NH matttcia@aol.com	A Member of the Public	myself/family	Oppose	No	No	2/8/2022 6:07 PM
kirk, sean	Spofford, NH seanx@msn.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:08 PM
Trudeau, Graham	Laconia, NH Grahamtrudeau@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:13 PM
Trudeau, Heather	Laconia, NH Grahamtrudeau@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:13 PM
Thomsen, Lorne	Holderness, NH Lorne@campdeerwood.com	A Member of the Public	Camp Deerwood	Support	No	No	2/8/2022 6:13 PM
Wood, Nancy	Laconia, NH Grahamtrudeau@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:13 PM
Davis, Brian	Raymond, NH Bcd.welding22@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:16 PM
Sousa, Mike	Moltonboro, NH Mikesousajr@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:17 PM
Anderson, Jamie	Holderness, NH Jamie.Conlon.anderson@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 6:18 PM

DeMark, Richard	Meredith, NH demarknh114@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 6:19 PM
DeMark, Harriet	Meredith, NH demarknh114@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 6:19 PM
Gietl, Ashley	New York, NY ashley.gietl@gmail.com	A Member of the Public	Myself	Oppose	No	Yes	2/8/2022 6:20 PM
Anderson, Brent	Holderness, NH Brentond.anderson@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 6:20 PM
Ayles, Michael	Leominster, MA ayles.mike6600@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:21 PM
Thrasher, Josh	Candia, NH Josh.thrasher30@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:22 PM
Staszko, Peter	Westmoreland, NH Pstaz24@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/8/2022 6:24 PM
Bennett, Philip	Holderness, NH Bennett.philip.d@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 6:24 PM
Marchese, Stephanie	Gilford, NH stephaniemarchese@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:25 PM
Brown, Kevin	Northwood, NH Brown1313k@aol.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:25 PM
Poitras, Alan	Dunbarton, NH Alanpoitras@gmail.com	A Member of the Public	Myself	Oppose	No	Yes	2/8/2022 6:26 PM
Marchese, Michael	Gilford, NH MMarchese@netzero.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:27 PM
Payne, Tracy	Northwood, NH Rott2000@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:27 PM
Herr, Dorothy	Chesterfield, NH Dorothy.herr@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 6:29 PM
Dubois, Linda	Manchester, NH Lindadub19@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:29 PM
Errico, Joe	Sandown, NH Jerrico@iesbuy.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:29 PM
Stasio, Cherie	Milton, NH Cherie140@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:30 PM
McLaughlin, Meghan	Sunapee, NH megmclaughlin@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 6:30 PM

Marchese, Mikey	Gilford, NH Mike.marchese@govsacademy.org	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:30 PM
Herr, Eric	Chesterfield, NH ericclarkherr@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 6:33 PM
Stoddard, Michelle	Sandown, NH mishys1@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:35 PM
Trottier, Bridget	Litchfield, NH My3boyzfeb00@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:35 PM
Hatfield, Amy	Moultonboro, NH amyshatfield@icloud.com	A Member of the Public	Myself/Family	Oppose	No	No	2/8/2022 6:35 PM
Dionne, Michelle	Laconia, NH Michelle.dionne@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:35 PM
Silinonte, Michael	Meredith, NH mjsilinonte@gmail.com	A Member of the Public	Myself/my Family	Oppose	No	No	2/8/2022 6:36 PM
Marchese, Kate	Gilford, NH Kmarches@friars.providence.edu	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:36 PM
Dionne, Carissa	Laconia, NH Carissa.dionne@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:37 PM
Hatfield, Paula	Moultonboro, NH pmhatfield37@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:37 PM
Thrasher, Kyle	Candia, NH kthrasher71@msn.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:38 PM
Davis, Robert	Newbury, NH rdavis@daviscos.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:38 PM
Davis, Patrick	Newbury, NH pat.davis2186@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:38 PM
Marchese, Samantha	Gilford, NH Samantha.n.marchese1@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:38 PM
Dunn, Tim	Windham, NH tdunn190@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:39 PM
Oxton, Alison	Moultonborough, NH Alisonj.oxton@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:39 PM
Dunn, Carly	Windham, NH timothyfd145@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:40 PM
Power, Kyle	Methuen, MA kylepowerr@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:40 PM

Lobao, Lisa	Danville, NH Lisalobao718@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:41 PM
Errico, Kim	Sandown, NH Kterrigo23@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:42 PM
Davidson, Katherine	Alexandria, NH katnhvtnc@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 6:42 PM
Boerma, Mike	Marblehead, MA mboerma6@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/8/2022 6:43 PM
Carbonneau, David	Litchfield, NH davidcarb@gmail.com	A Member of the Public	Myself /family	Oppose	No	No	2/8/2022 6:43 PM
Smith, Chad	Manchester, NH Smithwchad655@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:45 PM
Eggleston, Lisa	Meredith, NH ldeggleston@icloud.com	A Member of the Public	Myself	Support	No	No	2/8/2022 6:45 PM
Boerma, Brittany	Newbury, NH Bldavis925@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:47 PM
Armata, Nicole	Danville, NH Nikki_armata@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:51 PM
Grubbs, Samantha	Windham, NH Samrgrubbs@aol.fom	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:52 PM
Trahan, Trentan	Kent, OH trentantrahan817@gmail.com	A Member of the Public	Myself	Oppose	No	Yes	2/8/2022 6:54 PM
Renzi, Nicholas	Holderness, NH nrenzi@mrgrealities.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:55 PM
Twombly, Fred	Bow, NH thetwomblys@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 6:59 PM
havens, Alyssa	mason, NH alyssakate2@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 6:59 PM
Weeks, John	Lincoln, NH jweeks24x@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:00 PM
Coolidge, Alixandra	Sandwich, NH abcoolidge@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:02 PM
Patterson, Adam	Pembroke, NH Apatterson729@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:02 PM
Renzi, Peter	Holderness, NJ Prenzi@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:04 PM

Hurd, Lyman	Concord, NH lyman.hurd@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:05 PM
Hurd, Susan	Concord, NH susanhurdrn@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:05 PM
Poitras, Tammy	Dunbarton, NH Tpoitras73@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:10 PM
Finnerty, Denis	Meredith, NH Finnhd@aol.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:11 PM
Blunt, Harry	New London, NH Hblunt@concordcoachlines.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:11 PM
Andrews, Kelsey	Londonderry, NH andrewskeal7@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:24 PM
Ashworth, Kimberly	Gilford, NH Kimashworth@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:24 PM
Graham, Jeffrey	Strafford, NH Nhgutpile@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:25 PM
Scarborough, Valerie	Plymouth, NH val7@roadrunner.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:26 PM
Ashworth, Morgan	Gilford, NH Mirgashworth@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:27 PM
Clinger, Kaitlyn	Conway, NH kclinger12@yahoo.com	A Member of the Public	Myself	Oppose	No	Yes	2/8/2022 7:27 PM
Dixon, Doris	Pittston, ME cdhbadixon@aol.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:27 PM
Goldstone, Mark	Ashland, NH markbgoldstone@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:29 PM
Heffernan, Josie	Canton, OH josieheff@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:32 PM
Wise, Tyler	Canton, OH tylerzwise@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:32 PM
Andrade, Carl	Meredith, NH Csa@andradenh.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:34 PM
Pearl, Natalya	Loudon, NH Baltcher25@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/8/2022 7:36 PM
Stasio, Marilyn	Sandown, NH Shopstasio@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:37 PM

Diamond, William	Sunapee, NH WDiamond@ReportingMD.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:38 PM
Herrick, Timothy	Sunapee, NH therrick1@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:40 PM
Fish, Kathleen	Lake sunapee, NH mamafish1@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:50 PM
Teeson, Nick	Holderness, NH Nickteeson@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:50 PM
Hatfield, Nancy	Moutlonborough, NH nancy.hatfield@verizon.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:53 PM
Richards, John	Holderness, NH salmon246@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 7:54 PM
LaBrecque, Gregory	Center Harbor, NH gplabrecque@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:55 PM
Graham, Kenneth	Meredith, NH kgraham07@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 7:59 PM
Middlebrook, Christina	Moultonborough, NH drakehill571@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:01 PM
Middlebrook, William	Moultonborough, NH drakehill571@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:01 PM
Iannetta, Jenna	Natick, MA Jsimonelli@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:02 PM
Seifert, Bernadette	Sunapee, NH Bernieseifert@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:03 PM
Kopp, Russell	Holderness, NH RussKopp@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:03 PM
Pallaria, Michelle	Windham, NH Mpallaria@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:03 PM
Hakken-Phillips, Mary	Hanover, NH Mhp4nhrep@gmail.com	An Elected Official	Myself	Support	No	No	2/8/2022 8:04 PM
Stoddard, Anthony	Sandown, NH Tony@sophiasfund.org	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:05 PM
Ames, Dick	Jaffrey, NH amesinjaffrey@gmail.com	An Elected Official	Myself	Support	No	No	2/8/2022 8:06 PM
Minnich, Alexa	New Boston, NH Alexaheather112@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:08 PM

Boss, John	Windham, NH jhbdmd@yahoo.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:09 PM
Tourigny, jay	Rindge, NH jayt@microcare.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:09 PM
Verney, Mackenzie	Newbury, NH mdavis@daviscos.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:11 PM
Hahn, Sue	Holderness, NH shahn730@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:11 PM
Luther, Carla	Windham, NH carlabluther@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:12 PM
Giakoumakis, Maria	windham, NH mariag146@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:12 PM
Bradley, Carolyn	Windham, NH crbradley@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/8/2022 8:13 PM
Kaufmann, Trisha	Windham, NH Trishakaufmann@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:13 PM
phair, william	DERRY, NH Bjphair77@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:16 PM
Phair, Kyler	Derry, NH Kphair22@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:18 PM
Isikoff, Nancy	Holderness, NH Nancy.Isikoff@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:18 PM
Parlatore, Steven	Salem, NH Zx7424@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:18 PM
Hamman, Brian	Salem, NH byron427@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:19 PM
Hall, Cole	Strafford, NH jaxscj@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:19 PM
Weeks, Joe	Ashland, NH Jweeks27x@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:19 PM
Labbe, John	Salem, NH John1108@msn.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:19 PM
Donovan, Meredith	Moltonborough, NH Msd025@bucknell.edu	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:20 PM
Ellis, Jacob	Strafford, NH bsbl12206@aol.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:21 PM

Jackson, Kristen	Moultonborough, NH kristen.m.olsen@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:21 PM
Gold, Emily	Wolfeboro, NH Emilyofgold@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:22 PM
Parlatore, Tara	Salem, NH Taralsullivan@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:23 PM
hussey, monika	windham, NH Monikahussey@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:24 PM
Ferren, Karen	Salem, NH Karenferren@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:24 PM
Burke, Sean	Salem, NH Sburke57@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:24 PM
Clementi, Rebecca	Windham, NH Rclementi@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:24 PM
Burke, Amanda	Salem, NH Acarey3535@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:26 PM
Parlatore, Donovan	Salem, NH Donovan.Parlatore@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:28 PM
Woodard, Charles	Meredith, NH woodardcc@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:30 PM
Nowell, Dana	Newington, NH nowell.dana@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:31 PM
Poulin, Nicholas	Manchester, NH nicholaspoulin@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:32 PM
McKee, Christina	New Lomdon, NH Ctmckee@tds.net	A Member of the Public	Myself	Support	No	No	2/8/2022 8:35 PM
Tiney, David	Salem, NH d.tiney@aol.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:36 PM
Tiney, Lindsay	Salem, NH d.tiney@aol.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:36 PM
Poulin, Maegan	Manchester, NH Maegansienko@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:36 PM
Pushard, Tracy	Gilford, NH Tbpushard@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:37 PM
Rossi, Paul	Salem, NH Pj17@usa.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:37 PM

McKee, Thomas	New Londo, NH Hayday@me.com	A Member of the Public	My self	Support	No	No	2/8/2022 8:38 PM
Laliberte, Bennett	Concord, NH sksinc123@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:40 PM
Verney, Galen	Newbury, NH Galenverney@gmail.com	A Member of the Public	Myself/family	Oppose	No	No	2/8/2022 8:41 PM
Gunn, Kim	Concord, NH Kingunn@comcast.net	A Member of the Public	Myself	Oppose	No	Yes	2/8/2022 8:41 PM
Boinay, Warren	Reading, MA wboinay@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:41 PM
Lamkin, Linda	Candia, NH lal1107@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:41 PM
Lamkin, Mark	Candia, NH lal1107@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:43 PM
Mailloux, Lauren	Laconia, NH laurenamailloux@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:43 PM
Rossi, Allyson	Salem, NH Allyson.rossi16@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:44 PM
Ives, Brianna	Loudon, NH brilyn008@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:45 PM
MAILLOUX, LANCE	LACONIA, NH lancemailloux@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:46 PM
Cote, Christopher	Salem, NH Ccote78@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:48 PM
Lewis, Palmer	Moultonboro, NH dpalmerlewis@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:48 PM
Bell, Jason	Dover, NH Jasonlbell@msn.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:48 PM
Tonks, Richard	Wakefield, NH richardtonks@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:48 PM
Burke, Will	Salem, NH aburke3535@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:48 PM
Burke, Tess Burke	Salem, NH aburke3535@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:49 PM
Burgess, Megan	Strafford, NH Meganburgess03@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:49 PM

Sawyer, Ryan	Windham, NH Ryan@hydracor.net	A Member of the Public	Myself	Oppose	No	Yes	2/8/2022 8:49 PM
Molleur, Denis	Alton Bay, NH daniellemolleur@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 8:50 PM
Carey, William	Windham, NH wcarey3rd@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:50 PM
Carey, Cynthia	Windham, NH cacarey1@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:51 PM
Larson, Holly	Wolfeboro, NH Holly@latsonandcompany.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:51 PM
Larson, Mark	Wolfeboro, NH Mark@gowithlarson.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:52 PM
Davenport, Richard	Hampstead, NH Richdaven41@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:54 PM
fm, sophie	west hartford, CT scfm00@gmail.com	A Member of the Public	Myself	Oppose	No	Yes	2/8/2022 8:55 PM
Diamantopoulos, Paul	LOWELL, MA pdiana57@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:55 PM
Williams, Beth	Brookline, NH Bethjanine@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:57 PM
Sousa, Michael	Moultonborough, NH sousa252525@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:57 PM
Jamer, Elaine	Salem, NH elainejamer@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 8:59 PM
Mace, Jennifer	Windham, NH jennifert603@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:00 PM
Lewis, Richard	Plymouth, NH rlewis.plymouth@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:00 PM
Grasso, James	Windham, NH Jamesngrasso@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:02 PM
Mace, Joe	Windham, NH jwmace@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:04 PM
Parlatore, London	Salem, NH Londonparlatore@gamil.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:05 PM
Grasso, Kristin	Windham, NH Kristin221@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:08 PM

Gold, Spencer	Wolfeboro, NH spencer.gold@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:12 PM
Davis, Anne	Wolfeboro, NH momdavis8@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:14 PM
morin, george	Bedford, NH e.executive@comcast.net	A Member of the Public	Myself	Support	No	No	2/8/2022 9:14 PM
Tarlow, Dana	Salem, NH Danaltarlow@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:15 PM
Berard, David	Salem, NH dber1906@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:15 PM
Donovan, Cassie	Londonderry, NH cassieedonovan@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:16 PM
Tarlow, Drake	Salem, NH Dtarlow@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:18 PM
Davis, Jessica	Wolfeboro, NH jnallydavis@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:18 PM
Barbeau, Ethan	Nottingham, NH Ebarbeau13@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:19 PM
Szarek, Toni	Pelham, NH Etonis@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:19 PM
Cobb, Krystle	Atkinson, NH cobb.krystle@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:19 PM
Cote, Diane	East Hampstead, NH ccdccc1973@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:20 PM
Monson, Jessica	Windham, NH jessicamonson23@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:21 PM
Cote, Kerrie	Atkinson, NH tryanyways@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:22 PM
Morrisette, Douglas	Gilford, NH doug15016@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:27 PM
Romanow, Michael M.T.	Rindge, NH mmtr@me.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:32 PM
Knight, Elizabeth	Rindge, NH Lizknight1@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:35 PM
Crate, Damara	Enfield, NH dj_crate5@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:36 PM

Stought, Henry	Newbury, NH henrystought@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:36 PM
Wieland, Mark	Alton, NH Markcwieland@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:37 PM
Rust, Aaron	Sandy, UT rustedaaron@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:38 PM
Hammond, Sheryl	Bedford, NH Sherhammond@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:41 PM
Pease, Lory	Danville, NH Lpease @comcast.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:41 PM
Vollmer, Michael	Bristol, NH Michaelhv6@gmail.com	A Member of the Public	Myself and friends	Oppose	No	No	2/8/2022 9:44 PM
Green, Kathy	Etna, NH kathy.a.green@dartmouth.edu	A Member of the Public	Myself	Support	No	No	2/8/2022 9:44 PM
Pease, Stephen	Day, NH Splease123@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 9:49 PM
Burke, William	Moultonborough, NH BurkeNH@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 9:58 PM
Pinsonneault, Robert Laurence	Nashua, NH rpinsonn@gmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:05 PM
MacCallum, Abigail	Epsom, NH abigailmaccallum@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:06 PM
Bogardus, Cheryl	Tuftonboro, NH Cherylbogardus@hotmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:11 PM
Meagher, Kevin	Sunapee, NH meagher_k@verizon.net	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:13 PM
Littlejohn, Linda	Holderness, NH Lmtl@aol.com	A Member of the Public	Myself/squam lakes	Support	No	No	2/8/2022 10:23 PM
MOSSIEN, ALLEN	SANBORNTON, NH AMOSSIEN@GMAIL.COM	A Member of the Public	Myself	Oppose	No	No	2/8/2022 10:24 PM
Nuzum, Henry	Holderness, NH hnuzum@ckor.com	A Member of the Public	Myself	Support	No	No	2/8/2022 10:42 PM
Foster, Nancy	Westborough, MA nfandtf@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:10 PM
Keen, Katherine	Meredith, NH kathkeen@hotmail.com	A Member of the Public	Myself	Support	No	No	2/8/2022 11:21 PM

Stasio, Tanya	Lincoln, NH tanyastasio@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:30 PM
Jackson - w/ letter, Jay	Moultonborough, NH jayjacksontransportation@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/8/2022 11:33 PM
Cunningham, Nadine	Bow, NH nadine.cunningham15@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 12:02 AM
Pitman, John	Sandown, NH jwpitman@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:13 AM
Larson, Samuel	wolfeboro, NH samleolarson25@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:28 AM
Kasarjian, Levon	Moultonborough, NH uncbunth@aol.com	A Member of the Public	Myself	Support	No	No	2/9/2022 12:55 AM
Bennion, Paige	Wolfeboro, NH paigebennion@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 1:31 AM
Quinn, Erin	Wolfeboro, NH erinfquinn@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 1:47 AM
Lorinda, Lorinda	Concord, NH lorindabgilbert@gmail.com	A Member of the Public	Myself	Oppose	No	Yes	2/9/2022 2:44 AM
Morgan, Jessica	Newington, NH morgandvm@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 3:06 AM
Ziesing, Jo	Sandwich, NH ziesing68@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 4:25 AM
McCarthy, Adrienne	Windham, NH adrienne.boss@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 5:01 AM
Linda, Demeo	Waterville valley, NH Barrynh@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 5:02 AM
Lidbeck, Kristen	Wilmot, NH Lidbeck@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 5:22 AM
Lidbeck, Madison	Wilmot, NH gracehillco@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 5:22 AM
Junius, Dan	Sunapee, NH Dan.junius@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 5:56 AM
Nguyen, Kathryn	East Wakefield, NH kathryn.rl.nguyen@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 6:08 AM
Gontarz, Rachel	Windham, NH rachelwalker78@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 6:16 AM

Saeger, Tim	Holderness, NH tim.saeger@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 6:24 AM
SIDMORE, JON	Dover, NH jon@northeastprecisioncnc.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 6:25 AM
Riege-Blackman, Birgiy	Chichester, NH ginger.blackman@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 6:28 AM
Riege-Blackman, Virginia	Chichester, NH ginger.blackman@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 6:28 AM
Carroll Jepson, Vicki	Georges Mills, NH Jepster03751@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 6:36 AM
Jepson, H Lincoln	Georges Mills, NH Lincjepson1@comcast.net	A Member of the Public	Myself	Support	No	No	2/9/2022 6:37 AM
Frazier, Douglas	Auburn, NH Frazide@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 6:38 AM
Sinatra, Diane	Sunapee, NH dianesin1@aol.com	A Member of the Public	Myself	Support	No	No	2/9/2022 6:59 AM
Buttinger, Anneliese	Gilford, NH anneliesebuttinger@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:11 AM
Allen, Jon	Gallatin, TN Jon.allen02@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:22 AM
Sagris, Gregory	Hopkinton, NH greg@89donuts.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:23 AM
Sagris, Grantly	Bow, NH stimpvandzuzu@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:23 AM
Bean, Joel	Bristol, NH joel.bean@fnst.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:24 AM
Tampasis, Nickos	Cornish, NH nickos@sagrismanagement.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:24 AM
Sagris, Emily	Hopkinton, NH emily@89donuts.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:25 AM
Beckett, Danielle	Nashua, NH Danielle_beckett17@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:27 AM
Facques, Will	Amherst, NH wfacques@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:30 AM
Heath, Shelby	Concord, NH Shelbsh09@hotmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/9/2022 7:37 AM

Pribble, Jennifer	Jackson, NH Jenpribble@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 7:42 AM
Alosky, Jason	Windham, NH Jason@spool.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:44 AM
Gordon, Laurie	Weare, NH lmgord23@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 7:47 AM
Gerner, Eric	Gilford, NH ericgerner1@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:48 AM
Stevens, Michael	Alton Bay, NH stvns402@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:48 AM
McKee, Ashley	Newton, NH mckeeam@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:50 AM
Jackman, Robert	New London, NH rjackman@tds.net	A Member of the Public	Myself	Support	No	No	2/9/2022 7:51 AM
Cyr, Cici	Holderness, NH cicialenecyr@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 7:52 AM
Coapland, Brett	Gilford, NH Brett.coapland@performancehealthnh.com	A Member of the Public	Myself/family	Oppose	No	No	2/9/2022 7:52 AM
Evans, Charles	Hooksett, NH treetopair@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:56 AM
Sidmore, Emily	Dover, NH emilysidmore@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:57 AM
Cooper, Kim	Newton, NH kc91004@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:01 AM
Green, Matthew	Hebron, MD mwg37@hotmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 8:08 AM
Marston, Debra	Hooksett, NH marstondeb@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:11 AM
Tarlow, Dan	Salem, NH Dantarlow@ctclegal.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:13 AM
Tapply, Dick	Gilford, NH dick@nwfdcs.com	A Member of the Public	Myself	Support	No	No	2/9/2022 8:16 AM
Algeo, Amy	Litchfield, NH amyalgeo@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:16 AM
Algeo, Kathleen	Litchfield, NH Golfgirl603@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:17 AM

Dinger, Pete	Effingham, NH pwding7@aol.com	A Member of the Public	Myself	Support	No	No	2/9/2022 8:19 AM
Davis, Michelle	Concord, NH mdavis@nhlakes.org	A Lobbyist	NH LAKES	Support	No	No	2/9/2022 8:19 AM
Anderson, Mike	Portsmouth, NH Andersonmw9@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:20 AM
Kane, Philip	Pelham, NH philkane13@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:20 AM
Markarian, Peter	Center Harbor, NH turmond64@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 8:22 AM
Klecan, Kristen	Salem, NH Klecan@me.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:23 AM
Klecan, Robert	Salem, NH Klecan@me.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:23 AM
Monahan, Gregory	Moultonborough, NH gmonahan1@optonline.net	A Member of the Public	Myself/family	Oppose	No	No	2/9/2022 8:24 AM
Connor, Paul	Hebron, NH connormtn@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 8:27 AM
Thomsen, Peter	Holderness, NH peter@campdeerwood.com	A Member of the Public	Myself	Support	No	No	2/9/2022 8:28 AM
Alznauer, Jill	Strafford, NH alzyjj@live.com	A Member of the Public	Myself	Support	No	No	2/9/2022 8:29 AM
Tasse, Charles	Gilmanton, NH thunderbuoy@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:29 AM
Brennan, Matthew	Wolfeboro, NH Tude1612@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:31 AM
Geddis, Eric	Gilford, NH eric@lakeportlanding.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:32 AM
Ebert, Dieter	North Hampton, NH dietertebert@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:32 AM
Jackson, Jane	Hampton, NH Jane.billjackson@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:33 AM
Loucks, Michael	Sunapee, NH Loucks_michael@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:34 AM
Jackson, William	Hampton, NH Wgjackson@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:35 AM

Tuttle, John	Northwood, NH tuttlenh@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:36 AM
Taylor, Elizabeth	Holderness, NH liztaylor99@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:36 AM
Paya, Sameer	Strafford, NH spaya@tw-designs.com	A Member of the Public	Myself/family	Oppose	No	No	2/9/2022 8:36 AM
clark, will	plaistow, NH willclarkabc123@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 8:44 AM
Thibeault, Aaron	Northwood, NH aaron.thibeault11@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:49 AM
Blecziński, Kathryn	Concord, NH Kathrynblecziński@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 8:49 AM
Dulude, Joel	Georges Mills, NH joel.dulude@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 8:50 AM
Finch, Eric	West Linn, OR Finch.eric@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:54 AM
Dulude, Jean	Georges Mills, NH jean.dulude@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 8:54 AM
Medeiros, Richard	Windham, NH Rmed33@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:02 AM
Corcoran, Wendy	Hampton, NH Wcorcoran92@comcast.net	A Member of the Public	Myself	Support	No	No	2/9/2022 9:09 AM
Cleary, Richard	Moultonborough, NH rfcleary@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:09 AM
Krieger, Robert	Sunapee, NH bob.katzhardware@gmail.com	A Member of the Public	My Family	Oppose	No	No	2/9/2022 9:09 AM
Nigro, Brett	windham, NH brettnigro@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:10 AM
Hollinger, Susan	New London, NH Hollinger5@comcast.net	A Member of the Public	Myself	Support	No	No	2/9/2022 9:20 AM
Monson, Derek	windham, NH dermon1@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:21 AM
Holland, Jason	Hampton, NH jpholland99@live.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:21 AM
Foulger, Marka	Wolfeboro, NH Marla.foulger@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:27 AM

Hebron, Travis	Meredith, NH Travishebron@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:27 AM
Knabb, Scott	Sunapee, NH scknabb@hotmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 9:27 AM
Constantino, Angela	Beverly, MA RacegirlAng@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:28 AM
Copeland, Scott	Strafford, NH scopeland@whitcher.com	A Member of the Public	Myself	Support	No	No	2/9/2022 9:30 AM
Foss, Carol	Concord, NH cfoss@nhaudubon.org	A Lobbyist	NH Audubon	Support	No	No	2/9/2022 9:31 AM
Ritchie, Branwyn	Dover, NH Branwynritchie@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 9:32 AM
Howard, Raymond	Alton, NH brhowardjr@yahoo.com	An Elected Official	Belknap 8	Support	No	No	2/9/2022 9:32 AM
Becker, Chuck	Ogema, MN cbecker1952@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 9:33 AM
Paul, Jill	Sunapee, NH jdpaul35@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:36 AM
Hahn, David	Holderness, NH hahndavid@outlook.com	A Member of the Public	Myself	Support	No	No	2/9/2022 9:36 AM
Dubia, Kevin	Ashland, NH kevindubia@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:43 AM
Pitman, Pamella	Sandown, NH pamellaphoto@comcast.net	A Member of the Public	Myself and Family	Oppose	No	No	2/9/2022 9:43 AM
Austin, Michael	Wolfeboro, NH Nhmicroa@aol.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:46 AM
Rossiter, Brianna	Gilford, NH brossiter@winnepesaukee.org	A Member of the Public	Myself	Support	No	No	2/9/2022 9:46 AM
Austin, Christine	Wolfeboro, NH Nhchrissy@aol.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:47 AM
Austin, Alexys	Wolfeboro, NH Alexys.austin@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:48 AM
Austin, Christopher	Wolfeboro, NH Christopher.austinm456@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:48 AM
Daher, Ed	Salem, NH ed.daher21@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:50 AM

Biehl, Alisha	Tuftonboro, NH alishabiehl14@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:50 AM
West, Ruth	Holderness, NH Rwest@springfield.edu	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:52 AM
Downing, Gary	Moultonborough, NH gary.downing@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:59 AM
Pakradooni, Julia	HARRISVILLE, NH juliapakradooni@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 10:02 AM
Torres, Mary	Laconia, NH ctorres5j@verizon.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 10:06 AM
Kennard, David	HARRISVILLE, NH david@wellscroft.com	A Member of the Public	Myself	Support	No	No	2/9/2022 10:08 AM
Mullen, Brian	Alton, NH Bmullen@pro-co.com	A Member of the Public	Myself	Support	No	No	2/9/2022 10:22 AM
Renzi, Robert	Holderness, NH rjr0008@uah.edu	A Member of the Public	Myself	Oppose	No	No	2/9/2022 10:27 AM
Alosky, Halie	Windham, NH halie19@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 10:30 AM
Vansant, Ted	Holderness, NH tedvansant@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 10:31 AM
Gleason, Margaret	Nelson, NH mgleasonrn@verizon.net	A Member of the Public	Myself	Support	No	No	2/9/2022 10:31 AM
Sharon, Komarow	Holderness, MA sharon.komarow@stanfordalumni.org	A Member of the Public	Myself	Support	No	No	2/9/2022 10:35 AM
Dulude, J	Georges Mills, NH joel.dulude@hey.com	A Member of the Public	Myself	Support	No	No	2/9/2022 10:36 AM
Guibord, Rebecca	Bedford, NH bguibord2002@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 10:38 AM
Guibord, Alan	Bedford, NH bguibord2002@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 10:38 AM
Hopper, Dolores	Holderness, NH Doloreschopper@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 10:42 AM
Hopper, Thomas	Holderness, NH Thomashopper@icloud.com	A Member of the Public	Myself	Support	No	No	2/9/2022 10:43 AM
Crean, Kevin	Pelham, NH kevin.crean421@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 10:44 AM

Crean, Catherine	Pelham, NH kcacrean@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 10:46 AM
Hinchey, Stephen	Gilford, NH shinchey@metrocast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 10:47 AM
Treadwell, Michael	Newton, NH Mtread@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 10:48 AM
Kellogg, Dorothy	Holderness, NH qkellogg@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 10:49 AM
DeTrude, Tammy	Northwood, NH tammyl.detrude@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 10:54 AM
Lyons Lahey, Nikki	Laconia, NH nikkilyons32@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 10:55 AM
Boryszewski, Jeff	PORTSMOUTH, NH jeff.boryszewski@kelloggmarine.com	A Member of the Public	Myself/Family	Oppose	No	No	2/9/2022 10:58 AM
Torres, Richard	Laconia, NH RICK.TORRES@ALITHYA.COM	A Member of the Public	Myself	Oppose	No	No	2/9/2022 10:58 AM
Eriksen, Jason	Northwood, NH Jay.eriksen72@gmail.com	A Member of the Public	Myself	Oppose	No	Yes	2/9/2022 11:05 AM
Lian, Nina	Sunapee, NH nlian79@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 11:14 AM
Kellogg, David	Holderness, NH dave@kelloggassociates.com	A Member of the Public	Myself	Support	No	No	2/9/2022 11:15 AM
Cunningham, Nathan	Bow, NH necunningham122@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 11:16 AM
Place, Kelli	Andover, MA kalaperch@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 11:19 AM
srour, tania	Gilford, NH tsrour@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 11:21 AM
Dixon, Cliff	Pittston, ME cdhbadixon@aol.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 11:21 AM
Huckins, Matthew	Strafford, NH mhuckins@whitcher.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 11:22 AM
Fell, Michelle	Moultonborough, NH chelfel9@icloud.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 11:23 AM
Adams, Robert	Plaistow, NH badams@cassidybros.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 11:30 AM

Ramsey, Adam	Center Harbor, NH adamramseyca@gmail.com	A Member of the Public	Myself & My Family	Oppose	No	No	2/9/2022 11:35 AM
Bockley, Kimberly	Belmont, NH Kimberlybockley@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 11:35 AM
Strapp, Joanna	Center Harbor, NH jostrapp@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 11:38 AM
Leverone, Kevin	Moultonborough, NH Kevin@HighlandDev.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 11:38 AM
Brooks, Martha	Holderness, NH Brooks8110@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 11:38 AM
Blaine, Marcia Schmidt	Plymouth, NH marcia.s.blaine@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 11:38 AM
Ladd, Sean	Tuftonboro, NH Www.thewalkerdoctor@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 11:39 AM
Farmer, Harlow	Sunapee, NH hgfarmer3@comcast.net	A Member of the Public	Myself	Support	No	No	2/9/2022 11:40 AM
Schuur, Sharon	Hancock, NH sdschuur@yahoo.com	A Member of the Public	Myself	Support	No	No	2/9/2022 11:40 AM
Andrews, Lisa	Sunapee, NH LMA959@mac.com	A Member of the Public	Myself	Support	No	No	2/9/2022 11:40 AM
Brooks, Richard	Holderness, NH Rbrooks100@comcast.net	A Member of the Public	Myself	Support	No	No	2/9/2022 11:41 AM
Bairos, Tony	Laconia, NH tony.bairos@gmail.com	A Member of the Public	Myself/My Family	Oppose	No	No	2/9/2022 11:41 AM
Murphy, Dennis	Wolfeboro, NH murphy86@comcast.net	A Member of the Public	Myself	Support	No	No	2/9/2022 11:45 AM
Murray, Kate	New Castle, NH dr.karma2000@gmail.com	An Elected Official	Myself	Support	No	No	2/9/2022 11:45 AM
Montgomery, Anne	Sunapee, NH amonty1214@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 11:45 AM
Hyde, Andrew	Sandwich, NH mrandrewhyde@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 11:50 AM
Ritson, Joshua	Gilford, NH joshua.ritson@verani.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 11:51 AM
Hall, Craig	Holderness, NH cjhall88@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 11:53 AM

Johnson, Janet	Freedom and Alton, NH Johnson.Janet.a@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 11:56 AM
Pascarelli, Vic	Holderness, NH vjpascarelli@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 11:57 AM
Schultz, Phyllis	Enfield, NH Pschultz@together.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:03 PM
Schultz, Kent	Enfield, NH Schultzkentt@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:04 PM
Lockwood, Michael	Newton, NH mike_lockwood_@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:04 PM
Morgan, James	Newbury, MA james.m.morgan82@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:05 PM
Dixon, Hope	Northfield, NH hdixon86@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:06 PM
Mann, Matthew	Northfield, NH matt_mann123@hotmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:07 PM
Schultz, Mark	Ashland, NH Schmdsmeister@aol.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:07 PM
Moore, Adam	Portsmouth, NH wbladam@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:08 PM
Lockwood, Breccan	Newton, NH breccanlockwood@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:08 PM
McLean, Carter	New London, NH chmclean501@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:10 PM
Watkins, Margaret	Dunbarton, NH margwatkins@juno.com	A Member of the Public	Myself	Support	No	No	2/9/2022 12:11 PM
Johnson, Walter	Holderness, NH wjohson2145@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 12:11 PM
Griffin, Casey	Sunapee, NH casey.griffin79@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:12 PM
Murphy, Arlene	North Sandwich, NH arlenemurphy832@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 12:12 PM
trumbley, william	holderness, NH DJTRUMBLEY@AOL.COM	A Member of the Public	Myself	Support	No	No	2/9/2022 12:19 PM
Patzke, Bo	Wallowa, OR bopatzke@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:22 PM

Breemen, Eric	Barnstead, NH ewbre@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:23 PM
Adams, Jonathan	Sandwich, NH jon.adams@noomllc.com	A Member of the Public	Myself	Support	No	No	2/9/2022 12:25 PM
Burns, Casey	Wallowa, OR cburnssadie@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:27 PM
Breemen, Colleen	Center Barnsteac, NH cebreemen@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:29 PM
DeTrude, Jeremy	Northwood, NH Jeremy.DeTrude@metrocast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:32 PM
Watkins, Becky	Center Harbor, NH ilovesquam@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 12:33 PM
Hancock, Britney	Northfield, NH Bhancock0912@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:34 PM
Brito, Travers	Alton, NH Britot2@live.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:35 PM
Crumbine, Jacob	Enfield, NH jacobcrum@hotmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 12:41 PM
Wellers, Daniel	Sunapee, NH wellers@snet.net	A Member of the Public	Myself	Support	No	No	2/9/2022 12:41 PM
Alcorn, Ryan	Needham, MA ralcorn@gwu.edu	A Member of the Public	Myself	Support	No	No	2/9/2022 12:41 PM
Craigue, Shayla	Concord, NH Scraigue12@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:42 PM
Wellers, Mary	Sunapee, NH mwellers@snet.net	A Member of the Public	Myself	Support	No	No	2/9/2022 12:43 PM
Dignan, Mollie	Laconia, NH dignanm14@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:44 PM
DeTrude, John	Northwood, NH Jdeyrude@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:44 PM
Craigue, Emily	Webster, NH em10marden@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:44 PM
O'Connor, Kelsey	Pembroke, NH Kcoconnor12@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:45 PM
Connerr, Helyn	Wolfeboro, NH NicknHelyn@aol.com	A Member of the Public	Myself.	Support	No	No	2/9/2022 12:45 PM

Arsenault, Devin	Sandown, NH devinmarsenault@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:46 PM
James, Heather	Northwood, NH Hnoeljames@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:47 PM
Newton, Mark	Cleveland, OK Motomonkey413@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:47 PM
Ganong, Michelle	Laconi, NH Michelle.ganong@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:47 PM
Boulay, Indigo	Sanbornton, NH indigoboulay@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:49 PM
henderson, pamel	ctr barnstead, NH pamela.henderson@jjill.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:52 PM
Barrett, Chelsea	Concord, NH chelseambarrett@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 12:54 PM
Stahle, Tucker	Laconia, NH twstahle95@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:55 PM
Heney, Brianna	Gilford, NH Brianna_farley@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:56 PM
Vogel, Harry	Moultonborough, NH hvogel@loon.org	A Member of the Public	Loon Preservation Committee	Support	No	No	2/9/2022 12:57 PM
Hunt, Steve	Lostine, OR stevedhunt73@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:57 PM
McLeod, Martha	Franconia, NH mmcleod823@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 12:57 PM
Carey, Lisa	NOTTINGHAM, NH careylisa04@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 12:59 PM
CIARDELLI, ANDREW	Milford, NH ACIARDELLI@CFUEL.COM	A Member of the Public	Myself	Oppose	No	No	2/9/2022 1:05 PM
Hancock, Paula	Tilton, NH pfont73@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 1:05 PM
King, Elizabeth	Enfield, NH lizzieking311@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 1:07 PM
Almy, Susan	Lebanon, NH Susan.almy@comcast.net	An Elected Official	Myself	Support	No	No	2/9/2022 1:10 PM
Craigie, Marc	Concord, NH mcraigie@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 1:19 PM

Bremen, Christopher	Barnstead, NH christopher.b@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 1:21 PM
Enman, Matthew	Rochester, NH menman1971@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 1:30 PM
Casella, Alyshia	Gilford, NH aedson88@yahoo.com	State Agency Staff	Myself/family	Oppose	No	No	2/9/2022 1:31 PM
Greenhaulgh, Doug	St George, UT doug1369@outlook.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 1:43 PM
Foss, Linda	Kingston, NH linda.foss99@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 1:43 PM
Senko, Gregory	Kingston, NH gsenko1@comcast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 1:43 PM
Wolf, Daniel	Newbury, NH Dan@hodsns.com	An Elected Official	Myself	Support	No	No	2/9/2022 1:45 PM
Clark, Ladd	Malvern, PA bobo04@comcast.net	A Member of the Public	Myself	Support	No	No	2/9/2022 2:02 PM
Whitenight, Jamie	Malvern, PA jamiwhitenight@aol.com	A Member of the Public	Myself	Support	No	No	2/9/2022 2:03 PM
Repair, Clarks	Phoenixville, PA info@clarksautorepair.net	A Member of the Public	Myself	Support	No	No	2/9/2022 2:03 PM
Morgan, Lucas	Newbury, NH morganlucas116@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 2:10 PM
LaFortune, Nicole	Concord, NH Nicole.lafortune88@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 2:24 PM
Costanzo, Joseph	Newton, NH jcostanzo135@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 2:24 PM
Mayotte, Timothy	ELKRIDGE, MD tjmayotte@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 2:32 PM
Brewer, Kristy	Tilton, NH kristyann05@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 2:48 PM
Leslee, Leslee	Moultonborough, NH l.halleran@comcast.net	A Member of the Public	Myself	Support	No	No	2/9/2022 3:00 PM
Ploszaj, Rep Tom	Center Harbor, NH tom@tomploszaj.com	An Elected Official	Myself	Support	No	No	2/9/2022 3:03 PM
Stark, Deborah	Freedom, NH stark.debsnow@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 3:06 PM

Bray, ZNancy	Holderness, NH nancybrookline@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 3:09 PM
Franciosa, Deanne	Hampton falls, NH Tdvba@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 3:13 PM
Cocchiaro, Janet	Holderness, NH jkcocch@yahoo.com	A Member of the Public	Myself	Support	No	No	2/9/2022 3:14 PM
Greenfield, Patricia	Moultonborough, NH greenfieldpat@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 3:21 PM
Smith, Clinton	Richmond, TX couponsgohere10@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 3:34 PM
Dixon, Becky	Gardiner, ME B.dixon1383@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 3:44 PM
Hancock, Richard	Tilton, NH windsurfnh@metrocast.net	A Member of the Public	Myself	Oppose	No	No	2/9/2022 3:44 PM
Dunstan, Chris	PLYMOUTH, NH dunstan.nh@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 4:02 PM
Englund, Richard	MOULTONBOROUGH, NH renglund0306@comcast.net	A Member of the Public	Myself	Support	No	No	2/9/2022 4:13 PM
Winkler, Ellen	New London, NH ellen@ellensinteriors.com	A Member of the Public	Myself	Support	No	No	2/9/2022 4:18 PM
Smith, Patrick	Moultonborough, NH elevatedwakeco@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 4:35 PM
Bonenfant, Kim	Northwood, NH kbonenfant@kw.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 4:40 PM
Bijur, Dave	Sunapee, NH bijur28@yahoo.com	A Member of the Public	My family	Support	No	No	2/9/2022 4:59 PM
Beffa, Richard	Goshen, NH rhbeffa@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 5:13 PM
Snyder, Robert	Laconia, NH winnipesaukee789@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 5:29 PM
Michaud, Robin	CENTER HARBOR, NH robincmichaud@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 6:08 PM
Greenwald, Catherine	Wolfeboro Falls, NH greenwaldsiii@comcast.net	A Member of the Public	Myself	Support	No	No	2/9/2022 6:15 PM
Kittel, Paige	Draper, UT Paige.kittel@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:20 PM

Wasden, Blake	Peoria, AZ wasden.blake@gmail.com	A Member of the Public	Myself/Family	Oppose	No	No	2/9/2022 7:26 PM
olson, debra	draper, UT debraolson55@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:51 PM
Lundstrom, Ann	St. George, UT Silverchickenbone@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 7:56 PM
Magnus, Emily	Holderness, NH ehmagnus@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 8:01 PM
Daniels, Annie	Gilfors, NH Dirty.martini@yahoo.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:31 PM
Lundstrom, Thompson	St. George, UT Gildeddandelion@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:33 PM
Kittel, Greg	Draper, UT Gck@wmrecycling.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 8:42 PM
Nuzum, Christine	Holderness, NH christinebnuzum@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 9:21 PM
Girdwood, Tina	Andover, MA tgirdwood@verizon.net	A Member of the Public	Myself	Support	No	No	2/9/2022 9:51 PM
Morgan, Karen	Newbury, NH karensmorgan@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 9:59 PM
Kittel, Brooke	Draper, UT Brooke.kittel@gmail.com	A Member of the Public	Myself	Oppose	No	No	2/9/2022 10:11 PM
Green, Danielle	Hebron, MD Daniellesgreenthumb@live.com	A Member of the Public	Myself	Support	No	No	2/9/2022 10:39 PM
Kennedy, Sydney	Sandwich, NH Sydneyken22@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 11:03 PM
Stone, Roger	Center Harbor, NH Roger.Hugh.Stone@gmail.com	A Member of the Public	Myself	Support	No	No	2/9/2022 11:17 PM



February 9, 2022

The Honorable Andrew Renzullo, Chair
House Resources, Recreation and Development Committee
Legislative Office Building, Room 305
Concord, NH 03301

RE: HB 1071 relative to wake surfing

Dear Chair Renzullo and Members of the Committee:

Thank you for the opportunity to comment on HB 1071 relative to wake surfing. This bill would require any boats being used for wakesurfing to maintain a minimum distance of 250 feet from shore, docks, and other boats. NH LAKES supports the spirit of HB 1071, but encourages the committee to amend the bill to be more protective of lake health.

A peer-reviewed scientific wave-action study by the University of Minnesota was released last week **confirming that waves produced during the activity of wakesurfing are measurably larger and more powerful than waves created by non-wakesurf boats.** The study concluded that **at least 500 feet are needed for wakesurf waves to diminish** compared to waves created by non-wakesurf boats in terms of maximum wave height, total wave energy, and maximum power.

As a publicly-supported, statewide, nonprofit organization dedicated to keeping New Hampshire's lakes clean and healthy, NH LAKES advocates for laws and other public policies and programs designed to achieve this mission. NH LAKES seeks to promote clean water policies related to the increasing popularity of wakesurfing—an activity which can degrade the health of our lakes when conducted in certain ways in certain areas.

In certain areas of a waterbody, enhanced wakes supporting wakesurfing activities can erode shorelines and disturb lake bottom sediment—these actions can release nutrients into the water and cause toxic cyanobacteria blooms that are harmful to wildlife, swimmers, and pets. These enhanced wakes can also disturb critical fish and bird nesting habitat.

NH LAKES is not suggesting wakesurfing should be banned outright from New Hampshire's lakes. We maintain that when done far enough from the shoreline and in deep enough water, wakesurfing can be a safe, healthy, and fun activity for families and water sports enthusiasts while minimizing adverse impacts to lake health. Recognizing that the State of New Hampshire holds in trust all public

waters for the reasonable use and benefit of the people of the state, NH LAKES advocates for state and local policies to ensure the responsible use of our public waters and the enjoyment for all. We believe New Hampshire's lakes can support a variety of on-water recreational activities when conducted in ways that minimizes impacts to lake health.

A study released by Water Environment Consultants based on two lakes in Georgia has indicated that at the 250-foot setback recommended by this bill, wakesurfing produces waves that have more than six times the wave energy than that of a cruising vessel when they reach the shoreline. A six-fold increase in the energy of waves pounding shorelines and agitating lake bottoms dramatically intensifies the potential for nutrients to be stirred into the lake and cause toxic cyanobacteria blooms.

As indicated, the peer-reviewed data released by the University of Minnesota suggests that operational distances greater than 500 feet are required for the wakes generated by a wakesurf boat to attenuate to similar wake characteristics as the non-wakesurf boat reference. Under both slow and fast speed conditions, the wakesurf boats produced the largest waves in terms of height, energy, and power when compared to the non-wakesurf boats. This information is critical for informing any setback for wakesurfing that would be truly protective of lake health.

There was a record number of toxic cyanobacteria blooms on New Hampshire's lakes during 2021, and increasing occurrences of these toxic blooms can have long term human health and economic impacts for New Hampshire. The valuation of Lake Winnepesaukee to the state's economy is estimated at \$17 billion dollars, and frequent and more serious cyanobacteria blooms could have a detrimental effect on the state economy, not to mention public health and the environment. New Hampshire is home to some of the cleanest and healthiest lakes in the country, and healthy lakes mean healthy communities and healthy state and local economies.

We urge the House Resources, Recreation and Development Committee to amend HB 1071 to reflect the information provided from the scientifically based and peer-reviewed University of Minnesota study rather than basing setbacks on arbitrary suggestions. We respectfully acknowledge the time of all involved in considering this very important issue and encourage you enact protective standards to keep New Hampshire's lakes clean and healthy.

Respectfully,



Michelle Davis
Policy and Advocacy Program Manager
NH LAKES
mdavis@nhlakes.org

HB 1071 Testimony
February 9, 2022

To: Resources, Recreation and Development Committee,

Thank you for giving me the opportunity to lend my support for HB 1071, and I speak for LSPA Board and many members as well.

Currently Ch 270-D:2 of NH Boating and Water Safety "to provide full visibility and control and to prevent their wake from being thrown into or causing excessive rocking to other boats, barges, water skiers, aquaplanes or other boats, rafts or floats, all vessels shall maintain headway speed when within 150 feet from:

- (1) Rafts, floats, swimmers.
- (2) Permitted swimming areas.
- (3) Shore.
- (4) Docks.
- (5) Mooring fields.
- (6) Other vessels."

Currently that applies to all boats including wakesboats.

A recently released peer-reviewed study from St. Anthony Falls, Laboratory, Univ. MN, which compared the wakes from non-wakesurfing boats and wakesurfing boats, showed that the wakesurfing boats had bigger, more powerful wakes.

We should consider that the current 150' distance intended for non-wakesurfing boats should be increased proportionally for the boats generating bigger wakes. The question is how much?

At 100', wakeboat wake heights were 2-3 X that of non-wakesurfing boats; at 100', wave power was up 6-12 times those of non-wakeboats.

The study indicates distances greater than 425' are needed for wakesurf boats to be equivalent to non-wakeboats at 200'. (200' was chosen because that is the legal distance in MN.)

I urge the committee to 1. Either pass HB1071 as is, or 2. preferably to consider an amendment increasing the distance further than 250'.

Respectfully, June Fichter
Lake Sunapee Protective Association, 63 Main St, Sunapee, NH 03782
JuneF@lakesunapee.org, 603 763-2210

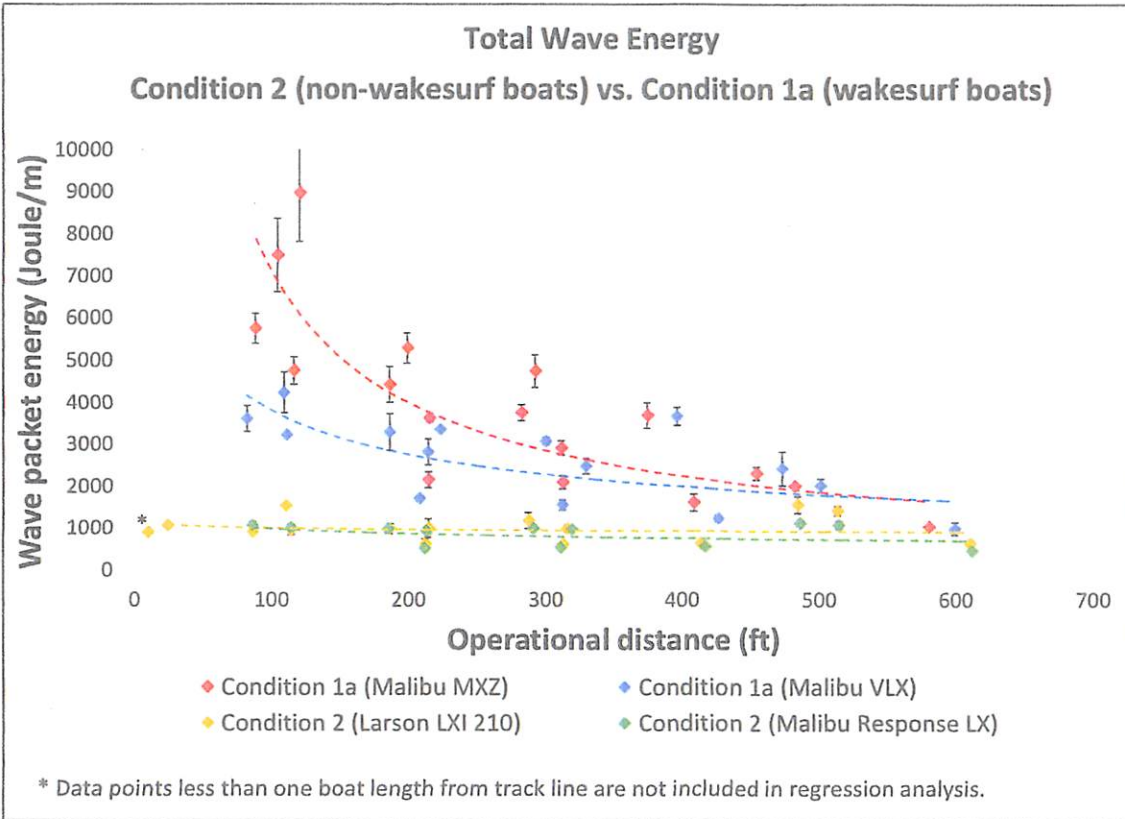


Figure 43. Comparison of total wave energy of the test boats under their typical operational conditions.

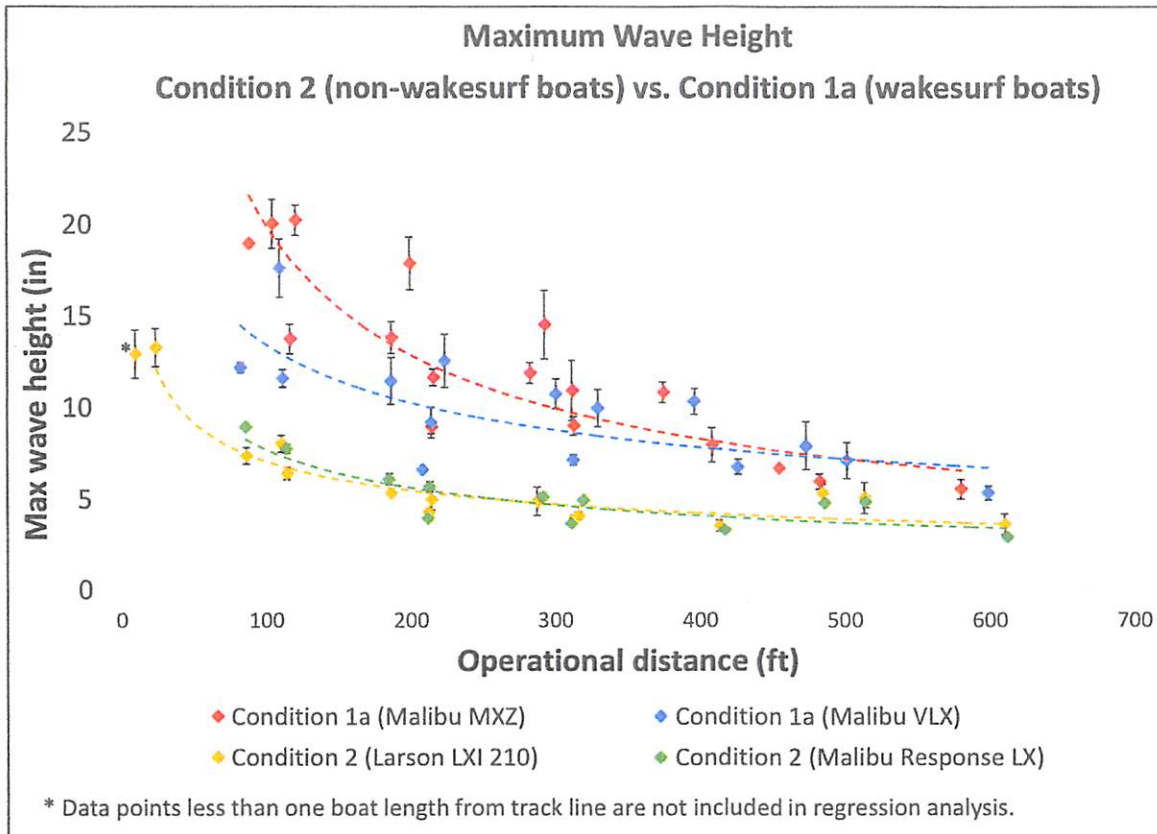


Figure 42. Comparison of maximum wave height of the test boats under their typical operational conditions.



Robert L. Quinn
Commissioner of Safety

State of New Hampshire

DEPARTMENT OF SAFETY
DIVISION OF MOTOR VEHICLES
STEPHEN E. MERRILL BUILDING
23 HAZEN DRIVE, CONCORD, NH 03305
Telephone: (603)227-4000 TDD Access Relay NH 7-1-1



Elizabeth A Bielecki
Director of Motor Vehicles

Boat Registration Instructions

Dear Registered Boater,

Attached is your boat renewal notice for the 2022 boating season. This is not a valid boat registration. To obtain a valid New Hampshire boat registration, you must apply through one of the following: U.S. Mail, a DMV Drop Box, a boat agent, or a municipal town/city office that processes boat registrations.

Mail and DMV Drop Box instructions:

1. Sign the *owner's copy* of the renewal notice and please provide us your phone number and/ or email address. We cannot process the renewal without a signature and will be required to send it back to you for resubmission resulting in a processing delay.
2. Place the signed renewal notice and a check or money order payable to "NH-DMV" for the fee amount in an envelope. The fee is listed in the shaded box next to "Total amount due". Please, never send cash.
3. Place the envelope in a DMV Drop Box, schedule an appointment to register in person or mail it to the NH DMV. Your 2022 boat registration will be mailed to you. Go to www.nh.gov/dmv for drop box locations or to schedule an appointment. Or, mail your renewal to:

NH DMV
Bureau of Registration –Boat Desk
23 Hazen Drive
Concord, NH 03305

In-person instructions:

Please bring your signed renewal notice, along with your photo identification to a boat agent, or a municipal town/city office that processes boat registrations. Authorized boat agents are listed here: <http://www.nh.gov/safety/divisions/dmv/registration/boat-agent.htm>. Additional fees may apply.

Inland or tidal use:

When you originally registered your boat, you selected "Inland" or "Tidal" to indicate the type of waters where the boat is primarily used. Regardless of which you selected, the boat registration is valid for use on BOTH inland and tidal waters.

Best regards for a safe boating season,

NH Division of Motor Vehicles
Bureau of Registration Boat Desk

HELP WANTED

SEASONAL MARINE PATROL OFFICERS

The NH State Police-Marine Patrol has immediate openings for the position of Seasonal Marine Patrol Officer. Recruitment for this position is ongoing and training opportunities exist for the 2021-22 season. Positions are available in all 10 counties of the state including the seacoast patrol. For more information, please visit the employment section on our webpage at www.marinepatrol.nh.gov. Join Marine Patrol with their mission to provide a safe, enjoyable, and environmentally responsible use for all of the State's public waters.

Apply online at www.nh.gov

Life Jackets Required for

Stand Up Paddleboards (SUP) & Wake Boarders

Stand up paddleboards are considered boats by the United States Coast Guard and the State of New Hampshire. Accordingly, all persons using a SUP are required to carry a wearable life jacket onboard while paddling. The Marine Patrol also reminds boaters/paddlers that anyone 12 years of age and under must be wearing their life jacket at all times while aboard any type of boat/SUP.

WAKE RESPONSIBLY

NH Marine Patrol would like to remind the operators of wake/ballast boats that they are responsible for their wake. Marine Patrol along with the NH Marine Trades and Water Sports Industry (WSIA) Associations (WSIA) encourage wake surfers to:

- stay at least 200 feet from shore, docks, and other structures.
- Keep music at reasonable levels. Keep the volume low and remember no offensive lyrics.
- Minimize repetitive passes along residential shorelines.

REQUIREMENT FOR BOATERS

To Prevent the Spread of Aquatic Invasive Plants and Animals

RSA 487:16-d Draining of Water Conveyances

I. When leaving waters of the state, a person shall drain his or her boat and other water-related equipment that holds water, including live wells and bilges.

II. Drain plugs, bailers, valves, or other devices used to control the draining of water from ballast tanks, bilges, and live wells shall be removed or opened while transporting boats and other water-related equipment, if the vessel is so equipped.

All boaters are urged to follow the simple practice of "Clean, Drain, and Dry"!

CLEAN off mud, plants, animals, and algae from boats, motors, trailers, vehicles, and equipment.

DRAIN your boat, live wells, ballast tanks, and equipment away from the waterbody.

DRY anything that comes in contact with the water.

For more information please visit:

www.des.nh.gov

www.nh lakes.org

www.northeastans.org

www.wildlife.state.nh.us



Testimony in opposition to HB 1071

The Honorable Andrew Renzullo
Chairman
New Hampshire House Committee on Resources, Recreation and Development

Dear Chairman Renzullo and members of the committee:

The three trade associations supporting this testimony would like to thank you for the opportunity to address to the committee today and explain why we ask that the committee vote to not approve HB 1071, a proposal that would regulate wakesurfing in New Hampshire.

We share the intent of the HB 1071, which is to encourage boat operators to tow wakesurfers at an appropriate distance from shore. However, we ask that this bill be set aside so that the educational efforts of the New Hampshire Marine Patrol, local marine businesses and recreational marine trade associations have an opportunity to take hold with wakesurfers.

This testimony is the collective position of three associations – the National Marine Manufacturers Association (NMMA), the Water Sports Industry Association (WSIA), and the Marine Retailers Association of the Americas (MRAA).

WSIA is the towed watersports industry's leading advocate. It develops best practices, supports waterway access rights, educate participants, and promote safety on the water, including when participating in towed watersports such as wakesurfing.

NMMA is the nation's leading trade association representing boat, marine engine, and accessory manufacturers. Collectively, NMMA members manufacture an estimated 80 percent of marine products used in North America.

MRAA represents hundreds of marine retailers and dealers across the states and works to create a strong and healthy boating industry by uniting the companies and businesses that interact with the boaters and providing them with opportunities for improvement and growth.

It was just a bit more than two years ago, that the state legislature formed the New Hampshire Commission to Study Wake Boats. Its members represented a range of stakeholders – both the House and Senate, three lakefront property owners, boat dealers, the marine patrol, the Watersports Industry Association, and the New Hampshire Department of Environmental Service. Its final report, which was provided to the legislature in June of 2020, analyzed the data and information it collected on all aspects of wakesurfing. There was consensus among all the

participating groups that legislation was needed to support safe wakesurfing and boater education. However, there was no recommendation for new shoreline setbacks for wakesurfing.

Last year, the legislature put those safety and education recommendations into law by enacting HB 115. We have faith that these changes will improve wakesurfing safety.

A strong public-private partnership has taken the initiative to educate wakesurfers about the issues that were not addressed in the bill – specifically the distance from shore and structures, avoiding repetitive passes and lowering the volume of their stereos. This partnership is comprised of boat dealers, the Marine Patrol Bureau of the state Department of Safety, the New Hampshire Marine Trades Association, individual boat owners and our three associations.

Boat dealers hang “Wake Responsibly” educational materials developed by WSIA from the steering wheel of every wake boat brought in for service. They emphasize its principles in the education they provide to new owners. Dealers, individual boaters, and the Marine Patrol have posted permanent metal signs at numerous boat ramps. The New Hampshire dealers and our associations are funding social media outreach and making regular contact with boaters.

Rather than enact new laws, we ask that the legislature give these educational initiatives an opportunity to take hold.

No one understands the importance of protecting our waterways and keeping them safe and accessible better than the boating community and the businesses it supports. We believe that educating users and the community can mitigate the need for excessive regulations. –The Wake Responsibly program educates boaters on appropriate and courteous behavior and how to mitigate their impact on the environment, fellow boaters, and waterfront residents. The program keeps it simple. Stay at least 200 feet from shore, keep music at respectful levels and minimize repetitive passes on any portion of the shoreline. The state Marine Patrol is an important part of this effort, and we are grateful for its leadership in distributing educational materials and signage

Educational programs and initiatives like Wake Responsibly are essential. There are too few marine patrols on the water to enforce new laws. Only education and voluntary actions will keep New Hampshire’s waterways as a source of family fun, a place for all people to enjoy the waters in ways that suit them best. Education – not laws – put conservation and courteous behavior at the forefront of conversations and practices across the community.

We believe education can accomplish these goals without disrupting the economic benefits the sport offers to New Hampshire. Wakesurfing, and other recreational boating activities like it, are important drivers of the New Hampshire economy. The New Hampshire marine industry and recreational boating has an annual economic impact of \$1.2 billion. Outdoor recreation activities - driven by boating and fishing - account for 2.6% of the state’s GDP. Recreation accounts for over 26,000 jobs and \$1.1 billion in wages. Given that fishing and boating comprise the lion’s share of this economic activity, there is no doubt that this industry is playing a very integral role in the Granite State’s economy.

Regulations that put strict limits on sports like wakesurfing will inevitably stunt the economic strength of the industry. Arbitrary setbacks from shore will limit opportunities for residents and tourists to go boating, unnecessarily harming their opportunities, as well as harm the businesses and community that depend on their spending.

We urge the committee to vote down this bill New Hampshire's beautiful lakes and waterways deserve to be protected, but in a way that does not hurt the unique economic and social benefits boating provides to families who enjoy boating.

We ask that you give the voluntary educational efforts we all have invested in an opportunity to make a difference and please find this bill Inexpedient to Legislate.

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Recreation

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Low-Speed Boating . . . Managing the Wave

Doug Keller

Remember the old days when the “cool” boats were the ones that glided across the water at such high speeds that they seemed to barely touch the surface of the water? A low wake was what slalom skiers desired as they skipped from side to side behind the boat. Oh, how times have changed. Now boats that plod along at a low rate of speed, deeply plowing through the water, throwing a large wake for wakeboarding and surfing are all the rage. I like to term this type of boating as “low-speed boating” and it comes with its own set of concerns regarding the health of a body of water.

Today’s “wake boats” are designed to increase wave height. To accomplish this, the hull is shaped to achieve maximum wake and many have a hydrofoil device that lowers the stern when the boat is under power. Most wake boats also have built-in ballast tanks that can be filled with lake water to increase the weight in the back of the boat, causing more water to be displaced and larger waves created (Figure 1).

Problems with Increased Wake Height

As wave height increases, so do adverse effects that go along with waves. The larger the wave, the deeper it can churn sediment in the shallows of a lake. Larger waves also deliver more energy against the shoreline, exacerbating erosion of natural shorelines and islands. If the shoreline is a hard regular face like a concrete or sheet-pile seawall then the energy from waves is deflected back toward the center of the lake, which, again, disturbs sediment in the shallow areas of the lake.

Because of the shape of the boat and the means of lowering the stern of the boat through ballast placement or mechanical means, ultimately the



Figure 1. A typical, stern-heavy wake boat creates a large surferable wake. Photo from Pinsdaddy.

propeller is deeper in the water. This can result in direct contact of the propeller with the lake bottom. However, even if the prop does not contact the bottom directly, the turbulence from the propeller can reach as deep as 10 feet. In either scenario, the end result is disturbance to the bed of the lake.

Whether it is propeller-induced or the result of boat-induced wave action, sediment and nutrients can become re-suspended due to low-speed boating. After a weekend of heavy boating, lake residents have surely noticed that the lake is not as clear as it was right before the weekend because of the disturbance of the sediment. Depending on how fine the bottom sediments are, it can take 24 hours or more to return to the clarity it was prior to an intense boating period. Sediment

in suspension means nutrients like nitrogen and phosphorus have also been kicked-up. These nutrients in suspension are now available to interact with the biotic community in the water column. Often times these available nutrients fuel a planktonic algae bloom, which can contribute to additional water clarity problems. In the worst-case scenario, a harmful algae bloom can lead to water safety issues.

The deeper the propeller, the more chance there is to uproot or fragment aquatic vegetation. This can lead to the destruction of desirable native species, many of which do not reproduce via fragmentation. Invasive plant species, however, commonly use fragmentation as a means of propagation. Therefore, boats chopping up plants can facilitate the

proliferation of aquatic invasive plants, which can lead to their spread and crowd out native species.

Speaking of invasive species, the ballast tanks that assist in creating the large waves for surfing behind wake boats can facilitate the spread of detrimental species. Zebra mussel larvae, fish pathogens, or invasive plant fragments could be pumped into the ballast tanks. While the tanks would typically be de-watered when the boat is loaded on the trailer to go home, the tanks are never able to completely dry. Unwanted "hitchhikers" could remain viable in the tanks and could be expelled into the next lake that is visited.

Wake Boat BMPs

There are a number of best management practices (BMPs) that could be employed by low-speed boaters and lake residents to lessen the impacts from this style of boating. No one action can save a lake; rather, improved lake management could involve adopting many different practices.

The suspension of sediment and nutrients is arguably the greatest concern with wake boats because it can speed eutrophication of lakes. Boaters should consciously seek water 10 feet or deeper to operate wake boats since by design the propeller is much deeper underwater than boats that are not intentionally trying to create a large wake. While few if any wake boats are fitted with depth finders, there is other information available to guide recreational boaters toward deeper water. With today's technology, it is much easier than before for state agencies or other entities to gather lake depth data and produce maps showing depth contours. Check with your state's Natural Resources agency to see what lake maps may be available.

Another reason for wake boat operators to avoid shallow water is to minimize contact with aquatic vegetation. This will protect native vegetation from damage and will lessen the fragmentation and spread of invasive plant species. Vegetation fouling the propeller is certainly a nuisance to boaters and should cause wake boat operators to want to avoid these areas anyhow. For the sake of the health of the lake, the answer is not to perform more weed control in shallow

water; the solution is for boaters to move to deeper water to avoid plants.

When wake boat owners move from one body of water to another, the greatest risk is the movement of aquatic invasive species. All boaters, not just wake boaters, should adopt practices to stop the movement of aquatic hitchhikers. Simple steps such as draining water from all parts of the boat, removing aquatic vegetation from the boat and trailer, and drying or decontaminating all parts of the boat that came in contact with the water are reasonable procedures to reduce the likelihood of transporting unwanted organisms. Unfortunately, the drying and decontaminating step can be problematic when dealing with the enclosed ballast tanks of wake boats. Check with the boat manufacturer to determine a method to treat the ballast tanks before visiting a different body of water.

It is not simply incumbent on wake boat operators to lessen the negative impacts of higher waves created; lake residents also play a key role. Flat-faced, vertical, bulkhead seawalls deflect most of the wave and its energy back toward the center of the lake causing additional lakebed erosion and suspension of sediment and nutrients. Irregular or natural surfaces actually dissipate wave energy. Lakefront owners can greatly improve the health of a lake by installing

living, bioengineered shorelines that utilize native plant materials to protect shorelines. Other options providing some improvement over concrete or sheet-pile seawalls would include the installation of glacial stone seawalls or placing glacial stone on the face of a vertical seawall.

Another action shoreline owners can take is to maintain some submergent and emergent vegetation in the shallows of the lake. Aquatic vegetation does a remarkable job at dissipating waves, protecting shorelines, stabilizing sediment, and locking up nutrients. Low-speed, high-wake boating is the rage and certainly will continue. We just need to learn how to manage the wave all the way from the wake boat driver to the shoreline property owner in order to reduce the negative impacts of this boating style to protect our lakes.

Doug Keller is the Aquatic Habitat Program Manager with Indiana DNR – Division of Fish and Wildlife. In his 28-year career with the Division he has also had roles as a district fisheries biologist and the Aquatic Invasive Species Coordinator. 



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Protecting Water Quality & Resuspension Caused by Wakeboard Boats

Heather Harwood

A Conservancy's View

As a lake area conservancy charged with protecting and maintaining good water quality, the Wawasee Area Conservancy Foundation (WACF) has installed pollution and erosion control projects for over 20 years. Projects include streambank stabilization, wetland restoration, sediment basins (allowing sediment to settle out), and agricultural projects keeping topsoil on the fields. With the help of willing landowners and many partners including the IDNR Lake and River Enhancement, the Elkhart River Restoration Association, and the Great Lakes Commission, we have kept over 40,000 tons of sediment out of lakes and streams in our watershed.

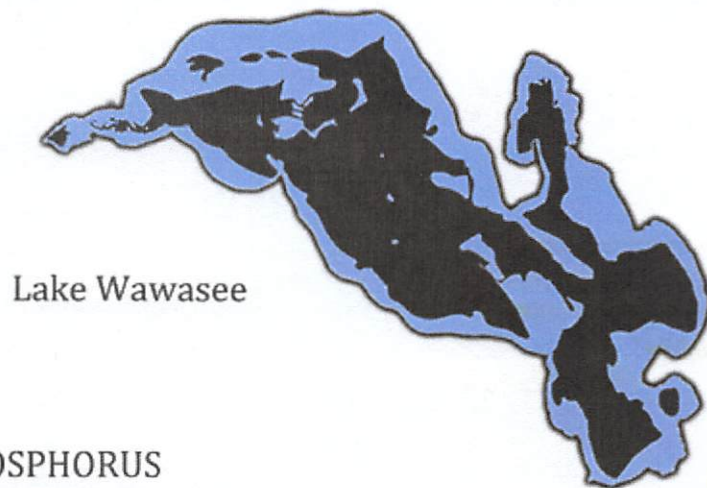
But with all that effort, sediment still gets into our lakes and streams, and over the years has accumulated. This bottom sediment is now our biggest challenge. These days, instead of thinking about projects upstream, we are thinking about the sediment already in the lake, thus the current focus: keeping sediment out of the water COLUMN. Stirring up sediment clouds turbidity and releases phosphorus from the lake bed. Our goal: to leave that sediment alone as much as possible.

Responsible Boating Campaigns

The first line of defense on stirring: *responsible boating*. Being aware of the shallow areas, and staying in deep areas while wake boarding and surfing. This has a huge impact on slowing resuspension in the lake, helping turbidity, and keeping algae blooms down. Included in Figure 1 are examples of our efforts to spread the word at local marinas and public launch ramps.

Wawasee, Indiana's largest natural lake (3,060 acres) has large shallow areas

Effortless Steps to a Clean, Clear Lake



PHOSPHORUS

- DON'T USE IT!
- Seaweed uses phosphorus to grow.
- Tell your local supplier or lawn care provider that you only want zero phosphorus fertilizer.
- Once released into the lake it stays in the sediment.

PRESERVE OUR LAKE BOTTOM

- Stirring lake bottom suspends the phosphorus.
- Accelerating in shallow water creates sediment plumes.
- Shallow water is highlighted above in blue.
- Wakeboard and surf in deeper water (you will have a larger wake anyway).
- Begin pulling skiers and tubers in deep water.

DIMINISH WAVE ACTION

- Consider Glacial Rock in front of your seawall.



PLEASE RESPECT BUOYS AND PROTECTED AREAS

Figure 1. WACF's signs and refrigerator magnets stressing the importance of avoiding stirring the lake bottom (and including a bathymetric on the magnet).

susceptible to stirring. Up to half of the lake's surface area is less than 10 feet deep. We encourage deep draft boats to stay in the deep areas for wake boarding and surfing (Figure 2). Our campaign: "Be Wake Cool" (Figure 3).

Under Indiana law, a person may not operate a motorboat at a speed greater than 10 mph on a lake having less than 300 surface acres. This law is intended to provide safe boating speeds on small lakes and to protect small lakes from excessive boat wakes. However, since wakeboats operate at less than 10 mph, these small lakes will not be protected from excessive wakes or the lake bottom scouring and shoreline erosion that can occur.

We absolutely do not discourage boating on Lake Wawasee – but we do encourage *smart boating*. By publishing the bathymetric maps regularly (Figure 4) and providing these maps as reminders, we hope to continue to have an impact on boating awareness. Our long-term goal is to add a boating education center on site at our Lake & Watershed Education Center.

Deep drafting ballast boats are more and more common on Lake Wawasee and

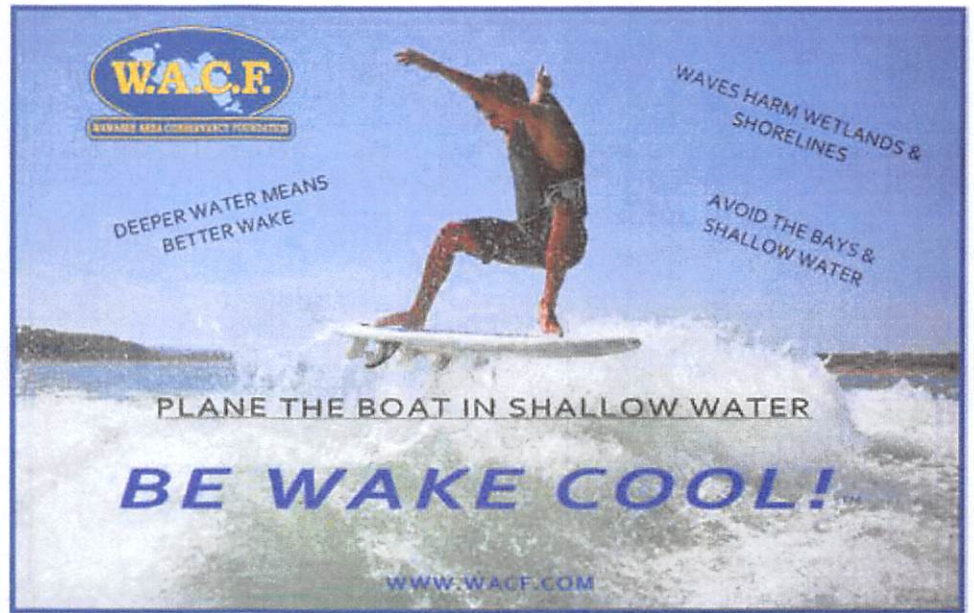


Figure 3. "Be Wake Cool" campaign sign.

other Indiana lakes. Directing boats to the best places to wake board and surf in the lake will be key to protection of the bottom. Damage has already occurred. Prop scarring of the lake bottom is visible in aerial images (Figure 5).

Regulated Ecozones

Another tool WACF has used to encourage smart boating is the establishment of ecozones. Ecozones were established by the State of Indiana in 2000 to protect significant ecological areas within lakes where the use of



Figure 2. Typical surfing wave.

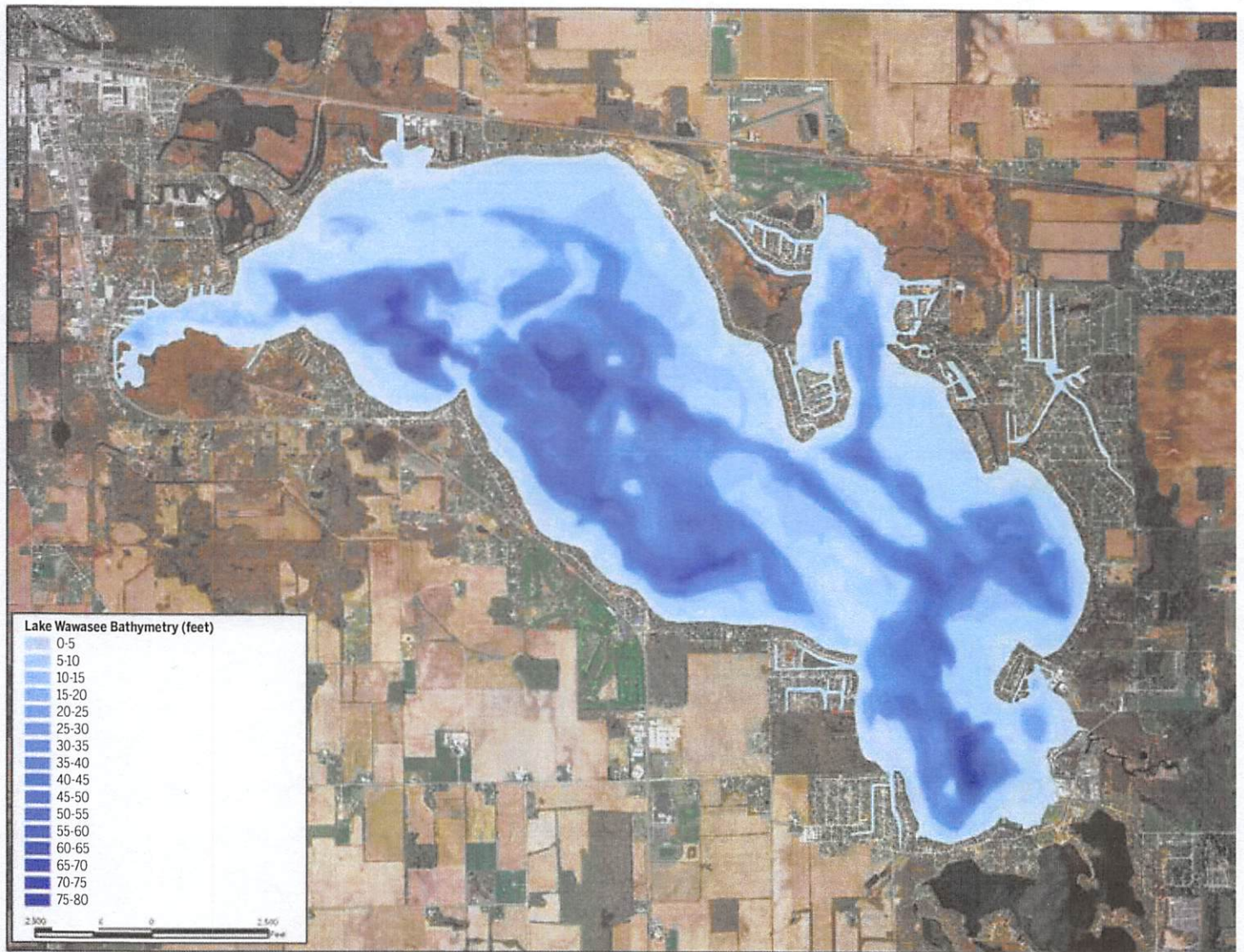


Figure 4. Wawasee's bathymetric map.

watercraft may be limited or prohibited for fish, wildlife, or botanical resource management, or for the protection of users. Wawasee was the first lake in Indiana to establish ecozones. In four areas where perimeter wetlands are contiguous, WACF has special designated and regulated ecozones defined by white "Idle Only" buoys (Figure 6). These wetlands are vital to the health of our lake and a healthy sustainable fishery. These buoys are installed and removed by volunteers in the spring and the fall of each year.

As we gain more experience with wake boats, we will continue to examine and identify more options to relieve the pressure from deep drafting ballast boats and the waves they create. The WACF is committed to working together with recreational lake users and encouraging

good lake stewardship. WACF completed a Carrying Capacity Study in 2004 to measure the magnitude of effect from motor boating activity. Dudiack (2004) suggested that a conservative estimate of a lakes' motor boat carrying capacity is around 15-20 acres of usable lake area per boat. On most given days, that is easy to meet. But on a busy weekend, Lake Wawasee can become over-crowded, resulting in some of these wave action and bottom scarring stresses on the lake.

Healthy Shorelines

Wake boarding and surfing create larger waves that, as a result, create a greater demand for shoreline protection and seawalls. WACF encourages natural shorelines and glacial stone seawalls to help break up the wave action. With every permit application for concrete

seawalls around the lake, WACF contacts the applicant and explains advantages of stone seawalls and sends out our "Stop the Chop" brochure on the advantages of glacial stone to absorb the wave action. Glacial stone can absorb wave action better than concrete seawalls, improving swimming areas and back wash that scrubs the bottom of the lake.

So – "Stop the Chop" and "Be Wake Cool"!

Heather Harwood.

ASLA, is a landscape architect and has been executive director of the Wawasee Area Conservation Foundation for 20 years. 





Figure 5. Propeller scarring on the bottom of Lake Wawasee are seen as thin, straight lines.



Figure 6. Eco-Zone buoy.

Wake Boats side effects

New Hampshire's Lakes are a great asset to our state, But they are at risk of being overused and overloved which will hurt them in the long run.

The case in point is the recent growth in the use of wake surfing boats, which can seriously impact both the lakes' long-term health and the ability of others to play when these wake boats are operating. How can we share our lakes to keep them healthy for our children and grandchildren?

What effects might these wake boats have on other lake users? The most obvious effect is the generation of large waves, which they do well, and which is why these boats were created in the first place. These large waves are created where there are no large natural waves Those unexpected waves can surprise or even capsize boaters especially those in small boats such as kayaks and canoes. They could also surprise people on floating docks who find that their dock is no longer stable.

Other wake boat effects can be churned up sediment, hurting water visibility, and by allowing Aquatic Invasive Species (AIS) to hitchhike into new lakes via wake boats' water tanks.

Wake Boat Waves

The waves resulting from wake boats passing through an area are unusual because they have a shorter wavelength which means they may come closer together, they are steeper which means that they hit the shore, docks, swimmers, and other things harder, and they come from different directions from the normal wind created waves.

Over the long-term, these boats and waves can stir up the water along with the sediment near the shoreline, and erode the shoreline itself as well. These actions can result in more pollution ending up in the water, which makes cyanobacteria blooms more likely.

If we do end up with more cyanobacteria blooms, and less clear water, that could have an effect on the value of the lakes to visitors as well as locals. The water quality in our lakes has a direct effect on real estate values, which can affect local real estate taxes.

A solution to the wake boat waves

HB 1071 would require wake boats to remain 250 feet from the shore , docks and other boats. While this would not eliminate all problems with the wakes, it would significantly reduce them. It is a fair way to allow all lake users to use our state's lake assets.

Carl Lehner
PO Box 202
Holderness, NH 03245
2/9/2022



The Honorable Andrew Renzullo, Chair
NH House Resources, Recreation, and Development Committee
107 North Main Street
Concord, NH 03301

Dear Chairman Renzullo and Honorable Members of the House Resources Committee:

I write to you as the President of the New Hampshire Marine Trades Association (NHMTA). I apologize I cannot be there in person today, but John Whalley and Michael Farrelly will be there to present testimony. The Association represents the interests of the marine trades in the State of New Hampshire and promotes boating safety, and supports, as a steward, preserving the environmental harmony and beauty of all New Hampshire waterways. Many of our members are multi-generational NH based businesses. On behalf of the NHMTA members, we write to convey our strong opposition to HB 1071 - establishing a 250 ft setback for wake surfing.

By way of background, John & I served on a NH legislative study commission which conducted a comprehensive review of the issues relating to wake boats. The Commission included representatives from a varied group of stakeholders including boaters, industry, shorefront owners, legislators, state agencies and others. The Commission met eight times from September 2019 through June 2020. It was a meaningful and productive endeavor. The Commission received numerous presentations and developed a 21-page final report.

- Out of that Commission came HB 115 - a bill to align safety laws for wake surfing with other towed water sports. HB 115 became law on September 21, 2021. We supported that law.
- You may recall from last year the significant debate on HB 229 - a bill to "define wake boats." That bill was recommended "ITL" by this Committee and never passed the House.

Today's bill, HB 1071, is another attempt to restrict watersports in New Hampshire. Specifically targeting wake surfing for a separate and distinct setback of 250 ft. We do not believe this law is warranted but believe it will create much confusion and concern among many in the boating community. We ask that you defeat HB 1071.

There will be plenty of testimony about why HB 1071 should not pass. I want to focus my letter on the one of the reasons why. It is called the NH Wake Responsibly Campaign - a public/private partnership between industry and Marine Patrol to specifically educate water sports enthusiasts about best practices for wake surfing. NHMTA committed to this Committee during last year's debate on HB 229 that we would undertake such an effort and I would like to report our results.

NH Wake Responsibly Campaign Summer 2021

In the summer of 2021, the local and national boating industry contributed over \$15,000 in funds, and additional personnel and resource time, towards building a campaign to educate families about the best practices and proper etiquette for wake surfing. It is based on the national campaign called "Wake Responsibly" that promotes three practices:

- Staying 200 feet from shore when surfing;
- Playing music at reasonable levels; and
- Minimizing repetitive passes.

In partnership with the NH Marine Patrol and the NH Association of Broadcasters, we created two radio advertisements that ran from June - August as well as three social media ads that were distributed through marina social media platforms and boater databases to get the message out. These safety messages were heard by NH residents and vacationers alike.

Here are links to the radio ads. (click to listen). **The ad ran 2,363 times at a total dollar value of \$58,496.345 according to the NH Association of Broadcasters.**



NH Marine NCSA
TS2.mp3



NH Marine NCSA
ST1.mp3

Here are links to the social media messages. Note that the boaters and surfers are all NH residents on NH lakes. (click to watch)

<https://youtu.be/HYegtb0bsXA>

<https://youtu.be/VLnrKo1otk>

<https://youtu.be/5NHdWxZhm64>

In addition, NH Marine Patrol, marina members and individual boaters installed signage at public and private boat launches across the state. Additionally, palm cards, marketing stands, stickers and compliance exams have been used by local marinas to assist in the educational campaign with watersports families.

Finally, the NH Department of Safety included the NH Wake Responsibly campaign messaging in its recent boat registration renewal notices that was mailed to over 107,000 boaters. (see attached).

We strongly believe that this message is catching on. Many of you may remember that the 2021 boating season was unusually windy and wet and thus the boating season was not as busy. We believe efforts to change course now, when the campaign is connecting with boaters, is ill-advised.

In conclusion, NHMTA opposes HB 1071. It is aimed at one segment of the boating population that enjoys watersports which we think is unfair. With educational efforts like NH Wake Responsibly and efforts to enhance enforcement of current laws by NH Marine Patrol, we believe HB 1071 is unnecessary. Please vote HB 1071 as Inexpedient to Legislate.

Sincerely,



Peter MacCallum, President of NHMTA
MacCallum's Boat House
Epsom, NH
peter@maccallumsboathouse.com
#736-4750

cc: Sponsors of HB 1071



The State of New Hampshire
Department of Environmental Services



Robert R. Scott, Commissioner

February 7, 2022

The Honorable Andrew Renzullo
Chairman, House Resources, Recreation and Development Committee
Legislative Office Building, Room 305
Concord, NH 03301

RE: HB 1071 – AN ACT relative to wake surfing

Dear Chairman Renzullo and Members of the Committee:

Thank you for the opportunity to comment on HB 1071. This bill proposes that the distance the activity of wake surfing occurs must be at least 250 feet from shore, docks, and other boats. The Department takes no position on this bill, but provides the following information for the Committee's consideration.

Wake surfing requires a wave of sufficient size to be produced by a vessel which allows the user to ride on it for an extended time period without the need of a tow rope. In 2020, NHDES was pleased to be able to participate in the wake boat legislative commission. The commission's report identified shoreline erosion an important environmental concern related to these types of watercraft. The NHDES concurred with this environmental concern raised by the commission; namely, that when these vessels are operated too close to shore, in protected coves, or on small waterbodies, there is a risk of unnatural shoreline erosion.

NHDES feels that the proposed legislation appropriately addresses the regulation of this growing watersport by identifying the activity of wake surfing, rather than the vessel type, and making attempts to reduce the probability of shoreline erosion. The new 250 foot distance requirement, as proposed, would fall more in-line with distances recommended by other states and the water sports industry for this activity. However, recent research from the University of Minnesota suggests that wakesurf boats require distances greater than 425 feet to decrease their wake characteristics to levels similar to the non-wake boats.

Thank you again for the opportunity to comment on HB 1071. Should you have questions, or need additional information, please feel free to contact Dave Neils, Limnology Center Director, at 603-271-8865 or david.neils@des.nh.gov.

Sincerely,

Robert R. Scott, Commissioner

ec: Sponsors of HB 1071: Representatives Gottling, Deshaies, MacDonald, Weston, Tanner, and Ebel

**Testimony on HB 1071 – Relative to wake surfing.
Steve, Emily & Samantha Raymond, Manchester NH**

Good afternoon Mr. Chairman and members of the Committee:

For the record, my name is Steve Raymond. I am a NH native being born and raised in Goffstown. When I was 8 years old, my parents bought a camp on Lake Winnisquam where we spent many summers waterskiing and tubing on the lake. It was our family time. In the 1990's I took to wakeboarding and competed at the college level. I met my wife Emily through friends at the lake and we spent much of our younger days working towards the goal of what is sometimes termed "lake life." Today, Emily and I live in Manchester raising our 11 year old daughter Samantha. We continue the tradition of family time on the lake in the summer. Sometimes wake boarding, sometimes tubing, and many times we are wake surfing. We love it all. I'd like to offer our opposition to HB 1071 based on our family's experience with boating and enjoyment of wake surfing. I'd also like to offer my knowledge as a professional engineer on the causes of erosion – and how this bill is misguided.

We have been very lucky to spend many summers at Lake Winnisquam. Recreational boating and watersports are very important to our family - we are outside, with friends and family, enjoying New Hampshire and its natural resources. We are limiting "screen time" for the kids and enjoying each other's company. About 3 years ago I stopped wakeboarding and turned to full time wake surfing as wake surfing is a great sport that can keep you active and healthy and you can share the experience with a lot of people. My daughter has wake boarded and wake surfed since she was 5 and absolutely loves her time on the water with her parents, extended family, and friends. We are all also avid paddle boarders on the lake.

We take our boating very seriously – it is important to learn the laws and be courteous to others. I feel like the reason we are here today is because some boaters don't act in the same manner. I don't believe it is always purposeful – I think they are just unaware. We are responsible and respectful when we surf. We watch our distances, obey the laws, and often surf with the wave directed toward the middle of the lake. It is out of courtesy and in line with current laws. These laws work – we have yet to see any damage to shoreline that could be attributed to the sport. Which brings me to my professional knowledge.

Because of my love of the water, when I was young, I wanted to pursue a career in Civil and Environmental Engineering. I went to WPI, graduated with a degree in Civil Engineering with a concentration in Environmental engineering. After I graduated from WPI with my degree, I took a job with one of New England's leading Environmental Engineering firms as an entry level Environmental Engineer. I have been at the same firm for over 20 years and have worked almost exclusively in the Environmental Remediation industry which specializes in the clean-up of environmentally impacted areas. (meaning surface water, ground water, soil, and building materials). I am currently a SR. VP of Construction Management responsible for the implementation of remediation projects through-out the country including significant clean-ups of water bodies, groundwater, and soil. I am currently managing one of the largest environmental clean-up projects in the country on the Gowanus Canal in Brooklyn, NY. Many of our remediation projects include restoration of wetlands and shorelines.

Because of this background, I understand the water related issues that can affect remediation and restoration projects. I also understand the water related issues that impact our shorelines, that, from what I have read and heard, are incorrectly attributed to wake surfing. What I hope the Committee understands is that there are many other factors that attribute to erosion more than wake-surfing ever could. These factors include development, improper shoreline improvements, stormwater runoff, ice, wind, and water levels. For example, ice is a factor that many do not think of, because they don't see it or understand its impact...it's out of sight – therefore out of mind. However, during the winter months and in the spring, ice can cause significant damage and erosion to shorelines. During the hard winter freeze, ice forms around the rocks and soil on the shoreline and if lake levels fluctuate either upward or downward, the ice will push rocks further up onto the shore destabilizing the soil below or it can pull rocks into the water destabilizing the soil above. In addition, during the spring thaw, ice drifts moving due to quick melting or due to wind can pull rock and soil off of the shore or can push rocks and soil up onto the shore. All of these natural events described above cause more erosion in one season than years of wave action from a boat could ever cause to the shoreline. I am happy to tell you more or answer any questions about these other prominent factors in the erosion of our shorelines.

HB 1071 is misguided. There is no need to establish a separate setback for wake-surfing. It will cause confusion and will not solve problems related to inexperienced boater operation on the lakes. Nor will it address issues related to erosion that are more impacted by other natural factors.

Thank you for your time and consideration.

Voting Members:

David Packard
Chair
NH Lakes Assn.

Shane Bradt
Scientific Community

Ryan Cardella
Marine Trades
Association

Tiffany Grade
Conservation
Community

Sara Holland
NH Association of
Realtors

Janet Kidder
Planning Boards

Frank Lemay
NH BIA

Jared Maraio
NH Travel Council

Lisa Morin
State Conservation
Committee

Dick Smith
Fishing Interests

Meredith Smith
Municipal Official

Bruce Temple
NH Fish & Game
Commission

Vacant
Conservation
Commissions

Non-Voting Members:

Garret Graaskamp
Vice Chair
NH Fish & Game Dept.

Capt. Tim Dunleavy
NH Dept. of Safety

Eric Feldbaum
NH Dept. of Natural and
Cultural Resources

Jennifer Gilbert
NH Office of Strategic
Initiatives

Mark Hemmerlein
NH Dept. of Trans.

Shawn Jasper
NH Dept. of
Ag, Markets & Food

Staff:

Tracie Sales
Program Manager

Nisa Marks
Program Assistant

Vacant
Watershed Coordinator

N.H. Lakes Management and Protection Program N.H. Lakes Management Advisory Committee

February 9, 2022

The Honorable Andrew Renzullo, Chair
House Resources, Recreation and Development Committee
Legislative Office Building, Room 305
Concord, NH 03301

RE: HB 1071 - AN ACT relative to wake surfing.

Dear Chair Renzullo and Members of the Committee:

RSA 483-A established the New Hampshire Lakes Management and Protection Program and the Lakes Management Advisory Committee (LMAC) to complement and reinforce existing state and federal water quality laws. Within its responsibilities of advising the NHDES Commissioner and the department, the LMAC reviews and takes positions on legislation pertaining to New Hampshire's lakes. The LMAC appreciates the opportunity to comment on House Bill 1071.

The LMAC's vote to take a position on this bill occurred before results were made public from the University of Minnesota study regarding the size and attenuation of wake boat wakes. The LMAC has not yet had the chance to meet to discuss the results of that study and how they may interact with this bill.

The LMAC supports HB 1071. Wakes damage shorelines, cause challenges for lakefront land owners and churn up sediment that adversely affects aquatic life. While many factors affect wake size, increasing the buffer distance substantially reduces the size of wakes that hit the shore or other boats. Having a buffer from wake boats supports the quiet enjoyment of lakes, such as by users that are swimming, fishing or observing wildlife. We recognize there are some waterbodies where it may not be feasible to maintain 250' between vessels. However, we believe the advantages of this bill outweigh the disadvantages and we urge your support.

The LMAC is a legislatively created body of lake stakeholders, representing the NH Lakes Association, conservation commissions, the scientific community, conservation community, planning boards, Business and Industry Association, tourism industry, state conservation committee, NH Municipal Association, fishing interests, NH Fish & Game Commission, NH Association of Realtors, Marine Trades Association, and several state agencies. Committee members are appointed by the Governor and Council or the head of the state agency and are charged with supporting the legislative intent of the Lakes Management and Protection Program.

In conclusion, the LMAC supports HB 1071 for the reasons stated above. Thank you for the opportunity to comment. Should you have questions, please feel free to contact me at (603) 867-9299 or appliedforce52@gmail.com.

Respectfully,



David Packard, Chair

The Honorable Andrew Renzullo
Chair, House Resources, Recreation, and Development Committee
HB 1071, February 9, 2022
Page 2

ec: Rep.s Gottling, Deshaies, J. MacDonald, Weston, Tanner, and Ebel
LMAC Representatives
Robert R. Scott, Commissioner, NHDES
Ted Diers, Administrator, Watershed Mgmt. Bur., NHDES
Tracie Sales, Rivers and Lakes Programs Manager, NHDES

Voting Members:

Michele L. Tremblay
Chair
Conservation
Community

Larry T. Spencer
Vice Chair
Conservation
Commissions

Victoria Bunker
Historic/Archeological
Interests

Christopher Hodgdon
NH Fish & Game
Commission

Frederick J. McNeill
Municipal Officer

Madeleine Mineau
Granite State
Hydropower
Association

Robert M. Roseen
Recreational Interests

Ruth Ward
Local River Management
Advisory Committees

Donald L. Ware
Public Water Suppliers

Vacant
Agricultural Community

Vacant
Business & Industry
Association

Non-Voting Members:

Peter Bowman
NH Department of
Natural and Cultural
Resources

Brian Eaton
NH Department of
Safety

Jennifer Gilbert
NH Office of
Strategic Initiatives

Mark Hemmerlein
NH Department of
Transportation

Shawn Jasper
NH Department of
Agriculture,
Markets & Food

John Magee
NH Fish & Game
Department

Staff:

Tracie Sales
Program Manager

Nisa Marks
Program Assistant

Vacant
Watershed Coordinator

N.H. Rivers Management and Protection Program

N.H. Rivers Management Advisory Committee

February 9, 2022

The Honorable Andrew Renzullo, Chair
House Resources, Recreation, and Development Committee
Legislative Office Building Room 305
Concord, NH 03301

RE: HB 1071 *An act relative to wake surfing.*

Dear Chair Renzullo and Members of the Committee,

The Rivers Management Advisory Committee (RMAC) is writing to express its **support of House Bill 1071** as introduced, which would require boaters to maintain a minimum of 250' between themselves and the shoreline or other vessels while wake surfing.

The RMAC supports this bill because

- An increased buffer distance protects quiet recreation, such as by people swimming, fishing, or observing wildlife;
- Wakes cause significant shoreline erosion, which causes difficulties for homeowners with docks, beaches, or other shorefront uses;
- Operating with large wakes close to shore, where a lake or river is shallow, churns up sediment that harms aquatic life; and
- Wakes attenuate with distance, so an increased minimum buffer better protects shoreline property and aquatic life.

The RMAC is a legislatively created body charged to work with the New Hampshire Department of Environmental Services (NHDES) to administer RSA 483, the Rivers Management and Protection Program. The Governor and Council appointed Committee is composed of members from business, agriculture, hydroelectric, municipal government, water supply, conservation, recreation, fish and game, and historical interests.

Should you have any questions regarding our testimony in **support of HB 1071**, please feel free to contact me at 603.796.2615 or MLT@naturesource.net.

Sincerely,



Michele L. Tremblay, Chair

cc: Representatives Gottling, Deshaies, J. MacDonald, Weston, Tanner, and Ebel
RMAC Representatives

The Honorable Andrew Renzullo
Chair, House Resources, Recreation, and Development Committee
HB 1071 February 9, 2022
Page 2

Robert R. Scott, Commissioner, NHDES
Ted Diers, Administrator, Watershed Mgmt. Bur., NHDES
Tracie Sales, Rivers and Lakes Programs Manager, NHDES
Local River Management Advisory Committee Chairs



February 9, 2022

The Honorable Andrew Renzullo, Chair
House Resources, Recreation and Development Committee
Legislative Office Building, Room 305
Concord, NH 03301

RE: HB 1071 relative to wake surfing

Dear Chair Renzullo and Members of the Committee:

Thank you for the opportunity to comment on HB 1071 relative to wake surfing. This bill would require any boats being used for wakesurfing to maintain a minimum distance of 250 feet from shore, docks, and other boats. NH LAKES supports the spirit of HB 1071, but encourages the committee to amend the bill to be more protective of lake health.

A peer-reviewed scientific wave-action study by the University of Minnesota was released last week **confirming that waves produced during the activity of wakesurfing are measurably larger and more powerful** than waves created by non-wakesurf boats. The study concluded that **at least 500 feet are needed for wakesurf waves to diminish** compared to waves created by non-wakesurf boats in terms of maximum wave height, total wave energy, and maximum power.

As a publicly-supported, statewide, nonprofit organization dedicated to keeping New Hampshire's lakes clean and healthy, NH LAKES advocates for laws and other public policies and programs designed to achieve this mission. NH LAKES seeks to promote clean water policies related to the increasing popularity of wakesurfing—an activity which can degrade the health of our lakes when conducted in certain ways in certain areas.

In certain areas of a waterbody, enhanced wakes supporting wakesurfing activities can erode shorelines and disturb lake bottom sediment—these actions can release nutrients into the water and cause toxic cyanobacteria blooms that are harmful to wildlife, swimmers, and pets. These enhanced wakes can also disturb critical fish and bird nesting habitat.

NH LAKES is not suggesting wakesurfing should be banned outright from New Hampshire's lakes. We maintain that when done far enough from the shoreline and in deep enough water, wakesurfing can be a safe, healthy, and fun activity for families and water sports enthusiasts while minimizing adverse impacts to lake health. Recognizing that the State of New Hampshire holds in trust all public

waters for the reasonable use and benefit of the people of the state, NH LAKES advocates for state and local policies to ensure the responsible use of our public waters and the enjoyment for all. We believe New Hampshire's lakes can support a variety of on-water recreational activities when conducted in ways that minimizes impacts to lake health.

A study released by Water Environment Consultants based on two lakes in Georgia has indicated that at the 250-foot setback recommended by this bill, wakesurfing produces waves that have more than six times the wave energy than that of a cruising vessel when they reach the shoreline. A six-fold increase in the energy of waves pounding shorelines and agitating lake bottoms dramatically intensifies the potential for nutrients to be stirred into the lake and cause toxic cyanobacteria blooms.

As indicated, the peer-reviewed data released by the University of Minnesota suggests that operational distances greater than 500 feet are required for the wakes generated by a wakesurf boat to attenuate to similar wake characteristics as the non-wakesurf boat reference. Under both slow and fast speed conditions, the wakesurf boats produced the largest waves in terms of height, energy, and power when compared to the non-wakesurf boats. This information is critical for informing any setback for wakesurfing that would be truly protective of lake health.

There was a record number of toxic cyanobacteria blooms on New Hampshire's lakes during 2021, and increasing occurrences of these toxic blooms can have long term human health and economic impacts for New Hampshire. The valuation of Lake Winnepesaukee to the state's economy is estimated at \$17 billion dollars, and frequent and more serious cyanobacteria blooms could have a detrimental effect on the state economy, not to mention public health and the environment. New Hampshire is home to some of the cleanest and healthiest lakes in the country, and healthy lakes mean healthy communities and healthy state and local economies.

We urge the House Resources, Recreation and Development Committee to amend HB 1071 to reflect the information provided from the scientifically based and peer-reviewed University of Minnesota study rather than basing setbacks on arbitrary suggestions. We respectfully acknowledge the time of all involved in considering this very important issue and encourage you enact protective standards to keep New Hampshire's lakes clean and healthy.

Respectfully,



Michelle Davis
Policy and Advocacy Program Manager
NH LAKES
mdavis@nhlakes.org

Testimony for Shane Carey

HB 1071- relative to wake surfing

Thank you Members of the Committee.

My name is Shane Carey and I live in Nottingham with my wife and kids. I work in the auto industry and have enjoyed boating on Pawtuckaway Lake for decades. I am here to testify in opposition to HB 1071.

I had the pleasure of serving on the HB 137 legislative commission on "wake boats." We spent almost a year studying all aspects of the issue. The proposal for this setback in HB 1071 was never discussed.

At one meeting we heard from a wave energy expert who explained his study on waves. He was upfront that his study was sponsored by the water sports industry - but was clear his findings were his own. He had a 30 year career at MIT as a engineer and was now a consultant. His report showed that best practices for wake surfing would be 200 ft from shore. He also noted that the waves from surfing were similar to those created by a 10 mph wind. The pushback on the study from the NH Lakes representative on the Commission was that his study was not "peer reviewed." I've been told that Mr. Goudey's study is currently going through the peer review process. We should should not pass HB 1071 - we should wait to see the results of that review.

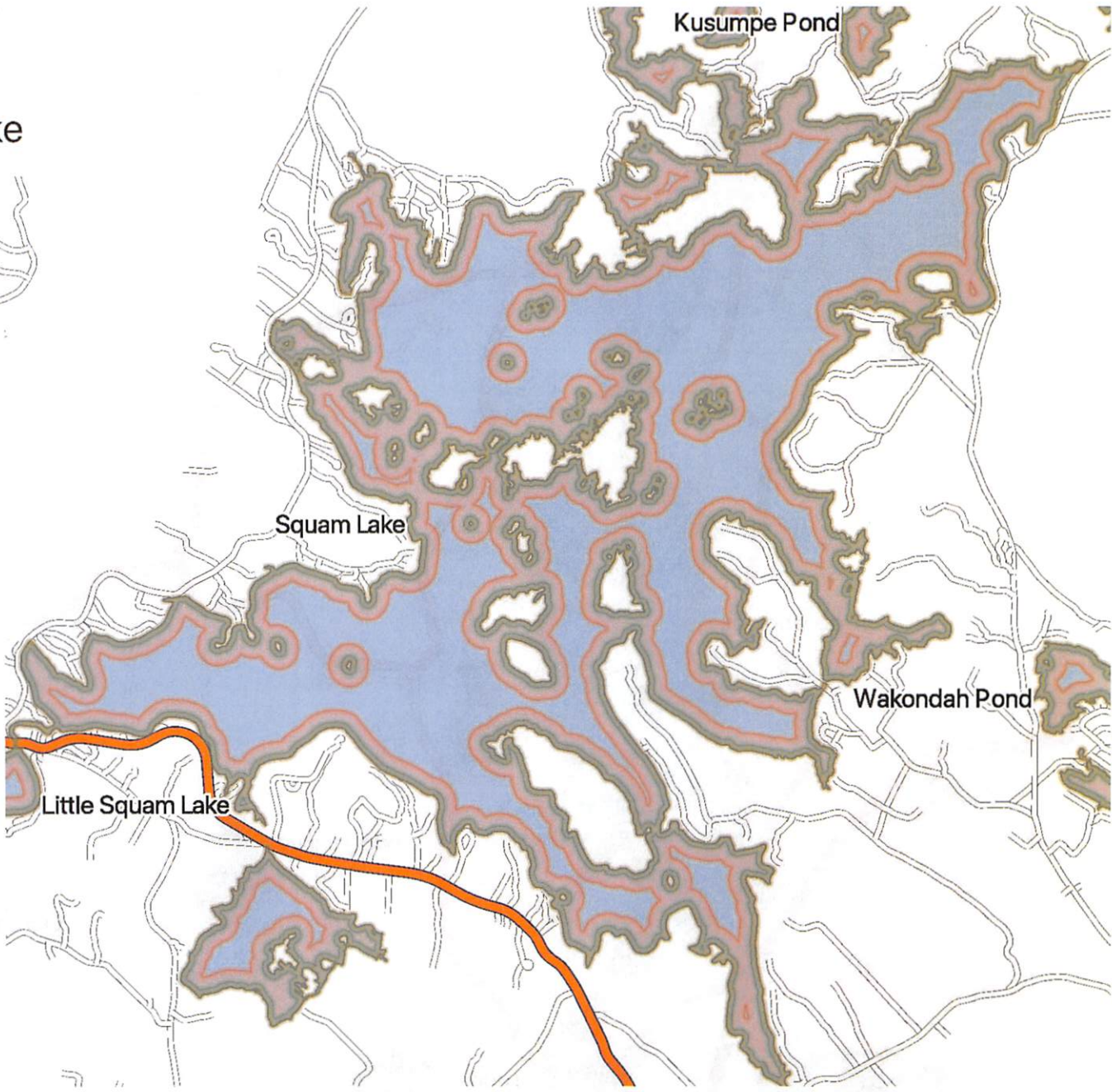
In my experience, the best way to change behavior is through education and communication. We discussed the Wake Responsibly campaign during the Commission and we have worked hard to develop and implement a campaign to educate boaters. I can tell you a story about a boater on Pawtuckaway who was going too close to shore and upsetting several neighbors. We took it upon ourselves to reach out to him and let him know how his actions were being perceived. He was apologetic, didn't know his operation was incorrect, and appreciative of the outreach. There is no longer a problem on Pawtuckaway Lake. In New Hampshire we can talk to each other, and as boaters, we need to continue our outreach to solve problems without legislation.

We don't need HB 1071. It will create more problems than it solves.

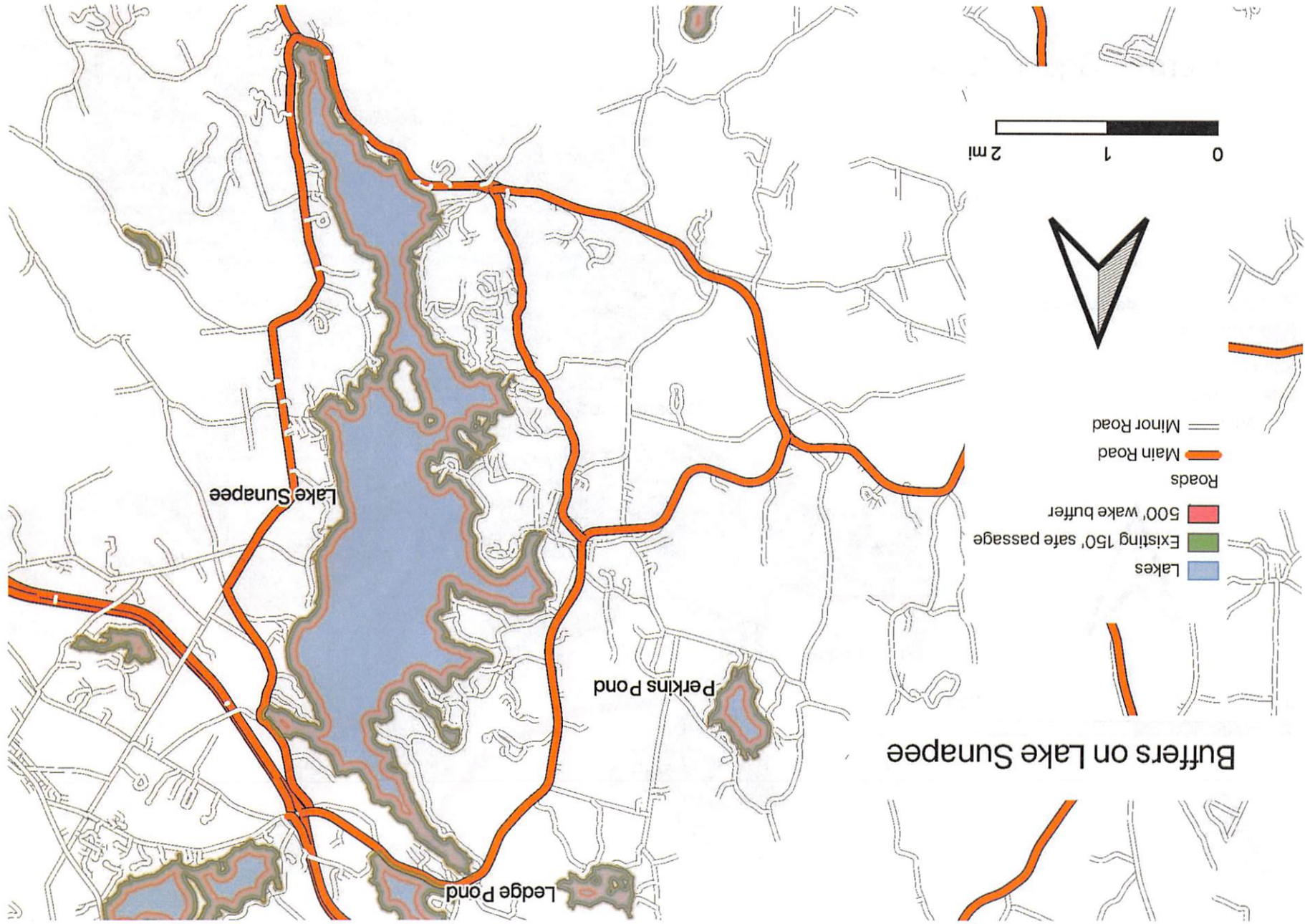
Thank you for your time.

Buffers on Squam Lake

- Lakes
- Existing 150' safe passage
- 500' wake buffer
- Roads
 - Main Road
 - Minor Road



Buffers on Lake Sunapee



Lake Sunapee

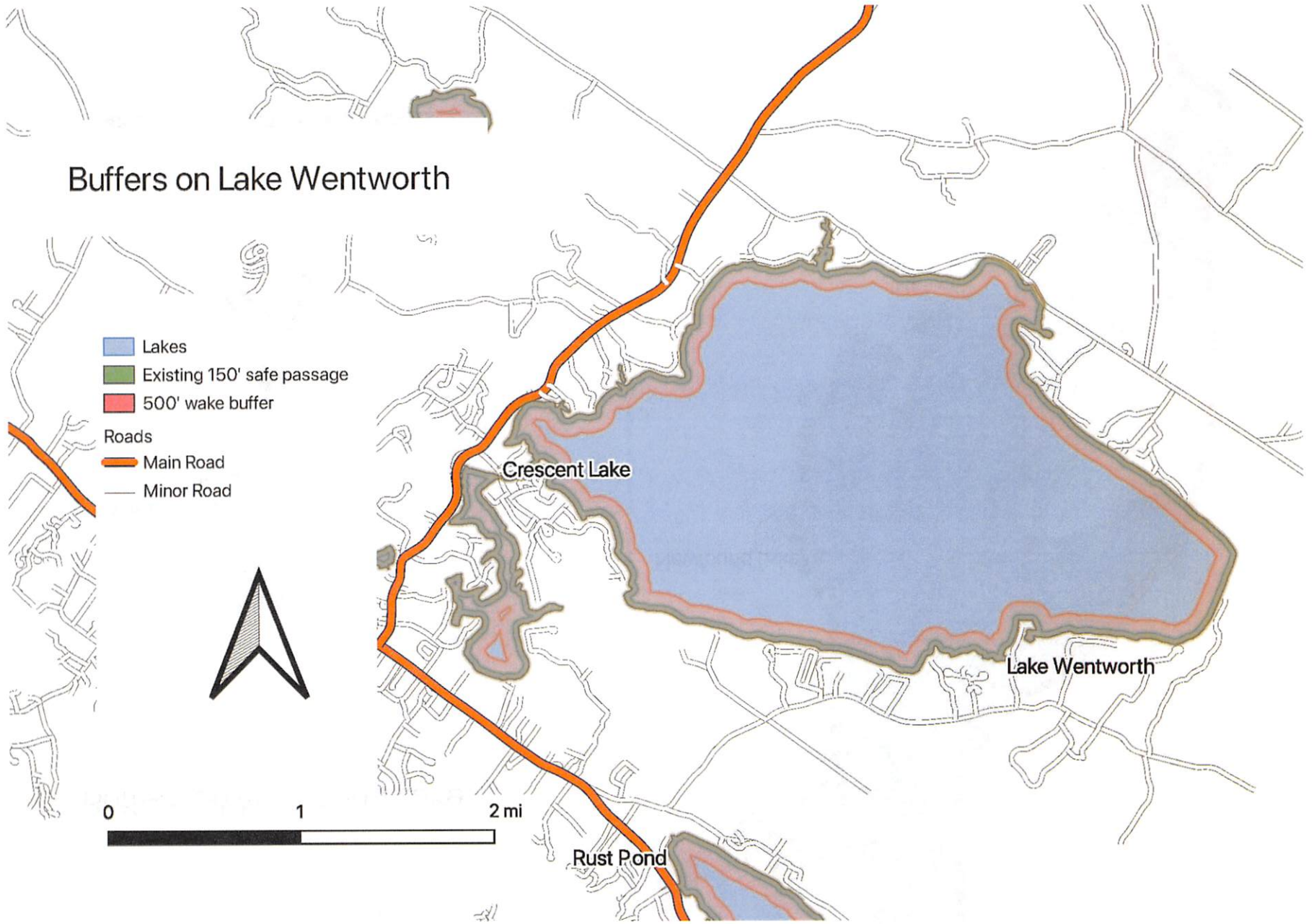
Perkins Pond

Ledge Pond

- Lakes
- Existing 150' safe passage
- 500' wake buffer
- Roads
 - Main Road
 - Minor Road

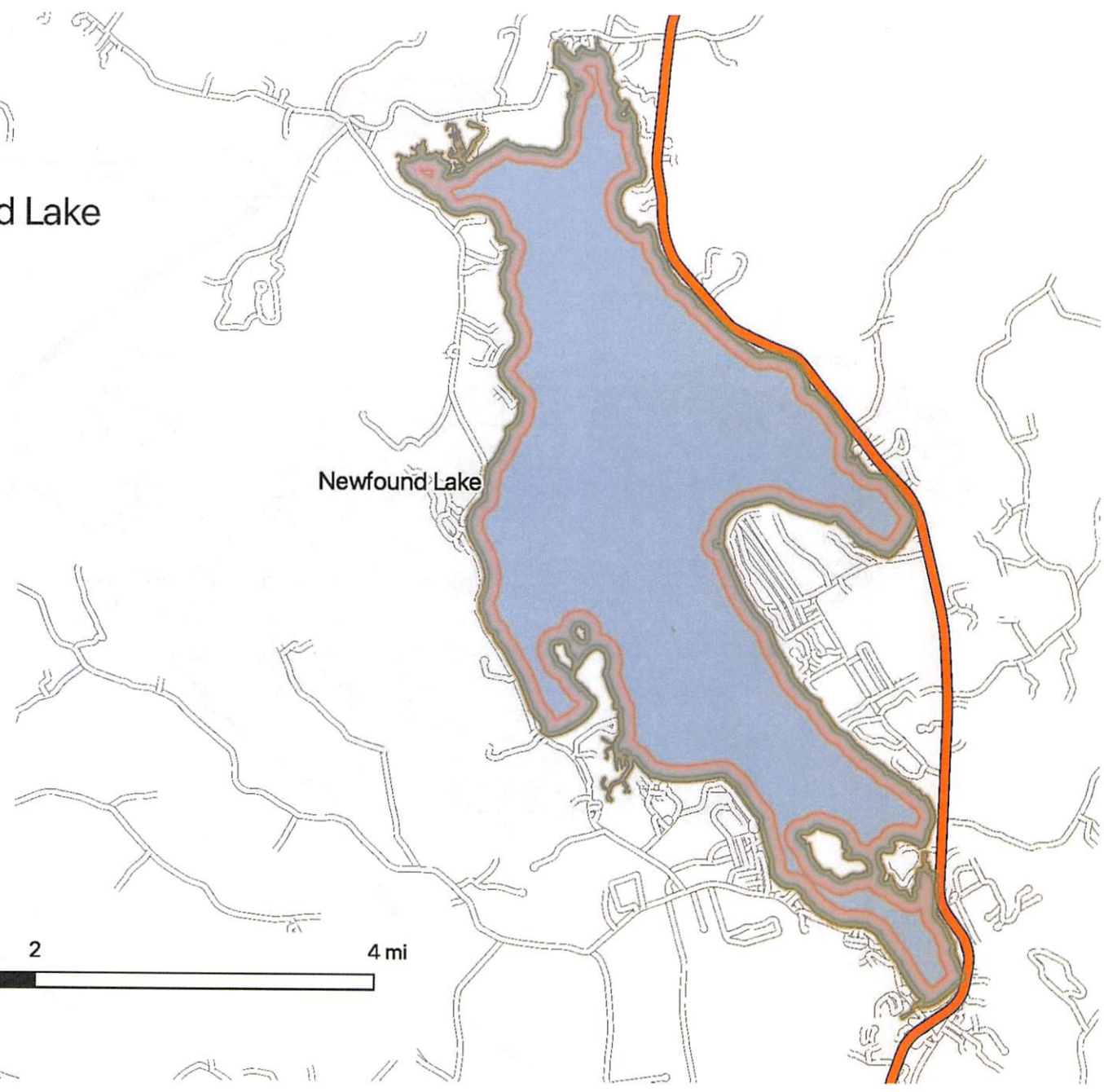
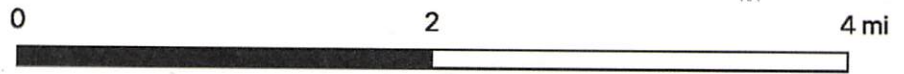
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Buffers on Lake Wentworth

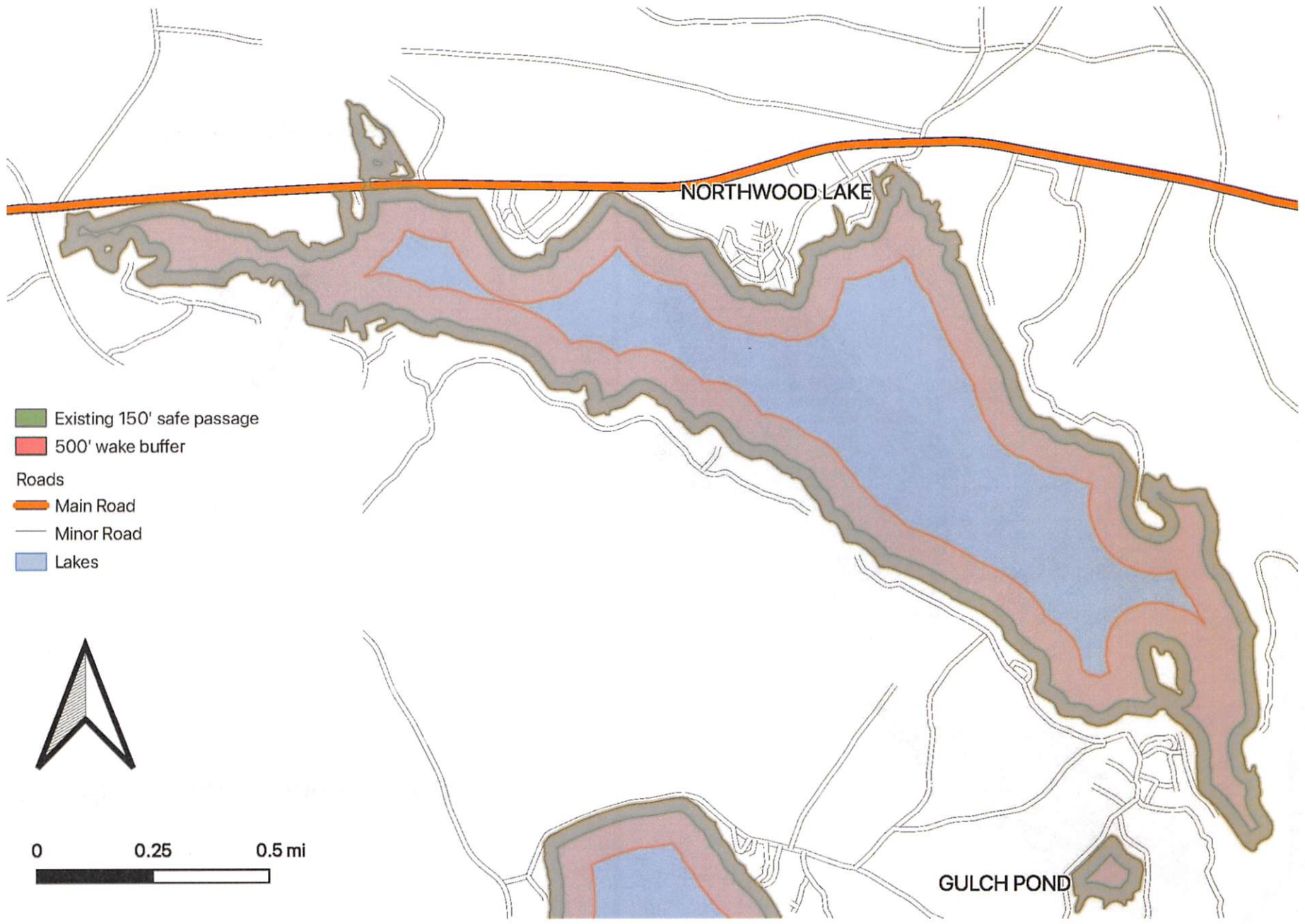


Buffers on Newfound Lake

-  Lakes
-  Existing 150' safe passage
-  500' wake buffer
- Roads
 -  Main Road
 -  Minor Road



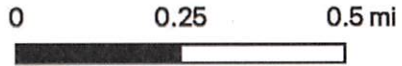
Newfound Lake



NORTHWOOD LAKE

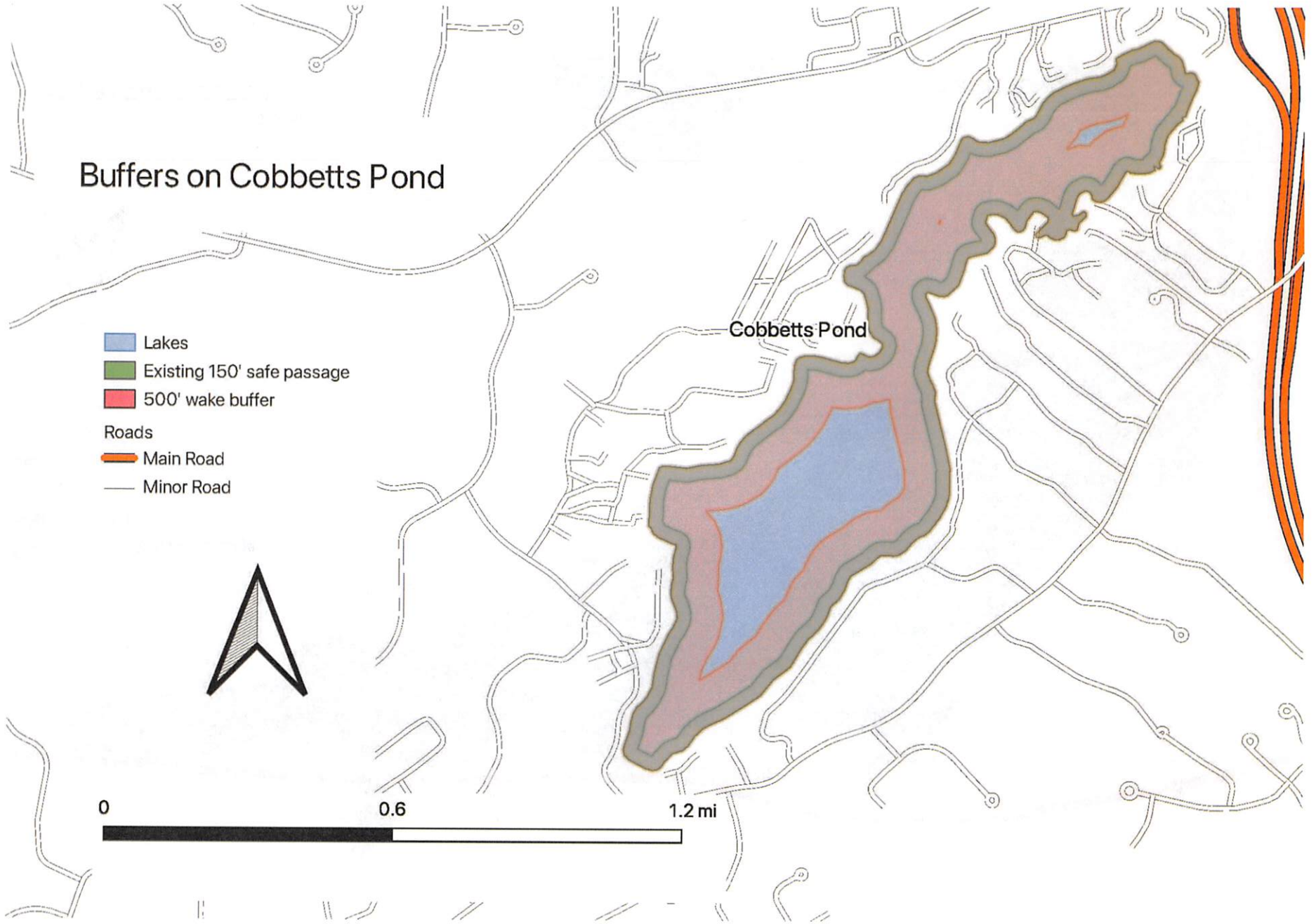
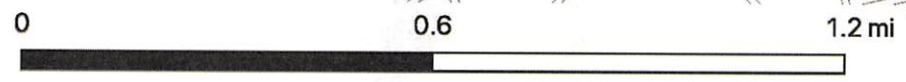
GULCH POND

- Existing 150' safe passage
- 500' wake buffer
- Roads
 - Main Road
 - Minor Road
- Lakes



Buffers on Cobbetts Pond

- Lakes
- Existing 150' safe passage
- 500' wake buffer
- Roads
 - Main Road
 - Minor Road



FAQs: Boat-generated wake wave study

- **What was the study?**

This research project focused on measuring the maximum height, total energy, and maximum power of the waves (defined as wake waves) produced by four recreational boats common to Minnesota lakes. The researchers also measured how the wake waves changed as they moved away from the boat and towards shore. Two of the boats were modern wakesurfing boats and two were typical non-wakesurf boats that have been operating on Minnesota waters for decades. The study highlights the differences in the wake wave characteristics of these four boats.

- **Where and when was the study conducted?**

This field study took place on Lake Independence in Maple Plain, Minnesota between September-October 2020.

- **What boats were part of the study?**

Two of the boats were recreational boats commonly operated on Minnesota waters for a range of activities including cruising, tubing, waterskiing, and wakeboarding. These two boats were a 21-foot Larson LXI 210 and 20-foot Malibu Response LX.

Two 2019 wakesurf boats were also part of the study. These boats were a 21-foot Malibu VLX Wakesetter and 25-foot Malibu MXZ Wakesetter. The wakesurf boats are specifically designed to produce a large wave directly behind the boat for the sport of wakesurfing.

- **How was the study conducted?**

Details of the study can be found in the Executive Summary and in the full report (links below). In summary, five wave height sensors were installed at the test shoreline of Lake Independence and these remained in place over the duration of study. Over the course of the field campaign, wave data were collected on each of the four different boats - one boat took a single day to evaluate.

Boats were driven at four different distances from shoreline (225 ft, 325 ft, 425 ft and 625 ft) and under three different operating conditions.

Wave height data were collected for each boat and then post-processed after the field campaign. Analysis of the data involved calculation of maximum wave height, total wave energy, and maximum wave power produced by each boat and each condition.

- **Who conducted this study?**

This study was conducted by a small team of professional research staff. The team included:

- Jeff Marr, Associate Director of Engineering and Facilities at the St. Anthony Falls Laboratory (SAFL), Project Lead
- Andrew Riesgraf, SAFL Researcher
- Matt Lueker, SAFL Associate Engineer
- William Herb, SAFL Research Associate
- Jess Kozarek, SAFL Research Associate & Outdoor StreamLab Manager
- Kimberly Hill, Associate Professor of Civil, Environmental & Geo- Engineering

- **What did the study find?**

Major findings include the following:

- All boats produced their smallest wake waves when they were operated under the highest speed test condition (20 mph) and were planing on the water surface. Planing, a condition familiar to boaters, is when the boat rides on top of the water and is the mode of operation for waterskiing, cruising or other types of high speed activities.
- All boats generated their largest wake waves when operating at the slower speed test condition (~10 mph) . This was a condition where the trim (i.e., angle of the boat to the water surface) of the boat was high, and the boat's hull was displacing a large amount of water. Wakesurf boats are designed to operate around this condition during wakesurfing. For non-wakesurf boats, this is a condition that boats typically transition through quickly as they accelerate or decelerate.
- The study compared the wake wave characteristic of the boats under each of their "typical operating conditions." This was planing speed for the two non-wakesurf boats, and plowing speed for the wakesurf boats. **When comparing the boats under typical operating conditions at a distance of 100 ft from the boat, the wakesurf boats produced maximum wave heights that were ~2-3 time larger, total wave energies that were ~6-9 times larger, and maximum wave powers that were ~6 to 12 times larger than the non-wakesurf boats.**
- The study considered one example of an aftermarket wake shaper - a paddle-type device attached to the outside hull of a non-wakesurf boat, which helps create wake waves suitable for wakesurfing. The results suggest that this aftermarket device was successful in increasing the wake wave characteristics, indicating that "modified" non-wakesurf boats are capable of producing large and energetic waves.

- The data collected can be used to evaluate equivalent operational distance for different types of boats or operating conditions. Our report demonstrates two examples, where a 200 foot operational distance for non-wakesurf boats is selected as the reference condition (i.e., the distance from shoreline/other structures currently recommended by the Minnesota DNR). In the first example, the wake wave characteristics of a planing non-wakesurf boat (20 mph) were used as reference. **The data suggest that operational distances greater than 500 feet are required for the wake waves generated by a wakesurf boat to attenuate to similar wake wave characteristics as the non-wakesurf boat reference.** In the second example, the reference condition was a non-wakesurf boat at slower plowing speeds (~10 mph). **Here, the data suggest that operational distances greater than 425 feet are required by the wakesurf boats.**

- **What do those findings mean more broadly?**

This study is focused on producing robust data on the characteristics of wake waves generated by recreational boats found on lakes. The data, and our example method of comparing non-wakesurf boat and wakesurf boat operational distances, can be used to help inform recommendations, policy or legislation. However, establishing recommendations, policy, or legislation is not the role of our research team.

The report indicates the following outcomes:

1. Wake waves produced by wakesurf boats during wakesurfing are measurably larger than non-wakesurf boats in terms of maximum wave height, total wave energy and maximum power.
2. How a boat is used, or its “typical operation,” is an important consideration. Non-wakesurf boats can generate large waves when they plow water during acceleration to or deceleration from planing, but these boats generally spend little time in this condition. Wakesurf boats used for wakesurfing generally spend a majority of time in this condition. Non-wakesurf boats can be outfitted with aftermarket devices, like a wake shaper, to create wake waves suitable for wakesurfing.
3. Data like those produced in this report can be used to inform guidance on operational distance. For example, this study infers, depending on which non-wakesurf boat reference condition is selected, that at 200 feet of operational distance, the wakesurf boats would need to operate at distances greater than 500 feet or 425 feet from shore/structure/object, etc.
4. This study was limited to four boats and the testing period was relatively short. The study’s data and findings are important additions to the growing body of research in the area of wake waves; however, more studies of this type, as well as studies focusing on

how waves and propeller wash interact with lake bottoms, shorelines and structures, are needed.

- **Did this study examine shoreline erosion or failure of shoreline protection resulting from large boat waves?**

No. The study did not investigate these topics; rather, it focused on characterizing the wake waves themselves. The results of this study will support further research focusing on environmental impacts like shorelines.

- **Are there plans to continue research, and what will be studied?**

St. Anthony Falls Laboratory intends to continue conducting research on boat-generated wake wave impacts. The next phases of research will focus on the following questions:

- What are the characteristics of propeller wash, (i.e., the high velocity water jet produced by the boat propeller), and how does it vary with the type of boat and mode of operation of the boat? At what depth range does propeller wash begin to interact with the lake bottom?
- How do large wake waves interact with the lake environment, including the lake bottom, shorelines (natural and riprap), structures in the water like docks and lifts, vegetation, and fish habitat?

- **How was this project funded?**

This study was funded entirely through a crowdfunding campaign conducted by the University of Minnesota Foundation, with over 200 donors contributing. Donations were received from across the country, with a majority from within Minnesota and other Upper Midwest states.

- **Were donors or other outside groups involved in the research design, analyses or final report?**

No. Donors had no input in the design or scope of this research project. Analysis and report development involved only the University of Minnesota - St. Anthony Falls Laboratory research team. The only exceptions to this were the third party review facilitator and the report's two external reviewers.

- **Is the crowdfunding campaign still accepting donations and how can I contribute?**

The original crowdfunding campaign has ended but individuals or organizations can still contribute directly to the SAFL Healthy Waters Initiative through the St. Anthony Falls Laboratory website. Donation will go directly to the research program and the next phases of the project. [Donate to SAFL's Healthy Waters Initiative.](#)

- **Where can I get more information?**

Please follow the links below for additional information:

- Full report: [“A Field Study of Maximum Wave Height, Total Wave Energy, and Maximum Wave Power Produced by Four Recreational Boats on a Freshwater Lake”](#)
- News release: [“University of Minnesota researchers study waves created by recreational boats”](#)

- **Who can I contact about this report?**

Please send all media requests to **Savannah Erdman**, University Public Relations, at erdma158@umn.edu, or to the University Relations' main news line at unews@umn.edu.



February 7, 2022

Dear House Resources, Recreation and Development Committee:

I am writing in opposition of HB 1071 relative to wake surfing and attempting to increase the set-back. The Lakes Region Tourism Association represents over 450 businesses in the Lakes Region and Central NH. The Association promotes the area to bring more visitors to the area that will have a positive economic impact on businesses while protecting our natural resources and the interest of the community.

The NH Marine Patrol; NH Marine Trades Association; all the marinas and the Lakes Region Tourism Association have worked together to educate boaters with the "Wake Responsibly New Hampshire" Campaign. This campaign including signs posted at marinas; boat launches and docking areas along with radio ads; videos; social media; and digital messages encouraging boating enthusiasts to keep three simple tips in mind when choosing to participate in increasingly popular wake sports: keep 200-feet from shores; keep the music volume down and don't make repetitive passes in the same area. This education has been instrumental here in New Hampshire and to make changes to this campaign will be costly and ineffective after all of these efforts by so many in the State.

The recreational boating community is a responsible steward of the environment and directly contributes \$750 million each year for conservation and boated education efforts throughout the Sport Fish Restoration & Boating Trust Fund.

We need to protect our boating, fishing and outdoor recreation industry. Outdoor recreation generates \$689 billion in annual economic impact, accounting for 1.8% of U.S. GDP, 4.3 million American jobs and 3% of U.S. Employment. Boating and fishing are the number one contributor to the national outdoor recreation economy and in 39 states and the District of Columbia. Wakesurfing and towed water sports are a key driver of recreational boating's economic impact. We need to protect our economy here in New Hampshire and not jeopardize an industry that brings so much money in revenue; taxes and home owners.

We urge you oppose HB 1071. Allow us to continue educating the boaters with the materials that we have designed; developed; printed and invested in to protect our community. Allow the outdoor recreation industry and the real estate market to continue to grow adding additional tax base to the State of New Hampshire.

Sincerely,

Amy L. Landers

Executive Director

Signature Sponsors:



From: Karl Leinsing <kleinsing@comcast.net>
Sent: Friday, February 4, 2022 8:33 PM
To: HouseResourcesRecreationandDevelopment@leg.state.nh.us
Cc: Amy Mcmath; Montesano, Alexia
Subject: Please Oppose HB1071 - 250 foot setback for surfing
Attachments: SiteProfile_77SpurRd.pdf

Dear House Resources Recreation and Development Committee:

My name is Karl Leinsing and my family, that includes my fiancé Amy, daughter Alexia, and boxer dog Sully, all live off the Bellamy River in Dover, NH. We work and live all year in NH on our shoreline property. I'm a medical device engineer and entrepreneur and make significant contributions to the world and NH with new medical devices and PPP.

We do our boating in the Great Bay Area of NH. We also do wake surfing on occasion and many other family members and friends come boating and surfing with us during the summer. Wake surfing is a great way to bring family and friends together and do a sport that all ages can do and enjoy. **We are strongly opposed to HB1071.** We feel the HB1071 is not based on science or data from all parts of our state. HB1071 did not consider the impacts in the Great Bay Area. It only looks to address a concern in a few natural water lakes, which also likely lacks the same factual support. We have tides here in Great Bay that go up and down 5-6 feet twice a day. Wakes caused by surfing, or any boating for that matter, are unlikely the cause of erosion in our area. We are BIG supporters of shoreline erosion protection. We support this effort so much that we volunteered and were selected, among 4 others, to study erosion and implement a Living Shoreline on our shoreline. This project aims to teach others in the state what they can do to protect the shoreline from erosion using natural plantings at a low cost. **This project supported by UNH, NH DES, NH Coastal Programs, Town of Durham, Great Bay National Estuarine Research Reserve, Great Bay Stewards, Strafford Regional Commission, Piscataqua Region Estuaries Partnership, and National Fish and Wildlife Foundation concluded that "Boat wake pressure is unlikely to be causing the erosion" (see attached Site Profile).** This tells me that, at minimum, the data to support bill HB1071 is not based on science of at least the Great Bay area. The Great Bay is an area that would be unfairly impacted by HB1071.

HB1071 also unfairly impacts a single sport and does not address the boater. We have had a campaign in 2021 in Great Bay to educate sport boats and surfers and we did not receive a single complaint. I have asked Marine Patrol how many complaints they had about "wake surfing" in the Great Bay area and they have not had complaints specific to this sport. The complaints they have is boating from all types of boats at distances too close to them. There is already a law that is on the books to address boating within 150 feet and is addressed when they occur. **This tells us that our positive campaign on "wake surfing" has had an impact, but we also know "wake surfing" just hasn't been an issue in the Great Bay.** It is unfair that all parts of NH are affected by a few bad apples.

HB1071 will totally and unjustly shut down the "wake surfing" sport in many parts of the Great Bay. Have supporters of HB1071 considered the Great Bay area? HB1071 would prohibit wake surfing in parts of Bellamy, Concheco, Piscataqua, and Oyster River and parts of Hampton Bay, Little Bay and Great Bay.

HB1071 will be very confusing. Wake boarding uses a rope behind the same boat with the same wake and wake surfing uses no rope. Does this mean that someone that normally wake surfs can hold a rope and now be legal if HP1071 is passed. This just doesn't make sense and shows how HB1071 unfairly discriminates against a sport that all ages can enjoy together. All ages enjoy "wake surfing" because "wake surfing" is generally safer and easier to do because of the lower speed of the boat (10 mph compared to 21 mph).

HB1071 requires 250 feet away from other boaters. How would boaters be educated about what to do when they see another boat with a wake surfer behind it? Most all boaters know the 150 foot rule (which is known all over the country) and will not know the 250 foot rule. **Other boaters will likely not see a boat with a "wake surfer" behind it and pass by 150 feet away.** This will cause boats with surfers behind them to violate a law proposed by HP1071. It would be very difficult for a boater with a surfer to prevent a violation in Great Bay and many other lakes in NH.

We therefore strongly OPPOSE HB1071 for all these reasons as it simply doesn't apply to a tidal area of Great Bay and unjustly singles out one sport of many that cause wakes. The current laws and education are sufficient to address the few issues and 2021 is evidence of this fact.

Thank you for your time in reading our position and please vote against the bill.

Regards,
Karl, Amy, and Alexia

Karl Leinsing
77 Spur Rd.
Dover, NH 03820
kleinsing@comcast.net
Work: [\(603\) 926-8216](tel:(603)926-8216)
Mobile: [\(603\) 203-0365](tel:(603)203-0365)

THE GREAT BAY

LIVING SHORELINE PROJECT

SITE PROFILE



Spur Road, Dover

Landowner: Private individual

SITE OBSERVATIONS

Erosion at this site is likely driven by inundation and ice scouring. Boat wake pressure is unlikely to be causing the erosion, and the bank is not shaded. An existing seawall is damaged. Mowed lawn abuts the salt marsh on the landward edge. Abundant native macroalgae on the seaward edge contributes to suitable conditions for a living shoreline.

RECOMMENDATIONS

A living shoreline could protect existing salt marsh from further erosion. A private driveway to the lawn makes for easy construction access to the shoreline.



Above: Eroding shoreline in front of private home on Spur Road. Below: Aerial map of site. Red point denotes suggested project location.

Landward Shoreline | fringe salt marsh, lawn

Landward/Seaward Substrate | clay/silt

Seaward Shoreline | mudflats with rockweed

Slope Characterization | 5-10

Vegetation | high and low salt marsh, sparsely vegetated intertidal habitat

Tree Coverage | none

Shoreline Protection Structures | rip rap, wall

Boat Traffic | recreational



This profile was created to summarize characteristics of sites identified for potential living shorelines. Sites were identified using multiple aggregated data sets and characteristics were validated with site visits. **Contact:** Kirsten Howard
NH Coastal Program | kirsten.b.howard@des.nh.gov
www.nhcaw.org/greatbaylivingshorelineproject



Dear Committee Members: I oppose HB 1071

I read the entire U Minnesota paper in its entirety.

As an engineer and avid wakeboarder/wakesurfer I have these issues with the paper:

- The paper did not fairly compare boats. The non-wake boats were not only smaller (21-20 ft compared to 24 ft), had less people and therefore weight in them (2 people in the non-wake boats and 4 people in the wake boats) but the non-wake boat were purposely designed to create the **smallest wake possible**. The wake boat chosen is also the top of the line **largest wake possible**. Most typical wake boats don't perform to this specification (including mine). This is not a fair comparison, and would be similar to comparing a boat to a jet ski.
 - Doing this fairly would require using the same length of boat and same number of people in them. Of course a 24 ft boat with more people in it is going to give a bigger wake than a 21 ft boat designed for waterskiing with half the people in it. To truly compare results one would need to use a non-wake boat that is 24 ft such as a cabin cruiser or even a cigarette boat.
 - See figure 15 below. Notice how the much more reasonable comparison of the 21 foot wake boat (blue line) at full ballast is much closer to the other boats at the 100 ft mark?
- The entire study developed their distance suggestions based off of Minnesota's 200ft guideline and not NH's 150' restriction. They then used the wave power/height from 200 feet from these small ski boats to find the distance required by the wake boats to get the same height.
 - To get from 200 feet to 150 feet would require removing 50 feet from each of their guidance, but remember the wave dissipation is **not linear, it's an exponential decay function** so the actual numbers would be 65-75 feet removed from their 250 guidance.
 - Also, where did this 200 number come from? It came from the MN guideline and they simply used the wave action at that distance. Is the wave action at this distance reasonable? What is a reasonable amount of wave energy? When does the wave energy start to affect the shoreline? None of these questions are addressed in the paper.
- They mention that half of the waves energy has dissipated within 100 feet (for all boats) and that after 200 ft it's completely indiscernible between ballast full and ballast empty (page 84)
- The test site had a gently sloping shallow depth sandy/gravel lakebed. This is not common in New Hampshire as it's usually not gently sloping and has rocks and more extreme relief. Their test site is going to show 'worst case scenario' similarly to how Hampton Beach has larger waves because of the slope versus other areas. It's unrealistic and not common in NH lakes.
- There is no mention of erosion or negative effects from these waves in the paper.

Outside of these points, I agree with all of the other opposition regarding

- **safety** (forcing into the main parts of lakes),
- **confusion** (different rules for different boats),
- **singling out** a specific type of boat when other boats can be just as bad including house boats (which dissipate more water), tubers which throw waves in all directions and other large vessels

- **minimal impact** – Usually only see wake surfers on summer weekends, versus wave action, ice, storms and other boats which are more frequent and prevalent. My family owns lakefront property in Moultonborough
- **Care for environment** and athleticism – Tow boat owners are the only type that actually get exercise and are not just out partying or going fast. We also have people in the water which adds to that care as a boater and the quality of the water. I have never had an unsafe close encounter with another tow boater but I have had plenty with house boats, cigarette boats, pontoons and jet skis.

I have also read many of the 'support' letters:

- They tout the 500' setback as a finding in the U Minn paper, but they clearly didn't read it
- They are confused and often talk about wakeboarders, cigarette boats and other boaters indicating that they want less traffic on the lake, don't we all.
- Their claims are not scientifically proven, just complaints

For all of these reasons, please oppose HB 1071. However, if boats are a problem, consider limiting the daily number that can be launched on lakes.

Thank you for your time.

Jay Jackson

Appendix: Selected references

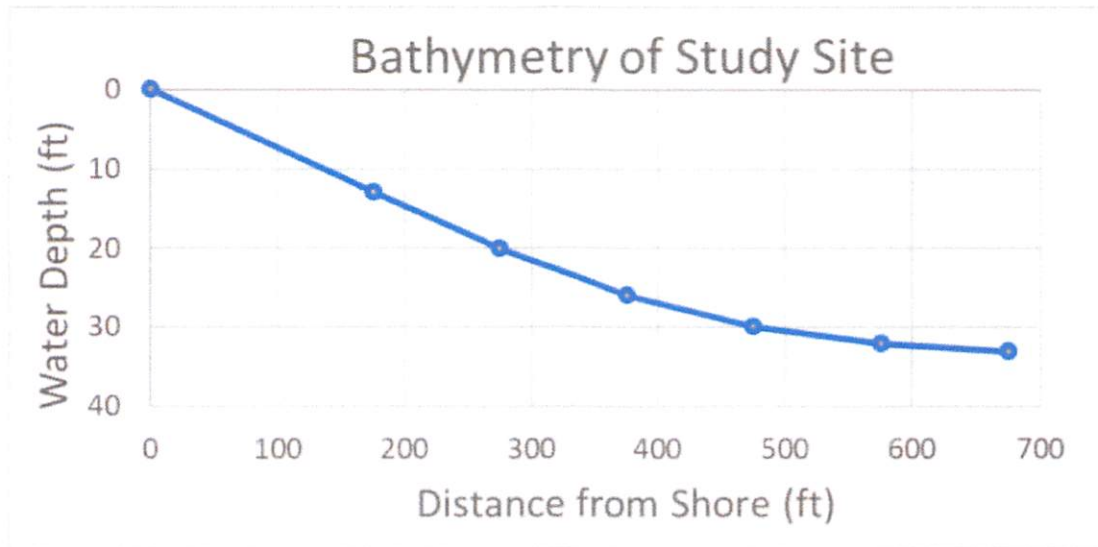


Figure 2. Typical bathymetry at the study site showing a gradual increase in water depth with distance from shore. The maximum depth was 33 ft at 675 ft from shore.

Table 2. Summary of the four test boats.

Manufacturer	Model	Year	Drive	Horsepower	Beam (ft)	Length (ft)	Dry Weight (lbs)	Ballast (lbs)	Hydrofoil	Wake Shaper
Larson	LXI 210	2004	Stern drive (I/O)	260	8.3	21	2925	No	No	No
Malibu	Response LX	2004	Direct Drive (I)	310	7.5	20	2450	No	Yes	Yes -aftermarket
Malibu	Wakesetter VLX	2019	V-Drive (I)	450	8.2	21	4200	3690	Yes	Yes
Malibu	Wakesetter MXZ	2019	V-Drive (I)	450	8.5	24.5	5500	4885	Yes	Yes

Notes:

(I/O) - inboard outboard or stern drive powertrain

(I) - inboard powertrain

Table 3. Summary of the operating conditions for each boat tested. The only difference between Conditions 1a and 1b for the Malibu Response LX was the wake shaper setting (i.e., on vs off). The only difference between Conditions 1a and 1b for each Malibu Wakesetter was the ballast setting (i.e., full vs empty).

Boat	Condition #	Speed (mph)	Trim Setting (%)	Ballast (% filled)	Hydrofoil/Power Wedge III	Wake Shaper/Surf Gate	People Aboard	Approx. People Weight (lbs.)
Larson LXI 210	1a	10	50 (middle)	N/A	N/A	N/A	2	330
	2	20	100 (down)	N/A	N/A	N/A	2	330
Malibu Response LX	1a	10	N/A	N/A	Down	On - Port Side	2	330
	1b	10	N/A	N/A	Down	Off	2	330
	2	20	N/A	N/A	Down	Off	2	330
Malibu VLX Wakesetter	1a	11	N/A	100	Down - Setting #3	On - Port Side	4	740
	1b	11	N/A	0	Down - Setting #3	On - Port Side	4	740
	2	20	N/A	0	Down - Setting #3	Off	4	740
Malibu MXZ Wakesetter	1a	11	N/A	100	Down - Setting #3	On - Port Side	4	740
	1b	11	N/A	0	Down - Setting #3	On - Port Side	4	740
	2	20	N/A	0	Down - Setting #3	Off	4	740

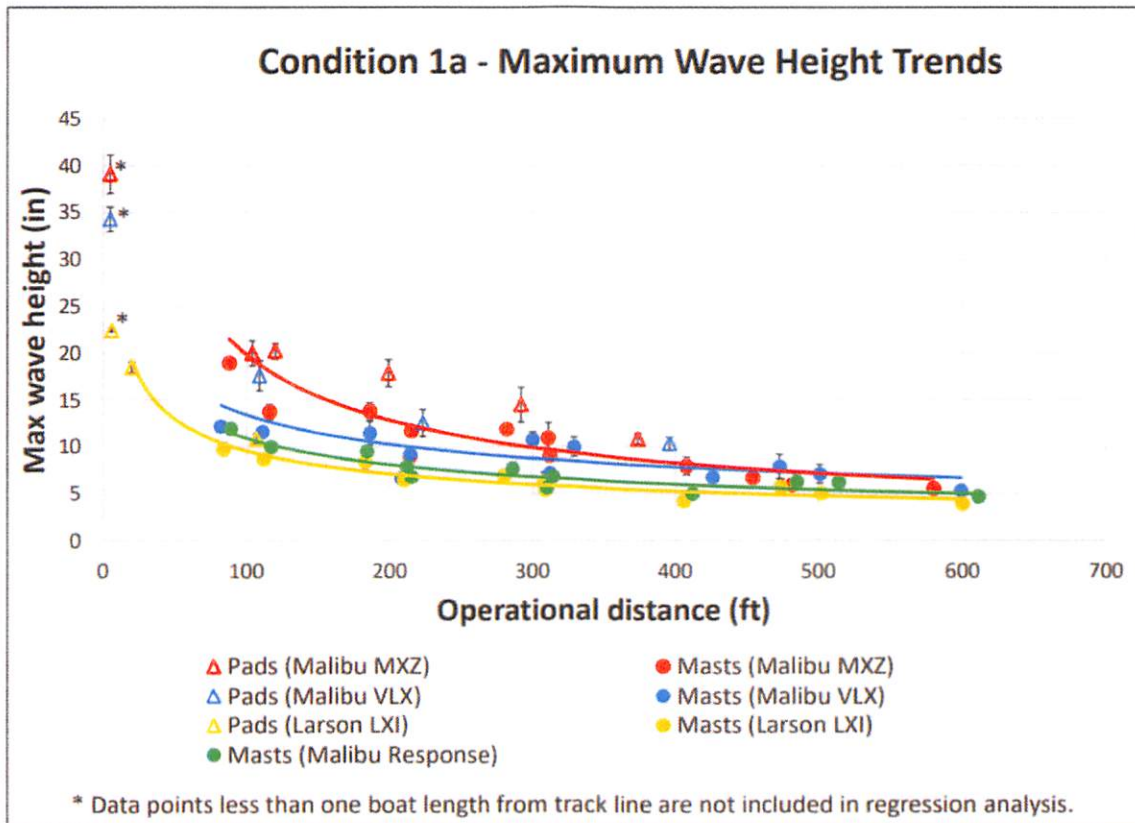


Figure 15. Condition 1a best-fit power law trendlines of the four test boats showing maximum wave heights over operational distance.

I'm writing to ask you to oppose HB 1071, relative to wake surfing. I am a business owner and boat enthusiast. My primary residence and corporate office are in Massachusetts. But my second home and several of my business locations are in Meredith New Hampshire. I boat at many lakes in New Hampshire.

I was an avid barefooter in my younger years, but as I grew older transitioned to wake surfing and sky skiing. These activities are low impact and can be enjoyed by anyone at any age. In my experience, wake sports are not the cause of erosion, as there are many factors that need to be considered, including ice, wind and storms. The boating season in New England is already limited by the weather and should not be restricted further based on a particular water sport. Any irresponsible boater can contribute to problems on the water so to single out one sport for regulations and restrictions is unfair and would not solve the issues on the water. Larger boats can make larger wakes that last even longer than wake/surf boats We should focus on the education of boaters and enforcement of the current laws to address conflicts – not singling out certain water sports for restrictions. It is the boat operator behavior that is at issue. Everyone should be able to share the waterways as long as they do so responsibly.

I want to thank the Committee for their time and for considering my position on HB 1071, as I am asking them to vote against the bill.

A large, stylized handwritten signature in black ink, consisting of a long horizontal stroke with a large loop at the beginning and a smaller loop at the end.

William Costin
1 Twin Meadows Lane
Moultonborough, NH 03254

Testimony in opposition to Bill 1071

Dear Committee:

I am strongly opposed to Bill 1071 to increase the set back to 500 feet for wake boats on New Hampshire Lakes for the following reasons:

1. Safety. If you increase to 500 feet you are now limited the areas on the lake to wake surf, thus forcing more people into a smaller spaces on the lake to wake surf. It is particularly concerning to me as we live next to Camp Tecumseh which is an area that would qualify as 500-feet off and many more boat would congregate in that location make it less safe to wake surf and boat in general;
2. Enjoyment. The water in front of Camp Tecumseh (and many other larger areas of water across all NH lakes) is of one of the favorite places for all boaters to anchor for the day. To have all wake boats on the end of the lake only wake surfing only in that one location would ruin the enjoyment for many people. A 500-foot set back is a really bad idea.
3. Channels. If you force wake surfers away from the shore you will force them to surf more often in the channels, which if you see how fast boats travel in these channels, it a very scary proposition.

A 500-foot set back would have many safety and enjoyment related unintended consequences when it is also not necessary in the first place. A more moderate set back would achieve the goal of getting the wake boats away from the docks on the shore.

Respective submitted,

William Costin

I write to ask you to oppose HB 1071, relative to wake surfing.

My name is Brian Green and I love and boat on Little Island Pond in Pelham NH. I'm a longtime employee of BAE Systems.

This bill would essentially ban wake surfing on my lake. My family, friends and I have spent many summers and hours together participating in wake sports, and done responsibly wake surfing is a fun, healthy, family friendly activity.

Banning the activity or boat type makes no sense. Wake surfing can absolutely be done responsibly within the existing laws.

While it is true that wake boats produce large wakes, it's also true that almost any boat can produce a large wake when driven irresponsibly.

I urge you not to ban this sport, particularly when there have been no credible studies showing an impact on erosion. I fail to understand how the three or 4 waves from a wake boat pass are any different or more damaging of those from a tuber, someone doing laps, a windy day with hours on end of similar sized waves, or the three months of the year where wind and ice push upon the shores

The responsible boating campaign and enforcement of existing setbacks are more than enough to address the concerns brought up.

On a personal note, I live in an area where I can't see the lake well until I go out. On numerous occasions I have come around the corner of the lake to find it too busy to wakesurf and maintain safe clearance, and I've made the decision to just stop until there is more space. But on those same days, I frequently see much smaller lighter boats pulling tubes creating large wakes close to other boats and the shore. It's not the activity, it's the decisions and behavior of the driver!

Thank you for your time and consideration and please vote against this unfair bill

Dear House Resources, Recreation & Development Committee/State Legislators,

2/4/22

I write to ask you to oppose HB1071, relative to wake surfing. My husband and I live on Lake Opechee in Laconia and have a ski/wake surf boat. In fact, we just purchased a brand new boat costing over \$130,000, as did 3 other friends of ours. That's putting money into the local economy. We've lived here for over 11 years and love the location. We donate generously to LOPA (Lake Opechee Preservation Assoc'n) to help ensure keeping our lake in a healthy state. We love hosting family and friends here and get great joy in teaching them how to waterski, wake surf, paddle board, etc. on the lake. We are VERY MINDFUL of where we do it – in the open wider area of the lake. I particularly love wake surfing as it's a slow moving, lower impact type of water sport. Even our grandkids are starting to learn and enjoy it.

As for the beach erosion complaint, I've come to understand that there have been times when our lake level has been "lowered" (every 2 yrs) for maintenance work and when that occurs in the fall, so close to when the lake freezes, the resultant ice floes can cause erosion. Boaters on this lake are very responsible people. If this bill passes, it will have a BIG impact on tourism and overall enjoyment on the lake. Because one segment of the population is not in favor of the wake surfing sport, doesn't mean it should be banned. That's a slippery slope for both sides. What we need is EDUCATION in being responsible, thoughtful boaters, not punishment for all. That is very unfair.

Thank you for considering our input and hopefully opposing this bill.

Sincerely,

Lyn & Brendan Florio

I write to ask you to oppose HB 1071, relative to wake surfing. I am a NH real estate broker and reside in Moultonborough and boat on Lake Winnepesaukee with my Mastercraft x24. I am a member of the development committee for the Lake Winnepesaukee Association, loon watcher for the Center Harbor Bay and Blackey Cove areas for the Loon Preservation Committee, a member of the town of Moultonborough Planning board, board member of the Lakes region Home Builders Association, board member of the Lakes Region Chamber of Commerce and co-chair for the Lakes Region Parade of Homes

I am predominately boating with real estate clients, local business owners, friends and family after work each day, weather permitting. We keep our boat on a mooring in Center Harbor Bay at my parents residence. We primarily love to invite those new to the area or the lake to join us and learn to wake surf. We on average teach approximately 15 people a week in the summer how to surf. It is an incredibly gratifying opportunity for us get to know others in the community, share a recreational sport, laugh and make memories that will last a lifetime.

My observations to boating on the lake are not boat type specific but rather boater education specific. Renters who are new to the boating scene and boat launchers new and unfamiliar to the lake they just launched into are where I see the safety of the waterways as the biggest issue, nothing to do with singling out a specific type of boat or recreational water sport.

HB 1071 should be defeated for numerous reasons. It will not solve nor lead to solving issues on the waterways, I feel it will only hurt and make things more dangerous on the waterways. As the boat captain I worry for the safety of those onboard the boat and in the waters. If I am in a bay/cove and the distance being proposed that could mean for a one way down the middle-say another boater (experienced or not) is coming towards my direction and we both need to give way to pass each other at safe distances, I then could be in violation of being closer to the shore than allowed, forcing me to stop where I am- even worse with a potential person being towed behind me now in the water. With other boaters likely traveling behind me- if I stop will they notice in time? Will my occupants and the one in the water be at risk of them not stopping in time? This seems like the opposite of best practices for wake surfing

I ask that you please vote against this bill as it only brings from dangers to the waterways and is not the solution to responsible boating safety.

**Brie Stephens
Moultonborough, NH**

My name is Carlos (Carl) Dunlap and I am a NH resident, voter, and "tow boat" owner with a house on Lake Sunapee. I have been boating on Lake Sunapee since 2010 and purchased my house in 2017. One of the main reasons I purchased the home on Lake Sunapee is to have a place where my family can go to connect and make memories. Some of our favorite memories are on the water and behind our boat - whether that be tubing, skiing, or wake surfing.

In today's day and age, it is so important for us to get the kids off their phones and Xbox and get out on the water and have some time as a family. The kids also love to bring their friends and show them the ropes.

One of the first things I did before vacationing in New Hampshire and purchasing the boat was to take the boater's safety course and get my NH Boating license. It seemed a bit of an inconvenience at first, but I truly believe that it helps make the Lake a safer place and I have encouraged my friends and family to get their boating licenses too. One of the things I like best about New Hampshire is the independent spirit and freedom. It is a great balance of civic responsibility and individual freedom. There are fewer mandates and fewer taxes, but the residents are nonetheless obedient, civilized, courteous, and free.

I have been impressed with the consideration shown by boaters on Lake Sunapee. I see boats give each other plenty of space and I see the lake shared between all kinds of activities including sail boating, kayaking, slalom skiing, tubing, wakeboarding, and wake surfing. I bought my boat in 2019 to do some slalom skiing, but also to learn how to wake surf because as I get older I want an activity with less strain on my body. I'm also teaching the kids to ski and wake surf and I'm looking forward to this summer and trying to take our minds off of COVID-19 and all we have lost with school and sports and home quarantine.

As the Commission looks at "wake boats" and possible regulations I would encourage them to look at the spirit of New Hampshire. The boaters should have the freedom to engage in all kinds of boating activities (including wake surfing) and not try to pick "winners and losers" while focusing on safety and being courteous. I do not support regulating that "Any boat underway for wake surfing on inland waters shall maintain a minimum distance of 250 feet from the shore, docks, and other boats." I also do not support raising that distance to 500 feet. We should continue to keep our lakes clean and free of invasive species and share the water with all our friends and neighbors. Thank you for your time and efforts.

Regards,
Carl Dunlap

Sunapee, NH

February 5th, 2022

Dear New Hampshire State Legislature and Local Representatives,

My name is Christina Wolf and I urge you to oppose HB 1071 relative to wakesurfing this coming week. Currently I reside in Portland, Maine, but I grew up in (and still frequent) New London, New Hampshire. I was fortunate enough to live across from Little Lake Sunapee, where my parents still live. It was here that some of my fondest childhood memories were created. In the early 2000s my parents purchased their first ever motorboat. We quickly learned how to wakeboard and waterski. A few years later, we learned how to wakesurf. Learning how to wakesurf was a huge confidence booster for my difficult middle school years and remains a sport that I continue to work at in my thirties. Wakesurfing is a life-long activity that gets people active and engaged in the outdoors. I have seen anywhere from a five-year-old, to a seventy-five-year-old get up with ease, flashing the most genuine smile on their face. In recent years, and especially with the COVID-19 pandemic, people of all ages, socioeconomic status, and race, have been finding ways to recreate outdoors. Wakesurfing (and boating) has increased in popularity as a summer sport, and with that, there has been a ripple effect in communities trying to come up with a solution.

In recent years I have witnessed an increase of boat usage on the lakes of New Hampshire; yes, there are more "wakeboard" boats, but there is also an influx of other lake enthusiasts (skiing, wakeboarding, tubing, kayaking and paddleboarding), who are out on the water with little to no safe boating education. At sixteen years old, my parents encouraged me to take the New Hampshire Safe Boating course. I did this, in addition to my friends, to learn how to safely navigate the waters that meant so much to us. I have witnessed boaters of all types disobey the safe boating laws that were taught in this course. I do not think that it is fair to point fingers at "wakesurfers" for causing unsafe lake conditions. Every single lake user should be holding themselves accountable for safe boating around others. I agree that wakesurf boats can make a big wave, but have you seen tubers going in circles at 15 mph and making a man-made lake wave pool before? This is an example of how education could be a solution to this issue instead of outright banning or making it less accessible to us folks on the smaller lakes. HB 1071 will not solve the solutions of the lake.

It is my understanding that a major push for this bill has been based up findings from the University of Minnesota study on waves and wakesurf boats. I am offended that any organization claiming themselves to be a protective association or for the environment would read into this study at this time. My background is in environmental education; I am now a nurse and have devoted the last decade of my life to researching reputable, evidenced-based science. Until their study measures a larger sample size of more than four boats, a longer study time, and a control, their work does not mean much. There are a multitude of factors that cause erosion on the shoreline including wind, rain, snow, and yes, other types of boats. It would be very difficult to prove that wakesurf boats only are the sole reason for erosion in the lakes.

I would like to thank the committee for taking the time to read my position on HB 1701. For now, I encourage you to continue promoting safe boating education and keeping all types of lake recreation available. COVID19 has taught us that we need to come together more than ever right now and calling out a subset of lake recreationists is not the answer at the convenience of some NIMBYs.

Sincerely,

Christina Wolf and Brant Haflich

Opposition of HB 1071

2/8/22

From A concerned Citizen

Opposition notice

To whom it may concern,

My name is Daniel Wettergreen resident of Laconia NH. I have Personally been a boater for the past 20 years on Lake Winnepesaukee. My Family has been boating on the lake for over 50 Years now. Boating has brought our family together over the years and has created many lifelong friendships. Lake Winnepesaukee has been a watersports lake for forever and a day. It would be a shame to regulate watersports so much that it makes the boats disappear. Wake surfing is a low impact sport which anyone of any age can enjoy. Some people will argue wake surfing contributes to erosion, at this point you will need to argue that any boat of 26 feet and above (non surf boat) will need to be regulated on the same level. Lake Winnepesaukee has been a boating lake for centuries, regulating at this distance will also directly affect every smaller surrounding lake. Instead of changing regulations and making things difficult for everyone, maybe offer training and informational classes.

Please read this quote below dated 1/14/22

“Nestled in the foothills of the White Mountains and on the shores of Lake Winnepesaukee, Wolfeboro, NH, traces its history back to 1759 and is “the oldest summer resort town in America.” The town’s name was in honor of General John Wolfe. In 1763 Governor John Wentworth established an estate on the site known as “Kingswood.” This was the first summer country estate in Northern New England. The town was eventually incorporated in 1770.”

-The Laconia Daily sun

[Wolfeboro — The oldest summer resort town in America | Columns | laconiadailysun.com](https://www.laconiadailysun.com/columns/wolfeboro-the-oldest-summer-resort-town-in-america)

Dear NH Legislature and our local Rep and HB-1071 co-sponsor Karen Ebel,

My name is Dag Lidbeck. We live in the Lake Sunapee Region and We strongly oppose HB 1071.

As a legislator it is important to understand what it is you are legislating. It is unclear what the purpose of the bill is. Is this bill trying to prevent nuisance on the lake, is it trying to prevent erosion on the lake shore, or does someone feel wake surfing is a safety concern?

Have any of the legislators been out on the lake during a busy summer day? If you have you will find nuisance from many different boaters. Look at jet skis zooming around at 50mph, look at people tubing in 24' bow riders that are churning up the lake, zig zagging and going around in circles. In fact, Wake surf boats tend not to go out on a busy day because the wake get disturbed by too much boat traffic. We tend to go out early morning when its calm out before the riff raff gets out on the lake and churns it all up. Furthermore, wake surf boats tend to go out to deeper water because the wake is better in deeper water.

Are the legislators concerned with erosion? If so, the study by the U of MN study does not address this whatsoever. The study has many short comings. It only focuses on the comparative wave height when the wave hits the shore. It does not address the velocity at which the wake the wake hits the shore. I read a study a while back (don't recall where) that stated that a faster traveling wave does more damage to the lake shore than a slower moving wave, which make a lot of sense. Hence a faster traveling boat will do more damage to the lake shore than a slower moving boat. So a waterski boat traveling at 35mph will do more damage to the lake shore, than a boat pulling tubers at 25 mph or a wake surf boat traveling at 10mph since the wake is hitting the shore line at a faster pace.

Is wake surfing a safety concern? I think not. Local NH wake boaters tend to be extremely responsible. We tend to surf in the middle of the lake, when the lake is not crowded and at very low speeds. If you are concerned with safety look to the jet skiers going 50mph, boats pulling tubers and other boats flying across the lake at high speeds.

Wake surfing is truly a multi-generational family sport. I've seen small kids surf along side people well into their 70's. You don't see little kids waterskiing and there are very few water-skiers that are over 60 years old. Waterskiing can be a brutal sport, whereas wake surfing is a low impact sport that anyone can do. That is why it's becoming so popular. You see entire families enjoying the lake in a wake surf boat.

I really feel that this issue needs more studying. There is no clear purpose to this law other than to single out wake surf boats. Singling out wake surf boaters will not solve whatever problem it is you are trying to solve. The wake surf industry is a multibillion dollar business in NH alone. On lake Sunapee alone you probably have 80 wake surf boats that all cost well over \$100,000 each. Lake front owners pay huge amounts in taxes and essentially support the local economies. This legislation will discourage boat sales, real estate sales and tourism and will have a ripple effect through the local economy.

I strongly feel that more education, lake shore signage and enforcement of current rules would be more beneficial. This bill will only cause confusion and will be very hard to enforce.

Thank you for consideration.

Dag Lidbeck

Written testimony

My name is Jeff Deacon, I'm 63 years old and live in New London, NH. My wife Julie and I are part owners of a property on Lake Sunapee that has been in our family for 70 years. The property is located on the northeast shore and faces south, directly exposed to the main body of the lake. Our family has spent summers on the lake for my entire life and we grew up participating in and observing a variety of water sports. Four years ago, we purchased a boat with a ballast system that gave us the opportunity to wake surf, wake board and waterski. When we use the boat, not only are we careful to stay at least 150' from the shore, but typically only get that close when starting or dropping a skier/boarder/surfer. However, we regularly see other boaters (not just wake surfers) come closer than 150' from shore while moving faster than headway speed. We don't believe increasing the set off to 250' is going to solve the problem of motorboats of any type violating this regulation. Instead, we believe the problem can be solved through education/communication and improved enforcement. Most boaters want to follow the rules but may not know what those rules are. Understanding of local regulations could be improved significantly by posting signs at fuel docks and access ramps and/or communications included with registration renewals. Also, there could be a few markers around the lake 150' from shore, so boaters know what that distance looks like. Enforcement should not solely be the responsibility of the marine patrol. Other boaters and property owners should take some responsibility for communicating the regulations to violators. Snowmobilers and ATV owners have demonstrated that self-policing can be effective in ensuring adherence to rules and regulations.

Before we implement more restrictive regulations, let's make an effort to increase compliance with the ones that are already in place.

Respectfully,

Jeffrey Deacon
PO Box 443
52 Pillars Lane
New London, NH 03257
(603) 526-2134

To: whom it may concern

Re: HB 1071

I oppose regulation of wake boats as I see it as an unnecessary step and a over-aggressive approach to protect our waterways and limits the enjoyment families can have on the water in New Hampshire. Self-regulation, education, and cooperation are more than sufficient to ensure safe operation of vessels. There is no significant body of analysis that supports damage created by boats when operated under the current guidelines and given the shorelines on most NH bodies of water any issues are non-existent or negligible. The vast majority of boaters are equal in their desire to enjoy and protect our amazing natural resources and I can say from first-hand experience on Pleasant Lake in New London that our sense of community is powerful and we have taken great care of the lake we share with our neighbors and guests.

James H Mallinger

Sugarhouse Road, New London, NH

February 2, 2022

Our family opposes HB 1071. As long time NH residents living on a 470 acre lake, we are year round NH citizens avid watersports participants from May 1- Oct 15 every year. We have a Supra SA (Classified as a Wake Boat) that we use for skiing, wakeboarding, tubing, cocktail cruises and wake surfing. All these sports are fun and great family and friend recreation across all age groups. When done properly, the driver runs in a straight line then makes a quick U turn and comes back into their path and runs another straight line back to starting point that smooths out the water for everyone including the skier or boarder being towed.

We have been participating in these watersports (tubing not so much since waste of gas and person being towed never gets tired) for 22 years on our local lake here in New London. We average about 80 hours a year (which is considered high usage) and have never seen any shoreline erosion resulting from these watersports and /or waves as we always maintain at least a 150' buffer from the shoreline docks and swim platforms.

What bothers many of us "experienced" towboat owner/operators is the recreational boat drivers of tubers and skiers that may come visit our lakes on vacation that get too close to our watersport centric boats and try and jump our waves and travel in endless circles to try and knock their kids, grandkids family and friends off their tube. Also, many kayakers often venture too close to us when we are towing a rider trying to white water kayak our surf waves.

In a nutshell, the recent education campaign seems to be working as folks with "Wake boats" seem to be more aware of their proximity to shore and other boaters and music levels. Our suggestion is we need more enforcement by the NH Marine Patrol to focus on identifying inexperienced boat drivers of "any boat" pulling a tuber around in endless circles wrecking the water for everyone. Also, most any boat that travels at 10-12 MPH will make a fairly large wave so its important to maintain the current safe passage law of 150' (half -football field) for any motion above headway speed. At 20-24 MPH (Wake board speed) the wave is smaller and at 30 MPH very little wave even on a heavy wake specific boat because folks like us do slalom ski on these vessels as well in the 30-36 MPH speed range.

Another suggestion is to focus education efforts on teaching folks how to tow their riders in the NH safe boating course. Example would be how to retrieve their fallen riders by simply stopping the boat in the current path, sitting for a few seconds to let the turbulence pass/ settle down then circling back to the riders slowly at headway speed

Thank you for the opportunity to provide these thoughts.

All the best,

Steve & Anita Wolf

New London, NH

Members of the House Resources Committee:

My name is Mike Onesty, I am a property owner on Lake Winnepesaukee, Paugus Bay, South Down Shores. I currently own a 2018 Tige RZX3 wake surf boat (23') that I purchased new from Meredith Marina. I operate the boat out of the South Down Shores marina located in Paugus Bay. Thank you for the opportunity to share my concerns with HB 1071.

I have been boating all of my life, I have owned everything from 12' fishing boats to 27' ft boats, I am a very experienced boater. The majority of my boating now takes place on Winnepesaukee. I am greatly disappointed that a select view in the boating community is targeting and potentially discriminating against one particular type of boat and activity.

I primarily wake surf in Paugus Bay, during every outing I see all types of boats break the 150' foot rule with no consequences even when Marine Patrol is present. To claim that one type of activity is causing an issue is absurd. I have been almost swamped by larger vessels throwing much large wakes due to the speed the operator has chosen to run at. Typically larger vessels operating at slower speeds (Not in the no Wake Zones) are throwing massive wakes with no consideration to the consequences of their wake as they travel down the lake. These vessels pass much too close to smaller boats when the smaller boat is not under power. This is especially true when these operators choose to run the side of the lake past that the South Down Shores Marina is on. I would bet that the distance between the dock and the island directly across from the marina is not 300'. Which should require all boaters too slow to headway speed.

In addition, adding a new law for marine patrol to enforce is already asking too much of the NH marine patrol. As all of us boaters witness on a day of boating. There are too few marine patrol officers for the amount of boat traffic that is currently on the lake. Marine patrol does an excellent job with the resources they have.

Enforcement of the existing rule would go much farther than targeting a specific activity. Every homeowner, Marina, boat operator has the right to call Marine Patrol if they witness someone operating in an unsafe manner. I am sure that marine patrol would respond to these calls if they have the resources on the lake at the time to handle this. Education of all boaters on the existing rules/laws would be a much better use of the resources.

Thank you for your consideration. Please vote against HB 1071.

Sincerely,

Michael Onesty
Director of Operations
Hood Solutions
Cell 603-521-0251

Greetings,

I have lived my entire life in the state of NH and love access to our public waters. My family grew up wakesurfing, wakeboarding, skiing, fishing, kayaking on many of the states lakes. I now am enjoying the same with my 7 year old daughter. I fear the implementation of such a wide setback will effectively ban the sport for most of our citizens. We cannot all travel to Winnepesaukee to do this sport, we need to do it locally else it presents yet another barrier to access of the waters in public trust.

I request you oppose this bill. We already have setbacks in place to protect the environment. If we're singling out a single type of boat, why are we not looking at banning all large commercial vessels and yachts that create larger wakes?

I cannot make it to the hearing, but I invite you to call me with any questions. My number is below.

Ben McMahon
22 Cahill Lane
Nottingham, NH 03290

(603) 313-7552

I oppose this bill for many reasons. I live on Lake Winnepesaukee and own a wake boat. We are very responsible boaters and always push our big wave away from shore. What you are proposing is pooling all wake boaters into one group. Unfortunately, as in everything in life there are polite respectful boaters and then the few that ruin it for the whole. I have invested a lot of money into my boat and equipment to enjoy this sport and are very respectful of all landowners and other boaters. Our biggest challenge as wake boaters is other boats not respecting us and coming to close or cutting us off.

If this Bill is passed, when will it stop? There are cruisers on our lake that are up to 65 feet long. These boats put off a far bigger rolling wave than a wake boat could ever put off. A wake boat wave breaks and will flatten out, a cruiser wave is a rolling wave and they do not break until they hit something like shore. So, if erosion is the big concern, then all cruisers should be banned as well.

I would support a bill required all boats that are doing water sports of any kind fly some sort of large flag above their boat so other boaters know they are actively doing a sport.

I am writing to ask you to oppose HB1071, relative to Wake Surfing. I am a homeowner in Moultonboro NH. My family and friends spend the summer enjoying the lake. This enjoyment includes wake surfing as it is an activity that includes the entire family. As many will outline the issue is not with a boat type, but with a boater that is unwilling to be responsible. I am asking that monies that I pay in registration fees for three boats, in home lake front taxes, on water gas taxes, and food taxes be directed to education and enforcement of existing, often light monitored laws.

Thank you for the consideration and for the time you dedicate to the services of New Hampshire

David Tipping
Moultonborough
Bedford

Hello,

I am writing in response to bill HB 1071. I am in strong opposition, I have been coming to Lake Sunapee since I was a kid and being out on the water shaped my childhood, and were the fondest memories of my childhood. So much so, my husband and I bought a house in Sunapee 3 years ago so our children 4 and 6 could have the same experience. When we are in the house, my son specifically is always asking for screen time, and when we are at the lake he loves being outside, specifically out on the boat. He started wakeboarding last summer at 5 years old, and will tell everyone he meets how much he loves it! Boating responsibly, and following the laws are important, but please focus on this rather than pulling the sport altogether with restrictions. We lived in California before having kids, and a main reason we moved back to NH was to have a life with work life balance, raise our children with a love of the outdoors, and I feel very strongly that this bill is a threat to this. I ask you to please not support Bill HB 1071.

Thank you very much for your consideration!

Kelly Brown
Windham, NH

I write to ask you to oppose HB 1071, relative to wake surfing. My name is Michael Whitcher and we enjoy boating on Bow lake. I have lived on Bow Lake for 51 years and my family of 5 uses the lake for the for-summer enjoyment and great family time. Wake surfing is one of the things we love to do. It is a great low impact sport that all ages can do. I have owned a wake boat for 10 years and have had very few incidents where we have offended other boaters or landowners. Responsible driving is the key to everyone being able to enjoy the water. I have seen over the years all types of boats have infractions that caused issues for others. It is almost always the operator not necessarily the boat. The average day boater pulling a tube rider in endless doughnuts causes massive bidirectional waves. On any given weekend you will see just as many of these waves being created than the wake surfers. Changing rules for one type of boat will make bring confusion to the operators and the regulators. I am always educating new wake boat as to the need for us to set the bar for boating etiquette. Since the creation of NH Wake Responsibility, I have personal whiteness a very positive change in the way boat operators are behaving. Operating further out from shore, avoiding rafted boat groups, and not repeating runs have seemed to make a real-world difference. I believe the effort should be advanced in awareness of responsible boating and not by harsh restrictions.

Thank you

Michael Whitcher

I strongly opposed HB 1071, as an employee of a marina. I see the joy and excitement of families every day come through to purchase a new boat, many who have dreamed and worked for this for many many years. Our customer base is very family oriented and these are good responsible people who may need to be educated in the proper use of their boat, but willing to learn and be part of a safe boating community.

Our lakes are a shared space, extending set backs only creates restrictions to where people can't choose to boat.

Please oppose.

Darlene Traquair

February 8, 2022

To the House Resources, Recreation and Development Committee,

I am writing to you to ask you to oppose HB 1071 concerning wake surfing.

My family and I live at 349A Merrymeeting Road in New Durham and love boating on Merrymeeting Lake. My wife and I have 3 sons, 20, 17, and 10 years old - all of which have become quite accomplished wakeboarders and wakesurfers. We count the time on and behind the boat among the most cherished as they have grown up.

We have also taught several of the youth from our church how to wakesurf. There is such a sense of pride and accomplishment the first time a kid is able to "get up and ride". This is especially pronounced with children who previously didn't think of themselves as athletic. Being able to wakesurf has meant a lot to many people.

We pride ourselves in being respectful of everyone on the lake. I believe setting additional restrictions depending on activity could be quite confusing. We love NH because it is NOT like other states that impose laws on seemingly everything. Please do not restrict this activity that has created so much good for so many people.

Sincerely,

David Miller
349A Merrymeeting Rd
New Durham, NH 03855

February 7, 2022

The Honorable Andrew Renzullo, Chair
House Resources, Recreation, and Development Committee
Legislative Office Building, Room 305
Concord, NH. 03301

Re: HB 1071 – An Act relative to wake boarding

Dear Chair Renzullo and Members of the Committee:

My concern with the current proposed bill is the language “any boat underway for wake surfing”. This language singles out wake surf boat owners and holds them to a higher standard that is not being imposed on the many larger and fast-moving boats traveling in NH waters. My observation is that wake surf boats represent a very small percentage of overall boating activity and that there are many more boats speeding too close to shore (against existing rules) and generating equally large or larger wakes than the wake surf boats.

Rather than efforts to single out wake surf boats to a different standard, I wish NH would first follow through on policing or penalizing the bad actors on NH waters who pose a greater risk to the shoreline ecology, swimmers, animals and other boaters. This feels like a case of a relatively small number of bad actors whose behavior could be modified with higher fines or enforcement of existing rules. Water sports activity can and should take place in deeper water and far from shore, and those rules should apply to ALL boats and should be enforced. If the science is pointing to shoreline erosion, then the new legislation should be directed at all boats of a certain size or speed generating significant wakes, not just wake surf boats. There are many fishing boats traveling at dangerously high speeds and generating large wakes. And there are many large boats (30 foot plus) that weigh more than typical wake surf boats and generate bigger wakes in their regular cruising.

I understand and appreciate the concerns raised about the shoreline environment and safety. But I do not think the proposed bill will “move the needle” as it represents a narrow rule singling out a relatively tiny percentage of NH boaters using wake surf boats. If you are serious about the environmental and safety concerns, then NH should be seeking more resources to enforce the rules we already have and much higher fines to discourage the few bad actors from breaking those rules. Please do not punish the many responsible wake surf boaters in NH.

Respectfully,

Jeff Patterson
Moultonborough, NH
jeffpatterson.lincoln@gmail.com

HB1071

Testimony of Marie Savia

Our family has enjoyed this lake, we have watched our kids and their friends grow up participating the sport of wake surfing. This bill is essentially trying to ban wake surfing on the Lakes of New Hampshire. I live on Lake Winnepesaukee and have seen many, many families respectfully participate in this sport.

Increasing the distance from 150' for current to 250' for wake surfing is discriminatory and a deceptive attempt to prevent the enjoyment of any person(s) who wishes to participate in the sport of wake surfing. Since wake surfing speed is approximately 8-10 mph, this 250' rule pushes wake surfers closer to the areas of main traffic, thereby putting surfers in harm's way of the speedboats, giant yachts (that create waves much larger than a wake surf boat) and party barges full of drunkards that will overtake, cut in front or stay too close behind.

Furthermore, under the general rules for vessel operating on the water, to provide full visibility and control and prevent wake from being thrown....the rule states **ALL** vessels must maintain headway speed when within 150' from other vessels. Imagine this scenario. I have a 7-year-old wake surfer and I am going 8 mph 250' from shore (main traffic area). A boat approaches me from behind at full speed. To maintain the same safety, visibility and prevent wake, this would mean the approaching boat would also be required to maintain the 250'. If the intent of this bill is that **ONLY** wake surf boats have the onus of maintaining the 250' distance, the rule is biased and discriminatory and would be impossible to adhere to.

This bill increases possible risk, is biased, discriminatory and I vote NO.

To whom it may concern,

The reason I oppose HB1071 is out of a concern for safety. As a full-time resident on the lake, and a member of the community, I take full advantage of the lake throughout the warm season. I paddle board, kayak, swim, boat and indeed wakesurf. My concern for safety is that if surf boats are forced over 250' from shore, they will need to surf in the middle of the lake. On the weekends, the lake gets very crowded with boaters, many of whom are renters or inexperienced in boating. To restrict someone, to only be in the water outside the safety of the vessel in the middle of the lake on a busy day is endangering to surfers and other boaters. For safety, many people wakesurf in coves that do not have a no-wake restriction for the very reason of safety and respect.

I ask that you reject HB1071 out of concern for the safety for those who partake in the wakesurfing sport.

Thank you,
Noa Silverstein
83 Fernwood Point Road,
Sunapee, NH 03782

To Whom It May Concern,

My name is Ryan Suplee and I am a resident of Barrington, NH. **I write to ask you to oppose HB1071, relative to wakesurfing.**

I am the Digital Marketing Manager for a fly fishing company as well as the chair of Surfrider NH Chapter and I am very invested in the protection of our environmental eco systems. I've grown up competing and coaching in watersports for over 30 years and I want my family and friends to be able to continue to use the waters of NH recreationally while being good stewards on the water.

The irresponsible boaters on the water does not stem from wakesurfing, it stems from locals and out-of-staters not being educated on boater responsibility. All boaters, using any style of boat, doing any activity on the water need to be more educated. Singling out wakesurfing for regulation and restriction is unfair and is not going to solve this issue. Issuing restrictions on wakesurfing will make it impossible to enjoy the activity on smaller lakes, rivers and coves where no degradation from wakesurfing has been shown to exist. More research needs to be done around eroding shorelines before issuing any restrictions, specifically against one watersport.

Myself as part of a NH wake sport family promote "NH Wake Responsibly" with the emphasis on more education to boaters and showcasing best practices for wake sports while being good stewards on the water towards other boaters.

Please oppose and vote against bill HB1071, relative to wakesurfing and let the good efforts of education continue so that we can educate the public rather than targeting a sport that families of NH enjoy. Thank you for your time.

Best,

Ryan Suplee

February 8, 2022

NH House of Representatives
Committee on Resources, Recreation and Development
NH State House
107 North Main Street
Concord, NH 03301

Re: Requesting ITL on HB1071, relative to wake surfing

Dear Chairman Renzullo and Members of the Committee,

Please vote ITL on HB1071. It makes no sense to single out one type of boat and activity in ways that could ultimately ban it from many NH lakes. What about large boats that are always heavy and routinely create large waves from the second they leave the dock? What about boats towing multi-person tubes that present safety hazards when used irresponsibly? Please keep boating rules consistent for all boaters, support current and ongoing education efforts which are widespread in NH, and don't scapegoat one type of boat. The trajectory of wake surfing is a slow, straight, predictable line. This is safer and less impactful than many other types of boating. A study provided to the Legislative wake boat commission in 2019 confirmed a recommendation of a 200 foot setback, NOT the drastic restrictions urged by supporters of the current HB1071.

Wake surfing is truly a family sport. It's also a watersport that people can do as they age. It would be a shame to take that away from people who are no longer physically able to do other activities. I grew up doing watersports, and as a "seasoned adult," this is about the only one I can still do. Please don't pass a law that takes this activity away from the "*no longer young.*"

We raised our children on Northwood Lake and now that they are teens, wake surfing is consistently the one activity that brings us all together. Quality of life for families is a key reason many people choose to live in New Hampshire. Please support this family pastime.

Thank you for your consideration.

Sincerely,

Shannon Reid
Epsom, NH

From: Cindy Herweck <cindyherweck@gmail.com>
Sent: Saturday, February 5, 2022 10:29 AM
To: HouseResourcesRecreationandDevelopment@leg.state.nh.us
Subject: Fwd: HB229

Dear Honorable Members of the House Resources, Recreation & Development Committee:

I write to ask you to oppose to HB 1071 relative to wake surfing. I oppose HB 1071 and singling out certain boats and water sports for restrictions.

I am a retired resident of New Hampshire and have lived and played in our beautiful state since the early 1960's. Our family are proud supporters of The Trust For Public Land with specific emphasis on our lakes region of New Hampshire as well as The Ausbon Sargent Land Preservation Trust. Additionally, our family created and operates The 520 Charitable Foundation here in our state.

Our first visits and vacation home in the lakes region as children were on Squam Lake. After a few decades there, we moved to Meredith where we own a second home on Lake Winnepesaukee.

Being a boat owner has given us the ability to share so much time on the water from rides on a beautiful afternoon, the amazing experience of teaching our children and grandchildren to ski and surf, watching their faces light up with that feeling of accomplishment, and preparing and educating them for operating a boat on their own - irreplaceable family memories. Now, in my 60s, I'm able to still enjoy time on the water and that feeling of accomplishment with the low impact sport of surfing, and hopes of this continuing for many healthy years to come. We have taken great pride in teaching our children (and now grandchildren) the rules of the lake. Parts of our lake are busy over the course of the summer and knowledge of the water, set backs, right of ways, and respect for boating have been part of their education. Knowledge and use of those rules works well for our lake community. Increasing rules adds to more confusion with boating. We have fair boating rules in place currently in New Hampshire. Our State has done a good job of balancing fair safe boating needs and keeping our lakes safe. Education of the currently implemented laws is the correct and proper path.

Your energy, efforts, & dedication to our beautiful lakes of New Hampshire is greatly appreciated. Please oppose House Bill 1071.

Regards,
Cynthia Herweck
Nashua, NH



February 7, 22

New Hampshire House of Representatives
Committee on Resources, Recreation and Development
Legislative Office Building Room 305
Concord, New Hampshire 03301
Attn: Chairman Andrew Renzullo

RE: HB 1071
Relative to Wake Surfing

Dear Chairman Renzullo and Members of the Committee:

The Winnisquam Watershed Network Board of Directors supports the passage of House Bill 1071, relative to wake surfing, but recommends that the proposed shoreline setback for wakesurfing be increased from 250' to 500'.

The University of Minnesota conducted a peer-reviewed study of the environmental impacts of wake surfing which was released last week. The study **confirms that waves produced during the activity of wake surfing are measurably larger and more powerful** than waves created by non-wake surf boats in terms of maximum wave height, total wave energy, and maximum power. It also recommends that wake surfing be limited to areas more than 500' away from any shoreline. Enhanced wakes can erode shorelines and disturb lake bottom sediments—these actions can release nutrients into the water and cause toxic cyanobacteria blooms that are harmful to wildlife, swimmers, and pets. These enhanced wakes can also disturb critical fish and bird nesting habitats, damage shoreline property, and make recreating unsafe for others.

Please review these issues carefully and amend HB 1071 to ensure protection of New Hampshire lakes, some of the state's most valuable natural resources.

Thank you for your consideration.

Sincerely,

Lisa D. Eggleston, President
Winnisquam Watershed Network
info@winnisquamwatershed.org
www.winnisquamwatershed.org

February 7, 2022

Dear Members of the Resources, Recreation and Development Committee:

I have resided full-time on Spofford Lake in Chesterfield since 2010, and, before that, spent many days each summer at my in-laws' lakeside cottage beginning in the early 1970s. During that time I have observed shoreline erosion due at least in part to the wave action of ski boats, jet skis, and other such-powered watercraft. This erosion has led to substantial silting of the lake bottom which in turn has led to a significant increase in the introduction and/or growth of new and previously existing aquatic plants. I believe the silt buildup has also been detrimental to the lake's fish populations that require or prefer a sandy lake bottom to spawn.

In the past few years this erosion has been exacerbated by the arrival of wake-surfing boats which generate much larger and more powerful waves than those formed by non-wake surfing watercraft. In addition, these waves potentially pose a risk to the shoreline nesting habitats of the loon pair that only recently have begun to rear their young here at Spofford. **I accordingly support House Bill 1071 which, if enacted, will require a 250' setback for wakesurfing on New Hampshire lakes.**

I am also aware of a wave-action study just released by the University of Minnesota that has confirmed that waves generated by wake surfing are higher and more energetic and powerful than those generated by other powered watercraft. The study found that distances of at least 500' are necessary for these wake-surfing waves to diminish to a size and intensity of waves generated by other, more "normal" powered watercraft. **I accordingly support amending House Bill 1071 to replace the 250' setback set forth therein with a setback of at least 500'.**

Thank you for your attention to my remarks.

Sincerely yours,

/Kenneth Walton/

Kenneth Walton
P. O. Box 33
919C Route 63
Spofford, NH 03462-0033

Heather Goley

From: Joanne Criscione <joanne@joannec.com>
Sent: Tuesday, February 8, 2022 5:46 PM
To: ~House Resources Recreation and Development
Subject: Amend HB1071
Attachments: AMC Wave Wake Study_HB4099 Motorboat Working Group REPORT 28Aug2018.pdf

Greetings Representatives,

I am writing to urge you to support an amendment to HB1071, extending the 250' setback for wake sports to 500'.

Oregon has been working on the issue of large wakes since 2005. A ban on wake enhancing devices in 2009 was ineffective largely due to noncompliance. Legislation was introduced in the Oregon short session in 2018, ultimately leading to the formation of a 2018 legislative work group.

The legislative work group reached out to Dr. Gregor MacFarlane, the most highly regarded internationally in the field in wake science from Australia's Maritime College.

In 2019, Dr. MacFarlane traveled to Oregon to conduct a study on wave energy for the legislative work group, which was funded by his university in support of his research. I have attached a copy of that study.

The results of Dr. MacFarlane's study concluded the following:

At 100 feet, ballasted A wake boat operating at **surfing speeds** contained ~430 lb.ft/ft (Wave Energy), whereas a typical flat hull recreational boat/ski boat contained less than 20 lb.ft./ft (Wave Energy). **(20 times the wave energy)**

At 400 feet, the wake boat at surfing speeds contained over 100 lb.ft/ft compared to the ski boat at ~25 lb.ft/ft. **(4 times the wave energy)**

At 100 feet, a wake boat operating at **wake boarding speeds** (and typically tubing speed) contained ~180 lb.ft/ft (Wave Energy), whereas a typical ski /pleasure boat contained ~40 lb. ft/ft.

At 400 feet, a wake boat operating at wake boarding speeds contains ~ 60 lb.ft/ft (Wave Energy), compared to under ~15 lb.ft/ft from a typical pleasure/ski boat. **(3 to 4 times the energy)**

The results of the Oregon study align with the recently released University of Minnesota, study showing a distance from the shoreline of 500 feet is necessary for large wakes to attenuate and a very reasonable and fair regulation when considering the science released on wave energy.

It should be noted other scientific studies have determined wake boats should operate nearly 1000 feet from the shoreline. These two most recent studies, along with the recent

thesis done by Alex Rey on recreational boating, recommending 500 feet from the shoreline, are the most conservative distance regulations in the studies we have reviewed. The exception would be the study commissioned by the boating industry and conducted by an engineer rather than PhD scientists who specialize in the studies of wave science.

In 2019, further legislation was passed to protect the Willamette River Greenway and create a towed watersports education program. While many comply with the regulations, many do not. Unless the distance is allowed for wakes to dissipate, education is irrelevant.

I am happy to answer any questions about policies which have been implemented in Oregon.

Joanne Criscione

Oregon River Safety and Preservation Alliance

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Australian Maritime College

Wave Wake Study:
HB4099 Motorboat Working Group

28 August 2018

Report 18WW01

Technical Report

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Project Manager:	Associate Professor Gregor Macfarlane
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Wave Wake Study – HB4099 Motorboat Working Group

CONTENTS

1.0	Introduction	4
2.0	Background to Vessel Wave Wake	4
3.0	Full Scale Trials, Test Site and Instrumentation	7
4.0	Test Program and Procedure	8
5.0	Results	8
6.0	References	9

Wave Wake Study – HB4099 Motorboat Working Group

1.0 INTRODUCTION

In collaboration with the Oregon River Safety and Preservation Alliance (ORSPA), the Australian Maritime College (AMC) performed a series of full scale experiments on the Willamette River in which the wave wake from a range of different craft has been measured and analysed. The primary aim of the study was to acquire reliable wave wake data for typical speeds associated with wakesurfing, wakeboarding and water skiing activities in a scientific manner such that it can aid decision making processes.

2.0 BACKGROUND TO VESSEL WAVE WAKE

The waves generated by boats and ships (often referred to as wave wake, wake wash or simply wash) that operate within sheltered waterways or close to any shore have received considerable attention over the past few decades. Researchers at the Australian Maritime College (AMC) were among the first to become involved in the field, with the assessment and monitoring of tourist vessels on the World Heritage listed Gordon River in remote south-west Tasmania – a project that continues to this day. The AMC’s expertise expanded into the operation of high-speed commuter ferries, of which Australia was an early pioneer, plus various other commercial vessels and eventually to recreational craft.

The AMC team have had the benefit of ready access to a purpose-built hydrodynamic test basin for performing scale model wave wake experiments in a controlled environment, complemented by direct involvement in full scale wave wake trials on more than 60 different marine craft in a variety of different sites across Australia and the world. This has led to the acquisition of over ten thousand individual tests at model and full scale which has been used to create and validate a powerful wave wake predictor – a scalable, empirical predictor of wave wake properties based on vessel parameters, speed and water depth.

AMC researchers have published more than 30 peer-reviewed scientific articles and 50 technical reports on wave wake related topics and studies. A list of the published articles is available from AMC (2018).

The following background information has been provided to give readers who are new to the topic a basic understanding of some aspects that are important when attempting to assess the waves generated by many types of marine vessels, particularly those that operate in sheltered and confined waterways such as is found in the Willamette River’s Newberg Pool, where the naturally occurring wind wave climate is low due to significantly reduced fetch:

- Naval architects and maritime engineers traditionally non-dimensionalise vessel speed using the length Froude number, Fr_L (Equation 1). Because water depth plays such a crucial role in the characteristics of the wave wake generated, it is also very important to consider the non-dimensional relationship between vessel speed and water depth, the depth Froude number, Fr_h (Equation 2).

Length Froude number

$$Fr_L = \frac{u}{\sqrt{gL}} \quad (1)$$

Depth Froude number

$$Fr_h = \frac{u}{\sqrt{gh}} \quad (2)$$

Where: u = vessel speed (m/s)
 g = acceleration due to gravity (taken as 9.81 m/s)
 L = waterline length of vessel (m)
 h = water depth (m)

- For vessel wave wake studies, depth of water refers to that beneath the vessel's sailing line.
- In deep water, all vessels typically generate the largest waves when they travel at or around their displacement hull speed, which equates to length Froude numbers of $0.4 \leq Fr_L \leq 0.5$.
- The pattern of waves generated will change significantly depending on the water depth that the vessel is operating. The different wave patterns/zones are summarised in Figure 1 and briefly discussed below:
 - The well-known Kelvin wave pattern, consisting of both divergent and transverse waves, is generated at sub-critical speeds (Fr_h is less than approximately 0.75), where the water depth is considered to be 'deep'.
 - A depth Froude number of 1.0 is termed the critical speed and speeds leading up to this point are referred to as trans-critical speeds (approximately $0.75 \leq Fr_h \leq 1.0$). In this region, both the period and propagation angle of the leading divergent waves rapidly increase, as does the wave height.
 - Speeds in excess of depth Froude number of 1.0 are termed super-critical speeds, where a vessel's wave pattern changes again. These divergent waves will have relatively long periods, compared to the sub-critical wave pattern.
- It is well known and understood that at intermediate sub-critical depth Froude numbers the dominant waves of the Kelvin wave pattern will consist of a series of diverging waves along the cusp-locus line (which are dispersive in nature). This series of waves will start with a wave at the bow of the vessel followed by other waves arranged in such a way that each wave is stepped back behind the one in front in echelon and is of quite short length along its crest line. Thus, as the lateral distance from the vessel's sailing line increases it is likely that different waves will be measured. This is clearly the case in the example provided by the aerial photograph in Figure 2 where each of the white lines, representing longitudinal cuts of the wave pattern, cuts a different divergent wave (note that there are many more divergent waves than vertical lines displayed). These characteristics of sub-critical waves can result in notable scatter in measured wave heights in the field.
- In contrast, it can be much easier to identify the leading wave for super-critical vessel speeds (and high trans-critical speeds) as these waves have significantly longer crest lengths, making it a simpler task to track the same wave as it propagates away from the vessel's sailing line.
- Wave height can be significantly affected by hull design, but wave period is mostly unaffected. For example, two vessels of same length but significantly different displacement will generate waves of similar period, but the height of the heavier vessel's waves will very likely be greater, and hence be considerably more energetic.
- A vessel's slenderness ratio (waterline length divided by the inverse cube of its displaced volume) is an excellent indicator of the waves generated by surface vessels. It is defined by Equation 3:

$$\text{Slenderness Ratio} = L / \nabla^{1/3} \quad (3)$$

where L is the waterline length and ∇ is the displaced volume (in m^3), usually for design (full) load condition.

- When aiming to minimise vessel wave wake it is accepted practice to maximise the slenderness ratio - that is, make the vessel as long and light as practical. Minimising slenderness ratio is one way to increase wave height and energy.
- Wave height will decay with increasing lateral distance from the sailing line of the vessel. Wave period remains approximately constant over lateral distance (this does not necessarily apply close to the vessel, say within one-half boat-length, as the waves have generally not dispersed sufficiently).
- Wave period, although largely unaffected by changes to hull form, is dependent upon vessel length, vessel speed and water depth.

- The pattern (or train) of waves generated by marine vessels is very complex, consisting of many waves of varying height and period. These waves disperse as they propagate away from the sailing line of the vessel, as can be seen in Figure 3. Close to a vessel (say half a boat length), the wave pattern will appear to consist of only a few waves. It takes approximately one to two boat lengths for waves to disperse sufficiently such that the period of individual waves can be measured with certainty.
- Until relatively recently, it was common to assess vessel wave wake by quantifying the height and period of a *single* wave in the complex wave train, usually the highest. However, this has been proven to be inadequate, particularly when the vessel is operating in shallow water depths (trans-critical speeds and above). Given the complexity and dynamic nature of the complete wave train, it is considered impractical to attempt to assess each and every wave. The assessment methodology recommended by AMC is to identify and quantify up to three specifically defined waves in a wave train. This ensures that the waves possessing the greatest height, longest period and highest energy are always identified and assessed. The complex nature and large number of variables that influence vessel wave patterns means that there are occasions when all three (greatest height, period and energy) are represented by one, two or three individual waves. The three key waves are defined as follows:
 - Wave A – the leading diverging wave, which by definition, is the wave that will possess the longest period.
 - Wave B – the most significant (highest) wave following the leading wave (Wave A). The period will be shorter than the leading wave, but often not by a large margin, whereas the height is very often notably greater than the leading wave.
 - Wave C – it is common for a group of short period divergent waves to be generated and Wave C is defined as being the highest wave within this group. This wave always follows Waves A and B, hence will possess the shortest wave period of these three key waves.
- Note that the definitions of Waves A, B and C do not imply that only one wave of similar characteristics to each will be generated. Several waves of similar height and period to each representative wave may be present within each wave train. This is particularly the case with Waves B and C where multiple waves of similar period often occur as groups of 2 to 5 waves.
- Also of interest to most wave wake studies is the resultant wave energy (per unit crest width), which is proportional to both the square of wave height and wave period, so any change in either height or period will result in a significant change in wave energy.
- In recent years, when assessing vessel wave wake for comparative purposes, it has become common to calculate the energy in each key wave using Equation 4 (for each wavelength, per unit width of wave crest).

$$E = \frac{\rho g^2 H^2 T^2}{16\pi} \quad (4)$$

Where: E = wave energy (J/m)
 ρ = density of water (kg/m³)
 g = acceleration due to gravity (taken as 9.81 m/s)
 H = wave height (m)
 T = wave period (s)

A simplified version of this formula, for imperial units, is provided in Equation 5.

$$E = 40.97H^2T^2 \quad (5)$$

Where: E = wave energy (lb.ft/ft)
 H = wave height (ft)
 T = wave period (s)

- The effect of slenderness ratio on the height of the maximum (highest) wave generated by a vessel is highlighted in Figure 4 where the wave height constant (vertical, y-axis) is plotted as a function of slenderness ratio (horizontal, x-axis). In this figure, it is clear that hull form has a significant influence on the height of the waves generated, with the wave height constant for all three key waves generally decreasing with an increase in slenderness ratio.

Further information and discussion on the topic of vessel generated waves can be found in Macfarlane (2012).

To perform a rational assessment, especially when comparing the performance of differing craft and water sport activities, it is recommended that:

- (1) a suitable benchmark be set. For the present study, it is suggested that this could be based on the characteristics of the waves generated by typical water ski boats and runabouts operating at speeds that are commonly used for water skiing and tubing activities;
- (2) the investigation is limited to a select number of relevant variables that are representative of the intended vessel operations; and,
- (3) the study considers all key waves in the generated wave profiles, but the direct comparison between differing craft focusses primarily on just the height and energy from the *maximum* wave.

3.0 FULL SCALE TRIALS, TEST SITE AND INSTRUMENTATION

The success of field trials is highly dependent on having rigorous and time-proven testing methodology, instrumentation and analysis procedures. Vessel wave wake is not a steady-state phenomenon (from a fixed reference frame) and its assessment is reliant on consistency.

There does exist small craft wave wake trials data available in the professional literature, but almost all of it has little or no use in a detailed investigation. The lack of testing consistency, use of non-standard methodology, poor recording or over-simplification of results are common traits to be found. The testing methodology adopted for this study ensures that the results will not be site-specific and can be transposed with other results from other sites.

The full scale trials for the present study were conducted between 7th and 10th August 2018 on a selected section of the Willamette River near Coalca Landing, Oregon City, Oregon, USA, as indicated in Figure 5. The site provided a relatively straight reach with a roughly constant water depth beneath the test vessel in the region of 40 feet. The water depth at the probe was confirmed as 15 feet. A cross-section of the river bathymetry at the measurement point is provided in Figure 6. The red circles on the water surface indicate the four lateral distances of 100, 200, 300 and 400 feet from the wave probe to the nominal track path of the test vessels. Buoys were deployed at appropriate locations to guide the boat operator to maintain a consistent distance/track path.

It is important to select a test site where the wave probe will not be subjected to boat-generated waves that reflect off the surrounding shore or any bluff structure as these reflected waves may contaminate the traces and lead to misleading results. For example, gently sloping beach-type banks are less reflective than levee-type banks. The site selected had a sufficiently non-reflective shore line, including considerable vegetation, resulting in minimal reflection.

Water surface elevation was measured using a single MK-VI salt/fresh water capacitance wave probe manufactured by Manly Hydraulics Laboratory. The signal from the wave probe was digitised and radio telemetered to a custom data acquisition unit which was located approximately 50 to 75 feet distant (set up on a stationary support vessel). Each run was recorded using a Dell laptop computer that was accessed by Labview acquisition software. The wave probe was calibrated both within the AMC laboratory and checked in situ. The calibration factors compare well against those obtained within laboratory conditions prior to departing and upon return to AMC.

At the commencement of each test session the wave probe and data acquisition equipment was set up on the test site. The wave probe was fixed to a vertical post that was driven into the river bed and supported by three equispaced ropes that were anchored to the river bed to minimise any lateral movement of the wave probe. If a wave probe is

capable of moving laterally during field experiments, the resulting wave periods will be contaminated. Similarly, any vertical movement will result in variations in wave height. A photograph of the wave probe set-up is shown in Figure 7 (the umbrella was deployed to minimise direct sunlight on the yellow case that contains the wave probe power supply/signal transmitter).

4.0 TEST PROGRAM AND PROCEDURE

A systematic approach is highly recommended for any experimental campaign involving several variables. The test program undertaken involved various different craft, load conditions (including ballast options and number of passengers), lateral distance and boat speed. The marine craft used in this study and their respective load conditions are summarised in Table 1. The first eight cases listed in this table form the primary part of the planned test program. Case 9, the Centurion Ri217, was an incidental craft that provided two unscheduled wakesurfing runs past our wave probe at an estimated lateral distance of 350 feet. The actual ballast, passenger loading and speed are unknown. Case 10 refers to experimental data from a study performed in 2015, released by the Water Sports Industry Association (WSIA, 2018).

At the commencement of each run, the test vessel was accelerated to a nominal speed, achieved some distance prior to being perpendicular to the wave probes (typically 200 to 500 feet). Recording of the water surface elevation signal from the wave probe was triggered manually, dependent upon the lateral distance between the sailing line of the boat and the wave probe (nominal distances were 100, 200, 300 and 400 feet). This provided a baseline measurement of the ambient conditions prior to the arrival of the wake waves at the wave probe. The water surface elevation continued to be recorded until all significant waves generated by the passing boat had passed the wave probe (this generally lasted for approximately 60 to 120 seconds). The sample rate was set at 200 samples per second (200 Hz), which is more than adequate to clearly define each wave. Figure 8 shows a photograph taken during a typical run (R70) involving the 2015 Ski Nautique 200 at a speed of 12 mph and lateral distance of 100 feet. Yellow marker buoys used to guide the boat skipper to the desired lateral distance can be seen (these buoys were located using a hand-held GPS).

At the end of each run the test vessel paused until the waves generated had dissipated and conditions were considered calm enough for the next test run. The vessel then sailed past the wave probe in the opposite direction. Approximately 220 individual runs were performed.

Each test run has been individually analysed within an Excel macro worksheet, which imports the data file created during each test run and, from the discrete samples collected, plots a wave elevation time history. The macro then determines the characteristics of height and period of the maximum wave (and any other selected waves). Other quantities, such as wavelength, celerity, energy and power for the maximum wave can then be readily computed.

5.0 RESULTS

As previously noted, the large number of variables involved can lead to a huge amount of data to process, so a logical and considered approach is often necessary to achieve meaningful outcomes when comparing and presenting the wave wake performance of multiple vessels. This is the primary reason why it is recommended that the present study focusses on the *maximum* height and energy from each wave trace/run.

A typical wave elevation time series from one run is plotted in Figure 9. The Excel macro used to analyse each run determines the start of each successive wave by the change in wave elevation above the still water level from positive to negative (or vice versa) – this is the definition of a zero-crossing point. The maximum wave height is defined as being the single greatest distance from a trough to a successive crest (or crest to trough) recorded anywhere within the sample. The period of the maximum wave is obtained from the time between consecutive zero up-crossings (or down-crossings).

For this initial report, the analysed results are simply presented in the following sub-sections, with little or no discussion on the implications of the data.

Results for Wakesurfing Speeds: 10 to 12 mph

In Figure 10, maximum wave height is plotted as a function of lateral distance for several different cases at speeds of 10 to 12 mph, including all ballasted and unballasted wakesurfing craft and a fishing boat. Also included in this graph are two potential benchmark cases: a typical runabout operating at 22-24 mph and a ski boat operating at speeds around 30 to 32 mph.

Results extracted from publicly available data from the WSIA 2015 wake energy study have also been included in Figure 10. It is believed that five wave probes were deployed in this study, the first at a lateral distance from the test boat of 10 feet (where the maximum wave height was stated as being 27.8", beyond the limits of Figure 10), and the last probe a distance of 275 feet from the first (maximum wave height of 7.5"). Estimated maximum wave heights at the three intermediate probes are shown at lateral distances which assume the probes are equispaced.

Similarly, the energy of the maximum wave (for each wavelength, per unit width of wave crest) is plotted as a function of lateral distance for the same cases and speeds of 10 to 12 mph in Figure 11.

It was observed that the fishing boat (2004 Thunder Jet Alexis) generated notably higher waves at 10 mph than 12 mph, which is reflected in the results presented.

Results for Wakeboarding Speeds: 22 to 24 mph

The maximum wave height is plotted as a function of lateral distance for the wakesurfing craft and fishing boat at speeds of 22 to 24 mph in Figure 12. The same two potential benchmark cases have again been included. The energy of the maximum wave is plotted as a function of lateral distance for the same cases and speeds of 22 to 24 mph in Figure 13. Both ballasted and unballasted wakesurfing craft are presented as a single series as there was only a limited quantity of unballasted cases available at these speeds.

6.0 REFERENCES

AMC, List of wave wake related publications by AMC personnel, <https://amcstaff.utas.edu.au/maritime-engineering/wave-wake-predictor> [accessed 26th August 2018]

Macfarlane, G.J., Marine vessel wave wake: focus on vessel operations within sheltered waterways, Doctor of Philosophy Thesis, Australian Maritime College, University of Tasmania, June 2012.

WSIA, Wave energy - leveraging data to fuel the stoke, <https://www.wakeresponsibly.com/waveenergy.html> [accessed 26th August 2018]

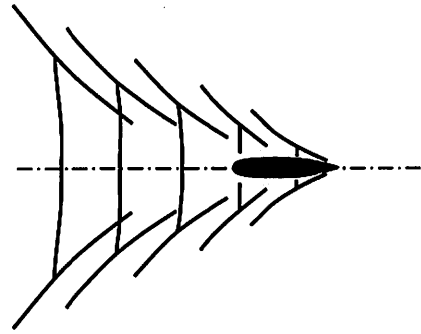
Table 1: Summary of test vessels and details

Case Number	Boat Description	Length LOA (feet)	Displacement					Comments	
			Dry (lbs)	Ballast Condition	Ballast (lbs)	No. PAX	PAX / Misc (lbs)		TOTAL (lbs)
1	2006 Malibu V-Ride	21'	3000	Ballasted	900	9	1620	5520	Systematic tests
2	2017 Nautique G21	21'6"	5500	Ballasted	2850	9	1620	9970	Systematic tests
3	2017 Nautique G21	21'6"	5500	No ballast	0	9	1620	7120	Systematic tests
4	2018 Axis T23	23'6"	4500	Ballasted	900	9	1620	7020	Systematic tests
5	2019 Axis T23	23'6"	4500	No ballast	0	9	1620	6120	Systematic tests
6	2004 Thunder Jet Alexis	21'	4100	N/A	0	6	1080	5180	Systematic tests
7	2015 Ski Nautique 200	20'	2850	N/A	0	6	1080	3930	Systematic tests
8	2008 Reinell Ski Boat	20'	2900	N/A	0	6	1080	3980	Systematic tests
9	2017 Centurion Ri217	21'7"	5350	Ballasted	4950	3	540	10840	Incidental craft
10	2015 Nautique G23	23'	5540	Ballasted	4250	2	360	10150	WSIA study

Sub-Critical (Kelvin waves)

$$Fr_h < 0.75$$

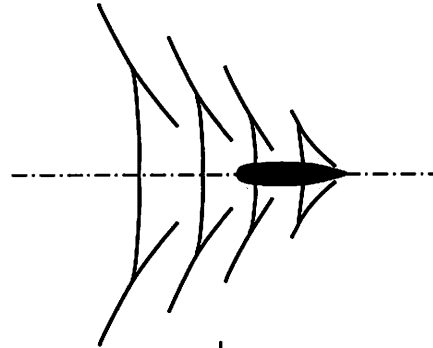
- Short-crested divergent waves
- Transverse waves present
- The well-known Kelvin deep water wave pattern



Trans-Critical

$$0.75 < Fr_h < 1.0$$

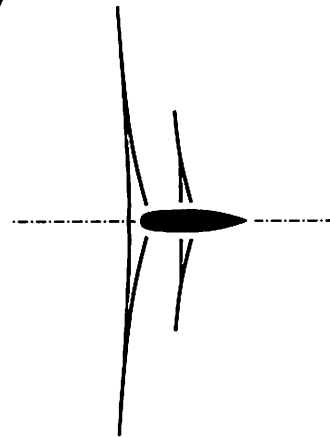
- Divergent wave angle increases
- Period of leading waves increases



Critical

$$Fr_h = 1.0$$

- One or more waves perpendicular to the sailing line
- Crest length grows (laterally) at a rate equal to the vessel speed



Super-Critical

$$Fr_h > 1.0$$

- No transverse waves
- Long-crested divergent waves
- Long-period leading waves

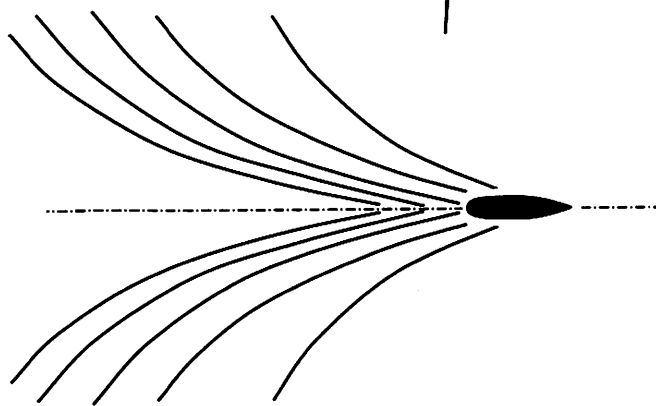


Figure 1 Vessel wave wake patterns

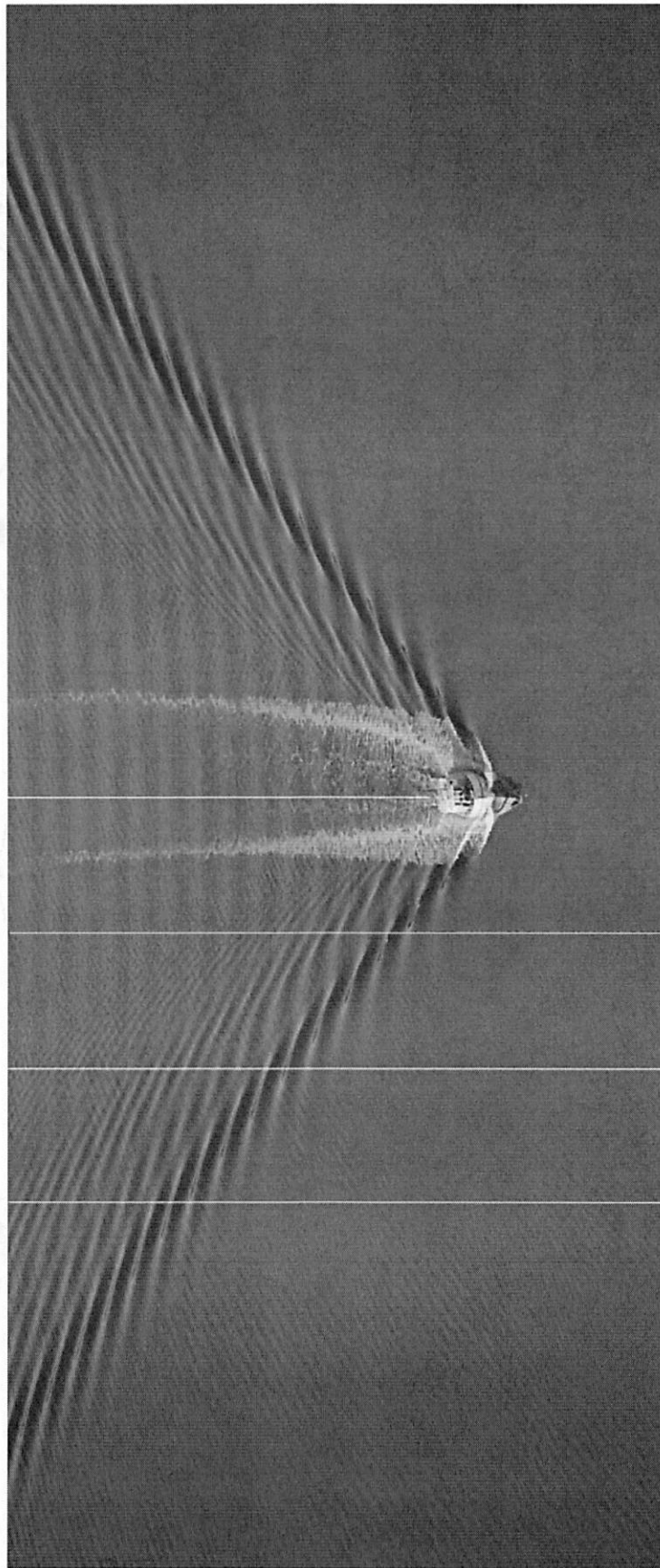


Figure 2 Aerial photograph of Kelvin wave pattern (Airview Aerial Photography)

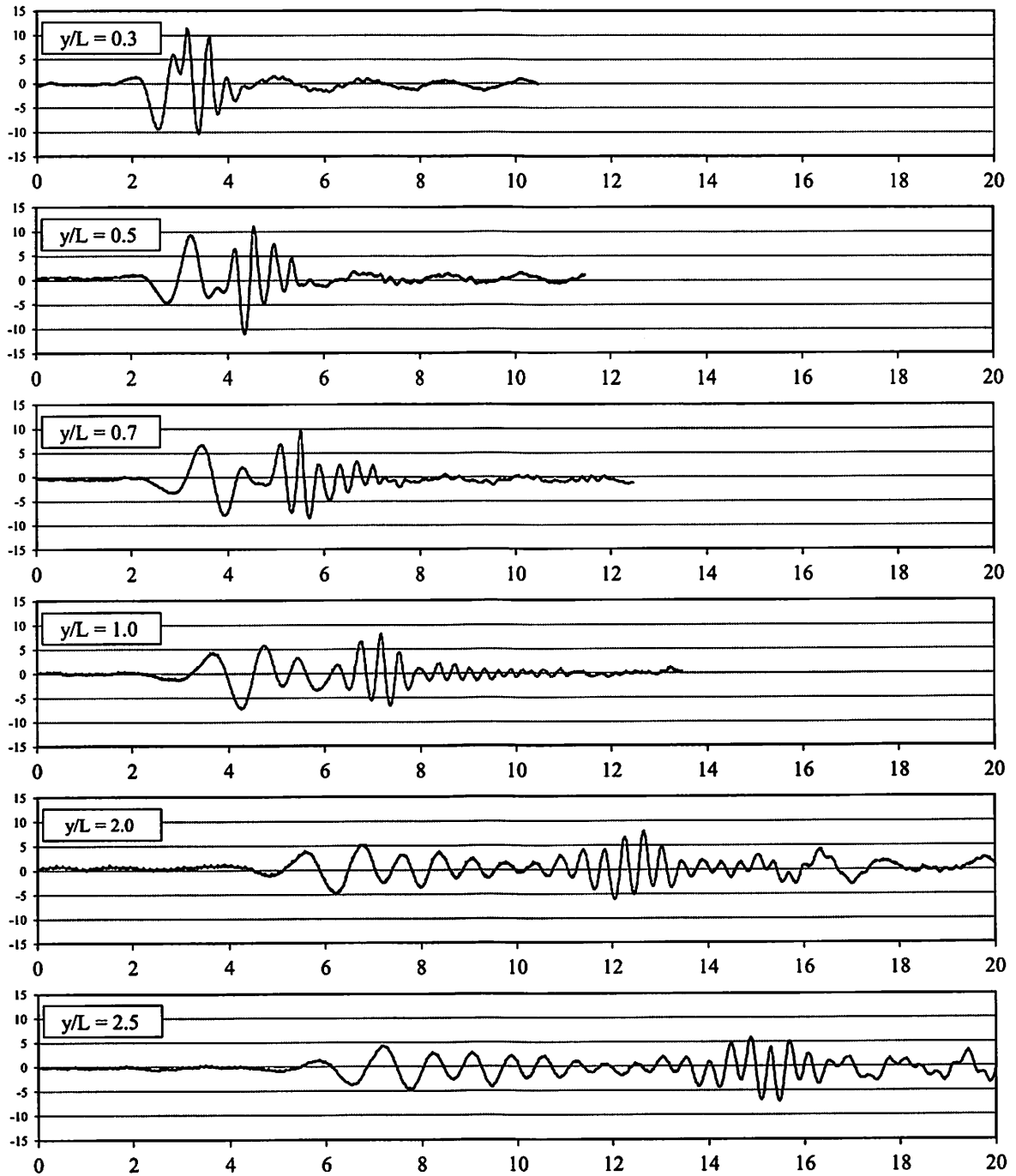


Figure 3 Deep water wave dispersion (various lateral wave probe positions)

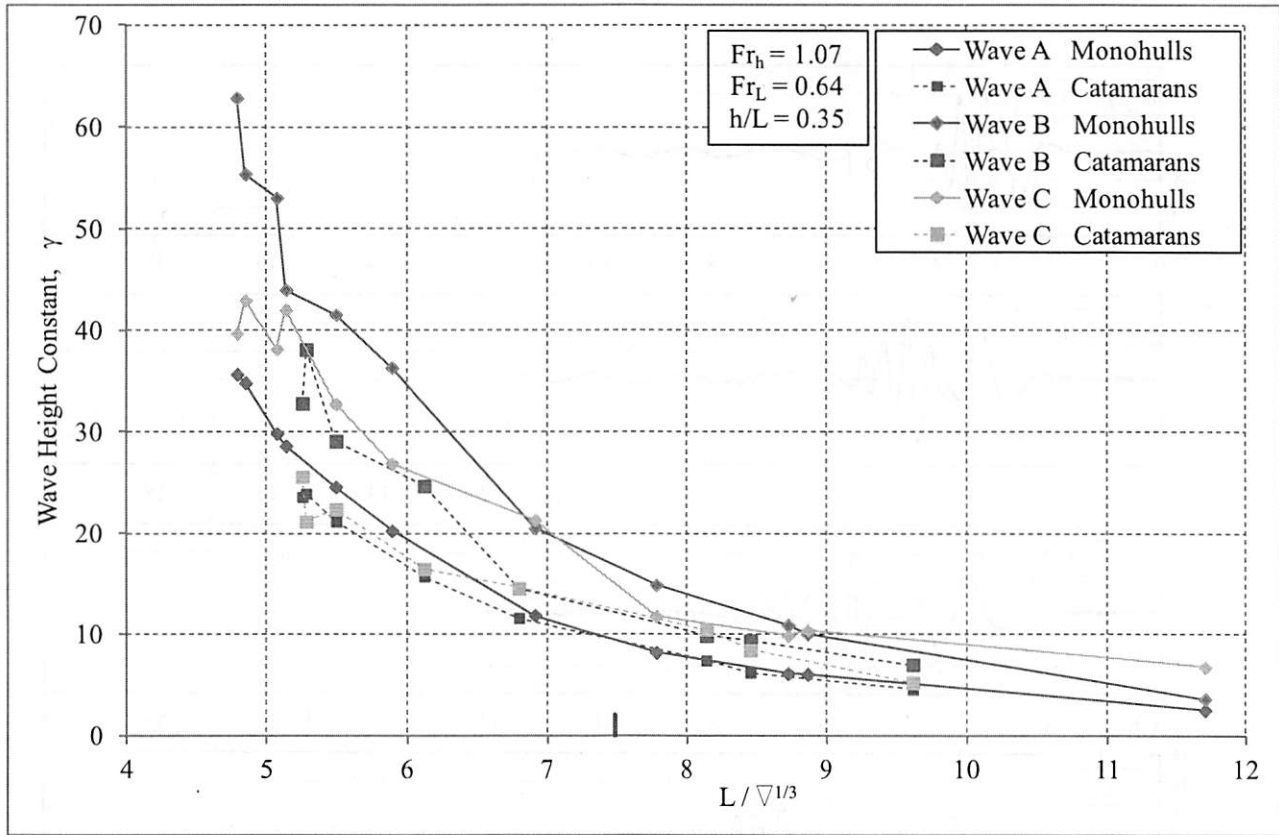


Figure 4 Example of the influence that slenderness ratio ($L/\nabla^{1/3}$) has on the maximum wave height constant



Figure 5 Location of the test site (from Google maps)

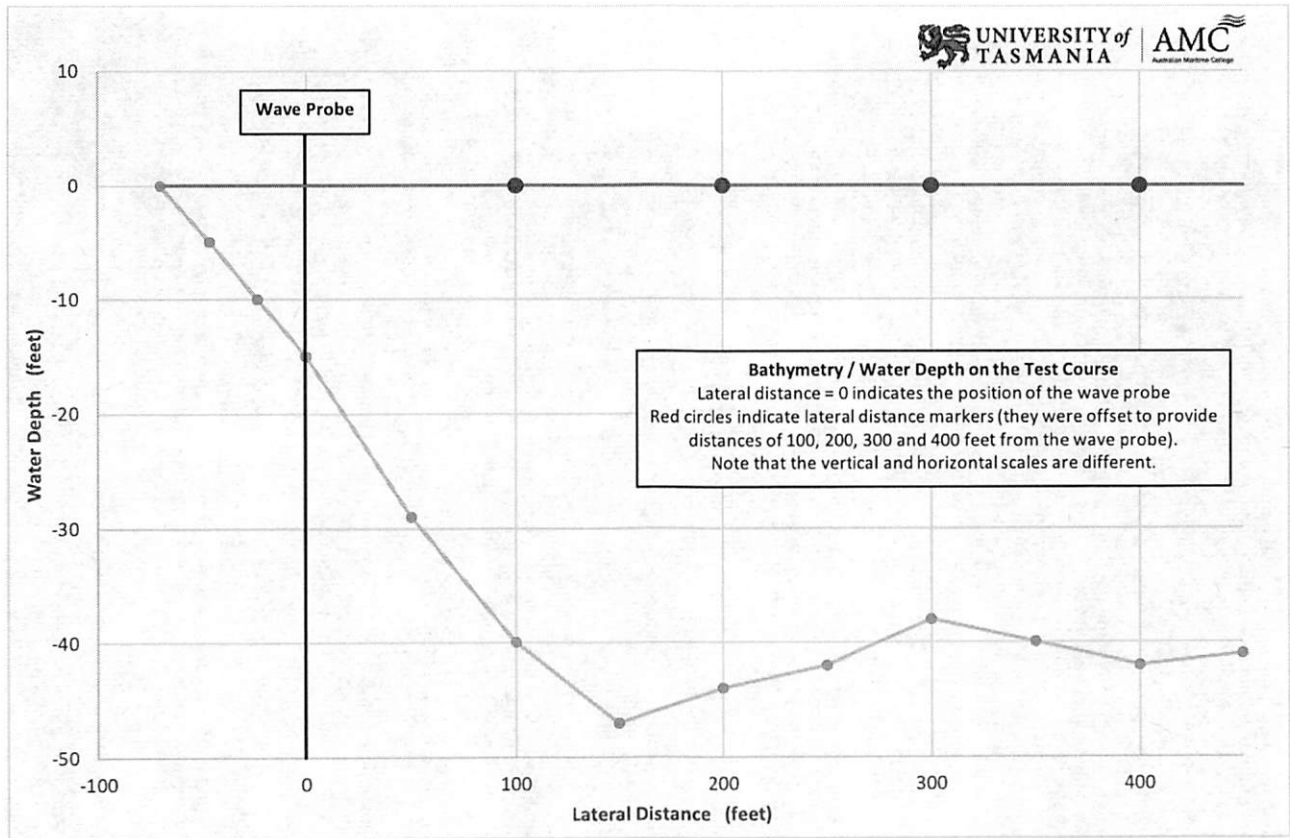


Figure 6 Cross-section of the test course showing water depth and lateral distances



Figure 7 Photograph of the wave probe set-up



Figure 8 Photograph of 2015 Ski Nautique 200 at a speed of 12 mph and lateral distance of 100 feet (Run R70)

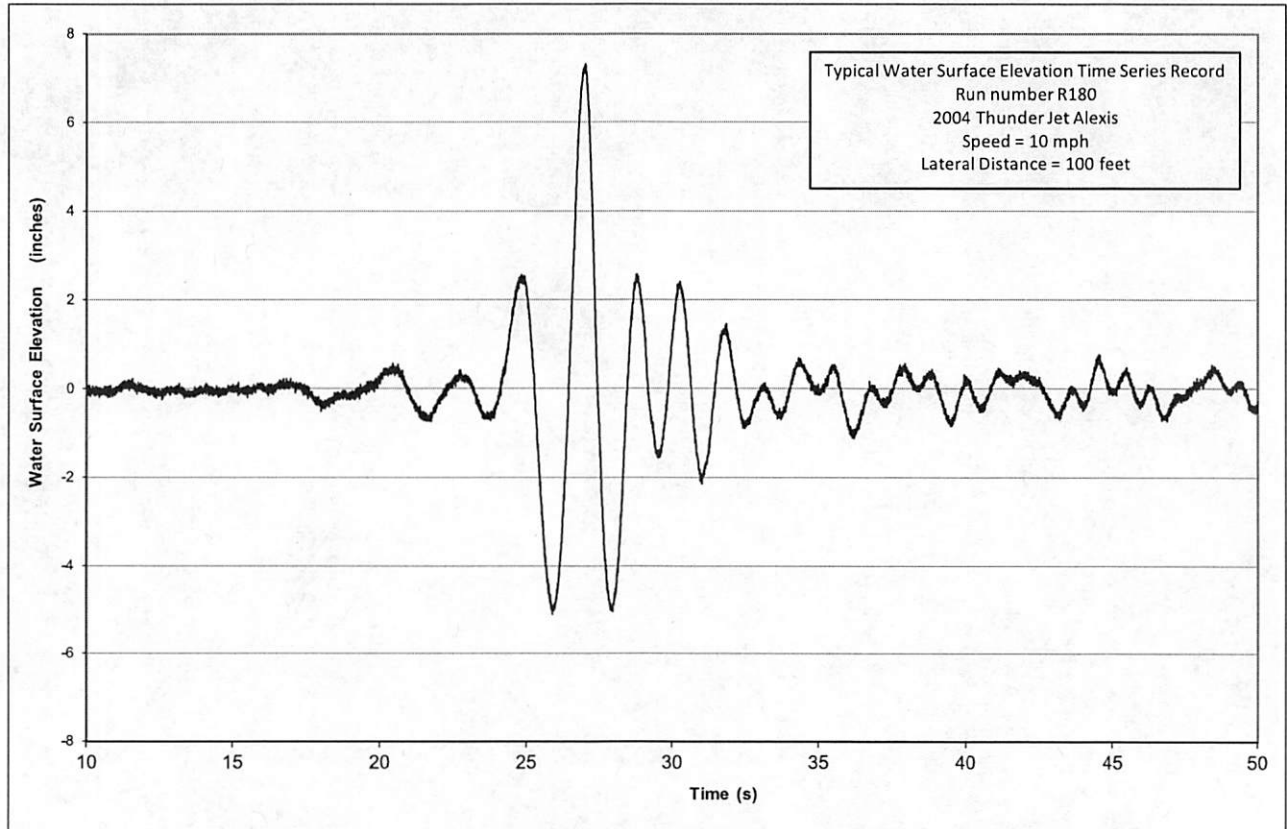


Figure 9 Example of a typical wave surface elevation time series: 2004 Thunder Jet Alexis at 10 mph (Run R180)

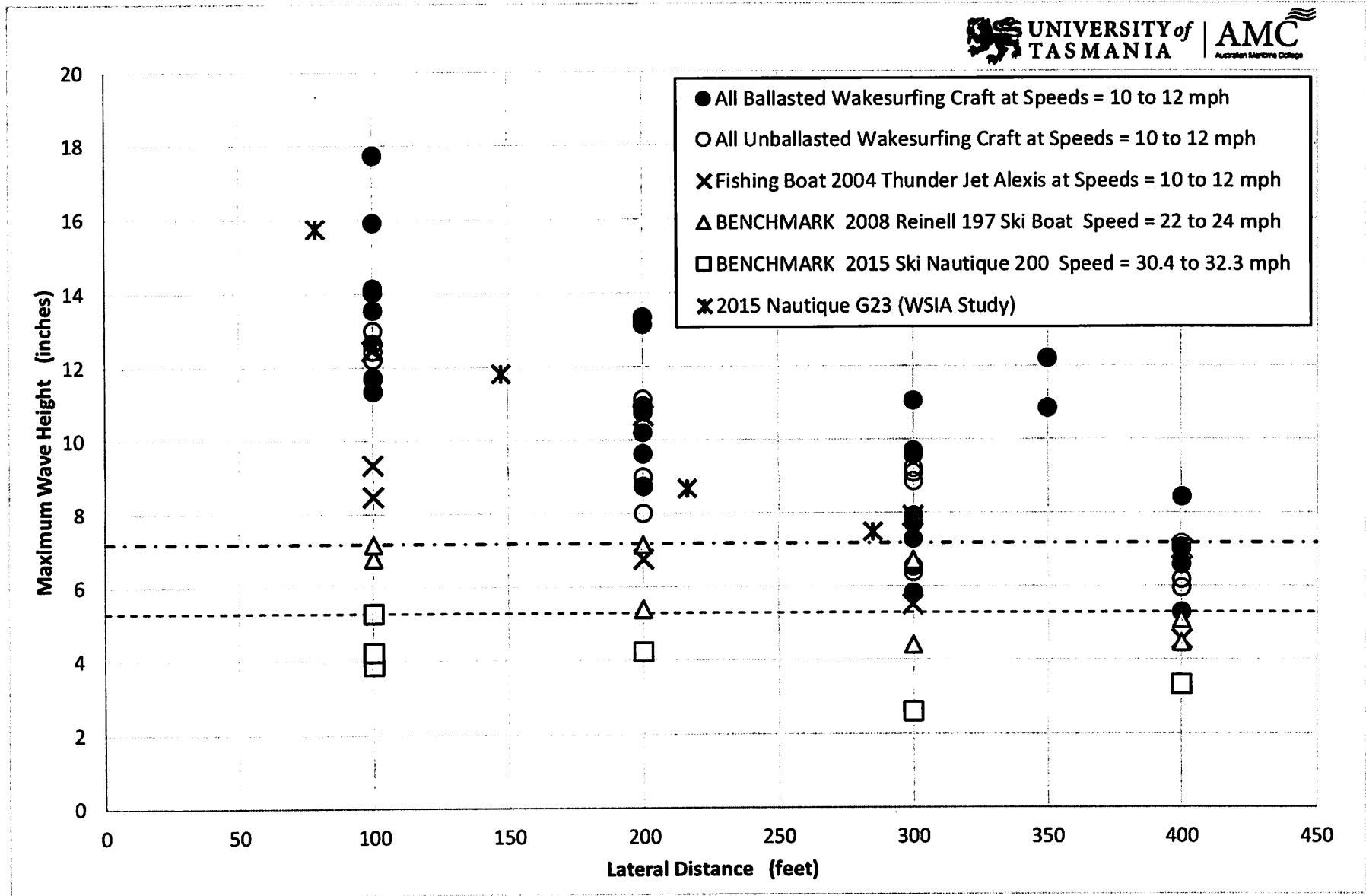


Figure 10 Maximum wave height as a function of lateral distance: Wakesurfing

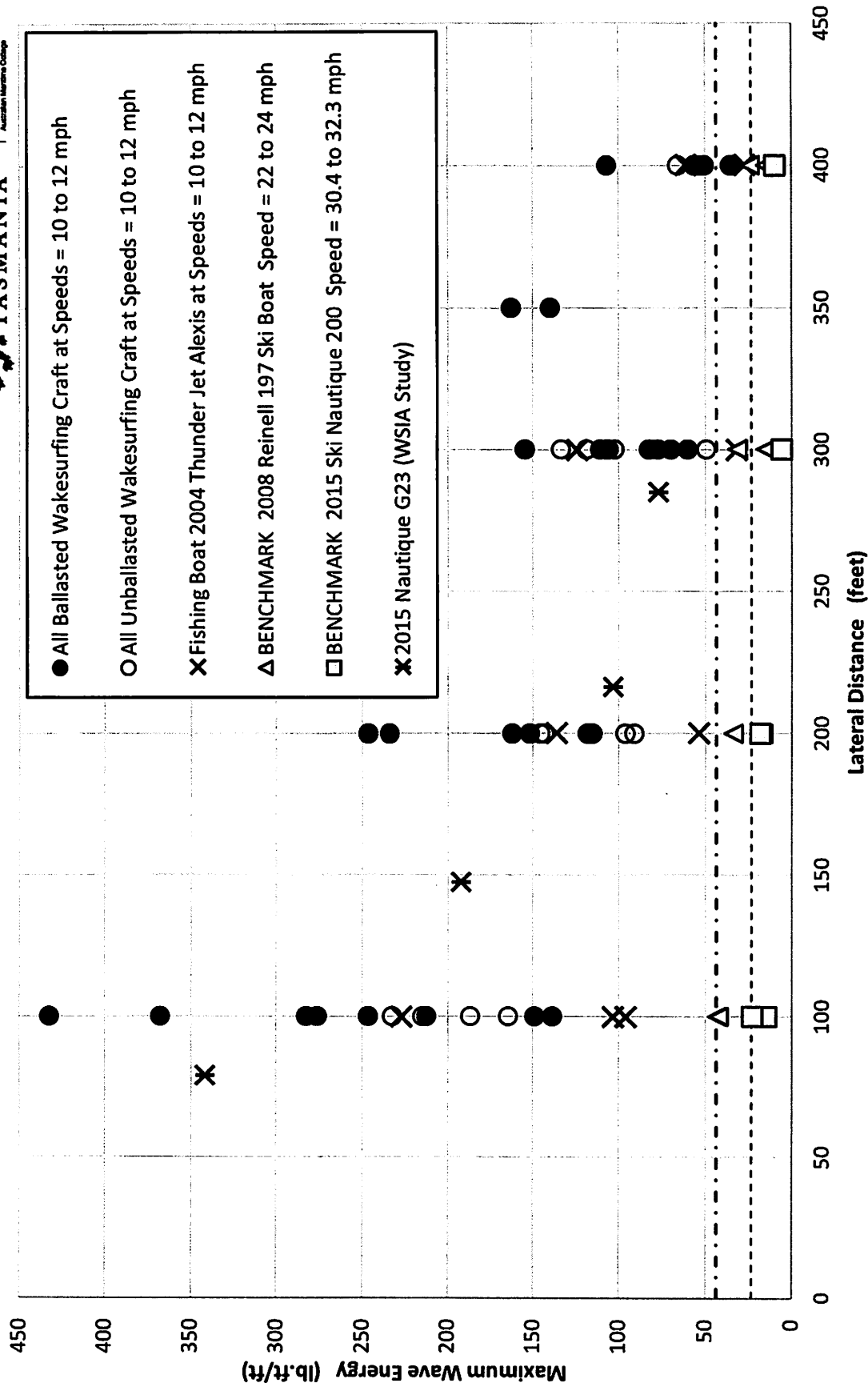


Figure 11 Maximum wave energy as a function of lateral distance: Wakesurfing

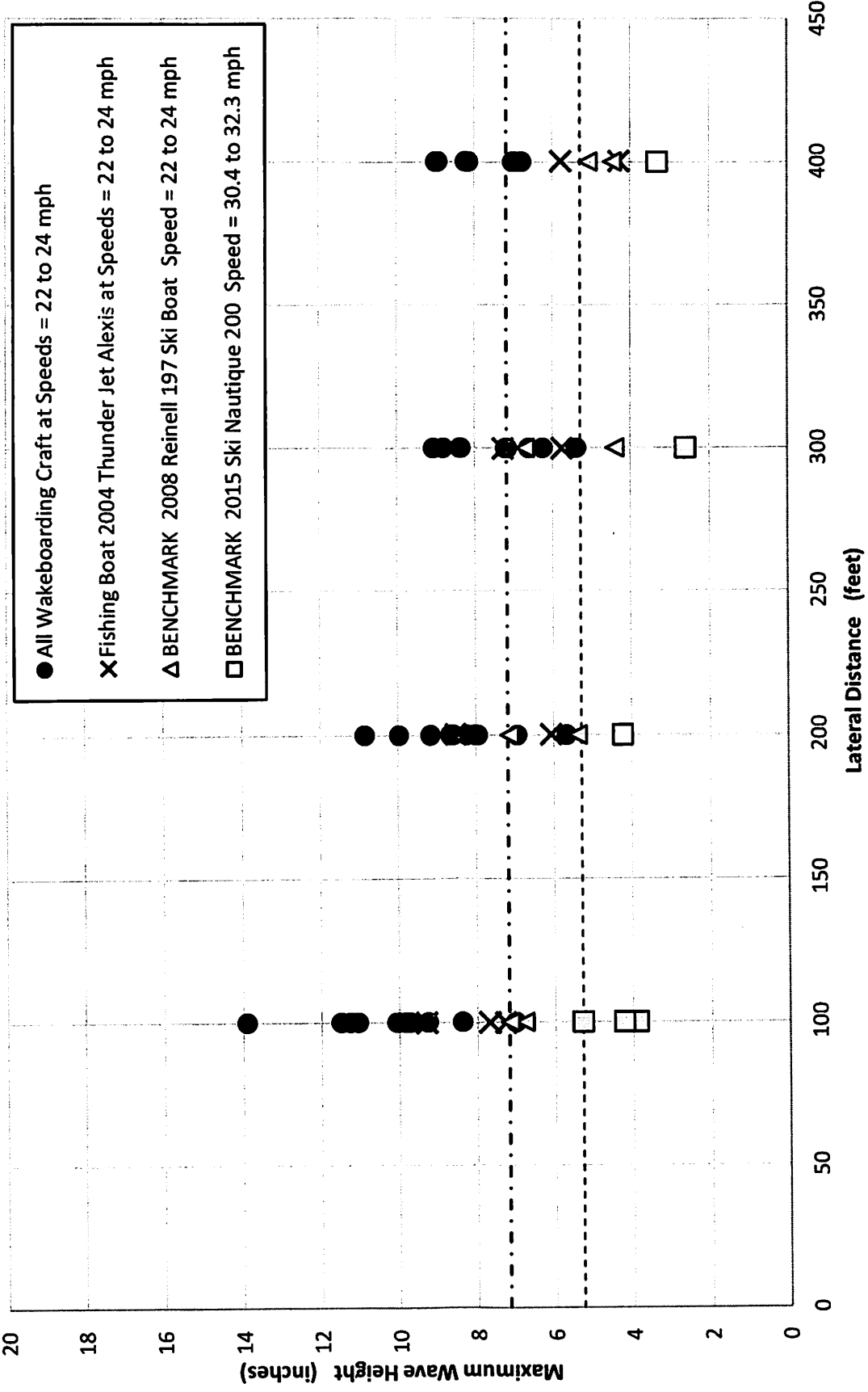


Figure 12 Maximum wave height as a function of lateral distance: Wakeboarding

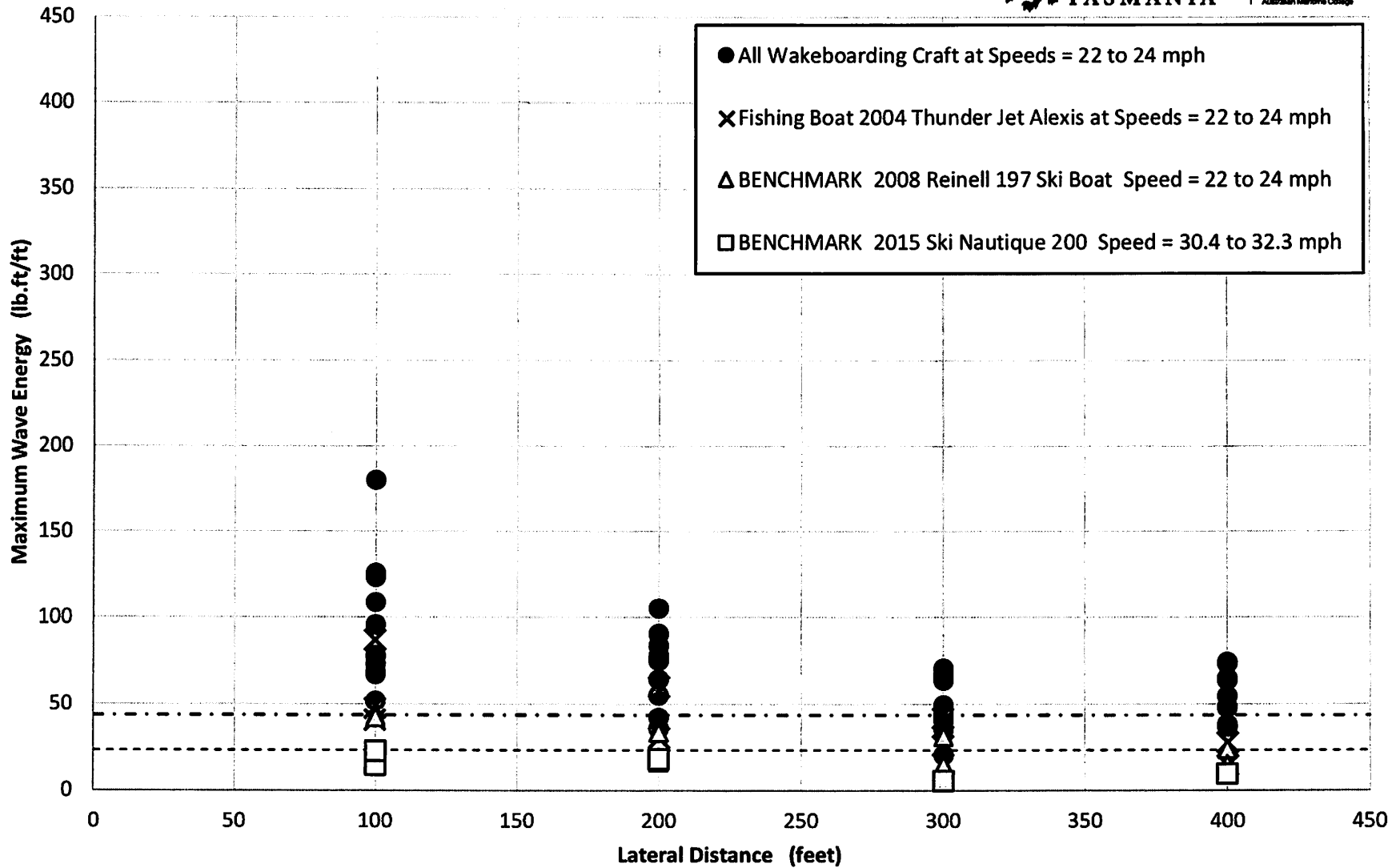


Figure 13 Maximum wave energy as a function of lateral distance: Wakeboarding



Michigan Lakes and Streams Association, Inc.

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February 8, 2022

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Dear NH House Resources, Recreation, and Development Committee,

I represent the Michigan Lakes and Streams Association (MLSA), an organization of lake and stream property owners and partners throughout the state of Michigan. We have been working closely for over a year with NH Lakes on the issue of wakes and their effects on the health of inland lakes throughout the country. NH Lakes has an excellent understanding of lakes in the state of New Hampshire and how to protect them. They have used peer reviewed research to form scientifically based conclusions and we support their efforts for NH House Bill 1071.

We have also seen the negative effects of enhanced wakes on Michigan lakes including eroded shorelines and disturbed lake bottom sediments that cause harm to wildlife, swimmers, and pets. And we have concerns about enhanced wakes disturbing critical fish and bird nesting habitats, damage to shoreline property, and making recreation unsafe for others.

Please register our support for the recommendations by NH Lakes to your committee.

Sincerely,

Melissa DeSimone
Executive Director, MLSA

Heather Goley

From: Keith Anderson <keith.anderson82@yahoo.com>
Sent: Thursday, February 3, 2022 9:53 PM
To: ~House Resources Recreation and Development
Subject: Please vote to oppose HB1071

House Resources Recreation and Development Committee,

I write to ask you to oppose HB1071, relative to wake surfing. My name is Keith Anderson and my family and I live in Strafford NH and boat on Bow Lake. I work as an Airline Pilot for a major US Airline and enjoy many aspects of our beautiful state especially the lake and boating.

My family enjoys many sports on the water but have really started to enjoy wake surfing. From my father who is in his mid 60's down to my daughter who is 4 years old, this is a family sport that can truly be enjoyed by all ages. The slower speed of the sport and low impact to the body allows a wide range of ages to enjoy it. Many of the boaters on the lake who wake surf are courteous and follow the rules and try to stay in the middle of the lake whenever it is possible. However, there are some boaters who occasionally break the rules and do not follow common courtesy. This happens with any water sport -- not just wake surfing. I believe the biggest solution to this problem is education.

Why should HB1071 be defeated? It singles out one sport with regulations and restrictions that are unfair to many boaters. Certain lakes may be effected enough that wake surfing may not be able to be done there. I know erosion of shoreline is a big topic with these boats but many studies have been done to show that with better education of boaters the wakes can dissipate to acceptable sizes and have minimal impact. I watch regular boats drive past my parents waterfront home breaking the 150ft rule and their wakes cause just as much or more of an issue than the wake surfing boats. There are many other factors that come into play with erosion such as wind, ice and storms. These factors have a more constant and longer lasting impact than boat waves that are on the water for 2-3 months of our New Hampshire's boating season.

Education is key for ALL boaters of our beautiful waterways. Great emphasis can be placed on this during New Hampshire required boater education course. Marine Patrol can be a great asset here to help educate and promote safe boating. Maybe we include a form when a new boat is sold to an owner that they have read and acknowledge the rules and regulations of NH waterways. This education will promote good driving habits and giving some boaters some "good boating etiquette" that will help to ensure our waterways stay safe and enjoyable for all who live and visit our state. Please do not let the negative actions of a few boaters affect the majority who follow the rules and regulations on top of general curtesy.

I want to thank the committee for considering my position on HB 1071 and I ask you to vote against the bill. This is truly a wonder family sport that can be enjoyed by so many in a safe and responsible manner.

Keith Anderson
Strafford, NH.

Heather Goley

From: Guillaume Gratton <gratton.guillaume@gmail.com>
Sent: Friday, February 4, 2022 11:01 AM
To: ~House Resources Recreation and Development
Subject: Please vote to oppose HB 1071

Hello

I write to ask you **to oppose HB 1071**, relative to wake surfing. My family and I reside in MA. We spend all our summer boating in NH (and actually skiing in NH during winter as well). We spend ten of thousands in NH yearly and bought our 3 boats there. We enjoy and respect NH's amazing waterways.

HB1071 should be defeated because it does not address erosion. Erosion is not a consequence of boating nor wake surfing...

We need to focus on education and enforcement of the right behaviors and existing rules/laws.

We should all promote the "NH Wake Responsibly"

Thank you for considering my position on HB 1071

Guillaume Gratton
Bedford MA

Heather Goley

From: Chip Broadhurst <chip.broadhurst@gmail.com>
Sent: Friday, February 4, 2022 5:32 PM
To: ~House Resources Recreation and Development
Subject: HB1071 Ammended

The Minnesota findings are definitive and readily applicable to NH lakes.

Please amend HB1071 to require a 500' setback.

AND PLEASE SUPPORT APPROVAL OF HB1071 moving it forward.

Thank you!

Austin Broadhurst Jr.

Moultonborough/Holderness

Heather Goley

From: sandi neff <sandi515n@gmail.com>
Sent: Friday, February 4, 2022 6:49 PM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: Support for HB 1071

One only needs to see an operational wake boat to realize the tremendous power and force it has and you can easily imagine the disruption to shallower waters and shorelines it can cause. Please support HB1071 and if you feel it needs amending in any way, I hope it is for more restrictive use than what is already being proposed. I live on North River Lake and can't begin to imagine what could happen if there was that sort of boating activity here. Also, I wouldn't want you to imagine that I'm an idle nay-sayer as I have been actively involved in one way or another with water monitoring here through the Lay Lakes Monitoring Program for at least the last 15 years. Again, I ask for your support of HB 1071.

Alexandra Neff
Nottingham, NH

Sent from Mail for Windows



Virus-free. www.avg.com

Heather Goley

From: Ingrid Barry <mib.tlb3@gmail.com>
Sent: Friday, February 4, 2022 7:04 PM
To: ~House Resources Recreation and Development
Subject: HB1071

Please support bill, HB1071, with an amendment to reflect the credible, scientific data from the University of Minnesota study which indicates a clear justification for increased setbacks for wakesurfing and that 250 feet would not be sufficient to protect lake health.

Thank you,

Ingrid Barry, property owner on Pine River Pond
84 Sleepy Hollow Rd,
Wakefield, NH
(3 Riding Club Rd,
Danvers, MA 01923)

Heather Goley

From: Sharon Myer <ticaviola@comcast.net>
Sent: Friday, February 4, 2022 8:59 PM
To: ~House Resources Recreation and Development
Subject: HB1071

As a resident on Millen Pond in Washington NH it is critical that this bill is not only supported but amended to reflect the scientific knowledge that there needs to be more than 250 feet of setback to allow this. In fact on Millen Pond, as it is such a small lake, this needs to be forbidden.

Thank you,

Sharon Myer

Heather Goley

From: Nance <nancerichardson@comcast.net>
Sent: Friday, February 4, 2022 9:04 PM
To: ~House Resources Recreation and Development
Subject: HB1071

Please update this bill to require 500ft. minimum for wake boarding per the scientific data. We need to protect our lakes.

Thank you,
Nancy Richardson
Hampstead NH

Heather Goley

From: Bill Paton <whpaton@yahoo.com>
Sent: Friday, February 4, 2022 9:05 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

As the owner of waterfront property on a small lake (Crescent Lake, Acworth) I fully support the passage of HB1071. I have had to hang two 50 pound weights off of my dock to keep it from shifting as a result of the waves generated from wake boats. I am also very concerned about shore erosion and the impact on an already shallow lake.

Sincerely,

William H PATON
Crescent Lake
Acworth, NH

Sent from Yahoo Mail on Android

Heather Goley

From: Bill Musch <whcm@hotmail.com>
Sent: Friday, February 4, 2022 9:53 PM
To: ~House Resources Recreation and Development
Cc: Michelle at NH LAKES
Subject: HB1071

Please support HB1071 with an amendment to accommodate the following Official Review by the University of Minnesota:

"The long-awaited, peer-reviewed wave-action study by the University of Minnesota was released this week. **It confirms that waves produced during the activity of wake surfing are measurably larger and more powerful than waves created by non-wake surf boats in terms of maximum wave height, total wave energy, and maximum power. The study concluded that at least 500 feet are needed for wake surfing waves to diminish compared to waves created by non-wake surf boats.**"

I am a proud owner of lakefront property in Windham, NH. I am not allowed to put any rocks or cement wall to protect my shoreline from the HUGE waves created by these wake surfers and their boats. I think it is time to recognize that these huge waves are destroying the environment and our shores we are not allowed to protect.

The enhanced wakes can erode shorelines and disturb lake bottom sediments—these actions can release nutrients into the water and cause toxic cyanobacteria blooms that are harmful to wildlife, swimmers, and pets. These enhanced wakes can also disturb critical fish and bird nesting habitats, damage shoreline property, and make recreating unsafe for others.

Thank you,

William Musch

Windham, NH

Heather Goley

From: Donna VanNess-Murphy <dvnom@aol.com>
Sent: Saturday, February 5, 2022 7:55 AM
To: ~House Resources Recreation and Development
Cc: Donna VanNess
Subject: House Bill 1071

Good Morning

I am writing in support of HB1071 in regard to wakesurfing.

The recent study done by the University of Minnesota confirms the waves produced by wakesurfing are measurably larger and stronger than waves created by other boats.

These powerful waves erode shorelines, disturb sediments on the lake floors which can have detrimental effects on our lakes by causing nutrients to be released into the water column causing toxic Cyanobacteria blooms. Cyanobacteria is harmful to people, wildlife and pets.

There have also been reports of shoreline property damage and the waves created can be dangerous to kayaks, canoes and swimmers.

The Minnesota study concludes that a 250 set back is not enough. A 500ft setback is needed.

I hope you will pass this bill with an amendment of 500ft.

If the amendment of 500ft is not passed, I hope the bill passes as written.

Respectfully,

Donna Murphy
35 Chapman Point Road
Meredith NH 03253
279-4894
dvnom@aol.com

Sent from my iPad

Heather Goley

From: Gary Samuels <samuelspatty@gmail.com>
Sent: Saturday, February 5, 2022 9:40 AM
To: ~House Resources Recreation and Development
Subject: HB1071: Surfing Wake Bill

Respected Committee Members :

I urge you to reject this disastrous bill that aims to establish a mere 250 ft seat-back for wake surfing.

Peer-reviewed research indicates the damage done to shorelines by tremendously destructive power of wakes produced through wake surfing.

This research demonstrates that a minimum set-back of 500 ft is required to prevent damage caused by wake surfing.

Nutrients released into lakes through erosion of their shores from wake surfing is especially worrisome. Blooms of toxic cyanobacteria develop with this nutrient overloading. Cyanobacteria Advisories issued in response to blooms can cause lakes to be closed until the blooms clear, and clearing can take more than two months.

Nobody surfs - - or fishes or swims - - when Cyanobacteria Advisories are in effect.

The waters of my lake, Deering Lake , are very high quality. My town has stringent regulations on septic systems , and there are no recorded cyanobacterial blooms for the lake. At the same time I have frequently seen wake surfing. Absent an effective set back, it is a matter of time before we have to deal with cyanobacterial blooms.

I applaud the recognition in HB1071 of the need for a set-back for wake surfing in our lakes. However I urge Committee Members to follow research and increase the set-back from 250 ft to 500 ft.

Respectfully
Gary Samuels
Deering, NH 03244

Heather Goley

From: Richard Cross <rmvhcross34@aol.com>
Sent: Saturday, February 5, 2022 1:41 PM
To: ~House Resources Recreation and Development
Subject: HB1071

I oppose wake-surfing on Lake Winnepesaukee.

Valerie Cross Lunt Rd., Moultonborough, NH

Heather Goley

From: F. Dana Thompson <darbdane@gmail.com>
Sent: Saturday, February 5, 2022 1:58 PM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: I support HB1071

To Whom it May concern:

I am a seasonal resident on Big Island Pond which is in Hampstead, Derry and Atkinson. I am a 5 th generation owner who has been extremely bothered by the shore destruction and lake disturbance due to the wake boards.

There have been times when the waves have literally washed over our dock continuously. As a result, it is difficult for us to sit on our dock and enjoy the beauty of our lake. We are also worried about the churning of the lake's organisms and the extent our shore is being damaged. We have lost a number of trees and bushes due to the excessive waves from the wake boards.

I support HB 1071!

Thank you for your attention.
Ms. FD Thompson

Sent from my iPad

Heather Goley

From: marsden3@comcast.net
Sent: Saturday, February 5, 2022 3:10 PM
To: ~House Resources Recreation and Development; Charles McMahon; Bob Lynn; Julius Soti
Cc: 'Michelle Davis'; 'Charles Marsden'
Subject: Support for HB1071 Wake Boat regulations

Dear Legislators,

I strongly urge your support of HB 1071 relative to wake surfing. I live on Cobbetts Pond in Windham, NH and am the Director of Water Quality for the Cobbetts Pond Improvement Association. I am writing this letter as an independent pond resident. Cobbetts Pond is a small pond within a very developed waterfront area. In the last few years there has been a dramatic increase in Wake Surfing activity. This activity when done responsibly is a great sport. However there are often non-responsible wave surfing boat operators whom have negatively impacted the Cobbetts Pond recreation and ecological environment.

Wake surfing requires the development of wakes 3-4ft in height using a boat that also creates a propulsion depth of 4-5ft. The propulsion has torn up the bottom of our pond in areas of less the 15ft depth. This disrupts the aquatic ecosystem. The enormous wakes has caused shoreline erosion and boat/dock damage. **Most importantly these waves have created a safety risk to swimmers, boaters, kayakers and canoers. These wake surfing waves are particularly dangerous to young children wading along the shoreline. The waves can and have knocked youngsters down into the water. A very dangerous situation.**

It is critical that the wake surfing sport be regulated in a manner that our children, shoreline and aquatic environment are not negatively impacted. I would submit that at least 500 feet are needed for wake surfing waves to diminish and a minimum of 15ft water depth should be considered as regulations of the Wake Surfing activity.

Thank you for your support of HB 1071 regarding Wake Surfing regulations.

Regards,
Charles Marsden
Cobbetts Pond Resident
20 Viau Rd
Windham, NH 03087

The long-awaited, peer-reviewed wave-action study by the University of Minnesota was released this week. **It confirms that waves produced during the activity of wakesurfing are measurably larger and more powerful** than waves created by non-wakesurf boats in terms of maximum wave height, total wave energy, and maximum power. The study concluded that **at least 500 feet are needed for wakesurfing waves to diminish** compared to waves created by non-wakesurf boats.

On Wednesday, February 9, at 1:45 p.m., [House Bill 1071](#) relative to wake surfing, is being heard in

the House Resources, Recreation, and Development Committee. This bill would require a 250-foot setback for the activity of wake surfing. The data from the Minnesota study indicates a clear justification for increased setbacks for wakesurfing and that 250 feet would not be sufficient to protect lake health.

Wakesurfing is a water sport in which a rider on a surfboard rides the boat's wake without the assistance of a tow rope. In order for the participant to surf behind the boat without being towed, wakesurfing requires large, enhanced wakes—much larger than wakes required for other tow sports like waterskiing and tubing.

When produced in certain areas, enhanced wakes can erode shorelines and disturb lake bottom sediments—these actions can release nutrients into the water and cause toxic cyanobacteria blooms that are harmful to wildlife, swimmers, and pets. These enhanced wakes can also disturb critical fish and bird nesting habitats, damage shoreline property, and make recreating unsafe for others.

Heather Goley

From: snkgray@myfairpoint.net
Sent: Saturday, February 5, 2022 4:53 PM
To: ~House Resources Recreation and Development
Cc: Jim.Qualey@leg.state.nh; John Hunt
Subject: HB1071

Dear Representative Renzullo,

My name is Stephen Gray and I am a year-round resident on Lake Monomonac in Rindge. My family have been here since 1947 and I have seen the development of the lake and the many changes thru the years that have given me enjoyment and distress. What started out as a lake consisting primarily of canoes and rowboats has morphed into a recreation site using every kind of watercraft imagined. The latest craze of "surfing" behind wake boats is wreaking havoc on the shorelines, docks and boats tied up. I had recently purchased a small pontoon boat but it was getting so slammed by waves against the dock and shore, that I had to purchase a boat lift to get it up out of the water to protect it. Along the shore within 700' three trees have come done due to soil being eroded underneath them. It is not unusual to see 4-5 people sitting on the stern of the wake boats putting out gigantic waves as they go back and forth hours on end. I have enjoyed water skiing, sailing and all water sports in my 74 years here but this surfing trend is doing irreparable damage to our property. Lake Monomonac is simply too small for this activity as the boats have to come close to the shore and the waves have not dissipated when they meet the shoreline.

It is my understanding that HB1071 is trying to correct this situation by saying these boats need to be at least 250' from shore. I respectfully suggest that that is not far enough that 500' would be a better distance. The real fact is that some lakes are just not suited for this activity. I am very aware that NH depends on tourism and recreation for financial support but it should not be at the expense of personal property and the lake environment that we all love so much.

I would respectfully ask your committee to report this bill out in the affirmative and with an amendment using 500' instead of 250' as the distance the wake boats should stay away from shore during "surfing" activities. Further study of this issue should continue.

Sincerely,
Stephen Gray
49 Conifer Road
Rindge, NH 03461
603 899-6625

Heather Goley

From: Angela, Richard Nicoletti <anrn210@gmail.com>
Sent: Sunday, February 6, 2022 11:41 AM
To: ~House Resources Recreation and Development
Subject: HB1071

Wake-surfing has reduced the quality Granite Lake and eroded the shore line. The Minnesota Study shows us that increasing the number feet from the shore allowed for wave-surfing is a step in the right direction. I support HB1071

Angela Nicoletti
210 North Shore Rd
Munsonville NH 03457

Sent from my iPhone
Angela Nicoletti

Heather Goley

From: Karen Bemis <karenabemis@gmail.com>
Sent: Sunday, February 6, 2022 1:22 PM
To: ~House Resources Recreation and Development
Cc: Michelle at NH LAKES
Subject: HB 1071

Dear NH Reps,

I am writing this email urging you to support HB 1071 with an amendment to reflect the credible, scientific data released by the University of Minnesota regarding the larger-than-normal waves produced by wake boats.

At Newfound Lake, not only have we seen more erosion on the shorelines, but as kayaker, the fear of being swamped by these types of boats is very real. I am concerned about the environmental impact and the dangers of increased toxic cyanobacteria blooms which are harmful to swimmers, pets, and wildlife.

Please support HB1071.

Thank you for your consideration,
Karen Bemis
Bristol, NH Resident

Heather Goley

From: Joyce Sharples <jsharples1@live.com>
Sent: Sunday, February 6, 2022 1:44 PM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: Hb1071 wake surfing

Good day to each of you,

I am writing to you to encourage your support in adopting the above referenced House bill 1071 regarding wake surfing with a change in verbiage.

My family owns a waterfront property on Bow Lake in Strafford and I am concerned about the shoreline erosion caused by the boats used in this recreational activity.

We have been here since 1961 and have had seen little change in our rocky shoreline until wake surfing boats became popular.

These boats create a much larger wake than other motor boats. These large waves crash onto our shore eroding the soil and loosening the rocks to the point where some of our shoreline has fallen into the lake.

I believe wake surfing boats should be limited to larger lakes where there is enough open water to help diminish the force of the wakes they create and the damage they cause. A lake the size of Bow Lake just isn't big enough to stop these wave from reaching shore and causing damage.

The proposed 250' setback does not nearly come close to solving the issue of erosion, plant devastation and wildlife protection. I would like this board to insist on a 500' setback and also consider total lake size for permitted use of these destructive boats.

Thank you for your attention to this environmental and safety matter.

Respectfully,

Joyce Sharples
24 Fire Rd 38
Strafford, NH 03884
757-323-0667

Sent from my iPhone

Heather Goley

From: Ted <tedsharples@hotmail.com>
Sent: Sunday, February 6, 2022 4:04 PM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: HB1071

Good day;

Our family has enjoyed summers on Bow lake in Strafford for some 60 years. During that time we have seen the changes in the shoreline which can be caused by motorized boats. We've always been able to cope with the subtle changes over the years through careful maintenance. However, the shoreline changes that are occurring due to the recently introduced wake boats, are unsustainable without costly major re-construction year over year.

Because of where our property is located, nearer islands and shallows, fortunately, the wake boats don't typically come too close. That doesn't seem to matter! As they pass, some 2500 feet away, (middle of the lake) our dock and shore is awash as never before! We have had to do major Re-enforcement of our banks and jetty and have had to re-rig our boat lines as well for fear of losing our dock!

We are delighted that this issue is being brought to light in NH finally, however I don't see how we can support the bill as it doesn't go far enough.

In our opinion, Bow lake and others similar in size are too small to accommodate the use of wake boats without doing irreparable damage to our shorelines and permanently disrupting all of the natural habitat issues as well.

We thank you for your diligence in tackling this matter and hope that we can all do our part in keeping our beautiful lakes healthy.

Respectfully,
Ted Sharples

Sent from my iPad

Heather Goley

From: tretjack@aol.com
Sent: Sunday, February 6, 2022 5:24 PM
To: ~House Resources Recreation and Development
Subject: HB1071

Good afternoon, as a home owner and boat owner in Alton Bay, how could any NH rep not support the above bill regarding wakeboard boats after reading the U. of Minn. study. It is a no brainer!!!!

Respectfully, Jack Tretter

Heather Goley

From: Maggie Ford <maggieford@comcast.net>
Sent: Sunday, February 6, 2022 5:32 PM
To: ~House Resources Recreation and Development
Subject: HB1071

As a member of the Wakeboat Commission of 2020, I can only say that had we had the information in the University of Minnesota Study - *A Field Study of Maximum Wave Height, Total Wave Energy, and Maximum Wave Power Produced by Four Recreation Boats on a Freshwater Lake* -our deliberations might have come to a different resolution.

The study is both well-conducted and thorough. It's conclusions and recommendations leave little doubt that wakeboats or wakesurfing boats generate considerable disturbance in their passage. While the study looked at several distances from shore in drawing its conclusion, it is unequivocal that "wakesurf boats required distances greater than 500 ft to attenuate wake wave characteristics to levels equivalent to non-wakesurf boats.

In other words, it takes more than 3 times the current distance (150 ft) for a wakesurf boat wave package to dissipate and, therefore, to do less shoreland damage.

I urge the committee to amend the current language in HB1071 to read "Amending RSA 270-D:3 toa minimum distance of 500 feet from shore, docks and other boats."

Thank you for your attention.

Maggie Ford

Sent from Mail for Windows

Heather Goley

From: Bill Shannon <wssh49@gmail.com>
Sent: Sunday, February 6, 2022 5:34 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Dear Sir or Madam,

I am in support of HB1071. However, I believe wake boats should be banned at lakes with widths less than 1000 feet across. Thank your consideration of this matter.

Bill Shannon
Resident Town of Washington

Heather Goley

From: Karen Zurheide <zurheides@aol.com>
Sent: Sunday, February 6, 2022 6:15 PM
To: ~House Resources Recreation and Development
Subject: Support for HB1071

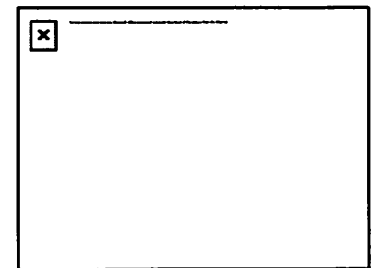
I am a NH citizen concerned about maintaining/improving the quality of our NH lakes, one of our most precious natural, recreational and economic assets.

To protect water quality, other users of our lakes, and personal property at the shoreline, I support HB1071. And I suggest that recently released results of a scientific study from the University of Minnesota be included in your Committee's deliberations, with these key points:

The data suggest that operational distances greater than 500 feet are required for the wake waves generated by a wakesurf boat to attenuate to similar wake characteristics as the non-wakesurf boat reference.

Under both slow and fast speed conditions, the wakesurf boats produced the largest waves in terms of height, energy, and power when compared to the non-wakesurf boats.

Larger, more energetic waves need to travel a greater distance to decrease in wave height, energy, and power.



Thank you for considering this input.

Karen Zurheide
New London
603-545-1280

Heather Goley

From: james joaquim <jimjoaquim103@gmail.com>
Sent: Monday, February 7, 2022 8:39 AM
To: ~House Resources Recreation and Development
Subject: BILL HB1071

Hello

I support Bill 1071

My name is James Joaquim I Live on Cobbetts Pond At 32 First Street Windham NH 03087 . The reason I support this bill is because of the destructive nature of wakeboard towboats with 3000 pounds of ballast! Cobbett's Pond goes from Crystal clarity up to 20 feet from the end of my dock outward to zero visibility water straight down at my shoreline after one or two passes by the wakeboard !! And this does not clear up for 24 hours also when trying to navigate on the pond when they are several of these wake boats out towing it's nearly impossible to get an enjoyable ride because the waves are 4 feet tall and it's almost unmanageable It seems like a selfish sport to me you can get just as much enjoyment with a tow rope and a regular tow boat like a ski Nautique or Mastercraft I realize this is a very lucrative business for marinas and manufacturers and it does give a lot of enjoyment to the owners of the boats but the environmental impact on our precious water resources across the Great State of New Hampshire by what is very aggressive wake boats seems to over weigh the enjoyment factor therefore I support bill HB 1071 and I feel further action is required thank you for your time James Joaquim

Sent from my iPhone

Heather Goley

From: Kristen Gould <kristenagould@gmail.com>
Sent: Monday, February 7, 2022 9:03 AM
To: ~House Resources Recreation and Development
Cc: Michelle at NH LAKES
Subject: HB 1071

Dear NH Reps,

I am writing this email to request that you please support HB 1071 with an amendment to reflect the recent data released by the University of Minnesota suggesting a 500-ft minimum setback for wake surfing from the shore.

In New Hampshire, our lakes are one of our most cherished natural resources. We need to come together to protect them. One of the greatest threats to the lake ecosystems is erosion, which is exacerbated by the unusually large waves generated by wake surfing.

Please support HB1071.

Thank you for your consideration.

Sincerely,
Kristen Gould
Plymouth, NH resident

Heather Goley

From: Gary Samuels <samuelspatty@gmail.com>
Sent: Monday, February 7, 2022 10:04 AM
To: ~House Resources Recreation and Development
Subject: HB 1071: AN ENDORSEMENT

Respected Committee Members

With respect to HB 1071 Wake Surfing Bill

A few days ago I sent an email urging you to reject this bil..

My reasoning ws that a 250 ft set-back was insufficient to prevent problems associated with wake surfing.

It has since been pointed out to me that 250 ft; set-back is better than no set-back.

In the unlikely event that the 250 ft set-back provided by HB 1071 can be amended to read 500 ft, I now ask you to SUPPORT HB1071.

Respectfully and with thanks,I

Gary Samuels

Deering, NH 03244

Heather Goley

From: Margaret Adams <mabrarian@gmail.com>
Sent: Monday, February 7, 2022 12:35 PM
To: ~House Resources Recreation and Development
Subject: Writing in support of HB1071

Hello,
I am writing today in support of HB1071 -- requiring a 250 -foot setback for the activity of wake surfing. In fact, I would urge the committee to consider extending the limit to 500 feet. Please take measure to protect the waterways in New Hampshire!

Margaret Adams
Resident -- Squam Lake

--

Margaret Adams
mabrarian@gmail.com

Heather Goley

From: bcalt@aol.com
Sent: Monday, February 7, 2022 12:51 PM
To: ~House Resources Recreation and Development
Subject: mdavis@nhlakes.org

Hello,

I have lived Cobbetts Pond for 34 years. The water quality has continued to degrade over the years. Initially the cause was the widening of Route 93 and then expansion of Route 111. I have been a member of Cobbetts Pond Improvement Association for over 30 years and I was the Clerk of the Cobbetts Pond Village District for about 10 years, mainly looking to control the weed growth. Over the last 5 years it is getting even worse, I believe mainly from the use of wake boats on this 300+ acre lake. It is much to small and narrow to allow these boats to be used. There are many homes on Cobbetts that are over a million dollars. You would think that owners would want to protect their investment.

The wall in front of my home is eroding due to the undermining of the wall due to waves from these boats. I have photos and movies of this factor, but couldn't put into the link for my support of the HB1071 with an ammendment to 500 ft. Not only are these boats destroying the waterfront but they are distributing the evasive weeds all around.

I dialed into a conference call I think it was usually last year or the year before where the predominance of the speakers were the marinas that were selling these boats and of course they did not want to have any limitations. The argument is that these boats costing up to and over \$100K is a huge portion of their revenue. I guess these folks don't care what these boats are doing to our lakes, just greedy for the money.

250ft guideline is certainly not enough, but should be 500ft as the experts state.

Sincerely,
Barbara Dooley
Cobbetts Pond

Heather Goley

From: mnrfoster@atlanticbb.net
Sent: Monday, February 7, 2022 1:34 PM
To: ~House Resources Recreation and Development
Subject: We support HB1071

Please pass this bill. My wife and I are long term permanent residents on Alton Bay, and find excessive wave action to be very damaging to the shoreline.

Thank you!

Mark & Roseann Foster

Alton, NH

Heather Goley

From: Thomas Ouhrabka <Tomouhrabka@yahoo.com>
Sent: Monday, February 7, 2022 4:24 PM
To: ~House Resources Recreation and Development
Subject: Fwd: Boats With Large Wakes. Bill HB1071

Gentlemen, the following is a real life story about what happens on a Lake with boats that cast large wakes. These large crafts that simultaneously share the same waters with smaller motor boats and canoes need to respect and be aware and responsible for the situations they are creating by their actions. The following is a true story that nearly cost lives. I am an Exotic Weed Control Milfoil Diver and with a friend of mine coming back from a Dive we encountered the following.

> About 4 or 5 years ago Skip Oliver and I were coming back from Diving near the dam in Crescent Lake when I noticed a small aluminum boat in front of us traveling in the same direction. They were in front of Devil's Cove. Coming the other way was an approximately 20 foot boat going half speed and casting a huge wake. The big boat passed the smaller aluminum boat and within seconds that boat was rocked back and forth throwing all three of it's passengers out of the boat. Before the driver had fallen out his weight had shifted in the boat causing the boat to go in circles. While falling out of the boat he was able to hit the stop button on the motor but not before the boat rode over his wife and the propeller cut several large angled slices up her leg. The husband, now in the water, had rescued his wife and was swimming to shore with her screaming "where's my daughter, where's my daughter?" She was nowhere in sight.

> Skip and I had pulled up to their swamped boat by this time and I said to Skip, as I heard the mother still yelling for her daughter, "this isn't going to be good." Skip was readying himself to get in the water when I saw a hand in the water by the transom. I grabbed the hand but really couldn't get her to come out from under. I looked more closely and found the propeller had her shirt wrapped around it holding her under. After untangling her shirt her head appeared, still under water, eyes wide opened, with small bubbles coming out of her mouth. I lifted her head above the water and she was breathing! She was about 15 years old. While keeping her buoyant for a few minutes I yelled to the screaming Mom "she's all right." Skip and I turned her around and lifted her into our Dive Boat by her elbows, that were down by her side, and took her to shore to be reunited with her parents. She was dazed but okay. Not a scratch on her.

> Before we got to shore the police were already there and an ambulance was coming to assist the mother whose leg was wrapped in a towel. They took both of the women to the hospital and Skip and I went on to Howie Hoyts for pizza. I was told later that the story of a boating accident on Crescent Lake made it on the WMUR TV News. No mention of the WWA Dive Team.

> This story exemplifies the need to have people aware of what they are doing and of the consequences they cause when they are in a boat. The boat that caused all of this by driving too fast and too close to shore never knew any of this had ever happened. I presume they just went about their business.

> Thomas Ouhrabka
Poplar Island, Lake Wentworth
Wolfboro, New Hampshire
> 1-401-529-1580

> Sent from my iPad

Heather Goley

From: William Perkins <perkins1717@gmail.com>
Sent: Monday, February 7, 2022 4:27 PM
To: ~House Resources Recreation and Development
Subject: State of New Hampshire House Bill HB # 1071

I am writing in support of House Bill # HB1071 of the House Resources, Recreation, and Development Committee.

As a long term resident and tax-paying citizen of Wolfeboro, NH, I am in support of HB 1071, the Wake Surfing Bill requires a 250-foot setback for wake surfing.

However, I would like to see the setback amended to 500 feet based on the recent State of Minnesota Study that shows that wake boats generate more powerful waves when wake surfing. The evidence presented in that study justifies the need for this increased setback.

We need to acknowledge this research and legislate based on the facts.

Please help protect the shorelands in NH from the repetitive wave action and erosion that degrades water quality. We want to preserve the ability for people to recreate on the lakes of NH, but we need to make sure that the new recreational activities, like wake surfing, do not have a detrimental effect on lake health.

A 500-foot setback would still allow wake surfers to recreate and would help to protect the shoreline. It's a win for our lakes, property owners, and the watersports industry.

Thank you for your support with this request.

William D. Perkins

Heather Goley

From: Dale Lattanzio <dlattanzio@comcast.net>
Sent: Monday, February 7, 2022 5:05 PM
To: ~House Resources Recreation and Development
Subject: HB1071

Please, Please, give honest unbiased consideration to this bill. I live on Cobbetts Pond in Windham, NH. Yes the erosion is bad and destroying lake walls and lake fronts but what these Wake Boats are doing to our water is sorrowful. I fish early mornings and lately I see clumps of lake grass and plants floating on the surface. The clarity of the water is bad. Our pond averages 20 ft in depth and is narrow by nature. The increase in the number of Wake Boats has dramatically increased and proportionally so has the negative conditions of our lake. It's so sad. Oh how I wish you could come out with me some early Monday morning after a weekend of Wake Boats on the lake. Makes you want to cry. Yes, The Loons have left.

Respectfully,
Dale Lattanzio
One Heron Cove
Windham, NH

Sent from my iPhone

Heather Goley

From: Brad Cook <bscook23@gmail.com>
Sent: Monday, February 7, 2022 8:42 PM
To: ~House Resources Recreation and Development
Subject: HB1071

Dear Representatives,

As a resident of Wolfeboro, NH, I am in support of HB 1071, the wakesurfing bill that would require a 250-foot setback for wakesurfing. **However, I would like to see the setback amended to 500 feet based on the recent study that shows that wake boats generate more powerful waves when wakesurfing. The evidence presented in that study justifies the need for this increased setback.** We need to acknowledge this research and legislate based on facts.

Please help protect shorelines in NH from the repetitive wave action and erosion that degrades water quality. We want to preserve the ability for people to recreate on lakes in NH, but we need to make sure that new recreational opportunities like wakesurfing do not detrimentally affect lake health. **A 500-foot setback would still allow wakesurfers to recreate and would help protect the shoreline.** It's a win for our lakes, property owners, and for the watersports industry.

Sincerely,
Bradford Cook

Heather Goley

From: Debra Bloom <Debra.Bloom@PremiseHealth.com>
Sent: Tuesday, February 8, 2022 8:08 AM
To: ~House Resources Recreation and Development
Subject: HB1071

Sincerely,
Debra Bloom
79 Heath Trail
Wolfeboro, NH

As a resident of Wolfeboro, NH, I am in support of HB 1071, the wakesurfing bill that would require a 250-foot setback for wakesurfing. **However, I would like to see the setback amended to 500 feet based on the recent study that shows that wake boats generate more powerful waves when wakesurfing. The evidence presented in that study justifies the need for this increased setback.** We need to acknowledge this research and legislate based on facts.

Please help protect shorelines in NH from the repetitive wave action and erosion that degrades water quality. We want to preserve the ability for people to recreate on lakes in NH, but we need to make sure that new recreational opportunities like wakesurfing do not detrimentally affect lake health. **A 500-foot setback would still allow wakesurfers to recreate and would help protect the shoreline.** It's a win for our lakes, property owners, and for the watersports industry.

Heather Goley

From: DaveandRuth Larrabee <daveandruthlarrabee@gmail.com>
Sent: Tuesday, February 8, 2022 8:44 AM
To: ~House Resources Recreation and Development
Subject: HB1071

My husband and I live on Province Lake in East Wakefield NH. 47 Sunset Road.

We are concerned about the health of the lake and oppose HB1071.

When produced in certain areas, enhanced wakes can erode shorelines and disturb lake bottom sediments—these actions can release nutrients into the water and cause toxic cyanobacteria blooms that are harmful to wildlife, swimmers, and pets. These enhanced wakes can also disturb critical fish and bird nesting habitats, damage shoreline property, and make recreating unsafe for others.

Heather Goley

From: John Bowen <Bowen@photogear.com>
Sent: Tuesday, February 8, 2022 8:56 AM
To: ~House Resources Recreation and Development
Cc: nancymindsey@gmail.com
Subject: Bill HB1071

To whom it may concern –

As a member of the public who enjoys spending time on NH lakes, I want to register my support of Bill HB 1071.

Passage of this bill and keeping the boats to the center of the lakes will make the lakes more enjoyable for all who use it, not just those able to afford a large wakeboat.

In fact, I don't think this bill goes far enough. There is plenty of evidence that the damage from wakes will still happened at distances of 300 to 500 feet, so I would support an amendment that increases the setback distance.

Best regards,
John Bowen

John Bowen
1759 Little Sunapee Rd
New London, NH 03257
bowen@photogear.com

Heather Goley

From: Patty Philbrook <philbrook113@gmail.com>
Sent: Tuesday, February 8, 2022 9:55 AM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org; Acton Wakefield Watersheds Alliance
Subject: PRP Association Support of House Bill 1071

NH House of Representatives
Resources, Recreation and Development Committee

RE: Support of House Bill 1071

Dear Chair Renzullo and Members of the Committee,

The PRP Association supports HB1071 to require any boat underway for wake surfing on NH lakes maintain a minimum distance of 250 feet from the shore, docks, and other boats.

Research tell us that wakesurfing causes increased wave heights. In 2014, a University of Quebec at Montreal study states wakeboat waves could be almost two (2) times higher than a regular boat having a much greater erosive impact on the shoreline. New research from the University of Minnesota now measured that height at roughly two-to three (2-3) times higher than other boats. Most waterfront structures were never designed for this because these wave heights were never envisioned years ago.

Pine River Pond (PRP) in Wakefield, NH is about 3.6 miles long and .6 miles at its widest. With 12 islands in this 570 acre lake, it is often difficult for boats to navigate 150 feet from shore, docks and other boats. Members have reported to me that wakeboats waves on this lake have capsized kayakers and paddle boarders, swamped docks, knocked a boat off its cradle on a lift, and nearly capsized an antique Chris-Craft by operating too close. These waves can be very dangerous.

Because our navigable waterways are narrow, we are experiencing severe erosion of our shoreline. Since PRP is impeded eight (8) feet above its natural high water mark, we have steeper shorelines rather than gently sloping terrain, and the larger waves cause heightened damage in this situation. While erosion is a product of nature as well as boat activity, more powerful wave action increases that exponentially, and increased erosive impacts to the shoreline causes the release of phosphorus linked to sediments, increases turbidity, and disturbs the aquatic environment. A majority of PRP waterfront properties are ***undercut from erosion from four (4) to 30 feet*** into the embankments, and large sections of embankments have collapsed into the lake. To repair or protect waterfront property is an arduous and expensive process under current regulations.

The wake boat and wake surfing issue is a serious concern in all lake communities across the country not only because of shoreline erosion, but because of damaged docks and property, and personal injury. Research finds that damage caused by waves from wakeboats is significantly reduced by increased distance. Providing for a longer distance to allow the wave to dissipate appears a very reasonable compromise. A greater distance would be preferable given the damage some private landowners are experiencing, but this is a really contentious issue with the boating industry considering such a regulation to be harmful to this growing water sport and tourism.

Waterfront property owners are frustrated watching the property damage occur. For them it raises the question whether the regulation of this sporting activity meets the "reasonable use" standard given the harm it causes. No one is offering to help landowners repair the undercut embankments or repair damage docks and boats. The question is not when does one person's right to peacefully enjoy their waterfront outweigh the right of another's to engage in a water sporting activity; it's why should someone's right to engage in a water sporting activity on public waters outweigh the right of another person to not have it cause harm to their property. Property owners want reasonable regulation of the sporting activity that does inflict damage to their properties, and the contention that boaters are responsible for their wake is unfortunately a weak protection because Marine Patrol cannot be everywhere they're needed to enforce that law.

It is not only legislators, but waterfront owners as well that want NH public waters left in as good or in better condition than they were found. That is the core driver why lake associations form and exist, why thousands volunteer, and why they spend countless hours dedicated to preserving NH's quality waters.

Respectfully,

Patty Philbrook
President, PRP Association, Inc.
President@pineriverpond.org
www.pineriverpond.org

Heather Goley

From: Ryan Suplee <rsuplee13@gmail.com>
Sent: Tuesday, February 8, 2022 10:01 AM
To: ~House Resources Recreation and Development
Subject: Please Vote to Oppose HB 1071

To Whom It May Concern,

My name is Ryan Suplee and I am a resident of Barrington, NH. **I write to ask you to oppose HB1071, relative to wakesurfing.**

I am the Digital Marketing Manager for a fly fishing company as well as the chair of Surfrider NH Chapter and I am very invested in the protection of our environmental eco systems. I've grown up competing and coaching in watersports for over 30 years and I want my family and friends to be able to continue to use the waters of NH recreationally while being good stewards on the water.

The irresponsible boaters on the water does not stem from wakesurfing, it stems from locals and out-of-staters not being educated on boater responsibility. All boaters, using any style of boat, doing any activity on the water need to be more educated. Singling out wakesurfing for regulation and restriction is unfair and is not going to solve this issue. Issuing restrictions on wakesurfing will make it impossible to enjoy the activity on smaller lakes, rivers and coves where no degradation from wakesurfing has been shown to exist. More research needs to be done around eroding shorelines before issuing any restrictions, specifically against one watersport.

Myself as part of a NH wake sport family promote "NH Wake Responsibly" with the emphasis on more education to boaters and showcasing best practices for wake sports while being good stewards on the water towards other boaters.

Please oppose and vote against bill HB1071, relative to wakesurfing and let the good efforts of education continue so that we can educate the public rather than targeting a sport that families of NH enjoy. Thank you for your time.

Best,
Ryan Suplee

Heather Goley

From: Ruth O'Hara <rrohara@icloud.com>
Sent: Tuesday, February 8, 2022 10:24 AM
To: ~House Resources Recreation and Development
Subject: HB1071

Good morning,

I am writing to request that House Bill 1071 is supported in the House with an amendment of a 500 foot setback as opposed to the proposed 250 foot setback. Wakesurfing causes far more shore erosion than other types of motor powered water sports. By supporting this bill with a 500 foot setback amendment our beautiful New Hampshire lakes will suffer less damage and erosion to the shoreline. Our lakes, as we all know, are an integral part of the beauty of New Hampshire. Please support this bill in order to protect out lakes.

Sincerely,

Ruth R. O'Hara
38 Opal Lane
Laconia, NH 03246

Heather Goley

From: J Connors <jaconnorsjr@gmail.com>
Sent: Tuesday, February 8, 2022 10:45 AM
To: ~House Resources Recreation and Development
Subject: HB 1071

I am writing in support of House Bill # HB1071 of the House Resources, Recreation, and Development Committee.

As a resident and tax-paying citizen of Wolfeboro, NH, I am in support of HB 1071, the Wake Surfing Bill requires a 250-foot setback for wake surfing.

However, I would like to see the setback amended to 500 feet based on the recent State of Minnesota Study that shows that wake boats generate more powerful waves when wake surfing. The evidence presented in that study justifies the need for this increased setback.

We need to acknowledge this research and legislate based on the facts.

Please help protect the shorelands in NH from the repetitive wave action and erosion that degrades water quality. We want to preserve the ability for people to recreate on the lakes of NH, but we need to make sure that the new recreational activities, like wake surfing, do not have a detrimental effect on lake health.

A 500-foot setback would still allow wake surfers to recreate and would help to protect the shoreline. It's a win for our lakes, property owners, and the watersports industry.

Thank you for your support with this request.

James A. Connors, Jr.
7 Blackberry Lane
Wolfeboro, NH 03894

Sent from [Mail](#) for Windows

Heather Goley

From: James McEachern <jkmceachern@gmail.com>
Sent: Tuesday, February 8, 2022 11:43 AM
To: ~House Resources Recreation and Development
Subject: HB1071

Dear House Committee

I strongly endorse the passage of HB1071 to help control the damage cause by "wake boats" on New Hampshire lakes. As a resident on Lake Monomonac in Rindge I believe this is at most a moderate compromise and only a start to help save our lakes. Peer reviewed papers have suggested stand off distances of 2 to 3 times the 200 feet specified in the bill.

Thanks you

James F. McEachern
28 Heron Point Rd.
Rindge, NH 03461

Sent from Mail for Windows

Heather Goley

From: Jim and Kathy McEachern <jkmceachern@gmail.com>
Sent: Tuesday, February 8, 2022 12:12 PM
To: ~House Resources Recreation and Development
Subject: HB1071



James McEachern <jkmceachern@gmail.com>

to HouseResourcesRecreationandDevelopment@leg.state.nh.us



Dear House Committee

I strongly endorse the passage of HB1071 to help control the damage cause by “wake boats” on New Hampshire lakes. As a resident on Lake Monomonac in Rindge I believe this is at most a moderate compromise and only a start to help save our lakes. Peer reviewed papers have suggested stand off distances of 2 to 3 times the 200 feet specified in the bill.

Thanks you

Kathleen G McEachern

28 Heron Point Rd.

Rindge, NH 03461

Heather Goley

From: Anne Ruggles <asruggles@gmail.com>
Sent: Tuesday, February 8, 2022 1:32 PM
To: ~House Resources Recreation and Development
Subject: My support of HB 1071

To Whom It May Concern,

I am writing to lend my support to HB1071. I live on Squam Lake and see the damage that wake boat surfing is doing the shoreline as well disrupting bird and human life in the water. I support this bill that proposes a 250-foot setback.

Sincerely,

Anne Ruggles
340 College Road
Center Harbor, NH 03226
Cell: 617-513-1868

Heather Goley

From: Dick Hendl <selectmanhendl@springfieldnh.org>
Sent: Tuesday, February 8, 2022 2:15 PM
To: ~House Resources Recreation and Development
Cc: kolelemook.nh@gmail.com; mdavis@nhlakes.org
Subject: Opinion concerning HB1071

Dear Committee Members,

The Town of Springfield has within its boundaries several small lakes on which there has been an occasional "wake boat". These lakes are generally 100-250 acres in size and the wakes created by these relatively new boats cause considerable damage when the energy is dissipated upon reaching the shore. In addition, the operation of a wake boat on the lake makes it unsafe for anyone who might want to use a canoe, kayak or other small craft to be on the lake at the same time.

A study recently released by the University of Minnesota confirms that waves produced during the activity of wake surfing are measurably larger and more powerful than waves created by conventional boats in terms of maximum wave height, total wave energy and maximum power. The study concluded that at least 500 feet are needed for waves produced by wake surfing to diminish compared to waves created by conventional boats. The lakes in Springfield (and many others in New Hampshire) are not large enough to permit the operation of these boats since virtually all locations on the water are within 500 feet of the shoreline. While we do not have an opinion concerning the operation of wake boats on larger lakes, we urge the committee to consider not allowing these boats to operate on smaller lakes, for example, those less than 500 acres in size.

Thank you for the opportunity to express our opinion concerning this bill.

Respectfully submitted,

Richard G Hendl, Chair
Springfield Select Board
Springfield, NH 03284

Heather Goley

From: John Kieley <johnkieley574@gmail.com>
Sent: Tuesday, February 8, 2022 2:18 PM
To: ~House Resources Recreation and Development
Subject: Hb 1071

I am a resident of NH and would like to submit my opposition to HB1071 because, as written, it is impossible to comply with and impractical for the Marine Patrol to enforce.

Wake boats go very slowly and are often overtaken by other boats that come well within the 250' suggested setback. Is the wake boat responsible for stopping if another boater comes or could come into the setback area?

I own property on Squam lake and the real problems with boaters there are (1) jet skis buzzing the shore and (2) boats with loud music.

The Marine Patrol doesn't have the staff to enforce current rules let alone this problematic proposal.

I urge you to table this bill.

John Kieley
37 Holt Lane
Temple, NH
03084

Sent from my iPhone

Heather Goley

From: Legault, Denise I <Denise_Legault@uml.edu>
Sent: Tuesday, February 8, 2022 2:54 PM
To: ~House Resources Recreation and Development
Cc: Denise Legault
Subject: HB1071

I support HB1071.

A 250 foot setback back would go a long way in preventing erosion of shoreline property. I have waterfront property on Big Island Pond in Atkinson,NH . Since moving here in 1998 my taxes have continued to rise and my shoreline has diminished!

Covid brought out many more "jet skies". The drivers seem to have less regard for other's lakefront.

Help!

Denise Legault ,A Concerned Taxpayer

Heather Goley

From: Sally Davis <sally.davis36@gmail.com>
Sent: Tuesday, February 8, 2022 3:05 PM
To: ~House Resources Recreation and Development
Subject: HB1071

Sally J Davis
50 Sugar Run
Thornton NH 03285
Feb.8, 2022

Dear Committee Members:

Please amend HB1071 and require wakesurf boats to keep 500 ft rather than 250 ft from shore to protect our lakes from erosion as recent studies from MN show is the minimum needed. How fortunate we are to have the information in time to change the bill!

My family has a very old camp on Welch Island. Family members row and kayak between Glendale and Welch Island and speedboats threaten to capsize us. Lake Winnepesaukee is becoming less enjoyable and welcoming as the years pass, for us humans and the wildlife we so enjoy. Our dock suffers wave damage from boat traffic as it is now. We would prefer no wakesurf boats at all but they seem to be inevitable. Amending HB1071 would help us and prevent even more damage.

Thank you for your dedication to what makes living in New Hampshire special.

Sally J Davis
603-726-3775
for <rich.davis59@gmail.com>



Virus-free. www.avg.com

Heather Goley

From: Leah Rochbert <lrochbert@gmail.com>
Sent: Tuesday, February 8, 2022 3:12 PM
To: ~House Resources Recreation and Development
Cc: Chip Hastings
Subject: Wake surfing HB 1071

To Whom It May Concern,

I write to ask that you address the issue of wake surfing (HB1071).

The enhanced wakes created for wake surfing can not only erode shorelines and disturb lake bottom sediments (which can release nutrients into the water and cause toxic cyanobacteria blooms that are harmful to wildlife, swimmers, and pets), disturb fish and nesting birds; they also cause damage to property and endanger small children at play along the shoreline.

Requiring a 250-foot setback for wake surfing is a reasonable (and conservative) step to take to ensure both lake health and recreational use.

Please enact HB 1071.

Thank you.
Leah Rochbert

Sent from my iPhone

Heather Goley

From: Li Sa <pawnee.library@gmail.com>
Sent: Tuesday, February 8, 2022 3:23 PM
To: ~House Resources Recreation and Development
Subject: In Support of HB1071 - Wednesday 2/9/22

Wake boats generate larger waves that have a negative impact on the ecosystem, the wildlife. I support HB1071 in mitigating the risks to the environment.

In Hope,

L Gordon
Center Harbor, NH

Heather Goley

From: Jill Alznauer <alzyjj@live.com>
Sent: Tuesday, February 8, 2022 3:36 PM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: HB1071 Wake Boat Bill

Thank you for taking the time look at the issue of wake boats in our New Hampshire lakes. I am hopeful that all will agree to limit the use of wake boats/wake surfing to larger lakes.

I have witnessed the shoreline and biological destruction that these oversized wave creating boats are causing. This new recreational activity is causing havoc on our small Bow Lake like never before.

Shoreline trees that have been standing for decades are being washed away with constant new, larger, wave action like never before. Sinkholes are being created on our shoreline and shore fronts are eroding.

Please consider restricting wave surfing activities to larger lakes that can handle larger waves our small lake and HOME is in danger from these activities surfing recreational activities.

Jill Alznauer
540-903-1667

Heather Goley

From: Ginger Sauer <ginger.sauer@gmail.com>
Sent: Tuesday, February 8, 2022 3:51 PM
To: ~House Resources Recreation and Development
Subject: HB1071

I am writing in full support of the proposed bill HB 1071 to protect New Hampshire lakes from the researched, proven deleterious effects of wakeboarding. My husband and I own a cabin in Center Harbor on Squam Lake, and feel strongly about protecting the quality of the lake and it's shores, environs, and wildlife. Although our residence is in Massachusetts, we cherish our property - and our time - in New Hampshire.

A 500' buffer would be better as well as doable, but 250' seems an acceptable minimum - certainly preferable to no action to protect what we consider paradise.

I urge you to pass HB 1071 to preserve this natural resource.

Sincerely,

Ginger Sauer

Heather Goley

From: Dorothy Dibona <skibones@icloud.com>
Sent: Tuesday, February 8, 2022 4:18 PM
To: ~House Resources Recreation and Development
Subject: HB1071

Please vote in a set back of at least 250' from a wake board boat

The findings from a Minnesota study reveal that wake waves produced by wakesurf boats during wakesurfing are not only higher, but they also require greater distance to decrease to the same height as wake waves from more typical recreational boats. Their study suggests a 500' set back, so the 250' set bak would be a big compromise.

Sincerely
Dorothy DiBona
4 Laurel Lane
Kensington, NH 03833
603-772-9770

Heather Goley

From: Jenna Teeson <jennateeson@gmail.com>
Sent: Tuesday, February 8, 2022 4:25 PM
To: ~House Resources Recreation and Development
Subject: Hb1071

Hello,

I am a property owner in Holderness, NH on Squam Lake. I oppose Hb1071 for several reasons but mostly because the Marine Patrol is not prepared to enforce a law like this. There is no patrol assigned to Squam Lake or most other medium sized lakes in the state. This past summer, we experienced first hand the fact that the patrols are unable to respond to enforcement of current laws that do actually protect boater safety. Patrollers admitted that they are too understaffed to manage most lakes.

Additionally, the slow speed of wake boats is safer than jet skis maxing out the speed limits and zipping between boat traffic.

Instead of this legislation, we urge you to increase funding to support patrols to enforce current laws.

Please table this bill.

Jenna Teeson
56 Laurel Island Lane
Holderness, NH

Jenna Teeson
[202-302-7384](tel:202-302-7384) / teesonreps.com

Heather Goley

From: Reed Harris <reed@harriscs.com>
Sent: Tuesday, February 8, 2022 4:54 PM
To: ~House Resources Recreation and Development
Subject: Re: HB1071

Dear friends,

While I'm not able to be present at the meeting, please consider my thoughts as a permanent resident on Blackey Cove — and in support of HB1071.

While my property is somewhat physically removed from the wave and lake bottom problems others will bring to your attention, I do experience the water issues they undoubtedly will share with you.

I submit two additional concerns:

1) I and my family are annual hosts of a Loon Preservation Committee's loon nesting raft. It has been continually disturbed by waves from wake boarding. This year was particularly costly because after successfully producing two viable eggs, one was "lost" with no trace. Predators will usually leave obvious signs of invading while wave jostling will not. One egg ultimately hatched and happily the loon survived.

Perhaps you will join me and all who support our loons and committee as well by supporting HB1071.

Finally, may I also strongly offer for your consideration that the 250 foot inclusion in the bill will be far too inadequate to solve any issue. From my experience please consider a 1,000 foot barrier between wakeboarding and shorelines in Blackey Cove, or consider closing Blackey Cove in its entirety to the activity.

Thank you - and most sincerely,

Reed Harris
38 Shorewood Lane
Moultonborough, NH 03254
603-253-9158

Sent from my iPhone

Heather Goley

From: Jim & Nina Kelly <jnkelly154@comcast.net>
Sent: Tuesday, February 8, 2022 7:03 PM
To: ~House Resources Recreation and Development
Cc: John Wheeler; Clare Bolster; Shelly Lalos; Linda Carignan Bramante
Subject: HB1071

Dear Honorable Members,

Referencing above-referenced bill scheduled for hearing tomorrow, February 9, we are hereby requesting your support.

The Michigan study, which will be discussed at tomorrow's hearing, concluded that at least 500 feet are needed for wakesurfing waves to diminish compared to waves created by non-wakesurf boats. In light of some of our Association members having voiced concerns regarding the erosion of their waterfront areas, we strongly endorse the proposed legislation and respectfully request your support as well.

We thank you for your service in representing the people of this great state, and very much appreciate your anticipated support of this proposed legislation as well.

Nina Kelly, President
Halfmoon Lake Association

Sent from my iPad

Heather Goley

From: Mark Goldstone <markbgoldstone@gmail.com>
Sent: Tuesday, February 8, 2022 8:19 PM
To: ~House Resources Recreation and Development
Subject: HB1071

We just became aware of a hearing on HB 701 and fully support its passage

My wife and I have been landowners of property near and on Little Squam Lake for 36 years

We have witnessed over the last few years the deterioration of the natural beauty and peaceful tranquility of the lake, mostly occurring with the advent of wakesurf boats.

Our family and grandchildren cannot enjoy swimming at our waterfront due to the enormous waves from these boats. The degradation of the shoreline, the turbulence under the water to aquatic life and the effects on loons and other birds are apparent.

The recent study by the University of Minnesota is totally relevant, Try navigating the waterways of New Hampshire near where one of these wakesurf boats is underway- it is treacherous. Bob Dylans verse is appropriate " You dont need a weatherman to tell which way the wind blows".

Mark & Christine Goldstone

Heather Goley

From: john boss <jhbmd@yahoo.com>
Sent: Tuesday, February 8, 2022 8:25 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Please pass HB1071 after amending for a distance greater than 250ft. 500ft would be more appropriate. The erosion of the shore line of Cobbetts Pond has been considerable.

Thank you for reading this note. John Boss 10 Viau Rd. Windham 978 758-5484

Sent from Mail for Windows

Heather Goley

From: Deborah Sharpe Callahan <dsharpecallahan@gmail.com>
Sent: Tuesday, February 8, 2022 11:09 PM
To: ~House Resources Recreation and Development
Subject: HB1071

I am in support of 250 foot set back .
Deborah Sharpe Callahan
Property owner 77 Pease Rd Ashland
on Little Squam Lake.

Sent from my iPhone

Heather Goley

From: Laurie <lgord23@yahoo.com>
Sent: Wednesday, February 9, 2022 7:59 AM
To: ~House Resources Recreation and Development
Subject: HB1071 Wake limit bill

To the committee,

Please support HB 1071. Excessive waves on small lakes must be limited to prevent further erosion and to preserve decent water quality. This bill seeks a 250' buffer, a start, but it's not enough. A study out of the University of Minnesota published on 2/1/22 supports the need for limits on the excessive waves created by wake/surf boats and the report makes clear the damage caused by these waves requires the boats creating them be at least 500' from shore. An amendment indicating this is needed.

My home is located on Lake Horace in Weare. The erosion caused by these excessive waves is extensive, expensive and unnecessary. If surfing or boarding is desired, head to the ocean or the Broads of Winnepesaukee at the very least. My property tax assessment more than doubled this year resulting in a 50% tax increase. It is not too much to ask for some protection to prevent further damage. Please support HB 1071 with the 500' amendment.

Thank you.

Laurie Gordon
Weare

Heather Goley

From: Meg Nelson <megnpaints@gmail.com>
Sent: Wednesday, February 9, 2022 8:32 AM
To: ~House Resources Recreation and Development
Subject: HB1071

I wanted to send my support of HB1071.

I own a home on pinehurst road on Squam lake and have been very worried about the effects of the wake board boats and how it is affecting the lake front areas.

I am in support of a 250 feet setback from any island or shore front.

Thank you, Meg Nelson

Heather Goley

From: Liz Taylor <liztaylor99@gmail.com>
Sent: Wednesday, February 9, 2022 8:46 AM
To: ~House Resources Recreation and Development
Subject: Please vote no on HB 1071

Good morning,

I am a property owner on Squam Lake in Holderness, NH and would like to voice my opposition to House Bill 1071.

Per a recent peer-reviewed wave-action study by the University of Minnesota, waves produced during the activity of wakesurfing are measurably larger and more powerful than waves created by non-wakesurf boats in terms of maximum wave height, total wave energy, and maximum power. The study concluded that **setbacks of at least 500 feet** are needed for wakesurfing waves to diminish compared to waves created by non-wakesurf boats.

HB1071 would require a 250-foot setback for the activity of wake surfing, which is insufficient. When produced in certain areas, enhanced wakes can erode shorelines and disturb lake bottom sediments—these actions can release nutrients into the water and cause toxic cyanobacteria blooms that are harmful to wildlife, swimmers, and pets. These enhanced wakes can also disturb critical fish and bird nesting habitats, damage shoreline property, and make recreating unsafe for others.

Please vote no on this bill, and protect the health of my cherished lake.

Thank you,
Elizabeth Taylor
3 Allen Way, Holderness, NH

Heather Goley

From: Karen Natario <knatario@pinnaclerehab.net>
Sent: Wednesday, February 9, 2022 9:23 AM
To: ~House Resources Recreation and Development
Subject: HB1071

I am currently a home owner on Squam Lake in Ashland, NH. I have owned my cottage since 2015. I have had the privilege of spending time on this lake for over thirty years. Squam Lake has always been the most enjoyable place for me and my family. The water is crystal clear and the majority of recreational boating activities are done with respect to the water, land, wildlife, and humans.

Over the past few years, with the increase of wake surfing boats, there is a change. Of course my observation is just that observation but it is from the shore and over long periods of time. The water and wave activity take a noticeable toll on the shoreline. Docks and moored boats move violently when wake surfing is occurring. Swimming is difficult with the increase in waves and water turbulence.

I am a supporter of having fun but I am even a bigger supporter of keeping lakes clean and viable for the long term. Studies are showing that this increase in turbulence is not good for lakes' health. Our waterways are one of our most priceless resources. Please support HB1071. This provides a balance for recreation and wake surfing while protecting the shoreline, wildlife, water, and humans. 250' would go a long way.

Thank you,
Karen Natario
9 Falls Way
Greenland, NH 03840

3 Sunset Drive
Ashland, NH

Heather Goley

From: Marie Mayotte <marie@redbrickclothing.com>
Sent: Wednesday, February 9, 2022 10:48 AM
To: ~House Resources Recreation and Development
Subject: Please oppose HB1071

Hello -

We are a family who has been waterskiing/wakeboarding/surfing on Lake Winnepesaukee since the 1950's. We currently have a house in Moultonborough that is the gathering place for my husband and I, our four kids, their spouses and their children.

We have all been responsible boaters all of our lives. We have all seen instances of people not being polite while boating, but these folks are in the minority. Whatever type of boat an operator chooses to use, we should all share the waterways, we should all be respectful of the environment and of other people and we should all be allowed to enjoy NH's lakes in the way that brings us pleasure.

We thank you for your time and ask you to please vote against HB1071

Best regards,

Jerry and Marie Mayotte
and family
Nashua and Moultonborough

--

Marie Mayotte
Red Brick Clothing Co.
17 Dracut Road
Hudson, NH
603-882-4100
RedBrickClothing.com

Heather Goley

From: Hank <hlreznik@aol.com>
Sent: Wednesday, February 9, 2022 11:34 AM
To: ~House Resources Recreation and Development
Subject: HB1071

Dear Legislators,

I am writing you in full support of HB1071 for restrictions on wake boats.

I have included some pictures of the damage to our shoreline caused by wake boats on Blackey Cove in Moultonborough on Lake Winnepesaukee. In addition to the shoreline damage, I have had my kayak swamped by these massive wakes.

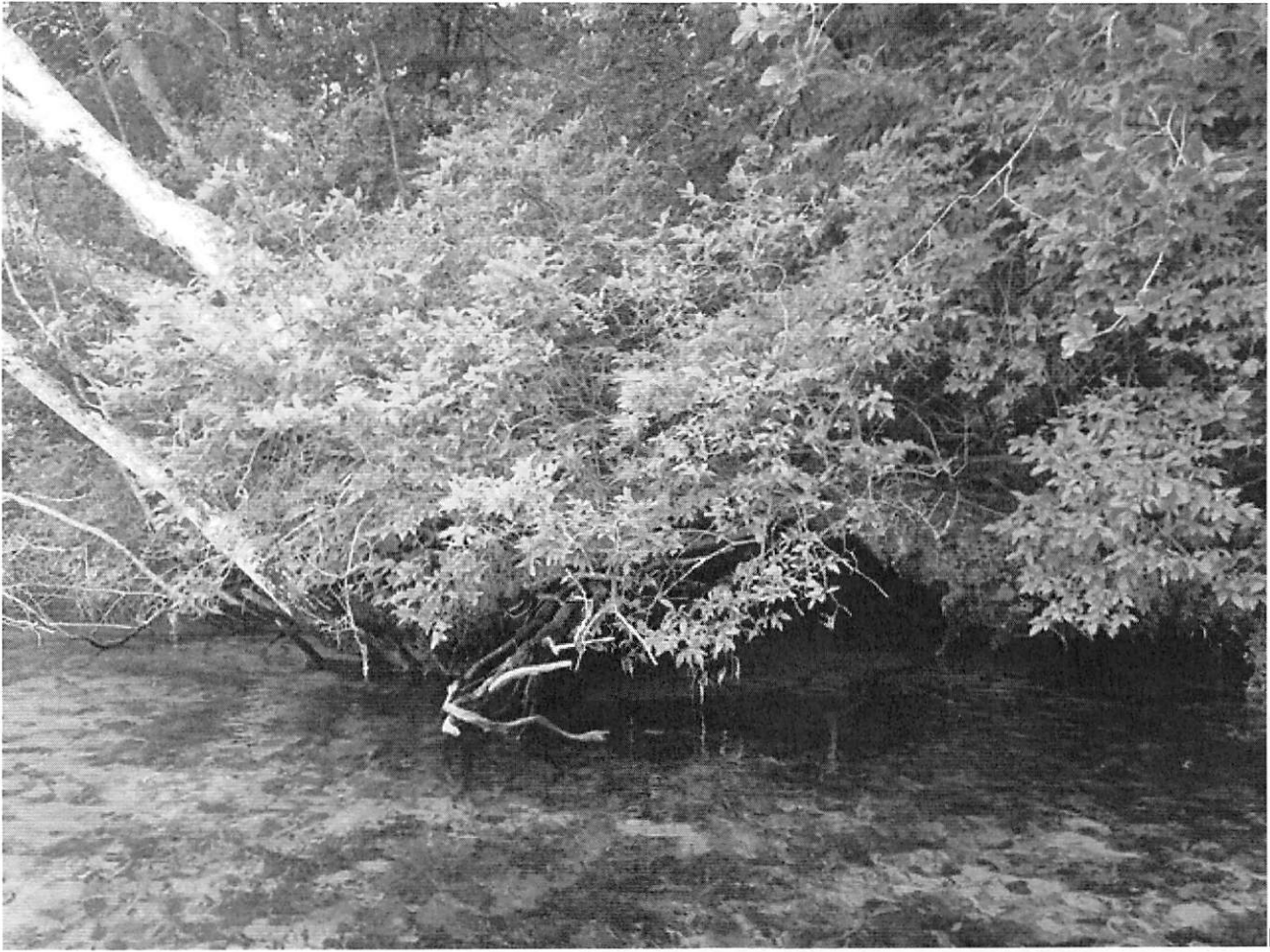
A cove is supposed to be a place where there is some protection from the ravages of the open water. Wake boats have changed all that.

I also feel that the 250 ft restriction is not nearly enough to protect the shoreline and docks. 1000 ft would be much more sensible, and some areas should be off limits completely. Wake boats should use the open water where the waves can dissipate.

Henry Reznik
35 Gregson Lane
Moultonborough, NH







Heather Goley

From: von huene <mvonhuene@yahoo.com>
Sent: Wednesday, February 9, 2022 1:07 PM
To: ~House Resources Recreation and Development
Subject: Support the HB1071

Hello Members,

As a member of the Squam Lakes Association I support the wakeboard limitations outlined in the HB 1071bill.

I'd like to contribute my opinion to the House Resources, Recreation, and Development hearing on February 9, 2022

Thank you,

Monica von Huene

Heather Goley

From: Regina Cockerill <reginacockerill@gmail.com>
Sent: Wednesday, February 9, 2022 3:27 PM
To: ~House Resources Recreation and Development
Subject: HB1071 - Wake Surfing information

Legislative Members,

Like all of you, I appreciate the natural beauty of our state's beautiful lakes and wildlife. With climate changes, I believe it is even more important to do what we can to preserve nature from the damage caused by overt recreational use. Erosion damage caused by wake boats is a very real thing.

I am offering an uploaded video of a Lake Sunapee summer resident who has a wakeboat. He spent about 5 minutes revving his boat, moving it back and forth to purposefully erode the lake bottom. This occurred a couple of years ago but it illustrates the need for protection of the lake from such boat owners. Sometimes residents aren't cognizant of their actions or they feel their behavior is an exception to the rule.

I urge you to do whatever you can to help protect nature and the lake by placing some restrictions on wake boats - especially on small lakes like Sunapee. Individual rights should be respected until those rights interfere with conflicting rights of others in the society. Care for our natural resources affects society at large. Thank you for your service to our recreational facilities.

<https://youtu.be/Gm4fEQ9j2VY>

Kind regards,
Regina Cockerill
58 Lake Ave.
Newbury, NH 03255



Heather Goley

From: Yorks <yorksnh@gmail.com>
Sent: Wednesday, February 9, 2022 9:46 PM
To: ~House Resources Recreation and Development
Subject: HB1071-OTP

Dear Representatives:

First, I apologize for abruptly leaving the Public Hearing today to attend to some medical concerns. My sentiments below were planned to be spoken at the microphone today, had I been invited.

My wife and I have a home on the shores of the sixth largest lake in New Hampshire, and have been there for 14 years. Each year we have witnessed increased boat traffic, including from boats that I consider the most destructive – wake-boats.

I'd like to address different issues that support the proposed bill:

ENFORCEMENT: We have witnessed from our dock, boat, and cottage repeated boating infractions related to the current 150 foot wake rule. How does one submit a complaint of those observed infractions? I am not good at describing boats, and have never been able to determine bow numbers from these incidents. Our electric boat is not fast enough to track down these other boats. The Marine Patrol is under-staffed and aren't seen very often on this big lake.

EROSION: Aside from the obvious destructive wave action from wake boats on the shoreline, it is not infrequent to have the deck of our dock swamped by these boats, often resulting in damage to items left on the deck. The height and energy of the waves thrown from these types of boats is threatening to paddle boarders, canoeists, swimmers, waders, and other unstable craft, and we have witnessed the swamping of paddle boarders from these wake-boats that do not adhere to the current 150' rule. This is clearly a paramount safety issue. Over the entire summer, wind waves only RARELY reach the average height of waves generated by wake-boats.

ETIQUETTE: Some opponents of the bill spoke today that the "wake responsibly" program has been a success, though they did not answer satisfactorily what the parameters they were using to be considered a success. The second guideline states "play music at a considerate level" what does that mean? These and other boats with high powered speakers blast the music, complete with thundering bass, directed towards the back of the boat. Because sound travels so fast and complete over water, the sound level finally dissipates after five minutes, when the boat is out of sight.

Wake boats and water ski boats often take advantage of the flat water to engage in their activities. It is not uncommon to be awakened by these boats at 7 AM, traveling through the channel between our house and the opposite island – very disruptive to our privacy, and a breach of boating etiquette.

I strongly urge passage of HB1071, supported by my testimony above.

Sincerely,

Gary L York, MD
Hopkinton (Newbury), New Hampshire

Heather Goley

From: Christine Renzi <chrisrenzi@comcast.net>
Sent: Thursday, February 10, 2022 5:54 PM
To: ~House Resources Recreation and Development
Subject: Oppose HB1071

Please oppose HB1071! We own shoreline property and have for 21 years on Squam Lake in Holderness. All boaters/surfers are extremely polite and diligent about staying away from the shoreline with the current guidelines. We have had NO IMPACT on our shoreline by the use of WakeSurf boats on our lake. People are resistant to change. We already have a speed limit on our lake too which we totally agree with. It is unnecessary to impose further restrictions on wake surf boats.

Thank you,
Christine Renzi
Holderness, NH 03245

Apologizing for any typos!!
Sent from my iPhone

Christine Renzi
978-490-6572

Heather Goley

From: Eric Knapp <eeknapp@gmail.com>
Sent: Thursday, February 10, 2022 6:06 PM
To: ~House Resources Recreation and Development
Subject: Opposition to HB1071

Dear Committee:

The proposed 500ft setback rule is truly untenable and not based on science.

Please kill this bill as it sets a dangerous precedent for trying to manage an undefined boat type and unclear "wave" designation. There are large cruise boats on the lakes in NH that displace more water than wake boats and trying to have NH Marine patrol try to police a boat's wave height (as not all wake surf boats produce the same kind of wave) puts an unfair burden on these owners and also wrongly categorizes them as ALL the same when they definitely are not. It is a shame that a small group of vocal opponents are trying to influence this bill with heresay and incomplete information.

If this bill passes, the next will be ski boats and motorized boats in general and before long so much of what drives NH's economy will simply dry up.

Thank you for your consideration.

Eric Knapp
20B Overlook at Indian Cave
Sunapee, NH 03782

Sent from my iPhone

Heather Goley

From: Missy Marquardt <mdmarquardt@gmail.com>
Sent: Thursday, February 10, 2022 6:39 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Dear Sir or Madam,

Wake boats throw up large waves (2-4' in height) that damage small docks, thrash small boats, and torment wildlife, including fragile loon nests which are at a water level.

Please support HB1071 to rid New Hampshire's lakes of wake boats.

Sincerely Melissa Marquardt

Summer vacationer on Squam Lake, Holderness NH

Heather Goley

From: Spencer Joyner <spencerjoyner@aol.com>
Sent: Friday, February 11, 2022 11:25 AM
To: ~House Resources Recreation and Development
Subject: HB 1071 Wake Surfing Set Back

Dear Sirs:

I am opposed to HB 1071.

I have been a property owner on Lake Winnepesaukee in Moultonborough since 1980. Three generations of my family continue to enjoy the exhilaration and freedom of water sports on the lake. We hope to continue to do so with your help.

Changing set backs will cause confusion and decrease safety, add unnecessary restrictions, and have no environmental improvements.

Bad idea. Vote No!

Spencer A. Joyner, Jr. MLA, MRP, PhD
50 Hermit Cove Road
Moultonborough, NH 03254

Heather Goley

From: Michael Whitcher <mdw@whitcher.com>
Sent: Friday, February 11, 2022 8:37 AM
To: ~House Resources Recreation and Development
Subject: HB 1071 wake rules

I write to ask you to oppose HB 1071, relative to wake surfing. My name is Michael Whitcher and we enjoy boating on Bow lake. I have lived on Bow Lake for 51 years and my family of 5 use the lake for the for-summer enjoyment and great family time. Wake surfing is one of the things we love to do. It is a great low impact sport that all ages can do. I have owned a wake boat for 10 years and have had very few incidents where we have offended other boaters or landowners. Responsible driving is the key to everyone being able to enjoy the water. I have seen over the years all types of boats have infractions that caused issues for others. It is almost always the operator not necessarily the boat. The average day boater pulling a tube rider in endless doughnuts causes massive bidirectional waves. On any given weekend you will see just as many of these waves being created than the wake surfers. Changing rules for one type of boat will bring confusion to the operators and the regulators. I am always educating new and old wake boat drivers as to the need for us to set the bar for boating etiquette. Since the creation of NH Wake Responsibility, I have personal whiteness a very positive change in the way boat operators are behaving. Operating further out from shore, avoiding rafted boat groups, and not repeating runs, have seemed to make a real-world difference. I believe the effort should be advanced in awareness of responsible boating and not by harsh restrictions set on one type of user.

Thank you
Michael Whitcher

Michael Whitcher
President

WHITCHER
BUILDERS

254 Drake Hill Road
Strafford, NH 03884
P: 603-664-5577 x13
C: 603-235-5983
mdw@whitcher.com

Heather Goley

From: kayla whitcher <kaylawhitcher17@gmail.com>
Sent: Thursday, February 10, 2022 6:04 PM
To: ~House Resources Recreation and Development
Subject: Don't ban wakesport

My name is Kayla Whitcher and I am resident of Strafford New Hampshire, for the last 23 years I have lived on Bow Lake. These past two years i have grown very fond of wake surfing behind our boat and i oppose HB 1071.

Best,
Kayla Whitcher

Heather Goley

From: Jane Kellogg <luvmts.jk@gmail.com>
Sent: Wednesday, February 9, 2022 9:24 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

I am in support of NH 1071 , now in front of your committee.

I am a resident of Campton, NH.

I am on the Campton Conservation Commission.

My family also owns property in Holderness and goes boating and fishing on Squam Lake. The use of wake boats is detrimental to nesting loons and small boat users. The setbacks your committee is considering is a positive step toward safety of persons in small boats and that of our loon population who has other stressors due to human influences.

Thank you for your support of this bill

Jane Kellogg
Campton

Heather Goley

From: Morgan, Elizabeth <emorgan@bsk.com>
Sent: Wednesday, February 9, 2022 1:19 PM
To: ~House Resources Recreation and Development
Subject: HB 701 - SUPPORT

Name: Elizabeth Morgan (from Center Sandwich, NH)
Date of Hearing: February 9, 2022
Committee: House Resources, Recreation, and Development
Bill: HB 1071
Position: Support!

Elizabeth L. Morgan (Lehmann), Associate
Business
315.218.8694 Direct
315.218.8100 Fax
EMorgan@bsk.com



One Lincoln Center, Syracuse, NY 13202-1355

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Heather Goley

From: Gifford West <gswest03245@gmail.com>
Sent: Wednesday, February 9, 2022 1:06 PM
To: ~House Resources Recreation and Development
Subject: HB 1071 relative to wake boat surfing and setbacks

Dear Sir/Madam,

As a 60 year NH resident and user of its lakes, I believe restrictions on Wake Board boats is critical to the protection of both NH environment but also its lake shore economy. Everyone should be allowed to use NH's amazing natural resources to the extent that it doesn't infringe on the environment and other's enjoyment. We've made huge improvements since when I was a kid – quieter more eco friendly engines, the promotion of paddle and sail driven craft, etc. Even the jet skis have been made to be quieter.

Wake board boats are the exception. Engineered to throw off as large a wake as possible, the damage to the shore line is well documented. Less so documented in the damage to boats tied up to docks and the general unpleasantness. A fair compromise seems to increase the set back to 250.

I appreciate your help on this.

Gifford West
Holderness NH

Heather Goley

From: Casey Griffin <casey.griffin79@gmail.com>
Sent: Wednesday, February 9, 2022 1:04 PM
To: ~House Resources Recreation and Development
Subject: Opposition to HB 1071

Dear Members of the House Resource Committee,

I am writing today to express my opposition for the proposed House Bill 1071, which proposes a 250-foot setback for the Wake Surfing.

I am a resident in Sunapee, New Hampshire, and an active member of our community. My support extends to community service and financial sponsorship of various organizations that embrace responsible citizenship and environmental stewardship, including Ausbon Sargent Land Trust, Lake Sunapee Protective Association, and NH Lakes.

My recreational activities include the responsible engagement in many outdoor activities that are reliant on the preservation of our natural resources in the Lake Sunapee Region, hiking, skiing, mountain biking, fishing, kayaking, sailing, and wake surfing.

As you know wake surfing is a tow-craft watersport. Those opposed to this sport often cite the nuisance of loud music and concern for the environmental impact caused by the tow-craft's wake. Targeting wake surfing participants over these factors seems arbitrary considering the various sources of human-made noise pollution and the fact that any power boat operated beyond headway speed will generate a wake that poses a risk of environmental impact.

It is discriminatory to prohibit or restrict the activities of a subset of power boat users based on the selected activity, when the basis for such proposed action cannot be differentiated from other power boat activities such as aquaplaning, water skiing, wakeboarding, tubing, pleasure cruising or simply transitory movement by fishing vessels.

Of equal importance is the impact to public safety. Imposing a 250-foot restriction on wake surfing would cause traffic congestion in the limited areas affording the dimensional area, resulting in an increased risk of collision between vessels or with fallen wake surf participants.

Finally, properties with access to these recreational water bodies will not enjoy the benefit of the market demand of buyers interested in watersport activities. Imposing these restrictions on New Hampshire's recreational water bodies will result in a diminution of property values, which are a substantial basis of the state's tax revenue. This would have an adverse impact on the state and its residents, which should not be overlooked.

On the basis of the foregoing, I respectfully request that you vote against House Bill 1071.

Sincerely,

Casey Griffin
7 Bay Rd
Sunapee, New Hampshire

Heather Goley

From: Jacob Crumbine <jacob.crumbine@gmail.com>
Sent: Wednesday, February 9, 2022 12:40 PM
To: ~House Resources Recreation and Development; Josh Adjutant; Suzanne Prentiss; Roger Dontonville
Subject: HB 1071 - Wake surfing boats are destroying NH Lakes

Dear House RR&D Committee, Josh, Suzanne, & Roger:

I am an Enfield voter.

Please support HB 1071.

Please please read the peer-reviewed wave-action study by the University of Minnesota. It confirms that waves produced during the activity of wakesurfing are larger and more powerful than waves created by non-wakesurf boats in terms of maximum wave height, total wave energy, and maximum power. **The study concluded that at least 500 feet are needed for wakesurfing waves to diminish compared to waves created by non-wakesurf boats.**

Big wakes erode shorelines and disturb lake bottom sediments—these actions can release nutrients into the water and cause **toxic cyanobacteria blooms** that are harmful to wildlife, swimmers, and pets. These enhanced wakes can also disturb critical fish and bird nesting habitats, **damage shoreline property and diminish property values**, and make recreating unsafe for others.

Please let me know how you decide to vote.

Thanks for all that you do for NH,

Jacob Crumbine
Enfield, NH

Heather Goley

From: Jonathan Adams <jda44120@gmail.com>
Sent: Wednesday, February 9, 2022 12:25 PM
To: ~House Resources Recreation and Development
Subject: Support for HB 1071

Dear Sir/Madam,

I am in strong support of HB 1071 which proposes a 250-foot setback from shore for wakeboats.

I own a house on Squam Lake and have seen a dramatic increase in the use of wakeboats over the past five years. They create 3-5 foot waves that have damaged our shoreline, damaged wildlife habitat, damaged our docks, capsized kayaks, canoes and rowing shells, and create safety risks for small children playing in the water near the shore. These boats are often outfitted with powerful sound systems blaring music that further disturb the tranquility of the lake in the early morning hours.

When I use the lake for recreational purposes, I don't infringe on others' ability to use and enjoy our shared resource. Wake boaters seriously infringe on others' ability to use and enjoy our shared natural resource by creating large, ocean-sized waves that do damage, create safety risks and ruin our shared natural environment. While I would like to see wakeboats banned on all smaller lakes, HB 1071 will help by mandating a setback from shore for their use.

Please feel free to contact me if additional input is desired,

Best regards,

Jonathan Adams
342 Pinehurst Rd
Sandwich, NH

(216) 496-2246

Heather Goley

From: Alcorn, Stewart <stewart.alcorn@frostbank.com>
Sent: Wednesday, February 9, 2022 12:24 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Our family has owned property on New Hampshire lakes for over 100 years.
Wake boats are the latest horror inflicted on this fragile ecosystem, and are a hazard to all small boats and swimmers.
Thank you for your support of the 250 foot setback.

Stewart Alcorn
Executive Vice President
Frost – Banking, Investments, Insurance
640 Taylor Street Fort Worth, Texas 76102
Office: (817)420-5048 | Fax: (817)420-5574
[email stewart.alcorn@frostbank.com](mailto:stewart.alcorn@frostbank.com) | www.frostbank.com

Heather Goley

From: Tom Kunhart <tom.w.kunhart@gmail.com>
Sent: Wednesday, February 9, 2022 12:20 PM
To: ~House Resources Recreation and Development
Subject: I support HB 1071

Hi - Thomas Kunhart here. I'm writing to express my support for HB 1071. I have grown up on Squam Lake in Sandwich (year round, not just in summers) and can confirm that wake boats create the largest waves that we see on the lake and disturb the shorelines. They also make it difficult to canoe or kayak, and a couple of my family members have even been tipped over while in a canoe because of wake boat waves. Please pass this legislation to protect our lakes and preserve the natural ambiance that makes Squam Lake and others so special.

Thank you,
Thomas Kunhart
Center Sandwich, NH

Heather Goley

From: Jeanne O'Callaghan <jeanneocallaghan@icloud.com>
Sent: Wednesday, February 9, 2022 12:18 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

My husband and I live on Little Squam Lake and SUPPORT HB 1071.

Thank you.
Jeanne and Steve

Jeanne O'Callaghan and Stephen Taylor
4 Sunset Lane

PO Box 635
Holderness, NH 03245
phone (617) 472-2500
jeanneocallaghan@icloud.com

Heather Goley

From: Michael Whitcher <mdw@whitcher.com>
Sent: Wednesday, February 9, 2022 11:46 AM
To: ~House Resources Recreation and Development
Subject: HB 1071

I respectfully oppose this bill
I believe education is the key to responsible boating

Michael Whitcher
President

WHITCHER
BUILDERS

254 Drake Hill Road
Strafford, NH 03884
P: 603-664-5577 x13
C: 603-235-5983
mdw@whitcher.com

Heather Goley

From: Nathan Cunningham <necunningham122@gmail.com>
Sent: Wednesday, February 9, 2022 11:16 AM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: HB 1071 Support

Hello,

My name is Nathan Cunningham. I was born and raised in New Hampshire, and I have enjoyed spending time with my friends and family in the Lakes Region for my entire life. My favorite place in the entire world is Squam Lake, and I relish each day I get to spend on the water sailing with people that I love. The beauty of Squam is a combination of scattered islands, overlooking mountains, and peaceful waters, and since wake boats have been introduced to the lake there has been a noticeable shift in the serenity of Squam Lake. In addition to their harm towards shorelines and soil and water quality, wake boats drastically disturb the surface of the water which adversely affects the safety and enjoyment of participating in water activities such as kayaking, swimming, sailing, fishing, or simply cruising about. **I am in FULL SUPPORT of HB 1071 to institute a 250-ft setback from the shore for wake boat use.** We must come together to protect the future use of our most precious natural resources--the beautiful lakes of New Hampshire.

Sincerely,
Nathan Cunningham

Heather Goley

From: Russell Siggelkoe <russ.siggelkoe@gmail.com>
Sent: Wednesday, February 9, 2022 11:00 AM
To: ~House Resources Recreation and Development
Subject: HB 1071 Written Testimony

Dear Legislators,

I am writing in support of HB 1071, placing restrictions on wakeboarding boats. As my wife and I live in our lakefront home, we have seen the destruction and erosion caused by these boats first hand. However, as a very recent study from the University of Minnesota has determined, at least 500 feet is needed to diminish the damage caused by these boats to the level of standard boats. Therefore, I would strongly recommend that HB 1071 be amended to change the clearly inadequate distance of 250 feet to at least 500 feet (preferably more).

Thank you for your consideration.

Russell and Teresa Siggelkoe
53

Heather Goley

From: ptarpey@winnepesaukee.org
Sent: Wednesday, February 9, 2022 10:30 AM
To: ~House Resources Recreation and Development
Subject: [CAUTION: SUSPECT SENDER] Please support HB 1071 - Relative to Wake Surfing

Dear House Resources Recreational and Development Committee:

The Lake Winnepesaukee Association strongly supports the passage of this bill. As the lead non-profit organization dedicated to protecting the water quality and natural resources of Lake Winnepesaukee, we are concerned with the impacts created by the large wakes generated from wake surfing.

Our main concerns are

- These boats create larger wakes than usual specifically for the purpose of the activity. It appears that this activity is often done near-shore and within coves rather than open areas (such as the Broads on Lake Winnepesaukee). The lake water below the boat experiences increased turbulence and therefore more likely suspension of bottom sediments. Sediments contain natural and added phosphorus which is a nutrient required for plant growth.
- Elevated levels of phosphorus in lake water is a direct contributor to the growth of invasive milfoil, algae and cyanobacteria. More turbulent water also decreases water clarity. All of these decreases in water quality are known to have negative effects on property values, swim ability, fishing and lake bottom habitat.
- Increased wave action in shallow or near-shore areas also presents the possibility of shoreline erosion, particularly during higher lake levels on our impounded lakes. (We receive numerous complaints throughout the summer regarding the erosive damage done to shoreline properties from the waves created by wake boats.)
- Waves generated by wake board boats may present a danger to other boaters, swimmers, and shoreline structures, such as docks, etc.

The recent study completed by the University of Minnesota confirms that the waves produced by wakesurfing are measurably larger and more powerful than waves created by non-wakesurf boats. The data suggest that operational distances greater than 500 feet are required for the waves generated by a wakesurf boat to attenuate to similar wake characteristics as the non-wakesurf boat reference. Creating a 250-foot setback for the activity of wake surfing does not prevent or impede any person's enjoyment of the sport, but will help in reducing the amount of damage done to shoreline, and decrease the amount of nutrients released into the water column from bottom sediments.

Respectfully,

Pat

Patricia Tarpey, President



Lake Winnepesaukee Association

P.O. Box 1624, Meredith, NH. 03253
(603) 581-6632, www.winnepesaukee.org

Keep Winni Blue

Heather Goley

From: BRUCE BROWN <bdrpbrown@aol.com>
Sent: Wednesday, February 9, 2022 10:26 AM
To: ~House Resources Recreation and Development
Subject: HB 1071

As a full year home owner on Alton Bay, I support the proposed bill to require wake boarding to be done 500 feet from shore. I am currently having to perform shore repairs from the excessive wakes, and it is NOT inexpensive.

Regards,
Bruce Brown

Sent from my iPad

Heather Goley

From: Mary Allen <mallen65@hotmail.com>
Sent: Wednesday, February 9, 2022 8:43 AM
To: ~House Resources Recreation and Development
Subject: Please support HB 1071

Dear NH House members,

Please support HB 1071 relative to wake-boat surfing and setbacks. This bill proposes a 250-foot setback for wake-boarding from the shore.

I have a vacation home on Little Squam Lake in Ashland. The wake-boarding practices on that small lake are damaging shoreline docks and floats, and is uncomfortable/dangerous for any swimmers (especially young ones ... I have three grandchildren).

The 250-foot setback is reasonable. Please support it.

Mary Allen
21 Summer St.
Antrim, NH 03440
mallen65@hotmail.com

and
7 Lakeshore Drive
Ashland, NH

Heather Goley

From: Elizabeth Nassikas <ecoolidge@gmail.com>
Sent: Wednesday, February 9, 2022 8:41 AM
To: ~House Resources Recreation and Development
Subject: Hearing on HB 1071 today on Wake boat Surfing Setback.

I am a landowner on Long Island, Squam Lake and I am writing in support of the 250 foot setback bill for wake boat surfing.

Elizabeth Nassikas
61 Sheffield Road
Newton MA 02460

Select Date of Hearing: **February 9, 2022**
Select the Committee: **House Resources, Recreation, and Development**
Choose the Bill: **HB 1071**
Choose your position: **Support**

Sincerely,
Elizabeth Nassikas

Heather Goley

From: Cynthia Archibald <cynthia.y.archibald@gmail.com>
Sent: Wednesday, February 9, 2022 8:34 AM
To: ~House Resources Recreation and Development
Subject: HB 1071

Please help protect Squam Lake to minimize the effects of wake surfing on the natural shores and wildlife.

Sincerely,
Cynthia Archibald

Heather Goley

From: bgwhitmo@aol.com
Sent: Wednesday, February 9, 2022 8:19 AM
To: ~House Resources Recreation and Development
Subject: Wake Boat Legislation

Please pass HB 1071 to control Wake Boats in our lakes. It is needed to keep the lakes safe and enjoyable for all.

Bruce Whitmore
940 NH Rte. 113,
Holderness, NH 03245

Heather Goley

From: Patrick Keefer <pfkbuilders@gmail.com>
Sent: Wednesday, February 9, 2022 7:54 AM
To: ~House Resources Recreation and Development
Subject: HB 1071

I strongly support this. It might help Squam get a half step closer back to where it once was, peaceful, without big waves and loud music. Spending 30 years of my life in Holderness and on Squam it has become noticeably different. With all of these new "wake/speaker" boats it really turns me off from spending more time on the lake with my young family.

Patrick Keefer
PFK Builders LLC
50 Oak Knoll Road
Meredith, NH 03253
pfkbuilders@gmail.com
603-236-2362

Heather Goley

From: Kathryn Nguyen <kathryn.rl.nguyen@gmail.com>
Sent: Wednesday, February 9, 2022 6:36 AM
To: ~House Resources Recreation and Development
Subject: Re: HB 1071

Hello,

I am writing in support on HB 1071. I believe the evidence from the University of Minnesota study speaks clearly for itself on how damaging the use of wakeboats and the practice of wakeboarding is to small lakes, such as Province Lake.

Province Lake is already dealing with extensive shore erosion issues along nearly all of the shore as a result of waves, and it would seem, particularly taking these data into account, that wakeboats and wakeboarding are a major contributing factor to this erosion.

There is clear evidence that both Bonnyman Road as well as Rt. 153/Province Lake Road, directly in front of the lake, are severely being affected by this erosion along the shore and are and will continue to suffer from this damage until it becomes irreversible and catastrophic, in terms of the financial costs of the loss of these roads and the need for alternate routes to be constructed.

There is no doubt also a correlation between the erosion along the shore, which is sand and dirt being progressively added to the water and the increasing frequency of cyanobacteria blooms occurring in Province Lake. These blooms are extremely dangerous and therefore prevent people and pups from being able to safely swim in and enjoy the lake in the midst of the summer season.

These ever-increasing blooms and the damage from shore erosion are highly likely to damage the property values of lakefront homes on Province Lake, as well as other small lakes in the region, from which Wakefield garners the bulk of it's tax revenues, which could severely impact the area.

Just as so many coastal areas are dealing with and desperately trying to address the major issue of coastal erosion, lakes and lake regions should also take this into account as seriously as it is for the damage it creates.

There are likely a great deal of residents associated with Province Lake in one way or another who support this bill but for whatever reason may not be aware of it in time to support it. In any case however, the damage to Province Lake from wakeboats and wakeboarding should be clear from the University of Minnesota study and wakeboarding should be reserved for the much larger lakes. Please support and pass this bill for Province Lake.

Thank you for your time,
Kathryn Nguyen & Loc Nguyen

Heather Goley

From: David Hahn <hahndavid@outlook.com>
Sent: Wednesday, February 9, 2022 6:05 AM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: HB 1071 wake boat surfing and setbacks regulations

I fully support the regulation of wake boat surfing on NH's lakes. 250 ft of setback is a start but I do not think it is adequate for the long term. 400 to 500 ft setback is what is needed. I am a property owner and have a mooring on Little Squam. A few years ago, wake surfing was occurring within 150 ft of shore and the force of the waves at the shoreline was significant. There was some increased responsibility on the part of the wake boat operators last year and "more" surfing was occurring 200 to 250 ft from shore. For the long term, this is still not adequate. There needs to be regulation and enforcement to protect our lakes.

In gratitude for your service and consideration,

David Hahn
Holderness, NH

Heather Goley

From: Sarah Thorne <scthorne350@gmail.com>
Sent: Wednesday, February 9, 2022 5:59 AM
To: ~House Resources Recreation and Development
Subject: please support HB 1071 for wake boat setback

Dear RR&D Committee,

I am an avid user of our lakes (in a kayak and swimming). The increasing boat traffic, including wake boats, are a great hazard, not to mention an annoyance. Please support HB 1071 to require a 250' setback for wake boating. We have loons, swimmers, paddle boarders, etc. in our cove and the wake boats are too close to shore!

Thank you

Sarah Thorne
Gilmanton, NH

Heather Goley

From: Christopher Lawler <cplawler1@gmail.com>
Sent: Tuesday, February 8, 2022 10:23 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

I am writing in support of HB 1071 which would partially reduce the impact of wake board boats on NH lakes. I have a home on Squam Lake and have several times experienced the waves from passing wake board boats while on my dock. The waves were so intense, they almost threw my power boat up on top of my dock and put people at risk of being thrown into the water due to inability to stand while the waves passed. Not only are these boats dangerous to people, but I can't imagine the harm they are doing to shoreline nests. I can attest, having lived through a couple of hurricane class storms on Squam Lake, that there is no natural phenomenon that would produce such intense and disruptive waves. I believe this to be both a safety and wildlife problem.

Regards,
Christopher Lawler
Sandwich, NH

Heather Goley

From: Cheryl bogardus <cherylbogardus@hotmail.com>
Sent: Tuesday, February 8, 2022 10:18 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

I own a cottage on Lake Winnepesaukee ~16 Little Bear Island. I support HB 1071 as these wake-boats cause huge waves that negatively impact our shoreline by increasing erosion. Actually they need to be more than 500 yards from shoreline but this legislation would help. Thank you.

Cheryl Bogardus

Sent from my iPad

Heather Goley

From: Tory Doolin <rickntory@verizon.net>
Sent: Tuesday, February 8, 2022 9:01 PM
To: ~House Resources Recreation and Development
Cc: Lisa Eggleston
Subject: Support of Bill HB 1071 - Restriction of distance for wake board boats

Our Camp is on the Southern shore of Lake Winnisquam. We have a significant increase of shoreline erosion per the wake boarding boats. The damage is being caused by the sizable waves created by these boats that come in way too close to the shore. Sometimes I have to get up in order not to be swamped with waves, water on the dock!? I would agree with the study that suggests 500 feet of distance is more appropriate. If 250 feet is what can be agreed on tomorrow, so be it, it's better than what is out there now. These boats are meant for a much larger body of water, not one so contained, like the southern end of Lake Winnisquam.

I am in support of this Bill.

Thank you,

Tory Doolin, Lake Winnisquam

Heather Goley

From: Wendy Corcoran <wcorcoran92@comcast.net>
Sent: Tuesday, February 8, 2022 8:58 PM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: Please support House Bill 1071

We are currently full time residents of Hampton, New Hampshire. We have been vacationing on Lake Kanasatka, Moultonborough since 2014 and in fall of 2018 purchased a summer cottage. We experienced the first Cyanobacteria bloom in August 2020, the very day a DES warning came out our dog became very ill. Not knowing what this was, we started researching and became concerned that our beautiful pristine lake was in trouble.

Under current legislation, all boating vessels must maintain headway speed when within 150' from the shoreline, swimmers, rafts, docks, moorings and other vessels.

A recent study published by the University of Minnesota found that popular wake surfing boats require a greater distance from the shoreline compared to more traditional recreational boats because it takes more distance to dissipate their wake.

Some of the impacts include stirring up the bottom sediment which may result in nutrients being released into the water column. These excess nutrients may contribute to algal and cyanobacteria blooms. Large wakes can increase turbidity and cause shoreline erosion, impacting aquatic plant and animal communities.

Due to Lake Kanasatka's size I hope you will support HB 1071 to help keep our small lake healthy for property values, summer fun and all the wildlife we enjoy observing affected by contributing turbidity.

Wendy & Steve Corcoran
99 Burton Road
Moultonborough, NH 03254

Sent from my iPhone

Heather Goley

From: Richard Tonks <richardtonks@gmail.com>
Sent: Tuesday, February 8, 2022 8:47 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

I encourage you to support HB 1071 to help protect NH lakes.

Richard Tonks
159 Bonnyman Road
E Wakefield NH
03830

Heather Goley

From: Hank Parker <hwpark@kahres.org>
Sent: Tuesday, February 8, 2022 8:32 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

I support HB 1071 and urge you to support it to support our ponds.lakes, and shores.

Hank Parker
hwpark@kahres.org

Heather Goley

From: DEB BENJAMIN <dkbenj@aol.com>
Sent: Tuesday, February 8, 2022 7:16 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Dear Members of the House Resources, Recreation and Development Committee

I urge your support of HB 1071 for a number of reasons. The first and second are selfish.

1. I am lucky enough to be a resident of Newbury who lives on Lake Sunapee. My home is on the eastern shore of the lake directly across from Great Island, which is 238 yards away - I measured! When a wakesurf/ballast boat goes by, it is as though my shorefront home had suddenly become an oceanfront home. Further, because of my proximity to Great Island the waves do not dissipate but bounce back. Woe to any other boats in the area, especially kayaks and paddleboards, when one of these boats steams through this channel.
 2. I have been in the house since 1961, and there has been minimal erosion of the shoreline. With the advent of these boats, there is visible erosion. By law, there is nothing that I can do to prevent or mitigate this erosion, as the lake belongs to the state, and I cannot alter the shoreline. However, the result of this erosion is that ownership of a portion of my property is being transferred to the state!
 3. Of concern to all should be the incredibly bad impact these wakes have on the sediment in the lake. It actually rips some of the natural aquatic vegetation from the bottom and stirs up the sediment, which is an invitation to invasives to establish themselves in this agitated area, it enables some unwanted elements safely buried into the sediment to be released into the water column (phosphorus). This unnatural turbidity degrades the visibility in the water. None of this is good news for the health of the lake.
-
- I read much of the University of Minnesota report, and as I understand it, the ballast tank of the wakesurf boat does not have to be full to create the harmful energy. So, if this is true, these boats are a menace most of the time, unless they are going fast enough to plane. So, "headway speed" may be more harmful with these boats in areas that headway speed is required because of either a lot of activity or proximity to shore.
 - The report makes it clear that 250 feet from shore is not enough. Most people have no idea what the difference is between 150 and 250 feet while in a boat! However, they do know (I hope) that 500 feet is more than the length of a football field.

Please support this bill with an amendment to a 500 foot restriction.
Thank you for listening.

Deborah Benjamin
38 Echo Cove Road
Newbury, NH 03255-0224

(603)520-0006
dkbenj@aol.com

Heather Goley

From: Frederick Van Magness <fvanmagness@gmail.com>
Sent: Tuesday, February 8, 2022 7:01 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Dear Representatives,

I call your attention to the following NH Legislative Committee report where I have extracted one item of importance below:

Final Report of the Commission to Study Wake Boats

(HB 137, Chapter 77, Laws of 2019, RSA 270:133) Dated June 30, 2020

From Page 12 of the above report:

- Wake Responsibly Campaign: In an effort to foster a peaceful environment on all waterways, the Water Sports Industry Association (WSIA) implemented the Wake Responsibly Campaign. The campaign promotes courteous behavior by boaters to ensure every moment on the water is safe and enjoyable for all. The three pillars of this educational campaign are: 1) minimize repetitive passes along residential shorelines, 2) play music at reasonable levels, and 3) always tow at least 200 feet from shorelines and docks and steer clear of parked boats and smaller watercraft.

While this was an agreed to part of the report and to be implemented in 2021, it is obvious that the effort was a complete sham. If there was a concerted effort by the Industry to implement all of these items, things would have been much better. One item....minimizing repetitive passes.... was a total failure. The industry apparently never followed any of the agreed to recommendations and nobody followed up.

So now, it is dumped on your lawn to resolve. Will you protect the environment, loons, property, or will you bow to the industry ? Time will tell. So far, the industry is winning.....

Frederick Van Magness
37 Blackey Cove Rd.,
Moultonborough

Heather Goley

From: The Twombly's <thetwomblys@comcast.net>
Sent: Tuesday, February 8, 2022 6:58 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

We are in support of there being a 250-foot setback in regards to wake boat surfing.

Thank you,
Fred Twombly
Bow, NH & Center Harbor, NH

Heather Goley

From: Dave Nonis <dnonis7@comcast.net>
Sent: Tuesday, February 8, 2022 6:11 PM
To: ~House Resources Recreation and Development
Subject: Wakeboards

As a resident of Wolfeboro, NH, I am in support of HB 1071, the wakesurfing bill that would require a 250-foot setback for wakesurfing. **However, I would like to see the setback amended to 500 feet based on the recent study that shows that wake boats generate more powerful waves when wakesurfing. The evidence presented in that study justifies the need for this increased setback. We**

Heather Goley

From: Gregg Rivinius <rivinius@yahoo.com>
Sent: Tuesday, February 8, 2022 6:07 PM
To: ~House Resources Recreation and Development
Subject: Opposition to HB 1071

Dear Members of the NH House,

I am writing to you to voice my opposition to HB 1071, the bill to increase the minimum distance for boats underway for wake surfing to 250 feet from shore, docks, and other boats.

As a father of 3 young children and owner of waterfront property on Newfound Lake, I have experienced firsthand the family friendly enjoyment wake surfing can bring, as well as the challenges forced by uncourteous operators.

We practice keeping as far as reasonably feasible from shore and other boats, often far greater than the required 150'. However, I have significant concern that a legislation targeted at a specific activity would create difficult, unclear rules when underway. It is difficult and potentially unsafe to regulate how vessels underway on a shared body of water would practice varying setbacks from each other.

Additionally, the increased impact on shoreline is also quite unclear with only limited preliminary studies having been performed with minimal public data.

I believe continued increase of educating operators on courteous wake surfing practices will be far more effective than an increase in regulation.

Thank you for consideration on the matter,
Gregg Rivinius
226 Pikes Point Rd, Bristol, NH
27 Tumble Rd, Bedford, NH

Heather Goley

From: Candice Ashenden <revcandi@gmail.com>
Sent: Tuesday, February 8, 2022 5:42 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

To whom it may concern,

I support HB 1071, to regulate the use of wake boats on New Hampshire lakes, and I look for your support, beginning with the hearing, tomorrow.

While destruction of the shoreline is a major concern, I also see people in small vessels at great risk from the waves wake boats can cause.

Thank you,

Candice Ashenden
Lake Monomonac
8 Beauvais Pt Ln
Rindge, NH 03461

Journeying together in faith,
Rev. Candi

Rev. Dr. Candi Ashenden, Pastor
Athol Congregational Church
1225 Chestnut Street
Athol, MA 01331
978-249-6202

Heather Goley

From: Angus West <angus.west@comcast.net>
Sent: Tuesday, February 8, 2022 5:05 PM
To: ~House Resources Recreation and Development
Subject: Support HB 1071 on wake boat surfing & set backs - damaging our lakes

To the NH House Resources, Recreation & Development Committee:

Please support HB 1071 to regulate wake boat surfing.

As a resident on Squam Lake, we have witnessed growing damage to the shore line, wild life (especially endangered Loon nests), and recreational beauty of these precious natural resources of N.H.

The huge waves these monster boats create also cause property damage – giant man-made waves crashing into docks, boats and the shoreline, damaging or destroying fragile shorelines. There are increasing numbers of them. Please do something before it is too late!

Thank you for your consideration.

R. Angus West, Esq.
Veerie Cove, Squam Lake
Holderness, NH

Heather Goley

From: Reicher, Tom <treicher@cooley.com>
Sent: Tuesday, February 8, 2022 5:01 PM
To: ~House Resources Recreation and Development
Cc: Reicher, Tom; 'info@squamlakes.org'; 'Mark leibowitz'; Carol Stone
Subject: HB 1071

I am writing in support of placing restrictions on wake boat surfing on all NH lakes and urge that HB 1071 be adopted, but modified to require at least a 500 foot setback, in accordance with recent scientific studies on the effects of such activities on lakeshore and lake bottom. We live on Squam Lake and are concerned by the increasing prevalence of this high impact water activity. Not only does wake boat surfing damage the lake environment, but the engine horsepower required to create such damaging waves requires consumption of fossil fuels in a manner that contributes materially to climate change. Please include this message as part of the public testimony in support of restrictions on wake boat surfing on all NH lakes.

Tom Reicher
Holderness, NH

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Heather Goley

From: David Smith <dsmith@ossipeelake.org>
Sent: Tuesday, February 8, 2022 4:31 PM
To: ~House Resources Recreation and Development
Subject: In Support of HB 1071

Dear Committee Members: I am writing on behalf of our organization to support HB-1071 and its goal of establishing a set-back for wake surfing. Please note that our members are predominantly non-resident lake property owners and it was not possible for us to be at the hearing in person, as we would have liked.

Ossipee Lake is comprised of multiple parts. A large lake bordered by the towns of Ossipee and Freedom is connected by a channel to a medium-sized body of water (Broad Bay) and via a second channel to medium-sized Leavitt Bay. From there, a third channel leads to Berry Bay, the smallest bay in the Ossipee Lake system. Danforth Pond, to the northeast, which consists of an upper and lower body of water, is connected by a very shallow channel to Broad Bay and is sometimes thought of as Ossipee Lake's fourth bay.

Like most state lakes, crowding has become an issue, with swimmers and low impact watercraft competing for limited space with high-speed watercraft and wake boats. The crowding issue is especially acute on the smaller bays. Ironically, boaters frustrated with crowded conditions on the larger bays seek out Berry Bay and Danforth Pond to find less boat traffic, only to create the same crowded conditions they are trying to escape.

Wake surfing has been a contentious issue on our lake for 3-4 years, with complaints focused mainly on the bays where the powerful waves of wake boats do not have time to attenuate to the wake size of non-wake boats before crashing into the shoreline to threaten swimmers and low-impact watercraft.

Based on the issues we observed, we welcomed and supported the University of Minnesota study which will be discussed at the hearing. Its findings confirm scientifically what we have long-observed: that wake surfing waves are larger and more powerful than waves created by non-wake surfing boats, and their inability to attenuate before reaching the shore creates an unnecessary danger to people and the potential to damage the shoreline.

We have been frustrated by repeated cries from wake boat owners and the boating industry that our claims are exaggerated and not supported by science. Now that the University of Minnesota study is finished, the committee has an opportunity—and we believe an obligation—to find that reasonable restrictions on the operation of wake surfing boats are necessary as a matter of safety and environmental protection.

We hope you will read the study in detail, ask questions that will illuminate the science for the general public, and find that HB 1071 is needed.

Respectfully, and on behalf of the Board of Directors,

David Smith

David L. Smith

Ossipee Lake Alliance
PO Box 173
Freedom, NH 03836

Direct: +1 203 273 0795
dsmith@ossipeelake.org

Heather Goley

From: Kevin McCusker <kfmccusker@gmail.com>
Sent: Tuesday, February 8, 2022 4:20 PM
To: ~House Resources Recreation and Development
Cc: Michelle Davis
Subject: In support of NH House Bill 1071

To whom it may concern,

I support HB 1071, to regulate the use of wake boats on New Hampshire lakes, and I look for your support, beginning with the hearing, tomorrow.

While destruction of the shoreline is a major concern, I also see people in small vessels at great risk from these waves.

Thank you,

Kevin McCusker
Lake Monomonac
10 Beauvais Pt Ln
Rindge, NH

Heather Goley

From: Michele L. Tremblay, naturesource communications <MLT@naturesource.net>
Sent: Tuesday, February 8, 2022 4:09 PM
To: Michele L Tremblay, President
Cc: ~House Resources Recreation and Development; Andrew Renzullo; Suzanne Gottling; brodieforNH@gmail.com; John MacDonald; Joyce Weston; Linda Tanner; Karen Ebel; Michelle Davis; NHRC listserve
Subject: [CAUTION: SUSPECT SENDER] Re: HB 1071 -New Hampshire Rivers Council support of bill

> Dear Chair Renzullo, members of the Committee, and sponsors of HB
> 1071,
>
> The New Hampshire Rivers Council's testimony for the referenced bill
> is attached. Thank you.
>
> Sincerely,
>
> --
> Michele L. Tremblay, President, Board of Directors New Hampshire
> Rivers Council
> 54 Portsmouth St | Concord NH 03301
> 603.228.6472
> NHRivers.org
> We are a 1% for the Planet nonprofit
>

Heather Goley

From: Clarke, Roberta N <rclarke@bu.edu>
Sent: Tuesday, February 8, 2022 4:07 PM
To: ~House Resources Recreation and Development
Subject: Please support HB 1071

As lakeside residents in Center Harbor, we would ask that you support HB 1071.

Thank you,

Roberta Clarke

Heather Goley

From: Janice Bakey <jbjb15@gmail.com>
Sent: Tuesday, February 8, 2022 4:05 PM
To: ~House Resources Recreation and Development
Subject: HB 1071 Vote Yes

Dear Representatives,

Please support H.B. 1071.

Province Lake in E. Wakefield is not a huge Lake and is only 17 feet at its deepest area. Wakesurfing damages the shoreline, and is even more damaging especially in areas that have a road quite near it with a narrow steep drop off of land abutting the water. Additionally the shallowness of Province Lake allows fast speeds to turn up lake sediment that releases toxic cyanobacteria blooms that are harmful to small children and animals as well as to adults who are not knowledgeable about cyanobacteria.

Save our lake. Please Vote for H.B. 1071

Thank you,
Janice A. Bakey

Heather Goley

From: Elizabeth Mead <galfrompdx@yahoo.com>
Sent: Tuesday, February 8, 2022 3:48 PM
To: ~House Resources Recreation and Development
Cc: galfrompdx@yahoo.com
Subject: HB 1071

To Whom It May Concern,

Please vote to put HB 1071 into law.

I have been spending summers on Squam Lake since 1964. With the increased boat traffic, and especially those that are referred to as "wake boats", those with ballast balloons and other measures designed to produce a larger wake, the lake shore at Squam has been disrupted more each year. Waves didn't used to wash over our dock, no matter the lake level. Now, from these boats, they do. The birds, and I am referring specifically to loons, who nest on the lake shores, are suffering due to these waves from the wake boats.

As you may be aware, loon numbers have been decreasing on NH lakes in the past decade or more. They can't possibly reproduce successfully if their nests are subject to these large waves over and over again. They nest in the marshy areas right next to the lake, and these wake boat waves are washing out nests, parents, and babies.

Squam is a smaller lake, with some very narrow passages between land masses. There aren't many areas where the wake boats can travel that the waves don't disrupt the shoreline. Maybe on Winnepesaukee it would be okay, but not on Squam. Please help defend our natural beauty by passing HB 1071!!!

Thank you,

Elizabeth Mead Noel
summer address:
209 Mead Farm Road
Center Harbor, NH 03226

mailing address:
222 Ridgedale Road
Ithaca, NY 14850

Heather Goley

From: Victoria G Dworkin <vicky.dworkin@gmail.com>
Sent: Tuesday, February 8, 2022 3:36 PM
To: ~House Resources Recreation and Development
Subject: Testimony in support of HB 1071

Testimony in support of HB 1071, submitted by Victoria G. Dworkin, 12 Little Pond Road, Sandwich, NH 03227, February 8, 2022.

Chairman Andrew Renzullo, Vice chair Robert Harb and members of the committee:

I am writing **in support of** HB 1701 relative to Wake boat surfing and setbacks. Wake boats are destructive to our freshwater lakes, damaging shorelines, causing erosion, disturbing habitat and causing hazardous conditions to users of recreational small craft such as canoes, kayaks, and paddle boards, as well as to swimmers, docks, rafts, and moored boats affected by their wakes.

I am a property owner and voter in New Hampshire and the owner of a summer home on Squam Lake that has been in my family for generations. Over my lifetime, I have seen boat traffic increase in number, size, and speed; wildlife decrease, and beaches get smaller. I fully support recreational use of New Hampshire lakes and I recognize that tourism is a major industry in New Hampshire. Our beautiful fresh water lakes are one of our most valuable resources. I am concerned that the damage caused by unrestricted use of wake boats will harm the state economy in the long run. The pleasure of a relatively small number of thrill seekers will have a serious impact on the pleasure, and threaten the safety, of hundreds of recreational small craft users and conventional motorboat users, as well as on long term impacts on the lakes themselves.

While I support this bill, I am concerned that it does not go far enough. A recent study from the University of Minnesota shows that a 250 foot setback from shorelines is not sufficient to mitigate the damage caused by wake boats, in contrast to conventional boats used for waterskiing and tubing. They concluded that, under typical operating conditions, "operational distances **greater than 500 ft** were needed to attenuate the measured wake wave characteristics of the wakesurf boats to levels equivalent to the non-wakesurf boats at 200 ft" (99, emphasis added)¹. I would like to request an amendment to HB 1071, changing the setback requirement to 500 feet. In addition, setback limits are of little use if they cannot be consistently enforced. To be effectively enforced, this limit would require an increase in the level of Marine Patrol presence on the larger lakes. I would prefer that wake surf boats be banned outright from fresh water lakes in New Hampshire. I support HB 1071.

¹ Jeffrey Marr et al. *A Field Study of Maximum Wave Height, Total Wave Energy, and Maximum Wave Power Produced by Four Recreational Boats on a Freshwater Lake*. St. Anthony Falls Laboratory Project Report No. 600. Minneapolis: University of Minnesota College of Science and Engineering, 2022.

Vicky Dworkin
storyteller and retired children's librarian
vicky.dworkin@gmail.com

Heather Goley

From: Jennifer Robson <jenrobson@mac.com>
Sent: Tuesday, February 8, 2022 3:28 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

As a resident of Concord and a property owner in Wolfeboro, I am writing to you in support of HB 1071. This bill requiring a wake surfing setback is a positive step towards protecting our precious lakebed health, water quality and wildlife habitat, including endangered shore nesting birds such as loons. However, I would like to see the setback amended to 500 feet based on the recent study showing that wake boats generate more powerful waves when supporting wakesurfing. The evidence presented in that study justifies the need for this increased setback. We need to acknowledge this research and request that you legislate based on facts.

Kind Regards,

Jennifer Robson
23 Ridge Road
Concord, NH

Heather Goley

From: Todd Horn <toddhorn630@gmail.com>
Sent: Tuesday, February 8, 2022 3:04 PM
To: ~House Resources Recreation and Development
Subject: Wake

Good Morning-

I regularly boat on NH lakes (pontoon) and I strongly support the 250' setbacks called for in HB 1071.

Thank you,

Todd

--

Todd Horn
630 Mount Israel Road
Center Sandwich, NH
603.284.7220
720.253.8326

Heather Goley

From: Win Brown <winthrop.n.brown@gmail.com>
Sent: Tuesday, February 8, 2022 3:04 PM
To: ~House Resources Recreation and Development
Subject: Wake boat surfing

Gentlemen,

Please accept this email as a request that your committee adopt HB 1071, which would establish reasonable requirements on the sport of wake boat surfing.

My wife and I own a house on Squam Lake in central New Hampshire. For the past several summers we have become increasingly concerned about the effects of the wakes produced by wake boats on the shores of the lake. They destroy loon nests and other bird habitats. They erode the shoreline. They disrupt the peaceful tranquility of the lake.

The proposed setback is not ideal but it would go a long way toward mitigating this damaging activity.

Sincerely,

Win Brown

Winthrop N. Brown
winthrop.n.brown@gmail.com
703-626-1714 (cell)

Heather Goley

From: George Mills <mswlogo@hotmail.com>
Sent: Tuesday, February 8, 2022 3:03 PM
To: ~House Resources Recreation and Development
Subject: Regarding support for HB 1071 Feb 9th and Ammendment

Dear House,

I understand there is a vote coming up on Feb 9th regarding extending requirements to 250 feet for Wake Surfing. We support this bill with the following amendment.

As you may know recently Minnesota University completed a study on these boats and feel it should be a 500 ft limit.

<https://twin-cities.umn.edu/news-events/university-minnesota-researchers-study-waves-created-recreational-boats>

Property owners have long known how damaging these boats are. There boats get smacked against docks. Small kids getting swamped on their own properties, that they pay hefty taxes for.

Small vessels are also terrorized out on the lake when one of these 3 ft waves come at you from a boat 100's of feet away.

So please consider raising the limit to 500 ft, keeping these machines out only on open waters.

George Mills
193 Pikes Point RD
Bristol NH

Heather Goley

From: lstrayhorn@comcast.net
Sent: Tuesday, February 8, 2022 2:52 PM
To: ~House Resources Recreation and Development
Subject: Support for HB 1071

Re: HB 1071

February 8, 2022

The proliferation of wake boarding on the inland lakes of New Hampshire is damaging the lakes in ways that will not recover in our lifetimes. I strongly support HB 1071 to require a distance of at least 250 ft from the shoreline for all wakeboarding. In fact that distance is not far enough. It does not take a study from the University of Minnesota to know more distance is required. Simply stand on the shore and watch the damage roll in. Live in one of the popular coves on Squam and watch the erosion that is happening faster and faster as the wakeboarders ignore their impact.

As a resident of Holderness, long time homeowner on Squam Lake and a responsible power boat owner I want to see you as our representatives protect the inland lakes from this type of damage. Please support HB 1071. This bill is a minimal position you can support to protect the unique heritage of the New Hampshire in land lakes.

Louise Strayhorn
Holderness, NH

Heather Goley

From: Bonnie James <bonniebjames@gmail.com>
Sent: Tuesday, February 8, 2022 2:41 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

I stand in support of HB 1071 to support a buffer zone for watercraft on New Hampshire lakes. The advised limits protect wildlife and shore erosion as well as create safer water use practices.

Please consider seeing that this gets passed.

Bonnie James
1 Colonial Drive
Newmarket, NH 03857

Sent from my iPad

Heather Goley

From: Widness, John <john-widness@uiowa.edu>
Sent: Tuesday, February 8, 2022 2:32 PM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: Support of HB 1071 with amended setback of greater than 500 feet—ideally 1,000 feet

To the NH House Resources, Recreation, and Development Committee:

I write in strong support of House Bill 1071 regarding wake surfing with the stipulation that the setback from shore be amended to a minimum of ideally 1000 feet as supported by the scientific 2014 report of Mercier-Blais and Prairie performed in nearby Quebec, Canada (Mercier-Blais S., and Prairie. Impact assessment project waves created by type boats wakeboat on the shore of the lakes Memphremagog and Lovering. University of Montreal. 6/2014. Retrivable from https://vite.memphremagog.org/files/userfiles/files/Centre_de_documents/FR/Rapport-Vagues-Wakeboard-2014.pdf).

As wake boating popularity continues to grow, proper management of New Hampshire's water bodies is of vital importance. These relatively new, powerful wake boats and their use for the water sports of wakesurfing and wakeboarding are incompatible with traditional uses that include fishing, swimming, canoeing, kayaking, sailing, and waterskiing. In addition, these new wakesports have significant potential for causing adverse impacts on water quality, wildlife habitat, the natural stability of shorelines, and the economic benefits for New Hampshire's lakes and their shorelands. Thus, establishing new, appropriate, evidenced based water use rules that apply specifically to these new wake boating activities is urgently needed to manage and minimize their negative impacts while allowing users to safely enjoy these activities in a fair and equitable manner wherever appropriate.

Wake sports are enabled by wake boats designed or modified with unique features to enhance the generation of large wakes. The resulting wakes are significantly larger and more powerful than the traditional motorboats using Vermont lakes. These wakes have longer wavelengths and travel farther before they decay in height. In addition, the heavy motors placed far to the stern with downward-directed propellers are capable of producing a powerful jet ("slipstream") of water extending much deeper down in the water than other motorized boats. In shallow water, this disrupts the bottom ecosystem by stirring up lake sediments and activating nutrients which contribute to increased algae blooms. Their deeper-running propellers can fragment some AIS, e.g., milfoil, thus contributing to the spread of invasives and the high cost of their management.

Based on the great preponderance of evidence of against the extraordinary wave heights produced by wake boats as they plow through the water while wakesporting, having a 250 ft minimum distance from shore for wake boats is HUGELY too short and inadequate a distance needed for protecting other boats, swimmers, and other enjoying lake recreation. Instead, much, much greater distances from shore are needed to attenuate the huge, powerful wakes these boats generate. Increasing the shore protection zone distance to 1000 ft for these wake sports would provide the distance needed to make resulting waves equivalent to those of typical ski boats and avoid shoreline erosion.

—
John (Jack) A. Widness

Lake Raponda
Wilmington VT 05363
john-widness@uiowa.edu

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Heather Goley

From: K Balanoff <kcbalanoff@gmail.com>
Sent: Tuesday, February 8, 2022 1:59 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Members of the House Committee,

My name is Krystal Costa Balanoff, and I live on a small lake in Northwood New Hampshire. I support HB 1071, AN ACT relative to wake surfing but request that you consider a further setback more protective of lake health as indicated by recent studies.

Wake surfing is a fun family activity! But, it is important to take the impacts of shoreline erosion, benthic disturbance, and habitat degradation into account when determining the responsible use of our beloved waterbodies.

The results of the recent University of Minnesota St. Anthony Falls Laboratory report "A Field Study of Maximum Wave Height, Total Wave Energy, and Maximum Wave Power Produced by Four Recreational Boats on a Freshwater Lake" compares wakes of non-wake surfing boats with wake-surfing boats. The results of this report justifies a need to amend HB 1071 with an increased distance from shoreline for dissipation of a wake surfing waves.

Thank you,
Krystal

Krystal Costa Balanoff
603.978.4658
[LinkedIn](#)

Heather Goley

From: Susan Reed <reed.sd@comcast.net>
Sent: Tuesday, February 8, 2022 1:56 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Good afternoon,

I am writing in regards to HB 1071.

I am really concerned about the environmental impacts that we are seeing from the powerful waves associated with wakesurfing conditions. Shoreline erosion and property damage have been noticeable. In addition, I am worried about the depth at which lake bottoms are being affected. A study referenced in the literature review of the recently released Minnesota study observed that depths of 16 feet are impacted by wakesurfing conditions. I am concerned about the sediments on lake bottoms being churned up, especially as we are seeing more and more cyanobacteria blooms in New Hampshire. Having a greater distance from shore would help to alleviate some of this impact.

I am glad to see that this issue is up for discussion. 250 feet would be a start, but it seems like the emerging data supports even higher distances (i.e., 500 feet). I ask you to support a minimum of 250 feet, but urge you to consider raising the number higher than that.

Thank you!
Susan Reed
Big Island Pond

Heather Goley

From: goobs500@aol.com
Sent: Tuesday, February 8, 2022 1:45 PM
To: ~House Resources Recreation and Development
Subject: I SUPPORT HB 1071

I would like to express my complete support for house bill 1071.

Robert I Suanet
38 Hawthorne Dr
Auburn, Nh 03032

Heather Goley

From: Brigitte Kingsbury <brigittekingsbury@gmail.com>
Sent: Tuesday, February 8, 2022 1:42 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

I write in support of HB 1071, which would require a 250 foot setback for the activity of wake surfing.

This would be a terrific idea. I am a frequent visitor to Squam Lake; one of the most beautiful places in the world. And I have seen the shorefront damage that wake boats are doing to the land and to docks. I know of many people who are considering putting in stationary docks instead of floating ones, due to the severe damage done to docks due to wave action.

I would ask that you also consider that people flock to NH lakes because of the clarity of the water. Wake boats create an astonishing amount of turbidity in the water column. And while the boating industry will certainly claim that ALL their boats need access to ALL of the lake, it is inherently unfair that the activities of one group of boaters would take precedent over ALL others. Please consider that we need to share lakes, not set aside entire lake ecosystems for one group. This bill would not make wake boating illegal; it would just make the lake experience more pleasant for ALL.

Please, support HB 1071.

Thank you.

Brigitte L. Kingsbury

Cape Elizabeth, Maine AND frequent visitor to AND homeowner in Holderness.

Heather Goley

From: Margaret <mlbandaeb123@gmail.com>
Sent: Tuesday, February 8, 2022 1:40 PM
To: ~House Resources Recreation and Development
Subject: Support HB 1071

Hello,

As a resident of the Lakes Region (Winona Rd in New Hampton, NH) and a trail volunteer for Squam Lakes Assoc, I would like to ask you to support the proposed 'wake' legislation that is coming up for vote via HB 1071.

Kind Regards
Margaret L Stark, MBA, MA

Heather Goley

From: Gil Barth <barthmail@comcast.net>
Sent: Tuesday, February 8, 2022 1:37 PM
To: ~House Resources Recreation and Development
Subject: Wake Boat Legislation

Ever since my childhood I have enjoyed summer time on NH lakes. My grandparents and parents taught me to appreciate the beauty of the lake and all of the creatures that live there. I have continued to spend time on NH lakes each summer and have shared my love for those lakes with my children. We find many ways to enjoy the lake, from pre-dawn paddling to midday water skiing and quietly watching the sunset behind the mountains while listening to the loons call.

I believe that there are many ways to enjoy the lakes but that we need to have certain boundaries to keep from losing some of those. The HB 1071 provides an opportunity to set a boundary, allowing folks to enjoy wake boarding while preventing the destruction of many of the very aspects of the lake that so many of us enjoy. Please pass HB 1071.

Thank you,

Gilbert Barth

Heather Goley

From: Dennis Badman <dennisbadman@gmail.com>
Sent: Tuesday, February 8, 2022 1:30 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Please support HB 1071, or consider a modification based on lake depths.

I live on Province Lake which is quite shallow (max depth 17 ft). Wakeboats visibly tear into the lake bottom turning up sediment and damaging the entire lake. Once a lake is damaged, recovery takes years, if ever.

Thank you for your thoughtful consideration.
Dennis S. Badman, MD

Sent from Mail for Windows

Heather Goley

From: Michael Vinick <mvinick@ductandvent.com>
Sent: Tuesday, February 8, 2022 12:57 PM
To: ~House Resources Recreation and Development
Subject: please vote to oppose HB 1071

I am writing to ask you to oppose HB 1071 relative to Wake Boat Surfing. I live in Sunapee Harbor on the water with about 90 feet of frontage. My two adult sons travel from their homes to visit and our family regularly spends time surfing and water skiing on Lake Sunapee having a lot of fun together. I believe it is unfair to single out wake boats as a culprit of environmental issues on the lake. I often witness ski boats and pontoon boats driving recklessly and too close to shore at high rates of speed (even in the no wake zone). The many surf boaters I know all tend to pay very close attention to their surroundings and safety. Thank you for taking the time to read my statement and I hope that you vote against HB 1071.

Be Well, Stay Safe!
Best regards,
Michael Vinick
413-246-3687

Heather Goley

From: Roger Bloch <rbbloch@gmail.com>
Sent: Tuesday, February 8, 2022 12:47 PM
To: ~House Resources Recreation and Development
Subject: Support for HB 1071

Dear Committee Members,

I am a resident of Springfield NH on Little Sunapee Lake and support HB 1071. Wake boats are increasingly popular on our lake and are detrimental to my enjoyment of the lake. Many other property owners share my experience and dislike of these boats. As outlined below, I feel that HB 1071 does not go far enough in terms of curbing the bad impact of these boats.

Wake boats produce large and powerful wakes by design, and this creates extraordinarily large waves breaking on the shore, crashing against docks and embankments and splashing water on us. They can pitch a Sunfish half out of the water while sailing. Doing anything along the shore is out of the question as one of these boats passes by. I don't even want to be out there kayaking while a wake boat is underway. These disruptive waves occur even if the boat is more than 250' from shore, consistent with U Minn research which shows wave power from wake boats is 3x normal boats at 250', and about 2x normal boats at 500'.

As these boats become more common, I have no doubt that erosion of sandy shoreline will increase, adversely impacting property values.

For these reasons, I support HR 1071. In fact, given my experience and U Minn's findings, I say that the bill does not go far enough. These boats should be kept at least 500' from shore. Even at that distance, these boats are a detriment to our enjoyment of the lake.

Respectfully submitted,

Roger Bloch

Heather Goley

From: Barry Reed <reed.barryj@gmail.com>
Sent: Tuesday, February 8, 2022 12:41 PM
To: ~House Resources Recreation and Development
Subject: Comments on HB 1071

TO: NH House Resources, Recreation, and Development Committee
FR: Barry Reed, 20 Horseshoe Lane, PO Box 97, Hampstead, NH 03841
DT: February 8, 2022
RE: HB 1071 relative to wake surfing

My wife and I own shorefront property on Big Island Pond in Hampstead.

We have witnessed first-hand the damage done to our shoreline, beach, dock, and moored diving raft by unregulated wake surfing activity. Our shoreline is being undercut by wake boat waves that threaten both the protective vegetation and the large pine trees at the water's edge. Erosion of our sandy beach has accelerated. I have had to replace all my floating ramp and dock fittings with commercial, marine-grade hardware, and have had to add extra anchors to keep my diving raft from drifting away due to the excessive wave action created by wake boats that travel too close to shore. I have also experienced the fear of my kayak or fishing boat swamped by wake boats while out on the water.

I am tired of investing my personal time, money, and labor making repairs caused by uneducated or inconsiderate wake boaters. To me, such damages border on vandalism.

Here are the key points I request you consider as you finalize the proposed legislation to address excessive wakes:

1. The objective scientific evidence is compelling – at least 500 feet from shore is needed to address the safety, erosion, property damage and environmental issues associated with excessive wakes. Numerous sources clearly point out that 250 feet is not nearly sufficient.
2. Studies show that not only do the energy and damage potential of wakes go up exponentially with wake size, large boat wakes contain more energy than the top wind-generated waves. For relatively narrow bodies of water like Big Island Pond, wind-generated waves are rarely a factor. Any suggestions that significant erosion on BIP and other inland waterways is due principally to either spring runoff or the increase in the number of boats are not technically supportable.
3. Wake impacts at the shore are generally not observable until the boat is 1000 feet or more away, which

makes enforcement difficult. Permitting wake surfing 500 feet from shore would make it easy for NH Marine Patrol to recognize and address safety violations.

4. It is a privilege to operate a boat on NH waters, not a right. Those making large wakes do not have a right to prevent others from safely recreating on the same waters and damaging property at the same time. NH is blessed with lakes that are large enough for those making large wakes to recreate safely with minimal impact to others.

5. This is not just an issue for property owners. There are many people who aren't waterfront property owners but who want to recreate safely on Big Island Pond – other boaters, sailors, kayakers, paddleboarders, small fishing boats, swimmers, classic water skiers. Many property owners purchased their property decades ago when costs were relatively low and are now retired and living on fixed incomes.

Thank you for considering my comments and for taking up the subject of wake surfing before the upcoming boating season.

Heather Goley

From: Robert Zuch <rzuch13@gmail.com>
Sent: Tuesday, February 8, 2022 12:15 PM
To: ~House Resources Recreation and Development
Subject: HB 1071 Written Testimony

Dear Legislatures,

I am writing in FULL support (with an amendment) of HB 1071 for restrictions on wake boats. We have suffered with the consequences of wake boats at close proximity to our property on Blackey Cove. The erosion caused by the waves has been an ongoing problem. Also, there are safety issues to other boaters (e.g. kayakers, stand up paddle boards, etc.) and swimmers having to deal with waves larger than we observe in storms with gale force winds, often suddenly appearing with no warning.

What is so frustrating is these boaters seek out quiet coves and come from many parts of the lake. They go back and forth for many hours, often spending the entire day with a boat full of people wakeboarding. While there are miles of large open expanses of water, they choose the quiet coves. To say their wakes are a nuisance is a gross understatement. Their whole activity centers on producing the largest waves possible, which significantly contribute to shoreline erosion. DES is against people disturbing the lake bottom. Voting against this bill is making a clear statement that the erosion and dust up of sediment is OK.

The bill needs an amendment...250 ft is in no means adequate to stop the shoreline erosion. 1000 feet would be much more productive and allow time for wakes to dissipate. There is plenty of room in the middle of Lake Winnepesaukee for wake boat enthusiasts to enjoy their sport without adversely effecting others and our sensitive environment.

It's time to fix this problem and not cave into the boat dealers who profit by selling more boats. If you vote against this bill, I wonder what your motivation is other than not wanting to protect the environment? A no vote is an anti-environment vote, pure and simple. How can anyone vote along with the boat dealers and lobbyists when you should be protecting NH's most valuable resource?

Robert Zuch and Judy Jonassen
15 Wilson Rd.
Moultonborough, NH 03254

Heather Goley

From: John and Linda Hopper <hoppers43jl@gmail.com>
Sent: Tuesday, February 8, 2022 12:14 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Hi,

We feel strongly in requiring wake boarders to be at least 500 feet from shore. The environmental impacts have been well documented recently. As decades-long kayakers and canoers on Lake Winnepesaukee, we feel the impact of the high waves artificially created by wake boats, making it more dangerous to be on the water. Many of them do continuous circles and come fairly near shore. This creates a constant series of their waves, making for rough seas on calm days. The practice is also a hazard for docks and boats tied up to them. We live on Bear Island during the summer, and the bay in front of us attracts the wake boarders. When they come in too close (within 500 feet), their waves are a real problem. This sport is limited to a fairly small fraction of lake visitors who can afford the special boats; yet their activity effects everyone in their vicinity. We should not be stuck with tolerating their fun when there are real issues created by it.

Many thanks for your consideration.

John and Linda Hopper
119 Bear Island
Lake Winnepesaukee
Meredith, NH



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Heather Goley

From: thepinesnh@gmail.com
Sent: Tuesday, February 8, 2022 12:10 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

To Whom it May Concern:

I am writing to express my opposition to HB 1071 and its affect on the sport of wake surfing. I recently purchased a small cottage community on Center Harbor at the north end of Lake Winnepesaukee. This business has been operating for over 70 years and provides an economical way for guests to enjoy the beauty of New Hampshire and its myriad of lakes. My business provides dock rentals along with the cabins so that people can enjoy the lake first hand. While I mostly have fishermen, during the high season many guests spend their days out on the lake doing watersports.

For my entire life I have been an avid water skier, still skiing the slalom course at 60 years old. As I have aged, I have come to enjoy wake surfing, as it is much easier on my body. What I discovered is that wake surfing has become popular with all ages. It is easier to learn than water skiing and less stressful. With the younger crowd, it has replaced tubing as the activity of choice (given how annoying tubing can be to other boaters, this is a good thing). Furthermore, it is very social given the slow speed and the larger number of people in the boat.

While I understand that the large wakes can be seen as a nuisance, all power boats produce waves that are larger than a typical swimmer or kayaker would like. On Winnepesaukee I have dozens of large boats pass my property for every wake surf boat that I see. Boat wakes are so intermittent that they are not an erosion concern like the constant wave action brought by wind. There are already boating laws in place that restrict speed adjacent to the shoreline and these existing laws are sufficient to provide for the safety of people who use our state's beautiful lakes.

HB 1071 attempts to single out a single use in misguided fashion and should be defeated. If certain small lakes wish to restrict the use of their waterways, then they should pursue targeted legislation related to their specific circumstance. A blanket law covering the entire state is not the proper solution.



THE PINES AT CENTER HARBOR

66 Alpine Park Road
Moultonborough, NH 03254

David Quisenberry, Manager
(603) 253-4305

www.thepinesnh.com

Heather Goley

From: clem regan <clementwilliamregan@gmail.com>
Sent: Tuesday, February 8, 2022 11:52 AM
To: ~House Resources Recreation and Development
Subject: HB 1071

--I'm writing to support HB 1071 as a bare minimum for the regulation of wakesurfing on NH lakes.

I have lived on Lake Winnepesaukee since 1962 and in all that time boaters were held legally responsible for damage caused by their wakes. It is only since the appearance of wakeboarding that that responsibility has seemingly disappeared completely.

One only needs to exercise the simple power of observation in order to see the damage caused to the lakes shoreline. Erosion has accelerated at an incredible rate. Property damage to docks and boats has increased greatly. You can actually stand on the shoreline and watch the wakeboats as they create huge waves. You can then watch the waves from specific boats crash into the shoreline. You can watch the damage created in real time. All you have to do is Look!

I
Best Regards
Clem Regan

Heather Goley

From: Daniel Dupee <dsdupee124@gmail.com>
Sent: Tuesday, February 8, 2022 11:50 AM
To: ~House Resources Recreation and Development
Subject: HB 1071 - Opposition

Hello,

I respectfully log my opposition to HB 1071. My family and I love wake surfing and we firmly believe that through education and personal responsibility wake surfers can pursue their sport while not negatively impacting other boaters and the shoreline. I urge the House Resources Committee to defeat HB 1071 in favor of the current boater education campaign currently ongoing.

Thank you,

Daniel Dupee.

Heather Goley

From: Jim Floyd <jim@thelmaworld.com>
Sent: Tuesday, February 8, 2022 11:40 AM
To: ~House Resources Recreation and Development
Subject: House bill 1071

To Whom It May VConcern,

I am emailing because I'm concerned about erosion and disturbing the lake sedimentary layers and also because I've already witnessed how wake surfing too close to shore and structures like docks and the resultant artificially created large waves are doing damage.

Shore erosion is an unsettling concern. But as noted above, the current practice also puts docked boats a great risk as large waves toss tethered vessels up and down as violently as any of the recent tropical storms we've had to endure. Without a 500-foot buffer, there is a huge chance for major property damage, especially in areas of relatively shallow docks.

I urge you to amend HB 1071 per the recent impact study done on wake surfing by the University of Minnesota.

Thank you for your attention to this matter.

James Floyd
49 Swain Road, Meredith, NH 03253

Sent from Mail for Windows

Heather Goley

From: Jesse Laschi <j.laschi@gmail.com>
Sent: Tuesday, February 8, 2022 11:33 AM
To: ~House Resources Recreation and Development
Subject: House Bill 1071

Hello,

As a lifelong summer resident on Lake Wentworth and member of the Wentworth Watershed Association, I am strongly in support of HB 1071 which has a hearing date of Feb 9, 2022 before the House Resources, Recreation and Development Committee.

As brought to my attention by the WWA, the following study shows an operational distance of 500ft is required to for the waves generated by a wakesurf boat to attenuate similarly to a non-wakesurf boat:

[SAFL Project Report No. 600 A Field Study of Maximum Wave Height, Total Wave Energy, and Maximum Wave Power Produced by Four Recreational Boats on a Freshwater Lake](#)

For this reason, I am support of HB 1071 which would require a 250ft setback for wakesurfing activities- however, I would like to see the setback amended to 500 feet based on this recent study.

I've been wakeboarding, skiing and tubing on lake Wentworth all my life, and I believe this is a necessary compromise to allow wakesurfing to take place on Lake Wentworth without undue hindrance, while also protecting our shorelines and water quality.

Thank you for your time.

Jesse Laschi

Heather Goley

From: Anne Galli <annegalli316@gmail.com>
Sent: Tuesday, February 8, 2022 10:42 AM
To: ~House Resources Recreation and Development
Subject: HB 1071

As a NH property owner, I urge you to consider the negative impacts of wake boats on our shared valuable resources, our NH lakes.

Recently I attended a lecture by Lisa Doner, Associate Professor. Environmental Science and Policy and Center for the Environment Plymouth State University.

If I understand her correctly as a limnologist who studies NH lakes, there are problems from shoreline erosion caused by the 12 million or so NH motorboats. These boats generate waves (wake) on all shorelines. This erosion leads to eroded material decaying on the lake bottom which deoxygenates the water, leading to hypoxia. When the oxygen is used, the decay uses sulfur, releasing sulfur dioxide and methane. This can kill fish and become self-fertilizing resulting in the dreaded algal blooms.

Wake boats will exacerbate these problems. Please protect NH lakes!

With appreciation for your work,
Anne Galli

Heather Goley

From: Frederick Van Magness <fvanmagness@gmail.com>
Sent: Tuesday, February 8, 2022 10:41 AM
To: ~House Resources Recreation and Development
Subject: HB 1071 Written Testimony

Dear Legislators,

While I cannot be present tomorrow, I am writing in FULL support (with an amendment) of HB 1071 for restrictions on wake boats. At my lakefront property, I have walls destroyed, boat mooring whips broken, boat lines snapped, and we cannot sit on our dock near the shore when the wake boats are plying the waters, as the waves break on shore and soak us. We see the lake bottom constantly disturbed and sediment raised.

What is so frustrating is these boaters seek out quiet coves and come from many parts of the lake to play their sport. And they go back and forth for many many hours, often spending the entire day with 8 or 10 people in the boat wakeboarding. While there are miles of large open expanses of lakefront, they choose the quiet coves. To say their wake are a nuisance is a gross understatement. Their whole activity centers on producing the largest waves possible, which significantly contribute to shore line erosion. DES is against folks raking and disturbing the lake bottom, but the erosion and dust up of sediment apparently is OK if you vote against this bill.

The bill needs an amendment...250 ft is in no means adequate to stop the shore line erosion. 1000 feet would be much more productive and allow time for wakes to dissipate.

Time to fix this problem and not bow down to the boat dealers who only want to profit by selling more boats. If you vote against this bill, I wonder what your motivation is other than not wanting to protect the environment. A no vote is an anti environment vote, pure and simple. How can anyone vote along with the boat dealers and lobbyists when you should be protecting NH's most valuable resource with a YES vote.

Frederick Van Magness
37 Blackey Cove Rd.
Moultonborough, NH 03254

Heather Goley

From: Jeffrey Newton <jeffrey.newton@verizon.net>
Sent: Tuesday, February 8, 2022 10:41 AM
To: HouseResourcesRecreationandDevelopment@leg.state.nh.us
<HouseResourcesRecreationandDevelopment@leg.state.nh.us>
Subject: HB 1071

I am writing in regards to HB 1071. As a homeowner on Blackey Cove in Moultonborough I have personally experienced the deleterious effects of wakesurfing over the past several years, particularly in the Spring/Summer season of 2021. I have spent several thousand dollars to repair damage to my shoreline and retaining wall as a result of waves generated by wakesurfing. Last year, when the lake level was high, waves washed over the retaining wall and caused erosion behind the wall and caused the steps into the water to tilt dangerously. We have been a homeowners on the lake since 1982 and have observed the ever increasing deleterious effects of wave action caused by wakesurfing, especially in recent years.

Blackey Cove is a narrow body of water on Lake Winnepesaukee and the science of wave action supports the fact that the damage to the shoreline is much greater in a narrow body of water as there is not enough distance for the wave energy to dissipate. A 250 foot setback for wavesurfing is inadequate as pointed out in the University of Minnesota study. A minimum setback of 500 feet is recommended although I would argue, in keeping with the scientific data, that wakesurfing should be prohibited in areas where it is not possible to maintain a setback of 500 feet from shorelines/docks.

This is not an issue that affects only homeowners of lakefront property. It affects all of the citizens of the State of New Hampshire and all those who use the lakes of our state for recreation as a result of the negative environmental effects of wakesurfing on the "health" of our inland waterways!

I urge you to increase the setback requirements for wakesurfing to at least 500 feet and to consider banning wakesurfing in narrow bodies of water(such as Blackey Cove) where it is not possible to maintain a 500 foot setback from both shorelines.

Thank you for your consideration and attention to this important environmental issue!

Sincerely,

Jeffrey and Myra Newton
248 Redding Lane
Moultonborough, NH 03254
603-253-7592(H)
781-724-2902(cell)

Heather Goley

From: David Simmons <bevacn5@gmail.com>
Sent: Tuesday, February 8, 2022 10:41 AM
To: ~House Resources Recreation and Development
Subject: Bill 1071

I want to show my support for myself and my family for bill HB 1071, the wake boarding are damaging our shore line and need to increase distance off shoreline to 250 feet; please allow this enforcement to stop shoreline damaging and preserve our beautiful lakes Beverly Neal owner of property on Lake Winnepesaukee

Sent from Mail for Windows

Heather Goley

From: Susan Gurney <wegurneys@gmail.com>
Sent: Tuesday, February 8, 2022 10:31 AM
To: ~House Resources Recreation and Development
Cc: Michelle Davis; Tom@tomploszaj.com
Subject: House Bill 1071. Wave Surfing Boats

Dear Committee,

One element that the University of Minnesota report does not mention directly is the damage by the excessive strength of waves of wake surfing boats to man made structures on lakes. People I know on Squam Lake have said that the large waves from the boats have rocked their moored boats against their docks to their detriment and to the docks themselves. Proof of the damage caused by wave surfing too close to shore was driven home to me by a neighbor who runs a dock and pier company. I quote him here: " I read the email about the wake boats. With the damage that they do to the shore fronts and with the boats and docks getting destroyed it's made for great business !!! I've sold more boat lifts in two years than I have in 20 years combined, not to say all of the docks I've repaired or replaced. Don't get me wrong I would like to see them banned but who would enforce it if it did pass ? "

We feel that, based on the data from the Minnesota study and our neighbors' observations, the committee should support the HB 1071 with an amendment to increase the setback to 500 feet.

George and Susan Gurney
Center Harbor

Heather Goley

From: radwilkins <radwilkins@aol.com>
Sent: Tuesday, February 8, 2022 10:22 AM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: HB 1071

I am writing to encourage restrictions on the use of wake boats on sensitive NH lakes. I am a property owner on Province Lake in Wakefield. There are now 3 or 4 wake boats on Province Lake, which may not seem like a lot. But Province Lake is small and the waves from wake boats hit the shore with great force.

Of greatest concern, is the impact on water quality. Province Lake is shallow. In the early morning the water is clear. Boat activity stirs up the lake, and by mid-morning the water is cloudy as the energy put into the lake by boat wake stirs up sediment on the bottom.

Province Lake is experiencing more frequent Cyanobacteria blooms. It is understood nutrients suspended in the water can contribute to these blooms. Cyanobacteria are potentially toxic, especially to children and pets, making the lake unsuitable for many activities when blooms are present.

I'm sure wakeboarding is fun, and I would hate to ruin anybody's fun. But when the activity of a few creates danger and prevents the activities of the many, something needs to be done. I encourage implementation of rules that will reduce the negative impact of boat wake on NH lakes.

Randy Wilkins
13 Chase Brook Circle
Litchfield, NH

Sent from my iPad

Heather Goley

From: Gary lindquist <outlook_8CE2D7DD1B32F7E4@outlook.com>
Sent: Tuesday, February 8, 2022 10:14 AM
To: ~House Resources Recreation and Development
Subject: HB 1071...

Large wakes from boats made for this purpose are not only eroding the shoreline, it's damaging docks (mine) and boats and is creating a serious hazard to any swimmer caught between a boat and a dock when these waves come through. A boat smashing against a dock with a swimmer in between is not good for the future life of that swimmer.

Thank you for addressing this subject that has changed the nature of the Lake..

Sent from Mail for Windows

Heather Goley

From: Deborah S.Degan <debdegan@tds.net>
Sent: Tuesday, February 8, 2022 10:12 AM
To: ~House Resources Recreation and Development
Subject: Wake Board Bill HB 1071

Dear Representatives,

I have a camp on Deering Lake, in Deering, NH. We have experienced significant disruption on our lake by Wake Boats. Allowing wake surfing would only add to the problem. These boats create a much larger wake (thus the name) and it disturbs and erodes the shoreline. Large waves crash into our swimming area and onto the shore, tearing vegetation away. They also cause our boats to slam into the docks where they are tied up. And, one can easily imagine how frightening and dangerous they would be to anyone on a stand up paddle board or small craft such as a kayak. As a kayaker myself, I don't mind wakes from the usual boats, but these are much larger. They do create a hazard, both to people and to the environment.

I would strongly support any restrictions of wake boats and wake surfing on NH lakes. In particular, I believe these boats should be banned from the smaller lakes, and that the minimum distance they can run from shore, islands, other persons, and boats, should be greater than our current No Wake zones. The 250 ft setback in the bill is at least a start. Please consider voting in support of this and please consider further legislation regulating the use of wake boats on our small lakes. Deering Lake, for example, is only 327 acres, is very narrow in some areas and only 1 mile long. These boats belong in places that afford much more room and allow them to operate away from the shore.

Thank you for your attention. As a NH resident, and voter, I will be paying attention to the outcome.

Deborah Degan
PO Box 634
Wilton, NH 03086
and Deering, NH summers

Heather Goley

From: Karin Thomason <kthomaso@wellesley.edu>
Sent: Tuesday, February 8, 2022 10:00 AM
To: ~House Resources Recreation and Development
Subject: HB 1071

Please pass this bill to include and increased distance above 250 feet if possible. The wake damage to shorefront and wetlands is increasing daily during the summer months. The wave effect from these boats is frightening at times on our shore. We can be swamped if sitting on our dock.

Please pass this bill.

Thank you,
Karin Thomason
339 Redding Lane
Moultonvborough, NH

Sent from my iPhone

Heather Goley

From: Melissa Sharples <melissa8b@mac.com>
Sent: Tuesday, February 8, 2022 9:26 AM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: HB 1071 Wake Boat Bill

Hello,

Thank you for re-visiting the issue of wake boats in New Hampshire. We're hoping that this consideration includes restricting their use to the larger lakes in the state, as there is absolutely no doubt that these boats are devastating property, and that 250, even 500 feet of buffer distance is not nearly enough to prevent serious damage. In the over 60 years that our family has been on Bow Lake, never have we had the level of erosion and outright shoreline destruction as we've seen since wake boats have come along. And I can tell you with documented uncertainty that Bow Lake isn't big enough to prevent the level of erosion that these boats cause.

At its widest point, Bow Lake is one mile wide. From the center point of the lake, 2,640 feet, it takes four minutes for the wakes created by these boats to hit the shoreline hard enough to knock us over, if we're sitting in chairs at the sand's edge. These waves make their way onto our lawn, and hit the shoreline with such force as to pull the property literally out from under us. We have sink holes under our lawn where we've never had them before. And this just in the past 5-6 years. Our neighbor was nearly capsized in his pontoon boat due to waves caused a few hundred feet from his path during a cruise. The examples go on.

What you hear from supporters of wake boats, in particular those on Bow Lake, comes from business owners who stand to be affected by a change in regulation, and from boat owners who see no repercussions of the use of wake boats because their personal properties are in 'no wake' zones, in protected coves, or not on the lake at all. But the majority of us are feeling the affects, and I liken what's happening to blatant and willful destruction of property.

Please consider increasing the buffer requirement on larger lakes, and banning wake boats on those under 2 miles wide altogether.

Thank you,

Heather Goley

From: Larry Moody <larrychermoody@gmail.com>
Sent: Tuesday, February 8, 2022 9:09 AM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: HB 1071

I'm writing in support of Hb 1071, but with an amendment that doubles the setback distance. I am a waterfront owner on Province Lake, East Wakefield, NH. I regularly observe the shoreline damage caused by those that don't observe the current no wake zone. Province Lake can't accommodate this wake surfing activity!

Respectfully,

Larry Moody

Heather Goley

From: Sara Oot <sarastevensoot@hotmail.com>
Sent: Tuesday, February 8, 2022 9:01 AM
To: ~House Resources Recreation and Development
Subject: House Bill 1071

I am writing to voice my strong and unwaivering support of House Bill 1071. I grew up in New Hampshire and have long enjoyed the numerous lakes scattered around the state. How extraordinary that we have such a rich resource available to us. New Hampshire's lakes must be one of the state's most crucial assets. And now I am so grateful to have found myself living on the beautiful shores of Spofford Lake. It has taken extraordinary privilege to have now educated myself on the fragility of NH's lakes. It is now clear to me that unless we act quickly we will find our greatest resource comprised in ways that will be impossible to correct for future generations.

Spofford Lake is in trouble. The oxygen levels in the lake no longer support trout. The organic matter that finds its way into the lake has degraded the water quality dramatically, and this can be directly attributed to shoreline erosion. And shoreline erosion can be directly attributed to wave action. **To restrict wake boarding to 250 feet from the shoreline is the minimum response the state should impose. Much more is needed to protect our lakes. But please vote for HB 1071, as the best start to preserving our lakes.**

Sincerely,
Sara Stevens Oot

PO Box 535
Spofford NH 03462

Heather Goley

From: Kirk Meloney <kirk.meloney@gmail.com>
Sent: Tuesday, February 8, 2022 8:51 AM
To: ~House Resources Recreation and Development
Subject: HB 1071

Good day House Resources, Recreation and Development Committee,

I am writing on behalf of the Lake Kanasatka Watershed Association Advisory Board in support of HB 1071 which increases the shoreline distance wake boats need to abide by. Our small lake has witnessed the effects of these boats and the size of the wakes they produce with tremendous force washing the shore causing unprecedented erosion. Anything to help reduce erosion from entering lakes is critical for their future and the health of all lakes. These boats need regulating and small lakes need help from pollutants entering the water.

Please vote in the positive to amend this distance to 500 feet.

Thank you.

Kirk Meloney
Lake Kanasatka Watershed Association president
and year-round resident of NH

--

Kirk Meloney
kirk.meloney@gmail.com

Heather Goley

From: Beverly Morello <enmorello4@gmail.com>
Sent: Tuesday, February 8, 2022 8:38 AM
To: ~House Resources Recreation and Development
Subject: Fwd: HB 1071

----- Forwarded message -----

From: Beverly Morello <enmorello4@gmail.com>
Date: Mon, Feb 7, 2022 at 8:05 PM
Subject: HB 1071
To: <mdavis@nhlakes.org>

Michelle,

We have owned property on Little Squam Lake since 2016. The first thing we did on the property was clean up all the debris and remove the trees that were in the building site. Once this was complete we applied to the State for a dredge and fill permit to build a perch beach. The perch beach has met all State criteria of design and construction. We have lost over 10 inches of lake bottom elevation which is undermining the shore line wall causing erosion and damage. Also, during the year we experienced these waves coming over the top of the retaining wall at the water edge - which is part of the design criteria of a perch beach. When these waves come over the top of the retaining wall they remove beach sand and cause erosion above the water line.

In addition to the damage to the shoreline we are also experiencing damage to our property. The waves are coming up and onto our dock which causes reaction to the boat slamming into the dock at times - even though we have whips to help hold the boat away from the dock.

Lastly, not only are we loosing the lake bottom but with erosion we are going to be facing maintenance cost to repair the shoreline and/or possible damage to our property.

So we are very much in support of this bill and more so in favor of the distance of 500' as this has shown in the study that would be the required distance for the waves to dissipate before they reach the shoreline.

We are obviously aware that the boat owners and manufacturers of these boats will not be in favor of this bill but you should also remember that there is a majority of people who own other types of boats and wish to enjoy the lake.

Please protect our lake shore line.

Thank you,

Michael and Beverly Morello

PS: We have photos for backup if necessary

Heather Goley

From: Patricia H. Oneill <missponeill@gmail.com>
Sent: Tuesday, February 8, 2022 7:11 AM
To: ~House Resources Recreation and Development
Subject: HB 1071

Respectfully submitted,

The 250' setback is not enough to keep the waves these boats create from negatively impacting the shoreline. I live on Kesumpe Cove on Squam Lake. This is a large cove opening out onto "Big" Squam. We see a lot of boat traffic. One boat well over 500' out creates a wake that impacts the shoreline. We have watched our rocky shore line change. I make the point to say rocky because people have commented that the rocky shore lines are strong and stable. This is not so. I hope that we listen to the science of the Minnesota report and increase the setback to 500'.

Sincerely
Patricia O'Neill

Heather Goley

From: Larry Robbins <lrobbins11@icloud.com>
Sent: Tuesday, February 8, 2022 6:41 AM
To: ~House Resources Recreation and Development
Subject: HB 1071 - In Support

Dear Resources, Recreation and Development Committee:

I have resided full-time on Spofford Lake in Chesterfield since 2014, and before that have enjoyed summers and vacations at our lakeside cottage since 1993. I am a current director of the Spofford Lake Association, whose mission is, **“To protect, enhance and sustain the ecological, environmental and recreational character of Spofford Lake and the surrounding watershed.”** Our **Spofford Lake Paleolimnology Report** has led me to understand that erosion of the shoreline is the major factor in the deterioration of our lake’s water quality. Recently this has led to the development of the Spofford Lake Management Plan (funded by a DES grant). We must do what we can to curtail erosion!

In the past few years this erosion has been exacerbated by the arrival of wake-surfing boats which generate much larger and more powerful waves than those formed by non-wake surfing watercraft. In addition, these waves potentially pose a risk to the shoreline nesting habitats of the loon pair that only recently have begun to rear their young here at Spofford. **I accordingly support House Bill 1071 which, if enacted, will require a 250’ setback for wakesurfing on New Hampshire lakes.**

I am also aware of a wave-action study just released by the University of Minnesota that has confirmed that waves generated by wake surfing are higher and more energetic and powerful than those generated by other powered watercraft. The study found that distances of at least 500’ are necessary for these wake-surfing waves to diminish to a size and intensity of waves generated by other, more “normal” powered watercraft. **I accordingly support amending House Bill 1071 to replace the 250’ setback set forth therein with a setback of at least 500’.**

Thank you for your attention to my remarks.

Sincerely yours,

*Larry D. Robbins
18 Namaschaug Landing
Spofford, NH 03462*

Heather Goley

From: Marge Cook <mmcook523@gmail.com>
Sent: Monday, February 7, 2022 8:55 PM
To: ~House Resources Recreation and Development
Subject: House Bill 1071

Dear Representatives,

As a resident of Wolfeboro, NH, I am in support of HB 1071, the wakesurfing bill that would require a 250-foot setback for wakesurfing. **However, I would like to see the setback amended to 500 feet based on the recent study that shows that wake boats generate more powerful waves when wakesurfing. The evidence presented in that study justifies the need for this increased setback.** We need to acknowledge this research and legislate based on facts.

Please help protect shorelines in NH from the repetitive wave action and erosion that degrades water quality. We want to preserve the ability for people to recreate on lakes in NH, but we need to make sure that new recreational opportunities like wakesurfing do not detrimentally affect lake health. **A 500-foot setback would still allow wakesurfers to recreate and would help protect the shoreline.** It's a win for our lakes, property owners, and for the watersports industry.

Sincerely,
Marjorie Cook

Heather Goley

From: Bill Aldrich <outlook_4E9B529506B1356C@outlook.com>
Sent: Monday, February 7, 2022 7:22 PM
To: ~House Resources Recreation and Development
Subject: HB 1071 Needs an Amendment.

Dear Sir/Madam:

A long-awaited, peer-reviewed wave-action study by the University of Minnesota was released this week. **It confirms that waves produced during the activity of wakesurfing are measurably larger and more powerful** than waves created by non-wakesurf boats in terms of maximum wave height, total wave energy, and maximum power. The study concluded that **at least 500 feet are needed for wakesurfing waves to diminish** compared to waves created by non-wakesurf boats.

In light of the above study, I urge you to amend HB 1071 to have a 500 foot setback for wakesurfing.

I own a cottage on an Triggs Island in Lake Wentworth, and I am very concerned that wakesurfing can damage my property.

Sincerely,
William P. Aldrich
Triggs Island Landing, Camp #9
Wolfeboro, NH

Sent from [Mail](#) for Windows

Heather Goley

From: DAVID MOORE <djm30@comcast.net>
Sent: Monday, February 7, 2022 6:19 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Hi:

As owners of island property on lake Winnepesaukee, we are in favor of amending HB 1071 to 500'

Thanks,
David Moore
Meredith, NH

Heather Goley

From: Charles Becker <cbecker1952@gmail.com>
Sent: Monday, February 7, 2022 6:02 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

New Hampshire House Committee Members:

I'm writing to you from Minnesota regarding HB 1071. Like many of your constituents, we are extremely concerned about wake boats and the water sports they facilitate, especially wake surfing. I recently came across information from the Water Sports Industry Association (WSIA) that clearly lays out their strategy to defend wake boats and wake surfing from any regulations that go against their Mission Statement: **"To promote and protect all towed water sports activity."** To be clear, the WSIA is singularly focused on protecting the interests of their constituents, in this case, wake boat manufacturers, wake boat dealers and wake boat owners.

Their strategy (see Alabama example below) is to convince you and legislators in every other State that they have a commitment to "science-backed proactive legislation". Their provisions are:

- 200' wakesurfing setback from shore or structure
- 50 acre minimum lake size
- USCG approved life jacket
- Prohibits wake surfing between the hours of sunset and sunrise.
- Prohibits wakesurfing from a boat with an exposed (beyond boarding platform) propeller

What they don't tell you is:

- Their "science backed proactive legislation" is based on a 2015 study commissioned by the WSIA.
- They refused to release the full report from their study until October of 2019.
- They've never submitted their study for peer review.
- The full report of their study contains no conclusions by their consultant that 200' is an appropriate setback.
- On the WSIA website they say that they analyzed their consultants' report to create the parameters (including the 200' setback) for their Wake Responsibly campaign.
- Many other studies exist and none of them suggest that 200' is anywhere close to a reasonable setback distance.

As an example of a valid scientific, peer reviewed, study, the University of Minnesota St. Anthony Falls Laboratory published a 120-page report (see links below) on February 1, 2022 that includes the following information:

- **"When comparing the boats under typical operating conditions at a distance of 100 ft from the boat, the wakesurf boats produced maximum wave heights that were ~2-3 time larger, total wave energies that were ~6-9 times larger, and maximum wave powers that were ~6 to 12 times larger than the non-wakesurf boats."**

- **"The data suggest that operational distances greater than 500 feet are required for the wake waves generated by a wakesurf boat to attenuate to similar wake wave characteristics as the non-wakesurf boat reference."**

Please listen to your concerned constituents that brought these issues to your attention and don't be misled by the boating industry. Please consider the valid scientific studies that support the concerns of your constituents and refute the WSIA's false narratives. **Regulations are needed for wake boats and wake surfing. HB1017 is on the right track but a 250' setback is not nearly enough. Please consider amending HB 1017 to establish a 500' setback from shore, docks, lifts, etc. as the minimum.**

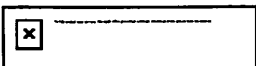
As your constituents have probably made you aware, the depth these boats operate in is a critical part of the discussion and one the boating industry has refused to acknowledge. If not operated in deep water, the prop-wash or thrust of these boats goes much deeper toward the bottom of the water body compared to other recreational sports boats and can cause serious environmental issues. While studies currently exist on this issue, the St. Anthony Falls Laboratory will be addressing prop wash as a Phase 2 project.

Thank you for considering the information I've provided. Please contact me anytime with questions, comments or for additional information.

Sincerely,

Chuck Becker
Ogema, MN
612-280-4736

Government Affairs Updates



Alabama

Last month, the WSIA received information that Alabama State Senator JT Waggoner intended to

introduce harmful legislation banning the activity of wakesurfing throughout the state. After a successful first meeting with the Senator, CGAO Brad Fralick scheduled a meeting of all stakeholders, which included boating industry advocates, legislators, and marine law enforcement. Fralick presented the industry commitment to the *Wake Responsibly* initiative and our science-backed proactive legislation. At the conclusion of the meeting, Senator Waggoner and law enforcement both agreed that moving forward with the WSIA proposed language was preferred. This proactive legislation is expected to be filed into the legislature later this month and will include the following provisions:

- 200' wakesurfing setback from shore or structure
- 50 acre minimum lake size
- USCG approved life jacket
- Prohibits wake surfing between the hours of sunset and sunrise.
- Prohibits wakesurfing from a boat with an exposed (beyond boarding platform) propeller

“A Field Study of Maximum Wave Height, Total Wave Energy, and Maximum Wave Power Produced by Four Recreational Boats on a Freshwater Lake”

News release: Boat-generated wake study

FAQs: Boat-generated wake study

Heather Goley

From: SUSAN TOBELMAN <tobelman@comcast.net>
Sent: Monday, February 7, 2022 5:57 PM
To: ~House Resources Recreation and Development
Subject: Fwd: House Bill 1071

----- Original Message -----

From: SUSAN TOBELMAN <tobelman@comcast.net>
To: "Development@leg.state.nh.us" <Development@leg.state.nh.us>
Date: 02/07/2022 2:27 PM
Subject: House Bill 1071

I am a resident of Wolfeboro, NH and a shorefront property owner on Winter Harbor, Lake Winnepesaukee.

I am in support of HB 1071, the wakesurfing bill that would require a 250-foot setback for wakesurfing, **however, I would like to see the setback amended to 500 feet based on the recent study that shows that wake boats generate more powerful waves when wakesurfing. The evidence presented in that study justifies the need for this increased setback.** We need to acknowledge this research and legislate based on facts. I can see the effects of the erosion from the wake surfing boats on my and my neighbors' shorelines and it is destroying our properties and disturbing our swimming and dock areas.

Please help protect shorelines in NH from the repetitive wave action and erosion that degrades water quality. We want to preserve the ability for people to recreate on lakes in NH, but we need to make sure that new recreational opportunities like wakesurfing do not detrimentally affect lake health. **A 500-foot setback would still allow wakesurfers to recreate and would help protect the shoreline.** It's a win for our lakes, property owners, and for the watersports industry.

Please pay attention to lake property owners. We have to watch the damage being done by these boats and have had no recourse until now.

Sincerely,

Susan C. Tobelman
Wolfeboro, NH

Heather Goley

From: Kathy Barnard <outlook_F4FB31B15B9486D0@outlook.com>
Sent: Monday, February 7, 2022 5:52 PM
To: ~House Resources Recreation and Development
Subject: House Bill 1071

Please consider supporting HB 1071 and increase the distance to 500'.

I live in Winter Harbor in Wolfeboro and have observed the erosion of our shoreline and the detrimental affect the waves from the wave boats causes to the docks and boats.

Thank you for considering my request.

Kathy Barnard
9 Osseo Drive
Wolfeboro

Sent from Mail for Windows

Heather Goley

From: Steve Maher <steve.f.maher@gmail.com>
Sent: Monday, February 7, 2022 5:43 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

As part of a Wolfeboro, NH family, I am in support of HB 1071, the wakesurfing bill that would require a 250-foot setback for wakesurfing. However, I would like to see the setback amended to 500 feet based on the recent study that shows that wake boats generate more powerful waves when wakesurfing. The evidence presented in that study justifies the need for this increased setback. We need to acknowledge this research and legislate based on facts.

Please help protect shorelines in NH from the repetitive wave action and erosion that degrades water quality. We want to preserve the ability for people to recreate on lakes in NH, but we need to make sure that new recreational opportunities like wakesurfing do not detrimentally affect lake health. A 500-foot setback would still allow wakesurfers to recreate and would help protect the shoreline. It's a win for our lakes, property owners, and for the watersports industry.

Sincerely,
Steve Maher

Heather Goley

From: Bob Sauer <robertbsauer@gmail.com>
Sent: Monday, February 7, 2022 5:43 PM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org; Karin Karagozian
Subject: I support HB 1071

Ladies and Gentlemen:

I strongly support passage of House Bill 1071, which is to be considered by your Committee on Wednesday, February 9. The only hesitation I have is that the Bill should be amended to increase the required operating clearance from shore, docks, and other boats to 500 feet instead of 250 feet, given the powerful results of the Minnesota study. If the Bill is not amended, it should certainly be passed as it stands.

My wife and I are, and have been for almost 14 years, owners of a cabin on Squam Lake in Center Harbor. Though we are not voting residents of Center Harbor, we take New Hampshire's boating regulations very seriously, and believe that HB 1071 is a needed improvement.

Please vote to pass HB 1071.

Sincerely,
Robert B. Sauer

13 Laurel Glen Lane
Center Harbor, NH 03226

9 Allen Hill Road
PO Box 106
Princeton, MA 01541

Heather Goley

From: AnneBlodget <anneblodget@gmail.com>
Sent: Monday, February 7, 2022 5:07 PM
To: ~House Resources Recreation and Development
Subject: House Bill 1071 - amend the distance to 500 feet (from 250 feet)

I support the bill with the amendment of a 500 foot setback (instead of 250') as stated in the recently released study on wave action impact and its recommendation for a 500 foot setback.

Anne Blodget
Wolfeboro NH resident
Supporter of NH Lakes position on HB 1071

Heather Goley

From: conenh07@gsinet.net
Sent: Monday, February 7, 2022 5:06 PM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: HB 1071

Dear Committee Members,

This email is to voice our support for HB 1071 relative to wake surfing. The setback is warranted as the waves from these boats pose a substantial danger to the shorefront, enjoyment of the lake and boat traffic. We live on Franklin Pierce Lake which is only about 3 miles long and ½ mile wide at its widest point. We have a stone wall along the shorerfront of our property that is usually 10-12" higher than the high-water level. When these boats are on the lake the wave goes over the wall and has eroded not only the ground but has knocked down the wall in several places. Because it is a smaller lake, the waves do not completely dissipate before hitting the shore, so it is even worse than on a larger lake. Additionally, we are unable to enjoy kayaking or paddle boarding when these boats are on the lake, and we have experienced the waves flood the floor of our pontoon boat when we are on the lake.

Not only should this bill be passed, but consideration should also be given to the use of these boats on smaller lakes.

We appreciate you consideration and please do not hesitate to contact me if you have any questions or need additional information.

Sincerely,

Nancy & Tim Cone

Heather Goley

From: Susan Gurney <wegurneys@gmail.com>
Sent: Monday, February 7, 2022 4:36 PM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org; bob.guida@leg.state.nh.us; tom@tomploszaj
Subject: House Bill 1071, Hearing February 9, 2022

As long time summer vacationers, residents since 2013, and water quality/invasive aquatic plant monitors on Squam Lake, we have observed increasing vegetative growth on the bottom of the lake. Increased motor boat activity and use of the lake has surely contributed to this progression. New Hampshire lakes are its treasures, and there is increasing concern about the water quality of our lakes. Wake surfing boats have been shown in the University of Minnesota study to have a greater impact through propeller and wave action on turbulence of the water and shoreline erosion, which also has deleterious effects on wildlife (such as loon nesting). In addition to these environmental concerns, churning up the bottom of the lake could lead to cyanobacteria blooms, which can have significant health repercussions. Therefore, the more restrictive the activity (to deeper waters in broader areas), the better control over this serious issue.

We feel that, based on the data from the Minnesota study, the committee should support the HB 1071 with an amendment to increase the setback to 500 feet.

George and Susan Gurney
Center Harbor, New Hampshire

Heather Goley

From: ann bove <aebove@gmavt.net>
Sent: Monday, February 7, 2022 3:16 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Dear House Resources Recreation and Development Committee,

I urge you to support HB 1071 and consider an amendment that would change the 500 ft setback to 250ft. A recent study released by the University of MN has me gravely concerned about the impacts of wake boating on lakes nationwide. Although I live in Vermont, what you do in NH will set precedent and significantly impact us here.

Please, support HB 1071 and consider an amendment changing the setback to 250 ft. to support this credible scientific data.

Ann E. Bove
Starksboro, Vermont

Sent from Mail for Windows

Heather Goley

From: Lindsay Anderson <lindsayanderson76@gmail.com>
Sent: Monday, February 7, 2022 3:09 PM
To: ~House Resources Recreation and Development
Subject: Please support Bill HB 1071

Dear House Resources, Recreation, and Development,
I own a house on Squam Lake in Center Harbor, and I am worried about how the wave action from wake boarding impacts the lake.

The data from a recent Minnesota study show that operational distances of greater than 500 feet are required for the waves from wake boarding to act similar to the waves made from waterski/tubing activities. Under both slow and fast speed conditions, the wakesurf boats produced the largest waves in terms of height, energy, and power when compared to the non-wakesurf boats. Largest, more energetic waves need to travel a greater distance to decrease in wave height, energy, and power.

Please support Bill HB 1071.

Cheers,
Lindsay Anderson
51 Owls Head Road
Center Harbor, NH 03226

Lindsay Anderson
(she, her, hers) Pronouns are important

Heather Goley

From: p.charest@metrocast.net
Sent: Monday, February 7, 2022 3:09 PM
To: ~House Resources Recreation and Development
Subject: HB-1071

Dear House members,

I am in support of HB-1071 with a recommendation to amend the 250' shoreline setback to the 500-ft recommended by the University of Minnesota study.

As part of a shoreline association protecting our waters from the damaging effects of these waves should be a top priority for all of us.

Thank you for your consideration

Patrick Charest

26 First St

Belmont NH

Heather Goley

From: Chris Stigum <cstigum@holderness.org>
Sent: Monday, February 7, 2022 2:22 PM
To: ~House Resources Recreation and Development
Subject: Support HB 1071

Greetings,

As a year round resident of Holderness and a property owner in Wolfeboro, I am in support of HB 1071, the wakesurfing bill that would require a 250-foot setback for wakesurfing. **However, I would like to see the setback amended to 500 feet based on the recent study that shows that wake boats generate more powerful waves when wakesurfing. The evidence presented in the study justifies the need for this increased setback.** We need to acknowledge this research and legislate based on facts.

PLEASE help protect shorelines in NH from the repetitive wave action erosion that degrades water quality. We want to preserve the ability for people to recreate on lakes in NH, but we need to make sure that new recreational opportunities like wakesurfing do not detrimentally affect lake health. **A 500-foot setback would still allow wakesurfers to recreate and would help protect the shoreline.** It's a win for our lakes, property owners, and for the watersports industry.

Best,
Christopher Stigum

--
Chris Stigum
Holderness Athletics
Cross Country
USSA Ski
Girls' Tennis

Heather Goley

From: Jerilyn Bergdahl <dbergdahl@gmavt.net>
Sent: Monday, February 7, 2022 2:19 PM
To: ~House Resources Recreation and Development
Subject: HB 1071 Hearings Feb. 9 at 1:45 pm Increase wake surfing distance from shorelines!

I am supporting the Univ. MN wave study on boat-generated waves data that indicates at least 500' distance from the shoreline is required to disperse wake surfing waves. There is also sufficient and abundant reliable science to indicate a 1000' distance from the shoreline is needed to dissipate the powerful waves from wake surfing.

This legislation is important for lakes across the country - especially smaller lakes, although the impact for larger lakes' shoreline is the same. Wake surfing waves disrupt the delicate shoreline and the ecosystems there, potentially disperse aquatic invasive species and also disrupt native plant populations, destroy fish spawning areas, increase the possibility of injury to swimmers and paddle boaters, and potentially destroy property, including docks.

Jerilyn Bergdahl
Charlotte, Vermont

Heather Goley

From: Vicky Stigum <vstigum@holderness.org>
Sent: Monday, February 7, 2022 2:12 PM
To: ~House Resources Recreation and Development
Subject: Support of House Bill 1071

Greetings,

As a year round resident of Holderness and a property owner in Wolfeboro, I am in support of HB 1071, the wakesurfing bill that would require a 250-foot setback for wakesurfing. **However, I would like to see the setback amended to 500 feet based on the recent study that shows that wake boats generate more powerful waves when wakesurfing. The evidence presented in the study justifies the need for this increased setback.** We need to acknowledge this research and legislate based on facts.

On February 9th, PLEASE help protect shorelines in NH from the repetitive wave action erosion that degrades water quality. We want to preserve the ability for people to recreate on lakes in NH, but we need to make sure that new recreational opportunities like wakesurfing do not detrimentally affect lake health. **A 500-foot setback would still allow wakesurfers to recreate and would help protect the shoreline.** It's a win for our lakes, property owners, and for the watersports industry.

Sincerely
Victoria Stigum

Heather Goley

From: Christine Cano <mermaidvt@gmail.com>
Sent: Monday, February 7, 2022 2:05 PM
To: ~House Resources Recreation and Development
Subject: Please Support HB 1071

Good day,

Dear Chair, Representative Andrew Renzullo, Vice-Chair, Representative Robert Harb, and members of the House Resources and Development Committee,

We urge the committee to amend HB 1071 as introduced to increase the proposed 250-foot shoreline setback distance from wake surfing activities.

According to recent data identified in the University of Minnesota's recently released scientific wave study on boat-generated waves, the data includes **at least** a 500-foot distance from the shoreline is necessary for wake surfing waves to disperse. Vermont water quality organizations working for clean, healthy lakes are currently advocating for state wake boat management and seeking to establish state regulations to require **at least 1000 feet from the shoreline** for what is acceptable for the wake surfing waves to dissipate.

Please understand that if the current bill proposal for a 250-foot setback becomes law in NH, it will set a negative precedent for other states in the New England region working to establish appropriate management of the powerful wakes from wake surf boat activities. Many in Vermont believe sufficient and abundant reliable scientific research indicates a 1000 feet from the shoreline is needed to dissipate the powerful wave impacts from wake surfing.

We appreciate your consideration of this urgent matter.

Sincerely,

Christine Cano
(Board Director of The Federation of Vermont Lakes and Ponds)
Ronald Hill
E. Montpelier, VT

We urge the committee to amend HB 1071 as introduced to include a 500' setback necessary for boat-generated wake surfing waves to disperse as identified in the University of Minnesota's new scientific wave study data.

Vermont water quality organizations are advocating for wake boat management and seeking to establish state regulations to require at least a 500' shoreline setback for what is acceptable for the wake surfing waves. Please understand that if the current bill proposal for a 250' setback becomes law in NH, it will set a negative precedent for other states in our region to establish appropriate management of the powerful wakes from wake surf boat activities.

Heather Goley

From: Valerie Troy Justice <rebel817@yahoo.com>
Sent: Monday, February 7, 2022 2:03 PM
To: ~House Resources Recreation and Development
Subject: Support Bill 1071

How You Can Support House Bill 1071

Send an email to:

HouseResourcesRecreationandDevelopment@leg.state.nh.us

Call committee members:

For phone numbers, see [committee member bios](#)

Register in support below. It only takes about 30 seconds.

[Register In Support of Bill Here](#)

Add Your Personal Information

Select Date of Hearing: February 9, 2022

Select the Committee: House Resources, Recreation, and Development

Choose the Bill: HB 1071

Indicate Who You're Representing

Choose Your Position: Support, Oppose, Neutral

Example Statement:

As a resident of Wolfeboro, NH, I am in support of HB 1071, the wakesurfing bill that would require a 250-foot setback for wakesurfing. **However, I would like to see the setback amended to 500 feet based on the recent study that shows that wake boats generate more powerful waves when wakesurfing. The evidence presented in**

Sent from my iPhone

Heather Goley

From: R Santoro <cds4dad@gmail.com>
Sent: Monday, February 7, 2022 2:02 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

We reside on a small lake in Wolfeboro, NH and support HB 1071, the wakesurfing bill that would require a 250-foot setback for wakesurfing. It's better to define the setback to 500 feet based on the recent study that shows that wake boats generate more powerful waves when wakesurfing. The evidence presented in that study justifies the need to amend the bill for this increased setback of 500 feet. We need legislate based on facts and acknowledge this research.

Please help protect shorelines in NH from the repetitive wave action and erosion that degrades water quality. We should allow recreation activities on lakes in NH, but we need to make sure that activities like wakesurfing do not detrimentally affect lake health. A 500-foot setback would still allow wakesurfers to recreate and would help protect the shoreline. It's the right choice for our lakes, property owners, and for the watersports industry.

Randy & Janet Santoro

Heather Goley

From: Don Trice <dontrice39@gmail.com>
Sent: Monday, February 7, 2022 2:00 PM
To: ~House Resources Recreation and Development
Subject: HB-1071 (Hearing Scheduled for February 9, 2022)

As 36 year owners of lakefront property on Lake Wentworth (for 36 years) and Lake Winnepesaukee (for 7 years) and taxpayer of Wolfeboro, NH, I am in support of HB 1071, the wakesurfing bill that would require a 250-foot setback for wakesurfing. **However, we would like to see the setback amended to 500 feet based on the recent study that shows that wake boats generate more powerful waves when wakesurfing. The evidence presented in that study justifies the need for this increased setback.** We need to acknowledge this research and legislate based on facts.

Please help protect shorelines in NH from the repetitive wave action and erosion that degrades water quality. We want to preserve the ability for people to recreate on lakes in NH, but we need to make sure that new recreational opportunities like wakesurfing do not detrimentally affect lake health. **A 500-foot setback would still allow wakesurfers to recreate on the larger lakes and would help protect the shorelines of all lakes.** It's a win for our lakes, property owners, and for the watersports industry.

Thank you,
Donald and Lorraine Trice
33 Point Breeze Road (Summer Home)
Wolfeboro, NH 03894

Don Trice
P. O. Box 126
Dahlongega, Georgia 30533
404-274-3941 (mobile)
dontrice39@gmail.com

Heather Goley

From: Jenifer Andrews <slgvtpresident@gmail.com>
Sent: Monday, February 7, 2022 1:58 PM
To: ~House Resources Recreation and Development; Jenifer Andrews
Subject: HB 1071

To Whom It May Concern:

I support HB 1071 only with a 500 foot set back amendment rather than the 250 foot that has been written.

I reside on a lake in the summer and have had a dangerous encounter with the results of wake enhanced waves. The crest of the waves were so high that it lifted the dock on which I was standing right off the bottom. The waves bashed into our boat and the retaining wall. They stirred up sediments on the bottom releasing phosphorus and creating turbidity which also occurs due to the energy from the propeller. These waves can wreck habitat of loons as they nest close to shore. The ballast tanks of these boats cannot be cleaned, drained or dried and hence, are apt to carry aquatic invasive species from lake to lake.

I support regulations such as HB 1071 but with an amended set back of at least 500 feet from shore, docks/rafts, other boats and swimmers.

Jenifer Andrews

Heather Goley

From: Cheryl Mrozienski <cmrozien@yahoo.com>
Sent: Monday, February 7, 2022 1:13 PM
To: ~House Resources Recreation and Development
Subject: in support of HB 1071 - AN ACT relative to wake surfing

Dear Chairman Renzullo and members of the House Resources, Recreation, and Development Committee,

My name is Cheryl Mrozienski and I am writing in support of HB 1071 - AN ACT relative to wake surfing.

I live on Bow Lake in Strafford, NH where I am a volunteer for the Loon Preservation Committee, NH Audubon, and UNH Lakes Lay Monitoring Program. The new wake surfing boats arrived on Bow Lake a few years ago, resulting in the creation of huge waves compared to typical speed boats. The size of these waves concerns me for the following reasons:

1. **Safety:** I've witnessed some very dangerous incidents where the large waves from wake surfing boats have flipped over sailboats and canoes, swamped a pontoon boat, and almost caused my 16' boat to flip when one wake surfing boat didn't slow down to headway speed in a congested and narrow area of the lake with swimmers in the water. Hand signaling to the boat driver didn't help. He just looked at me like I was annoying him as his huge wake hit the side of my stopped boat.
2. **Dock and shore damage:** I've watched from shore as the waves from wake surfing boats over 500' away slammed into my dock causing some boards to loosen, and also eroded my shoreline. In the last ten years, I've lost more than two feet of shoreline.
3. **Water Quality:** The larger the boat waves, the more nutrients are released from the lake bottom, causing poor water quality.
4. **Common Loon nest impact:** Bow Lake is home to five pairs of nesting loons, a threatened species in NH. Their nests are vulnerable to large waves that can flood nests located at the shore's edge. Many of us volunteers do spend quite a bit of time on the lake educating boaters as best we can. It does seem that some people are more willing to listen when there is a law to back us up.

In closing, I would like to thank you for considering my testimony and hope recent scientific evidence is enough to possibly consider increasing the minimum distance to 500'. This still seems to be a reasonable compromise that would allow everyone to more safely enjoy our lakes.

Sincerely,
Cheryl Mrozienski

Heather Goley

From: Tim Bouchard <timbouchard08@gmail.com>
Sent: Monday, February 7, 2022 1:12 PM
To: ~House Resources Recreation and Development
Subject: Wake Boats in NH

Hello,

Regarding HB 1071, please consider amending the proposed setback of 250' to 500'
Reliable studies show that a setback of 250' is insufficient to properly decrease lakefront damage and it should be amended to 500' setback.

Regards,
-Tim

Heather Goley

From: Lauren Bouchard <lb8189@gmail.com>
Sent: Monday, February 7, 2022 12:57 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Hello,

Regarding HB 1071, please consider amending the proposed setback of 250' to 500'

Reliable studies show that a setback of 250' is insufficient to properly decrease lakefront damage and it should be amended to 500' setback.

Thank you

Heather Goley

From: Bert Krages <bert@krages.com>
Sent: Monday, February 7, 2022 12:50 PM
To: ~House Resources Recreation and Development
Subject: Please Support HB 1071

Dear Committee Members,

I am writing from Oregon to express support for HB 1071, which would impose a very reasonable restriction on wakesurfing. As noted in various studies, but in particular the recently-released and peer-reviewed study by the University of Minnesota, wake boats create high-energy waves that take distances of 500 feet and more to dissipate to levels associated with traditional motorized boats. Wave energy is the measure of the amount of energy that can do a disturbance, whether it is increasing shoreline erosion, disturbing other boats, or damaging property. I prepared a short video last year, which at the end shows a wakesurfing wake from 328 feet (100 meters) hitting a dock.

<https://www.youtube.com/watch?v=rnOMEWxTdEc>

I would note that the wakesurfing industry has engaged in a nationwide campaign for several years that is based on misinformation. Some of this misinformation is the understating of the rate at which wakesurfing wakes dissipate and that education of the wakesurfing community can mitigate the problems caused by these problematic boats. The experience in Oregon has been that location and distance restrictions on wake sports have been the sole means of protecting water bodies, other boaters, and property.

Thank you

--

Bert P. Krages II
Attorney at Law
6665 SW Hampton Street, Suite 200
Portland, OR 97223
(503) 597-2525
www.krages.com

Heather Goley

From: Scott Bouchard <jester7277@hotmail.com>
Sent: Monday, February 7, 2022 12:47 PM
To: ~House Resources Recreation and Development
Subject: In regards to HB 1071

To Whom it May Concern,

In regards to HB 1071, please consider amending the proposed setback of 250' to 500'.
Reliable studies show that a setback of 250' is insufficient to properly decrease lakefront damage and it should be amended to 500' setback.

Regards,

Scott Bouchard
Milford, NH

Heather Goley

From: Elizabeth Beeson <esbeeson@gmail.com>
Sent: Monday, February 7, 2022 11:17 AM
To: ~House Resources Recreation and Development
Subject: HB 1071

Good morning,

I am a resident of Holderness and live on Squam Lake. My family has a small lakefront cottage built 100+ years ago and has seen a lot of changes to the lake. One of the most impactful changes has been the introduction of wake surfing boats. The recent peer-reviewed wave-action study by the University of Minnesota confirms that waves produced during the activity of wake surfing are measurably larger and more powerful than waves created by non-wake surf boats in terms of maximum wave height, total wave energy, and maximum power. The study concluded that at least 500 feet are needed for wake surfing waves to diminish compared to waves created by non-wake surf boats.

As someone who would like to see the health of our lake continue for generations to come, I would like to voice my support for HB 1071, with an amendment that the 250-foot setback be changed to a 500-foot setback, as per the findings of this research.

Thank you,

Elizabeth Beeson

Heather Goley

From: Carol Zink <czinkie@gmail.com>
Sent: Monday, February 7, 2022 11:03 AM
To: ~House Resources Recreation and Development
Subject: Wake Boat Restrictions

Minnesota just released a study indicating that a distance of 500 feet from shore (twice the proposed distance in HB 1071) is necessary for waves to fully dissipate and not cause damage and erosion to shorelines. Little Squam is not even wide enough for a 500' distance!

Please reconsider the 250' distance and double it to 500', and please consider banning this sport entirely. Really, if people want to surf they should go to the ocean!!!

I imagine that marinas which sell the wake boats, which are considerably more expensive than boats which can tow water-skiers and tubers, will protest like mad any kind of restriction at all.

But if our lakes are damaged, we ALL pay the price in diminished enjoyment and use of the lakes.

Sincerely,
Carol Zink
Holderness, NH

Heather Goley

From: Michael Kelly <mkelly@pion-inc.com>
Sent: Monday, February 7, 2022 10:46 AM
To: ~House Resources Recreation and Development
Cc: Suzanne Gottling; Linda Tanner; Ruth Ward
Subject: SUPPORT HB 1071

Dear Committee Chairman:

I am writing to give my strongest support to HB 1071.

My family has been coming to Lake Sunapee since the 1950's. We have been property owners on Lake Sunapee and Newfound Lake on a nearly continuous basis from the mid-1950's to today.

My wife and I currently own a home on the shore of Lake Sunapee with 329 feet of shorefront where we are subjected to tremendous waves throughout the summer. These waves are primarily due to wake boats. Our enjoyment of the lake, independent of the actual damage to the shoreline and bird/animal habitats along the shore, has been negatively affected by a nearly continuous crashing of waves along the shore on any sunny day in the summer.

Please vote to increase the distance from the shore which a wake boat must operate in order to maintain the physical beauty of our lakes as well as the peace of mind of those who live around the lake.

Thank you,
Mike Kelly
90 Garnet St.
Sunapee, NH 03782

Mike Kelly
Executive Chairman
Cell: +1-339-223-2422
Work: +1-978-528-2020 x104
mkelly@pion-inc.com


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Heather Goley

From: Ronald Whitham <ronald.whitham@johnflatleyco.com>
Sent: Monday, February 7, 2022 8:59 AM
To: ~House Resources Recreation and Development
Subject: HB 1071

To whom it concerns,

Please support HB 1071.

Owner, 28 Cascade Terrace, Alton Bay, NH.

Thank you,

Ron Whitham | John Flatley Company
Hingham & Milton Properties
350 Lincoln Street
Hingham, MA 02043
p. 603-505-7304
Ronald.Whitham@johnflatleyco.com | www.jflatco.com

JOHNFLATLEY
Company

Heather Goley

From: Benjamin McMahon <benjamingcmahon@gmail.com>
Sent: Monday, February 7, 2022 8:53 AM
To: ~House Resources Recreation and Development
Subject: OPPOSE HB 1071 - wake sutfing set backs please OPPOSE THIS BILL

Greetings,

I have lived my entire life in the state of NH and love access to our public waters. My family grew up wakesurfing, wakeboarding, skiing, fishing, kayaking on many of the states lakes. I now am enjoying the same with my 7 year old daughter. I fear the implementation of such a wide setback will effectively ban the sport for most of our citizens. We cannot all travel to Winnepesaukee to do this sport, we need to do it locally else it presents yet another barrier to access of the waters in public trust.

I request you oppose this bill. We already have setbacks in place to protect the environment. If we're singling out a single type of boat, why are we not looking at banning all large commercial vessels and yachts that create larger wakes?

I cannot make it to the hearing, but I invite you to call me with any questions. My number is below.

Ben McMahon
22 Cahill Lane
Nottingham, NH 03290

(603) 313-7552

Heather Goley

From: leanne withrow <slwithrow17@yahoo.com>
Sent: Monday, February 7, 2022 8:04 AM
To: ~House Resources Recreation and Development
Subject: Please vote to oppose HB 1071

Dear Mr. Chairman and Honorable Members of the House Resource, Recreation & Development Committee -

I am writing to you, asking you to **oppose HB 1071**, pertaining to wake surfing. My year round home is on Little Island Pond in Pelham, NH. During the work day I am a Biomaterial Product Manager for a dental implant company. To give back to my community, my spare time is spent volunteering as a Trustee of our Private Road and am the President of the Little Island Pond Association. The Little Island Pond Association mission statement is "To maintain the pond's water quality, protect our wildlife, and promote community fellowship by organizing social gatherings, creating educational programs, volunteer opportunities, and work towards meeting regularly to provide a voice to all members while maintaining camaraderie."

I do all of this because my family has owned this piece of property since the 1930's. It is incredibly important to me and my entire immediate and extended family. Just as important, are the memories that this lake and land have given to us. We give unwavering energy to ensure it is preserved and would never do anything to jeopardize the health of the lake. As a family, my grandparents, aunts, uncles, cousins, brother, sister, friends and now our children all enjoy the lake and all water sport activities. Now that we are getting older and the organized sports, of our younger years, are catching up to our joints; we thought water sports for the adults, was over. Until we found wake surfing, it is a lower impact sport that requires balance, strength and coordination. These boats can adjust depending on the watersport choice of the person you are towing. They are versatile. We take great responsibility to make sure we do not go out on the lake when it is busy (choppy water makes wake surfing more difficult when other boats are on the lake), we are not going at a fast rate of speed (12 mph versus 27 to ski or tube) and we fall a lot (not a lot of driving distance). Wake surfing is not like tubing, where the riders/persons being towed are on for an endless amount of time. Wake surfing, you get up for 100-400 yards and your down again. As a family, we have memories of water sports for decades and are currently making new memories with our children, that wake surfing has afforded us. For my brother, sister and myself..... water sports have given us confidence (not everyone can do these sports), perseverance (because you when you fall down, you have to get back up), sense of humor (sometimes you looks silly when you're trying your hardest to stay on top of the water), a feeling of tranquility (even though it is hard work, when you're on the water there is nothing that replaces the sparkle of the water or the feeling of the spray hitting your ankles).

One thing I have noticed, as of late, is not all recreators, of all types of recreation activities, follow the rules. I personally have seen more and more egregious behavior on the lake from swimmers to jet ski operators. Maybe it was COVID and more novice recreators were hitting the waterways. **To single out and limit one group of operators, seems to set a precedent unable to be reversed, with out exploring other options. Which will ultimately effect families like mine, who are responsible and caring of the resource we are blessed to be able to enjoy.**

Knowing that erosion is a reason for this bill..... I live on Little Island Pond year round and see the **effects of wind, storms and ice on our shores. I have witnessed the ice break cement and/or rock walls that have been repaired in the fall and cracked in the spring, after the first**

winter. The same to granite slabs that need 5 people with crowbars to stand them up. These heavy granite slabs were standing upright in the fall and fall over after the winter thaw before any boating has occurred. In the winter, you can hear the ice shifting, all day long, even from inside my house with all the windows closed. Boating in NH is only 2-3 months..... wake boats are on the water minutes or hours and typically only on the weekends. **It is not convincing, to label one type of boat with limited annual and daily usage, as the cause of erosion, when there are many other factors.**

In conclusion, our family promotes "NH Wake Responsibly" - best practices for wake surfing. **We hope that effort is allowed to continue and everyone should be able to share the waterways in a responsible manner. We are asking that certain water sports not be singled out, but instead work together to educate boat operators, both with horsepower and with out.**

Thank you for considering our position and asking you to vote against HB 1071.

kindest Regards,
 Leanne Withrow
 Stephen Withrow
 Stewart Withrow

**Leanne Withrow
23 S Shore Drive
Pelham, NH 03076
781.608.8455**

Heather Goley

From: Erika Guy <eguy1213@gmail.com>
Sent: Monday, February 7, 2022 7:35 AM
To: ~House Resources Recreation and Development
Subject: HB 1071

To the NH State Representatives,

As a resident of Nelson NH, I URGE you all to support this bill which will save the state's precious resources: NH Lakes! The long term financial benefit to the state's "cash cow" (tourism) will be significant. Please take the time to read the study done by the University of Minnesota (the Land of a Thousand Lakes!).

I have been a volunteer Lake Host on Granite Lake for over 10 years and FULLY SUPPORT the passage of HB 1071. I hope that on February 9, you will support the people, the land and the lakes of the great state of New Hampshire.

Erika Guy

Heather Goley

From: marlin109 <marlin109@verizon.net>
Sent: Sunday, February 6, 2022 6:59 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Mark & Linda Pastir
10 Osseo Drive
Wolfeboro, NH 03894
marlin109@verizon.net
(C) (908) 285 - 1193
February 6, 2022

Legislators:

I have been a resident of Wolfeboro for over a decade, but before that my family vacationed in the area for 50+ years. Over that time, I have seen Lake Winnepesaukee and the surrounding environment change. Lake cottages have become mansions, the water is less potable with more E. Coli and Cyanophyta responsible for more closures, areas have gone from calm to enduring more erosion from ocean size waves.

I have had medical problems recently. Also, my wife was helping (my Rotarian daughter) deliver "Meals on Wheels" on the day before Thanksgiving. My wife tripped and fractured her pelvis. We now have walkers and wheel-chairs. I was hoping to spend some quality time at the Lake with our grand-kids (ages 13, 10, & 7 yrs.) before I leave this earth. The Lake is often too rough to teach them to water-ski and the younger two get knocked off their feet by huge waves while wading. My bow-rider boat has sustained considerable damage at our dock.

I have read the report that studied the effects of wake-boats on the Lake. I do not see any positive wake-boat effects and I do not see any negative effects, for anyone, by passage of both House bills. Amendment and passage of HB 1071, "from 250 feet to at least 700 feet", will improve the quality of life for ALL.

Thank you.

Sincerely,

Cc: MP

Mark Pastir

Mark Pastir

Retired Instructor:

Bio., Chem., Earth Sci., Environ.Sci.

Heather Goley

From: Nancy Dorner <nedorner@yahoo.com>
Sent: Sunday, February 6, 2022 5:45 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

To House Resources Recreation Committee,

As a Bristol, NH resident who is concerned about the well being of our state lakes, I am requesting that you support this bill/amendment to protect our lakes.

A recent peer reviewed study revealed the clear importance of this bill and even indicated 500' not 250' that this bill allows would be more appropriate.

In my opinion, to defeat HB 1071 clearly would negatively affect the health of our lakes.

Please strongly work to pass HB 1071.

Thank you,
Nancy Dorner, Bristol, NH

Sent from my iPhone

Heather Goley

From: thescrubbingdoubles <thescrubbingdoubles@gmail.com>
Sent: Sunday, February 6, 2022 5:15 PM
To: ~House Resources Recreation and Development
Subject: Hose Bill 1071

From Deering Lake.

Pass HB 1071 with a 500' setback.

Many big shoreline pine trees have already toppled over due to erosion.

Loon babies have been killed as well.

Stop wake boarding on our lake.

Sent from my Verizon, Samsung Galaxy smartphone

Heather Goley

From: Chris Berry <cberryh2o@gmail.com>
Sent: Sunday, February 6, 2022 12:41 PM
To: ~House Resources Recreation and Development
Subject: HB 1071 - wake boats

Dear honorable legislators - I'm writing to you to express my support for more protective wake boat buffers. As proposed, HB 1071 only requires a 250 foot distance, which is not well-aligned with emerging science on wake boat impacts on shoreline erosion, etc. As you are likely aware, the University of Minnesota recently completed a study that shows that 500 feet is a more protective and defensible distance for such activity.

As a shoreline property owner in Tuftonboro and professional watershed manager (and former wake surfer), I am well aware of the impacts of this activity on both shoreline erosion, property values, habitat and other recreational users of NH's great water resources. With sediment transport from upstream rivers largely shut off by dams and elevated lake levels maintained through the summer to facilitate boating, wake surfing waves can have even more significant effects on lake and river shorelines than might be the case otherwise. Additionally, NH's waterways are busier than ever, requiring a more rigorous regulatory stance in order to protect them.

Thank you for your consideration. Please do not hesitate to contact me if you have any questions or concerns about my position.

--
-Chris Berry

Heather Goley

From: cdunlap@qmsinc.com
Sent: Sunday, February 6, 2022 11:28 AM
To: ~House Resources Recreation and Development; Robert Harb; Andrew Renzullo; Juliet Harvey-Bolia; Suzanne Gottling
Subject: HB 1071 Commission

To the Members of the HB 1071 Commission:

My name is Carl Dunlap and I am a NH resident, voter, and "tow boat" owner with a house on Lake Sunapee. I have been boating on Lake Sunapee since 2010 and purchased my house in 2017. One of the main reasons I purchased the home on Lake Sunapee is to have a place where my family can go to connect and make memories. Some of our favorite memories are on the water and behind our boat - whether that be tubing, skiing, or wake surfing.

In today's day and age, it is so important for us to get the kids off their phones and Xbox and get out on the water and have some time as a family. The kids also love to bring their friends and show them the ropes.

One of the first things I did before vacationing in New Hampshire and purchasing the boat was to take the boater's safety course and get my NH Boating license. It seemed a bit of an inconvenience at first, but I truly believe that it helps make the Lake a safer place and I have encouraged my friends and family to get their boating licenses too. One of the things I like best about New Hampshire is the independent spirit and freedom. It is a great balance of civic responsibility and individual freedom. There are fewer mandates and fewer taxes, but the residents are nonetheless obedient, civilized, courteous, and free.

I have been impressed with the consideration shown by boaters on Lake Sunapee. I see boats give each other plenty of space and I see the lake shared between all kinds of activities including sail boating, kayaking, slalom skiing, tubing, wakeboarding, and wake surfing. I bought my boat in 2019 to do some slalom skiing, but also to learn how to wake surf because as I get older I want an activity with less strain on my body. I'm also teaching the kids to ski and wake surf and I'm looking forward to this summer and trying to take our minds off of COVID-19 and all we have lost with school and sports and home quarantine.

As the Commission looks at "wake boats" and possible regulations I would encourage them to look at the spirit of New Hampshire. The boaters should have the freedom to engage in all kinds of boating activities (including wake surfing) and not try to pick "winners and losers" while focusing on safety and being courteous. I do not support regulating that "Any boat underway for wake surfing on inland waters shall maintain a minimum distance of 250 feet from the shore, docks, and other boats." I also do not support raising that distance to 500 feet. We should continue to keep our lakes clean and free of invasive species and share the water with all our friends and neighbors. Thank you for your time and efforts.

Kind Regards,

Carlos (Carl) Dunlap
Sunapee, NH

Heather Goley

From: Paul Strathie <pjstrathie@gmail.com>
Sent: Sunday, February 6, 2022 11:35 AM
To: ~House Resources Recreation and Development
Subject: What happens when huge wake boat waves hit shoreline

The pictures below are indicative of what happens to shoreline walls when constantly hit by wake boat waves. I encourage this committee to please pass HB 1071 to stop the damage to properties. Additionally I have noticed more sediment on the surface of the lake bottom where sand used to be. It is my belief that this is caused by huge wave action as it is a fairly recent phenomenon. By the way I have summered at this location for the past 50+ years and we have never experienced this problem before. Thanks for listening. Paul Strathie 13 North Shore Rd Windham, NH







Sent from my iPhone

Sent from my iPhone

Heather Goley

From: Patricia Denny <pdennygoodlin@gmail.com>
Sent: Sunday, February 6, 2022 11:11 AM
To: ~House Resources Recreation and Development
Cc: nancymlindsey@gmail.com; mdavis@nhlakes.org
Subject: Writing in Support of House Bill 1071 relative to Wake Surfing

Dear Committee Members,

Our family has been enjoying swimming and boating (small craft such as kayaks, canoes, sailfish, etc.) in Little Lake Sunapee for five generations. My father and his sisters, along with neighboring property owners, arranged for a conservation easement in the early days of the Ausbon Sargent Land Preservation Trust (ASLPT) in order to ensure that several acres of natural shoreline would forever remain undeveloped and protected.

Although I was until recently unfamiliar with the water sport called wakesurfing, the increased number of large motor boats and water skiing on the Little Lake in recent years has negatively affected our enjoyment of what has always been for us a serene and peaceful swimming cove. We frequently experience, even with the wakes of existing boats, the turbulence of waves hitting the shore and violently rocking a shoreline raft for sunning.

We would be deeply disturbed, should wakesurfing take hold in Little Lake Sunapee, not only by the increased frequency and strength of the wakes caused, but equally for the havoc it would cause for flora and fauna. Of chief concern would be the highly negative impact on a NH Loon sanctuary nesting platform in the neighboring cove.

I am writing to express my strong support for House Bill 1071 and, in addition, to urge you to add to the bill the request for a 450-500 feet shoreline minimum. Study data indicates a clear justification for increased setbacks for wakesurfing and that 250 feet would not be sufficient to protect lake health.

Thank you for your attention and I hope you will vote in strong support of HB 1071.

Patricia Goodlin
New London, NH

Heather Goley

From: Keith Mayotte <keith@redbrickclothing.com>
Sent: Sunday, February 6, 2022 10:41 AM
To: ~House Resources Recreation and Development
Subject: please vote to oppose HB 1071

As a lifelong boater on NH waterways I oppose HB 1071 and you should too. It will do nothing to resolve issues on NH lakes and ponds. Please support the NH state police with additional funding to enforce existing laws and keep our waterways safe.

Keith Mayotte
Red Brick Clothing Co.
Done Right. On time. Every time.
17 Dracut Road, Hudson NH 03051
Main: 603-882-4100
Direct: 603-882-3805
E: Keith@RedBrickClothing.com
W: RedBrickClothing.com

Heather Goley

From: Brie Stephens <brie@lakeliferealty.net>
Sent: Sunday, February 6, 2022 10:12 AM
To: ~House Resources Recreation and Development
Subject: Please vote to oppose HB 1071

I write to ask you to oppose HB 1071, relative to wake surfing. I am an NH real estate broker and reside in Moultonborough and boat on Lake Winnepesaukee with my Mastercraft x24. I am a member of the development committee for the Lake Winnepesaukee Association, loon watcher for the Center Harbor Bay and Blackey Cove areas for the Loon Preservation Committee, a member of the town of Moultonborough Planning board, board member of the Lakes Region Home Builders Association, board member of the Lakes Region Chamber of Commerce and co-chair for the Lakes Region Parade of Homes

I am predominately boating with real estate clients, local business owners, friends, and family after work each day, weather permitting. We keep our boat on a mooring in Center Harbor Bay at my parent's residence. We primarily love to invite those new to the area or the lake to join us and learn to wake surf. We on average teach approximately 15 people a week in the summer how to surf. It is an incredibly gratifying opportunity for us to get to know others in the community, share a recreational sport, laugh, and make memories that will last a lifetime.

My observations to boating on the lake are not boat-type specific but rather boater education specific. Renters who are new to the boating scene and boat launchers new and unfamiliar to the lake they just launched into are where I see the safety of the waterways as the biggest issue, nothing to do with singling out a specific type of boat or recreational water sport.

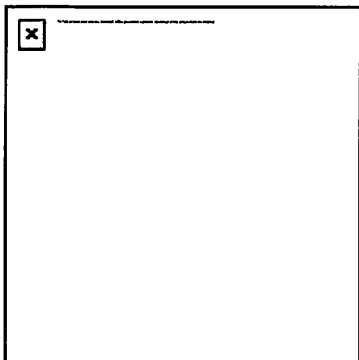
HB 1071 should be defeated for numerous reasons. It will not solve nor lead to solving issues on the waterways, I feel it will only hurt and make things more dangerous on the waterways. As the boat captain, I worry for the safety of those on board the boat and in the waters. If I am in a bay/cove and the distance being proposed that could mean for a one way down the middle- say another boater (experienced or not) is coming towards my direction and we both need to give way to pass each other at safe distances, I then could be in violation of being closer to the shore than allowed, forcing me to stop where I am- even worse with a potential person being towed behind me now in the water. With other boaters likely traveling behind me- if I stop will they notice in time? Will my occupants and the one in the water be at risk of them not stopping in time? This seems like the opposite of best practices for wake surfing


I ask that you please vote against this bill as it only brings dangers to the waterways and is not the solution to responsible boating safety.


**Brie Stephens
Moultonborough, NH**



**87 Whittier Hwy
Moultonborough, NH 03254**



 **603.819.8071**

 **603.569.HOME**

 **www.LakeLifeRealty.net**



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Heather Goley

From: Rfdooley 01@aol.com <rfdooley01@aol.com>
Sent: Sunday, February 6, 2022 9:10 AM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: HB 1071

As a 79 year resident of the storefront of Cobbetts Pond I support this bill with an amendment of 500 ft.

Our waterfront property is suffering severe erosion from this access wave activity. The water is washing over my waterfront wall eroding it from behind and will eventually case it to fall into the lake.

Sincerely,
Richard Dooley
Sent from my iPad

Heather Goley

From: russwrp (null) <russwrp@aol.com>
Sent: Saturday, February 5, 2022 4:57 PM
To: ~House Resources Recreation and Development
Subject: I Oppose HB 1071

From Russ Price
Sunapee, NH

I oppose HB 1071. We own a house and a Nautique on Lake Sunapee. We spend summers on the water with our kids and grandkids cruising, wakeboarding, tubing and wakesurfing. Wakesurfing is a popular sport among the families on the lake because all ages can do it and it is easy on the body and easy to learn. I don't believe one sport should be singled out for restrictions when it is the bad boat drivers which should be punished. Perhaps there should be more enforcement of the current laws because we often have other boaters pass too close in violation of the 150' law. Finally, our family has adopted the recommendations of the wake responsibly material, including voluntarily increased our distance from shore.

I ask that you kill HB 1071.

Sent from my iPad

Heather Goley

From: Pam Price <ppricenh@gmail.com>
Sent: Saturday, February 5, 2022 4:32 PM
To: ~House Resources Recreation and Development
Subject: I OPPOSE HB 1071

To Members of the House Resources Recreation and Development Committee

From Hon Pamela Price, Sunapee NH
Former Representative, Nashua
Member of the Commission to Study Wakeboats

I strongly oppose HB 1071. In the final report of the Commission to Study Wakeboats the Marine Industry made a commitment to increase boater education with the Wake Responsibly campaign which includes keeping music volumes low, avoid repetitive passes and includes a recommendation of a 200' setback. The industry, working with Marine Patrol, has made a significant commitment to improve boater behavior through the Wake Responsibly campaign. Signs and literature are in dealers and at boat ramps around our state. Any change to our laws now will undermine all the efforts and resources devoted to boater education and create confusion in the boating community.

The State of New Hampshire holds in Trust all public waterways for the use and the benefit of the people of the state. It is the governing principle to balance the competing uses of the public and the storefront owners. It is our responsibility to not allow one interest group to determine the fate of another. The Commission was presented no evidence which would warrant the change proposed in this legislation.

Recreational boating has a significant impact on our state's economy. As a tow boat owner on Lake Sunapee we personally enjoy taking our kids and grandkids out for a day on the water. Wake surfing is extremely popular with families on our lake. The proposed change would certainly impact the desirably and economy of our state.

I ask that you find HB 1071 INEXPEDIENT TO LEGISLATE.

Heather Goley

From: Chrissy Wolf <chrissy.wolf1@gmail.com>
Sent: Saturday, February 5, 2022 4:01 PM
To: ~House Resources Recreation and Development
Subject: PLEASE VOTE TO OPPOSE HB 1071!

Good Afternoon,

My name is Christina Wolf and I urge you to oppose HB 1071 relative to wakesurfing this coming week. Currently I reside in Portland, Maine, but I grew up in (and still frequent) New London, New Hampshire. I was fortunate enough to live across from Little Lake Sunapee, where my parents still live. It was here that some of my fondest childhood memories were created. In the early 2000s my parents purchased their first ever motorboat. We quickly learned how to wakeboard and waterski. A few years later, we learned how to wakesurf. Learning how to wakesurf was a huge confidence booster for my difficult middle school years and remains a sport that I continue to work at in my thirties. Wakesurfing is a life-long activity that gets people active and engaged in the outdoors. I have seen anywhere from a five-year-old, to a seventy-five-year-old get up with ease, flashing the most genuine smile on their face. In recent years, and especially with the COVID-19 pandemic, people of all ages, socioeconomic status, and race, have been finding ways to recreate outdoors. Wakesurfing (and boating) has increased in popularity as a summer sport, and with that, there has been a ripple effect in communities trying to come up with a solution.

In recent years I have witnessed an increase of boat usage on the lakes of New Hampshire; yes, there are more "wakeboard" boats, but there is also an influx of other lake enthusiasts (skiing, wakeboarding, tubing, kayaking and paddleboarding), who are out on the water with little to no safe boating education. At sixteen years old, my parents encouraged me to take the New Hampshire Safe Boating course. I did this, in addition to my friends, to learn how to safely navigate the waters that meant so much to us. I have witnessed boaters of all types disobey the safe boating laws that were taught in this course. I do not think that it is fair to point fingers at "wakesurfers" for causing unsafe lake conditions. Every single lake user should be holding themselves accountable for safe boating around others. I agree that wakesurf boats can make a big wave, but have you seen tubers going in circles at 15 mph and making a man-made lake wave pool before? This is an example of how education could be a solution to this issue instead of outright banning or making it less accessible to us folks on the smaller lakes. HB 1071 will not solve the solutions of the lake.

It is my understanding that a major push for this bill has been based on findings from the University of Minnesota study on waves and wakesurf boats. I am offended that any organization claiming themselves to be a protective association or for the environment would read into this study at this time. My background is in environmental education; I am now a nurse and have devoted the last decade of my life to researching reputable, evidenced-based science. Until their study measures a larger sample size of more than four boats, a longer study time, and a control, their work does not mean much. There are a multitude of factors that cause erosion on the shoreline including wind, rain, snow, and yes, other types of boats. It would be very difficult to prove that wakesurf boats are the sole reason for erosion in the lakes.

I would like to thank the committee for taking the time to read my position on HB 1701. For now, I encourage you to continue promoting safe boating education and keeping all types of lake recreation available. COVID19 has taught us that we need to come together more than ever right now and calling out a subset of lake recreationists is not the answer at the convenience of some NIMBYs.

Sincerely,

Christina Wolf and Brant Haflich

Heather Goley

From: dgblundell@windwhip.com
Sent: Saturday, February 5, 2022 2:54 PM
To: ~House Resources Recreation and Development; Andrew Renzullo
Cc: Bob Lynn; jsoti@gmail.com; Regina Birdsell
Subject: Support of NH House Bill 1071

Chairman Renzullo and Committee Members,

I have lived on Cobbetts Pond Windham NH for over five years. My wife and I are retired and are frequent kayakers on the lake. We also enjoy sitting on the dock watching our grandchildren swim and greeting our friends as they boat past our dock. Each summer I have seen an increase in the number and size of the wake-surf boats. I respect that everyone living on the lake has the right to use the lake for recreational purposes. The considerate wake-surf boat operators stay near the center of the lake where the waves dissipate by the time they reach the shore. Unfortunately I feel that some of the wake boat operators don't respect my use of the lake. They pass by within 150 feet and create waves that toss my dock, making it uncomfortable and unsafe to sit on the dock. Due to the waves generated by these wake-surf boats, the shoreline has eroded resulting in several small trees falling into the pond. Also, we have had to limit the time of day that we kayak to prevent from being unsafely tossed about by the larger waves being generated by the wake-surf boats.

Now my personal experiences are supported by documented evidence. This published peer reviewed wave-action study by the University of Minnesota confirms that waves generated during the activity of wakesurfing are larger and more powerful than waves created by non-wakesurf boats. The main conclusion of this research, shown in the chart from the this report, is that a setback distance of at least 500 feet from the shoreline is needed for waves generated by wake-surf boats (identified as Condition 1A) to reach the wave heights similar to a traditional non wake-surf boats (identified as Condition 2).

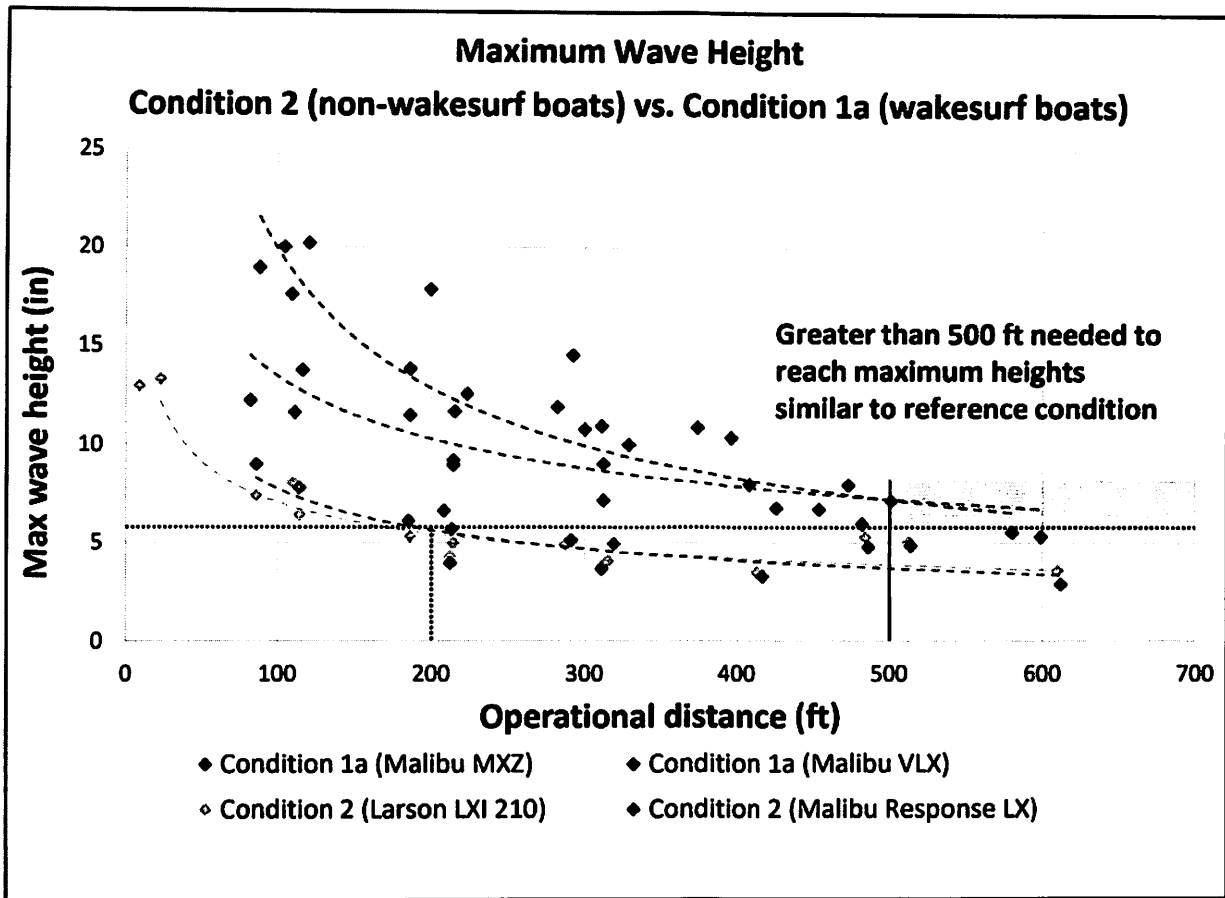


Figure 45. Illustration of a potential method for estimating the operational distance needed to reduce the maximum wave height of the wakesurf boat to reference levels associated with Condition 2 (planing) of the non-wakesurf boats (black horizontal dashed line).

Supported by this published research, I strongly support HB 1071. I also encourage the committee to consider extending the setback distance for wake-surf boats to 500 feet to protect the health of NH lakes and the enjoyment by all residents.

David Blundell
 25A Cobbetts Pond Rd.
 Windham, NH 03087

Heather Goley

From: Jay Jackson <jayjacksonmarketing@gmail.com>
Sent: Saturday, February 5, 2022 12:32 PM
To: ~House Resources Recreation and Development
Subject: please vote to oppose HB 1071

Hi,

I write to ask you to oppose HB 1071, relative to wake surfing. **As shoreline constituents**, my family has been doing water sports for over 30 years on Lake Winnepesaukee. I bought my family a wake boat and my **dad who is 84** and my **mom who is 69** can't waterski anymore but they can still wake surf. See my top reasons for why I ask for you to oppose 1071:

- **Slippery slope** - singles out one sport unfairly, what's next?
- **Confusing to public** - different setbacks for different types of boats is unnecessarily complex
- **It doesn't add to erosion** - Studies show that erosion has many factors such as wind, ice and storms. Ten to twelve weekends a year of a few wake boats is less noticeable from our shoreline than storms, wind and ice.
- **It's a power boat style for athleticism** - Tow boats are the only power boats purpose built FOR exercise and we have an intimate relationship with the water. A good number of other boaters are on the water for partying, drinking or racing. Our group cares strongly about health and safety as our riders are more vulnerable due to the fact that they are in the water. We also care more about water quality for the same reason. As a rider, I have been VERY scared by non-tow boats passing too close at headway speed.

In closing, tow boat riders care deeply about the preservation of the lakes so that we can continue our sport for generations to come.

Thank you for your time.

Regards,
Jay Jackson
Long Island, Moultonborough Resident

Heather Goley

From: Dennis Giampietro <dennisgiampietro@gmail.com>
Sent: Saturday, February 5, 2022 11:51 AM
To: ~House Resources Recreation and Development
Subject: Please Vote to Oppose HB 1071

Dear Honorable Members of the House Resources, Recreation & Development Committee:

I write to ask you to oppose HB 1071 relative to wake surfing. I am a resident of Nashua and a 2nd home owner in Meredith on Lake Winnepesaukee. I am a parent, grandparent and lover of the beauty and all recreational activity on our lake, including wake surfing, our favorite family summer sport.

HB 1071 should be defeated as it unfairly seeks to restrict a single sport. Moreover, the confusion that will occur by subjective distance measurement will be difficult at best to enforce. Approaching boaters will crowd the buffer space, not understanding the requirements made only to the wake boat operator that now may not have the required distance on the other side to give way. This will be dangerous and can potentially jeopardize everyone's waterway safety.

Further, confusion will occur when any Tow Sport activity is engaged in. Wake Boats also tow tubers, skiers, and Jr. athletes who may not use any added weight ballast. How will that be written so that the operation of "a boat" can be seen correctly by not only law enforcement, but the public?

The industry and the wake boat community have focused on the education of boaters and the enforcement of all current laws as appropriate ways to address conflicts. "NH Wake Responsibly" is an excellent new program and should be given the opportunity of time to properly influence all boater safety and courtesies while operating any boat on the water.

In Conclusion, We have boating laws which are more than adequate and already go beyond those of some other states. Therefore, I respectfully ask you to oppose HB 1071 by voting against this bill.

Thank you for your consideration.
Respectfully,

Dennis Giampietro
dennisgiampietro@gmail.com
603-591-4274
Nashua, NH

Heather Goley

From: Don Wilson <dkwilsonheronpoint@gmail.com>
Sent: Saturday, February 5, 2022 11:45 AM
To: ~House Resources Recreation and Development
Subject: HB 1071, hearing Wednesday, 9th of October

Dear Sirs,

As a resident on a New Hampshire lake I have personally experienced property damage,(to docked boats)as well as shoreline erosion due to wake boats operating on the lake. Recent research by the University of Minnesota indicates that a set back of greater than 500 feet is required to mitigate the effect of the larger waves created by wake boarding. HB 1071 calls for a set back of 250 feet. Based on the research done by Minnesota I urge the committee to increase the set back to at least 500 feet.

Sincerely

Donald V Wilson

35 Heron Point Rd, Rindge, NH 03461

Heather Goley

From: Brian Green <green.bj@gmail.com>
Sent: Saturday, February 5, 2022 11:16 AM
To: ~House Resources Recreation and Development
Subject: Please vote to oppose HB 1071

I write to ask you to oppose HB 1071, relative to wake surfing.

My name is Brian Green and I love and boat on Little Island Pond in Pelham NH. I'm a longtime employee of BAE Systems.

This bill would essentially ban wake surfing on my lake. My family, friends and I have spent many summers and hours together participating in wake sports, and done responsibly wake surfing is a fun, healthy, family friendly activity.

Banning the activity or boat type makes no sense. Wake surfing can absolutely be done responsibly within the existing laws.

While it is true that wake boats produce large wakes, it's also true that almost any boat can produce a large wake when driven irresponsibly.

I urge you not to ban this sport, particularly when there have been no credible studies showing an impact on erosion. I fail to understand how the three or 4 waves from a wake boat pass are any different or more damaging of those from a tuber, someone doing laps, a windy day with hours on end of similar sized waves, or the three months of the year where wind and ice push upon the shores

The responsible boating campaign and enforcement of existing setbacks are more than enough to address the concerns brought up.

On a personal note, I live in an area where I can't see the lake well until I go out on numerous occasions I have come around the corner of the lake to find it too busy to wakesurf and maintain safe clearance, and I've made the decision to just stop until there is more space. But I'm on those same days, I frequently see much smaller lighter boats pulling tubes creating large wakes close to other boats and the shore. It's not the activity, it's the decisions and behavior of the driver!

Thank you for your time and consideration and please vote against this unfair bill.

Brian Green

Pelham NH

Heather Goley

From: Anna Ardehali <aardehali99@gmail.com>
Sent: Saturday, February 5, 2022 10:55 AM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org
Subject: Support of Bill HB 1071

Good morning,

As an owner of lakefront property on Opechee Bay in Laconia, we've been dealing with wake surfing repercussions for the past 2 summers. Our shoreline erosion has been significant. It's the worse I've seen in the 10 years that I've owned my home. We are fortunate to have a sandy beach on our property. Our sand is being washed out half way up the beach - this has never happened before wake surfing. And just this summer, at the end of the season, we've had blooms along our shore that we've never had before.

I urge you to **support** bill **HB 1071** on **February 9 2022** to alleviate the wake surfing issues before they get worse.

Thank you!
Anna Ardehali
32 Lewis Street Laconia

Heather Goley

From: Cindy Herweck <cindyherweck@gmail.com>
Sent: Saturday, February 5, 2022 10:29 AM
To: ~House Resources Recreation and Development
Subject: Fwd: HB229

Dear Honorable Members of the House Resources, Recreation & Development Committee:

I write to ask you to oppose to HB 1071 relative to wake surfing. I oppose HB 1071 and singling out certain boats and water sports for restrictions.

I am a retired resident of New Hampshire and have lived and played in our beautiful state since the early 1960's. Our family are proud supporters of The Trust For Public Land with specific emphasis on our lakes region of New Hampshire as well as The Ausbon Sargent Land Preservation Trust. Additionally, our family created and operates The 520 Charitable Foundation here in our state.

Our first visits and vacation home in the lakes region as children were on Squam Lake. After a few decades there, we moved to Meredith where we own a second home on Lake Winnepesaukee.

Being a boat owner has given us the ability to share so much time on the water from rides on a beautiful afternoon, the amazing experience of teaching our children and grandchildren to ski and surf, watching their faces light up with that feeling of accomplishment, and preparing and educating them for operating a boat on their own - irreplaceable family memories. Now, in my 60s, I'm able to still enjoy time on the water and that feeling of accomplishment with the low impact sport of surfing, and hopes of this continuing for many healthy years to come. We have taken great pride in teaching our children (and now grandchildren) the rules of the lake. Parts of our lake are busy over the course of the summer and knowledge of the water, set backs, right of ways, and respect for boating have been part of their education. Knowledge and use of those rules works well for our lake community. Increasing rules adds to more confusion with boating. We have fair boating rules in place currently in New Hampshire. Our State has done a good job of balancing fair safe boating needs and keeping our lakes safe. Education of the currently implemented laws is the correct and proper path.

Your energy, efforts, & dedication to our beautiful lakes of New Hampshire is greatly appreciated. Please oppose House Bill 1071.

Regards,
Cynthia Herweck
Nashua, NH

Heather Goley

From: Dana Hastings <chipha41@gmail.com>
Sent: Saturday, February 5, 2022 10:07 AM
To: ~House Resources Recreation and Development
Cc: mdavis@nhlakes.org; Stephen Gray
Subject: Bill HB 1071

To whom it may concern, I am 72 years old and have been on Lake Monomonac here in Rindge New Hampshire my entire life. I am a property owner, I have served on the property owners board, as well as the commodore of the MLSA (Monomonac Lake Sailing Association). I have been a slalom skier, surfer, diver, sailor, and any other water sport there is. I love this lake, but I firmly believe wake boats with ballast tanks do not belong on our lake and are in the process of destroying our beaches, our docks, and most importantly the health of our lake. PLEASE support Bill: HB 1071

Heather Goley

From: Marie Samaha <marietsamaha@yahoo.com>
Sent: Saturday, February 5, 2022 9:41 AM
To: ~House Resources Recreation and Development
Cc: Michelle at NH LAKES
Subject: HB 1071 Wakeboarding legislation

Good Morning,

I am writing to urge you to support HB 1071 with an amendment to change the setback to 500 feet from 250 feet. I am a member of the Moultonborough Conservation Commission and am aware of the effects of wakesurfing on the lake environment.

A study by the University of Minnesota was released recently confirming that waves produced during the activity of wakesurfing are measurably larger and more powerful than waves created by non-wakesurf boats in terms of maximum wave height, total wave energy, and maximum power. The study concluded that at least 500 feet are needed for wakesurfing waves to diminish compared to waves created by non-wakesurf boats

Wake surfing can be destructive to our lakes' environment when allowed in some areas. Enhanced wakes can erode shorelines and disturb lake bottom sediments—these actions can release nutrients into the water and cause toxic cyanobacteria blooms that are harmful to wildlife, swimmers, and pets. These enhanced wakes can also disturb critical fish and bird nesting habitats, damage shoreline property, and make recreating unsafe for others.

I personally saw how wakesurfing could be dangerous to swimmers. Three summers ago I was swimming in Meredith Bay with my 10 year old grandnephew and his father. We were just off the dock - which would be about 30 feet long. Wyatt is a good swimmer, but was knocked about and inundated by a wave from a wakesurf boat. His father was near by and grabbed him and helped him back to shore. If Wyatt was not such a strong swimmer or his parent was not near by he could have been overwhelmed and frightened by the wave with some negative consequences.

In addition, each year I see more activity on the lake. If there are few restrictions on wakesurfing, more and more wakesurf boats will be active with an increase in harm to the environment and to those who recreate in and on our lakes.

Thank you for your attention to this matter and for your interest in protecting the environment of New Hampshire lakes.

Sincerely,
Marie Samaha
32 Fox Hollow Road
Moultonborough, NH 03254

Heather Goley

From: t1woolso@comcast.net
Sent: Saturday, February 5, 2022 9:10 AM
To: ~House Resources Recreation and Development
Subject: Please vote NO on HB 1071

I am writing to you in opposition to HB 1071, which unfairly singles out wakeboats as a cause of issues on NH lakes. PI

A couple of thoughts before there is a “knee jerk” reaction to pass a bill based on a University of Minnesota study where all sides of the issue clearly have not been assessed.

First, we need to ask ourselves “what problem are we trying to solve with this?” At best there is only anecdotal evidence of shore erosion on the lakes and even then it is not at all clear what is causing it where it is happening. With regard to lake shore erosion in the very Minnesota study the anti-wakeboaters referencing there are notes that wind and storm waves cause more damage than boat wakes and it notes that shore erosion was caused by wakeboats only when used continuously closer than 200 feet from shore.

The study itself also raises several unanswered questions and shows significant bias against wakeboats. For example: What is the relevance of the benchmark they are saying the wave needs to attenuate to? (which while they say is the “largest wave a non-wake boat makes, it is actually the size of a wave of a competition ski boat when planing, in other words, trying to make smallest wake possible for the benefit of the skier) Is there some scientific study saying that this is the right benchmark for shore erosion minimization or other aquatic impact? No—it is a MADE-UP benchmark! It is purely a “reference level” with ZERO scientific backing.

Also, the study notes that to attenuate a wave to the benchmark a wakeboats should be 500 feet from shore; however, it also notes a non-wakeboat should be 425 feet from shore when “transitioning to planing” (e.g., not planing). So this would mean that anyone pulling tubers or engaging in any other activity (e.g., driving to a fishing spot) when they are not planing should be considered here—this would of course mean non-wakeboats! The legislation, however is directed only at wakeboating—clear cherry picking of the data to fit their agenda against wakeboats. Also, I would note again that the reference benchmark is a meaningless data point and therefore should have no bearing on boat distances regardless.

Third, the condition 2 that is referenced in the study and a chart you will likely see related to wave attenuation for the non-wakeboats is 20 mph—this is ridiculous!! No one waterskis at 20 mph—it is generally 30 mph and even wakeboarding is typically done at a higher speed than this. Additionally, if you want more evidence of bias, they used 2004 vintage ski boats with 2 people in them and 2019 vintage wakeboats with 4 people in them (more than double the passenger weight in the wake boats). Also a new Malibu ski boat (e.g., the LXi used in the test) weighs 30% more than the 2004 vintage model used in the test.

Honestly, I could go on with myriad other issues with the report showing bias against the wakeboats (and all comparing to a meaningless benchmark level)—but hopefully have made my points:

- 1) What problem is the bill trying to solve?, and
- 2) Is the bill a well thought out solution being intellectually honest and considering all sides of the issue?

I believe that the answer to number 1 is “we don’t know”, and the answer to number 2 is “no”. Very good reasons to NOT PASS this bill.

Thank you for your time and consideration.

Regards,
Tyler Woolson
NH Homeowner/Boat-owner

Heather Goley

From: Abigail/Brian Adams/Hennessy <abigailandbri@gmail.com>
Sent: Saturday, February 5, 2022 8:17 AM
To: ~House Resources Recreation and Development
Cc: Michelle Davis
Subject: Wake Boat Bill 1071-support with ammendment.

Dear Representatives ,

Please consider the new research from the University of Minnesota study on Wake Boats. Wake boarding is fun but unless it is done 500 feet from shore, it causes severe erosion at the shore and adds phosphorus to our lakes. This is like giving candy to Cyanobacteria (Bluegreen Aglae). You have the power to keep our lakes clean!

Please amend HB 1071 to state that all WAKE BOARDING should be 500 ft from the shoreline.

Thank you,

Abigail Adams
Brian Hennessy
55 Pleasant St
Wolfeboro NH

Heather Goley

From: Andrew Powell <aspowell16@gmail.com>
Sent: Saturday, February 5, 2022 8:02 AM
To: ~House Resources Recreation and Development
Subject: PLEASE VOTE TO OPPOSE HB 1071

I write to ask you to oppose HB 1071, relative to wake surfing. As a waterfront resident of Lake Winnepesaukee and a passionate wake surfer, it is sad to see these constant attacks on our sport. Wake surfers should be able to enjoy their rights to the lake, just like the fisherman who fish 5 ft away from our docks every morning!

This bill singles out our sport for unfair regulation and restrictions. If wake surfers need to be several hundred feet from shore, than the 40 foot yachts that cruise by my home daily surly need to be several thousand feet from shore (as their wake is at least double that of my 20 ft surf boat, even with all of my ballast full). When does it end? When only kayaks are left on the lake?

As someone who runs a company that details boats around the Lakes Region, I can tell you that a massive amount of my business comes from surf boat owners, all of whom feel we are being unfairly targeted. I work, volunteer, and play on Lake Winnepesaukee and want to ensure that it stays inclusive and free. Thank you for voting to OPPOSE HB 1071.

**-Andrew Powell
Moultonborough, NH**

Heather Goley

From: Joe Guyotte <joseph.guyotte@gmail.com>
Sent: Saturday, February 5, 2022 8:01 AM
To: ~House Resources Recreation and Development
Subject: HB 1071 in Opposition

Please do not restrict or ban wake surfing or water sports, these are very family friendly activities and there are much larger issues on lake winnepesaukee than families enjoying a day on the water. Opponents to this activity always blame wake-boats for environmental impacts, that is simply not the case.

Thank you.

Best regards,
Joe Guyotte

Please excuse any typographical errors.
-sent from my mobile device.

Heather Goley

From: Steve Street <steve.street@me.com>
Sent: Saturday, February 5, 2022 7:49 AM
To: ~House Resources Recreation and Development
Subject: Oppose HB 1071

Please don't ban wakesurfing. This sport is the only water sport that is friendly for kids and people of all ages as the boat only goes 11MPH when wakesurfing. A 250 - 500 ft setback would essentially be a ban. I live on lakefront on Winnepesaukee and have non-wakesurfing boats that create bigger waves.

Please oppose HB 1071.

Thank you for your service.
SS

Sent from mobile device, apologies for brevity and typos.

Steve Street
603-339-1493

Heather Goley

From: RICK TROTTIER <ricktrottier61@gmail.com>
Sent: Saturday, February 5, 2022 7:48 AM
To: ~House Resources Recreation and Development
Subject: HB 1071

Please oppose HB 1071. The restrictions that this bill puts on the sport is not necessary and could restrict some lakes from having wake boats on their lake. The fact is that waves diminish in strength long before they reach the shoreline and this is unnecessary. The is a great sport and activity that families enjoy from Grandparents to grandchildren together and restricting it will take that way for many families. This will also have a economic impact on the state of NH.

I firmly oppose this bill and ask you to do the same.

Rick Trottier
Director of Operations
Peters Of Nashua

Heather Goley

From: Lawrence Sunderland <lsunderlandor@gmail.com>
Sent: Friday, February 4, 2022 9:57 PM
To: ~House Resources Recreation and Development
Subject: HB 1071 - wake surfing bill

Although I am no longer a resident of New Hampshire, until the end of year 2020 my wife and I were owners of an island property on Deering Lake in Deering and I testified on our own behalf at the original committee hearing on the wake surfing bill.

Our former property is almost entirely forested and has a long frontage on the main channel between the north and south ends of the lake as well as a shorter channel between the island and the east shore. My concern, based on prior experience with pre-wake boat waves, is that the larger wake-boat waves could well cause bank erosion on the island, undermining the root system of shoreline trees and creating a hazardous situation for all motorized boating from submerged tree trunks extending well into these channels.

I daresay this situation is not unique and I hope the Committee will give its attention to this consideration.

Respectfully yours,

Lawrence Sunderland
144 Wheatland Loop North
Keizer, Oregon 97303

Heather Goley

From: Michael Brooker <brookermike@icloud.com>
Sent: Friday, February 4, 2022 9:13 PM
To: ~House Resources Recreation and Development
Subject: [CAUTION: SUSPECT SENDER] Please support HB 1071

My local lake, Lake Kanasatka, has had many cyanobacteria blooms over the last summer, something that has rarely happened before. There are wake boats on the lake which stir up sediments and contribute to the blooms. When the blooms occur people can't swim in the lake or even come into contact with the water. Kanasatka is a small lake, wake boats have a strong negative effect on it.

Thank-you for your consideration.

Michael Brooker
Moultonborough, NH

Heather Goley

From: Bethann McCarthy <bmccarthy860@gmail.com>
Sent: Friday, February 4, 2022 6:31 PM
To: ~House Resources Recreation and Development
Subject: Support of HB 1071 re wake boarding

I urge you to vote in favor of this bill. Wakeboarding creates significantly larger waves than most boating, resulting in erosion of shorelines. This creates a negative impact in property and reduces water quality.

We need to take care of our lakes. Please support this bill.

Bethann McCarthy
Hopkinton NH

Sent from my iPhone

Heather Goley

From: Gregory Monahan <gmonahan1@optonline.net>
Sent: Friday, February 4, 2022 6:26 PM
To: ~House Resources Recreation and Development
Subject: HB-1071

Dear Sirs,

As a lake front owner in Langdon Cove, Moultonboro, I am totally OPPOSED to HB-1071. I do NOT own a wake boat, but have observed many in use in the cove. Your data is INCORRECT, even though they do make a large wake at the boat, they are moving at such a slow rate of speed (6mph) there is not enough energy in the wave to travel more then 100 ft. I have never seen any shore erosion in 6 years from these wake boats.

Gregory Monahan
33 Geneva Pt Road.
Moultonboro.

Sent from my iPhone

Heather Goley

From: wsly7.sylvester@aol.com
Sent: Friday, February 4, 2022 5:45 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

Sirs/Madams:

Wake surfing is fun! It is not detrimental to big lakes. However, on shallow, narrow ponds like Milton Three Ponds it has severe erosional and sediment loading issues. Please support the 250 foot setback for wake surfing on NH waterbodies. Thank you!

Wayne Sylvester
co-president
Three Ponds Protective Association

Heather Goley

From: Michael Wolf <mwolf2005@hotmail.com>
Sent: Friday, February 4, 2022 12:30 PM
To: ~House Resources Recreation and Development
Cc: Jodi Grimbilas
Subject: please vote to oppose HB 1071

This policy does not help, as other than generate more phone calls that cannot be resolved, it just pits one person against another without asking folks to interact and respect each other on the lake they BOTH enjoy...

If someone is being irresponsible it is pretty obvious (no matter what they are doing) and 9 out of 10 times that person will reflect (maybe not on the spot) and consider their boating ways... most often folks don't know the lake or area they are in...

Not to mention I bet no one on this committee, fish/game or any lake can "eye" out what 250' is much less 150'...

I love the question when folks are taking the hunter safety course and they say to you "How far away are you from that target"... and no one gets it right within even a few yards (and your only 20 yards away 60') 10 and 25 are the most common guesses, so now try to have folks figure out 250' vs 150'...

The reality is, we have no wake zones, and other warning markets for rocks and such, shallow water, if these are adhered to for skiing/tubing/foiling/etc... then in just about any case will work with wake boats... There are many parts of many lakes that are not a full 300' across but folks have driven through those areas for many generations... as each lake and the people on it have accepted the fact on their lake that is a through area vs it's 290' so that cannot be used and folks should get tickets...

I do believe a wake boat should be in 8-10' of water (it's not about distance to shore vs all other water sports), by the way tubers make bigger, more concussive waves than wake boats, so if you want to stop all the tubing folks then you will help shoreline erosion and safety on the lake...

Remember wake surf boats travel at about 12mph, boats pulling tubes 20/25mph or faster and create waves with circles, figure 8's and constant back/forth... a wake boat goes one way, slowly and calmly... come experience one if you want (really) I would be glad to have someone out if they want to learn, have fun and see how much "safer" wake boating is to skiing at over 30mph or tubing...

Also note a wake boat can be used for ALL things and may not be using any ballast, so careful you have to figure out that ballast was used, (not just oh they were wake "something" we don't use ballast when wakeboarding or skiing or tubing... but do it on a wake surf boat.

sorry if that was a bit wordy, thx for taking the time today to read the replies.

Sincerely,
Michael G. Wolf

Heather Goley

From: Tyler Woolson <tlwoolso@comcast.net>
Sent: Thursday, February 3, 2022 10:00 PM
To: ~House Resources Recreation and Development
Subject: Please Vote to Oppose HB 1071

Please vote to oppose HB 1071

I write to ask you to oppose HB 1071, relative to wakesurfing. My name is Tyler Woolson and I boat on Little Lake Sunapee in New London, New Hampshire where my family enjoys wakesurfing and other watersports. The lake is the magnet that brings our family, that is stretched across the country, together--and all of us, ranging from our 20s to 60s all enjoy watersports of all kinds, and have taken a special liking to wakesurfing which is a low impact watersport in which people of most all ages can participate.

In short, I believe that wakesurfing is being unfairly (and without any scientific evidence) being scapegoated as the cause of shoreline erosion (where this is happening—to be honest, there is no scientific evidence/data that has been collected here either, the issue generally comprises anecdotal reports/evidence regarding shore erosion). All boats cast waves into the shore when operating and it is generally irresponsible boaters who do not follow no-wake zones who are creating the problems. While it is true that wakesurfing creates a higher wake (amplitude), it is done at very low speeds (generally less than 12 mph), so the speed (velocity) of the waves is much lower and dissipates quickly. Compare this to a waterski boat that makes a lower wave, but is often driven up to 3X the speed of a wakeboat sending higher velocity waves into the shore. These (waterski boats) have existed for years in harmony with other lake users and waterfront owners and there is no talk of extreme regulations on those boats/type of boating sports so clearly wakesurfing is being unfairly singled out here. As proposed HB 1017 would effectively ban wakesurfing on several NH waterways.

Focusing on the education of boaters and enforcement of current boating laws is the way to address boating issues and conflicts. Everyone should be able to share New Hampshire's beautiful waterways as long as they do so responsibly. Therefore, I close by again asking you to oppose HB 1071.

Thank you for your time and for considering my thoughts/position on HB 1071.

Regards,

Tyler Woolson

New London, NH

Heather Goley

From: Jeffrey A. Deacon <jeffdeacon@tds.net>
Sent: Thursday, February 3, 2022 5:22 PM
To: ~House Resources Recreation and Development
Subject: HB 1071

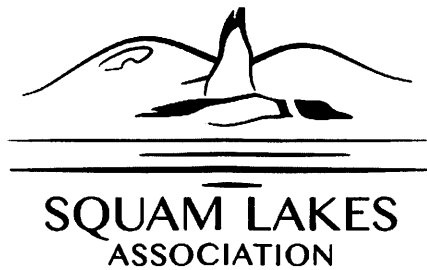
To Whom It May Concern:

My name is Jeff Deacon, I'm 63 years old and live in New London, NH. My wife Julie and I are part owners of a property on Lake Sunapee that has been in our family for 70 years. The property is located on the northeast shore and faces south, directly exposed to the main body of the lake. Our family has spent summers on the lake for my entire life and we grew up participating in and observing a variety of water sports. Four years ago, we purchased a boat with a ballast system that gave us the opportunity to wake surf, wake board and waterski. When we use the boat, not only are we careful to stay at least 150' from the shore, but typically only get that close when starting or dropping a skier/boarder/surfer. However, we regularly see other boaters (not just wake surfers) come closer than 150' from shore while moving faster than headway speed. We don't believe increasing the set off to 250' is going to solve the problem of motor boats of any type violating this regulation. Instead, we believe the problem can be solved through education/communication and improved enforcement. Most boaters want to follow the rules but may not know what those rules are. Understanding of local regulations could be improved significantly by posting signs at fuel docks and access ramps and/or communications included with registration renewals. Also, there could be a few markers around the lake 150' from shore, so boaters know what that distance looks like. Enforcement should not solely be the responsibility of the marine patrol. Other boaters and property owners should take some responsibility for communicating the regulations to violators. Snowmobilers and ATV owners have demonstrated that self-policing can be effective in ensuring adherence to rules and regulations.

Before we implement more restrictive regulations, let's make an effort to increase compliance with the ones that are already in place.

Respectfully,

Jeffrey Deacon
PO Box 443
52 Pillars Lane
New London, NH 03257
(603) 526-2134



February 9, 2022

The Honorable Andrew Renzullo, Chair
House Resources, Recreation and Development Committee
Legislative Office Building, Room 305
Concord, NH 03301

RE: HB 1071 relative to wake surfing

Dear Chair Renzullo and Members of the Committee:

The Squam Lakes Association supports the intent of HB 1071, and encourages the committee to amend the bill to be more protective of lake health.

As I'm sure you are aware, the University of Minnesota released a study showing that waves created during wakesurfing are larger and stronger than boats that are not designed for wakesurfing. The study concludes that 500 feet are needed for waves to diminish.

Squam lake is a state treasure and hosts a variety of recreational uses and has many sensitive habitats- both can be negatively affected by the magnitude of waves generated by wakesurfing.

To ensure the health of the lake and the diversity of activities that occur on it we believe that controls should be in place to protect all uses, and that distance limitations based in common sense and science are important to minimize environmental degradation as well as conflict on the lake, property damage, and enhance safety.

In the interest of brevity, we will not list the supporting documentation comprehensively cited by New Hampshire lakes in their letter, however we acknowledge and agree with information provided by a study from Water Environment Consultants based on two lakes in Georgia documenting wave energy. Thus, we support this bill and urge amending it to reflect this data and focus on a larger, more protective distance of 500 feet.

Respectfully,

EB James
Executive Director, Squam Lakes Association

The Squam Lakes Association is dedicated to conserving for public benefit the natural beauty, peaceful character, and resources of the watershed.

534 US Route 3, Holderness, NH 03245
(603) 968-7336 www.squamlakes.org info@squamlakes.org

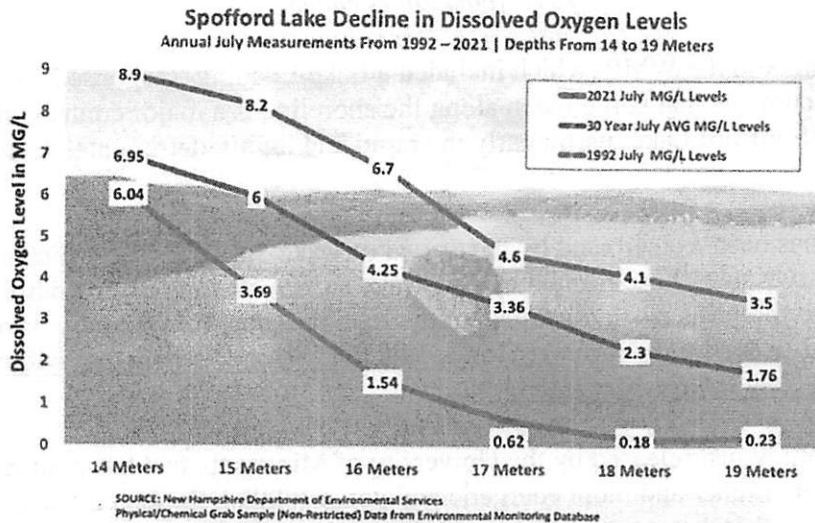
Christopher V. Oot
P.O. Box 535
Spofford, NH 03462
617-407-6211

February 8, 2022

Dear Resources, Recreation and Development Committee:

I have resided full-time on Spofford Lake in Chesterfield since 2013, and, before that, frequently visited the lake to swim and boat from my childhood home in Westminster, VT.

Over time, but especially recently, the water quality of this Class A lake has degraded with increased phosphorous loading and rapidly declining dissolved oxygen (see graph below).



To identify and mitigate the causes of the declining water quality, a Watershed Management Plan (WMP) was prepared in 2018 by FB Environmental in collaboration with the Southwest Regional Planning Commission and NH DES and, based on one of the WMP recommendations, a Paleolimnology Report was prepared subsequently (April 2020) by Dr. Lisa Doner of Plymouth State University.

Key excerpts from the Paleolimnology Report include the following:

1. "There has been a distinct and prolonged trend towards more organic material in the accumulating sediments after A.D. 1910, and after A.D. 1980 the amount of organic material reaching the lake bottom exceeds that of any prior time period."
2. "The increase in organic deposition is associated with increases in anoxia and reducing conditions in the deep basin"

3. "The core results suggest that, for the past 30 years, more and more sediments are coming from deep soils that are both sandy and rich in undegraded organic material, of a nonpoint origin that supplies all areas of the lake basin. The most probable source for this combination of characteristics is the soil surrounding the lake and exposed along the shoreline. These deep soils include sands transported downhill and deposited during post-glacial landscape adjustments, mixed with thousands of years of accumulation of forest detritus like needles, leaves and twigs. These ancient soils are normally buried and protected from erosion. ***Along the lake shore, however, deep soil layers are continuously exposed and eroded by waves and can supply material to the lake along the entire length of shoreline.*** (bold italics added)
4. "It is probable, therefore, that ***a large fraction of the organic matter accumulating and decomposing in the deep basin, and contributing to the intensification of anoxia, comes from erosion of organic rich soils along the lake shores.*** (bold italics added)
5. "Wave energy is exponentially proportional to wave height, and wave height is a function of the speed of the generating force. Sustained wind speeds of 20 mph can create wave heights on a lake of 3 feet, about the size of a motorboat wake travelling at full speed. But wind waves only impact the armored, downwind shores of the lake while boat wakes can impact every shore, most of which are highly vulnerable to wave action."
6. "The signature of sediment characteristics found in the core data strongly indicates that ***Spofford's shoreline soils are eroding and, furthermore, comprise a major source of sediment to Spofford Lake, and that this trend started about A.D. 1980.*** (bold italics added)

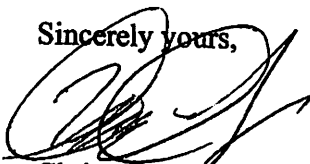
The scientific evidence provided in both the WMP (which included a Lake Loading Response Model) and the Paleolimnology Report clearly documents that soil erosion along the shoreline is a major contributing factor to the decline in the water quality of Spofford Lake, particularly the rapid and highly detrimental decline in dissolved oxygen.

In the past few years this erosion has been exacerbated by the arrival of wake-surfing boats which generate much larger and more powerful waves than those formed by non-wake surfing watercraft. In addition, these waves potentially pose a risk to the shoreline nesting habitats of the loon pair that only recently have begun to rear their young here at Spofford. **I accordingly support House Bill 1071 which, if enacted, will require a 250' setback for wakesurfing on New Hampshire lakes.**

I am also aware of a wave-action study just released by the University of Minnesota that has confirmed that waves generated by wake surfing are higher and more energetic and powerful than those generated by other powered watercraft. The study found that distances of at least 500' are necessary for these wake-surfing waves to diminish to a size and intensity of waves generated by other, more "normal" powered watercraft. **I accordingly support amending House Bill 1071 to replace the 250' setback set forth therein with a setback of at least 500'.**

Thank you for your attention to my remarks.

Sincerely yours,



Christopher V. Oot
P. O. Box 535
10 Namaschaug Landing
Spofford, NH 03462-0033

Dear Chairman Renzullo and members of the NH House Resources, Recreation and Development Committee,

My name is Jeannie Ferguson. My family has resided on Bow Lake in Strafford, NH since 1941. I am writing concerning HB 1071 regarding wake surfing.

I am writing reluctantly in support of the bill. Based on the new information from the University of Minnesota study, the bill as currently drafted is pointless. The requirement of 250' (currently 150' for all boaters) will do nothing to prevent the damage being caused by these waves. The study states that these large waves need at least 500' to diminish in size compared to non-wake surf boats. Nor does the bill refer to distance from mooring fields, swimming areas, rafts and floats.

The impact of these waves is significant at Bow Lake. My family's full-size pontoon boat was swamped by wake surf waves from a boat that had long since left the immediate area. I know of several first-hand accounts of kayaks, sailboats, even small power boats being flipped or swamped. Erosion of my neighbors' shoreline is worsening every year. Cyanobacteria blooms, endangering both humans and pets, caused by the release of nutrients from disturbed sediment has close beaches this past year. As an active volunteer for the Loon Preservation Committee, I know first hand how vulnerable the nests of these threatened birds are to large waves. Wake surf boats need to be restricted to the larger NH lakes.

I've read the heartfelt testimonies of other citizens describing the joy that they get from wake surfing with their families. Frankly, it looks like fun but the effect on others and the lakes is too impactful to ignore any more. Education? How does one educate a wave? Effect of tourist and recreation dollars? Unsafe lake conditions as well as erosion of shoreline will impact the NH economy much more.

In summary, we can do better to protect our lakes and tourist economy. We need a bill to address this issue. Restricting wake surf boating to our larger lakes and requiring a 500' distance from shore, other boats, swimming areas, mooring fields and rafts is the right thing to do.



February 7, 2022

Dear Representative McDonald,

The Board or Directors and the Members of the Wentworth Watershed Association, which includes approximately 800 residents of Wolfeboro, NH, are in support of HB 1071.

However, I would like to see the setback amended to 500 feet based on the recent study that shows that wake boats generate more powerful waves when wakesurfing. The evidence presented in that study justifies the need for this increased setback. We need to acknowledge this research and legislate based on facts.

Please help protect shorelines in NH from the repetitive wave action and erosion that degrades water quality. We want to preserve the ability for people to recreate on lakes in NH, but we need to make sure that new recreational opportunities like wakesurfing do not detrimentally affect lake health. A 500-foot setback would still allow wakesurfers to recreate and would help protect the shoreline. It's a win for our lakes, property owners, and for the watersports industry.

Sincerely,

Julie Brown

Julie Brown

Executive Director

Wentworth Watershed Association

February 5, 2022

NH House of Representatives
Resources, Recreation and Development Committee
Legislative Office Building, Room 305

Re: HB 1071

Dear Committee Members,

I am writing in support of HB 1071 and urge you to limit the allowable distance that wake-surfing boats can operate from shorelines and docks as much as is reasonably possible.

My siblings and I own a property purchased by my grandfather in 1965 near the Varney Islands on Lake Winnepesaukee (see attached images). As you can see, the area is well protected from natural waves by the islands which makes it a magnet for boaters and, especially, for watersports. It gets a bit crazy in front of our house on summer weekends but it's understandable. We were part of the fray in younger days.

The popularity of wakeboarding and more recently wake-surfing has raised new concerns. As you can see in the attached images, our area is a perfect example of why HB 1071 is important. There is a designated Loon Sanctuary among the islands as well as wetlands at the mouth of the stream from Knights Pond. Both are important wildlife habitats.

As you can see in the photo ("Varney Islands Vicinity") there are buoys that make the effective width of the boat lane as narrow as 850 ft. With many boats often present, the existing rules of distance from shorelines is already stretched. The wave activity is unprecedented. We have a small beach that is getting overwhelmed. We can tolerate the nuisance factor, but I believe there is damage being done to the shoreline and wildlife habitats that needs consideration.

I am not advocating that our area be a "No Wake Zone". I am only suggesting that it is a great example of why this issue is important. There are many places like it in the lakes region.

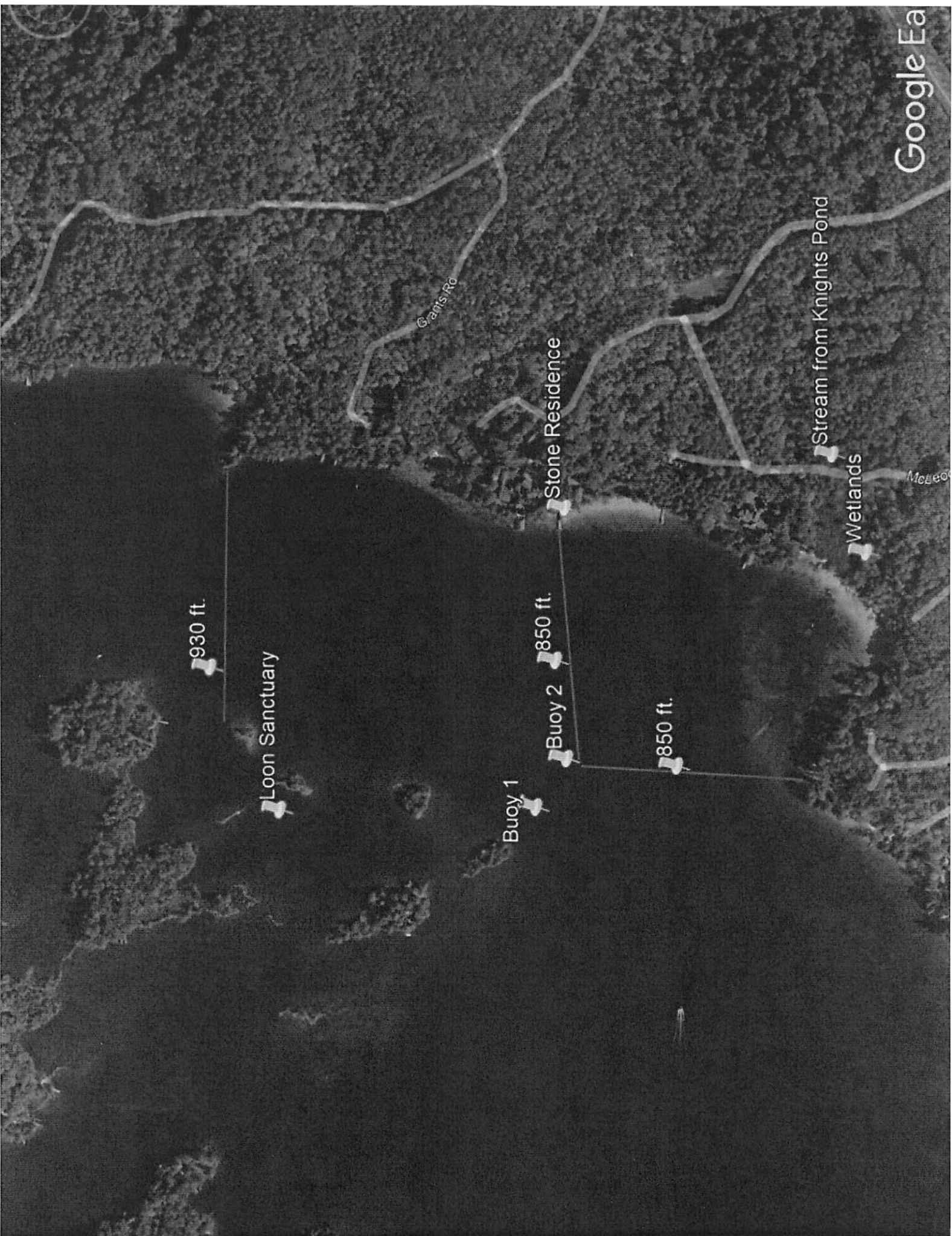
Please do all that you can.

Sincerely,

Mark R. Stone
31 Four Seasons Drive
Alton, NH

Wolfeboro

Stone Residence



930 ft.

Loon Sanctuary

Buoy 1

Buoy 2 850 ft.

Stone Residence

850 ft.

Gratts Rd

Wetlands

Stream from Knights Pond

McLeod

Google Ea

Feb. 7, 2022

New Hampshire House of Representatives
Committee on Resources, Recreation and Development
Legislative Office Building Room 305
Concord, New Hampshire 03301
Attn: Chairman Andrew Renzullo

**RE: House Bill 1071
Relative to Wake Surfing**

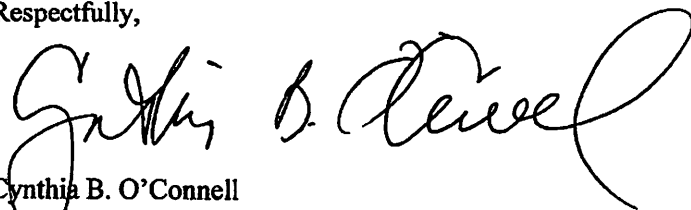
Dear Chairman Renzullo and Committee Members

I am in support of House Bill 1071, provided that a critical amendment is made to the proposed shoreline setback, increasing the distance from 250' to 500'.

The University of Minnesota conducted a peer-reviewed study of the environmental impacts of wake surfing which was released last week. The study **confirms that waves produced during the activity of wake surfing are measurably larger and more powerful than waves created by non-wake surf boats** in terms of maximum wave height, total wave energy, and maximum power. It also recommends that wake surfing be limited to areas more than 500' away from any shoreline. Enhanced wakes can erode shorelines and disturb lake bottom sediments. These actions can release nutrients into the water and cause toxic cyanobacteria blooms that are harmful to wildlife, swimmers, and pets. Enhanced wakes can also disturb critical fish and bird nesting habitats, damage shoreline property, and make recreating unsafe for others.

Given the economic importance of many other types of water dependent recreational activities as well as the prevalence of cyanobacteria in many New Hampshire lakes, I highly recommend passage of this bill with the above-mentioned amendment.

Respectfully,



Cynthia B. O'Connell
Program Manager
Winnisquam Watershed Network
Registered New Hampshire Lobbyist

February 7, 2022

To the NH House Resources, Recreation & Development Committee,

Please consider my written testimony, below, when you review HB 1071, relative to wake surfing.

I have owned and operated a variety of powerboats for most of my life on several lakes in Rhode Island, Massachusetts, and New Hampshire. Of particular note, I routinely enjoyed long days on a 22 foot powerboat on Lake Winnepesaukee for 20 years. I am also an officer and active member of a small Lake Association in New Hampshire. We are actively engaged in efforts to conserve the recreational and environmental quality of New Hampshire lakes.

I recognize that traditional powerboats are disruptive to the natural environment as it is. But that horse is out of the barn, and I, along with millions of other Americans, would not give up the pleasure of various power boating activities. But, there should be reasonable restrictions, appropriate to a lake's size and depth, such as existing speed limit laws, size limitations, and personal watercraft bans which are already in place on some New Hampshire lakes. Common sense rules and regulations protect public safety and minimize environmental impacts.

With that background, I am **very concerned** about the impacts of wake boats on New Hampshire lakes. These boats, weighted with ballast, displace a great deal of water at operating speed, creating very large waves in their wake. These large waves pose a safety risk to other boaters, swimmers, docks, and swim rafts. They damage the environment by stirring up bottom sediments, fragmenting and spreading weeds, and severely eroding the shoreline.

There is also another significant environmental concern. Wake boats typically pump lake water in and out of holding tanks to adjust the amount of ballast. Harmful organisms, especially aquatic invasive species such as Milfoil fragments and Asian Clam larvae will certainly be present in the ballast water if they exist in the lake. Ballast tanks and bags are nearly impossible to clean and drain completely without professional

decontamination services. These devices are ideal habitat for transient aquatic invasive species and pose an expensive threat to the state of New Hampshire, since they will undoubtedly move water (and potentially harmful organisms) from one waterbody to another. According to NH DES, an effective way to permanently eliminate infestations of these invasive species has not been found.

Fortunately, it is early in the life cycle of this class of boats, and therefore most small lakes, including my own, have not seen wake boats yet. That all means we cannot provide hard evidence of damage or harm as of yet. Please do not wait for such hard evidence before taking proactive, preventive action. Once there is evidence of actual damage and harm, it will be too late.

I believe common sense rules, regulations and restrictions are necessary to address the safety and environmental risks described above. The proposed setback in HB 1071 of 250 feet for wake surfing is not sufficient, as is evident based on the wave-action study released recently by the University of Minnesota. This bill should be amended to require a 500 foot setback, as evidenced by the study. There should also be an amendment requiring a minimum water depth for wake surfing, to prevent serious disturbance of lake bottoms.

Please recommend HB 1071, along with proposed amendments which would strengthen the bill, to the NH House of Representatives as "Ought to Pass".

Most sincerely,

Claude Lemoi
Canaan, NH

Excerpt below from NH Lakes.com:

Wake boats, with incomplete discharge of their ballast intake and typically no filtration or disinfection capabilities for the ballast system, could move water (and potentially harmful organisms) from one waterbody to another. We know a drop of lake water can contain thousands of organisms—liters of water can contain hundreds of thousands of potentially problematic organisms!

In addition to moving volumes of water, these boats under the weight of ballast are heavy and sit low in the water. At operating speed for towing boarders and skiers or creating waves for surfers, they displace a lot of water, sending a series of tall waves across portions of the waterbody on which they are operating. These waves have several times more energy than waves produced by un-ballasted ski vessels. This could lead to stirring up bottom sediments, shoreline erosion, nutrient loading and plant fragmentation, depending on how close to shore these vessels are operated.

Heather Goley

From: Ann M. Haralambie <haralambielaw@gmail.com>
Sent: Saturday, February 5, 2022 5:08 PM
To: ~House Resources Recreation and Development
Subject: in support of HB 1071, amended to require a 500' setback
Attachments: BoatGeneratedWakeWaveReport_Feb12022_Final.pdf

I live on Silver Lake (Madison), where we have had a few wakesurfing boats. I have nearly capsized in my kayak a number of times. Further, even when out in my 15' bowrider, I have had to slow to a stop when these boats passed in order to feel stable.

I am my lake's field volunteer for the Loon Preservation Committee, and one of my duties is to check on loon nests and chicks. Nests are at risk of having the large waves produced by the wakesurfing boats wash the eggs out of the nest or wet them to the point that the eggs then become inviable.

I have enjoyed all kinds of recreation, including water skiing and tubing, on Silver Lake since the 1950s and have continued that for my daughter, grandson, and various children and grandchildren of friends. Laws were eventually amended to require speed limits close to shore so that I could no longer initiate water skiing from sitting on my dock. More needs to be done in light of the use of these boats. The waves created by wakesurfing are huge, and because of the ballast, the wakes created by those boats, *even when not being used for wakesurfing* are disruptive to other people on the lake and to the shoreline.

Kayakers, paddleboarders, rowers, fishermen, and others who use the lake are adversely affected by these boats. New Hampshire residents and visitors use our lakes for many purposes, and one subset of users (wakesurfers) should not be permitted to imperil everyone else or make them feel uncomfortable enjoying recreation on the lakes.

250' is not sufficient to mitigate the damage caused by these boats, and they should be restricted from smaller lakes altogether and required to stay at least 500' from shore on all lakes. A recent study by the University of Minnesota bears this out empirically. I am attaching a copy of the full report. Their FAQ summary states: "In the first example, the wake wave characteristics of a planing non-wakesurf boat (20 mph) were used as reference. The data suggest that operational distances greater than 500 feet are required for the wake waves generated by a wakesurf boat to attenuate to similar wake wave characteristics as the non-wakesurf boat reference. In the second example, the reference condition was a non-wakesurf boat at slower plowing speeds (~10 mph). Here, the data suggest that operational distances greater than 425 feet are required by the wakesurf boats."

I vote in Carroll County and strongly support this bill if you amend it to require a **500** foot buffer zone.

Ann M. Haralambie, JD, CWLS
1261 East Shore Drive
Silver Lake, NH 03875



COLLEGE OF
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ST. ANTHONY FALLS LABORATORY

Engineering, Environmental and Geophysical Fluid Dynamics

SAFL Project Report No. 600

A Field Study of Maximum Wave Height, Total Wave Energy, and Maximum Wave Power Produced by Four Recreational Boats on a Freshwater Lake

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Prepared for:

St. Anthony Falls Laboratory, Healthy Waters Initiative

February 2022

Minneapolis, Minnesota

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The authors would like to thank Three Rivers Park District for allowing us the use of facilities at Baker Park Reserve as home base for this study. We thank the McLaughlin family for providing access to their shoreline, dock, lifts, and property on Lake Independence during the study. We thank the individual boat owners for their generosity in providing the test boats, as well as their time and effort in planning and preparing the boats. We thank the Christmas Lake Homeowners Association for the use of their work pontoon for the duration of the field study. We are grateful to Dr. Omid Mohseni of Barr Engineering Company for officiating the independent technical review process and two external reviewers, Dr. Gregory Cox and Dr. Gregor MacFarlane, who provided thorough and constructive comments that greatly improved this report.

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TABLE OF CONTENTS

Acknowledgements.....	i
Executive Summary.....	vii
Independent Technical Review Process	xi
Terminology	xiii
1.0 Introduction	1
2.0 Background	3
2.1 Fundamental research on surface waves, wave energy and power, coastal engineering, and marine architecture.....	3
2.2 Field studies on the impacts of boat-generated wake waves on water quality and shorelines	4
2.3 Field studies on the impacts specific to wakesurf boats.....	6
3.0 Materials and Methods.....	9
3.1 Study location and site	9
3.2 Layout of the study site.....	11
3.3 Description of masts and attached data sensors	13
3.4 Description of pads and attached data sensor	14
3.5 Summary of test boat characteristics	16
3.5.1 Larson LXI 210.....	17
3.5.2 Malibu Response LX.....	17
3.5.3 Malibu Wakesetter Boats: VLX and MXZ.....	18
3.6 Summary of operating conditions tested for each boat.....	20
3.6.1 Larson LXI 210 operating conditions	20
3.6.2 Malibu Response LX operating conditions	21
3.6.3 Malibu Wakesetter Boats: VLX and MXZ operating conditions	22

3.7 Generating boat wake waves	24
3.8 Boat positional data	24
4.0 Data Analysis	27
4.1 Computing operational distances	27
4.2 Wave Height, Energy and Power.....	29
4.2.1 Experimental time and wave height data collection – raw data.....	29
4.2.2 Attenuation correction of the mast pressure sensors	29
4.2.3 Maximum Wave Height.....	30
4.2.4 Total Wave Energy.....	32
4.2.5 Maximum Wave Power	35
5.0 Results.....	37
5.1 Condition 1a	41
5.1.1 Maximum Wave Height.....	41
5.1.2 Total Wave Energy.....	45
5.1.3 Maximum Wave Power	49
5.2 Condition 2	53
5.2.1 Maximum Wave Height.....	53
5.2.2 Total Wave Energy.....	57
5.2.3 Maximum Wave Power	61
5.3 Condition 1a (ballasts full) versus Condition 1b (ballasts empty).....	65
5.3.1 Malibu VLX.....	65
5.3.2 Malibu MXZ.....	69
5.4 Condition 1a (wake shaper on) versus Condition 1b (wake shaper off)	73
6.0 Discussion.....	77

6.1 Summary of observations	77
6.1.1 The maximum wave height, total wave energy, and maximum wave power produced by the four test boats were different between operational Condition 1a and Condition 2.	77
6.1.2 When operated under their most typical operating conditions, wakesurf boats were capable of producing larger wake waves that contain more energy and power than non-wakesurf boats	80
6.1.3 Full ballast tanks had a minor impact on the wake wave characteristics of the Malibu Wakesetters at distances greater than 100 ft from the boat	84
6.1.4 Addition of the aftermarket wake shaper to the Malibu Response LX resulted in larger maximum wave heights, increased total wave energy, and greater maximum wave power	84
6.1.5 A potential method for establishing guidance for boat operational distances based on measured wake wave characteristics (height, energy, power).....	84
6.1.6. Non-dimensionalization of operational conditions.....	94
6.2 Caveats, areas for improvement, and future research needs	95
6.2.1 Issues encountered with the Acoustic Doppler Current Profiler (ADCP)	95
6.2.2 Boats and operational conditions tested	95
6.2.3 Sample size of boat tracks	96
6.2.4 Impacts of propeller wash on vertical mixing, sediment scour/suspension, and aquatic organisms.....	96
6.2.5 Linking wave height, energy and power to environmental impacts.....	96
6.2.6 Comparisons of boat wakes with wind waves for different lakes sizes	97
7.0 Conclusions	99
8.0 References	101

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EXECUTIVE SUMMARY

The lakes in Minnesota are considered among the state’s most valuable natural resources and are utilized by many visitors and citizens throughout the year. The protection and preservation of surface water resources, lake and shoreline ecosystems, and lakeshore property are shared goals for many in Minnesota. Recreational boating is a highly popular activity and includes motorized and non-motorized watercraft. In recent years, with the growth of recreational activities including the emergence of the sport of wakesurfing, there has been growing concern over the impacts of boat-generated waves and propeller wash on these natural resources. The research reported here was motivated by a need to better understand the characteristics of wakes and waves produced by recreational boats common on lakes and rivers, in particular, in the state of Minnesota.

In the summer of 2020, the University of Minnesota (UMN) launched a program titled “Healthy Waters Initiative” through the St. Anthony Falls Laboratory, an interdisciplinary research laboratory associated with the College of Science and Engineering. The mission of the initiative is to establish multi-year research efforts focusing on issues that have the potential to adversely affect Minnesota lakes and rivers. The Initiative is an independent research program focused on producing targeted, unbiased, peer-reviewed publications of data and research findings.

The initial research performed under the Healthy Waters Initiative was focused on the characterization of boat-generated waves. Funded by a crowdfunding campaign launched in the summer of 2020, the program carried out a six-week, field-based research study examining the wake characteristics of four boats. This report is the first product of the Healthy Waters Initiative.

The field component of the research was conducted in September and October 2020 on Lake Independence, Maple Plain, MN. A study site was selected on the north-eastern shoreline of the lake that provided ideal conditions for a field study of this magnitude. The lake depth increased gradually with distance from shore and was easily accessible from the lake’s boat launch. Five, fixed-sensor positions were established at the site to measure wave height – two of these sensors

were submerged Acoustic Doppler Current Profilers attached to pads that rested on the bottom of the lake and three were submerged pressure sensors fixed to masts.

Four boats were evaluated. Two of the boats were typical recreational boats (i.e., non-wakesurf) that are commonly operated (e.g., tubing, waterskiing, wakeboarding) on Minnesota lakes and the two additional boats were wakesurf boats designed specifically for the sport of wakesurfing.

Testing involved operating each boat at four distances from the shoreline (225 ft, 325 ft, 425 ft, and 625 ft) under various conditions (e.g., speed, ballast weight, trim setting, etc.). Test boats were selected based on their size, operational characteristics, typical usage, and availability, and were evaluated under three operating conditions - Condition 1a, Condition 1b, and Condition 2. Conditions 1a and 1b included boat speeds of 10-11 mph and boat configurations that yielded either the largest wake wave possible or settings that are typically used for wakesurfing. Condition 2 included speeds of 20 mph and configurations that resulted in the boat planing on the water surface. Each condition and distance were repeated four times and average wake wave characteristics (i.e., maximum wave height, total wave energy, and maximum wave power) were computed.

An on-board Inertial Navigation System (INS) with an integrated Global Navigation Satellite System (GNSS) was mounted to each test boat and recorded boat attitude (i.e., roll, pitch, and yaw), location, and speed during each pass. The boat positions and mast/pad locations were analyzed to determine the precise location of boat passes and their associated operational distances.

Maximum wave height and maximum wave power within each wake wave packet and the total wave energy content within the packet were calculated for each sensor location and for each boat pass. The wake wave packet is defined as the series of individual waves produced by a single boat pass. These wake wave characteristics were computed for each boat condition at each of the four distances from shoreline. The data from the sensors at each mast/pad location were aggregated and evaluated. The results from this research provide new information on the characteristics of boat-generated waves and reveal interesting and potentially important differences between non-wakesurf and wakesurf boats. The key findings are summarized here:

- The two Malibu Wakesetter (wakesurfing) boats produced the largest waves under all the conditions studied- Condition 1a (largest wave/surfing) and Condition 2 (planing). The longer and heavier of the wakesurf boats, the Malibu Wakesetter MXZ, produced the highest waves with the greatest total wave energy and maximum wave power.
- The smallest maximum wave heights, lowest total wave packet energies and lowest wave powers occurred when boats were planing on the water surface (Condition 2). This was true for all four test boats.
- For an individual boat, the difference in maximum wave height, total wave energy, and maximum wave power between Condition 1a (largest wave/surfing) and Condition 2 (planing) was largest for the wakesurf boats. The Larson LXI 210 and the Malibu Response LX also showed increases in these wave characteristics, however, the magnitude of the changes was smaller for these boats. This is attributable to the large and energetic waves produced by the wakesurf boats under Condition 1a, which is the primary design feature of these boats.
- The decrease (attenuation) in maximum wave height, total wave energy, and maximum wave power over distance was well-characterized by the data and indicate longer operational distances (e.g., distances from shore, other boats, etc.) are required for larger and more energetic wakes to reach the same heights, energies, and powers of smaller wakes.
- Operating with full ballast tanks (Condition 1a) versus empty ballast tanks (Condition 1b) had little impact on maximum wave height, total wave energy, and maximum wave power for the two Malibu Wakesetter boats at operational distances greater than 100 ft.
- The aftermarket wake shaper attached to the Malibu Response LX had a measurable impact on the wave characteristics, resulting in increased maximum wave height, total wave energy, and maximum wave power. This suggests aftermarket products installed on non-wakesurfing boats can create wake waves similar to wakesurfing boats.
- Based on the data and our example method for determining recommended operational distance, we show that when operating under typical wakesurfing conditions, wakesurf boats required distances greater than 500 ft to attenuate wake wave characteristics

(height, energy, and power) to levels equivalent to non-wakesurf boats operating under typical planing conditions. A second example, in which the largest wave was used as reference for the non-wakesurf boats (Condition 1a), an operational distance of 425 ft or greater was required. These results are summarized in the table below.

Results for required operational distance illustrating how data from this study may be used

Reference condition	Operational distance required by wakesurf boat to attenuate to reference condition levels
<p>Example 1 non-wakesurf boat planing at an operational distance of 200 ft (Condition 2 - planing)</p>	<p>Maximum Wave Height: >500 ft. Total Wave Energy: >575 ft. Maximum Wave Power: >600 ft.</p>
<p>Example 2 non-wakesurf boat transition to planing at an operational distance of 200 ft (Condition 1a - largest wave)</p>	<p>Maximum Wave Height: >425 ft. Total Wave Energy: >425 ft. Maximum Wave Power: >425 ft.</p>

In addition to these conclusions, this document offers a summary of research priorities pertaining to the topic of boat-generated waves on lakes and rivers.

INDEPENDENT TECHNICAL REVIEW PROCESS

This report has undergone an independent technical review by subject matter experts not affiliated with the University of Minnesota. The review was facilitated by Dr. Omid Mohseni of Barr Engineering Company, Minneapolis, Minnesota. Two independent experts with backgrounds in naval architecture and vessel wake waves reviewed this work and provided detailed feedback to the review facilitator and authors. The reviewers were Dr. Gregory Cox and Dr. Gregor MacFarlane.

The authors addressed all comments provided by the reviewers and incorporated recommended changes into the final version presented here. UMN responses were shared with the review facilitator who concurred that the updated final report has sufficiently considered and incorporated feedback from the reviewers. UMN responses have also been shared with the reviewers. A draft of this report was submitted for external review on September 29, 2021 and the final version was produced and published through the University of Minnesota's Digital Conservancy on February 1, 2022.

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TERMINOLOGY

Acoustic Doppler Current Profiler (ADCP) – sensor system that uses pulsed, high-frequency sound to measure the velocity field in the water column and vertical position of the water surface.

Boat Wake – surface water waves produced by a boat as it travels on the water surface.

Crest – highest water surface elevation of a single wave.

Dispersion – spreading out or lengthening of the wake wave packet with increasing distance from the source (boat).

Mast – rigid structure used to deploy submerged pressure sensors during testing. Above the water surface, the masts held a datalogger, 12v battery, charge controller, solar panel system, GPS receiver, and wind speed and direction sensors.

Operating Condition – set of boat parameters selected and used within a test. The parameters included: speed, trim setting, ballast setting, hydrofoil setting, wake shaper setting, and number of people aboard.

Operational Distance – distance maintained between the boat and another watercraft, shoreline, dock, lift, raft, or person(s)/animal(s) in the water. For this study, operational distance is the perpendicular distance measured from the boat track line to the object/sensor.

Pad – Acoustic Doppler Current Profiler (ADCP) deployment structure, which sat on the bottom of the lake during testing.

Pass – single instance of a test boat driven along a track line (e.g., 225 ft from shore) under one of the operating conditions.

Trough – lowest water surface elevation of a single wave.

Track Line – line marked by two buoys that ran parallel to the shoreline and perpendicular to the masts/pads. There were four track lines distanced at 225 ft, 325 ft, 425 ft, and 625 ft from shore, that the test boat followed while making a single pass.

Trim – angle of the boat in relation to the water surface measured in the direction of travel.

Wake Wave Packet – series of individual waves generated by a single boat pass. The group of waves within the packet moves outward from the boat track line.

Wave attenuation – decrease in wave height, energy, and power as the operational distance increases from the boat track line.

Wave Energy – a quantifiable attribute of a single wave or series of waves that represents the ability of the wave(s) to do work or make change. In physics, work is often quantified as force applied over a distance.

Wave Height – vertical distance measured from trough to crest of a wave.

Wave Power – the rate at which energy is transferred or used. For wake waves, it is the rate at which energy is transferred away from the track line.

1.0 INTRODUCTION

The state of Minnesota, located in the north central United States, is recognized for having the largest number of natural, inland freshwater lakes and pristine river systems of any state in the lower 48 states of the US (MNDNR 2021). It follows that access, usage, and management of surface waters are highly important subjects within the state. This report is motivated by a need for science-based information on the impacts of motorized recreational boats on surface water resources.

Motorized recreational boats (referred to hereafter as boats) are prevalent on Minnesota waters. In all its forms, including cruising, tubing, waterskiing, wakeboarding, wakesurfing, fishing, or just anchoring to sunbathe and swim, recreational boating is enjoyed by young and old, state residents and visitors, individuals and groups, families, neighbors and friends. Boating and associated activities also represent measurable components of the state's economy.

Those tasked with managing the state's public surface waters face the difficult challenges of balancing public access, long-term protection and preservation of the resources, ensuring protection of property, and public safety. As the popularity of recreational boating continues to grow in Minnesota, so too does the size of boats and their motors. Moreover, new designs of watercraft, specifically, boats engineered to create large wakes for the primary purpose of wakesurfing, are elevating concerns around impacts to safety, lake and river health, shared-use accessibility, and degradation of property. Research to address these concerns is currently lacking or difficult for managers/practitioners to access and apply.

All boats generate wakes associated with the displacement of water by the boat hull. The wake and associated waves produced by a boat are complex hydrodynamic phenomena that have been the subject of research for over a century and have been examined from both fundamental and applied perspectives (see Section 2.0). In this report, we include a brief overview of the salient aspects of boat-generated waves, referred to hereafter as wake waves, however our main focus is on a more pragmatic investigation of common recreational boats operated under typical usage conditions.

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2.0 BACKGROUND

Many books, research reports, theses, and journal papers have been published examining various aspects of boat-generated wake waves. This section provides a summary of the relevant literature on boat wake waves.

2.1 Fundamental research on surface waves, wave energy and power, coastal engineering, and marine architecture

Fundamental research on surface waves and wave attenuation extends back 150 years including fluid mechanics, analytical model development, field investigations, laboratory experiments, and numerical simulations (Lord Kelvin (Thomson) 1887; Stoker 1957; Lighthill 1978; Dingemans 1997; Madsen et al. 2006). This body of fundamental research and theory yields physics-based understanding and mathematical relationships that have enabled practical fields such as naval architecture and coastal and marine engineering. Development of linear wave theory, for example, elements of which are employed in this project, as well as more complex, non-linear wave theories and advanced numerical simulation of waves, continue to be expanded upon today by researchers across the world. In addition, technical guides for the management of coastal areas, such as the Shore Protection Manual (USACE 1984) and Coastal Engineering Manual (USACE 2012) provide useful information and practical equations for computing and modeling surface water waves and applying these to coastal and shoreline engineering problems.

Our study utilized two published doctoral theses in the design of the project (i.e., MacFarlane 2012 and Cox 2020). MacFarlane (2012) is a comprehensive document that provides important and clear summaries of the fundamental theories to the problem of vessel-generated wake waves and the impacts of waves on shoreline environments. This thesis provides insights, among other topics, into the treatment of wave height and practical methods for calculating total wave energy, as well as guidance on proper field deployment of sensors and post-processing methods to field data. Similarly, Cox (2020) offers a wealth of information relevant to this study, such as vessel characterizations, description of surface wave dynamics and classifications, and wave energy dispersion and attenuation.

2.2 Field studies on the impacts of boat-generated wake waves on water quality and shorelines

There are a significant number of published reports and journal articles examining the impacts of boat-generated wake waves on shorelines and near-shore environments. We focused on papers examining transportation vessels, like high-speed or conventional ferries, and on papers examining recreational watercraft. For research published prior to about 2014, wakesurf boats and the sport of wakesurfing were not specifically identified. Several reports and papers after 2014 focused on wakesurfing, which will be discussed in Section 2.3.

The University of New South Wales, Water Research Laboratory, developed a management support tool for boat wake impacts on shoreline zones using standardized field-based measurements of boat-generated wake waves and assessment of impacts on shorelines (Glamore 2008; Glamore and Badenhop 2013). The papers summarized field experience and detailed data collection conducted by the authors and outlined a standardized approach to conduct wake wave assessments including post processing of wave height measurements and calculation of wave energy. Glamore et al. (2013) extended the work to riverbank erosion as well.

We reviewed many field-based studies that focus on assessing boat wave impacts on specific lakes or water bodies. Many of these projects were motivated by anecdotal observations that: 1) boat activity appeared to be increasing, and 2) the increased activity was associated with shoreline erosion and reduction in water quality. A study commissioned by the Maryland Department of Natural Resources (Zabawa and Ostrom 1980) used measurements of wave height and wave energy density for wind-driven and boat-generated waves at five popular boating sites within the project area. The work was performed long before the invention of wakesurfing and wakesurfing watercraft; however, impacts from recreational boating were a concern. In this study, wind wave and storm events appeared to have larger impacts on shoreline erosion than boat wave impacts; however, erosion from boat waves was determined to be significant where wake waves were large and the boats consistently passed within 200 ft or less of the shorelines.

Gourlay (2010) is a similar site-specific field study on the boat waves produced by nine different watercrafts measured at three locations on the Swan River in Perth, Western Australia. The

report detailed an approach to wave characterization that was largely adopted in our project. Details on the relationships for correcting attenuation in pressure measurements and computing wave energy in deep water and transitional depths were also provided.

Recent research on boat wake wave impacts within the Chesapeake Bay utilized surveys and existing data to analyze boat wake wave impacts (Bilkovic et al. 2017, 2019). While the research did not involve direct measurement of wave height or wave energy, the authors provided novel approaches to estimating boat activity and locating where impairment/mitigation of shoreline erosion was occurring. Long records of turbidity (a surrogate for suspended sediments) were used to correlate against weekend and holiday lake usage (high boater usage) and weekday usage (low boater usage). The research concluded that boat activity was linked to elevated turbidity and shoreline erosion and this was especially true in regions that were not armored or were not subject to long-fetch wind waves.

While our study focuses on wake waves from recreational boats, observations from studies on wake wave impacts from commercial ferries operating on large marine bays can provide context. Parnell et al. (2007) summarizes research of ferry wave impacts in New Zealand with propagation distances of over 7 km. The authors demonstrated linkages to geomorphic changes on regions they defined as “low wave energy shorelines” meaning shorelines that had not experienced large wind-driven waves and had not become self-armored. Self-armoring refers to a natural process where the waves, over time, mobilize and wash away clays, sands, and gravels up to a certain grainsize. Eventually, only larger grainsizes that are not easily eroded by the waves remain, which serve to protect or ‘armor’ the shoreline. Several papers examined the wave impacts in Tallin Bay, Estonia, which is located within the Gulf of Finland (Parnell et al. 2008; Kurennoy et al. 2009; Kelpšaitė et al. 2009). This body of research examined the role of boat operational characteristics, vessel type, wave height, and wave energy on sediment resuspension. The approaches and methods described in these papers informed our research methods.

Boat-generated wake wave impacts on river banks were explored in a number of studies from around the globe and several were informative for this project. USACE (1994) is a final report for a larger research study that provided a comprehensive look at a specific surface water system -

the Fox River and Chain O'Lake public waterway. The findings from the study indicated a nearly instantaneous response in water quality to high boating activity. MacFarlane and Cox (2003a, 2003b, 2005) describe detailed investigations of vessel wake wave characteristics and impacts on bank erosion on the Brisbane, Noosa, and Maroochy Rivers in southeast Queensland, Australia. The authors utilized field measurements of wave height and period to establish threshold criteria that can be used to inform management decisions on these systems. Shoreline erosion was studied on the Waikato River in New Zealand for two recreational watercraft and a personal watercraft (McConchie 2003). The study relied on field measurements of wave height using submerged pressure sensors and the data were used to calculate wave energy. Suspended sediment samples were also collected in an attempt to link wave characteristics to bank erosion. Similarly, Maynard et al. (2008), studied boat-generated wave erosion on the river banks of the Kenai River, Alaska. Here, wave heights were measured with a capacitance-based system but the approach for determining wave heights and energy were the same approaches adopted in our study.

2.3 Field studies on the impacts specific to wakesurf boats

We identified a small number of research reports that specifically focus on wakesurfing conditions (e.g. relatively slow speeds ~10-12 mph, internal ballast tanks and wake enhancing technologies). We were not able to find any journal articles within the peer-reviewed literature. Ruprecht et al. (2015) is a conference paper that compared measured wake height and energy of a boat described as a "wakeboarding vessel" that was operated under wakesurfing, wakeboarding, and waterskiing conditions. The research reported a four-fold increase in wave energy under wakesurfing conditions. In addition, the authors offered an approach for developing empirical equations relating maximum wave height to wake wave energy, which may be a useful and practical approach to adopt in upper Midwest US lakes and rivers. Wakeboarding and waterskiing operational conditions yielded similar wave heights and energy, but were both lower than wakesurfing conditions.

Two research reports from Canada examine impacts from the wake wave and propeller wash of wakesurf boats. Mercier-Blaise and Praise (2014) is a research report from the University of

Québec, Montreal, that details a field-based study of wake wave impacts on shorelines. The researchers used a single wakeboarding boat operated at various speeds and ballast conditions. The report defined 10 mph speed and biased ballasting to be the wakesurfing condition. A unique aspect of the project involved using an Acoustic Doppler Velocimeter (ADV) to record turbulent wave energy (turbulence kinetic energy or TKE) at a specific location in the nearshore environment. The researchers also collected water samples during testing and analyzed for suspended solids concentration. Results from the work showed an increase in TKE from boat-generated waves with the largest impacts resulting from the 10 mph wakesurf boat conditions. Raymond and Galvez-Cloutier (2015) was published by Laval University, Quebec, and focused on the impacts of wakeboat propeller wash on velocities and turbidity. As in Mercier-Blaise and Praire (2014), a single wakeboarding boat was used and operated under three conditions to simulate wakesurfing, wakeboarding, and waterskiing. An Acoustic Doppler Current Profiler (ADCP) was deployed on the lake bottom at a water depth of approximately 16 ft (5 meters) and recorded the velocity field within the water column as the boat traversed over the sensor. The effects of propeller wash appeared to have penetrated up to 16 ft (5 meters) deep for the condition associated with 10 mph and biased ballasting (i.e., wakesurfing). It should be noted that both Mercier-Blaise and Praire (2014) and Raymond and Galvez-Cloutier (2015) were pilot studies and the authors suggest more research is required. Regardless of the preliminary nature of the work, the two projects introduce the use of advanced sensors (ADV and ADCP) and incorporate environmental monitoring (turbidity), which are important for future research in this area.

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3.0 MATERIALS AND METHODS

3.1 Study location and site

This study took place on Lake Independence, Maple Plain, Minnesota, USA (45°1'37"N 93°38'53"W) (Figure 1). Lake Independence is 832 acres (425 littoral acres) with a shoreline length of 7.47 miles. The main basin of the lake is bowl shaped with water depths gradually increasing to the lake's maximum depth of 58 ft. The lake is a popular recreational destination. For example, Baker Park Reserve, owned and operated by Three Rivers Park District, offers 2,700 acres of natural landscape that abuts to the lake via 4,000 ft of southeast shoreline (Figure 1). The park includes a swimming beach, boat launch, RV park, and hiking trails that attract many people to the lake to recreate. Having Baker Park Reserve on the southeast shoreline was integral to the success of this study because it was near our study site and Three Rivers Park District allowed us to use the park's boat rental facility and docks, which drastically increased our efficiency. Our study site was located along the northern shoreline of the lake's southeast quadrant (Figure 1). In addition to having Baker Park Reserve nearby, this site was chosen because a lake property owner graciously granted our team access to their dock and shoreline. The lake bathymetry at the study site had a moderately gradual slope 5.1% (Figure 2) and bottom substrate was measured to be primarily sand and gravel. The shoreline directly abutting the study site was protected with large riprap stones with minimal vegetation present.

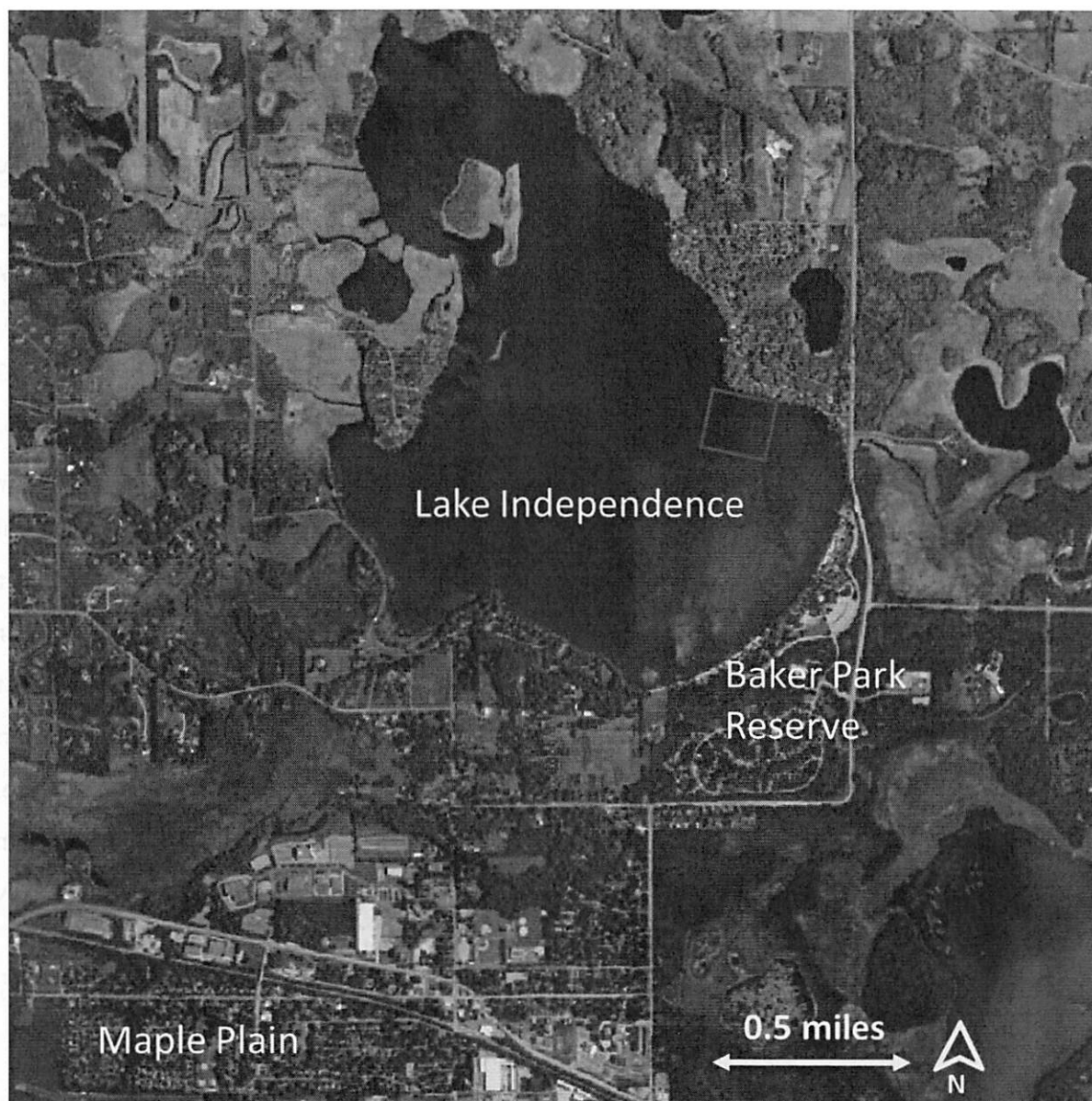


Figure 1. Lake Independence, Maple Plain, Minnesota, USA. The red box depicts the study site located along the northern shoreline of the lake's southeast quadrant.

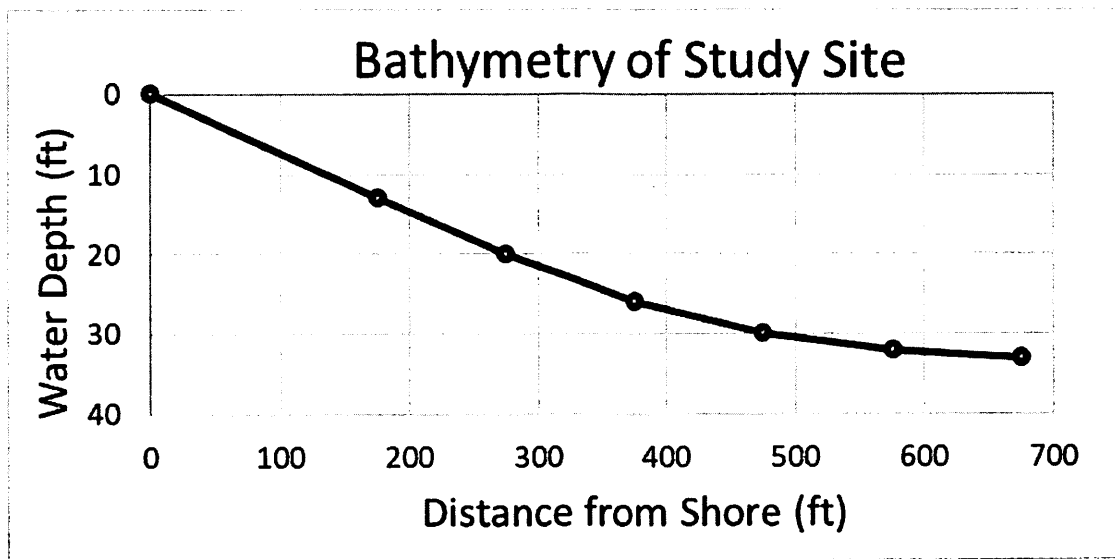


Figure 2. Typical bathymetry at the study site showing a gradual increase in water depth with distance from shore. The maximum depth was 33 ft at 675 ft from shore.

3.2 Layout of the study site

Figure 3 illustrates the layout of the study site and is described hereafter. Using bathymetric and Global Position System (GPS) data, three masts (Section 3.4) and two pads (Section 3.5) that held data sensors, were installed in a straight line approximately perpendicular to the shoreline at known depths and distances (Table 1). The line of masts/pads was also in an alignment that was roughly perpendicular to local bathymetric contour lines.

Four boat tracks were defined in a straight line approximately parallel to the shoreline and perpendicular to the masts and pads at approximately 225, 325, 425, and 625 ft from shore. Each track line was marked by a pair of taut-moored inflatable buoys that helped to visually guide the boat operator during testing (see Section 3.8 for more detailed description).

Table 1. The distances of masts and pads from shore and their respective water depths.

Station	Distance From Shore	Water Depth
Mast A	16 ft (5 m)	1.8 ft (0.6 m)
Mast B	114 ft (35 m)	6.1 ft (1.9 m)
Mast C	142 ft (43 m)	8.5 ft (2.6 m)
Pad 1	219 ft (67 m)	14.0 ft (4.3 m)
Pad 2	311 ft (95 m)	22.0 ft (6.7 m)

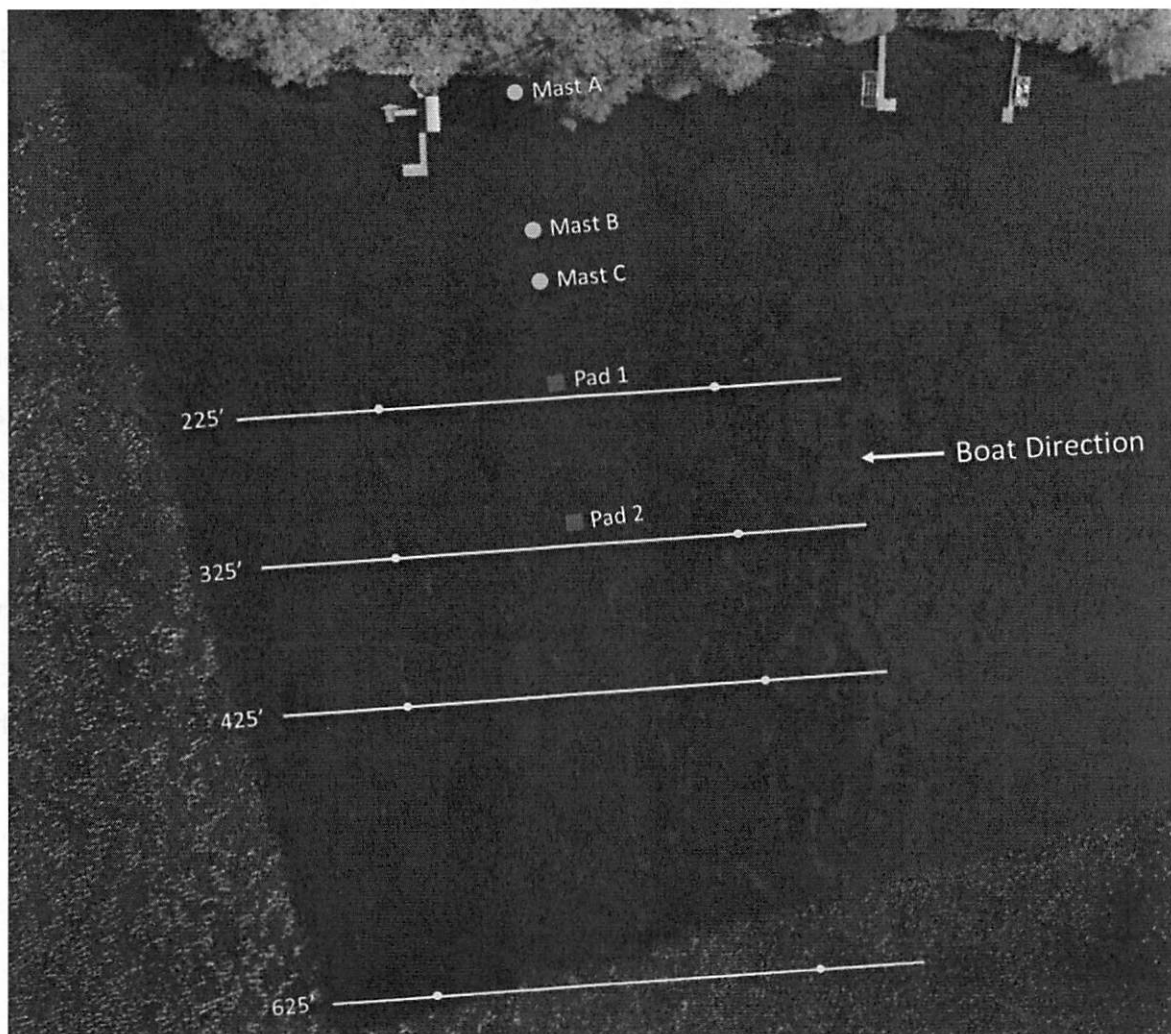


Figure 3. Layout of the study site. The three blue circles and two red squares indicate the locations of the masts and pads, respectively. The yellow lines show the distance of the boat track lines from the shoreline.

3.3 Description of masts and attached data sensors

The three masts were designed and fabricated to hold various types of data sensors. The masts were tripod structures composed of 2 in steel pipe (Figure 4a). To increase sturdiness, three 1-5/8 in steel struts along with three 3/16 in cable wires (made taut via turnbuckles) connected the legs to the center pipe. Because the masts were installed at different water depths, each mast was a different height. However, once deployed each mast had approximately 6 ft of center pipe emerging from the water surface, which was where equipment that needed to remain dry was attached (Figure 4b). With the assistance of a diver, the masts were installed, leveled, and secured to the lake bottom via 330 lbs of steel plate. The masts were installed in relatively shallow water (< 10 ft) and remained in their respective positions for the duration of the study (Table 1, Figure 3). Because Masts B and C were positioned further from shore in deeper navigable water, strobe lights were added to warn approaching watercraft of the hazard at night. Reflectors were also attached to all masts to further increase visibility.

Each mast was equipped with various data sensors, both above and below the water surface. Above the water surface, each was equipped with a water-resistant enclosure that housed a Campbell Scientific datalogger (CR1000X) powered by a 12v battery, charge controller, and solar panel system. A data acquisition program was written and installed on each data logger that collected data from various hardwired sensors. A GPS receiver with integrated antenna (GPS16x-HVS by Garmin International) that provided position, velocity, and timing information was fixed to each mast. Specifically, the GPS receiver allowed the data logger clocks to be synchronized to the highly accurate GPS time, and allowed post-processing synchronization between all sensor systems. Finally, Masts B and C were outfitted with wind speed and direction sensors. A single Campbell Scientific vented pressure transducer (CS431 PS9805 5PSI) was installed on each mast between 8-11 in (0.20-0.28 m) below the water surface. As the wake wave packet (i.e., series of waves produced by the boat) passed above the sensor, the water column height, and thus pressure at the sensor varied. This information was captured at 10 Hz (i.e., 10 samples per second) by the sensor and stored on the datalogger for later post-processing to determine maximum wave height, total wave energy, and maximum wave power of the wake wave packets.

Per the manufacturer's specifications, this model of pressure transducer has a repeatability of $\pm 0.1\%$ FSO or ± 0.14 in of water.

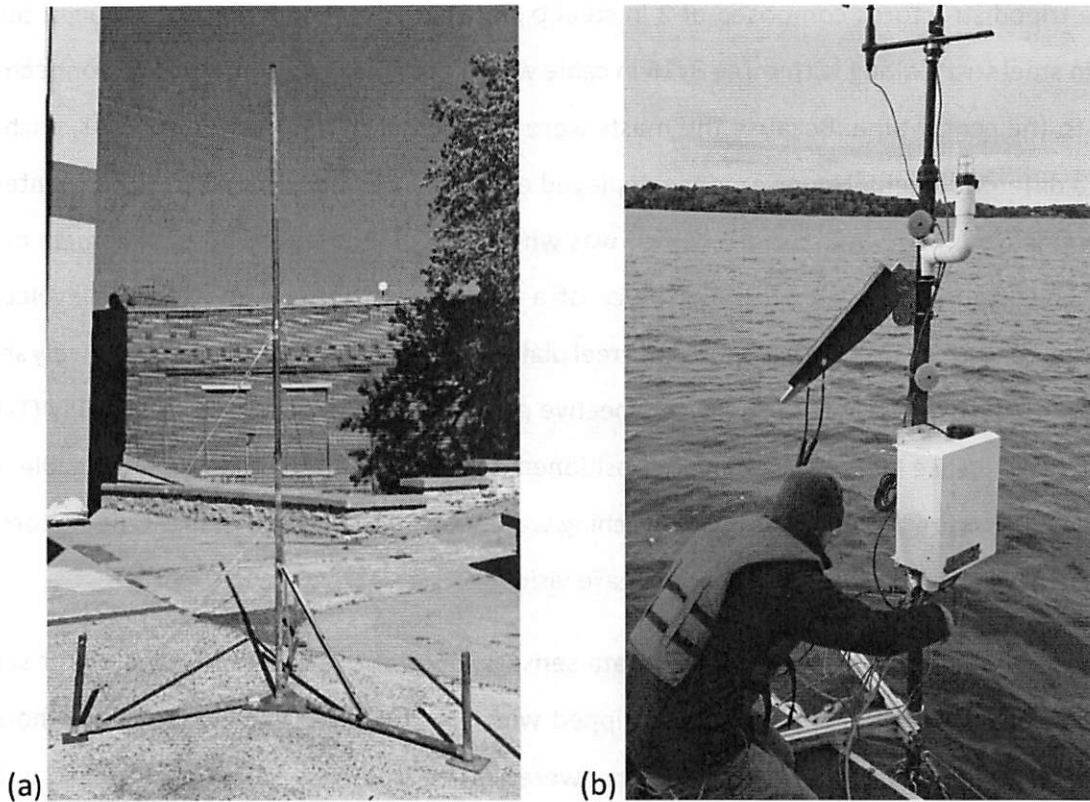


Figure 4. (a) Mast on land prior to being equipped with data sensors, (b) mast deployed and equipped with data sensors.

3.4 Description of pads and attached data sensor

Deployment of a mast system equipped with cabled data sensors was not practical in deeper waters (>10 ft). Instead, two pads were designed and custom-built to be easily deployed and retrieved from deeper waters (Table 1). The pads were rectangular structures made of 1-5/8 in steel strut with 12 in legs (Figure 5) that partially sunk into the substrate upon deployment and prevented the pad from moving. At each corner of the structure, a 4 ft x 3/16 in wire rope was secured. The four wire ropes were joined at a single lifting point and a nylon rope was attached to the lifting point and used to lower and lift the pad during deployment. The other end of the nylon rope was secured to a small buoy at the water surface. Because of the simplicity of this

system, we were able to easily retrieve the pads and detach the data sensor and download data after each day of testing.

An Acoustic Doppler Current Profiler (ADCP; Nortek Signature 1000), capable of collecting data on the velocity fields within the water column, was secured to the center of each pad (Figure 5). Specifically, the ADCPs were used to collect high-resolution data on surface wave height. For water surface elevations (referred to as altimeter data by Nortek), the device records the two-way travel time of a single “ping” that is reflected off the water surface. The ADCPs are autonomous units with an internal clock, battery, and data logger. The clock on the ADCPs were set to match the internet time via a tethered laptop prior to deployment. The sampling rate of the ADCPs were set to 4 Hz for all tests.

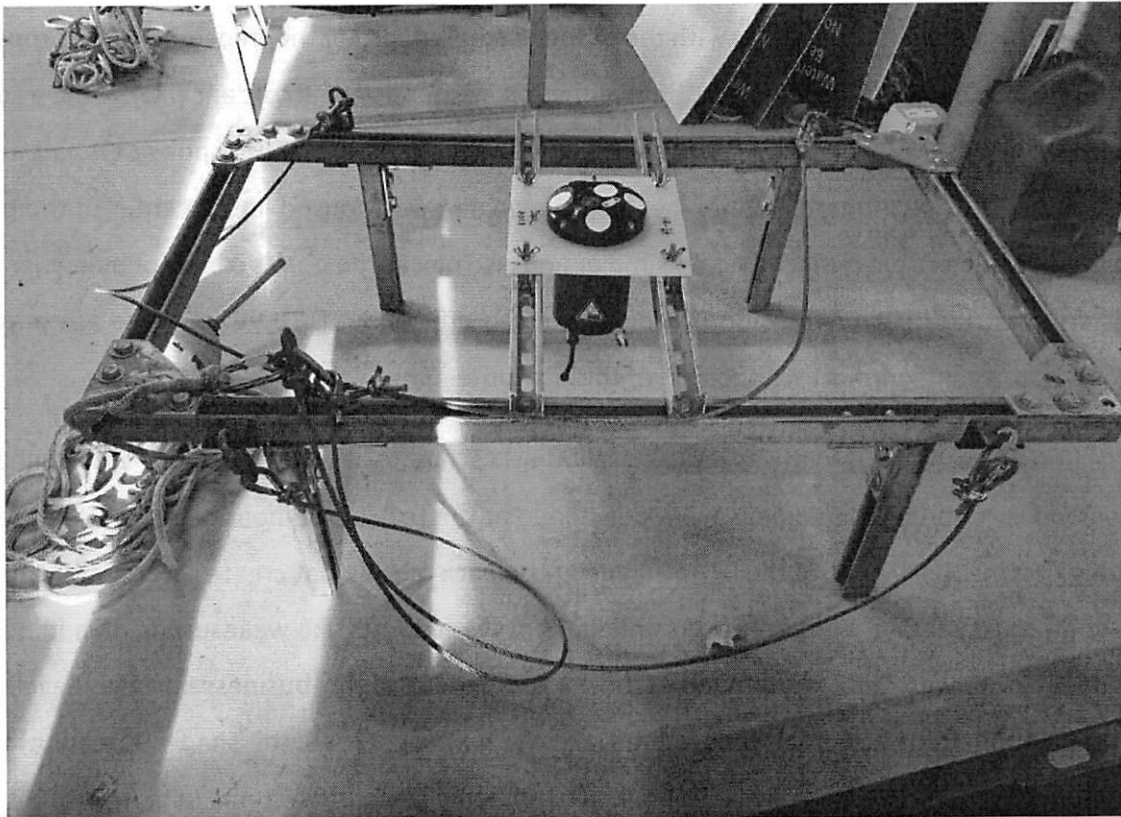


Figure 5. An ADCP secured to the custom-built pad and ready for deployment. The four lifting cables and lift rope can also be seen in the image.

3.5 Summary of test boat characteristics

The wake waves generated by four boats were evaluated in this field study (Table 2). The 2004 Larson LXI 210 is a common recreational boat powered by a 260 horsepower inboard/outboard (I/O) engine, otherwise known as a sterndrive. The engine is positioned at the stern of the boat, with the drive unit protruding through the transom. The boat operator can trim the drive unit up or down to change performance during various operating conditions. Moreover, when the steering wheel is turned the entire drive unit turns, making the boat more responsive to maneuvering at slower speeds than boats steered by a rudder.

There are two primary types of inboard powertrain configurations, D-Drive (direct drive) and V-Drive, and both were tested in this study. These powertrains are equipped with a system that includes a propeller that protrudes through the hull (i.e., under the boat) via a shaft and rudder that provides the steering. These types of powertrains are presently preferred for many tow sports because of increased safety with the propeller set forward of the transom. As the propeller pushes water past the rudder, the boat direction responds in accordance with the rudder position, which is controlled by the steering wheel. The 2004 Malibu Response LX had a 310 horsepower D-Drive inboard engine, meaning the engine was housed in the center of the boat. The D-Drive powertrain is mechanically simpler and also places the boat's center of mass forward, which allows the boat to transition to planing more efficiently. D-Drive inboards are popular among waterskiing enthusiasts because of this attribute.

Both the 2019 Malibu VLX and 2019 Malibu MXZ had 450 horsepower V-Drive inboard powertrains, meaning the engines were positioned at the rear of the boat beneath the transom seating. Having the weight of the large engine at the back of the boat creates greater aft trim for the boat, thus creating the bigger wakes needed for watersports like wakesurfing. In addition to the type of powertrain, boat manufacturers and independent businesses have developed methods to manipulate boat-generated wakes (e.g., height, length, shape, direction) that include: boat size and weight, hull design, ballast systems, and surf systems (e.g., hydrofoils and wake shapers).

It is important to state that this study was limited to examining only four boats. We selected watercraft that were representative of non-wakesurfing and wakesurfing boats; however, there are many other boat manufacturers and models not considered. The boat selection was based on the boats that were available to us within the short window of field work for this study. This research is not intended to highlight any specific watercraft manufacturer, but recreational boats in general.

In the next sections, we discuss specifics of the four boats tested in this study.

3.5.1 Larson LXI 210

The 2004 Larson LXI 210 had a length of 21 ft, a beam of 8.25 ft, and weighed 2,925 lbs dry (Table 2). The size, weight, and modified V hull design of this boat are common among all-purpose recreational boats (i.e., cruising, fishing, boat watersports). The boat used did not have any additional wake manipulating systems and created a symmetrical wake, meaning the wake waves produced was similar off both sides of the boat.

3.5.2 Malibu Response LX

The 2004 Malibu Response LX was the smallest and lightest of the test boats with a length of 20 ft, a beam of 7.5 ft, and a dry weight of 2,450 lbs (Table 2). Again, the hull design was a modified V shape. This boat was equipped with a manually operated transom mounted hydrofoil. When not in use the hydrofoil gets locked in the stow position (Figure 6a). When in use the hydrofoil is lowered to a single fixed position (Figure 6b). The principle of operation of this hydrofoil is to provide a downward force at the stern of the boat, creating greater aft trim. According to the manufacturer, the hydrofoil produces up to 1,000 lbs of equivalent aft ballast to the stern of the boat.

An aftermarket wake shaper (Wakesurf Creator 2.0 by Swell Wakesurf) was attached to the boat during one of the test conditions (i.e., Condition 1a, see Section 3.6.2). The wake shaper is a paddle-like baffle that was attached via suction cups to the port quarter of the hull just below the water surface (Figure 6c). When installed, the wake shaper increases the size and smoothness of the wake on the opposite side of the boat, making an asymmetric wake that is surfable on one

side. The hydrofoil and wake shaper can be used in tandem to create wake conditions that are suitable for wakesurfing.

3.5.3 Malibu Wakesetter Boats: VLX and MXZ

Malibu's line of Wakesetter boats are specifically designed for wakesurfing. The 2019 Malibu VLX Wakesetter was the smaller of the two Wakesetters with a length of 21 ft, a beam of 8.2 ft, and an approximate dry weight of 4,200 lbs (Table 2). To make the wake larger by displacing more water, the boat can be made heavier via its ballast system that can hold up to an additional 3,690 lbs of water weight. The larger 2019 Malibu Wakesetter MXZ was 24.5 ft long, 8.5 ft beam, and weighed approximately 5,500 lbs dry (Table 2). This boat also had a ballast system that could hold up to an additional 4,885 lbs of water weight.

Both boats were equipped with Malibu's proprietary control system called the Integrated Surf Platform. The system combines an array of technologies to create and maintain a desired wake condition. The hydrofoil, termed Power Wedge III by Malibu, functions in the same principle manner as the aforementioned hydrofoil, where according to the manufacture, the Power Wedge III can produce up to 1,500 lbs of downward force, which is equivalent to 1,500 lbs of equivalent aft ballast (Malibu Boats 2020). The Power Wedge III had adjustable settings that range from "lift" to "stow" (Figure 8a). When in lift mode the Power Wedge is in position #1 and fully deployed down (Figure 7a). In this position, the foil creates an upward lift force that allows the boat to reach planing quickly. As the Power Wedge is raised from lower numbered settings to higher numbered settings (Figure 8a), the size, shape, and surface roughness of the wake changes. This control over the wake is desirable because it allows surfing conditions to be adjusted to the skill and preference of the surfer. Finally, when in stow mode, the Power Wedge is not in use (Figure 7b).

The Wakesetters also have factory installed wake shapers (Malibu Surf Gate) on either side of the transom, just below the water surface (Figure 7c). When deployed on one side, the wake shaper produces an asymmetric wave with a larger and smoother surfing wave on the opposite side of the boat.

Table 2. Summary of the four test boats.

Manufacturer	Model	Year	Drive	Horsepower	Beam (ft)	Length (ft)	Dry Weight (lbs)	Ballast (lbs)	Hydrofoil	Wake Shaper
Larson	LXI 210	2004	Sterndrive (I/O)	260	8.3	21	2925	No	No	No
Malibu	Response LX	2004	Direct Drive (I)	310	7.5	20	2450	No	Yes	Yes -aftermarket
Malibu	Wakesetter VLX	2019	V-Drive (I)	450	8.2	21	4200	3690	Yes	Yes
Malibu	Wakesetter MXZ	2019	V-Drive (I)	450	8.5	24.5	5500	4885	Yes	Yes

Notes:*(I/O) - inboard outboard or sterndrive powertrain**(I) - inboard powertrain*

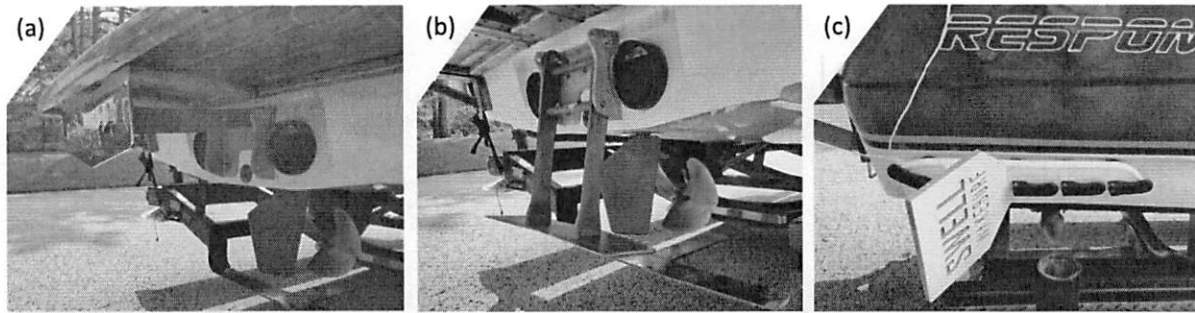


Figure 6. Malibu Response LX hydrofoil in the (a) stow position and (b) deployed down position. (c) Installed aftermarket wake shaper (Swell Wakesurf- Wakesurf Creator 2.0).

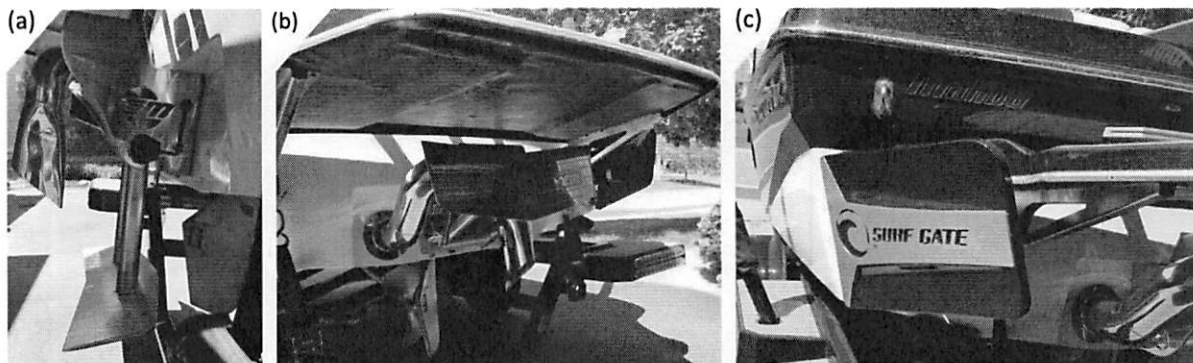


Figure 7. Malibu Wakesetter hydrofoil (Power Wedge III) set to (a) lift and (b) stow. (c) Malibu Wakesetter wake shaper (Surf Gate) in the off position.

3.6 Summary of operating conditions tested for each boat

The operating conditions used during testing of the four watercrafts are summarized in Table 3 and were defined by weight, operating speed, ballast condition (if applicable), hydrofoil (if applicable), and wake shaper (if applicable), and sought to represent typical recreational boating activities.

3.6.1 Larson LXI 210 operating conditions

During testing of the Larson LXI 210, two people were aboard the watercraft that added a combined weight of approximately 330 lbs. The passenger sat in the seat next to the boat operator to keep weight evenly distributed. Condition 1a created the largest wake wave possible without the addition of wake manipulating methods (Table 3). The boat speed was held at 10

mph and the propeller trim was adjusted to achieve the greatest aft trim possible. This propeller trim position was found to be the 50% position.

Condition 2 modeled typical operating conditions of the boat for tow sports like tubing, waterskiing, and wakeboarding (Table 3). The boat traveled at 20 mph with the propeller trim set to 100% (i.e., completely down) and was in a planing condition. Because no wake manipulating methods or technologies were used, the wake waves were symmetrical for both Condition 1a and 2.

3.6.2 Malibu Response LX operating conditions

During testing of the Malibu Response LX, two people were aboard the watercraft, which added approximately 330 lbs of weight. Condition 1a created the largest wake waves possible with the operating conditions tested (Table 3). The boat traveled at 10 mph. The hydrofoil was in the down position, which created an estimated downward force of 1,000lbs, equivalent to 1,000 lbs of equivalent aft ballast (Section 3.5.2, Figure 6b). To increase aft trim further, the passenger (175 lbs) sat in the stern seating area. The aftermarket wake shaper was installed on the outside surface of the port quarter of the hull, just beneath the water surface (Section 3.5.2, Figure 6c), which produced an asymmetric wake with the larger and less turbulent side forming starboard. We chose to have the larger wake on the starboard side because, during testing, the boat traveled from east to west and approximately parallel to the shoreline, which directed the wake towards shore where our data sensors were installed (Figure 3).

For Condition 1b (Table 3), the aftermarket wake shaper was removed so its effects on the wake characteristics (e.g., height, energy, power) could be measured (i.e., device on vs. device off).

The Condition 2 variables were set to model conditions commonly used during tubing, waterskiing, and wakeboarding (Table 3). The boat traveled in a planing condition at 20 mph with no wake shaper attached (symmetric wake). The passenger sat in the middle of the boat next to the boat operator to evenly distribute weight. The hydrofoil was placed in the downward position creating downward force and additional aft trim.

3.6.3 Malibu Wakesetter Boats: VLX and MXZ operating conditions

Both the Malibu VLX Wakesetter and Malibu MXZ Wakesetter were tested using the same two conditions (Table 3), with the only difference being the manufacturer's boat characteristics (Section 3.5.3, Table 2). Four people were aboard with a combined weight of approximately 740 lbs. To keep the weight in the back half of the boat and evenly distributed, one passenger sat in the passenger seat next to the boat operator and the other two passengers sat in the rear transom seating area. Condition 1a modeled the conditions and settings commonly used by the boat owners when they wakesurf (Table 3). During this condition, the boats traveled at 11 mph with the ballast tanks 100% full. The Power Wedge III was set to setting #3 (Figure 8), with the portside Surf Gate on (asymmetrical wake). Again, this formed a large surf wake on the starboard side of the boat that traveled towards the shoreline and our data sensors (Figure 3).

All variables remained the same for Condition 1b, except for the ballast tank setting (Table 3). The ballast water was completely drained so its effects on the wake characteristics (e.g., height, energy, power) could be compared (i.e., full vs. empty).

The variables in Condition 2 were set to model conditions commonly used during tubing, waterskiing, and wakeboarding (Table 3). The boat traveled at 20 mph with the ballast tanks empty, the Power Wedge III remaining in setting #3, and the Surf Gate off (symmetric wake).

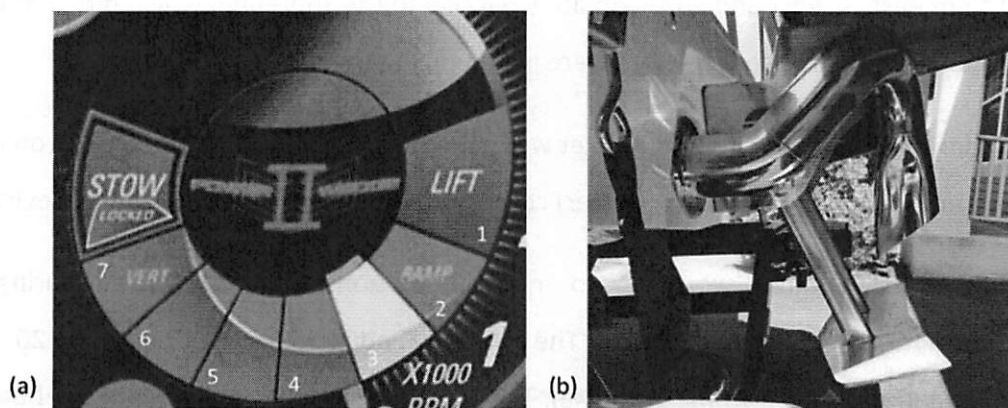


Figure 8. (a) Power Wedge III settings that range from lift to stow. Lift is noted as position #1, with the white highlight indicating that setting #3 is selected. (b) Power Wedge set to setting #3.

Table 3. Summary of the operating conditions for each boat tested. The only difference between Conditions 1a and 1b for the Malibu Response LX was the wake shaper setting (i.e., on vs off). The only difference between Conditions 1a and 1b for each Malibu Wakesetter was the ballast setting (i.e., full vs empty).

Boat	Condition #	Speed (mph)	Trim Setting (%)	Ballast (% filled)	Hydrofoil/Power Wedge III	Wake Shaper/Surf Gate	People Aboard	Approx. People Weight (lbs.)
Larson LXI 210	1a	10	50 (middle)	N/A	N/A	N/A	2	330
	2	20	100 (down)	N/A	N/A	N/A	2	330
Malibu Response LX	1a	10	N/A	N/A	Down	On – Port Side	2	330
	1b	10	N/A	N/A	Down	Off	2	330
	2	20	N/A	N/A	Down	Off	2	330
Malibu VLX Wakesetter	1a	11	N/A	100	Down – Setting #3	On – Port Side	4	740
	1b	11	N/A	0	Down – Setting #3	On – Port Side	4	740
	2	20	N/A	0	Down – Setting #3	Off	4	740
Malibu MXZ Wakesetter	1a	11	N/A	100	Down – Setting #3	On – Port Side	4	740
	1b	11	N/A	0	Down – Setting #3	On – Port Side	4	740
	2	20	N/A	0	Down – Setting #3	Off	4	740

3.7 Generating boat wake waves

Test boats were driven approximately from east to west along designated track lines set at 225, 325, 425, and 625 ft from shore, with the shoreline on the starboard side of the boat (Figure 3). The track lines were deployed in a straight line approximately parallel to the lake's measured bathymetry contours, which were also approximately parallel to the shoreline, and perpendicular to the mast/pad alignment. Using GPS coordinates, each track line was marked by a pair of taut-moored inflatable buoys that helped to visually guide the boat operator during testing. Moreover, the buoy locations were marked as waypoints on an onboard GPS unit (Humminbird Helix 10) that charted real-time boat position, further helping the boat operator navigate consistent and repeatable passes along the track lines. To ensure the wake waves that reached the mast/pad sensors were generated under steady conditions, the boat operator maintained test speed and alignment with the track line well before and after the track line buoys.

For each operating condition evaluated (Section 3.6, Table 3), the test boat made four passes along each track line. An observer was stationed onshore to notify the boat operator (via two-way radios) when it was clear to make the next pass, which was made only after the previous wake wave packet had made landfall in its entirety. This ensured that the wake wave packet generated by a single pass would be easily identifiable (i.e., clear start and end of each wake packet) during data post-processing.

3.8 Boat positional data

Instrumentation was mounted on each of the test boats to continually measure the boat's GPS position, velocity, yaw, pitch (trim) and roll. The on-board instrumentation utilized a mobile Raspberry Pi-based interface running Python to query the data from a VectorNav VN-200 inertial navigation sensor (INS)¹, which was positioned mid-boat. The sensor system included a L1 global navigation satellite system (GNSS) module, 3-axis accelerometers, 3-axis gyros, 3-axis magnetometer, barometric pressure, and an on-board processor. An INS Kalman filter reported position, velocity, and orientation at high frequencies after coupling GNSS location information with other on-board sensors used to record hull submergence (not discussed in this report). The

¹ (<https://www.vectornav.com/>)

stated accuracies of the VN-200 system after coupling with GNSS data are 1.0 m root mean square (RMS) for horizontal position, <0.05 m/s for velocity accuracy, 0.2-degree RMS for heading, and 0.03-degree RMS for pitch and roll. Additionally, the system data continuously reported uncertainties for attitude, position, and velocities, which included measured outliers in those reported values. The data were recorded at ~5Hz and collected within a single data file. To eliminate any potential velocity inconsistency between boats (e.g., different speedometer accuracies), we used the real-time velocity readings of this system during passes. The positional data for each pass were later imported into AutoCAD and used to estimate operational distance (Section 4.1).

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4.0 DATA ANALYSIS

4.1 Computing operational distances

The boat positional data (Section 3.8) were imported into AutoCAD and plotted (Figure 9). The perpendicular distances between each boat pass and each of the masts/pads (i.e., measurement sensors) were then calculated; these distances were defined as operational distances (Figure 9). For each of the four passes along a track line, an operational distance average and standard deviation were calculated. The passes along the track lines were highly repeatable, as the standard deviations for the averaged operational distances were <4 ft. The data and results presented in Section 5.0 are plotted against operational distance.

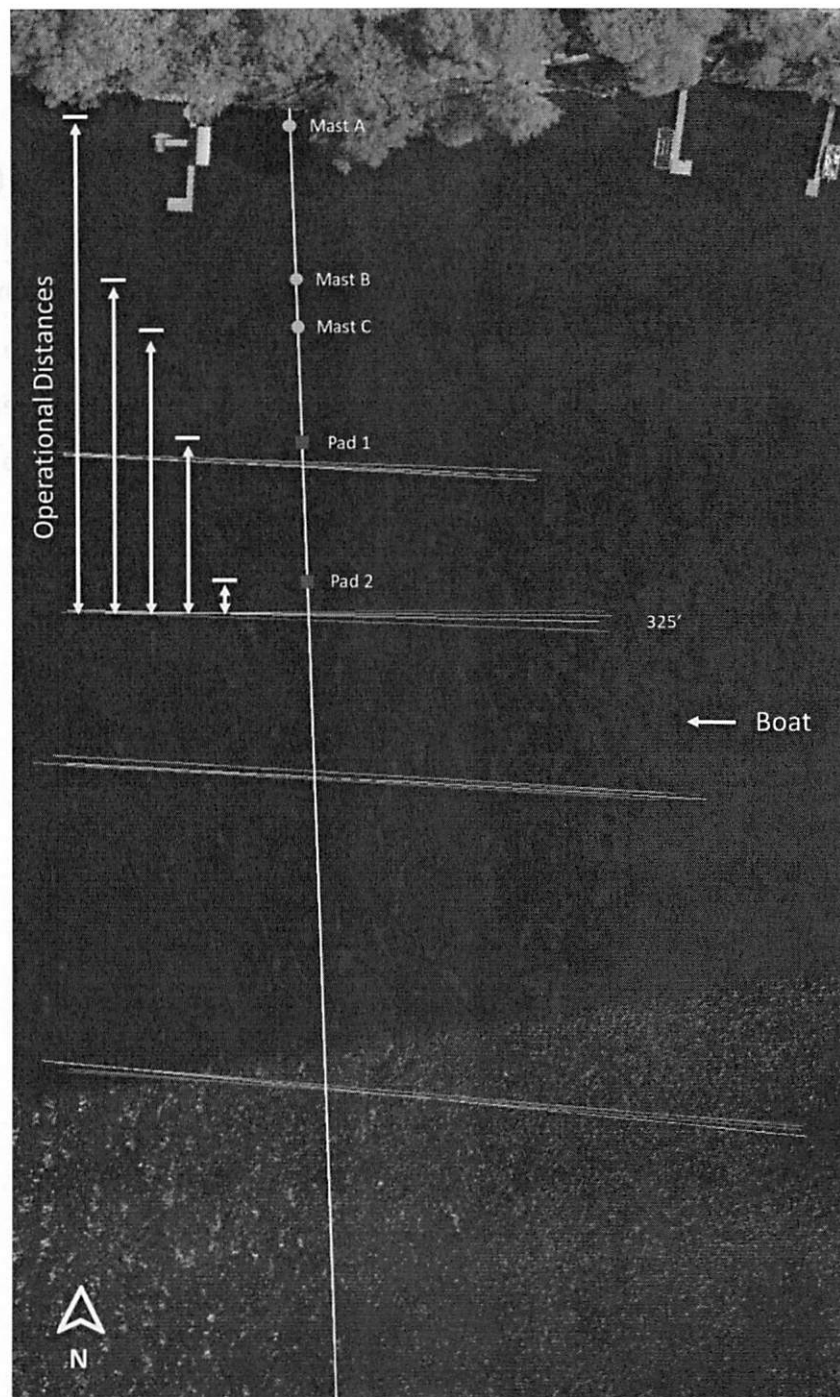


Figure 9. Example of the boat position data imported into AutoCAD for each of the four passes along the four track lines of the Malibu Response LX under operating Condition 1a (colored lines). The operational distance measurements were taken along the yellow line between each track line pass and each mast/pad. The white arrowed lines illustrate the various operational distances from the 325 ft track line.

4.2 Wave Height, Energy and Power

The primary wake wave parameters evaluated in this report are maximum wave height, total wave energy, and maximum wave power produced by the various test boats and how these varied with test conditions and operational distances. This section discusses our approach for collecting and analyzing these data.

4.2.1 Experimental time and wave height data collection – raw data

As previously discussed in Sections 3.3 and 3.4, the change in the water surface elevation was measured at the masts and the pads and was used to record the wave height as a function of time. Time zero ($t=0.0$) was set as midnight of the day tests were performed and all recorded times were converted to minutes from midnight.

The collected wave height time series data were the raw data sets that served as the bases for further calculations. The first post-processing step was to isolate the wake wave packets of each individual boat pass by manually identifying the first wave peak within the wake wave packet and noting the experimental time that this occurred. We then selected a window 0.3 minutes ahead and 2.0 minutes after this time (2.3 minutes total duration). Selection of these up-time and down-time duration windows was based on trial and error and was set based on the durations needed to fully capture the longest wake wave packet event. From this method, each boat pass yielded three, 2.3-minute duration data clips from the three masts and two, 2.3-minute clips from the two ADCP pads. These data clips were the inputs to further analyses of maximum wave height, total wave energy, and maximum wave power.

4.2.2 Attenuation correction of the mast pressure sensors

Because the pressure sensors were mounted a discrete distance below the water surface (i.e., 8-11 in (0.20-0.28 m)), it was necessary to apply a correction for attenuation of the pressure fluctuations (Tucker and Pitt 2001; Gourlay 2010; Shuster 2017). In many published applications, the pressure sensors were mounted near the bottom of the water body and in deep-water settings where the attenuation corrections were quite large. In our deployment however, the sensors were placed near the water surface slightly below the minimum wave trough elevation

and so the correction was fairly minor (<22%). The attenuation correction method used was based on the approach described by Tucker and Pitt (2001) and coded into MATLAB by Neumeier (2020). The formulation applies an attenuation correction over a defined range of wave frequencies (0.05 – 0.8 Hz) that we selected based on a spectral analysis of each boat pass time series. Figure 10 is an example of typical raw and corrected wave height data collected from the pressure sensors plotted against time.

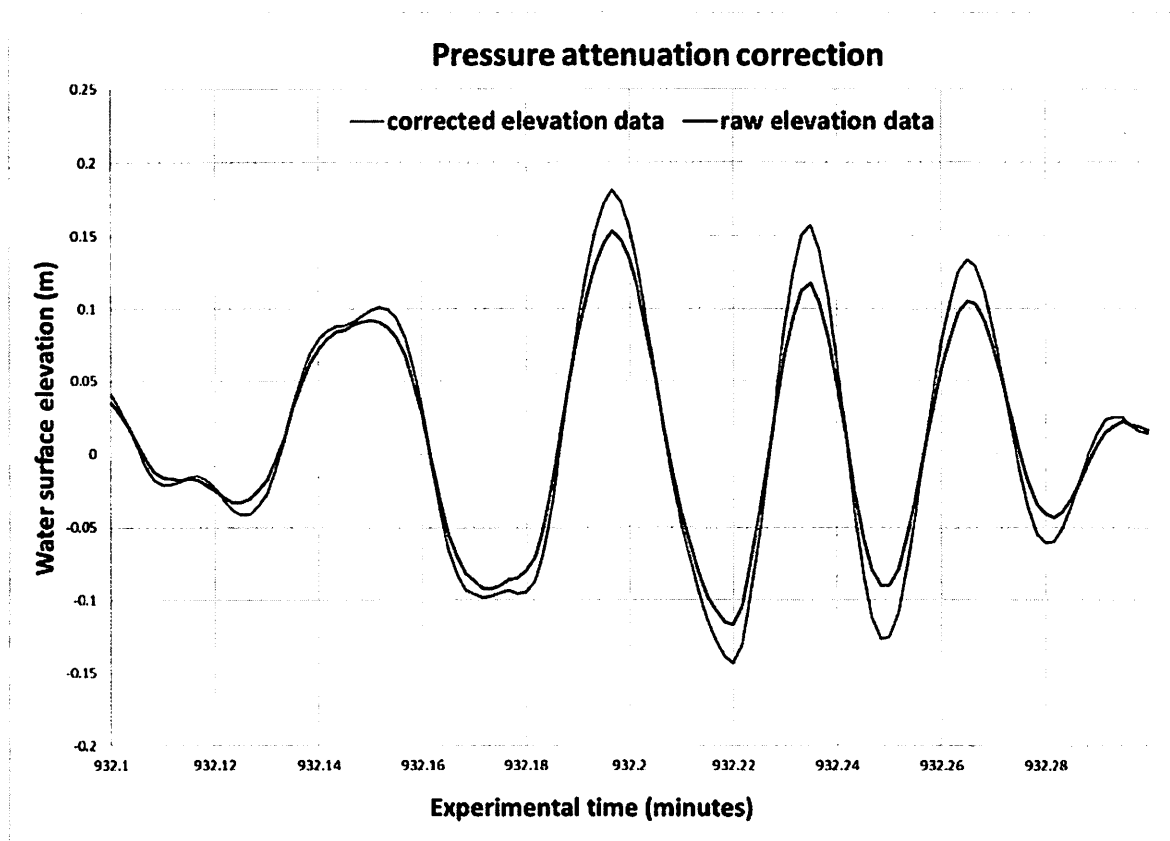


Figure 10. Plot showing an example of pressure attenuation correction applied to raw data of wave height.

4.2.3 Maximum Wave Height

Each corrected data clip was segmented into individual waves by locating the zero-crossing down locations within the 2.3-minute time series. Zero-crossing down refers to the point in time when the detrended water surface passed the zero or mean water surface elevation as it moved from crest to a trough (Figure 11). For each wave in the wake wave packet, the minimum and maximum

water elevations were determined and the wave height, H_i , was calculated, where i is an integer value representing the sequential number of a wave within the wake wave packet. The duration of a wave or wave period, T_i , was also calculated. In this way, each boat pass wake wave packet was broken down into its individual waves characterized by the H_i and T_i of each wave.

Maximum wave height was simply determined by locating the maximum wave height, H_{\max} , that occurred during the pass. H_{\max} was the largest single wave that occurred within the wake wave packet.

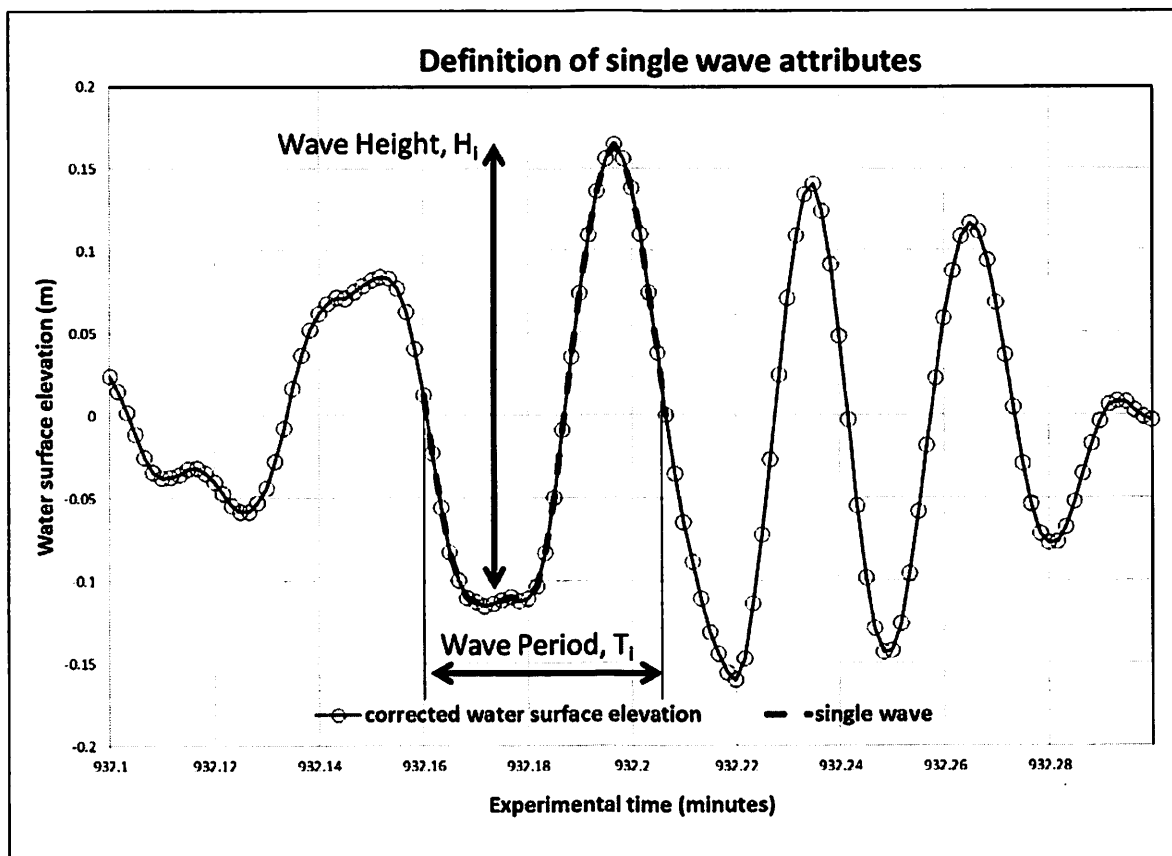


Figure 11. Definitions of zero-crossing down (blue dashed line) as well as wave characteristics of wave height, H_i and wave period T_i , where subscript i is an integer representing the sequential number of a wave within the packet.

4.2.4 Total Wave Energy

Energy is a quantifiable attribute and, for waves, is a measure of the ability of the wave or packet of waves to do work such as apply force on the lake bottom or shoreline. The total wave energy within each wake wave packet was determined. Here, we document the formulation used in this calculation.

Equation (1) is the form of the total potential and kinetic energy within a water wave per unit crest length derived from linear wave theory or Airy wave theory (USACE 1984; Dingemans 1997; Stumbo et al. 1999).

$$E_i = \frac{\rho g H_i^2 \lambda_i}{8} \quad (1)$$

In this report, we adopt metric SI units for energy and power calculations where, ρ is the density of water (kg/m^3), g is the gravitational acceleration constant (m/s^2), H_i is the wave height (m) and λ_i is wavelength (m). Equation 1 indicates that the total energy per unit crest length within a single wave is related to the density of the water (ρ), the square of wave height, and the wavelength of the wave.

It is important to point out that the data collected in this study was wave height versus time. We did not collect direct measurements of wavelength, λ_i , so it was not possible to evaluate (1) directly; however, we have measurements of the wave period, T_i , which we used in combination with functional relationships between wavelength and wave period to estimate λ_i .

The wavelength and wave period have a complex relationship that required consideration of the local water depth and whether the wave's vertical extent interacted with the lake bottom or not. If the water depth is sufficiently deep, waves are not influenced by the bottom of the lake. Borrowing from the classification adopted by USACE (1984), deep water waves are defined as having wavelengths that are less than twice the water depth. For example, a single wave with a wavelength of 20 ft (6.1 m) is considered a deep wave in depths of 10 ft (3.0 m) or greater. The wave is considered an intermediate wave, meaning some interactions with the lake bottom, if depths are between $\frac{1}{2}$ and $\frac{1}{25}$ of the wavelength. Below $\frac{1}{25}$ wavelength, the wave is considered

a shallow water wave. For the example given, a wave with a wavelength of 20 ft would be an intermediate wave between 10 ft and 0.8 ft of depth and a shallow wave below 0.8 ft of depth. These definitions become important as the functional relationship between wave period and wavelength for intermediate and shallow waves are influenced by water depth (Dingemans 1997).

Equation (2) is a general form of a relationship for the phase velocity of a wave (C_p) and is applicable for deep and intermediate depths (USACE 2012). In Equations (3) and (4) we introduce standard definitions for angular frequency, ω , and wave number, k . Substituting (3) and (4) into (2) and rearranging terms, we derive Equation (5), which is a general relationship for the wave period, T_i , and wavelength, λ_i , at a specific water depth, d_i .

$$C_p = \frac{\omega}{k} = \sqrt{\frac{g}{k} \tanh(kd_i)} = \sqrt{\frac{g\lambda_i}{2\pi} \tanh\left(\frac{2\pi}{\lambda_i} d_i\right)} \quad (2)$$

$$\omega = \frac{2\pi}{T} \quad (3)$$

$$k = \frac{2\pi}{\lambda} \quad (4)$$

$$\left(\frac{2\pi}{T_i}\right)^2 = \left(\frac{2\pi}{\lambda_i}\right) \tanh\left(\frac{2\pi}{\lambda_i} d_i\right) \quad (5)$$

To utilize (5), recall that the data collection and initial analysis resulted in determining wave height, H_i , and wave period, T_i , for all waves in a wake wave packet for each boat pass. We also recorded the water depth at each mast ($d_{\text{MastA}} = 0.56$ m; $d_{\text{MastB}} = 1.86$ m; and $d_{\text{MastC}} = 2.63$ m). Using this information in Equation (5), we solved for the wavelength, λ_i , for each of the waves measured in a wake packet (USACE 1984; MacFarlane 2012).

With the wavelength calculated for each wave, we then evaluated (1) and determined the total energy per unit crest width for each wave by summing all the waves in the wake wave packet generated by a single boat pass (Equation 6). The variable, n , represents the total number of individual waves within a wake wave packet.

$$E_{total} = \sum_{i=1}^{i=n} E_i = \sum_{i=1}^n \frac{\rho g H_i^2 \lambda_i}{8} \quad (6)$$

An important and likely obvious observation is that a single boat passage generated a series of waves that we refer to in this report as the wake wave packet. Because of wave dispersion, the number of individual waves occurring in a wake wave packet increases with distance. For example, at Mast A we observed 8 or 9 individual waves arriving from a ~225 ft pass distance, and greater than 20 individual waves from a ~625 ft pass distances. In addition to the increase in the number of individual waves, we also observed a longer duration of time for the wake wave packet to fully make landfall. Finally, the height of the waves decreased with distance from the boat, defined as wave attenuation. In general, closer to the boat, a smaller number of larger waves will reach the observation point and as the boat distance increases, a larger number of smaller waves will reach the same observation point over a longer duration of time.

The variation in wake wave packet duration with distance noted above had implications for how we determined the endpoint of the packet and calculations for total cumulative wave energy, E_{total} for a boat pass. To determine this point in time, t_{end} , we established a threshold criterion, ε , defined as the point in time when the incremental change in total cumulative wave energy dropped below 1% of the total cumulative wave energy (Equations 7 and 8). Figure 12 shows an example of a cumulative total wave energy plot measured for one boat pass. The total duration of the analysis was ~130 seconds (2.3 minutes); however, in general, the main contribution of the wake wave packet occurred over 35-40 seconds from the start of the packet. Once t_{end} was located, it was used to determine the total energy of the wake wave packet.

$$\varepsilon(t) = \left(\frac{E_{total(t)} - E_{total(t-1)}}{E_{total(t-1)}} \right) * 100 \quad (7)$$

$$t_{end} = \varepsilon(t) < 1.0 \quad \{\text{threshold criteria}\} \quad (8)$$

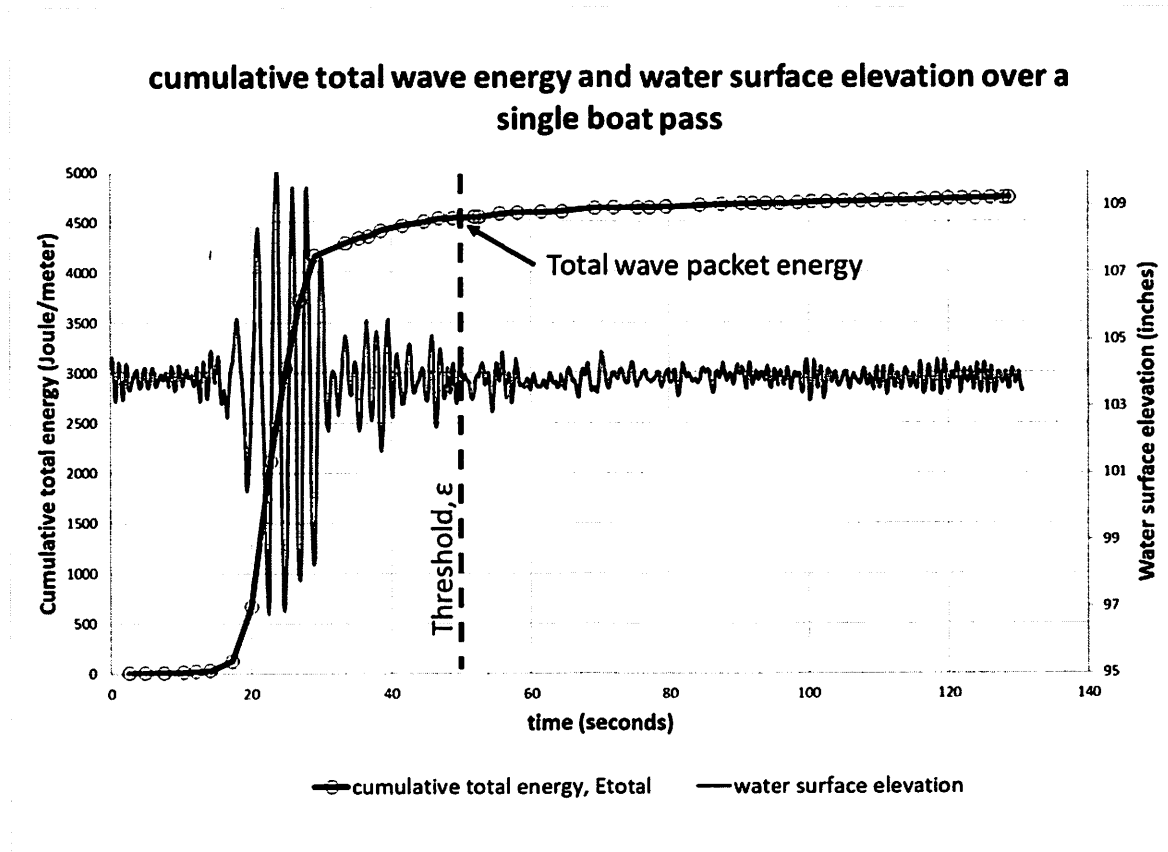


Figure 12. Example of a wake wave packet measurement and equivalent cumulative wave energy computed for the packet. The blue dashed line represents the end of the wake packet as defined by the threshold criteria, ϵ .

4.2.5 Maximum Wave Power

Another characteristic commonly computed for water waves is the wave power, also referred to as wave energy flux (Equation 9), which is calculated as the product of wave energy density, \bar{E} (Equation 10) and group velocity, C_g (Equation 11) (USACE 1984 and 2012, MacFarlane 2012). The wave power quantifies the rate at which energy within a wave is delivered to a shoreline or object, and is another measure of the ability of a wave to impact the near-shore environment. We estimated that the majority of wake waves produced in the study were deep-water waves and we therefore employed the deep-water formulation of group velocity (11).

$$\bar{P} = \bar{E}C_g \tag{9}$$

$$\bar{E} = \frac{\rho g H^2}{8} \quad (10)$$

$$C_g = \frac{g T_{max}}{4\pi} \quad (11)$$

Our analysis involved determining the wave energy flux associated with the largest wave within the wake wave packet and its associated wave period. Maximum power, P_{max} , was calculated using Equation 12.

$$P_{max} = \left(\frac{\rho g (H_{max})^2}{8} C_g \right) \quad (12)$$

5.0 RESULTS

The maximum wave height, total wave energy and maximum wave power were analyzed as a function of operational distance for each boat and operating condition. Each data point shown in the following figures is the mean value of the four passes at a given distance and under the same conditions, with the error bars depicting the standard deviation. Data points obtained from the masts (i.e., pressure transducers) and pads (i.e., ADCPs) and are represented as closed circles or squares and open triangles or diamonds, respectively. The vertical axis is either the maximum wave height (in), total wave energy (J/m), or maximum wave power (J/m-s). The horizontal axis is the operational distance (ft), which again is defined as the perpendicular distance from the boat track line to the masts/pads. A best fit power-law trendline is fit to all data points greater than one boat length from the track line (20-24-ft). The equation of this best-fit relationship and the corresponding R^2 correlation is provided on each graph. Data within one boat length had greater variability and was subject to influence from both transverse and divergent waves produced by the boat. We include these data points in the following figures, however, we do not include them in the regression analyses. Further, a power-law regression is adopted here based on the fact that it provides a reasonable fit to the observed data trends and also because of the long history of describing wave parameter decay using power law formulation. A thorough summary of many of these methodologies can be found in MacFarlane (2012). It should be noted that we were not able to collect data within the first 100 ft of operational distance for the Malibu Response LX because of technical issues with the ADCP sensors on the test day.

The results discussion relies heavily on the reader being familiar with the various test conditions (Conditions 1a, 1b and 2) for each boat tested. For convenience, we provide Table 3 again for quick reference.

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Table 3. Summary of the operating conditions for each boat tested. The only difference between Conditions 1a and 1b for the Malibu Response LX was the wake shaper setting (i.e., on vs off). The only difference between Conditions 1a and 1b for each Malibu Wakesetter was the ballast setting (i.e., full vs empty).

Boat	Condition #	Speed (mph)	Trim Setting (%)	Ballast (% filled)	Hydrofoil/Power Wedge III	Wake Shaper/Surf Gate	People Aboard	Approx. People Weight (lbs.)
Larson LXI 210	1a	10	50 (middle)	N/A	N/A	N/A	2	330
	2	20	100 (down)	N/A	N/A	N/A	2	330
Malibu Response LX	1a	10	N/A	N/A	Down	On – Port Side	2	330
	1b	10	N/A	N/A	Down	Off	2	330
	2	20	N/A	N/A	Down	Off	2	330
Malibu VLX Wakesetter	1a	11	N/A	100	Down – Setting #3	On – Port Side	4	740
	1b	11	N/A	0	Down – Setting #3	On – Port Side	4	740
	2	20	N/A	0	Down – Setting #3	Off	4	740
Malibu MXZ Wakesetter	1a	11	N/A	100	Down – Setting #3	On – Port Side	4	740
	1b	11	N/A	0	Down – Setting #3	On – Port Side	4	740
	2	20	N/A	0	Down – Setting #3	Off	4	740

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5.1 Condition 1a

This section discusses the results of the data analyses for maximum wave height, total wave energy, and maximum wave power for each of the four boats tested under operating Condition 1a. Detailed descriptions of the boat operating conditions are provided in Section 3.6 and Table 3.

5.1.1 Maximum Wave Height

The maximum wave height is defined as the highest single wave measured within a wake wave packet and this value was computed for each pass. The average maximum wave height was then computed from these data and is presented in the following figures. For simplification, we refer to these values as maximum wave heights with the understanding that they are averages of all passes at a given distance.

All boats showed a nonlinear decrease in maximum wave height with operational distance (Figures 13 and 14). The most rapid decline in wave height occurred over the first 100 ft of operational distance where, for all boats, the maximum wave height decreased by half. The initial maximum wave heights recorded for the Larson LXI 210, Malibu VLX, and Malibu MXZ were 22 in, 34 in, and 39 in, respectively, which occurred within 4-6 ft of the boat track line.

All the data from Figures 13 and 14 are presented together in Figure 15 for easier comparison. The Larson LXI 210 attenuated from a maximum wave height of 22 in to 10 in at 84 ft of distance. The Malibu Response LX recorded a 10 in maximum wave height at 120 ft of distance. At 600 ft, both the Larson LXI 200 and Malibu Response LX had maximum wave heights of roughly 5 in. The Malibu VLX had a maximum height of 34 in that attenuated to 10 in after 210 ft. At 600 ft, the maximum wave height had decreased to approximately 5 in. Of the four boats tested, the largest boat in terms of length, total weight, and ballast water weight was the Malibu MXZ. The Malibu MXZ's maximum wave height attenuated from 39 in to 8 in after 400 ft. Finally, by ~600 ft of operational distance the maximum wave height had decreased to roughly 6 in.

Condition 1a – Maximum Wave Height (non-wakesurf boats)

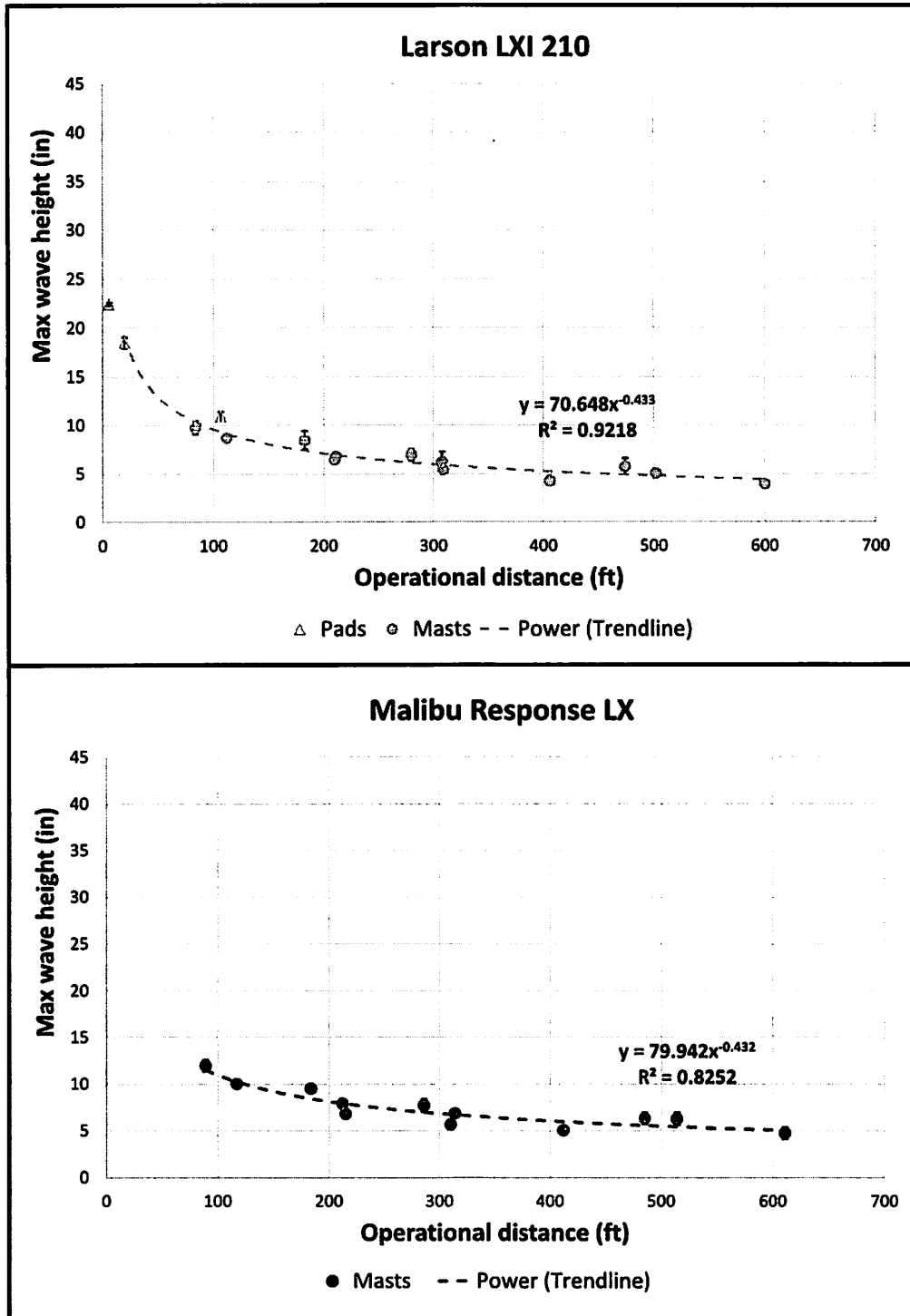


Figure 13. Maximum wave height as a function of distance for the two non-wakesurf boats tested under Condition 1a. The error bars represent the standard deviation. There are no data for the Pads for the Malibu Response LX due to technical issues with the ADCP on test day. Data points less than one boat length from the track line were not included in the regression analysis.

Condition 1a – Maximum Wave Height (wakesurf boats)

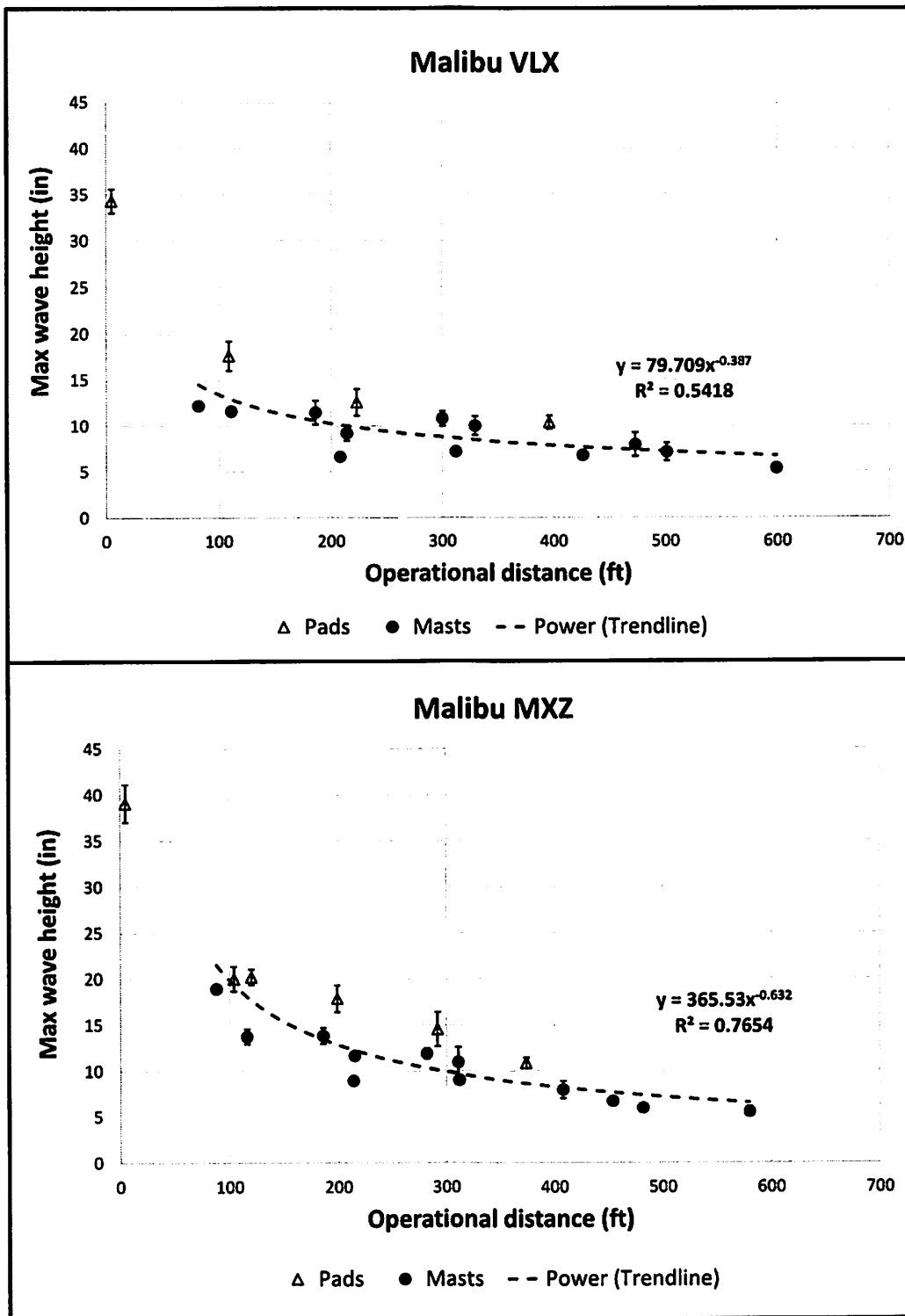


Figure 14. Maximum wave height as a function of distance for the two wakesurf boats tested under Condition 1a. The error bars represent the standard deviation. Data points less than one boat length from the track line were not included in the regression analysis.

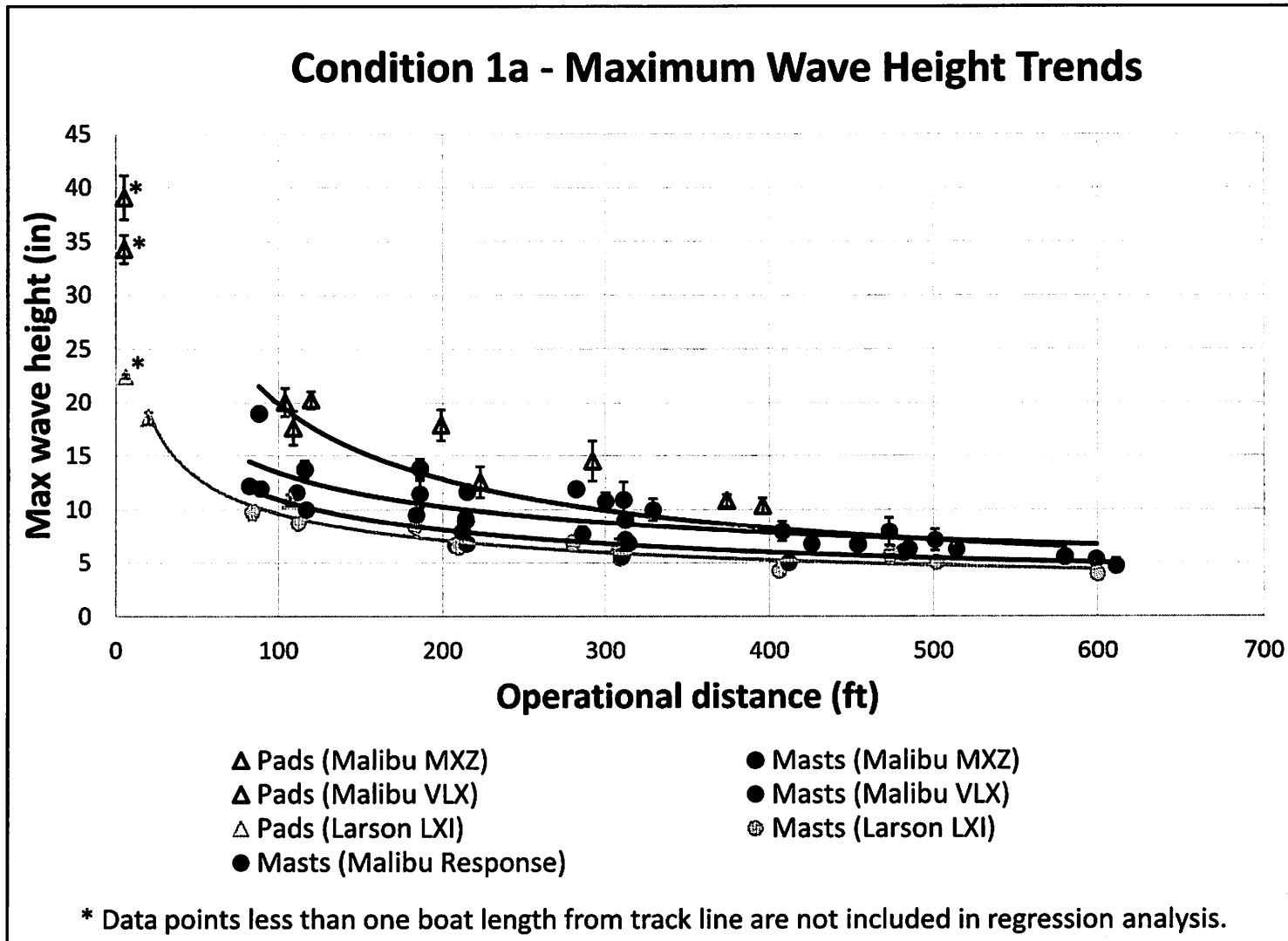


Figure 15. Condition 1a best-fit power law trendlines of the four test boats showing maximum wave heights over operational distance.

5.1.2 Total Wave Energy

All four test boats showed a nonlinear decrease in total wave energy with increasing operational distance (Figure 16 and 17). The maximum total wave energy recorded for the Larson LXI 210, Malibu VLX, and Malibu MXZ was 5,400 J/m, 12,200 J/m, and 16,300 J/m, respectively, which occurred within 4-6 ft of operational distance.

Figure 18 compares all the data and trendlines for the four boats. The Larson LXI 210 and Malibu Response LX had nearly identical total wave energies and attenuation rates. At 120 ft of operational distance, their total wave energies had attenuated to 2,000 J/m, and by 600 ft they had decreased to roughly 700 J/m. The Malibu VLX had the second greatest total wave energy at all distances, with a maximum level of 12,200 J/m that attenuated to 2,000 J/m around 400 ft of operational distance. At 600 ft, the total wave energy had decreased to around 1,000 J/m. Of all the boats tested, the Malibu MXZ produced the greatest total wave energy at all distances, with an initial maximum of 16,300 J/m that, like the Malibu VLX, decreased to 2,000 J/m around 400 ft. At 600 ft of operational distance, the total wave energy had attenuated to roughly 1,000 J/m.

Condition 1a – Total Wave Energy (non-wakesurf boat)

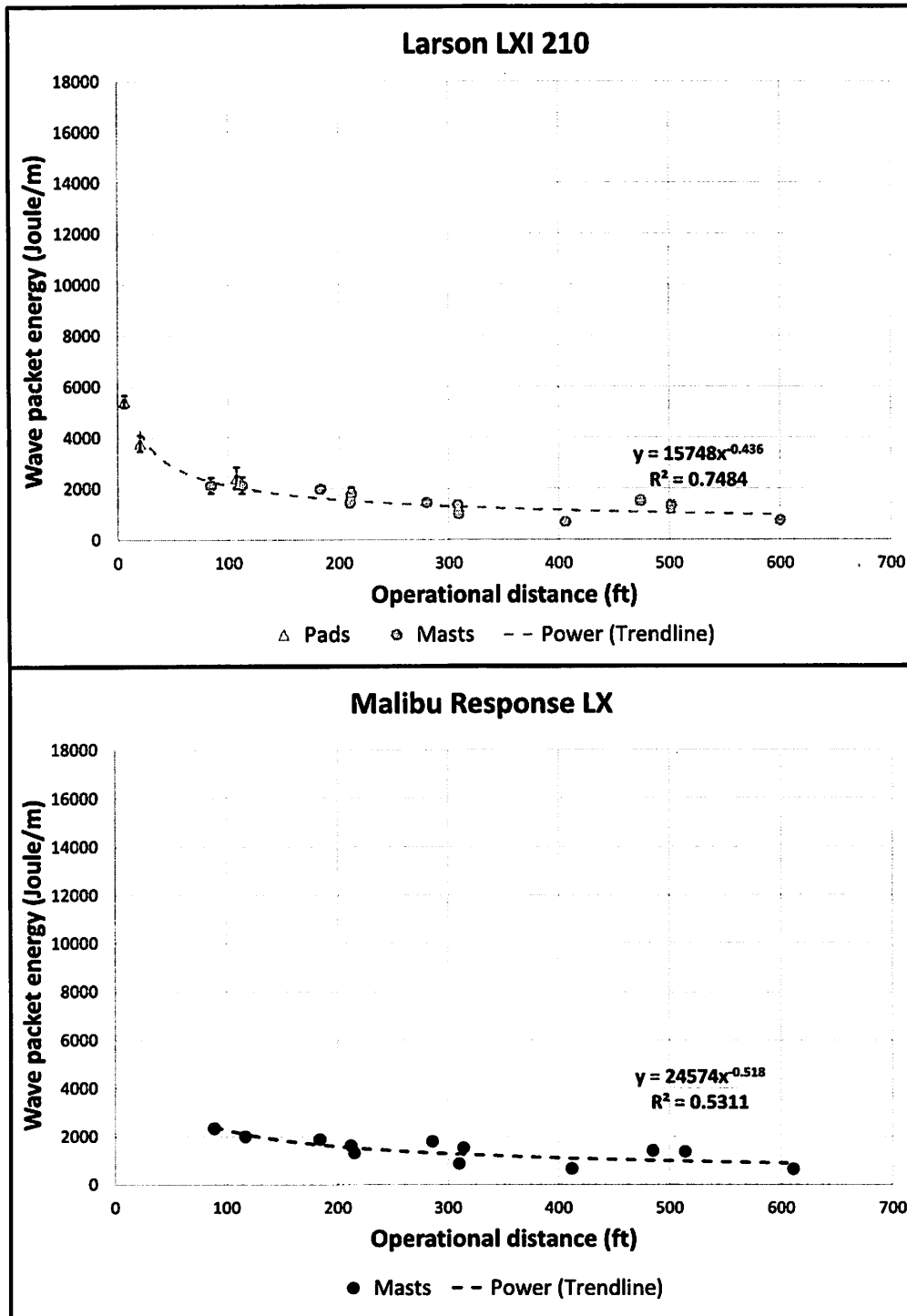


Figure 16. Total wake packet energy as a function of operational distance for the two non-wakesurf boats tested under Condition 1a. There are no data for the Pads for the Malibu Response LX due to technical issues with the ADCP on test day. Data points less than one boat length from the track line were not included in the regression analysis.

Condition 1a – Total Wave Energy (wakesurf boat)

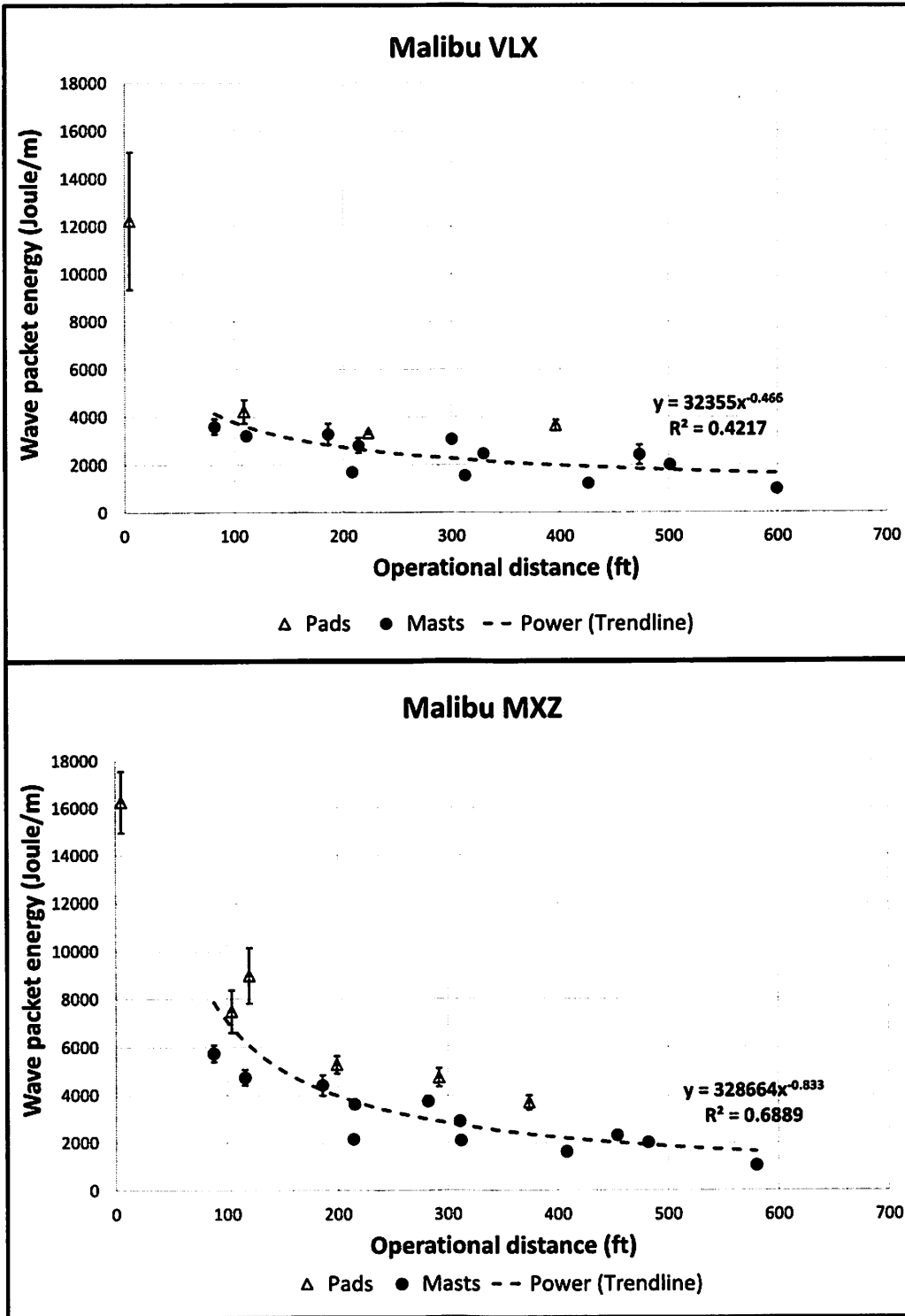


Figure 17. Total wake packet energy as a function of operational distance for the two wakesurf boats tested under Condition 1a. Data points less than one boat length from the track line were not included in the regression analysis.

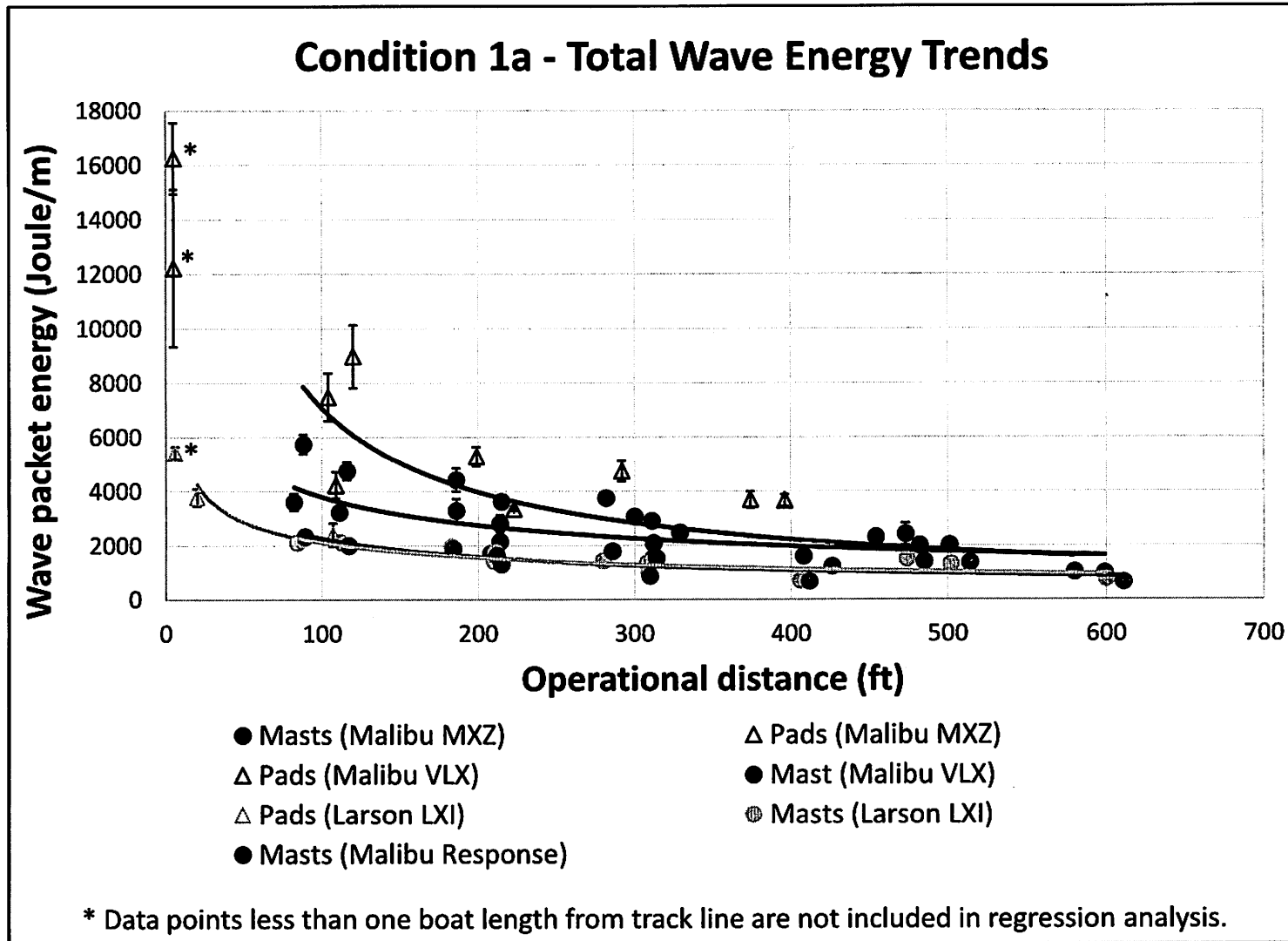


Figure 18. Condition 1a trendlines for the four test boats showing total wave energy over operational distance.

5.1.3 Maximum Wave Power

Like maximum wave height and total wave energy, the maximum wave power showed a well-defined, nonlinear decrease as operational distance increased (Figure 19 and 20). The initial maximum wave powers recorded for the Larson LXI 210, Malibu VLX, and Malibu MXZ were 860 J/m-s, 1,970 J/m-s, and 2,370 J/m-s, respectively, which occurred within an operational distance of 4-6 ft.

A comparison of all data and trendlines for each boat is presented in Figure 21. The Larson LXI 210 attenuated from an initial maximum wave power of 860 J/m-s to 50 J/m-s over the first 110 ft of operational distance. For operational distances greater than 210 ft, the maximum wave power for the Larson LXI 210 and Malibu Response LX were nearly identical, and by 600 ft they had decreased to roughly 10 J/m-s. The Malibu VLX had an initial maximum wave power of 1,970 J/m-s that attenuated to 100 J/m-s at an operational distance of 300 ft. By 600 ft, the maximum wave power decreased to roughly 40 J/m-s. Finally, the Malibu MXZ produced the greatest maximum wave powers at all operational distances, with an initial maximum wave power of 2,370 J/m-s that decreased to 100 J/m-s at approximately 400 ft, and 50 J/m-s by 600 ft of operational distance.

Condition 1a - Maximum Wave Power (non-wakesurf boats)

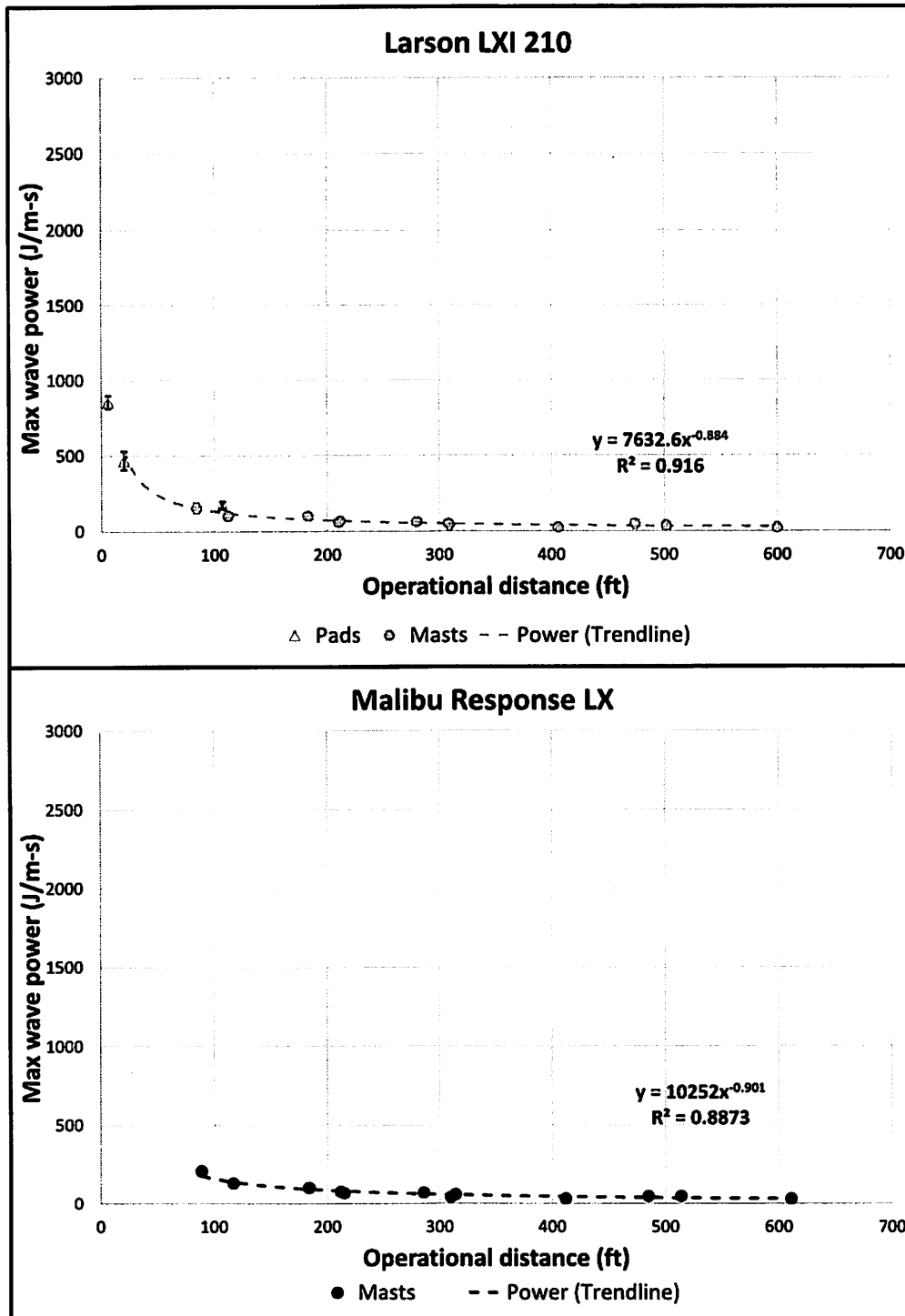


Figure 19. Maximum wave power as a function of wave propagation distance for the two non-wakesurf boats tested under Condition 1a. There are no data for the Pads for the Malibu Response LX due to technical issues with the ADCP on test day. Data points less than one boat length from the track line were not included in the regression analysis.

Condition 1a - Maximum Wave Power (wakesurf boats)

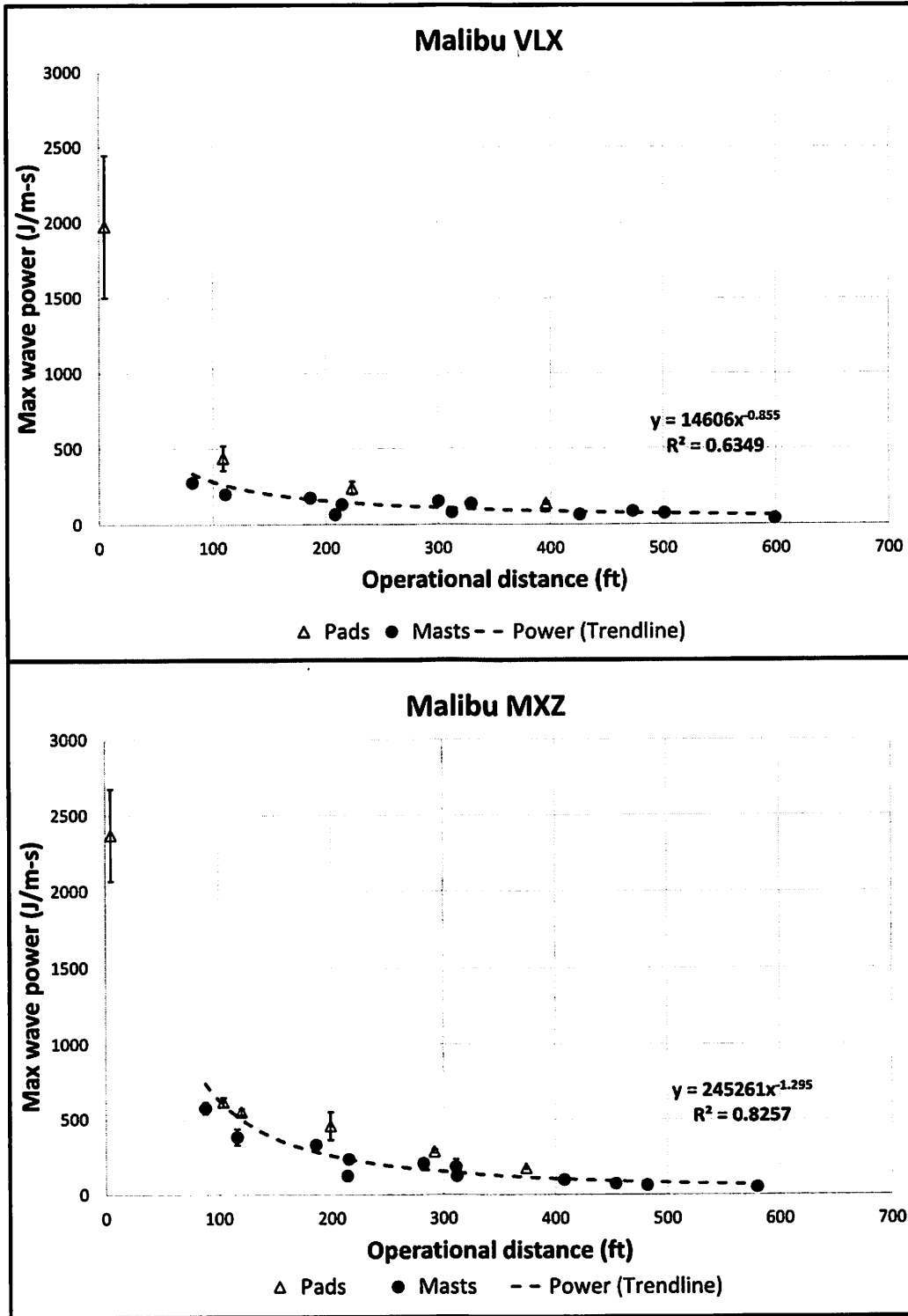


Figure 20. Maximum wave power as a function of wave propagation distance for the two wakesurf boats tested under Condition 1a. Data points less than one boat length from the track line were not included in the regression analysis.

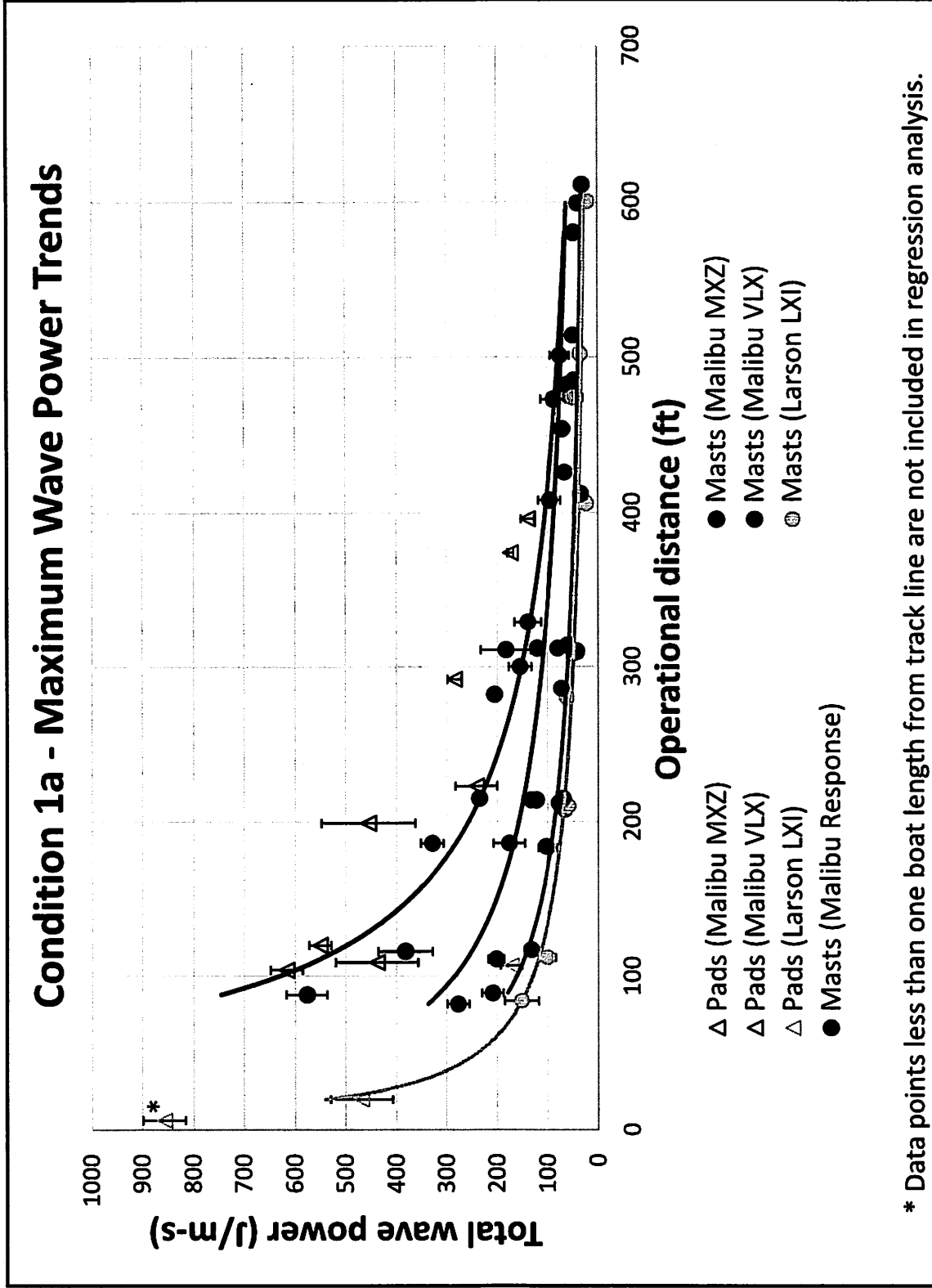


Figure 21. Condition 1a trendlines for the four test boats showing maximum wave power over operational distance.

5.2 Condition 2

This section discusses the results of the data analyses for maximum wave height, total wave energy, and maximum wave power for each of the four boats tested under operating Condition 2. Detailed descriptions of the boat operating conditions are provided in Section 3.6 and Table 3. It is important to note that the magnitudes of wave height, energy, and power were much smaller when the watercraft was planing. It is also important to note that the ADCP data at operational distances less than 100 ft for the Malibu MXZ under Condition 2 were noisy and thus eliminated from this analysis (see Section 6.2.1 for more details).

5.2.1 Maximum Wave Height

In general, all boats follow the same nonlinear decrease in maximum wave height with increasing operational distance (Figures 22, 23 and 24). The initial maximum wave height recorded for the Larson LXI 210 was 13 in at a distance of 9 ft. The maximum wave height was 6 in at roughly 150 ft, and continued decreasing to less than 4 in at operational distances greater than 600 ft. The Malibu Response LX recorded a maximum wave height of 8 in at 100 ft that attenuated to 6 in by 200 ft of propagation. At roughly 425 ft of operational distance, the maximum wave height had decreased to 4 in. The Malibu VLX produced an initial maximum wave height of 16 in at 10 ft, and attenuated to approximately 11 in at 100 ft of operational distance. By 500 ft of operational distance the maximum wave height decreased to 6 in. Like the Malibu VLX, the Malibu MXZ produced a maximum wave height of 11 in at roughly 100 ft. At 300 ft of operational distance, the maximum wave height was 6 in, and by 500 ft had decreased to 4 in.

Condition 2 - Maximum Wave Height (non-wakesurf boats)

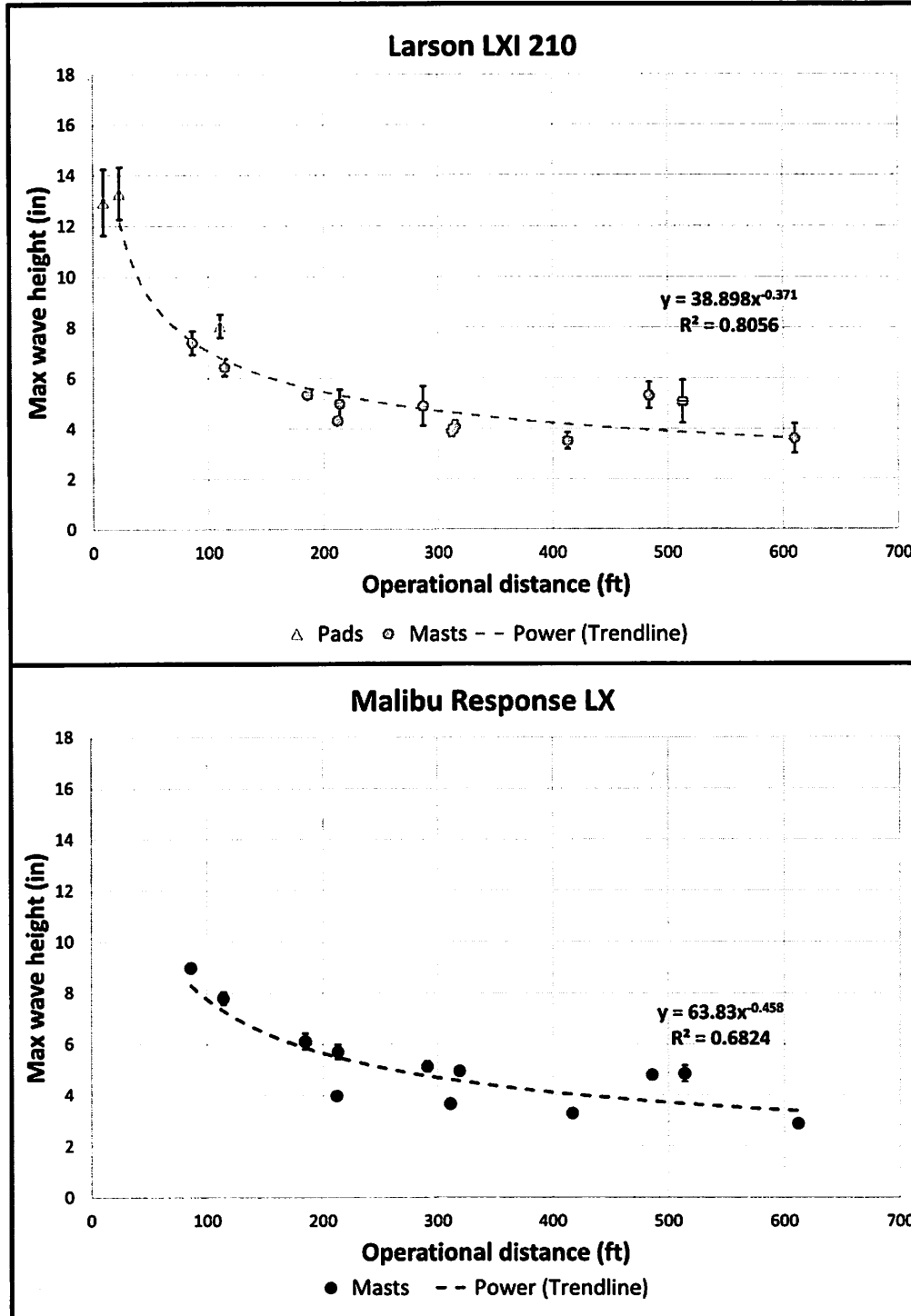


Figure 22. Maximum wave height as a function of operational distance for the two non-wakesurf boats tested under Condition 2. There are no data for the Pads for the Malibu Response LX due to technical issues with the ADCP on test day. Data points less than one boat length from the track line were not included in the regression analysis.

Condition 2 - Maximum Wave Height (wakesurf boats)

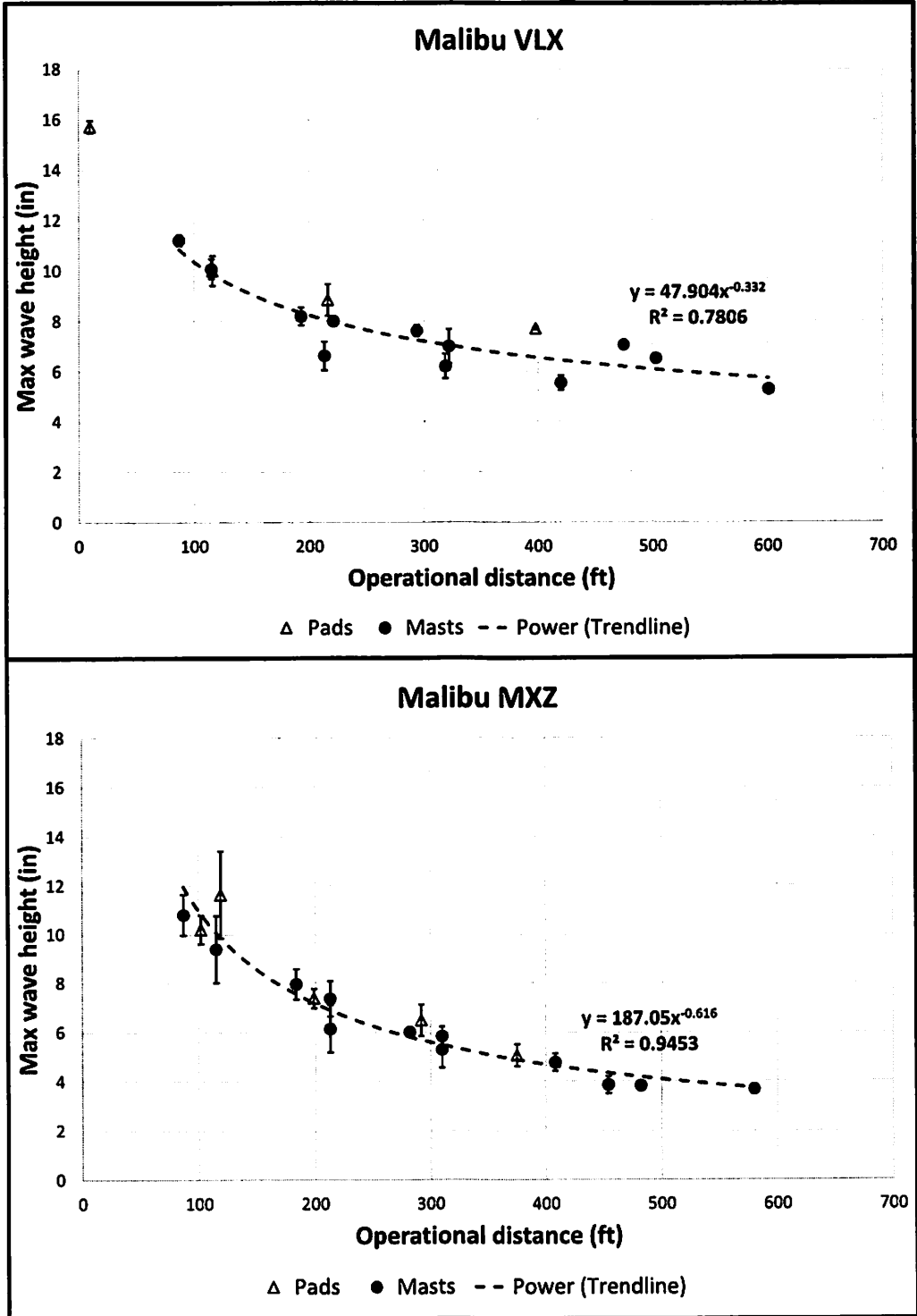


Figure 23. Maximum wave height as a function of operational distance for the two wakesurf boats tested under Condition 2. The Pad data at distances less than 100 ft for the Malibu MXZ were noisy and thus eliminated from this analysis. Data points less than one boat length from the track line were not included in the regression analysis.

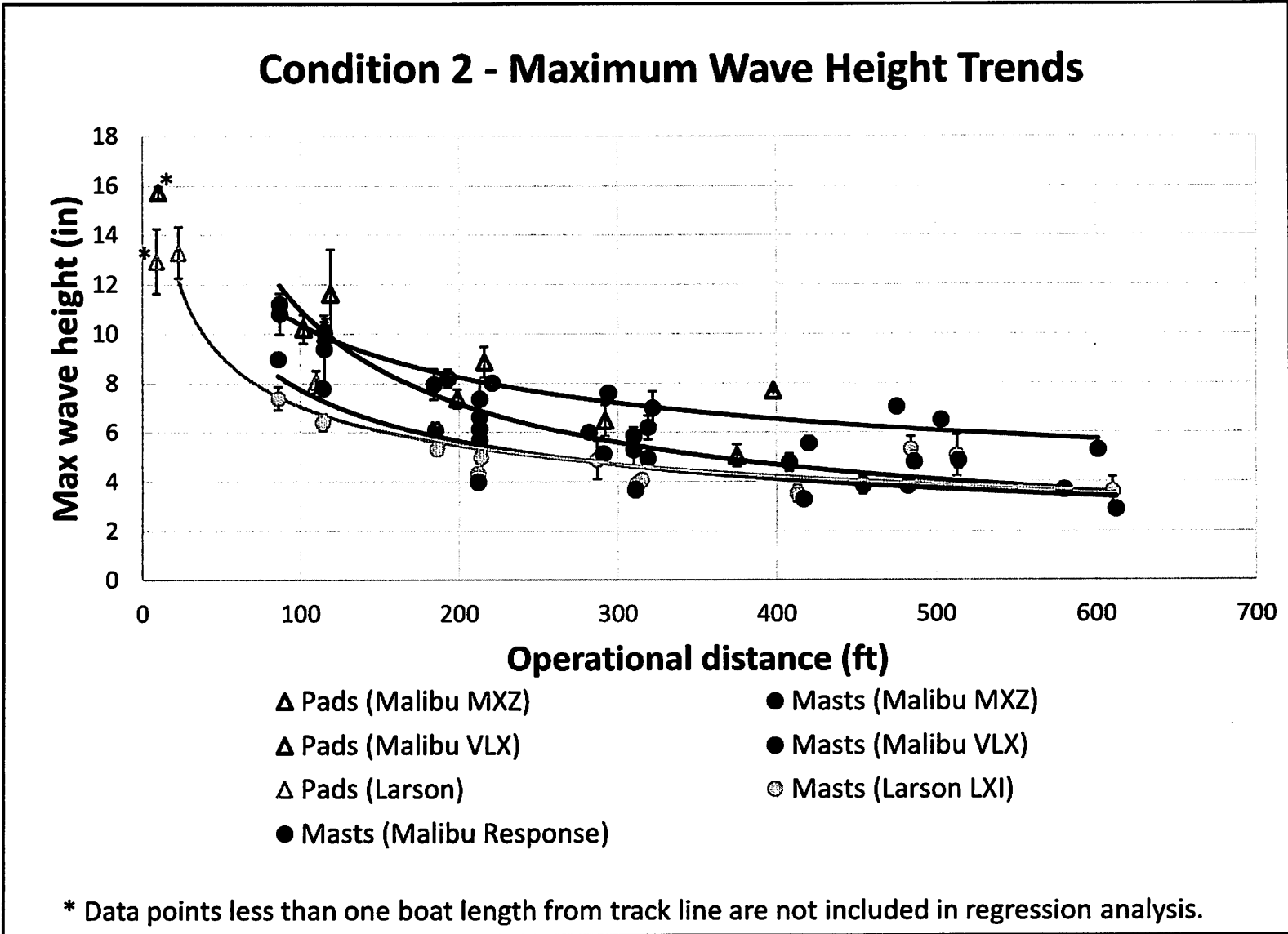


Figure 24. Condition 2 trendlines of the four test boats showing maximum wave heights over operational distance.

5.2.2 Total Wave Energy

The attenuation of the total wave energy as a function of operational distance shows a nonlinear decreasing trend for all test boats (Figures 25, 26 and 27). The Larson LXI 210 and Malibu Response LX had little change in total wave energy with operational distance, with the data only slightly varying between 1,500 J/m and 700 J/m. Likewise, the Malibu VLX had little change in total wave energy attenuation, as the magnitudes were between 2,500 J/m and 1,000 J/m over the full range of operational distances. The Malibu MXZ data show a wider range of total wave energies between 2,800 J/m and 900 J/m.

Condition 2 - Total Wave Energy (non-wakesurf boats)

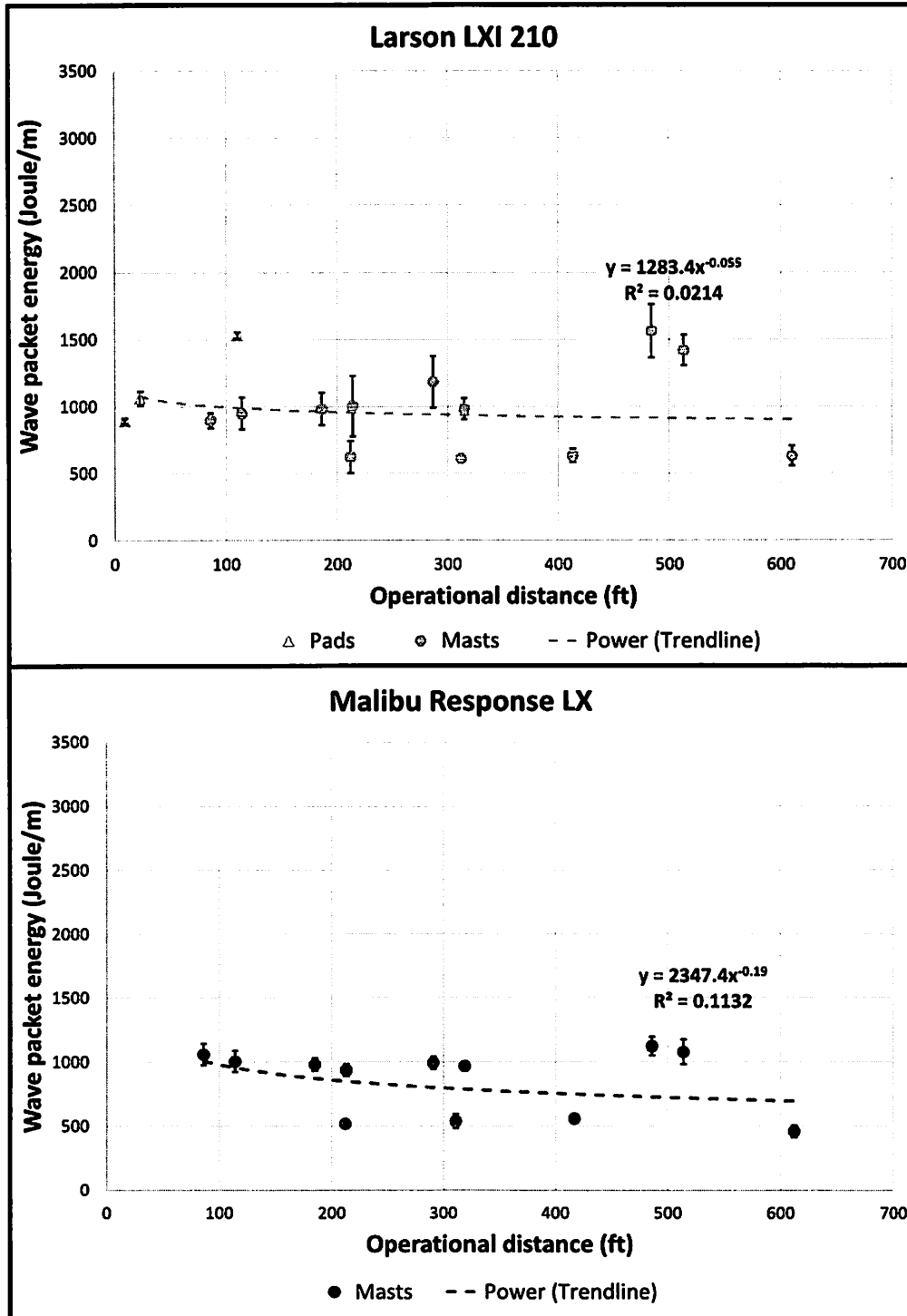


Figure 25. Total wake packet energy as a function of operational distance for the two non-wakesurf boats tested under Condition 2. There are no data for the Pads for the Malibu Response LX due to technical issues with the ADCP on test day. Data points less than one boat length from the track line were not included in the regression analysis.

Condition 2 - Total Wave Energy (wakesurf boats)

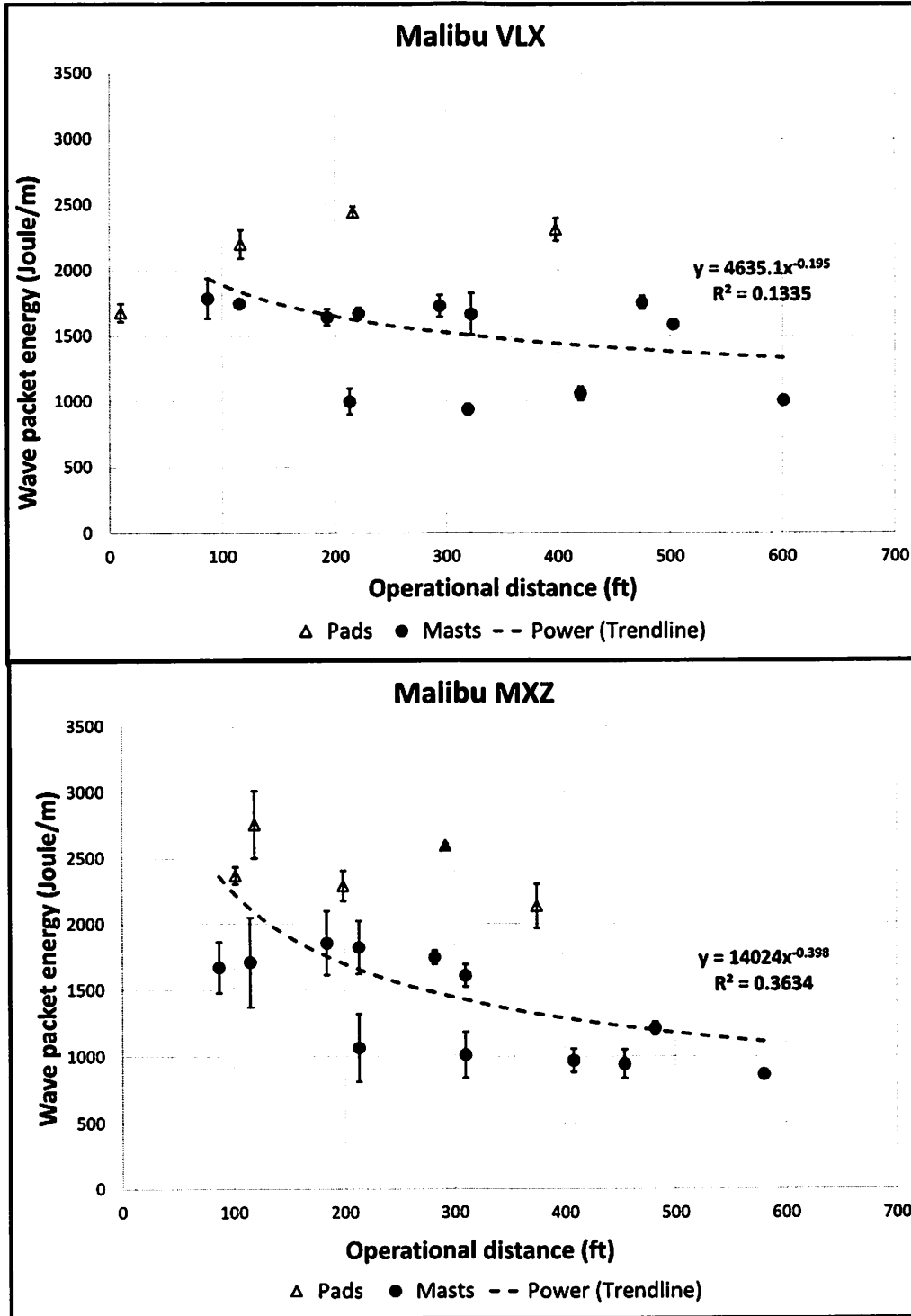


Figure 26. Total wake packet energy as a function of operational distance for the two wakesurf boats tested under Condition 2. The Pad data at distances less than 100 ft for the Malibu MXZ were noisy and thus eliminated from this analysis. Data points less than one boat length from the track line were not included in the regression analysis.

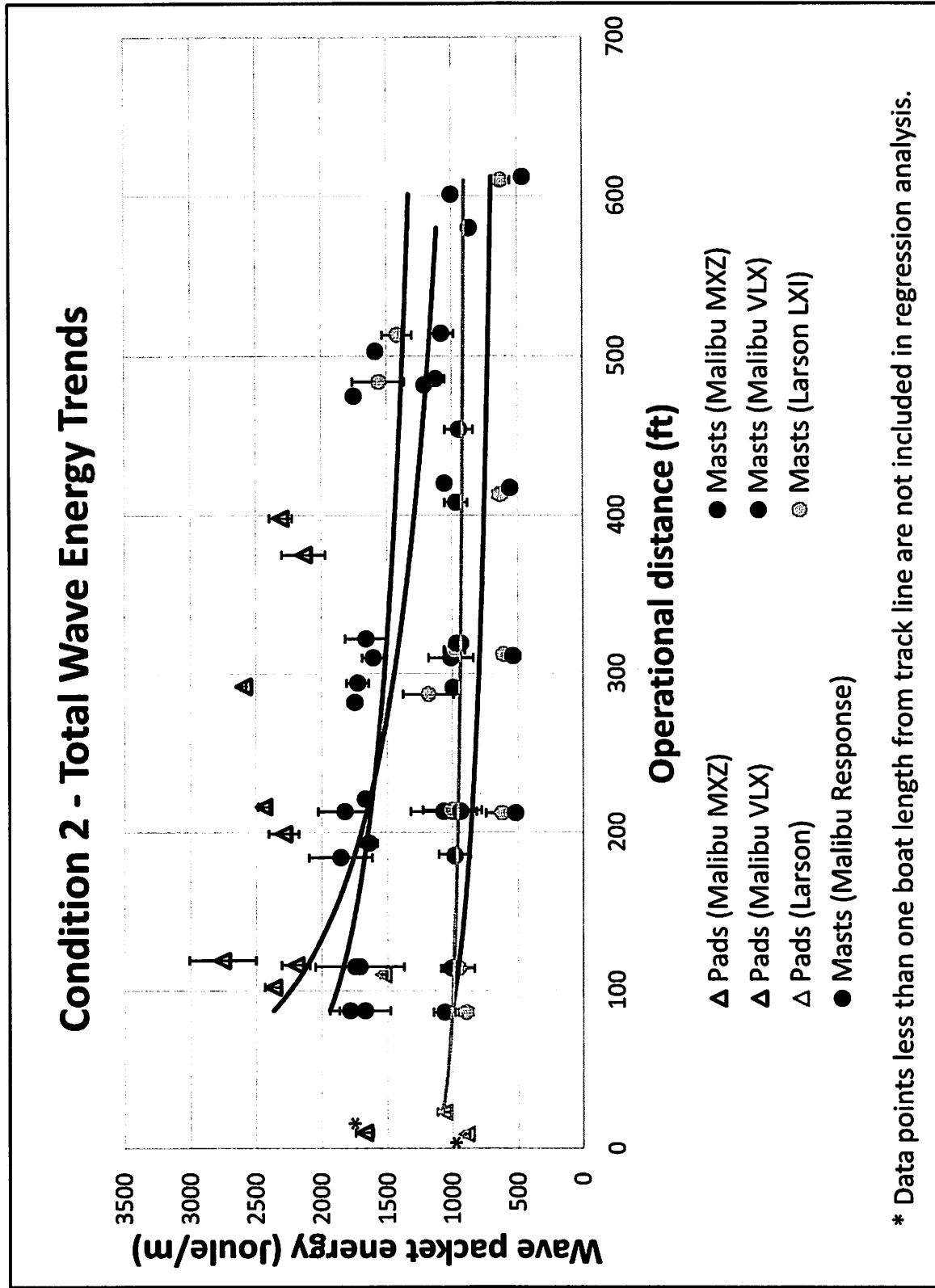


Figure 27. Condition 2 trendlines for the four test boats showing total wave energy over operational distance.

5.2.3 Maximum Wave Power

Attenuation of the maximum wave power with operational distance shows a decreasing nonlinear trend for all boats tested (Figures 28, 29 and 30). The initial maximum wave power for the Larson LXI 210 was roughly 180 J/m-s at a distance of 20 ft. The Malibu Response LX recorded a maximum wave power of approximately 80 J/m-s at 100 ft of operational distance. After a distance of roughly 300 ft, the maximum wave power for the Larson LXI 210 and Malibu Response LX were nearly identical at <25 J/m-s. The Malibu VLX produced an initial maximum wave power of about 270 J/m-s at 10 ft, which attenuated to approximately 30 J/m-s at 600 ft. The Malibu MXZ recorded a maximum wave power of 140 J/m-s at 100 ft, which decreased to roughly 40 J/m-s at 300 ft and 20 J/m-s at 600 ft.

Condition 2 - Maximum Wave Power (non-wakesurf boats)

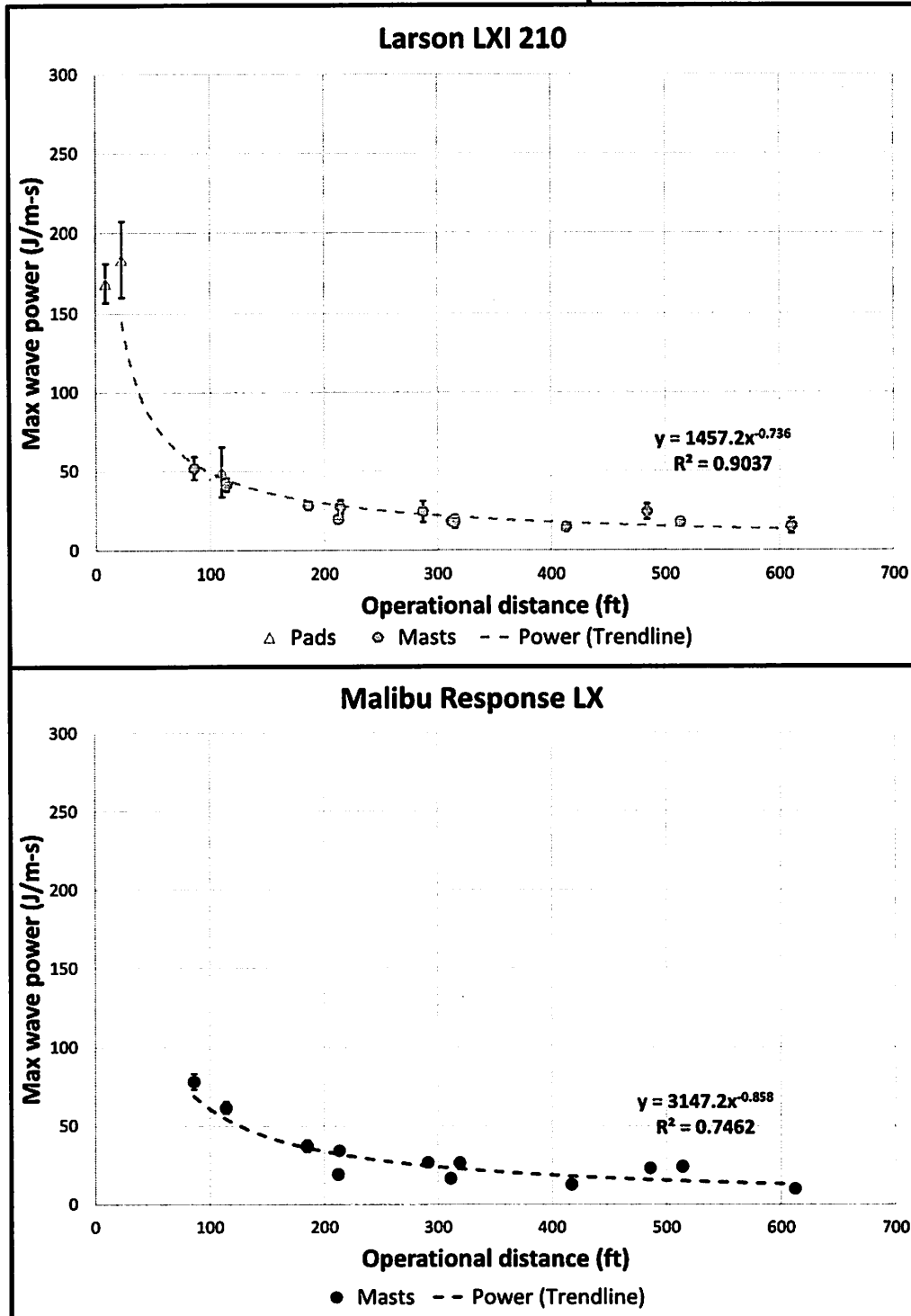


Figure 28. Maximum wave power as a function of operational distance for the two non-wakesurf boats tested under Condition 2. There are no data for the Pads for the Malibu Response LX due to technical issues with the ADCP on test day. Data points less than one boat length from the track line were not included in the regression analysis.

Condition 2 - Maximum Wave Power (wakesurf boats)

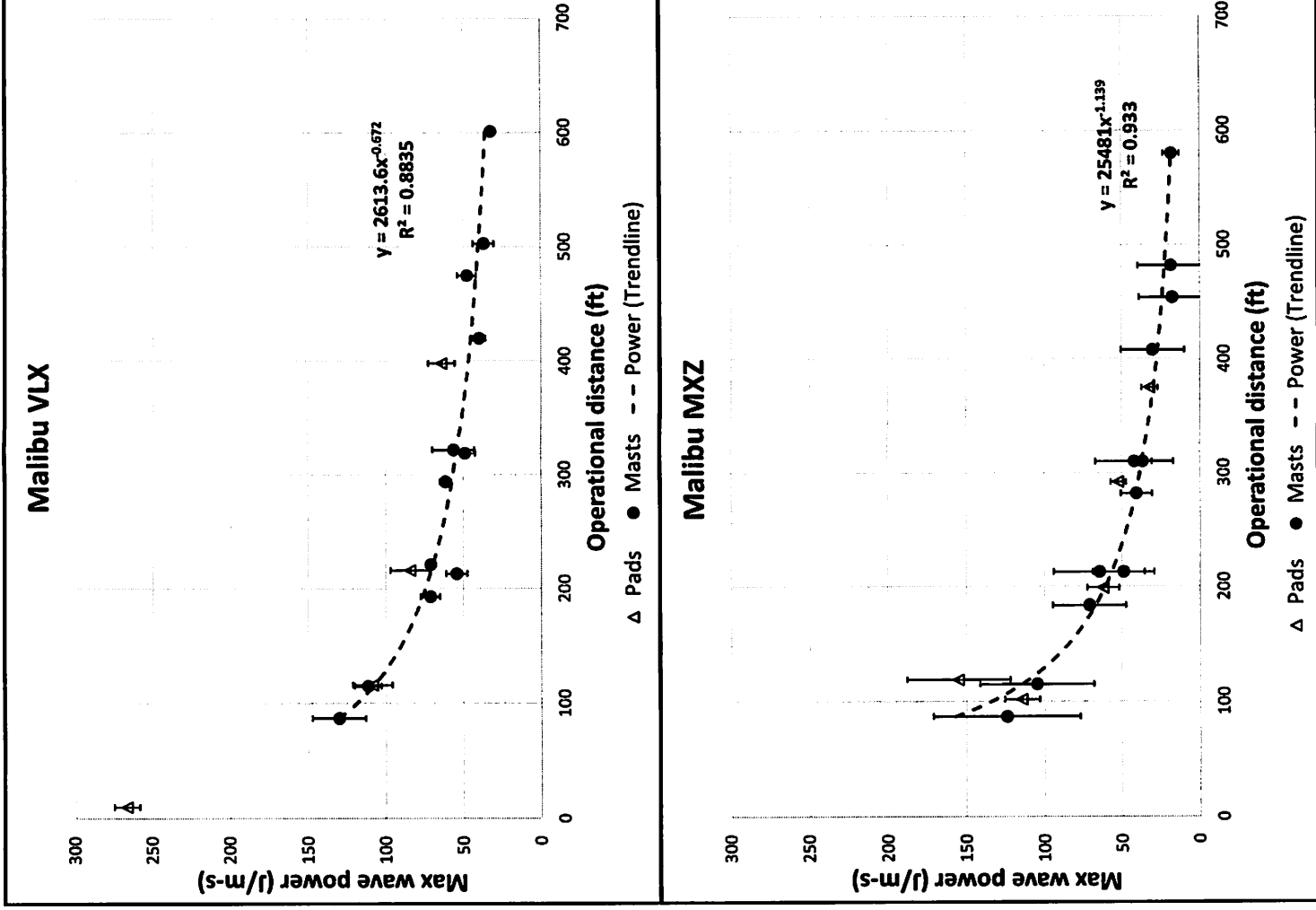


Figure 29. Maximum wave power as a function of operational distance for the two wakesurf boats tested under Condition 2. The Pad data at distances less than 100 ft for the Malibu MXZ were noisy and thus eliminated from this analysis. Data points less than one boat length from the track line were not included in the regression analysis.

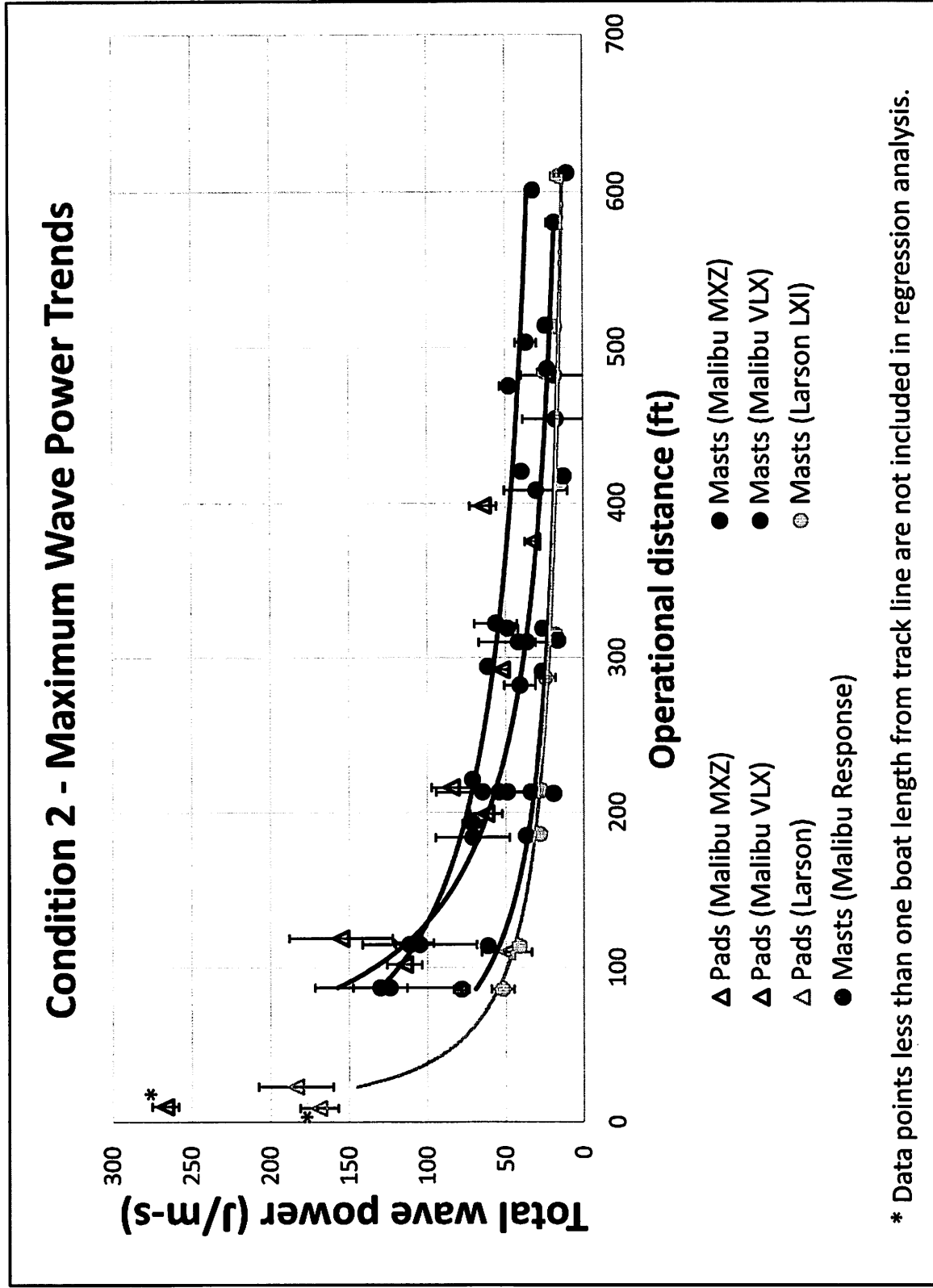


Figure 30. Condition 2 trendlines for the four test boats showing maximum wave power over operational distance.

5.3 Condition 1a (ballasts full) versus Condition 1b (ballasts empty)

Condition 1a for the Malibu VLX and Malibu MZX included operating with the ballast tanks completely full (results in Section 5.1). For Condition 1b, all variables remained the same except the ballast tanks were completely empty (Section 3.6.3, Table 3). Removing just the ballast water variable allowed for the comparison of its effects on measured wake wave characteristics (i.e., maximum wave height, total wave energy, and maximum wave power).

5.3.1 Malibu VLX

Overall, Condition 1a results (i.e., ballasts full) are very similar to Condition 1b results (i.e., ballasts empty) when maximum wave height, total wave energy, and maximum wave power are compared (Figures 31, 32 and 33). In the first 100 ft of operational distance, there appears to be an influence of the ballast weight on the measured wake wave characteristics. At a distance of 5 ft, the initial maximum wave heights were 34 in for ballasts full and 27 in for ballasts empty. However, by 100 ft the maximum wave height of both conditions had attenuated to approximately 14 in. At operational distances greater than 100 ft, the attenuating rates were very similar and had decreased to roughly 6 in by 600 ft. At an operational distance of 5 ft, the initial total wave energy was 12,200 J/m when the ballasts were full and 10,000 J/m when the ballasts were empty, however, it should be noted that the standard deviations for these data points were quite large. Again, by 100 ft of distance, the total wave energy of both conditions had attenuated to nearly identical values of approximately 3,900 J/m. Beyond this distance, the total wave energy continued to be very similar and eventually decreased to roughly 1,900 J/m at 600 ft. Finally, at 5 ft of operational distance, the initial maximum power was almost 2,000 J/m-s and 1,600 J/m-s for ballasts full and ballasts empty, respectively. Again, like initial total wave energy, the standard deviations for these data points were quite large. The maximum wave power for both conditions had attenuated to near identical values of roughly 250 J/m-s by 100 ft, and continued to attenuate to roughly 50 J/m-s at 600 ft.

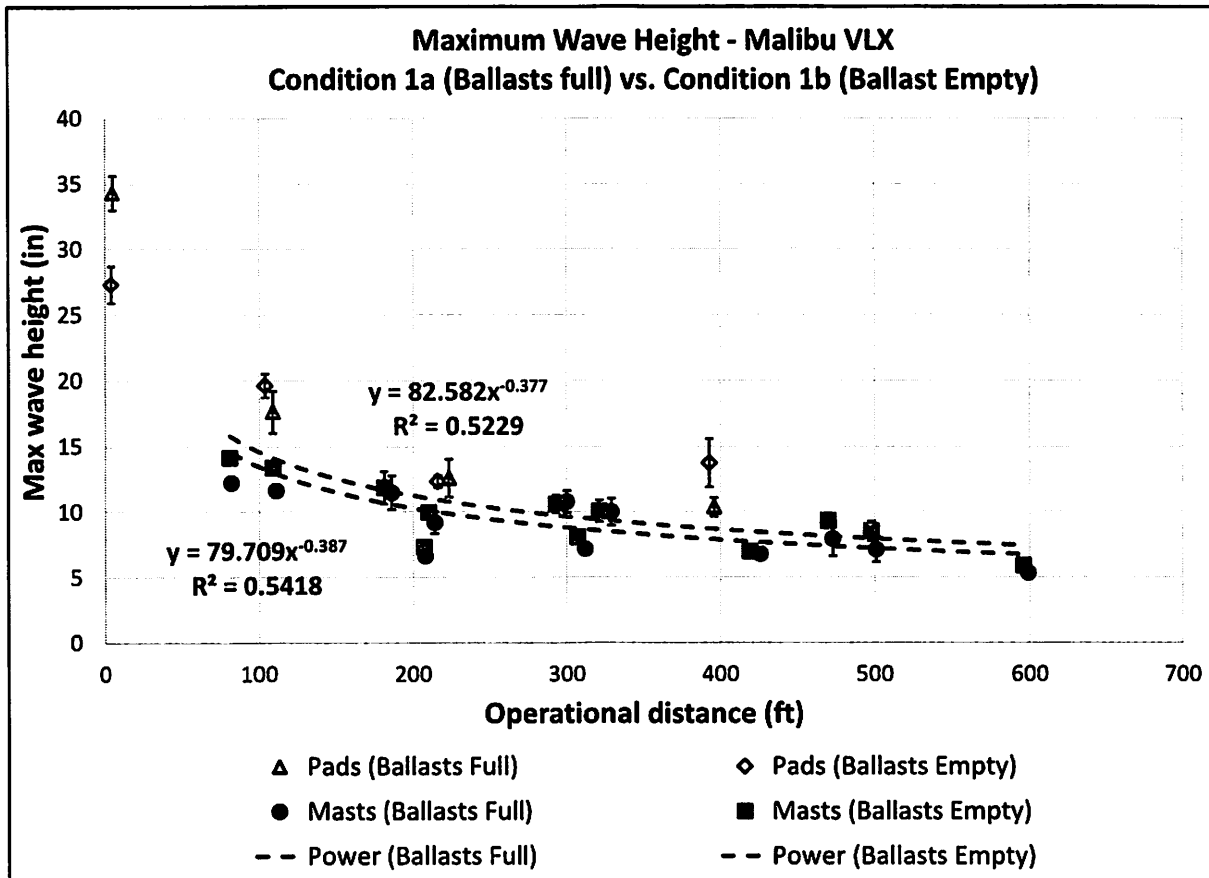


Figure 31. Comparison of the maximum wave height of the Malibu VLX when the ballast tanks were full and empty. Data points less than one boat length from the track line were not included in the regression analysis.

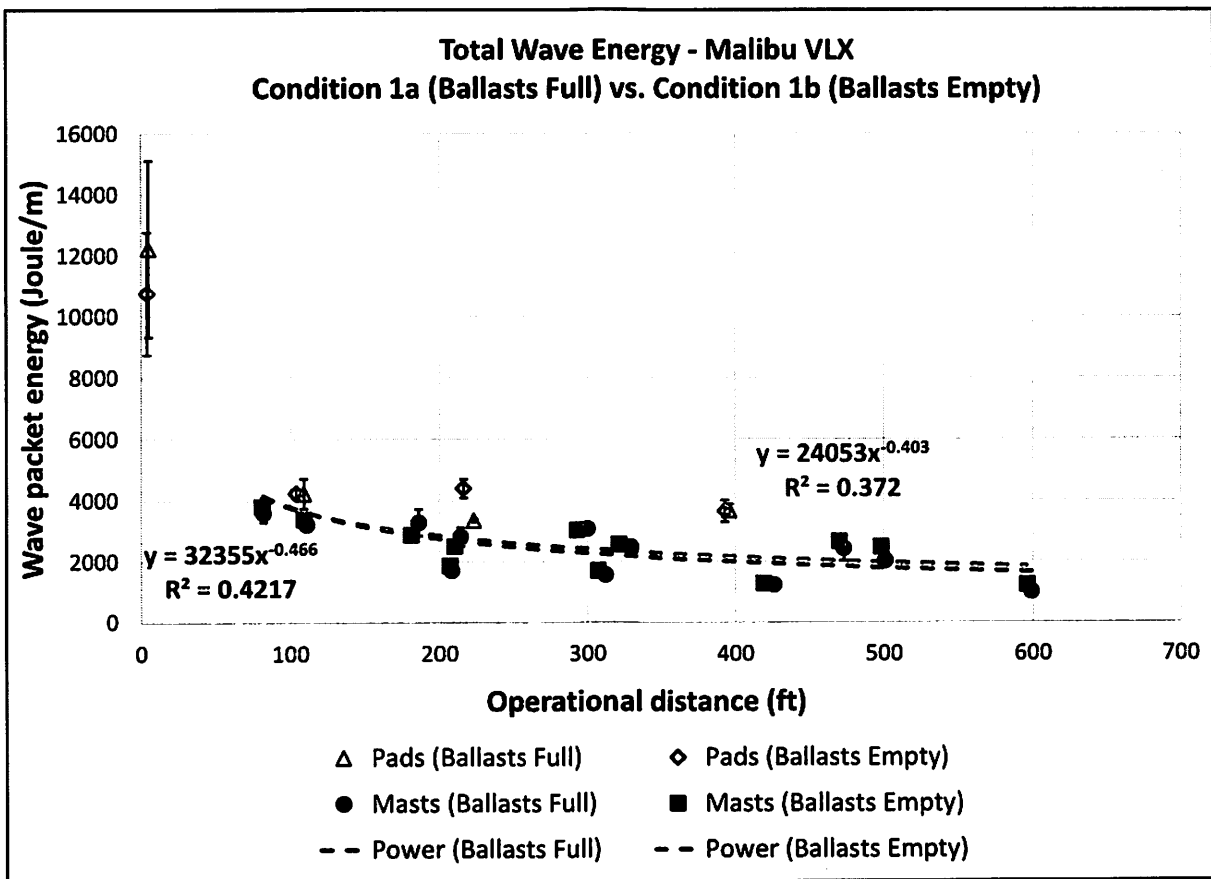


Figure 32. Comparison of the total wave energy of the Malibu VLX when the ballast tanks were full and empty. Data points less than one boat length from the track line were not included in the regression analysis.

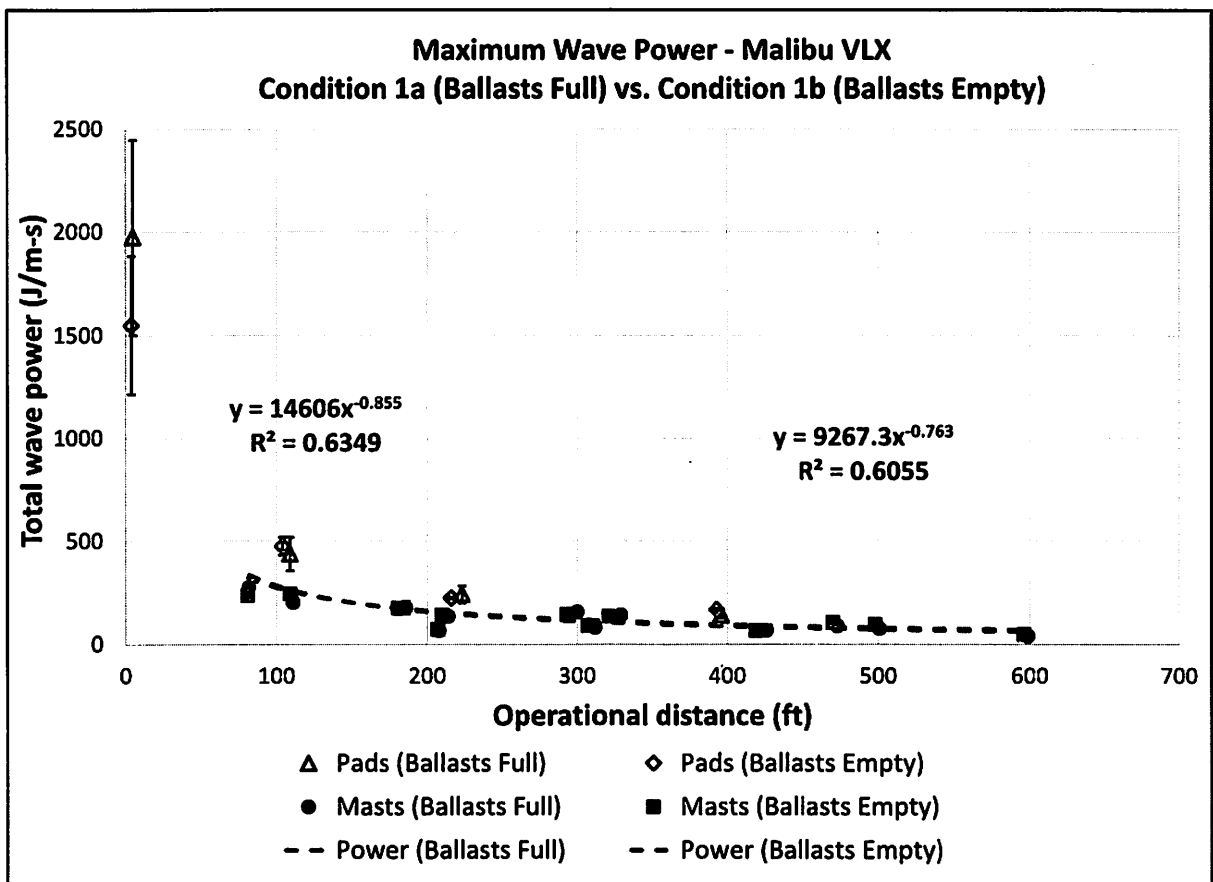


Figure 33. Comparison of the maximum wave power of the Malibu VLX when the ballast tanks were full and empty. Data points less than one boat length from the track line were not included in the regression analysis.

5.3.2 Malibu MXZ

Like the Malibu VLX, the Malibu MXZ has very similar results when Condition 1a (ballasts full) was compared to Condition 1b (ballasts empty) (Figures 34, 35 and 36). The data suggest there is an influence on the initial maximum wave height when the ballast tanks were full. At an operation distance of 5 ft, the initial maximum wave height was 39 in with the ballasts full and 31 in with the ballasts empty. However, the data and best-fit trendlines are nearly identical along the entire operational distance. By 590 ft the maximum wave heights attenuated to roughly 8 in. The total wave energy averaged roughly 1,000 J/m higher in the first 200 ft when the ballast tanks were full versus when they were empty. Between 200-400 ft, the influence of the ballast water could still be seen, however, the difference was less than ~500 J/m. After 400 ft, there was no discernable difference in total wave energy. Considering maximum wave power, the initial maximum measured at an operational distance of 5 ft was almost 2,400 J/m-s when the ballast tanks were full, and 1,900 J/m-s when the ballast tanks were empty. However, the standard deviations for these data points were quite large. By 100 ft the maximum wave power was approximately 500 J/m-s and this continued attenuating to about 40 J/m-s by 580 ft for both conditions.

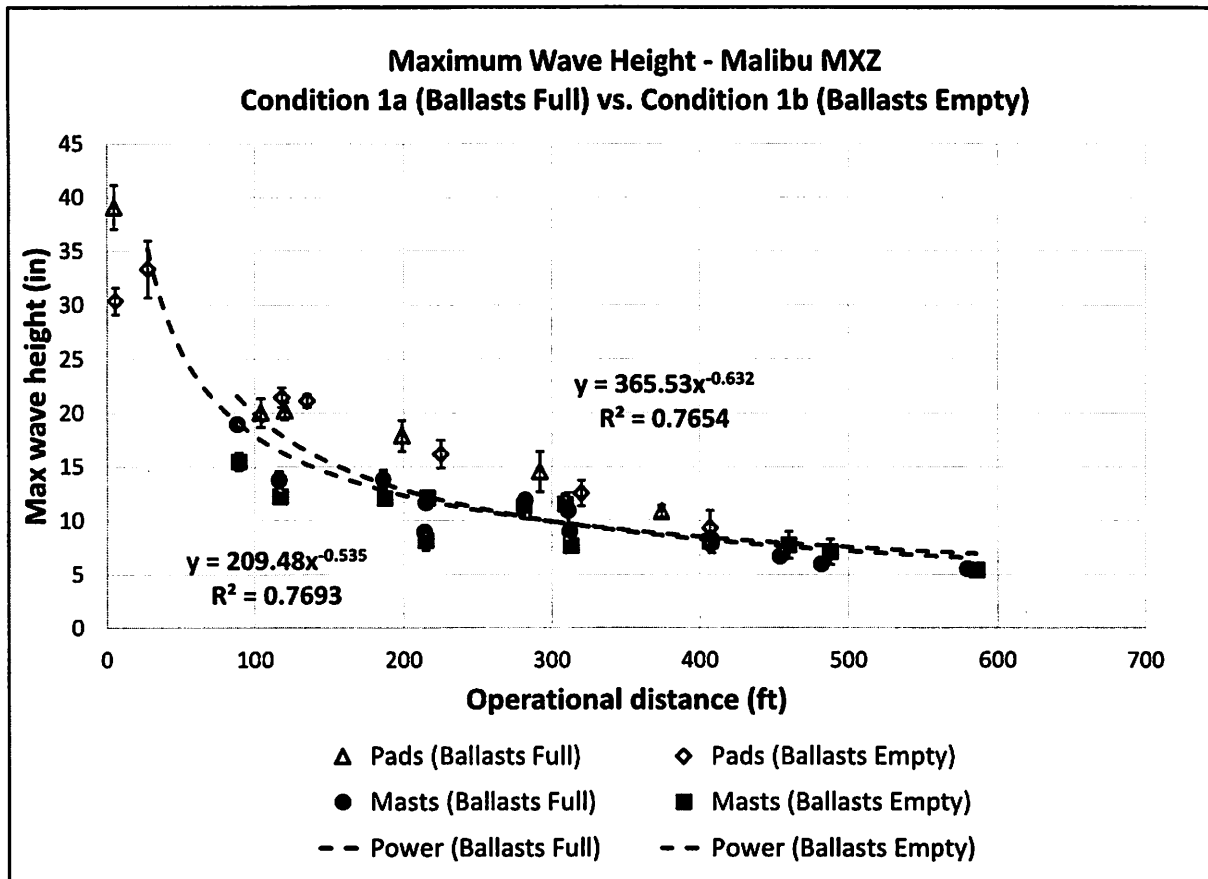


Figure 34. Comparison of the maximum wave height of the Malibu MXZ when the ballast tanks were full and empty. Data points less than one boat length from the track line were not included in the regression analysis.

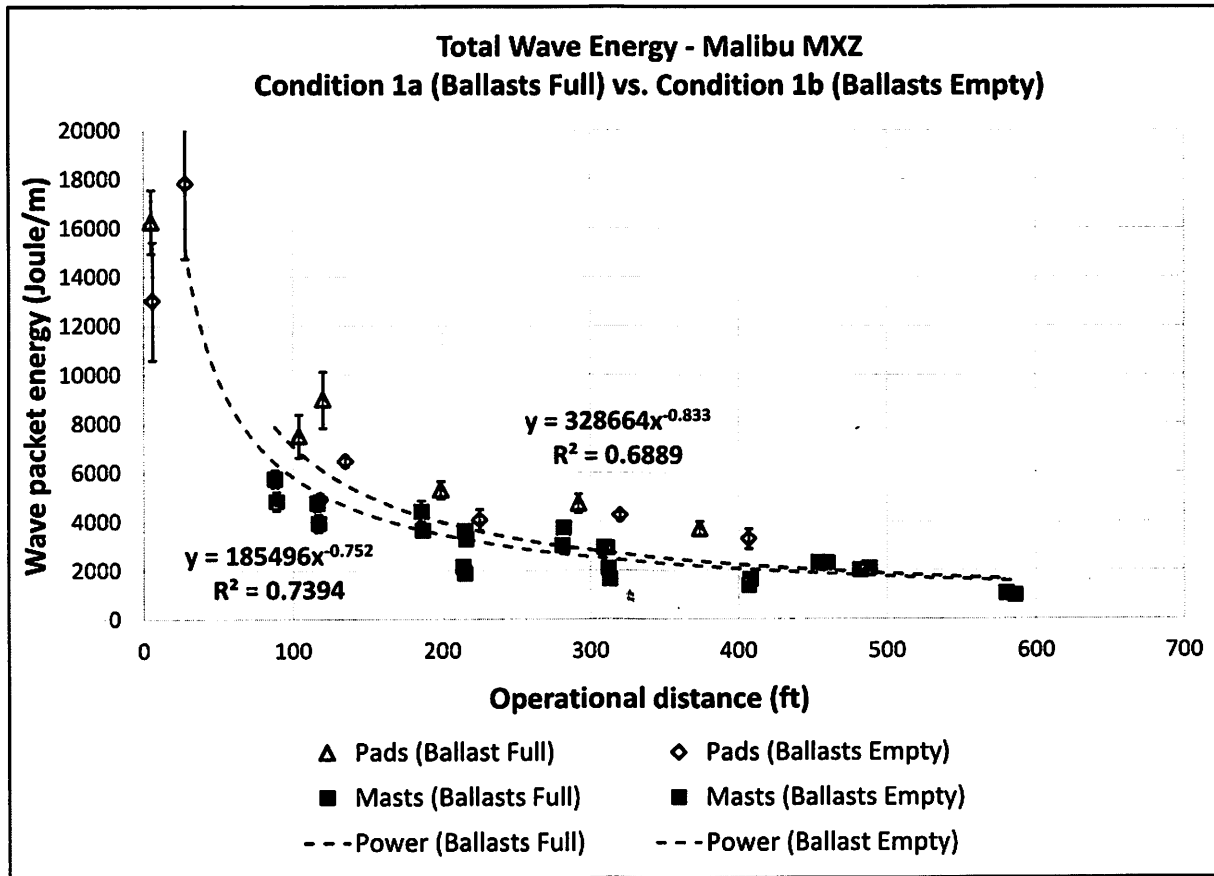


Figure 35. Comparison of the total wave energy of the Malibu MXZ when the ballast tanks were full and empty. Data points less than one boat length from the track line were not included in the regression analysis.

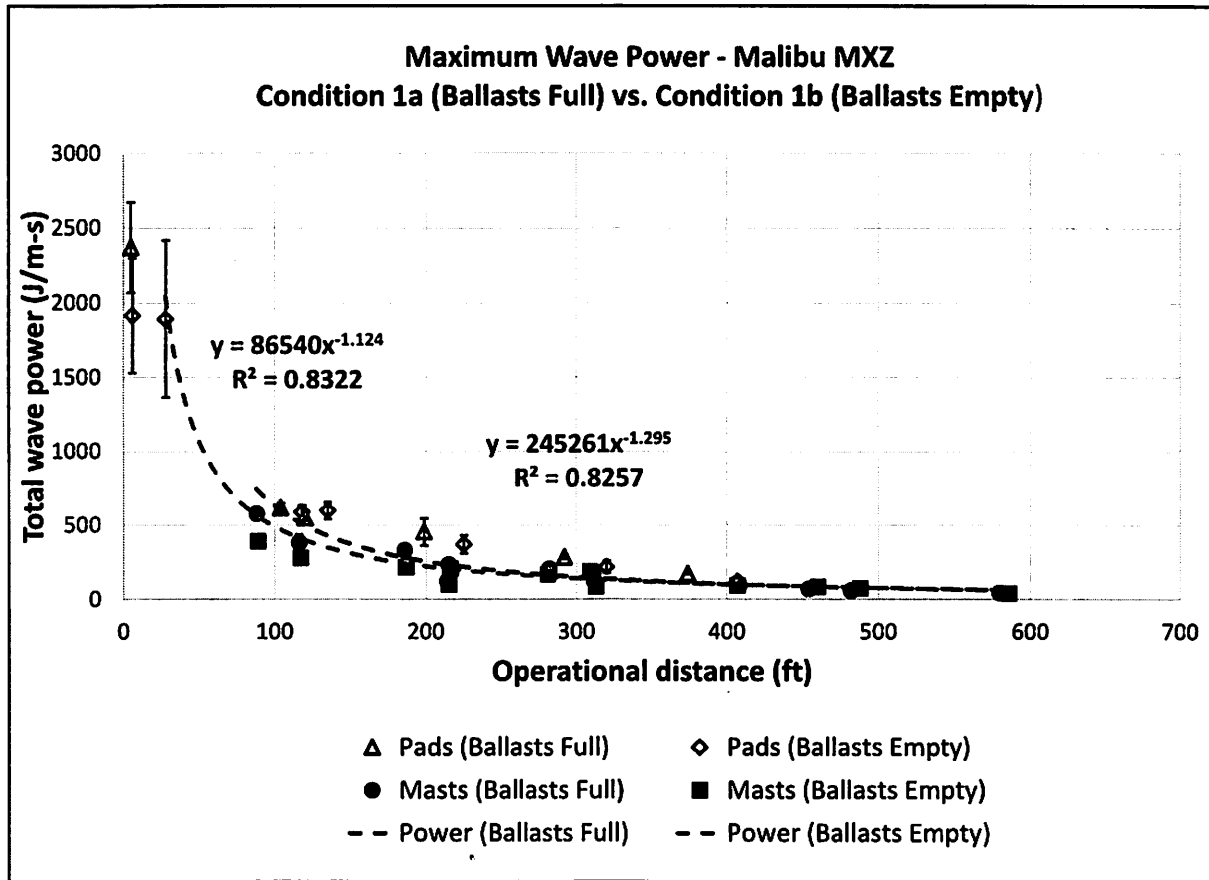


Figure 36. Comparison of the maximum wave power of the Malibu MXZ when the ballast tanks were full and empty. Data points less than one boat length from the track line were not included in the regression analysis.

5.4 Condition 1a (wake shaper on) versus Condition 1b (wake shaper off)

Condition 1a for the Malibu Response LX included an aftermarket wake shaper that was mounted just beneath the water surface on the port quarter of the hull (Section 3.6.2, Table 3). The wake shaper was removed from the boat during Condition 1b, while all other variables remained the same (Section 3.6.2, Table 3), allowing for the comparison of its influence on measured wake wave characteristics (Figures 37, 38 and 39).

The maximum wave height attenuation rates were similar for both conditions. However, the addition of the wake shaper resulted in a maximum wave height that was on the order of two inches higher over the entire operational distance. Just prior to 100 ft, the presence of the wake shaper created a maximum wave height of 12 in that attenuated to roughly 5 in after 600 ft. With the wake shaper removed, the maximum wave height was 10 in just prior 100 ft, and decreased to roughly 4 in after 600 ft. Like maximum wave height, the total wave energy attenuation rates were very similar between conditions. With the wake shaper attached, the total wave energy recorded over the entire operational distance was higher by roughly 200-500 J/m. The total wave energy was 2,300 J/m just prior to 100 ft and attenuated to approximately 650 J/m after 600 ft. With the wake shaper removed, the total wave energy was 1,900 J/m just prior to 100 ft, and by 600 ft it had decreased to roughly 430 J/m. Finally, attenuation rates for both conditions were nearly identical for maximum wave power. There was an increase in maximum wave power of around 20-40 J/m-s with the wake shaper attached. Just prior to 100 ft of operational distance, the maximum wave power was about 200 J/m-s, that attenuated to approximately 30 J/m-s at 600 ft. Without the wake shaper, the maximum wave power just prior to 100 ft was 160 J/m-s, which decreased to 10 J/m-s by 600ft.

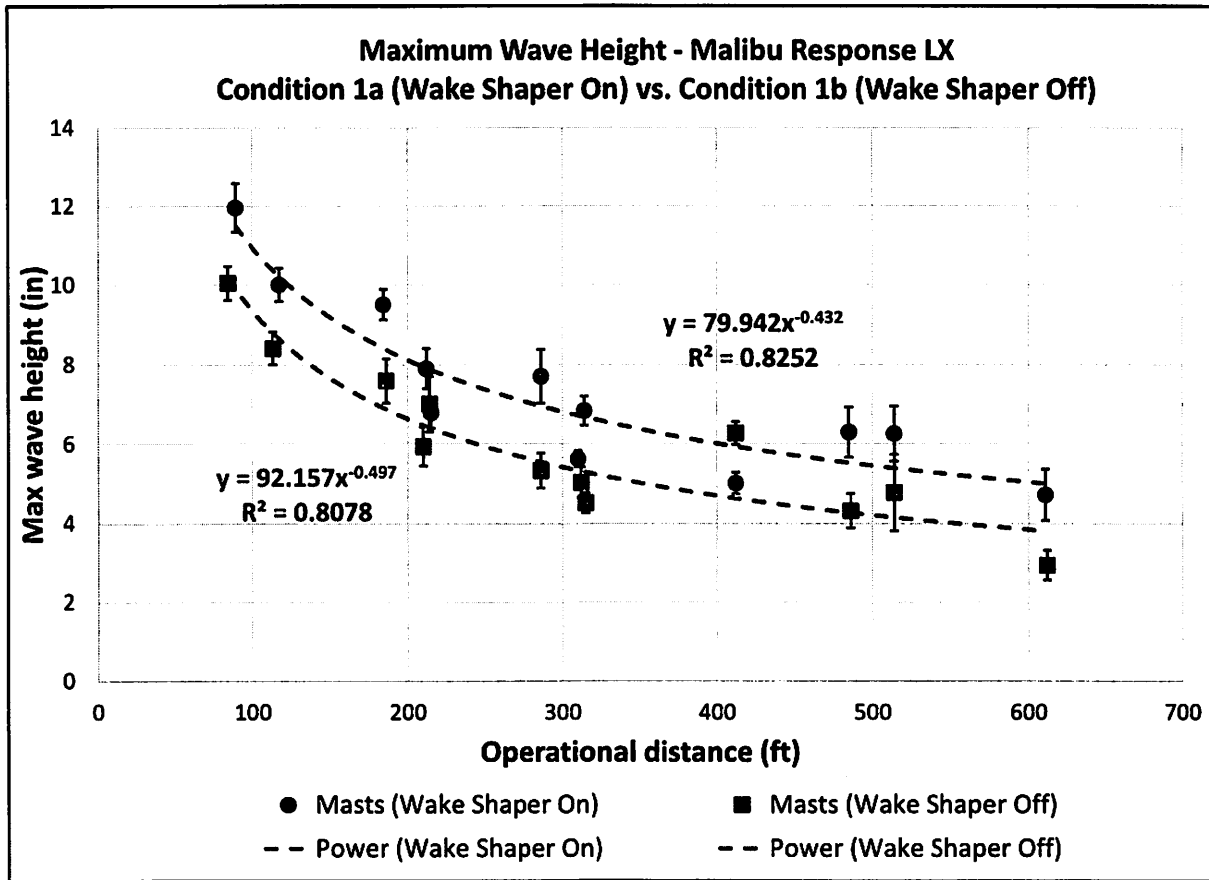


Figure 37. Comparison of the maximum wave height of the Malibu Response LX when the wake shaper was on and off. There are no data for the Pads for the Malibu Response LX due to technical issues with the ADCP on test day.

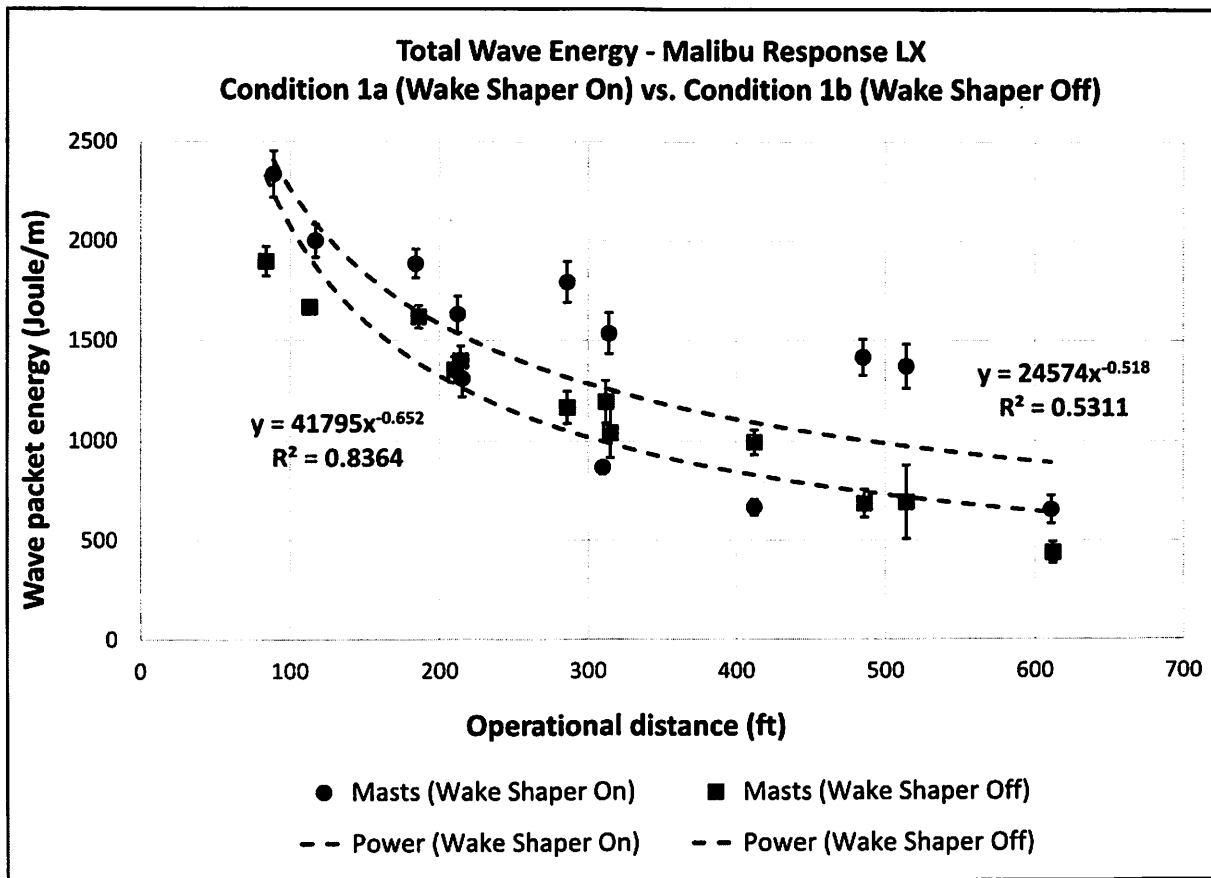


Figure 38. Comparison of the total wave energy of the Malibu Response LX when the wake shaper was on and off. There are no data for the Pads for the Malibu Response LX due to technical issues with the ADCP on test day.

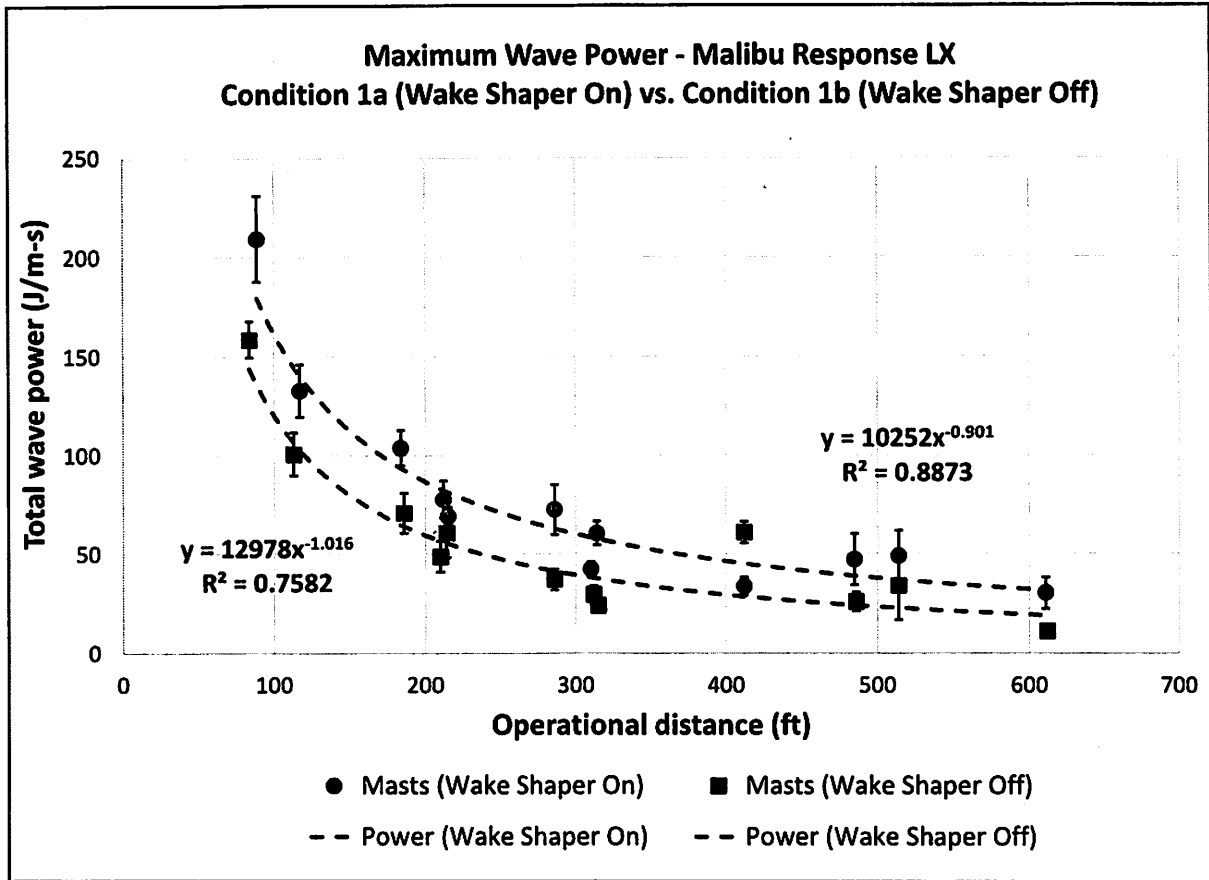


Figure 39. Comparison of the maximum wave power of the Malibu Response LX when the wake shaper was on and off. There are no data for the Pads for the Malibu Response LX due to technical issues with the ADCP on test day.

6.0 DISCUSSION

This section provides a discussion of the key observations and findings made in this study. We also provide guidance on how the information can be used by stakeholders in shaping future research efforts, managing lake and river resources, and providing education for boat operators. Finally, we end this section with a description of priority research needs related to boat-generated wake waves and their impacts.

6.1 Summary of observations

6.1.1 The maximum wave height, total wave energy, and maximum wave power produced by the four test boats were different between operational Condition 1a and Condition 2

The Larson LXI 210 is an all-purpose recreational boat that is typically operated at higher speeds where the boat is planing on the water surface. Typical usages include cruising or tow sports like tubing, waterskiing, and wakeboarding. Similarly, the Malibu Response LX is a recreational boat with a specialized design (e.g., D-Drive) for waterskiing and other tow sports that are performed at higher planing speeds. Figure 40 shows data for the Larson LXI 210 and Malibu Response LX comparing the total wave energy produced by Condition 1a (largest possible wake) and Condition 2 (planing). The data show a higher total wave energy under Condition 1a, which was also true for maximum wave height and maximum wave power. Although the Malibu Wakesetters can be operated on-plane for the same aforementioned tow sports, they are designed primarily to be operated at slow speeds that maximize water displacement and produce large wakes suitable for wakesurfing. Figure 41 shows the same data collected for the Malibu VLX and Malibu MXZ under Conditions 1a (wakesurfing) and Condition 2 (planing). Both boats showed significantly larger changes in total wave energy levels between Condition 1a and Condition 2. Again, the same trend was true for maximum wave height and power.

Total Wave Energy – Condition 1a vs. Condition 2

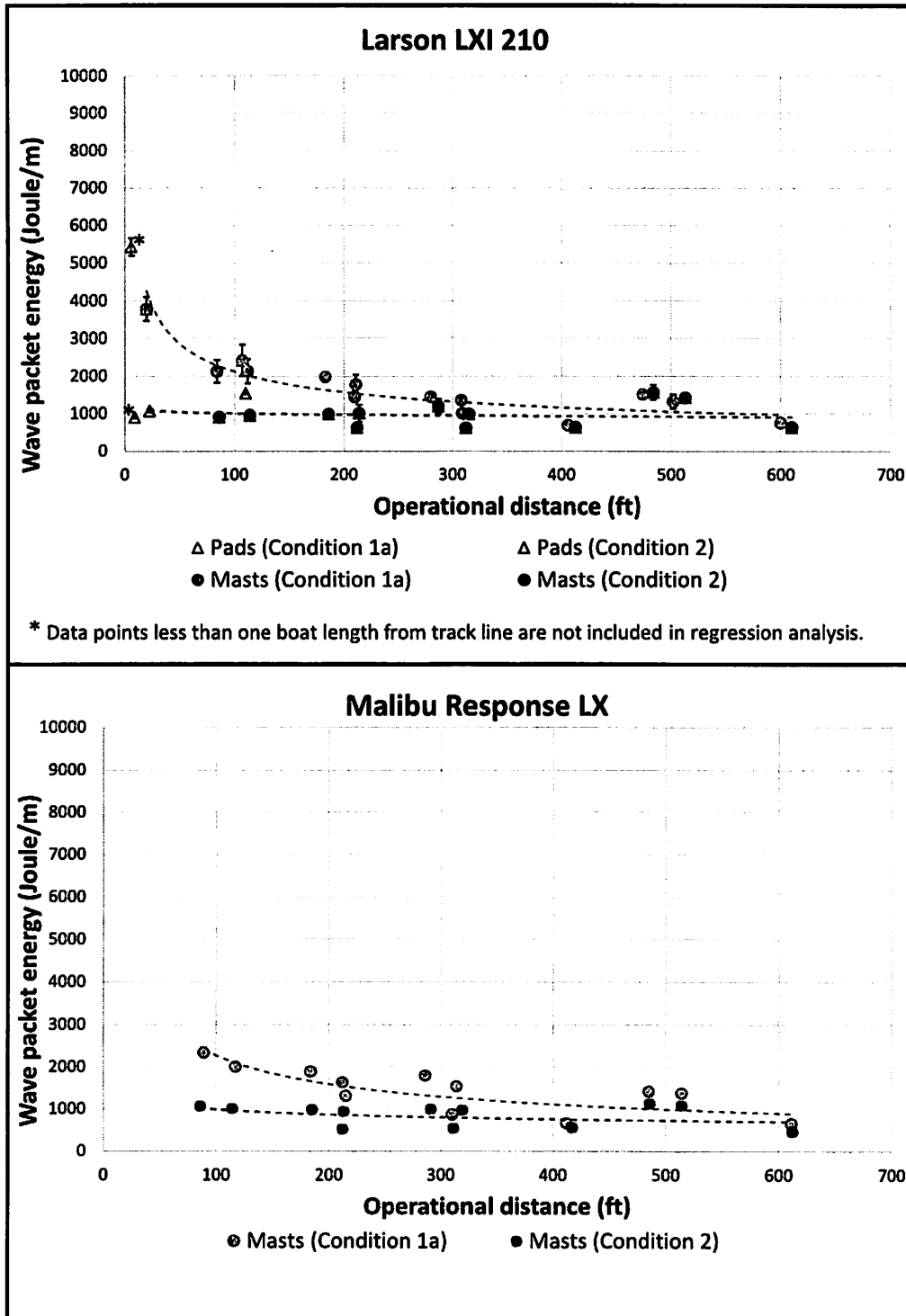


Figure 40. Comparisons of the total wave energy for the Larson LXI 210, Malibu Response LX Condition 1a (largest wave/surfing) and Condition 2 (planing). There are no data for the Pads for the Malibu Response LX due to technical issues with the ADCP on test day. Note the maximum y-axis value is 10,000 J/m.

Total Wave Energy – Condition 1a vs. Condition 2

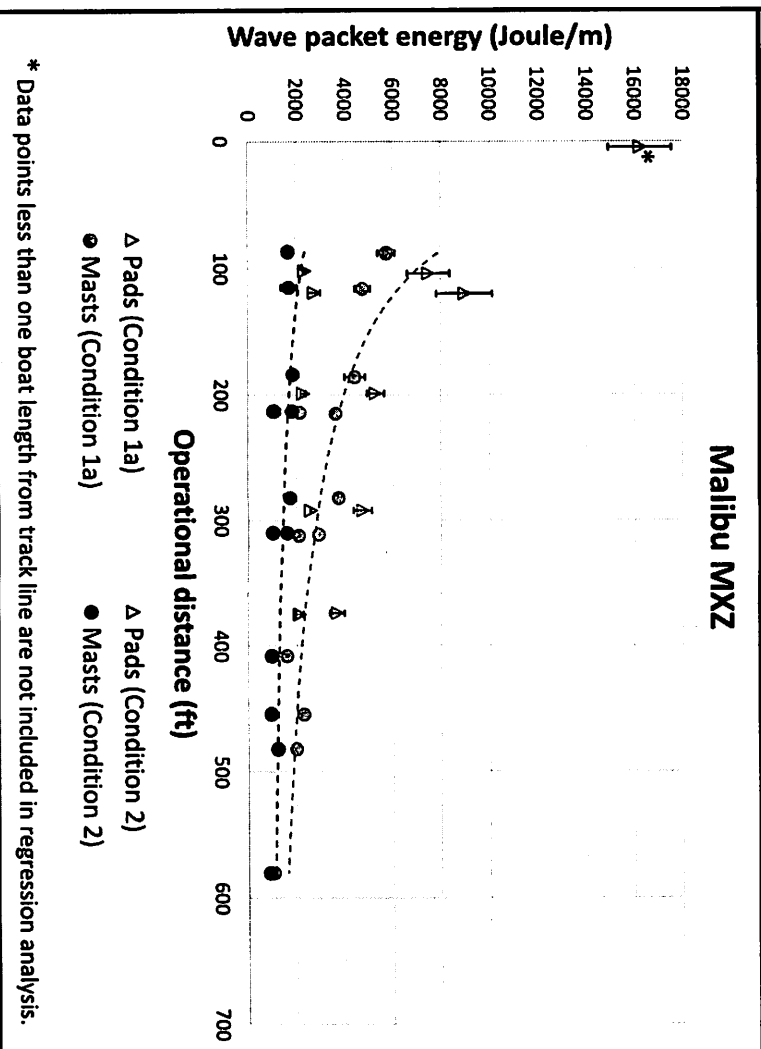
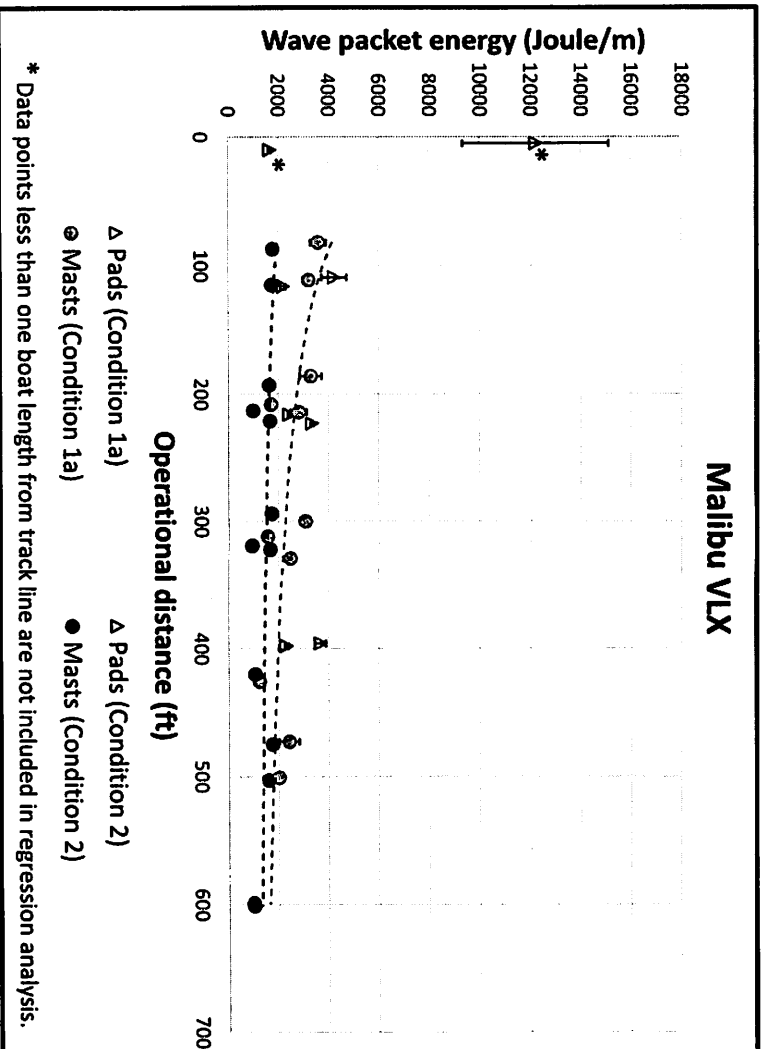


Figure 41. Comparisons of the total wave energy for the Malibu VLX, and Malibu MXZ Condition 1a (wakesurfing) and Condition 2 (planing). Note the maximum y-axis value is 18,000 J/m.

6.1.2 When operated under their most typical operating conditions, wakesurf boats were capable of producing larger wake waves that contain more energy and power than non-wakesurf boats

During boating water sports, the Larson LXI 210 and Malibu Response LX are typically operated in a planing mode (Condition 2), while the wakesurf boats studied here are engineered to operate, amongst other configurations, at Condition 1a. This is the condition associated with the sport of wakesurfing and it is safe to assume that this is the most common operational condition for these boats. Therefore, a useful comparison to consider is the maximum wave height, total wave energy, and maximum wave power under the conditions that are most common for the boat's operation (Figures 42, 43 and 44).

Under this comparison, the two wakesurf boats produced substantially higher (~2-3 times) maximum wave heights than the non-wakesurf boats at 100 ft and ~2 times higher after 600 ft. The wakesurf boats had maximum wave heights between 12-20 in at 100 ft of operational distance, that attenuated to 5-7 in around 600 ft. Maximum wave heights for non-wakesurf boats decreased from 7-9 in at 100 ft of distance to 4 in or less at 600 ft. Total wave energy showed a similar pattern, with the two wakesurf boats producing ~3 to 9 times more energy than the non-wakesurf boats after 100 ft of operational distance and ~3 times at 500 ft. At roughly 100 ft of operational distance, the wakesurf boats had total wave energies that ranged between 3,200-9,000 J/m, which attenuated to ~2,000 J/m by 450-550 ft. Both non-wakesurf boats had initial total energy levels of roughly 1,000 J/m with minimal attenuation over 600 ft of distance. Maximum power for the non-wakesurf boats was 50 J/m-s at 100 ft and attenuated to around 10 J/m-s at 600 ft of operational distance. The wakesurf boats had measured maximum powers that ranged from 280 to 620 J/m-s at 100 ft (~6 to 12 times more power) and attenuated to 40 J/m-s at 600 ft (4 times more power).

While Figures 42, 43 and 44 focus on assumed typical operations, it is important to note that wakesurf boats are multipurpose boats designed to also operate at Condition 2 where they can be used for cruising and other recreational tow sports. Similarly, with the addition of wake manipulating technology (e.g., hydrofoil and wake shaper), non-wakesurf boats like the Malibu Response LX can be operated as a wakesurf boat (i.e., Condition 1a). Finally, it is technically

possible for the Larson LXI 210 to be operated in Condition 1a for long periods of time, however, it is our experience that boats of this type spend very little time in this condition; normally they would transition quickly through Condition 1a as they accelerate to planing operation.

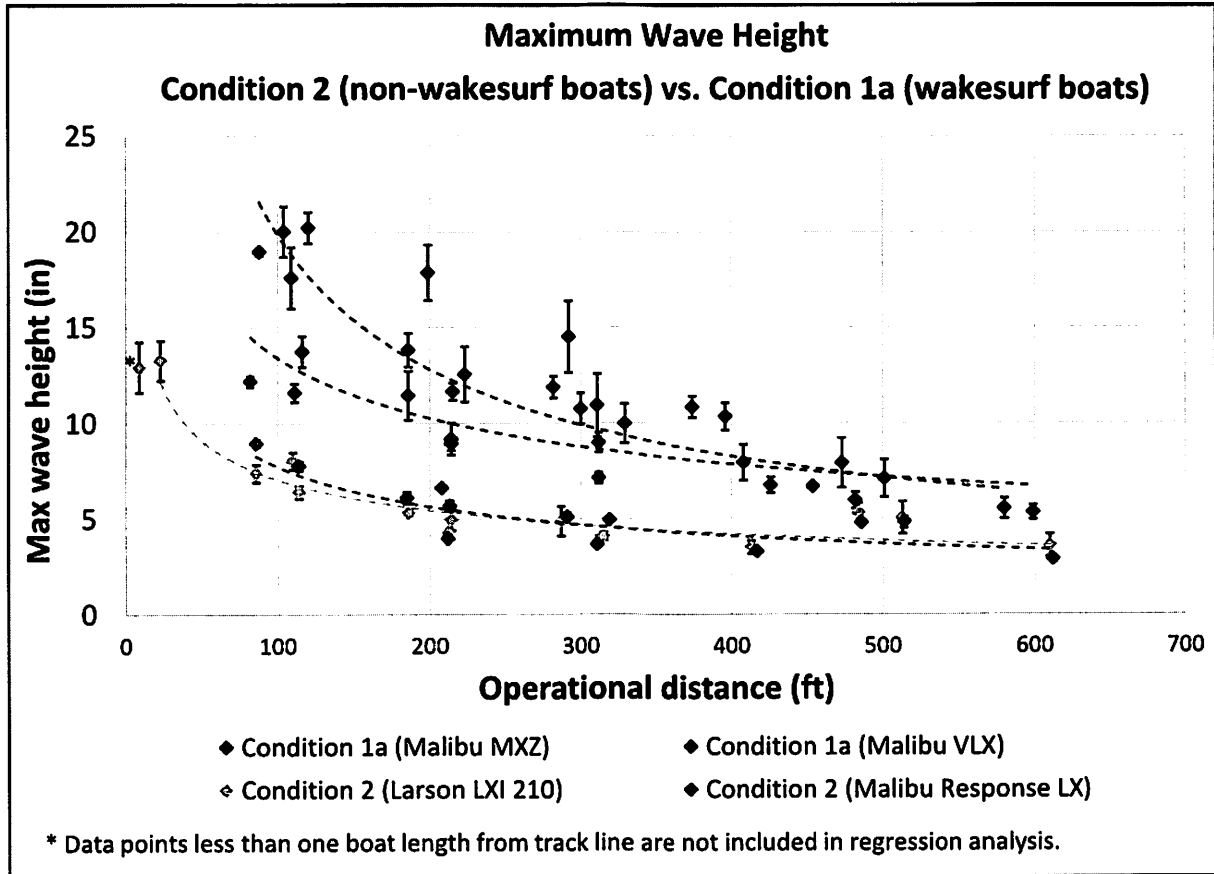


Figure 42. Comparison of maximum wave height of the test boats under their typical operational conditions.

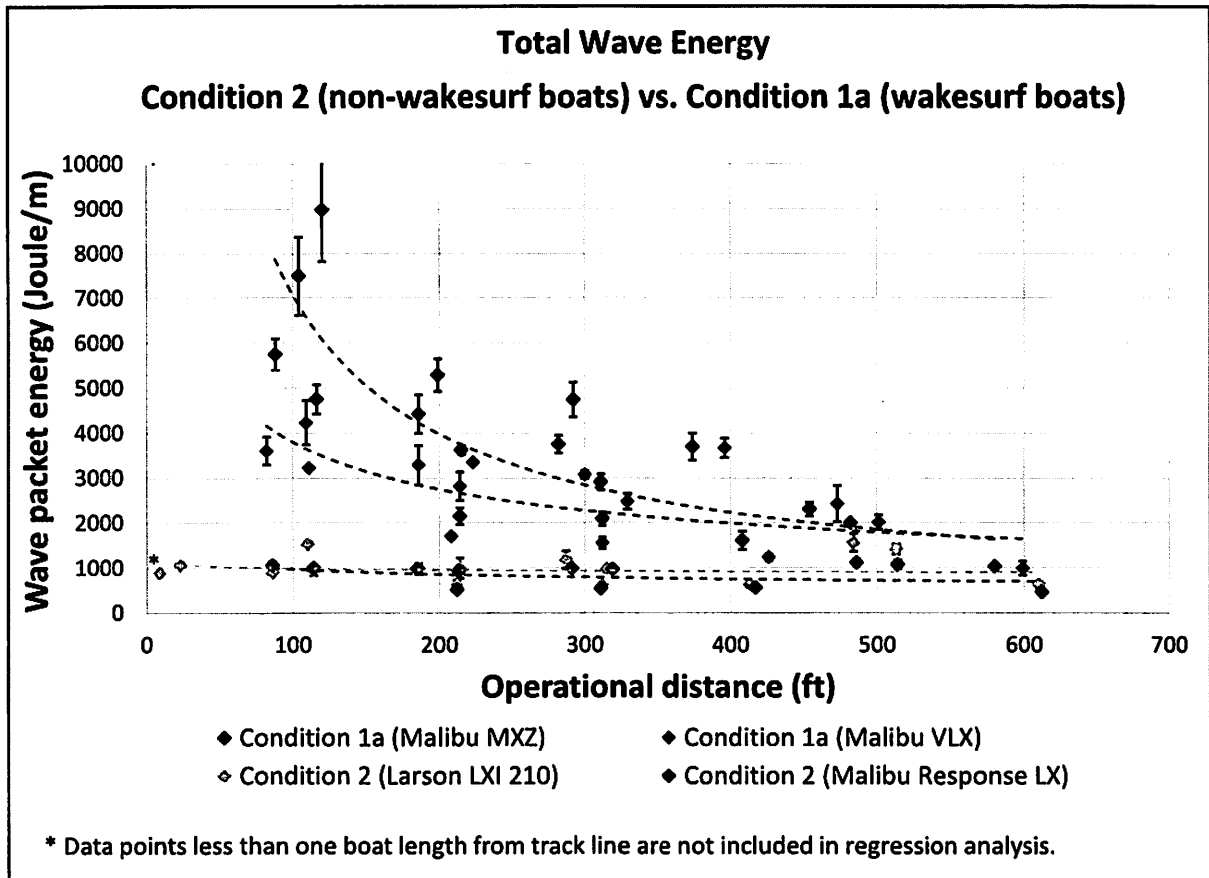


Figure 43. Comparison of total wave energy of the test boats under their typical operational conditions.

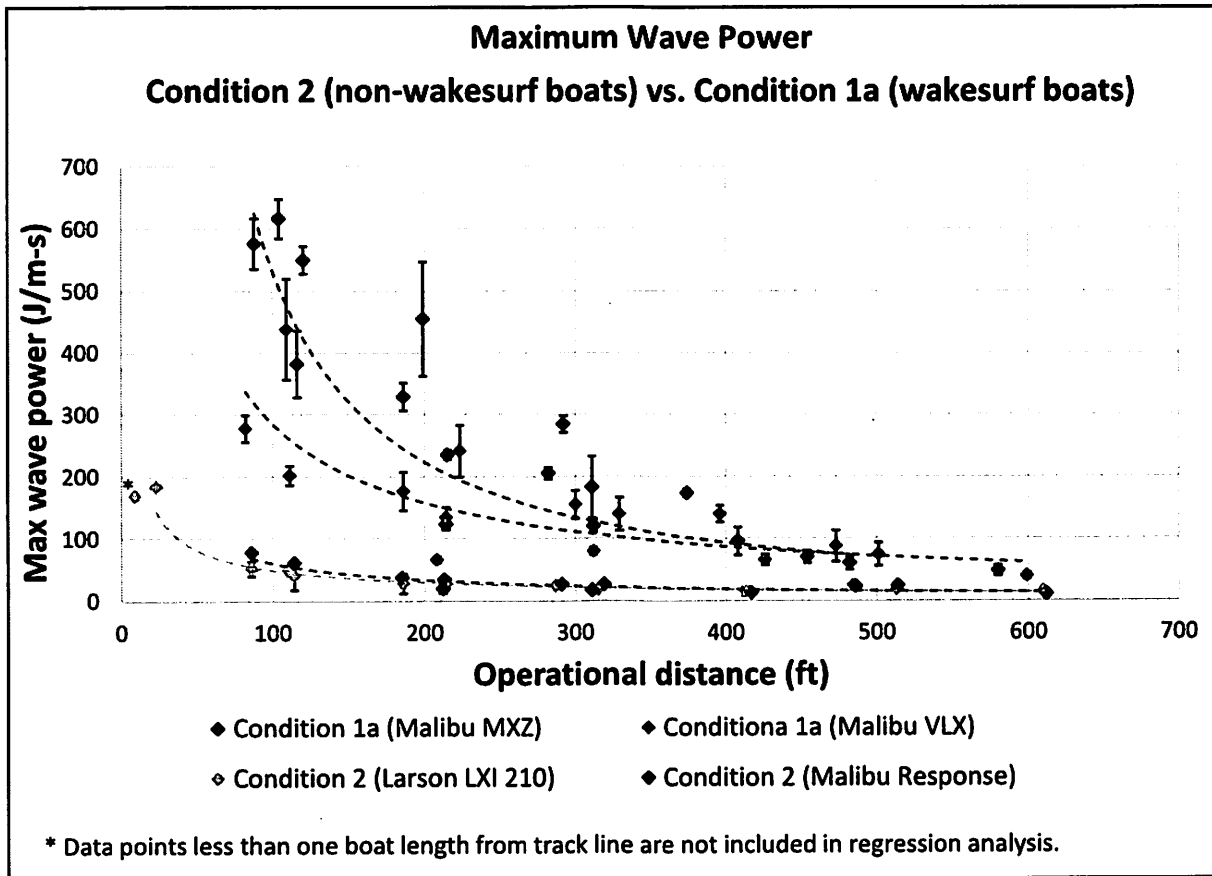


Figure 44. Comparison of maximum wave power of the test boats under their typical operational conditions.

6.1.3 Full ballast tanks had a minor impact on the wake wave characteristics of the Malibu Wakesetters at distances greater than 100 ft from the boat

An unexpected finding was the relatively small influence the added weight of the ballast water had on the maximum wave height, total wave energy, and maximum wave power for the Malibu Wakesetters. As shown in Table 2, completely full ballast tanks increased the total boat weight by 3,690 lbs (47% increase) and 4,885 lbs (47% increase) for the VLX and MXZ, respectively. Our expectation was that the increased water weight, and thus greater hull submergence equating to more water being displaced, would result in an increase in the magnitude of the measured wake wave characteristics over the entire operational distance. Although there were increases in the maximum wave height, total wave energy, and maximum wave power in the first 100 ft of operational distance for both boats when the ballast tanks were full, the differences quickly decreased with distance and were no longer discernible after approximately 200 ft (Figures 31-36). This observation motivates further investigations.

6.1.4 Addition of the aftermarket wake shaper to the Malibu Response LX resulted in larger maximum wave heights, increased total wave energy, and greater maximum wave power

The wake shaper attached to the Malibu Response LX altered the wake by creating an asymmetric wake that increased the measured maximum wave height, energy, and power. When compared to the Malibu Wakesetters, the wake wave characteristics were smaller (Figures 15, 18, and 21). Interestingly, when considering the Malibu Response LX individually, the aftermarket wake shaper resulted in notable increases in the wake wave characteristics, not only near the boat (i.e., first 100 ft), but at all operational distances (Figures 37, 38, and 39). This observation, along with those discussed in Section 6.1.3, suggest the wake shaper may have more influence on the measured wave characteristics than the addition of ballast water at greater operational distances. Nevertheless, the implications are that aftermarket products can effectively modify the wave characteristics of recreational boats.

6.1.5 A potential method for establishing guidance for boat operational distances based on measured wake wave characteristics (height, energy, power)

We conducted a review of the relevant laws, regulations, and recommendations for the state of Minnesota and the surrounding upper Midwest states regarding the operational distances that

boats have to maintain between other watercrafts, shorelines, docks, etc. No consistent guidance has been adopted by these states (Table 4). Operational distances range between 100 ft and 300 ft, vary in the type of specification, and pertain to all types of motorboats. In Minnesota, for example, there is presently no law that prescribes an operational distance between boats, shorelines, docks, other watercraft, etc., rather there is a recommended distance of 200 ft. Iowa, Michigan, North Dakota, and Wisconsin have developed laws stating specific distances of 300 ft, 100 ft, and 100 ft, respectively. We could not locate operational distance criteria for South Dakota.

The data produced in this study can be used to inform boat operational distances necessary to attenuate maximum wave height, total wave energy, and maximum wave power to levels deemed acceptable. To illustrate this approach, we provide two examples below. In both examples, we select the Minnesota recommendation of 200 ft as the reference operational distance (Table 4). In principle, the point at which the various wake wave characteristic data cross a selected reference distance, defines the recommended threshold criteria for that characteristic.

In the first example (Figures 45, 46 and 47), we reference Figures 42, 43, and 44 from Section 6.1.2, where the boats were compared under their typical operational conditions: Condition 2 (planing) for the non-wakesurf boats and Condition 1a (wakesurfing) for the wakesurf boats (Section 3.6, Table 3). Because Condition 2 for the non-wakesurf boats are typical recreational operating conditions seen on Minnesota inland lakes, it was used as the reference condition. Moreover, the non-wakesurf boats produced the lowest overall values of wave height, energy, and power and were nearly identical to one another after 200 ft of distance. The results in Figures 45, 46 and 47 suggest, based on both the actual data points and best-fit power law regressions, that operational distances greater than 500 ft are needed to attenuate the wake wave characteristics of the wakesurf boats to the selected reference condition levels, which were roughly 6 in, 1,000 J/m, and 35 J/m-s for maximum wave height, total wave energy, and maximum wave power, respectively.

In the second example, (Figures 48, 49 and 50), we reference Figures 15, 18, and 21 from Section 5.0, where all boats were compared under Condition 1a (i.e., largest wave/surfing). Again, the non-wakesurf boats are the reference. The results in Figures 48, 49, and 50 suggest, based on the actual data points and best-fit regressions, that operational distances greater than 425 ft are needed to attenuate the wake wave characteristics of the wakesurf boats to the selected condition reference levels, which were approximately 7 in for maximum wave height, 1,600 J/m for total wave energy, and 80 J/m-s for maximum wave power. Table 5 summarizes the results from both examples.

Table 4. Summary of state laws/recommendations regarding operational distances between recreational boats and shoreline, docks, other watercraft, etc.

State	Boats	Note	References
Iowa	speeds less than 10 mph at distances less than 300ft from shore	state law/ regulation	http://publications.iowa.gov/15950/1/ia_handbook_entire.pdf
Michigan	slow, no wake speed at distances less than 100 ft from shore (if < 3 ft deep), moored or anchored vessel, dock, raft, swimming area, or person(s) in the water	state law/ regulation	https://assets.kalkomey.com/boater/pdfs/handbook/michigan-handbook-entire.pdf
Minnesota	maintain greater than 200 ft between boat and shore/other structures	recommendation	http://files.dnr.state.mn.us/rlp/regulations/boatwater/boatingguide https://www.dnr.state.mn.us/safety/boatwater/own-your-wake.html
North Dakota	No operation within 100 ft of a person fishing from shore, swimmer, raft, or an occupied, anchored or nonmotorized vessel	state law/ regulation	https://gf.nd.gov/boating/safety-regulations
Wisconsin	slow, no wake speed at less than 100 ft from shore, dock, raft, pier, swimmer, or restricted area	state law/ regulation	https://dnr.wi.gov/files/pdf/pubs/le/le0301.pdf

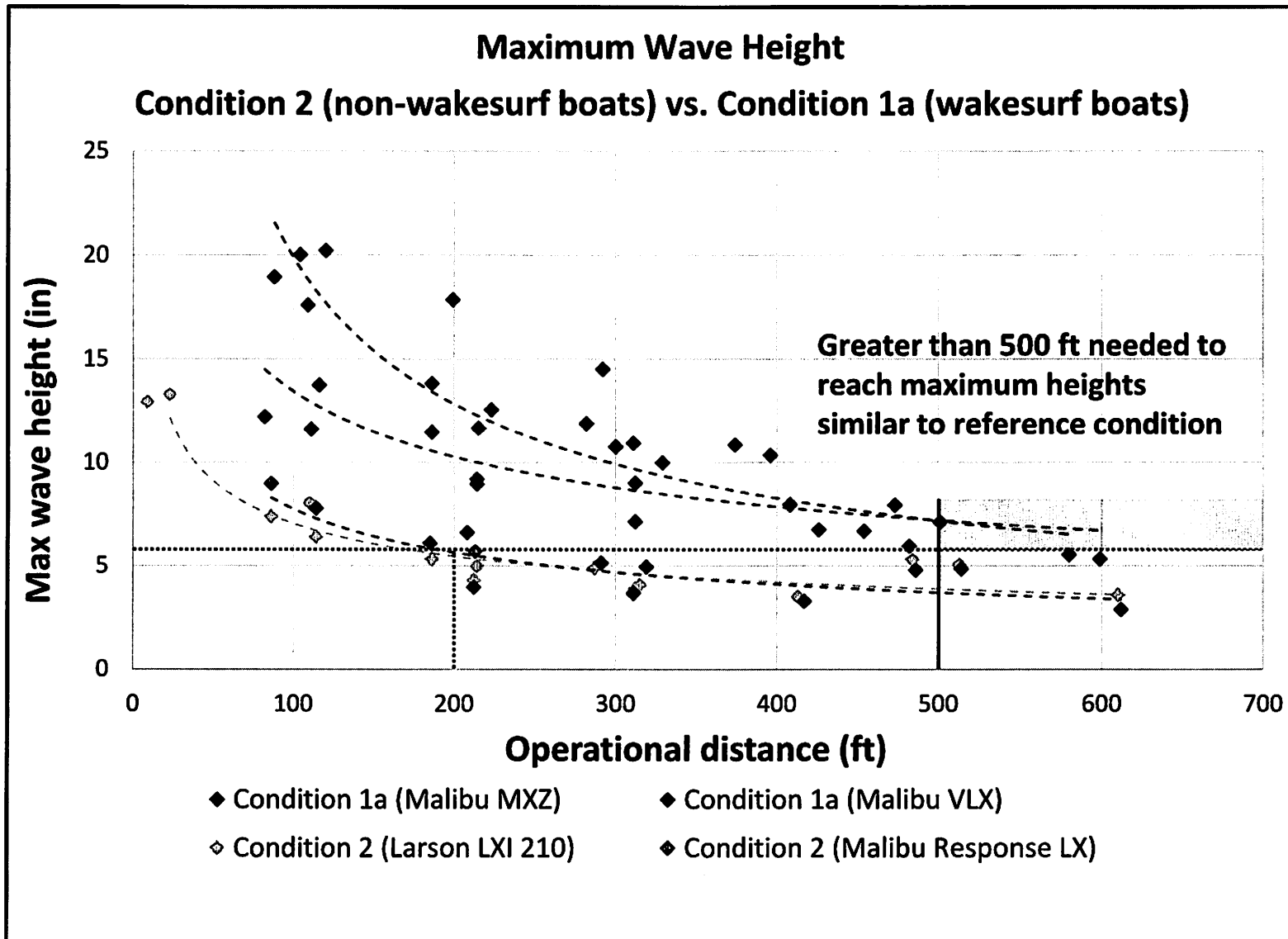


Figure 45. Illustration of a potential method for estimating the operational distance needed to reduce the maximum wave height of the wakesurf boat to reference levels associated with Condition 2 (planing) of the non-wakesurf boats (black horizontal dashed line).

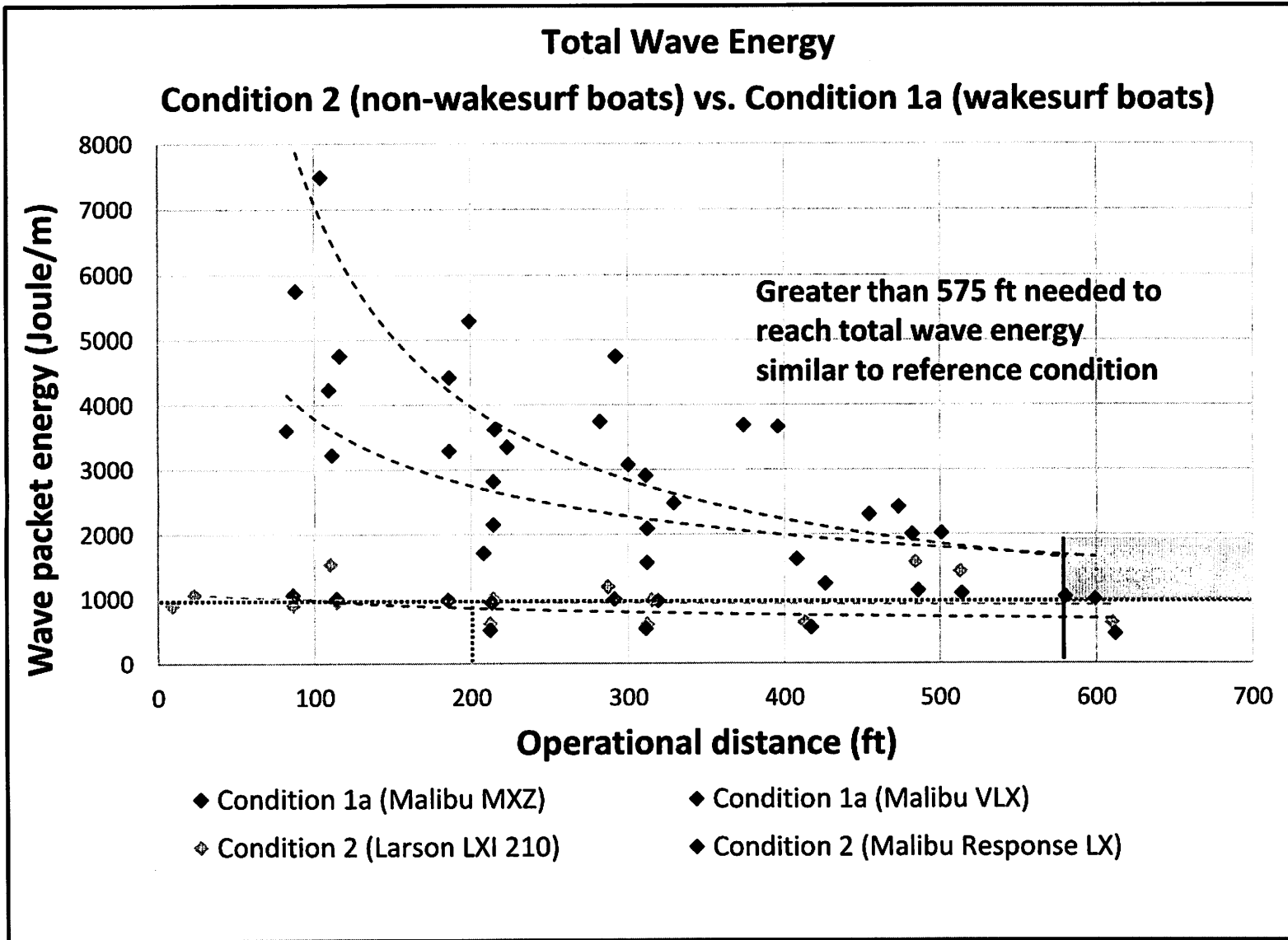


Figure 46. Illustration of a potential method for estimating the operational distance needed to reduce the total wave energy of the wakesurf boat to reference levels associated with Condition 2 (planing) of the non-wakesurf boats (black horizontal dashed line).

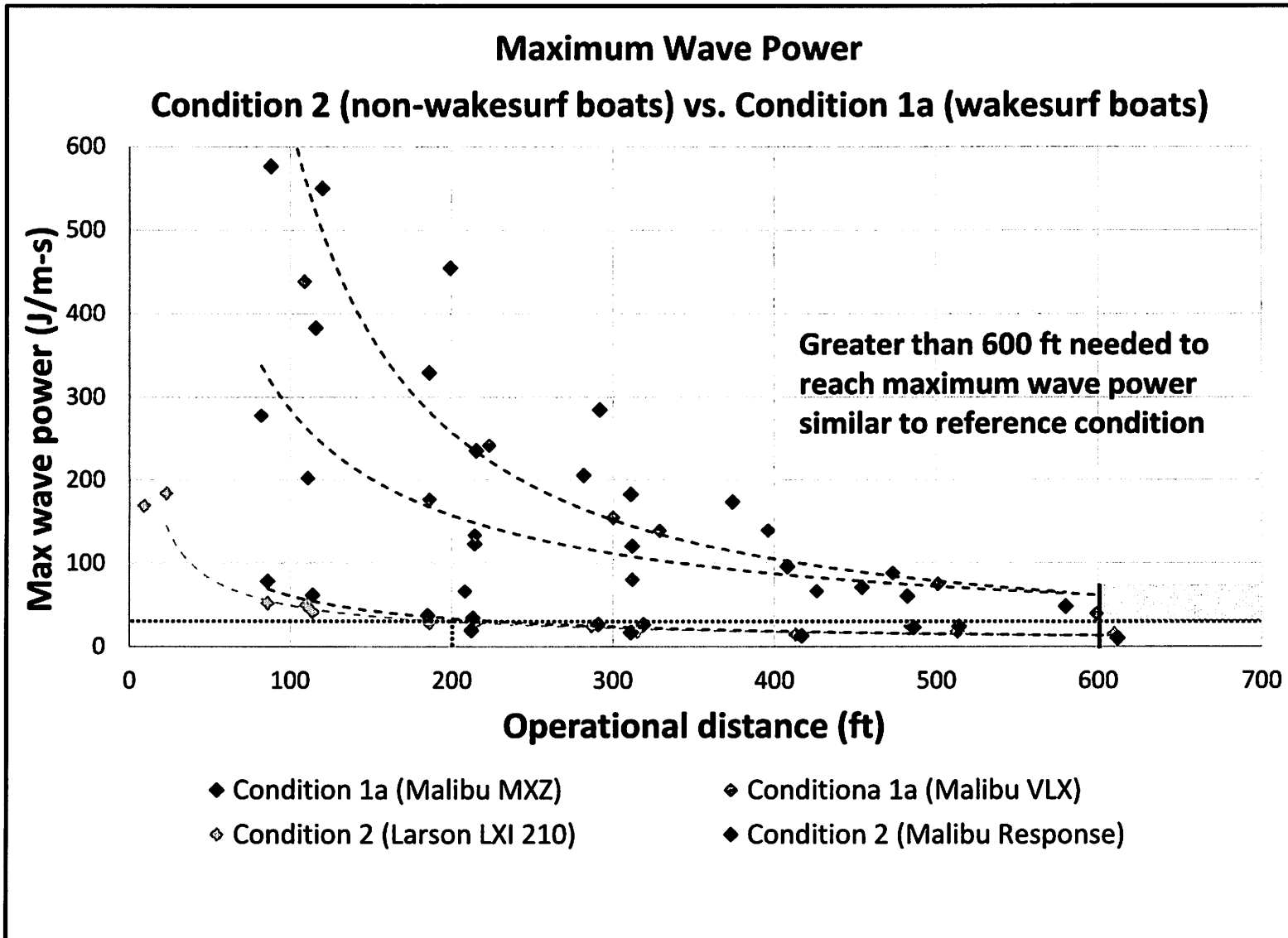


Figure 47. Illustration of a potential method for estimating the operational distance needed to reduce the maximum wave power of the wakesurf boat to reference levels associated with Condition 2 (planing) of the non-wakesurf boats (black horizontal dashed line).

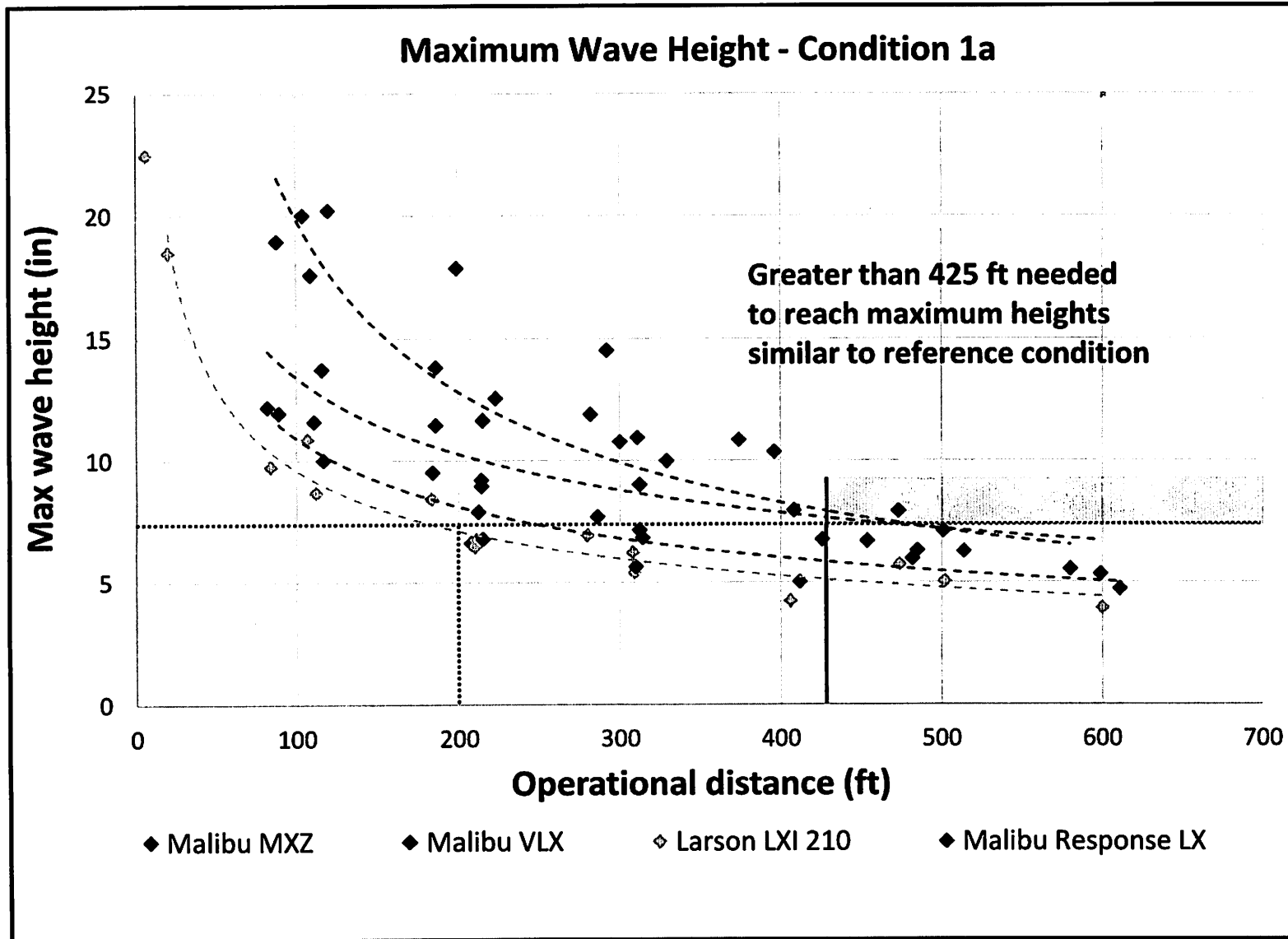


Figure 48. Illustration of a potential method for estimating the operational distance needed to reduce the maximum wave height of the wakesurf boat to reference levels associated with Condition 1a (largest wave) of the non-wakesurf boats (black horizontal dashed line).

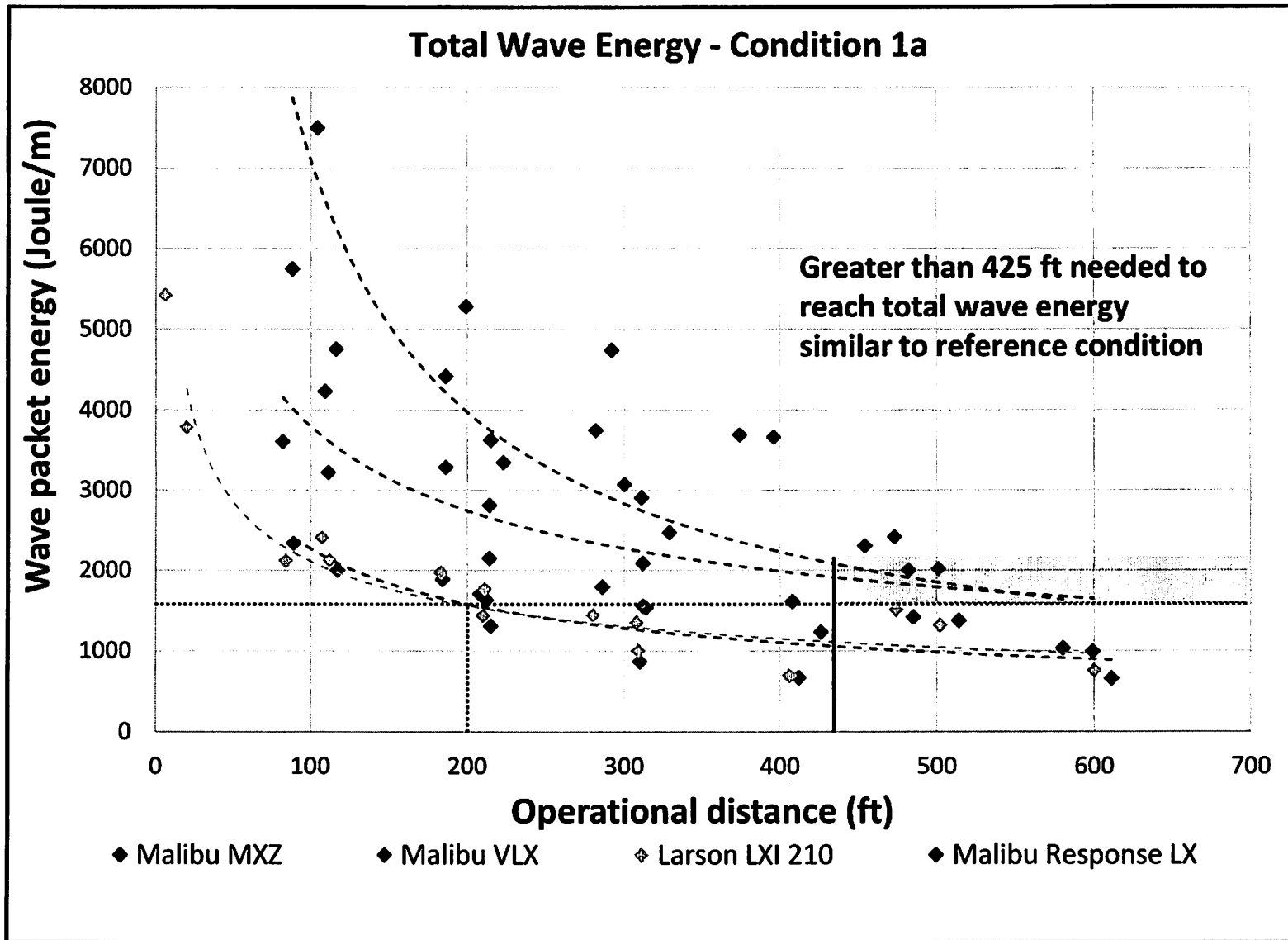


Figure 49. Illustration of a potential method for estimating the operational distance needed to reduce the total wave energy of the wakesurf boat to reference levels associated with Condition 1a (largest wave) of the non-wakesurf boats (black horizontal dashed line).

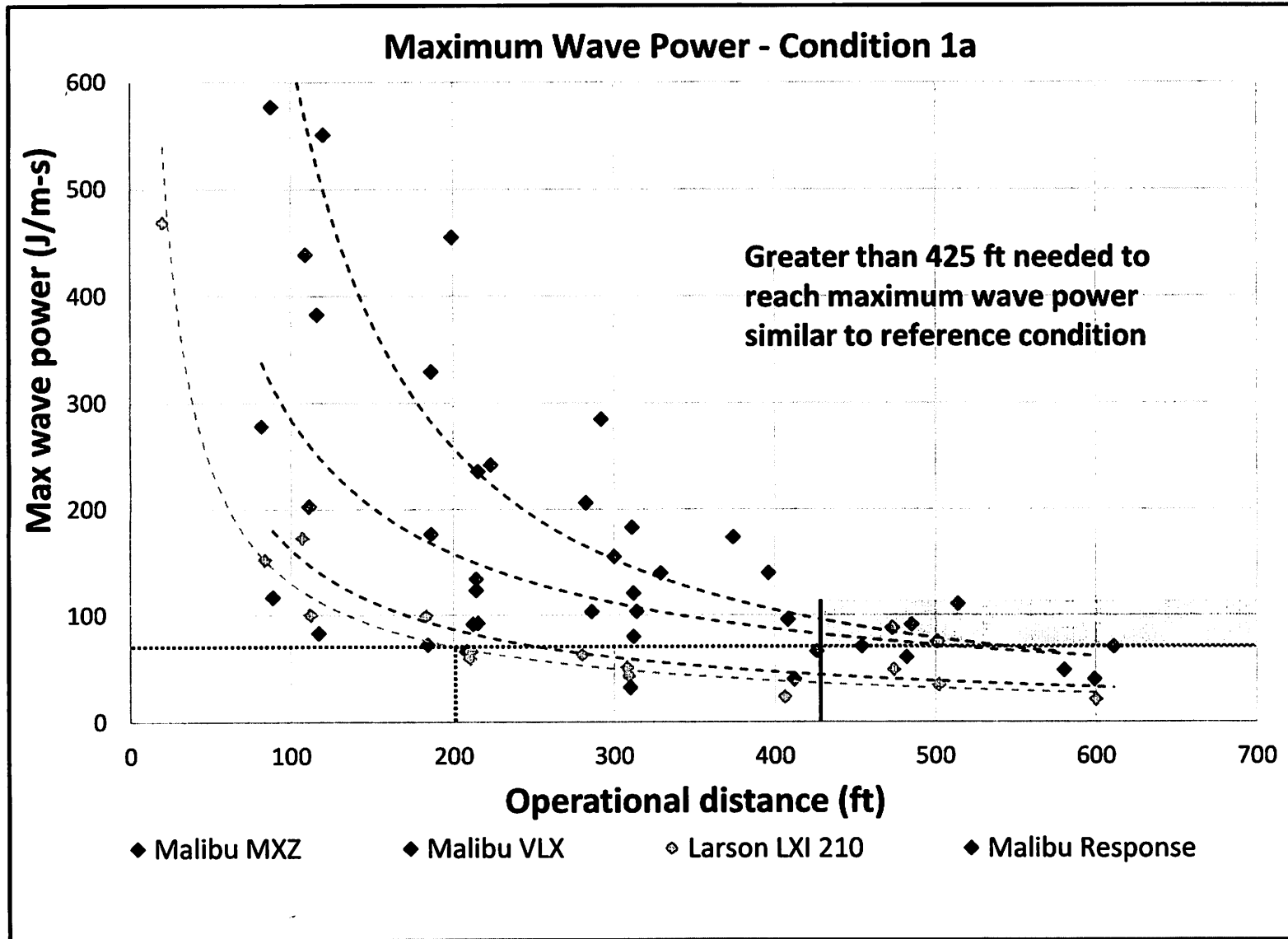


Figure 50. Illustration of a potential method for estimating the operational distance needed to reduce the maximum wave power of the wakesurf boat to reference levels associated with Condition 1a (largest wave) of the non-wakesurf boats (black horizontal dashed line).

Table 5. Summary of the estimated operational distances needed to attenuate the wake wave characteristics (height, energy, and power) of the wakesurf boats to the reference condition levels selected in examples 1 and 2.

Reference condition	Operational distance required by wakesurf boat to attenuate to reference condition levels
<p style="text-align: center;">Example 1 non-wakesurf boat planing at an operational distance of 200 ft (Condition 2 - planing)</p>	<p style="text-align: center;">Maximum Wave Height: >500 ft. Total Wave Energy: >575 ft. Maximum Wave Power: >600 ft.</p>
<p style="text-align: center;">Example 2 non-wakesurf boat transition to planing at an operational distance of 200 ft (Condition 1a - largest wave)</p>	<p style="text-align: center;">Maximum Wave Height: >425 ft. Total Wave Energy: >425 ft. Maximum Wave Power: >425 ft.</p>

6.1.6. Non-dimensionalization of operational conditions

It is common practice in the fields of fluid mechanics, naval architecture and other engineering disciplines to generalize the physics of a problem using dimensionless variables. For problems involving wake wave physics, the length Froude number (Equation 13) and depth Froude number (Equation 14) can be used. Transforming dimensional values like boat speed, boat length, and water depth into Froude number is a powerful tool for comparing the operational regime of different recreational and commercial vessels. The length Froude number can be used to describe whether the boat is displacing, transitioning to planing or planing. The depth Froude number is an indicator of the type of wake wave pattern that forms behind the boat. We recognize the power of dimensionless variables of the wake wave phenomena studied here, however because this report is focused on practical operational conditions and targets a general audience, we have chosen to present our results as dimensional values.

$$Fr_l = \frac{u}{\sqrt{gl}} \quad (13)$$

$$Fr_h = \frac{u}{\sqrt{gh}} \quad (14)$$

Where,

u = boat speed along the track line

g = gravitational acceleration coefficient

L = wetted length of the boat hull

h = the water depth under the boat.

6.2 Caveats, areas for improvement, and future research needs

6.2.1 Issues encountered with the Acoustic Doppler Current Profiler (ADCP)

The research involved deploying Nortek Signature 1000 ADCPs at Pad 1 and Pad 2. The instruments were used to capture wave height information and velocity profile information throughout the water column. The velocity profile data will be the focus of a second report that stems from this project. The ADCP is an acoustic device that uses the two-way travel time of short bursts of high frequency, narrow bandwidth sound to measure the velocity field and water surface elevation above the instruments. Some of our near-boat data were not usable because the boat passed too close to the sensor causing poor signal quality due to air entrainment and/or motor noise. For the Malibu Wakesetters, the wakesurf wave generated by the boat during these passes was also too steep for the sensor to capture the static water surface. In future tests, the boat should travel no closer than 20 ft (6.1 m) from the ADCP for water surface tracking measurements.

6.2.2 Boats and operational conditions tested

It is important to recognize that this study examined only four boats. We sought to pick watercraft that were representative of non-wakesurfing and wakesurfing boats; however, there are many other boat manufacturers and models that we were not able to study. Three of the test boats were from a single manufacturer (Malibu). The boat selection resulted from the boats that were available to us within the short window of field work for this study and the resulting

research is not intended to represent a single manufacturer, but the operation conditions of recreational boats in general.

We also selected operational conditions that were representative of various tow sports for boats with different manufacturing characteristics (Section 3.6, Table 2), combined with the various wave manipulating technologies and settings; however, we recognize that the range of all possible operational conditions and data comparisons were larger than available time and resources.

6.2.3 Sample size of boat tracks

In this study, boats made passes along four track lines that were set at 225, 325, 425, and 625 ft from shore. In hindsight, adding a few more track lines at key distances would have increased the sample size, and thus narrowed the data variance (i.e., greater precision and less uncertainty). For example, few data points fell within the first 20-100 ft of operational distance where there was rapid attenuation of height, energy, and power. These near-field data are less important to informing boat operational distances, which will generally exceed 100 ft, but may be important for understanding processes of energy dissipation nearer the boat track. A similar data collection campaign within the first 100 ft where the wave heights, energy, and power are at their greatest would help to fill in these gaps.

6.2.4 Impacts of propeller wash on vertical mixing, sediment scour/suspension, and aquatic organisms

This project also involved collection of velocity and turbulence data associated with propeller wash from the four test boats. This data will be the subject of a future report. Boats of all sizes produce propeller wash and, at a certain depth the wash begins to interact with the thermocline, lake bottom, vegetation, and aquatic habitats. These complex interactions are not well-studied, and we believe this is a priority area for future research.

6.2.5 Linking wave height, energy and power to environmental impacts

This report only characterizes the wave height, energy, and power of a few recreational watercraft, and does not address potential environmental impacts such as shoreline/riparian

erosion, water quality degradation, or alteration to aquatic habitats. Focus of future research will seek to understand the linkages between characteristics of boat-generated waves (e.g., wavelength, wave period, height, energy and power) and the nearshore environment. Future research will focus on: a) wave-induced sediment transport in the near-shore lake environment; b) interactions of wake waves with aquatic vegetation; c) impact of changing wave regimes on natural and armored shorelines. These topics are of great interest and concern to many stakeholders. For the benefit of finding solutions to the long-term protection and shared-use of recreational water resources, it is critical that researchers, funding agencies, and stakeholders prioritize coordinated, multi-year research in these areas.

6.2.6 Comparisons of boat wakes with wind waves for different lakes sizes

The sensitivity of a lake (or river) to boat wakes likely depends on the level of wind-wave energy that the lake experiences. For example, a small lake, with short fetches and relatively small wind-generated waves, is likely to be more sensitive to boat wakes than a large lake. Further work is needed, likely in the form of long-term monitoring, to compare the cumulative impacts of wind- and boat-generated waves on shoreline erosion, lake water quality, and nearshore habitat for different lake sizes, depths, and shoreline characteristics.

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7.0 CONCLUSIONS

This report summarizes the data and results of a field-based assessment of wake wave characteristics (maximum height, total energy and maximum power) produced by four recreational boats operated under a range of conditions and at various distance from data sensors. Two of the boats, Larson LXI 210 and Malibu Response LX, were representative of typical boats used on Minnesota inland lakes over the last several decades. Two of the boats, Malibu Wakesetter VLX and Malibu Wakesetter MXZ, were representative of state-of-the-art wakesurf boats.

The main conclusions of the research are summarized below:

The maximum wave height, total wave energy, and maximum wave power produced by the boats studied were substantially different between two operational conditions tested. For all the test boats studied, the maximum wave heights, total wave packet energy and maximum wave power were greatest under Condition 1a (wakesurfing/largest possible wake) operation. These same wake wave parameters were smallest for all test boats under Condition 2 (planing). Most notably, we document a substantial increase in maximum wave height, total energy, and maximum power between Condition 1a and 2 for the wakesurf boats. This finding is not a surprise, but confirms that the design of wakesurf boats (i.e., weight, hull shape, powertrain, and wake enhancement technologies) enables the creation of large wake waves under wakesurfing conditions.

When comparing the boats under their typical operational conditions, which was Condition 2 for the non-wakesurf boats and Condition 1a for the wakesurf boats, our data documents substantially larger maximum wave height, total wave energy, and maximum wave power for the wakesurf boats (Figures 42-44). At 100 ft of operational distance, the wakesurf boats measured maximum wave heights that were roughly 5-13 in higher than the non-wakesurf boats, an increase of 2-3 times. The total wave energy was 2,200-7,000 J/m higher (~3-9 times higher) for the wakesurf boats at 100 ft. The maximum wave power at 100 ft was also higher for the wakesurf boats by 230-570 J/m-s, a 6-12 fold increase.

Operating the Malibu Wakesetters with full ballast tanks (Condition 1a) appeared to have an observable but smaller than expected impact on maximum wave height, total wave energy and maximum wave power at operational distances less than 100 ft (Figures 31-36). At distances greater than 100 ft, the measured wake wave characteristic values did not seem to be affected by the addition of ballast water. These results were unexpected as we anticipated that the additional ballast water weight and resulting water displacement during travel would generate higher waves with greater total energy; however, this observation was similar for both boats. Clearly, the role of ballast water weight on asymmetric wake wave characteristics is an area where more research is needed.

The aftermarket wake shaper had an observable impact on the wake wave characteristics of the Malibu Response LX, resulting in increased maximum wave height, total wave energy, and maximum wave power (Figure 37-39). With the wake shaper attached and at an operational distance of 200 ft, the data show an approximate increase in maximum wave height of 2 in (33%), total wave energy of 270 J/m (20%), and maximum wave power of 30 J/m-s (20%).

We demonstrate how data collected in this study can be used to inform operational distance for wakesurf boats/wakesurfing based on reference conditions derived from non-wakesurf boats. In the first example provided (Figures 45-47) the boats were compared under their typical operational conditions, which was Condition 2 (planing) for the non-wakesurf boats and Condition 1a (wakesurfing) for the wakesurf boats. In this scenario, operational distances greater than 500 ft were needed to attenuate the measured wake wave characteristics of the wakesurf boats to levels equivalent to the non-wakesurf boats at 200 ft (Table 5). In the second example (Figures 48-50), the boats were all compared under Condition 1a (i.e., largest possible wake/wakesurfing). Here, operational distances greater than 425 ft were needed to decrease wave height, energy, and power of the wakesurf boats to levels similar to the non-wakesurf boats at operational distances of 200 ft.

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Heather Goley

From: Elizabeth Holmes <eleoneh@yahoo.com>
Sent: Saturday, February 5, 2022 10:48 AM
To: ~House Resources Recreation and Development
Subject: House Bill 1071 - in favor
Attachments: Deering Reservoir Map.pdf

Dear Members of the Committee:

I am resident of Deering, New Hampshire, and live on Deering Lake. I am the President of the Deering Lake Improvement Association, but I write my letter as a private citizen.

Deering Lake is relatively small - 323 acres, and has a significant amount of shoreline due to its irregular shape and many small islands. I have attached a map produced by NH Fish and Game for your reference. The lake is fed by the headwaters of the Piscataquog River, and is noted for being remarkably clear- we have had long-term testing efforts coordinated with the state, the town, and lake residents. We have been able to avoid any invasive plant or animal species due to volunteer efforts that monitor all shoreline areas. For many years the lake has supported two breeding pairs of loons, and we have healthy fish populations that benefit wildlife and the fishing community. We have worked closely with homeowners to increase shore land protection through the Lake Smart program.

We encourage recreation on our lake of many kinds - boating, fishing, swimming, etc. We have many people fishing in small boats and people of all ages using canoes, kayaks and paddleboards, water skiing and tubing. Until the introduction of wakesurfing, all of these recreational opportunities were compatible with the size of our lake and our ecosystems.

Unfortunately, the use of the boats that enable wakesurfing have been highly disruptive in several areas. I personally have almost capsized in a kayak, even though I was several hundred feet from the wake producing boat. I have heard of families who have had canoes with children rolled over, although I have not witnessed that first hand. I have seen (and heard) of instances where the wake has rolled into shore so violently that it has damaged boats moored at their docks. I have witnessed significant shoreline erosion, *as it happened*- as a direct result of the wake produced from these boats.

While I can't speak of directly of environmental damage beyond definite shoreline erosion, the evidence presented in the Minnesota boat-generated wake wave study validates my concerns. We are very protective of our loon nests, but one rogue wave can wipe out eggs and potential off-spring for a full year. While we have been successful in keeping out invasive plant species, these powerful waves can churn sediments that can result in cyanobacteria outbreaks -- a particular concern for a shallow waterbody like Deering and many other NH lakes.

I am happy to support wake surfers to enjoy their sport so long as it is not at the expense of the safety of others and the environment in which they recreate. **While I support HB 1071, I am strongly in favor requiring operational distances of at least 500 feet from shore and a depth of at least 20 feet.** A minimum distance of 500 feet would allow time for the waves produced to dissipate by the time they reach the shoreline or others in the water body. A minimum depth requirement of 20 feet would lessen the impact the propeller thrusts of these boats have on lake bottoms.

Our lakes in NH are a critical resource to the state and its residents. Under the current regulations, safety issues and environmental impacts caused by wake producing boats are real, but can be mitigated by appropriate action. Thank you for supporting HB 1071- and for considering amendments to increase distances and shore depths.

Most sincerely,

Elizabeth L. Holmes
209 Lake Shore Drive
Deering, NH 03244
603-860-5416

For fishing regulation information, please refer to the NHFGD Freshwater Fishing Digest.

Contact: NHFGD Region 4 (Southwest NH), Keene
E-mail: reg4@wildlife.nh.gov Phone: 603-352-9669

DEERING RESERVOIR Deering

FISHERY: Warmwater **ACRES:** 323
TROPHIC LEVEL: OLIGO
AVG. DEPTH: 11 **MAX. DEPTH:** 37
SPECIES: RT,SMB,LMB,WP,ECP,BBH,YP

ADDITIONAL INFO:

ACCESS: Town Beach, limited access










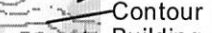
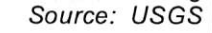
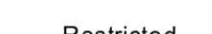
Please contact NH Dept of Safety, Marine Patrol for info. on water body/boat/motor restrictions: (603) 293-2037 www.nh.gov/safety

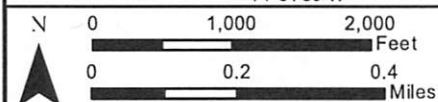
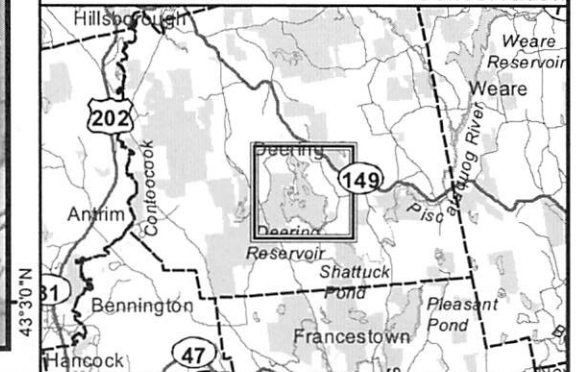
Public Water Access site

-  Canoe/cartop
-  Shorebank
-  Ramp

 Bathymetric contour (feet)

Bathymetry provided by the NH Department of Environmental Services, Watershed Mgt Bureau

-  Town boundary
 -  Primary Route
 -  Road or Street
 -  Trail or other
 -  Stream or Shoreline
 -  Surface Water
 -  Wetland
 -  Conservation or Public land
 -  Cleared Forest
 -  Contour
 -  Building
 -  Restricted Access Conservation
- Source: USGS



Base map data from NH GRANIT at Earth Systems Research Center (UNH) and Open Street Map contributors. UNH, NH Fish & Game and the cooperating agencies make no claim as to the validity or reliability, or to any implied uses of these data. NOT INTENDED FOR BOAT NAVIGATION.

Directions: Rt 149 to Reservoir Rd

Archived: Tuesday, March 15, 2022 11:34:03 AM

From: Cheryl Mrozienski

Sent: Sunday, March 13, 2022 1:30:02 PM

To: ~House Fish and Game Committee; ~House Health Human Services and Elderly Affairs; ~House Judiciary Committee; ~House Labor, Industrial and Rehabilitative Services; ~House Legislative Administration; ~House Municipal and County Govt; ~House Public Works and Highways; ~House Resources Recreation and Development; ~House Rules Committee

Subject: in support of HB 1071 - AN ACT relative to wake surfing

Importance: Normal

Dear members of the NH House of Representatives,

My name is Cheryl Mrozienski and I am writing in support of HB 1071 - AN ACT relative to wake surfing.

I live on Bow Lake in Strafford, NH where I am a volunteer for the Loon Preservation Committee, NH Audubon, and UNH Lakes Lay Monitoring Program. The new wake surfing boats arrived on Bow Lake a few years ago, resulting in the creation of huge waves compared to typical speed boats. The size of these waves concerns me for the following reasons:

1. **Safety:** I've witnessed some very dangerous incidents where the large waves from wake surfing boats have flipped over sailboats and canoes, swamped a pontoon boat, and almost caused my 16' boat to flip when one wake surfing boat didn't slow down to headway speed in a congested and narrow channel of the lake with swimmers in the water. Hand signaling to the boat driver didn't help. He just looked at me like I was annoying him as his huge wake hit the side of my boat, throwing it towards the rocky shoreline of Blueberry Island.
2. **Dock and shore damage:** I've watched from shore as the waves from wake surfing boats over 500' away slammed into my dock causing some boards to loosen, and also eroded my shoreline. In the last ten years, I've lost more than two feet of shoreline.
3. **Water Quality:** The larger the boat waves, the more nutrients are released from the lake bottom, causing poor water quality.
4. **Common Loon nest impact:** Bow Lake is home to five pairs of nesting loons, a threatened species in NH. Their nests are vulnerable to large waves that can flood nests located at the shore's edge. Many of us volunteers do spend quite a bit of time on the lake educating boaters as best we can. However, it does seem that some people are more willing to listen when there is a law to back up our educational requests.

In closing, I would like to thank you for considering my testimony. I am hoping recent scientific evidence provided by the University of Minnesota study and the increase in safety related incidents caused by wake surfing boats operating on NH lakes, is enough to warrant

passage of this bill. Although the proposed "250 feet" is less than half of what research suggests, it's better than the current "150 feet" headway speed law.

Sincerely,

Cheryl Mrozienski

219 Northwood Rd,

Strafford, NH

HB 1071 - AS INTRODUCED

2022 SESSION

22-2277

08/05

HOUSE BILL **1071**

AN ACT relative to wake surfing.

SPONSORS: Rep. Gottling, Sull. 2; Rep. Deshaies, Carr. 6; Rep. J. MacDonald, Carr. 6; Rep. Weston, Graf. 8; Rep. Tanner, Sull. 9; Rep. Ebel, Merr. 5

COMMITTEE: Resources, Recreation and Development

ANALYSIS

This bill regulates wake surfing on inland waters.

Explanation: Matter added to current law appears in ***bold italics***.
Matter removed from current law appears [~~in brackets and struck through~~].
Matter which is either (a) all new or (b) repealed and reenacted appears in regular type.

STATE OF NEW HAMPSHIRE

In the Year of Our Lord Two Thousand Twenty Two

AN ACT relative to wake surfing.

Be it Enacted by the Senate and House of Representatives in General Court convened:

1 1 New Paragraph; Wake Surfing; Inland Waters. Amend RSA 270-D:3 by inserting after
2 paragraph VII the following new paragraph:

3 VIII. Any boat underway for wake surfing on inland waters shall maintain a minimum
4 distance of 250 feet from the shore, docks, and other boats.

5 2 Effective Date. This act shall take effect 60 days after its passage.