staff time would be required to complete reviews and compliance assessments, which may result in an increase in state expenditures.

To the extent that a local government elects to own and operate a new landfill, the Department assumes the local government's proposed landfill would be subject to the bill and the cost to permit and operate such a landfill would increase. Furthermore, a host municipality receives revenue from an operating landfill and such revenue may decrease due to increased permitting and operating costs, and/or due to any stoppage of landfilling activities resulting from a detection of groundwater impacts and associated investigation and remediation requirements.

AGENCIES CONTACTED:

Department of Environmental Services

LBA
22-2237
11/17/21

HB 1454-FN- FISCAL NOTE
AS INTRODUCED

AN ACT relative to permits for the siting of new landfills.

FISCAL IMPACT: **[X] State** **[ ] County** **[X] Local** **[ ] None**

	Estimated Increase / (Decrease)			
STATE:	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
Appropriation	$0	$0	$0	$0
Revenue	$0	$0	$0	$0
Expenditures	Indeterminable	Indeterminable	Indeterminable	Indeterminable
Funding Source:	[X] General	[ ] Education	[ ] Highway	[ ] Other

LOCAL:

Revenue	Indeterminable	Indeterminable	Indeterminable	Indeterminable
Expenditures	Indeterminable	Indeterminable	Indeterminable	Indeterminable

METHODOLOGY:

This bill would require new landfills to be sited a certain minimum distance from any perennial river, lake, or coastal water of New Hampshire. The Department of Environmental Services makes the following assumptions regarding this bill:

- It would apply to landfills permitted after the effective date of the bill, and not to expansions of existing landfills.
- The "operator" identified in subparagraph (c) is referring to the person responsible for implementing and complying with the groundwater monitoring permit requirements of RSA 485-C.
- The subparagraph (a) "sufficiently close" distance is that distance identified in subparagraph (b) of five times X or 200 feet, whichever is greater.
- The groundwater monitoring network discussed in subparagraph (c) may be located within the five times X or 200-foot, whichever is greater, disposal area setback distance.
- The setback distance is from all "public waters" as defined in RSA 483-B:4, XVI.

The Department states it would need to integrate the bill requirements into the solid waste facility permitting application and review process as well as the groundwater permitting application and review process, including revising relevant NH Code of Administrative Rules and application forms. While they state that additional staff is not needed, it is expected more

22-2237
08/11

STATE OF NEW HAMPSHIRE

In the Year of Our Lord Two Thousand Twenty Two

AN ACT relative to permits for the siting of new landfills.

Be it Enacted by the Senate and House of Representatives in General Court convened:

1 New Paragraph; Landfill Permits; Groundwater Protection. Amend RSA 149-M:9 by inserting after paragraph XIV the following new paragraphs:

XV.(a) No permit shall be issued by any division of the department for the siting of a new landfill if any part of the actual solid waste disposal area is proposed to be located sufficiently close to any perennial river, lake, or coastal water of New Hampshire, as defined in RSA 483-B:4, XVI, such that groundwater on the landfill site would be able to reach the water body within 5 years of migrating off-site. Nothing in this paragraph shall be construed to prohibit the expansion of any landfills that are in operation at the time this act takes effect.

(b) To determine the individual, site-specific, distance of this setback, the applicant shall hire an independent hydrogeologist, at the applicant's expense, to estimate, based on local field testing, the reasonable maximum seepage velocity of shallow or deep groundwater, whichever is the larger estimate. That estimate shall be expressed in units of "X feet per year." The setback in subparagraph (a) shall then be set at a distance of 5 times X. If at a particular site, X is estimated to be less than or equal to 40 feet per year, no new landfill shall be sited within 200 feet of any lake or river, as is currently the setback specified in rules.

(c) If a permit is granted for a new solid waste landfill under this section, the operator shall establish one or more networks of groundwater monitoring wells such that each nearby lake or river shall have a network at a distance of 5 times X feet from the water body. The operator shall monitor each well at least every six months, for all of the EPA Priority Pollutants listed in 40 C.F.R. Part 423, Appendix A, as well as the 4 per fluorinated chemicals regulated by the state (PFOA, PFOS, PFNA, and PFHxS). If any of the pollutants monitored for is detected above baseline concentrations, landfilling at the site shall immediately cease, until the plume of contamination is mapped, intercepted, and remediated.

2 Effective Date. This act shall take effect upon its passage.

2022 SESSION

22-2237
08/11

HOUSE BILL *1454-FN*

AN ACT relative to permits for the siting of new landfills.

SPONSORS: Rep. Tucker, Coos 5; Rep. Thompson, Coos 1; Rep. Massimilla, Graf. 1; Rep. Egan, Graf. 2; Rep. Hatch, Coos 6; Rep. Merner, Coos 7; Rep. Laflamme, Coos 3; Rep. Myler, Merr. 10; Rep. Deshaies, Carr. 6; Sen. Hennessey, Dist 1; Sen. Sherman, Dist 24

COMMITTEE: Environment and Agriculture

ANALYSIS

This bill prohibits the siting of landfills within a proscribed distance of groundwater sources.

Explanation: Matter added to current law appears in ***bold italics.***
Matter removed from current law appears [~~in brackets and struckthrough.~~]
Matter which is either (a) all new or (b) repealed and reenacted appears in regular type.

Heather Goley

From: Howard Pearl
Sent: Thursday, March 3, 2022 7:11 PM
To: Heather Goley
Cc: Megan Murray; Peter Bixby; Judy Aron
Subject: Fwd: 1454-FN Committee Report as edited
Attachments: CommitteeReport HB1454-FN as edited.pdf

The majority report looks good..

Here is the Minority report:

Rep Barbara Comtois for the minority.
The minority did not have objection to the amended language but felt since the House passed HB 1049, which creates a study committee to look at the whole chapter pertaining to landfill siting criteria including the setback from bodies of surface water, that we should hold off passing any changes to the chapter until the study committee had an opportunity to perform the duties it is charged with by the legislature.

Howard C Pearl

State Representative Merrimack 26

Owner Pearl & Sons Farm LLC

Loudon Town Moderator

Environment & Agriculture Committee Chair

Member NH Solid Waste Working Group

Member NH Weights & Measures Advisory Board

NH Farm Bureau Treasurer

409 Loudon Ridge Rd

Loudon N.H. 03307

603-231-1482 cell

Begin forwarded message:

> **From:** Megan Murray <Megan.Murray@leg.state.nh.us>
> **Date:** March 2, 2022 at 9:49:29 AM EST

REGULAR CALENDAR

Environment and Agriculture

HB 1454-FN, relative to permits for the siting of new landfills. **INEXPEDIENT TO LEGISLATE.** Rep. Barbara Comtois for the **Minority** of Environment and Agriculture. The minority did not have objection to the amended language but felt since the House passed a similar bill, which creates a study committee to look at the whole chapter pertaining to landfill siting criteria including the setback from bodies of surface water, that we should hold off passing any changes to the chapter until the study committee had an opportunity to perform the duties it is charged with by the legislature.

Original: House Clerk
Cc: Committee Bill File

MINORITY
COMMITTEE REPORT

Committee:	**Environment and Agriculture**
Bill Number:	**HB 1454-FN**
Title:	**relative to permits for the siting of new landfills.**
Date:	**March 4, 2022**
Consent Calendar:	**REGULAR**
Recommendation:	**INEXPEDIENT TO LEGISLATE**

STATEMENT OF INTENT

The minority did not have objection to the amended language but felt since the House passed a similar bill, which creates a study committee to look at the whole chapter pertaining to landfill siting criteria including the setback from bodies of surface water, that we should hold off passing any changes to the chapter until the study committee had an opportunity to perform the duties it is charged with by the legislature.

Rep. Barbara Comtois
FOR THE MINORITY

Original: House Clerk
Cc: Committee Bill File

REGULAR CALENDAR

March 4, 2022

HOUSE OF REPRESENTATIVES

REPORT OF COMMITTEE

The Minority of the Committee on Environment and Agriculture to which was referred HB 1454-FN,

AN ACT relative to permits for the siting of new landfills. Having considered the same, and being unable to agree with the Majority, report with the following resolution: RESOLVED, that it is INEXPEDIENT TO LEGISLATE.

Rep. Barbara Comtois

FOR THE MINORITY OF THE COMMITTEE

Original: House Clerk
Cc: Committee Bill File

2022-0894h

AMENDED ANALYSIS

This bill establishes a formula for determining the distance for which a new landfill shall be located from a perennial river, lake, or coastal water.

Rep. M. Murray, Hills. 22
March 1, 2022
2022-0894h
08/04

Amendment to HB 1454-FN

Amend the bill by replacing all after the enacting clause with the following:

1 Statement of Purpose. The protection of perennial rivers, lakes, and coastal waters from contamination is in the public interest of the state of New Hampshire. Therefore, the setback from a proposed landfill to such a water body should be sufficient to prevent groundwater contaminated by a leak, spill, or other failure from reaching the waterbody before remedial action can be implemented. A period of 5 years should be sufficient to detect and map a failure, assess appropriate remediation, meet engineering and regulatory requirements, and initiate the remedy.

2 New Paragraph; Landfill Permits; Groundwater Protection. Amend RSA 149-M:9 by inserting after paragraph XIV the following new paragraph:

XV.(a) The department shall establish a site-specific setback distance for any proposed new landfill from any perennial river, lake, or coastal water of New Hampshire, as defined in RSA 483-B:4, XVI. The setback distance shall be sufficient to prevent any contaminated groundwater at any part of the actual solid waste disposal area from reaching any perennial river, lake, or coastal water of New Hampshire within 5 years. The setback distance shall be calculated as follows:

(1) The applicant shall hire an independent hydrogeologist at the applicant's expense, to estimate based upon adequate and representative on-site field testing, the seepage velocity of groundwater in both overburden/till and in bedrock. The maximum seepage velocity shall be the highest rate estimated for any test site in the disposal area.

(2) The 5-year distance-of-travel estimate shall be calculated by multiplying the maximum seepage velocity by 5.

(3) The setback from any perennial river, lake, or coastal water of New Hampshire shall be the greater of the 5-year distance-of-travel estimate calculated in subparagraph (2) or 200 feet.

(b) No permit shall be issued by any division of the department for siting a new landfill that fails to conform with the setback distance as calculated using the method set forth in subparagraph (a).

(c) Nothing in this paragraph shall be construed to prohibit the expansion of any landfills that are in operation at the time this paragraph takes effect.

3 Effective Date. This act shall take effect upon its passage.

Committee Report

Committee: Environment and Agriculture
Bill Number: HB-1454-FN
Title: relative to permits for the siting of new landfills

Date: March 1, 2022 Consent Calendar Yes **No -x**

Ought To Pass
x Ought To Pass w/Amendment **Amendment Number: 2022-0894h**
Inexpedient To Legislate
Interim Study (available only in 2nd year of biennium)

Statement of Intent:

This bill as amended will protect perennial lakes, rivers, and coastal waters when new landfills are being proposed for siting. The bill replaces the arbitrary 200 foot set-back guideline and replaces it with a 5 year distance of travel calculation based on hydrogeological measurements. The minimum distance from a new landfill to a perennial river, lake, or coastal water will be the greater of 200 ft or the calculated five-year distance-of-travel. This bill will not prohibit the expansion of currently operating landfills.

Committee Vote: 10-9

Respectfully submitted: Rep. Megan Murray

REGULAR CALENDAR

Environment and Agriculture

HB 1454-FN, relative to permits for the siting of new landfills. **MAJORITY: OUGHT TO PASS WITH AMENDMENT. MINORITY: INEXPEDIENT TO LEGISLATE.**

Rep. Megan Murray for the **Majority** of Environment and Agriculture. This bill as amended will protect perennial lakes, rivers, and coastal waters when new landfills are being proposed for siting. The bill replaces the arbitrary 200 foot set-back guideline and replaces it with a 5 year distance of travel calculation based on hydrogeological measurements. The minimum distance from a new landfill to a perennial river, lake, or coastal water will be the greater of 200 ft. or the calculated five-year distance-of-travel. This bill will not prohibit the expansion of currently operating landfills. **Vote 10-9.**

Original: House Clerk
Cc: Committee Bill File

MAJORITY
COMMITTEE REPORT

Committee:	**Environment and Agriculture**
Bill Number:	**HB 1454-FN**
Title:	**relative to permits for the siting of new landfills.**
Date:	**March 4, 2022**
Consent Calendar:	**REGULAR**
Recommendation:	**OUGHT TO PASS WITH AMENDMENT 2022-0894h**

STATEMENT OF INTENT

This bill as amended will protect perennial lakes, rivers, and coastal waters when new landfills are being proposed for siting. The bill replaces the arbitrary 200 foot set-back guideline and replaces it with a 5 year distance of travel calculation based on hydrogeological measurements. The minimum distance from a new landfill to a perennial river, lake, or coastal water will be the greater of 200 ft. or the calculated five-year distance-of-travel. This bill will not prohibit the expansion of currently operating landfills.

Vote 10-9.

Rep. Megan Murray
FOR THE MAJORITY

Original: House Clerk
Cc: Committee Bill File

REGULAR CALENDAR

March 4, 2022

HOUSE OF REPRESENTATIVES

REPORT OF COMMITTEE

The Majority of the Committee on Environment and Agriculture to which was referred HB 1454-FN,

AN ACT relative to permits for the siting of new landfills. Having considered the same, report the same with the following amendment, and the recommendation that the bill OUGHT TO PASS WITH AMENDMENT.

Rep. Megan Murray

FOR THE MAJORITY OF THE COMMITTEE

Original: House Clerk
Cc: Committee Bill File

2022-0894h

AMENDED ANALYSIS

This bill establishes a formula for determining the distance for which a new landfill shall be located from a perennial river, lake, or coastal water.

Rep. M. Murray, Hills. 22
March 1, 2022
2022-0894h
08/04

Amendment to HB 1454-FN

Amend the bill by replacing all after the enacting clause with the following:

1 Statement of Purpose. The protection of perennial rivers, lakes, and coastal waters from contamination is in the public interest of the state of New Hampshire. Therefore, the setback from a proposed landfill to such a water body should be sufficient to prevent groundwater contaminated by a leak, spill, or other failure from reaching the waterbody before remedial action can be implemented. A period of 5 years should be sufficient to detect and map a failure, assess appropriate remediation, meet engineering and regulatory requirements, and initiate the remedy.

2 New Paragraph; Landfill Permits; Groundwater Protection. Amend RSA 149-M:9 by inserting after paragraph XIV the following new paragraph:

XV.(a) The department shall establish a site-specific setback distance for any proposed new landfill from any perennial river, lake, or coastal water of New Hampshire, as defined in RSA 483-B:4, XVI. The setback distance shall be sufficient to prevent any contaminated groundwater at any part of the actual solid waste disposal area from reaching any perennial river, lake, or coastal water of New Hampshire within 5 years. The setback distance shall be calculated as follows:

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(2) The 5-year distance-of-travel estimate shall be calculated by multiplying the maximum seepage velocity by 5.

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(b) No permit shall be issued by any division of the department for siting a new landfill that fails to conform with the setback distance as calculated using the method set forth in subparagraph (a).

(c) Nothing in this paragraph shall be construed to prohibit the expansion of any landfills that are in operation at the time this paragraph takes effect.

3 Effective Date. This act shall take effect upon its passage.

SIGN UP SHEET

To Register Opinion If Not Speaking

Bill # HB 1454-FN Date January 18, 2022

Committee Environment + Agriculture

**** Please Print All Information ****

Name	Address	Phone	Representing	Pro	Con
Kirsten Koch			BIA		✓
[illegible]			[illegible]		✓
John Tuthill	PO Box 49, Acworth, NH 03601			✓	
Wayne Morrison	Whitefield, NH			✓	
Jon Swan				✓	
Michael Faller			Town of Meredith		✓
Peter Emanuel	Bow NH	361-2684			✓
Tim White	20 Foundry Street Concord, NH	603-415-6139	Sanborn Head		✓
Muriel Robinette	PO Box 1224, Concord, NH	603-566-7316	NCABC	✓	
Maria Perez				✓	
Matt Leahy				X	
Stan Emanuel	Bow, NH	603-228-6900			✓

12

6 YEA
6 NAY

Rep. Bixby asks about Section C and the bill being able to work with the existing structure. Is the monitoring in statute or rules?

Dir. Wimsatt states that it is set in basis in statute and some further clarified in rules.
Rep. Caplan – asks about if he is aware of instances of leaks to landfills

Dir. Wimsatt – notes he is aware of instances and speaks about the various causes for them – notes a situation where a construction issue did trigger a warning in monitoring.

Rep. Aron asks about a 5 year off site migration, and asks about hydrogeological changes within that time frame that would affect hydrology?

Dir. Wimsatt states yes depending on the circumstance.

John Tuthill – supports the bill and has concerns. Speaks to issues about breaches and ground water and sees ground water studies to be a pre-requisite to siting. Shares concerns about the increasing size of landfills and seeks further studies of water and ground water flows.

Rep. Bixby – Asks about early studies of water and hydrology as a money and time saving measure to some in business?

John Tuthill – states yes, but also states that he supports the position that the hydrology studies as a precaution should be set in statute.

Rep. Edith Tucker – speaks to the desire to continue to work with the committee to create a solution that addresses the concerns and seeks to address the issues HB1454 seeks to address.

Rep. Pearl asks if the sponsor would be interested in a study committee to work on this with another piece of legislation?
Rep. Tucker declines and states that she desires to complete it now. 6
yea – 6 nay

Respectfully submitted,

Rep. Megan Murray
Acting Clerk

Muriel Robinette – NH ABC is discussing the 200 ft set back – states it could be an issue for the next 100 years - is a hydrologist. Discusses the 5 year concept of ground water flow as a vector for water contamination. The monitoring schedule for landfills takes years to identify and remedy the issue. Asks for site specific set backs. One size fits all set backs are not the right way to be thinking about how to site landfills – discusses nuances between different areas of the state. Seeks support of the bill.

Rep. Homola is asking about saturation or does the contamination continue into the water.

Ms. Robinette speaks to when that 5 year window starts and notes that water is saturated. States it's continual.

Rep. Bixby asks what remedies are available if contamination is found in a test area?

Ms. Robinette discusses cut off walls, or hydraulic containment "pump and treat" but notes that the idea is not to get to this point. The goal would be to allow for more time to address an issue.

Tim White – Sanborn Head – discusses opposition in testimony Mr. White notes 3 specific areas of concern. Seeks uniform approaches.

Rep. Caplan – asks about industrial citing requirements Mr. White states he is not aware of another industry.

Tom Tower North Country Alliance for Balanced Change – supports the bill. Speaks about the catalyst for a larger discussion on many environmental issues. Sees this as a response to protecting all our natural resources.

Fred Anderson speaks in support of the bill. Speaks to address contaminates in aquifers and give more criteria to DES. Speaks that landfills are the least preferred method of waste disposal. Seeks passage of OTP.

Dir. Mike Wimsatt, on behalf of NH DES, takes no position but does have a few concerns. Notes that citing does include soils, but it only tells you about the soil on the landfill foot print. Is wondering about access issues to land that is owned by those that surrounding a potential site. Adjacent detection monitoring to a landfill area. Discusses Ground water release protection permit. Assessment monitoring. Discusses concerns about exceedance and correlations.

Chair Pearl asks about the already existing process and what is being requested in the bill?

Dir. Wimsatt speaks to the solid waste rules and believes that some of these are included there, including soil data, but the purpose of that is to describe the geologic/soil setting.

Chair Pearl asks whats the frequency of the monitoring of those wells? Dir.Wimsatt – tri-annual monitoring every four months.

HOUSE COMMITTEE ON ENVIRONMENT AND AGRICULTURE

PUBLIC HEARING ON HB 1454-FN

BILL TITLE: relative to permits for the siting of new landfills.

DATE:

ROOM: **Time Public Hearing Called to Order:** 1:05pm

Time Adjourned: 2:30

(please circle if present)

Committee Members: Reps. Pearl, Aron, Comtois, Verville, Davis, Stapleton, Homola, Kennedy, Mason, G. Sanborn, Bixby, Sofikitis, Andrew Bouldin, Dutzy, M. Murray, Von Plinsky, Caplan, Hyland and Perez

Bill Sponsors:

Rep. Tucker	Rep. Thompson	Rep. Massimilla
Rep. Egan	Rep. Hatch	Rep. Merner
Rep. Laflamme	Rep. Myler	Rep. Deshaies
Sen. Hennessey	Sen. Sherman	

TESTIMONY

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

* Rep. Tucker presents bill + offers testimony

* Rep. Maria Perez

x Muriel Robinette + NCABC + NH

* Tim White Sanborn Head

* Tom Tower NorthCountry Alliance for Balanced Change

* Fred Anderson Whitefield. N.H.

* Dir. Mike Wimsatt NH DES.

* John Tuthill

HOUSE COMMITTEE ON ENVIRONMENT AND AGRICULTURE

PUBLIC HEARING ON HB 1454-FN

BILL TITLE: **relative to permits for the siting of new landfills.**

DATE: **January 18, 2022**

LOB ROOM: **301 - 303** **Time Public Hearing Called to Order:** **1:05 p.m.**

Time Adjourned: **2:30 p.m.**

Committee Members: **Reps. Pearl, Aron, Davis, Stapleton, Homola, Kennedy, G. Sanborn, Bixby, Dutzy, M. Murray, Von Plinsky, Caplan and Perez**

Bill Sponsors:

Rep. Tucker	**Rep. Thompson**	**Rep. Massimilla**
Rep. Egan	**Rep. Hatch**	**Rep. Merner**
Rep. Laflamme	**Rep. Myler**	**Rep. Deshaies**
Sen. Hennessey	**Sen. Sherman**	

TESTIMONY

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

Rep. Edith Tucker introduces the bill for HB1454 speaks to public and private well protection, and discusses a 'five year window concept' seeks to utilize ground water permeation studies as a metric for helping to site. Discusses the concept of porosity vs. permeability of groundwater and soils. Discusses studies about landfill leakage. "Years to Cause Harm Concept" being discussed. Discusses the frequency of monitoring.

Rep. Homola asks about problematic parts.

Rep. Aron asks about the EPA source water protection area, and asks about whether or not our state has geologic surveys of water ways?

Rep. Tucker responds that only some areas have been surveyed, seeks to inform communities on siting criteria or potential issues with this bill.

Rep. Murray asks about 'Years to Cause Harm' used typically in industrial siting.

Chair Pearl asks to clarify about the testing to DES noting that Rep. Tucker's testimony suggests it already is in use.

Rep. Tucker says yes, it exists already in statute.

Chair Pearl asks about this info as if it is a determinant in landfill siting.

Rep. Tucker says the information is there but suggests DES may give more information on how this is used.

Rep. Maria Perez supports HB 1454-FN and speaks to superfund sites in her district in Milford N.H. and discusses soil and water contamination in her region. Talks about the need to protect water and soil.

Name	Town	State	Position	Attachment	Typed
Jean Despres	Whitefield	NH	Support		
Jean Matray	BETHLEHEM	NH	Support		
Jeanne Madden	Whitefield	NH	Support		
Jeanne Torpey	Concord	NH	Support		
Jeannette Marinow	Nashua	NH	Support		
Jennifer Lee	Whitefield	NH	Support		
Jenny Crowe	Manchester	NH	Support		
Jeremiah Swatzell	Whitefield	NH	Support		
JESSE DAVIS	NASHUA	NH	Support		
Jill Weber	Mont Vernon	NH	Support		
jim doucette	whitefield	NH	Support		
Jim Shea	Franconia	NH	Support		
Jo Beth Dudley	Dalton	NH	Support		
Joanne Blaney	Bethlehem	NH	Support		
Joanne Carey	Franconia	NH	Support		
Johann Griffin	Lancaster	NH	Support		
John Ballentine	Nashua	NH	Support		

Name	Town	State	Position	Attachment	Typed
Denise Bujalski	Thornton	NH	Support		
Denise Clark	Milford	NH	Support		
Denise St Jean	Dalton	NH	Support		
Diana Frye	Portsmouth	NH	Support		
Don Sharp	Dalton	NH	Support		
Duncan Ross	Dover	NH	Support		
Edward Craxton	Hanover	NH	Support		
Eileen Savage-Creedon	Dalton	NH	Support		
Elaine Thomas	Nashua	NH	Support		
ELIOT WESSLER	Whitefield	NH	Support		
Elizabeth Black	Amherst	NH	Support		
Ellen Hays	Whitefield	NH	Support		
Ellis Robinson	Grantham	NH	Support		
Elmer Lupton	Whitefield	NH	Support		
Emily Zajano	Exeter	NH	Support		
Eric Zaenglein	Amherst	NH	Support		
Erik Johnson	Dalton	NH	Support		
Eryka Lowe	Bethlehem	NH	Support		
Evan Oxenham	Plainfield	NH	Support		
Fred Anderson	Whitefield	NH	Support		
George Russell	Seabrook	NH	Support		
Gina Shea	Franconia	NH	Support		
Gloria GAUDREAU	Nashua	NH	Support		
Gretchen Hesler	Franconia	NH	Support		
Heidi Hamer	Manchester	NH	Support		
Howard Brown	Mont Vernon	NH	Support		
Ingrid Johnson	Ipswich	MA	Support		
James Dorr	WHITEFIELD	NH	Support		
Jane MacKay	Franconia	NH	Support		
Janet Damiano	Dalton	NH	Support		
Janet Marshall	Lisbon	NH	Support		

Name	Town	State	Position	Attachment	Typed
Brian Bourgeois	Goffstown	NH	Support		
Bruce Berk	Pittsfield	NH	Support		
Bruce Blaney	Bethlehem	NH	Support		
Bryan Koplow	Littleton	NH	Support		
Caitlin O'Leary	Westminster	MA	Support		
Cate Doucette	Orwigsburg	PA	Support		
Catherine Bushueff	Sunapee	NH	Support		
Catherine Corkery	Concord	NH	Support		
Cathie Bourgeois	Goffstown	NH	Support		
Charles Despres	Whitefield	NH	Support		
Cheri Falk	Wilton	NH	Support		
Cheryl Jensen	Bethlehem	NH	Support		
Chris Purington	Auburn	NH	Support		
Christopher Brooks	Bethlehem	NH	Support		
Cindy Raspiller	Mont Vernon	NH	Support		
Claire Lupton	Whitefield	NH	Support		
Claudia Damon	Concord	NH	Support		
Connie White	Harrisville	NH	Support		
Cynthia Barrett	Milford	NH	Support		
Daniel Wessler	Whitefield	NH	Support		
Danielle Koerner	Auburn	NH	Support		
Danuta Brooks	Bethlehem	NH	Support		
Dave Manning	Bedford	NH	Support		
David Doherty	Pembroke	NH	Support		
David Koerner	Dalton	NH	Support		
David Madden	Whitefield	NH	Support		
Dawn Steele	Franconia	NH	Support		
Debora Mayer	Portsmouth	NH	Support		
Deborah Nelson	Ipswich	MA	Support		
Deborah Rainey	Harrisville	NH	Support		
DeeAnn Brockmann	Ellsworth	NH	Support		

The New Hampshire
House of Representatives

HOUSE OF REPRESENTATIVES - ONLINE TESTIMONY SUBMISSIONS

House Environment and Agriculture

HB1454

Support: 208 | Oppose: 1 | Neutral: 0

Name	Town	State	Position	Attachment	Typed
Alex Koutroubas	Concord	NH	Oppose		
Allegra Wright	Bethlehem	NH	Support		
Alysha Marinow	Nashua	NH	Support		
Amanda Hodges	Milford	NH	Support		
Amy Delventhal	Bethlehem	NH	Support		
Andrew Jones	Pembroke	NH	Support		
Ann Craxton	Hanover	NH	Support		
Ann Garland	LEBANON	NH	Support		
Ann Griffin	Lancaster	NH	Support		
anna doyle	whitefield	NH	Support		
Anne Dontonville	Enfield	NH	Support		
Anne Lynch-Ambrose	Dalton	NH	Support		
Annie Rettew	Concord	NH	Support		
AnnMarie Tower	Whitefield	NH	Support		
Arthur Torrey	Nashua	NH	Support		
Barbara Zaenglein	Amherst	NH	Support		
Bert Corley	Clarksville	NH	Support		
Beth Quinlan	Bethlehem	NH	Support		
Beth Woodside	Whitefield	NH	Support		
Bill Lanza	Bethlehem	NH	Support		
Bonnie Christie	Hopkinton	NH	Support		

House Remote Testify

Environment and Agriculture Committee Testify List for Bill HB1454 on 2022-01-18

Support: 5 Oppose: 3 Neutral: 0 Total to Testify: 0

Export to Excel

Name	City, State Email Address	Title	Representing	Position	Testifying	Non-Germane	Signed Up
Tower, Tom	Whitefield, NH Tomtower658@gmail.com	A Member of the Public	Myself	Support	No	No	1/12/2022 6:31 AM
Renaud, Ron	Dalton, NH Ron@RonRenaud.com	A Member of the Public	Myself	Support	No	No	1/12/2022 3:00 PM
Koplow, Bryan	Littleton, NH bryan.k.ventures@gmail.com	A Member of the Public	Myself	Support	No	No	1/12/2022 3:33 PM
Blair, Peter	Concord, NH Pblair@clf.org	A Lobbyist	Conservation Law Foundation	Support	No	No	1/12/2022 3:56 PM
Weiner, Stephanie	Lancaster, NH sjweiner03@hotmail.com	A Member of the Public	Myself	Support	No	No	1/12/2022 6:04 PM
Gessner, Judith	Whitefield, NH seaturtlejcg@gmail.com	A Member of the Public	Myself	Support	No	No	1/12/2022 7:04 PM
Delventhal, Amy	Bethlehem, NH amy_whitefeather@yahoo.com	A Member of the Public	Myself	Support	No	No	1/12/2022 7:17 PM
Gessner, William	Whitefield, NH mogul12345@gmail.com	A Member of the Public	Myself	Support	No	No	1/12/2022 7:30 PM
Despres, Jean	Whitefield, NH jfdespres@msn.com	A Member of the Public	Myself	Support	No	No	1/13/2022 10:09 AM
Despres, Charles	Whitefield, NH Cjdespres@msn.com	A Member of the Public	Myself	Support	No	No	1/13/2022 10:13 AM
De Lutis, Kim	LITTLETON, NH copyeditorkim@gmail.com	A Member of the Public	Myself	Support	No	No	1/13/2022 1:47 PM
Anderson, Fred	Whitefield, NH fra676@mapc.com	A Member of the Public	Myself	Support	No	No	1/13/2022 1:52 PM
Savage-Creedon, Eileen	Dalton, NH eileensc@mac.com	A Member of the Public	Myself	Support	No	No	1/13/2022 6:03 PM

Damiano, Janet	Dalton, NH Janetd49@hotmail.com	A Member of the Public	Myself	Support	No	No	1/13/2022 6:12 PM
Blaney, Joanne	Bethlehem, NH jcb826@msn.com	A Member of the Public	Myself	Support	No	No	1/13/2022 7:36 PM
Rainey, Deborah	Harrisville, NH songrain.rainey@gmail.com	A Member of the Public	Myself	Support	No	No	1/13/2022 7:50 PM
Tower, AnnMarie	Whitefield, NH Annmarietower@yahoo.com	A Member of the Public	Myself	Support	No	No	1/13/2022 7:52 PM
Lowe, Eryka	Bethlehem, NH Erykalynne21@yahoo.com	A Member of the Public	Myself	Support	No	No	1/13/2022 9:28 PM
St Jean, Denise	Dalton, NH dstjean75@hotmail.com	A Member of the Public	Myself	Support	No	No	1/13/2022 11:06 PM
Morrison, Wayne	Mont Vernon, NH Birdiequest@aol.com	A Member of the Public	Myself	Support	No	No	1/14/2022 9:21 AM
Kellogg, Patricia	Littleton, NH pk@kelloggsurvey.com	A Member of the Public	Myself	Support	No	No	1/14/2022 12:46 PM
Anderson, Questa	Whitefield, NH qanderson@att.net	A Member of the Public	Myself	Support	No	No	1/14/2022 12:50 PM
Hennessey, Sen. Erin	Senate District 1, NH peter.oneill@leg.state.nh.us	An Elected Official	Myself	Support	No	No	1/14/2022 2:57 PM
O'Donnell, Margaret	Whitefield, NH margareto_donnell@yahoo.com	A Member of the Public	Myself	Support	No	No	1/14/2022 4:07 PM
Lindsey, Judith	Candia, NH judilindsey@comcast.net	A Member of the Public	Myself	Support	No	No	1/14/2022 7:15 PM
Johnson, Erik	Dalton, NH erik@ejohnson.net	A Member of the Public	Myself	Support	No	No	1/14/2022 7:59 PM
Borowski, Marianne	Glen, NH mariannebotowski@yahoo.com	A Member of the Public	Myself	Support	No	No	1/14/2022 8:22 PM
Dorr, James	WHITEFIELD, NH james@onsite-services.com	A Member of the Public	Myself	Support	No	No	1/14/2022 9:44 PM
Brooks, Christopher	Bethlehem, NH trib@tributaries.info	A Member of the Public	Myself	Support	No	No	1/15/2022 7:14 AM
Marshall, Janet	Lisbon, NH janmarshall@roadrunner.com	A Member of the Public	Myself	Support	No	No	1/15/2022 7:29 AM
Salomon, Marjorie	Bethlehem, NH moocho.dan@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 7:41 AM

Marinow, Jeannette	Nashua, NH Jmarinow@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 7:43 AM
Bujalski, Denise	Thornton, NH denisebujalski@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 7:55 AM
Doucette, Cate	Orwigsburg, PA catedoucette@hotmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 8:38 AM
Morrison, Nancy	Mont Vernon, NH Weetamooc@aol.com	A Member of the Public	Myself	Support	No	No	1/15/2022 8:49 AM
Tatone, Maggie	Sugarhill, NH Qtb@roadrunner.com	A Member of the Public	Myself	Support	No	No	1/15/2022 8:50 AM
Liffmann, Steven	Salem, NH sliffmann@comcast.net	A Member of the Public	Myself	Support	No	No	1/15/2022 8:54 AM
Shea, Gina	Franconia, NH ginashea@msn.com	A Member of the Public	Myself	Support	No	No	1/15/2022 8:58 AM
Seymour, Margaret	Littleton, NH marghies@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 9:01 AM
Shea, Jim	Franconia, NH jimshea@msn.com	A Member of the Public	Myself	Support	No	No	1/15/2022 9:11 AM
Harrison, Kate	Lyme, NH kategharrison@mac.com	A Member of the Public	Myself	Support	No	No	1/15/2022 9:18 AM
Matray, Jean	BETHLEHEM, NH jeanmatray@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 9:28 AM
DAVIS, SHERMAN	NASHUA, NH SHERMANDAVIS@MSN.COM	A Member of the Public	Myself	Support	No	No	1/15/2022 9:47 AM
Weston, Joyce	Plymouth, NH jweston14@roadrunner.com	An Elected Official	Myself	Support	No	No	1/15/2022 9:52 AM
DAVIS, JESSE	NASHUA, NH JESSEPDAVIS@HOTMAIL.COM	A Member of the Public	Myself	Support	No	No	1/15/2022 9:56 AM
Greaves, Mitch	Dalton, NH mitch@littletonmillwork.com	A Member of the Public	Myself	Support	No	No	1/15/2022 9:59 AM
Carey, Joanne	Franconia, NH nhcarey79@yahoo.com	A Member of the Public	Myself	Support	No	No	1/15/2022 10:16 AM
Brockmann, DeeAnn	Ellsworth, NH dannbrock@yahoo.com	A Member of the Public	Myself	Support	No	No	1/15/2022 10:25 AM
Diamond, Linda	Plymouth, NH dadiamonds1@sbcglobal.net	A Member of the Public	Myself	Support	No	No	1/15/2022 10:27 AM

Nelson, Deborah	Ipswich, MA deborahnelson@mac.com	A Member of the Public	Myself	Support	No	No	1/15/2022 10:32 AM
Barrett, Cynthia	Milford, NH riverlight12@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 11:20 AM
Doucette, Roger	Whitefield, NH rogerddoucette@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 11:24 AM
Pimentel, Rod	Henniker, NH Rod.pimentel@leg.state.nh.us	An Elected Official	Myself	Support	No	No	1/15/2022 11:25 AM
Doucette, Sarah	Whitefield, NH sdoucette58@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 11:35 AM
Hohmeister, Julie	Bethlehem, NH jhohmeister@roadrunner.com	A Member of the Public	Myself	Support	No	No	1/15/2022 11:38 AM
Dieterich, Timothy john	Whitefield, NH tdieterich@ne.rr.com	A Member of the Public	Myself	Support	No	No	1/15/2022 11:51 AM
Zielinski, Susan	Dalton, NH zski2011@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 12:43 PM
Glazner, Michael	Dalton, NH 4mkglazner@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 12:44 PM
O'Leary, Caitlin	Westminster, MA Caitlinmarie05@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 1:05 PM
Koerner, Lorraine	Dalton, NH Hitch160@aol.com	A Member of the Public	Myself	Support	No	No	1/15/2022 1:12 PM
Tatone, John	Sugar Hill, NH jtdc@myfairpoint.net	A Member of the Public	Myself	Support	No	No	1/15/2022 1:15 PM
Koerner, David	Dalton, NH Smokenss64@aol.com	A Member of the Public	Myself	Support	No	No	1/15/2022 1:16 PM
Corley, Bert	Clarksville, NH bert_corley@yahoo.com	A Member of the Public	Myself	Support	No	No	1/15/2022 1:21 PM
Chase, Robert	Whitefield, NH countrysquire339@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 1:24 PM
Woodside, Beth	Whitefield, NH bethwoodside@att.net	A Member of the Public	Myself	Support	No	No	1/15/2022 1:40 PM
Marinow, Alysha	Nashua, NH Alysha.mar@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 1:44 PM
Awad, Mina	Pelham, NH Mina731@hotmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 1:49 PM

Pietrowski, Patricia	Seabrook, NH teeseepies@yahoo.com	A Member of the Public	Myself	Support	No	No	1/15/2022 2:24 PM
Russell, George	Seabrook, NH teeseepies@yahoo.com	A Member of the Public	Myself	Support	No	No	1/15/2022 2:30 PM
Hays, Ellen	Whitefield, NH ellen.hays@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 3:12 PM
Connors, Margaret	Sugar Hill, NH connorsmargo@gmail.com	An Elected Official	Myself	Support	No	No	1/15/2022 3:23 PM
Adams, Julia	Portland, ME jaes15@maine.rr.com	A Member of the Public	Myself	Support	No	No	1/15/2022 3:36 PM
Purington, Chris	Auburn, NH Chrispurington@me.com	A Member of the Public	Myself	Support	No	No	1/15/2022 4:15 PM
Craxton, Edward	Hanover, NH ecraxton@yahoo.com	A Member of the Public	Myself	Support	No	No	1/15/2022 4:17 PM
Purington, Melissa	Auburn, NH Melissakoerner@me.com	A Member of the Public	Myself	Support	No	No	1/15/2022 4:20 PM
Burhardt, Majka	Jackson, NH mb@majkaburhardt.com	A Member of the Public	Myself	Support	No	No	1/15/2022 4:29 PM
Craxton, Ann	Hanover, NH ascraxton@yahoo.com	A Member of the Public	Myself	Support	No	No	1/15/2022 4:31 PM
Glass, Jonathan	Cornish, NH jglass1063@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 4:59 PM
Jensen, Cheryl	Bethlehem, NH cheryljensen448@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 5:40 PM
Torrey, Arthur	Nashua, NH Arthur.torrey@amphenol-tcs.com	A Member of the Public	Myself	Support	No	No	1/15/2022 5:41 PM
Gale, Margaret	Bethlehem, NH mgale6781@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 5:53 PM
GAUDREAU, Gloria	Nashua, NH Ggaudreau@comcast.net	A Member of the Public	Myself	Support	No	No	1/15/2022 5:56 PM
Manning, Dave	Bedford, NH Dave.manning@amphenol-tcs.com	A Member of the Public	Myself	Support	No	No	1/15/2022 6:17 PM
Burke, Kelly	Lyman, NH kab1961@msn.com	A Member of the Public	Myself	Support	No	No	1/15/2022 7:10 PM
Lembo, Jon	Ossipee, NH jonlembo@yahoo.com	A Member of the Public	Myself	Support	No	No	1/15/2022 7:49 PM

Steele, Dawn	Franconia, NH dawnkg@aol.com	A Member of the Public	Myself	Support	No	No	1/15/2022 7:59 PM
Koerner, Danielle	Auburn, NH Daniellemde@live.com	A Member of the Public	Myself	Support	No	No	1/15/2022 9:27 PM
Koerner, Shawn	Auburn, NH 4myty@comcast.net	A Member of the Public	Myself	Support	No	No	1/15/2022 9:32 PM
Koerner, Tyler	Auburn, NH Tyler.kerner24@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 9:45 PM
Glenn/Glover, Tracy	Whitefield, NH teglenn@yahoo.com	A Member of the Public	Myself	Support	No	No	1/15/2022 9:48 PM
Bourgeois, Cathie	Goffstown, NH Mattmichaela@aol.com	A Member of the Public	Myself	Support	No	No	1/15/2022 9:51 PM
Bourgeois, Brian	Goffstown, NH timbersam23@gmail.com	A Member of the Public	Myself	Support	No	No	1/15/2022 9:56 PM
McNulty, John	Whitefield, NH Mcnultyfam@aol.com	A Member of the Public	Myself	Support	No	No	1/15/2022 10:31 PM
Woodside, Mary	Whitefield, NH mewoodside@me.com	A Member of the Public	Myself	Support	No	No	1/16/2022 3:43 AM
Brooks, Danuta	Bethlehem, NH danutabrooks@gmail.com	A Member of the Public	Myself	Support	No	No	1/16/2022 7:06 AM
Quinlan, Beth	Bethlehem, NH Bethq222@yahoo.com	A Member of the Public	Myself	Support	No	No	1/16/2022 7:17 AM
Hamer, Heidi	Manchester, NH heidi.hamer@leg.state.nh.us	An Elected Official	Myself	Support	No	No	1/16/2022 8:14 AM
Zajano, Emily	Exeter, NH emzajano@aol.com	A Member of the Public	Myself	Support	No	No	1/16/2022 8:52 AM
Harris, Richard	Colebrook, NH psiadix03576@gmail.com	A Member of the Public	Myself	Support	No	No	1/16/2022 10:22 AM
Cameron, Lydia	Whitefield, NH l1libby1@aol.com	A Member of the Public	Myself	Support	No	No	1/16/2022 10:32 AM
Swan, Jon	Dalton, NH saveforestlake@yahoo.com	A Member of the Public	Save Forest Lake	Support	No	No	1/16/2022 10:36 AM
Lanza, Bill	Bethlehem, NH wmlanza@gmail.com	A Member of the Public	Myself	Support	No	No	1/16/2022 11:59 AM
Thomas, Elaine	Nashua, NH thomas.marshall@comcast.net	A Member of the Public	Myself	Support	No	No	1/16/2022 1:35 PM

Wright, Allegra	Bethlehem, NH ucopythis@gmail.com	A Member of the Public	Myself	Support	No	No	1/16/2022 2:33 PM
Johnson, Ingrid	Ipswich, MA gaviaimmer24@gmail.com	A Member of the Public	Myself	Support	No	No	1/16/2022 3:27 PM
Sharp, Don	Dalton, NH Sharpview5522@yahoo.com	A Member of the Public	Myself	Support	No	No	1/16/2022 4:11 PM
Arrison, Tom	Dalton, NH rta@notaol.com	A Member of the Public	Myself	Support	No	No	1/16/2022 4:27 PM
Fuentes, Sebastian	Thornton, NH sef665@g.harvard.edu	A Member of the Public	Myself	Support	No	No	1/16/2022 7:09 PM
Ross, Duncan	Dover, NH dhross1012@gmail.com	A Member of the Public	Myself	Support	No	No	1/16/2022 7:13 PM
Argetsinger, Susan	Whitefield, NH windswept556@hotmail.com	A Member of the Public	Myself	Support	No	No	1/16/2022 8:00 PM
Ward-Bayly, Kaari	CONCORD, NH kwbayly@hotmail.com	A Member of the Public	Myself	Support	No	No	1/16/2022 8:29 PM
Lee, Jennifer	Whitefield, NH newslee1@gmail.com	A Member of the Public	Myself	Support	No	No	1/16/2022 9:22 PM
doucette, jim	whitefield, NH doucbrother@yahoo.com	A Member of the Public	Myself	Support	No	No	1/17/2022 12:33 AM
Wazir, Safiya	Concord, NH S.wazir@leg.state.nh.us	An Elected Official	Myself and my constituents	Support	No	No	1/17/2022 7:08 AM
White, Connie	Harrisville, NH mommabird1953@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 7:27 AM
Doherty, David	Pembroke, NH ddoherty0845@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 8:25 AM
Lynch-Ambrose, Anne	Dalton, NH bellewmn1@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 8:46 AM
Hodges, Amanda	Milford, NH Hodges_a@comcast.net	A Member of the Public	Myself	Support	No	No	1/17/2022 9:14 AM
Dewey, Karen	NEWPORT, NH pkdewey@comcast.net	A Member of the Public	Myself	Support	No	No	1/17/2022 10:24 AM
Blanchard, Sandra	Loudon, NH sandyblanchard3@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 11:02 AM
Lindpaintner, Lyn	Concord, NH lynlin@bluewin.ch	A Member of the Public	Myself	Support	No	No	1/17/2022 11:12 AM

Jernstedt, Margaret	Hanover, NH Margaret.Jernstedt@comcast.net	A Member of the Public	Myself	Support	No	No	1/17/2022 11:43 AM
Bellavance, Phyllis	Bethlehem, NH Blkbrd007@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 12:13 PM
Campbell, Kay	Epsom, NH kkcampbell43@yahoo.com	A Member of the Public	Myself	Support	No	No	1/17/2022 12:14 PM
Torpey, Jeanne	Concord, NH jtorp51@comcast.net	A Member of the Public	Myself	Support	No	No	1/17/2022 12:19 PM
Hesler, Gretchen	Franconia, NH uncas2@yahoo.com	A Member of the Public	Myself	Support	No	No	1/17/2022 12:26 PM
Weber, Jill	Mont Vernon, NH jill@frajilfarms.com	A Member of the Public	Myself	Support	No	No	1/17/2022 12:30 PM
Perrotta, Teresa	Bethleham, NH terrip0224@yahoo.com	A Member of the Public	Myself	Support	No	No	1/17/2022 1:05 PM
Hayward, Marcia	Laconia, NH mjhayward131@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 1:07 PM
Perrotta, Thomas	Bethleham, NH tperro8359@yahoo.com	A Member of the Public	Myself	Support	No	No	1/17/2022 1:15 PM
Kopp, Kathleen	WHITEFIELD, NH kkopp@ne.rr.com	A Member of the Public	Myself	Support	No	No	1/17/2022 1:35 PM
Almy, Susan	Lebanon, NH susan.almy@comcast.net	An Elected Official	Myself	Support	No	No	1/17/2022 2:10 PM
Berk, Bruce	Pittsfield, NH bruce.berk.nh@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 2:48 PM
COPELAND, ROBERT	LITTLETON, NH notchweather@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 2:48 PM
Copeland, Marcia	Littleton, NH mjc.kbhr@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 2:56 PM
Schissel, Mary	Newport, NH schissell@comcast.net	A Member of the Public	Myself	Support	No	No	1/17/2022 2:58 PM
Beffa-Negrini, Patricia	Nelson, NH pbeffa@me.com	A Member of the Public	Myself	Support	No	No	1/17/2022 2:59 PM
Moore, Susan	Franconia, NH susan.moore.franconia@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 3:56 PM
Markert, Lynn	Newmarket, NH lemarkert@comcast.net	A Member of the Public	Myself	Support	No	No	1/17/2022 3:57 PM

Dontonville, Roger	Enfield, NH rdontonville@gmail.com	An Elected Official	Myself	Support	No	No	1/17/2022 3:58 PM
Baber, Kristine	Dover, NH kmbaber@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 4:08 PM
Davidson, Suellen	Hollis, NH suellendavidson@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 4:20 PM
Doucette, Peter	Jackson, NH peterjdoucette@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 4:40 PM
Smith, Sara	Pembroke, NH sara.rose.ssmith@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 4:54 PM
Dudley, Jo Beth	Dalton, NH jbdmtns@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 5:07 PM
Ballentine, John	Nashua, NH mikeb@btine.com	A Member of the Public	Myself	Support	No	No	1/17/2022 5:10 PM
Aranzabal, Luis	Milford, NH Luisaranzabal40@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 5:45 PM
Madden, Jeanne	Whitefield, NH airloans@aol.com	A Member of the Public	Myself	Support	No	No	1/17/2022 5:52 PM
Christie, Bonnie	Hopkinton, NH Bchristie1953@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 6:03 PM
Randall, Susan	Rochester, NH randall3@metrocast.net	A Member of the Public	Myself	Support	No	No	1/17/2022 6:40 PM
DeRosa, Tom	Bedford, NH tom@bfreshconsulting.com	A Lobbyist	North Country Alliance for Balanced Change	Support	No	No	1/17/2022 6:45 PM
Tucker, Katherine	Wilmot, NH katherine.s.tucker@valley.net	A Member of the Public	Myself	Support	No	No	1/17/2022 7:12 PM
Oxenham, Evan	Plainfield, NH evan.oxenham@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 7:14 PM
Dontonville, Anne	Enfield, NH Ardontonville@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 7:27 PM
Brennan, Nancy	Weare, NH burningnan14@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 7:30 PM
Koutroubas, Alex	Concord, NH alex@dennehybouley.com	A Lobbyist	American Council of Engineering Companies of New Hampshire	Oppose	No	No	1/17/2022 7:56 PM
schissel, lawrence	newport, NH MLSCHISSEL@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 8:01 PM

Garland, Ann	LEBANON, NH annhgarland@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 8:04 PM
doyle, anna	whitefield, NH ataylor123@aol.com	A Member of the Public	Myself	Support	No	No	1/17/2022 8:09 PM
Blaney, Bruce	Bethlehem, NH bablaney@msn.com	A Member of the Public	Myself	Support	No	No	1/17/2022 8:11 PM
Wright, Michel	Littleton, NH michael.wright7@comcast.net	A Member of the Public	Myself	Support	No	No	1/17/2022 8:13 PM
Grosholz, Robert	Littleton, NH rgrosholz@yahoo.com	A Member of the Public	Myself	Support	No	No	1/17/2022 8:17 PM
Madden, David	Whitefield, NH drmadden@banterra.com	A Member of the Public	Myself	Support	No	No	1/17/2022 8:32 PM
Merchant, Rep. Gary	Claremont, NH gary.merchant@leg.state.nh.us	An Elected Official	Myself	Support	No	No	1/17/2022 8:37 PM
MacKay, Jane	Franconia, NH janecmac@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 8:57 PM
Lupton, Claire	Whitefield, NH luptoncopy@aol.com	A Member of the Public	Myself	Support	No	No	1/17/2022 9:26 PM
Richman, Susan	Durham, NH susan7richman@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 9:36 PM
Rettew, Annie	Concord, NH abrettew@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 9:37 PM
Lupton, Elmer	Whitefield, NH neillup@aol.com	A Member of the Public	Myself	Support	No	No	1/17/2022 9:39 PM
Damon, Claudia	Concord, NH cordsdamon@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 9:43 PM
Savage, Marybeth	Portsmouth, NH mbesavage@comcast.net	A Member of the Public	Myself	Support	No	No	1/17/2022 9:47 PM
Wessler, Rachel	Whitefield, NH rhwessler@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 9:55 PM
Swatzell, Jeremiah	Whitefield, NH jpswatzell@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 9:55 PM
perencevich, ruth	concord, NH rperence@comcast.net	A Member of the Public	Myself	Support	No	No	1/17/2022 9:56 PM
Wessler, Daniel	Whitefield, NH daniel.wessler@natgeo.com	A Member of the Public	Myself	Support	No	No	1/17/2022 10:00 PM

WESSLER, ELIOT	Whitefield, NH eliot.wessler@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 10:00 PM
Aronson, Laura	MANCHESTER, NH laura@mlans.net	A Member of the Public	Myself	Support	No	No	1/17/2022 10:48 PM
Mittleman, Nancy	Dalton, NH pdedance@msn.com	A Member of the Public	Myself	Support	No	No	1/17/2022 11:18 PM
Stiffler, William	Newport, OR pacificdanceensemble@msn.com	A Member of the Public	Myself	Support	No	No	1/17/2022 11:25 PM
Gilman, Representative Julie	Exeter, NH julie.gilman@leg.state.nh.us	An Elected Official	Town of Exeter	Support	No	No	1/17/2022 11:28 PM
Lagno, Oksana	West Bridgewater, MA Oksana.orders@gmail.com	A Member of the Public	Myself	Support	No	No	1/17/2022 11:44 PM
Raspiller, Cindy	Mont Vernon, NH raspicl@hotmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 12:03 AM
Clark, Denise	Milford, NH denise.m.clark03055@gmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 12:16 AM
Brown, Howard	Mont Vernon, NH hobro39@hotmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 12:24 AM
Saum, Judith	Rumney, NH judithsaum@gmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 6:08 AM
Zaenglein, Barbara	Amherst, NH bzaenglein@ail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 6:20 AM
Zaenglein, Eric	Amherst, NH henley11@comcast.net	A Member of the Public	Myself	Support	No	No	1/18/2022 6:21 AM
Ellermann, Maureen	Concord, NH ellermannf@aol.com	A Member of the Public	Myself	Support	No	No	1/18/2022 6:56 AM
Griffin, Ann	Lancaster, NH ann.griffin@yahoo.com	A Member of the Public	Myself	Support	No	No	1/18/2022 7:05 AM
Black, Elizabeth	Amherst, NH ekingblack@aol.com	A Member of the Public	Myself	Support	No	No	1/18/2022 7:06 AM
Griffin, Johann	Lancaster, NH yojogriff@yahoo.com	A Member of the Public	Myself	Support	No	No	1/18/2022 7:06 AM
Menzies, Mary	Littleton, NH maryhealdmenzies@gmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 7:38 AM
Nardino, Marie	Andover, NH mdnardino@gmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 7:57 AM

Falk, Cheri	Wilton, NH falk.cj@gmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 7:57 AM
Robinson, Ellis	Grantham, NH ellismmrobinson@gmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 8:08 AM
Seely, Julie	Bethlehem, NH julie.j.seely@hotmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 8:28 AM
Cahill, Michael	Newmarket, NH michael.cahill@leg.state.nh.us	An Elected Official	Myself	Support	No	No	1/18/2022 8:32 AM
Comeau, Nancy	Dalton, NH nbcomeau419@gmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 8:43 AM
Sherman, Senator Tom	SD24, NH jennifer.horgan@leg.state.nh.us	An Elected Official	SD24	Support	No	No	1/18/2022 8:55 AM
Findley, Sally	Grantham, NH findley.se@gmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 9:09 AM
Bushueff, Catherine	Sunapee, NH agawamdesigns@gmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 10:09 AM
Corkery, Catherine	Concord, NH catherine.corkery@sierraclub.org	A Lobbyist	NH Sierra Club	Support	No	No	1/18/2022 10:16 AM
Mayer, Debora	Portsmouth, NH mayer.studio@gmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 10:40 AM
Frye, Diana	Portsmouth, NH dfryz@yahoo.com	A Member of the Public	Myself	Support	No	No	1/18/2022 11:15 AM
Kuemmerle, Nancy	Enfield, NH nkuemmerle@une.edu	A Member of the Public	Myself	Support	No	No	1/18/2022 12:33 PM
chase, Wendy	Rollinsford, NH wendy.chase@leg.state.nh.us	An Elected Official	Myself	Support	No	No	1/18/2022 12:34 PM
Jones, Andrew	Pembroke, NH arj11718@yahoo.com	A Member of the Public	Myself	Support	No	No	1/18/2022 3:08 PM
Gould, Matthew	Litchfield, NH mgould3090@gmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 7:34 PM
Crowe, Jenny	Manchester, NH Jcturtle6@gmail.com	A Member of the Public	Myself	Support	No	No	1/18/2022 7:40 PM

are shallow & deep defined elsewhere in Statute

last sentence is a little cumbersome.

line 16 of Amendment should read "at the greater of 200 feet.

Sufficiently Close - line 6. is ambiguous

discussion on geological changes

Director Wessett of DES. would you help w/ this amendment

HOUSE COMMITTEE ON ENVIRONMENT AND AGRICULTURE

SUBCOMMITTEE WORK SESSION on HB 1454-FN

BILL TITLE: relative to permits for the siting of new landfills.

DATE: 2/1/22

Subcommittee Members: Reps. Pearl, Aron, Comtois, ~~Verville, Davis, Stapleton,~~ Homola, Kennedy, Mason, G. Sanborn, Bixby, ~~Sofikitis~~, Andrew Bouldin, Dutzy, M. Murray, Von Plinsky, ~~Caplan~~ and Perez

Comments and Recommendations:

Solid Waste Subcommittee

MOTIONS: OTP, OTP/A, ITL, Retained (1st Yr), Interim Study (2nd Yr)
(Please circle one)

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

Adoption of Amendment # 0380H

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

_____ Amendment Adopted _____ Amendment Failed

MOTIONS: OTP, OTP/A, ITL, Retained (1st Yr), Interim Study (2nd Yr)
(Please circle one)

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

Adoption of Amendment # _____

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

_____ Amendment Adopted _____ Amendment Failed

Respectfully submitted,

Rep. _____
Subcommittee Chairman/Clerk

HOUSE COMMITTEE ON ENVIRONMENT AND AGRICULTURE

SUBCOMMITTEE WORK SESSION on HB 1454-FN

BILL TITLE: relative to permits for the siting of new landfills.

DATE: February 1, 2022

Subcommittee Members: Reps. Pearl, Aron, Comtois, Homola, Kennedy, Mason, G. Sanborn, Bixby, Andrew Bouldin, Dutzy, M. Murray, Von Plinsky and Perez

Comments and Recommendations: Solid Waste Subcommittee. Are shallow and deep defined elsewhere in statute. Last sentence is a little cumbersome. Line 16 of amendment should read "at the greater of 200 feet." Sufficiently close - line 6 is aribijuous discussion on geological changes. Director Wimsatt of DES would you help with this amendment.

Respectfully submitted,

Rep. Barbara Comtois
Subcommittee Chairman

Whereas protecting perenial rivers, lakes and coastal waters from contamination is in the public interest of the State of New Hampshire, the setback from a proposed landfill to such a water body should be sufficient to prevent groundwater contaminated by a leak, spill, or other failure from reaching the waterbody before remedial action can be implemented ~~completed.~~ A period of five years should be sufficient to detect and map a failure, assess appropriate remediation, meet engineering and regulatory requirements, and intiate ~~enact~~ the remedy.

For any proposed new landfill, the department shall establish a setback distance from any perennial river, lake, or coastal water of New Hampshire, as defined in RSA 483-B:4, XVI. The setback distance shall be sufficient to prevent any groundwater at any part of the actual solid waste disposal area from reaching any perennial river, lake, or coastal water of New Hampshire, as defined in RSA 483-B:4, XVI within five years ~~of any leak, spill, or other failure.~~ No permit shall be issued by any division of the department for siting a new landfill that fails to conform with this setback distance as calculated using the method set forth in paragraph (b) of this section. Nothing in this paragraph shall be construed to prohibit the expansion of any landfills that are in operation at the time this act takes effect.

(b) To determine the individual, site-specific, distance of this setback, the applicant shall hire an independent hydrogeologist, at the applicant's expense, to estimate, based upon adequate and representative on-site field testing, the maximum seepage velocity of groundwater in both overburden/till and in bedrock, whichever is the larger estimate. The estimate of velocity shall be expressed in units of "X feet per year." The setback from any perennial river, lake, or coastal water of New Hampshire, as defined in RSA 483-B:4, XVI shall be the greater of 200 feet or X times 5 feet.

10:30 AM

HOUSE COMMITTEE ON ENVIRONMENT AND AGRICULTURE

SUBCOMMITTEE WORK SESSION on HB 1454-FN

BILL TITLE: relative to permits for the siting of new landfills.

DATE:

Subcommittee Members: Reps. M. Murray, Comtois, ~~Verville~~, Stapleton, ~~Homola, Andrew Bouldin and Caplan~~

Comments and Recommendations:

draft of another amendment - Subcommittee ready for final determination March 1st @ 10:30 AM

MOTIONS: OTP, OTP/A, ITL, Retained (1st Yr), Interim Study (2nd Yr)
(Please circle one)

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

Adoption of Amendment # _____

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

_____ Amendment Adopted _____ Amendment Failed

MOTIONS: OTP, OTP/A, ITL, Retained (1st Yr), Interim Study (2nd Yr)
(Please circle one)

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

Adoption of Amendment # _____

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

_____ Amendment Adopted _____ Amendment Failed

Respectfully submitted,

Rep. _____
Subcommittee Chairman/Clerk

HOUSE COMMITTEE ON ENVIRONMENT AND AGRICULTURE

SUBCOMMITTEE WORK SESSION on HB 1454-FN

BILL TITLE: relative to permits for the siting of new landfills.

DATE: February 22, 2022

Subcommittee Members: Reps. M. Murray, Comtois and Stapleton

Comments and Recommendations: Draft of another amendment - subcommittee meeting for final determination on March 1st at 10:30 a.m.

Respectfully submitted,

Rep. Barbara Comtois
Subcommittee Clerk

applications on a site-by-site basis and maintain adequate groundwater and surface water protection.

In closing, I hope this supplemental information helps the Committee clarify the protections to surface water provided by the existing NHDES landfill siting and permitting requirements. To re-iterate a point from my prior testimony, HB 1454 should be struck down as amended because of its arbitrary assumption of groundwater travel time and the duplication of current NHDES regulatory requirements.

Thank you for the opportunity to provide supplemental information to the Committee. I appreciate your time and consideration of these comments.

Very truly yours,

SANBORN, HEAD & ASSOCIATES, INC.

Timothy M. White, P.G.
Project Director

Program[9], which have guided development of the New Hampshire Source Protection Rules, do not by themselves prohibit specific land uses relative to public water supplies. The table below summarizes the stated responsibilities of each of the programs.

USEPA's Wellhead Protection Program	USEPA's Source Water Assessment Program
Established to help communities perform the following: • form a local team which will assist with protection of public supply wells in their area; • determine the land area which provides water to public supply wells; • identify existing and potential sources of contamination; • manage potential sources of contamination to minimize their threat to drinking water sources; and • develop a contingency plan to prepare for an emergency well closing and to plan for future water supply needs.	Established state drinking water programs responsible for the following: • identifying the land areas which provide water to each public drinking water source in their state; • completing an inventory of existing and potential sources of contamination in those areas; • determining the susceptibility of each drinking water system to contamination; and • releasing the results of the assessment to water users and other interested entities.

The key finding is: The prohibition of specific property uses included in HB 1454 is not included in the scopes of USEPA's Wellhead Protection Program or Source Water Assessment Program.

It is important to consider: Why does USEPA's source protection program not restrict property uses based on groundwater travel time to a drinking water source?

The answer is: groundwater and surface water interactions are complex and heterogeneous, and should be considered on a case-by-case basis. Assuming a universal restriction of a specific land use (e.g., landfills) based on a single groundwater travel time is not a technically rigorous approach and should be rejected.

CLOSING

Groundwater and surface water protection are adequately addressed in the existing NHDES solid waste landfill regulations. An additional provision in law that includes a siting restriction based on an arbitrary groundwater travel time is not needed, particularly a provision such as the 5 year restriction in HB 1454 that has no basis in New Hampshire law.

Further, there is no identified basis in USEPA drinking water source protection programs – which were reportedly a basis for the approach in HB 1454 – that supports prohibitions on property uses, including landfills, based on groundwater travel time. The permitting experts at NHDES currently have the administrative tools necessary to adequately evaluate landfill

[9] https://www3.epa.gov/region1/eco/drinkwater/pc_sourcewater_assessment.html

2.0 TECHNICAL PROBLEMS WITH PROPOSED APPROACH

Below I summarize two technical problems with the proposed approach included in HB 1454.

2.1 Unsupported Rationale for the Minimum Five Year Travel Time to Surface Water Restriction

Representative Tucker explained in her testimony on January 18, 2022 that the concept of the groundwater travel time to surface water was adopted from a USEPA approach used for evaluating siting industrial facilities relative to public drinking water supplies ("source water") protection areas. However, I am not aware that the Bill's sponsors have provided a technical basis for including a 5 year minimum travel time restriction in HB 1454. When questioned at the January 18, 2022 hearing whether the "years to cause harm" approach was being used in New Hampshire, Representative Tucker responded that it was "used typically on industrial sites in certain states", but was not able to confirm if this approach was or was not used in New Hampshire.

The current New Hampshire Source Protection Rules[5] regulations do not include restriction that prohibit specific land uses (such as a landfill) based on a 5-year – or other – groundwater travel time from a potential contaminant source to a drinking water supply. Regarding regulation of potential contaminants in groundwater, NHDES' community well siting rules for small systems (Env-Dw 305)[6] and large systems (Env-Dw 302)[7] specify the site selection criteria and groundwater withdrawal procedures, but do not restrict land use based on a groundwater travel time to water supply sources.

The important question is: On what technical basis should a method reportedly developed for evaluating public drinking water source protection be subjectively modified and adopted for restricting siting of landfills relative to certain surface water bodies, particularly when different methods are currently used for public drinking water source protection in New Hampshire?

In my opinion, the answer to this question is: there is no technical basis for the approach included in the proposed amendment to HB 1454 and therefore the proposed amendment and Bill should be rejected.

2.2 Prohibition of Specific Property Uses – Not Included in USEPA's Source Protection Programs

As discussed above in Section 2.1, the approach used in the proposed amendment was reportedly based on USEPA's drinking water source protection programs. It is important to note that the USEPA's Wellhead Protection Program[8] and Source Water Assessment

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5 https://www.des.nh.gov/climate-and-sustainability/conservation-mitigation-and-restoration/source-water-protection

6 https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Dw%20305.pdf

7 https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Dw%20302.pdf

8 https://www3.epa.gov/region1/eco/drinkwater/pc_wellhead_protection.html

1.2 Existing Surface Water Setback Requirements

Based on testimony and responses to Committee members' questions at the January 18, 2022 hearing[3], it may have been possible to conclude that the 200-foot setback for landfills to surface water under the existing NHDES rules is the only setback requirement for surface water. This is not accurate. Under *Env-Sw 804.03(d)*, there is a required 200-foot setback between a landfill and surface water; however, the 200-foot distance represents only the minimum setback a landfill must have to surface water. As discussed above in Section 1.1 relative to *Env-Sw 804.03(c)(3)*, in addition to the 200-foot minimum setback, a landfill applicant is also required to demonstrate that the landfill is sited in an area where the potential release of contaminants to surface waters can be prevented, attenuated, or otherwise remediated.

1.3 Surface Water Protections under Groundwater Release Detection Permits

In addition to the landfill siting requirements discussed above in Sections 1.1 and 1.2, the conditions contained in Groundwater Release Detection Permits issued to the State's lined landfills include surface water protections.

Each of the six operating lined landfills in New Hampshire has either a Groundwater Management Permit or Release Detection Permit, or a combined permit. In each of these permits, there are conditions that require protection of surface water. Below, I have excerpted Mt. Carberry's November 25, 2019 Groundwater Release Detection Permit[4] as an example to indicate this standard permit condition and shown the requirement in red highlighting:

Excerpt of Mt. Carberry Landfill's Groundwater Release Detection Permit:

STANDARD RELEASE DETECTION CONDITIONS

1. The permittee shall not cause a regulated contaminant as defined in RSA 485-C to be introduced to the ground or groundwater.

2. The permittee shall not cause groundwater degradation that results in a violation of surface water quality standards (N.H. Admin. Rules Env-Wq 1700) in any surface water body.

The existing NHDES permitting regulations have a track record of successful environmental protection. As Waste Management Director Michael Wimsatt testified to the Committee on January 18, 2022, NHDES has not documented a case in New Hampshire where a landfill liner failure has resulted in a leachate release to groundwater. As the Director indicated, where impacts to groundwater have been identified at landfill sites, the source has been a release other than the liner system. In these cases, the groundwater monitoring programs have successfully identified the releases, and corrective actions have been put in place prior to groundwater impacts reaching surface water.

---

[3] Hearing recording available at the NH House of Representatives Committee Streaming YouTube channel: https://www.youtube.com/watch?v=2ef68aCI3bM

[4] https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4818915

duplicative and therefore redundant, as well as a discussion of some of the technical problems with the proposed amendment.

1.0 EXISTING NHDES LANDFILL REGULATIONS

Under the current rules, NHDES already maintains the authority to prevent development of a landfill at a site where surface water impacts could occur and an additional provision in law is not necessary. Key portions of the existing NHDES regulations are summarized below.

1.1 Landfill Siting Regulations – Surface Water Protection

Groundwater and surface water protection are integral parts of siting and permitting a solid waste facility in New Hampshire. Under *Env-Sw 804.03* (*Surface Water Protection Standards* section of the *Env-Sw 800 Landfill Requirements* rules)[2], there is a requirement for siting a landfill where a hydrogeologic study has demonstrated "the potential release of contaminants to surface waters can be prevented, attenuated or otherwise remediated."

I have excerpted *Env-Sw 804.03* below, and indicated the relevant requirements in a red outline:

Excerpt of Env-Sw 800 "Landfill Requirements":

Env-Sw 804.03 Surface Water Protection Standards.

(a) The location of a landfill relative to surface water resources shall comply with the requirements of RSA 485-A.

(b) A landfill and all associated leachate storage units shall be located only in areas where potential adverse effects to surface water quality, due to erosion, sedimentation, siltation, flood, or discharge of contaminants, can be prevented or minimized and mitigated by facility design.

(c) Identification of the areas cited in (b) above shall be based on a thorough hydrogeological investigation to demonstrate the following:

(1) Compliance with Env-Sw 804.02;

(2) That engineering design measures can be incorporated to control erosion, sedimentation and siltation; and

(3) The potential release of contaminants to surface waters can be prevented, attenuated or otherwise remediated.

(d) The footprint of a landfill shall not be located within 200 feet of any perennial surface water body, measured from the closest bank of a stream and closest shore of a lake, as applicable.

In accordance with *Env-Sw 804.03(c)(3)*, the applicant must demonstrate that the proposed landfill is sited in an area where the potential release of contaminants to surface waters can be prevented, attenuated, or otherwise remediated.

[2] https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Sw%20800.pdf

SANBORN HEAD
Building Trust. Engineering Success.

20 Foundry Street
Concord, NH 03301

The Honorable Howard Pearl, Chair
Committee on Environment and Agriculture
Legislative Office Building, Room 303
Concord NH 03301

February 8, 2022

Re: Supplemental Testimony of Timothy M. White, P.G.
Comments on Proposed Amendment to HB 1454

Dear Chairperson Pearl:

Thank you for this opportunity to provide supplemental written comments to the Committee regarding the proposed amendment to HB 1454.

My name is Tim White, and I am a Project Director at Sanborn, Head & Associates, Inc. (Sanborn Head). I am a licensed Professional Geologist in New Hampshire and am one of the hydrogeologists at Sanborn Head responsible for managing the groundwater monitoring and reporting programs at several of the state's lined landfills. I have worked in the field of geology for over 20 years.

I provided written and spoken testimony at the Committee's hearing on HB 1454 on January 18, 2022. I have prepared this supplemental information for the Committee's consideration regarding the proposed amendment to HB 1454.

The two main issues I would like to summarize regarding the proposed amendment to HB 1454 are as follows:

1. The approach used in the proposed amendment fails to consider that lined landfills in New Hampshire have several decades of successful and adequate solid waste regulation under the existing NHDES rules.

2. Rather than relying on the effectiveness of the existing NHDES regulations, the proposed amendment to HB 1454 asserts that an arbitrary 5 year groundwater travel time to certain surface water bodies (4th order streams, tidal waters, and lakes, ponds, and artificial impoundments greater than 10 acres in size[1]) is needed to protect the State's surface water.

As a groundwater professional, actively engaged in managing environmental monitoring at solid waste landfills in the state, there is no technical basis in New Hampshire law for a 5 year groundwater travel time in prohibiting land use, and it is my opinion that HB 1454 and its amendment should be stuck down as written. Below, I provide a brief summary of the relevant portions of the NHDES rules which make HB 1454 and its proposed amendment

[1] RSA 483-B:4, XVI

groundwater, whichever is the larger estimate" shall be used to establish a setback from perennial river, lake, or coastal water of New Hampshire. In most cases, there are multiple geologic units present at a site, each with their own maximum seepage velocity. The language proposed in HB 1454 does not clearly indicate how seepage velocities between different geologic units should be considered when multiple units are present as is common in the state of New Hampshire.

Further, the reference to "deep" groundwater is not defined in the proposed revision to the RSA, and, more critically, the concept of "deep" groundwater ignores the technical question of whether deeper groundwater is or is not in hydraulic communication with the perennial river, lake, or coastal water in question. In many geologic settings, "deep" groundwater may lack hydraulic connectivity with surface water bodies and the language of the proposed revision to the RSA ignores this important technical consideration when establishing a setback.

Due to the technical complexities of establishing setback criteria using this calculated approach, inclusion of a revision like the one proposed in HB 1454 may be appropriate for NHDES to consider as an update to existing NH Solid Waste Rules Env-Sw 100-2000, but is too ambiguous and requires too many technical considerations to be able to be effectively incorporated into the RSA itself.

To: SPONSORS: Rep. Tucker, Coos 5; Rep. Thompson, Coos 1; Rep. Massimilla, Graf. 1; Rep. Egan, Graf. 2; Rep. Hatch, Coos 6; Rep. Merner, Coos 7; Rep. Laflamme, Coos 3; Rep. Myler, Merr. 10; Rep. Deshaies, Carr. 6; Sen. Hennessey, Dist 1; Sen. Sherman, Dist 24
COMMITTEE: Environment and Agriculture

Re: Letter of Opposition to Amended House Bill 1454-FN
2022 SESSION
AN ACT relative to permits for the siting of new landfills.

From:

Michael F. Dacey, PG
Nikki Delude Roy, PG
Verdantas LLC

Date: February 8, 2022

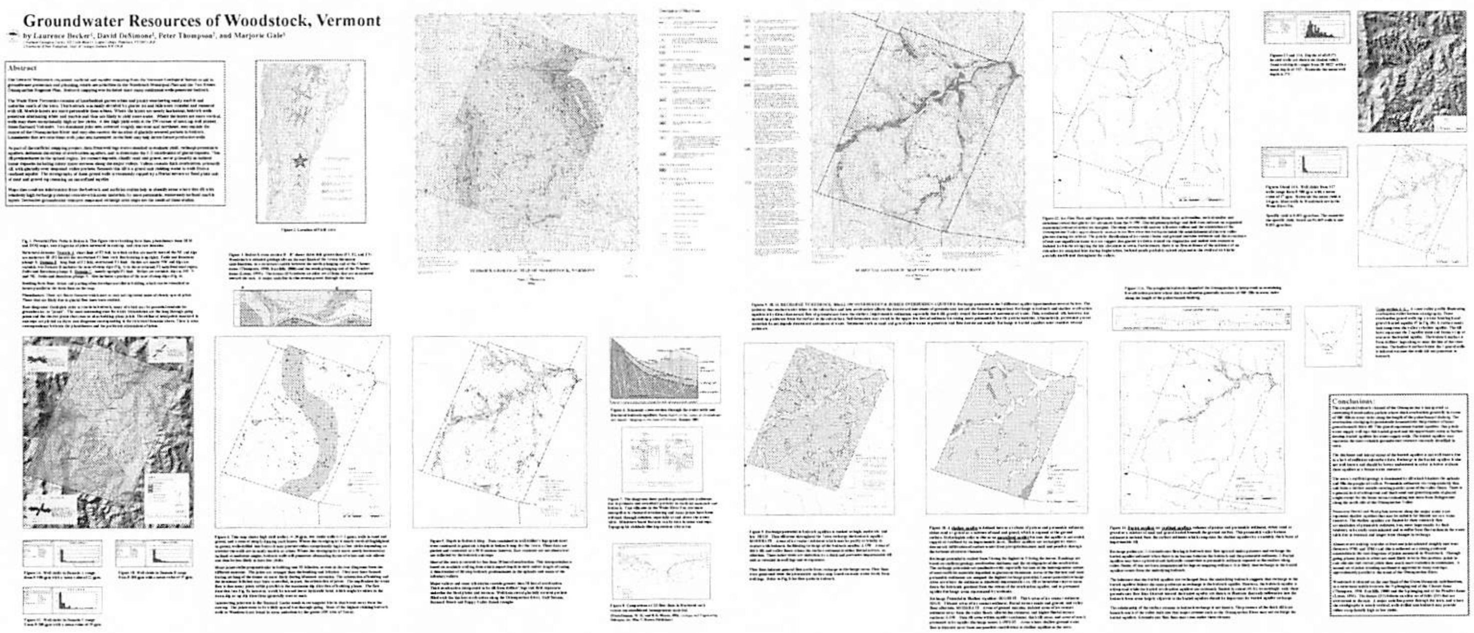
As environmental consultants and Professional Geologists, we oppose House Bill (HB) 1454-FN as amended for the following reasons:

- The New Hampshire Department of Environmental Services (NHDES) has existing rules (NH Solid Waste Rules Env-Sw 100-2000) that govern the construction, operation, and closure of solid waste facilities in the State including, Env-Sw 804 which establishes siting requirements that focus on protection of groundwater and surface water (Env-Sw 804.02 through 804.05). These existing regulations establish protective distances from sensitive receptors including drinking water supplies and surface water bodies.

  Env-Sw 804.02(b) states: "A landfill and all associated leachate storage units shall be located only in areas where groundwater monitoring for release detection, characterization and remediation can be conducted prior to a release having an adverse effect on a water supply." Along with the body of the remainder of Env-Sw 804, these existing regulations requires that landfills evaluate hydrogeologic conditions such that an applicant could not demonstrate these requirements without hiring an independent hydrogeologist (at the applicant's expense) to develop a technically robust conceptual site model which includes (but is not limited to) maximum seepage velocity of groundwater. The addition of the language in amended HB 1454 is unnecessary and redundant to existing NHDES' promulgated regulations.

  Moreover, HB 1454 would essentially transfer only one set of existing setback criteria from Env-Sw 804 to NH RSA 149-M, while leaving others (e.g., minimum distance to the seasonal high groundwater table, distance from geologic faults) in regulations. The transition of this single set of setback requirements to NH RSA 149-M is unnecessary and inconsistent. Further, a transfer of this single siting requirement to the RSA would remove NHDES' ability to revise these expectations in the future, if necessary.

- NH RSA 149-M, as written, oversimplifies location specific geologic conditions and would therefore be prohibitively difficult to implement. Although the proposed revision to the RSA appears relatively straightforward, rarely do geologic settings in New Hampshire have clear "shallow" and "deep" groundwater units as described. For example, as written, "the reasonable maximum seepage velocity of shallow or deep


Groundwater Resources of Woodstock, Vermont
by Laurence Becker[1], David DeSimone[1], Peter Thompson[2], and Marjorie Gale[1]
Abstract
Conclusions:

I've also att. a simple figure (from UNH) showing how there are two different "water tables" we are trying to protect-- "shallow and deep," but I've now changed these descriptors.

~~Adam M. Finkel, Sc.D., CIH Clinical Professor of Environmental Health Sciences University of Michigan School of Public Health~~

Adam

Adam M. Finkel, Sc.D., CIH
Clinical Professor of Environmental Health Sciences
University of Michigan School of Public Health

Webpages: https://sph.umich.edu/faculty-profiles/finkel-adam.html : https://sites.google.com/site/afinkelarticles/ ; http://lullaby-cd.adamfinkel.com/

shallow and deep.JPG

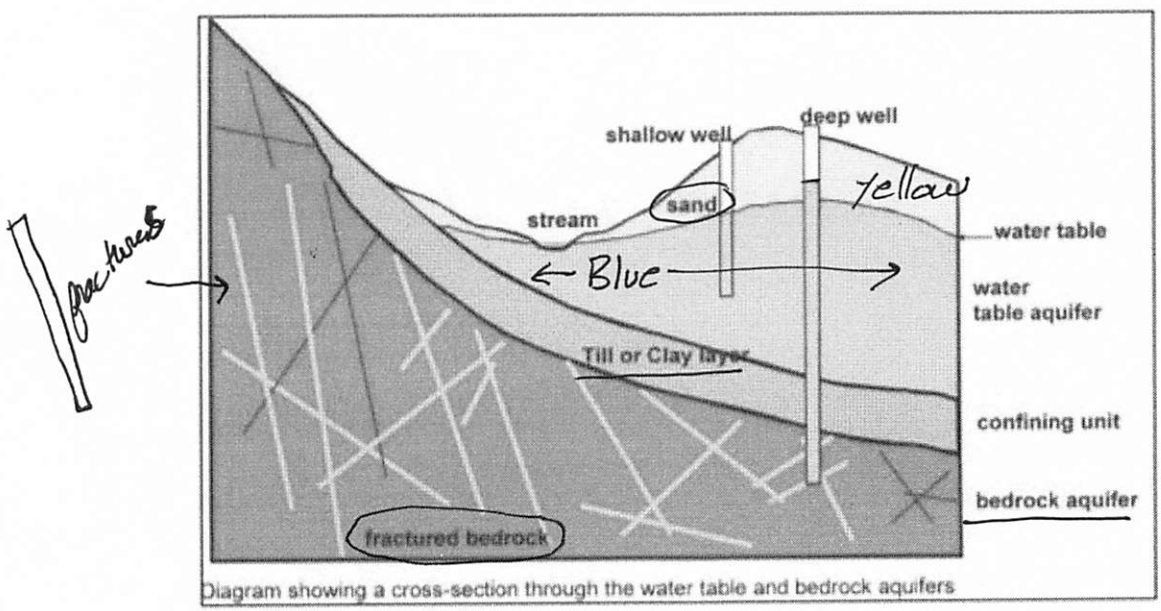


Figure 6. Schematic cross-section through the water table and fractured bedrock aquifers. From ***Report on the Status of Groundwater and Aquifer Mapping in the State of Vermont,*** **January 2003**

Attachments:

Consolidated revisions to HB 1454 as of Feb 6.docx	27 bytes
shallow and deep.JPG	43.9 KB

contaminant sources. Water systems use various methods to delineate surface water-based SWPAs, such as:

- The entire watershed or hydrologic unit containing the intake;
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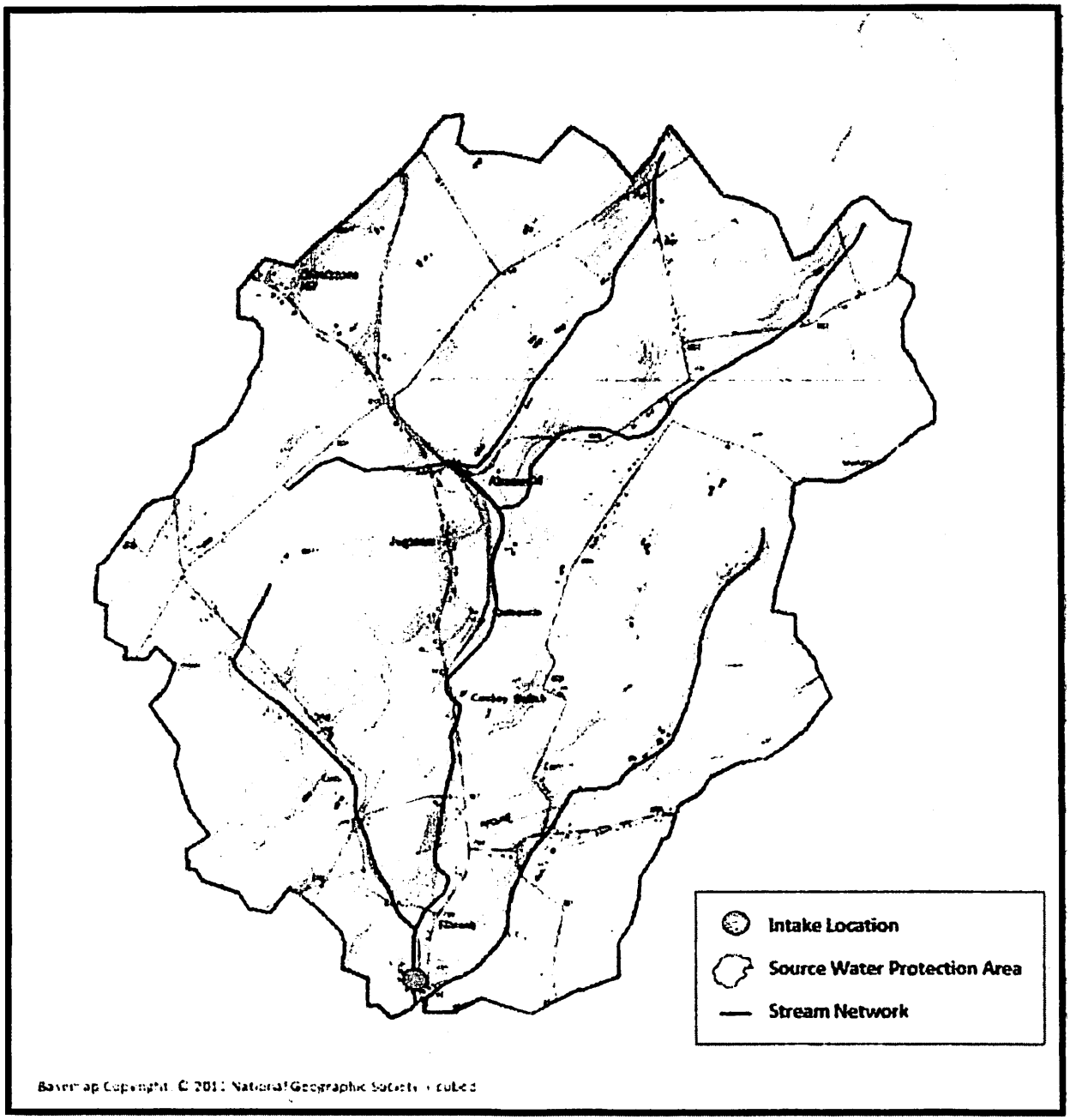

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Delineation for Surface Water Sources

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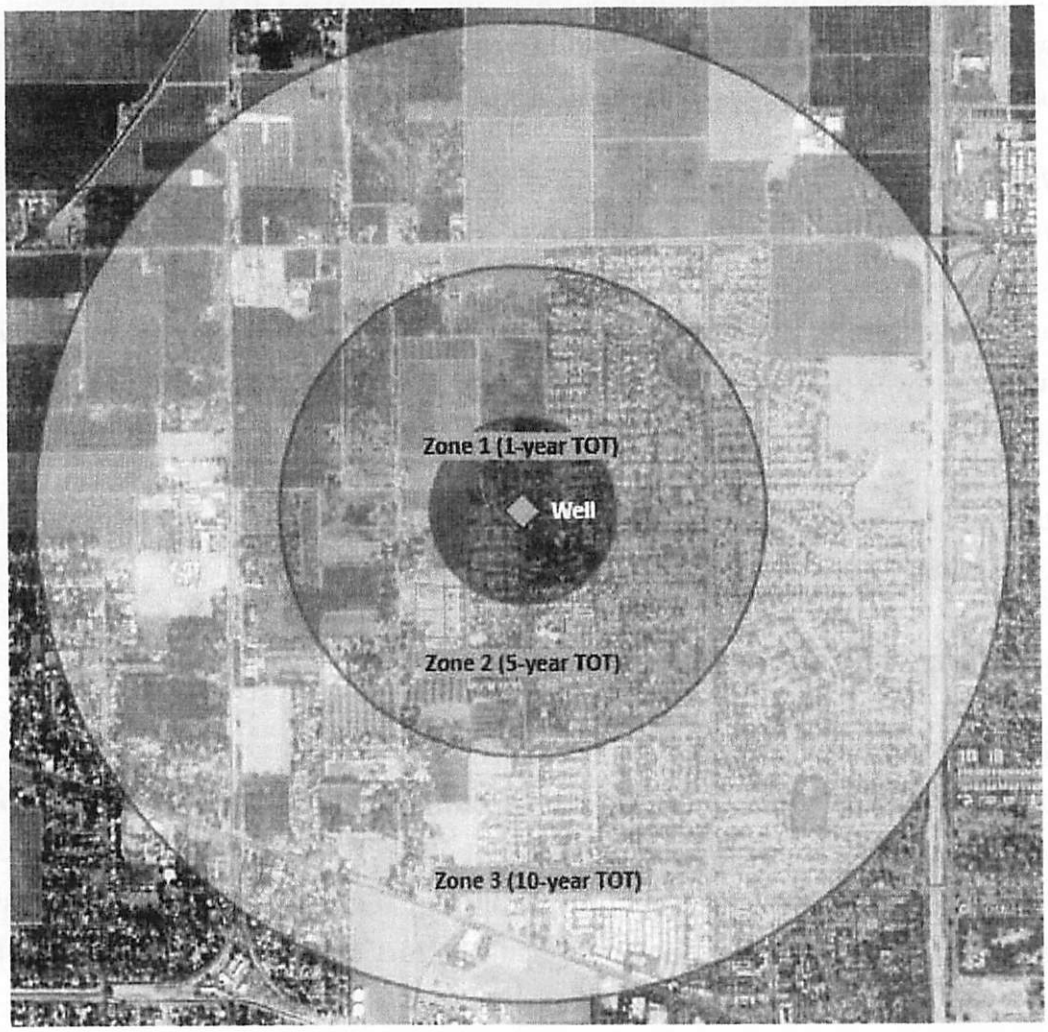
- 

Delineations are often described as a buffer distance from a well or intake structure and expressed in Time of Travel (TOT) (e.g., a 2-year TOT refers to a distance from a well where it will take 2 years for water or contaminants to reach the well). Water systems may choose to divide SWPA's into relative zones of concern.

Arbitrary Radial Distance – The simplest method for delineating a wellhead protection area, this approach involves drawing a circle (or circles) with an arbitrary fixed radius around the well. The radius of the circle may be determined by an evaluation of local hydrogeological conditions, such as soil porosity or groundwater flow rate.

The size of the SWPA may vary based on a variety of hydrogeological, environmental, regulatory, and management factors. Methods for delineating groundwater sources can differ widely from those for delineating surface water sources. Whether surface or groundwater source, it is important to regularly evaluate and redefine SWPAs and zones to account for land use changes, water monitoring data, and new information.

Water systems can ask for help when completing delineations. State public health and environmental agencies, federal agencies (e.g., the Natural Resources Conservation Service (NRCS), United States Geological Survey (USGS), or EPA), state cooperative extension services, water associations, conservation districts, universities, and private organizations may all provide technical assistance and/or data to complete delineations.

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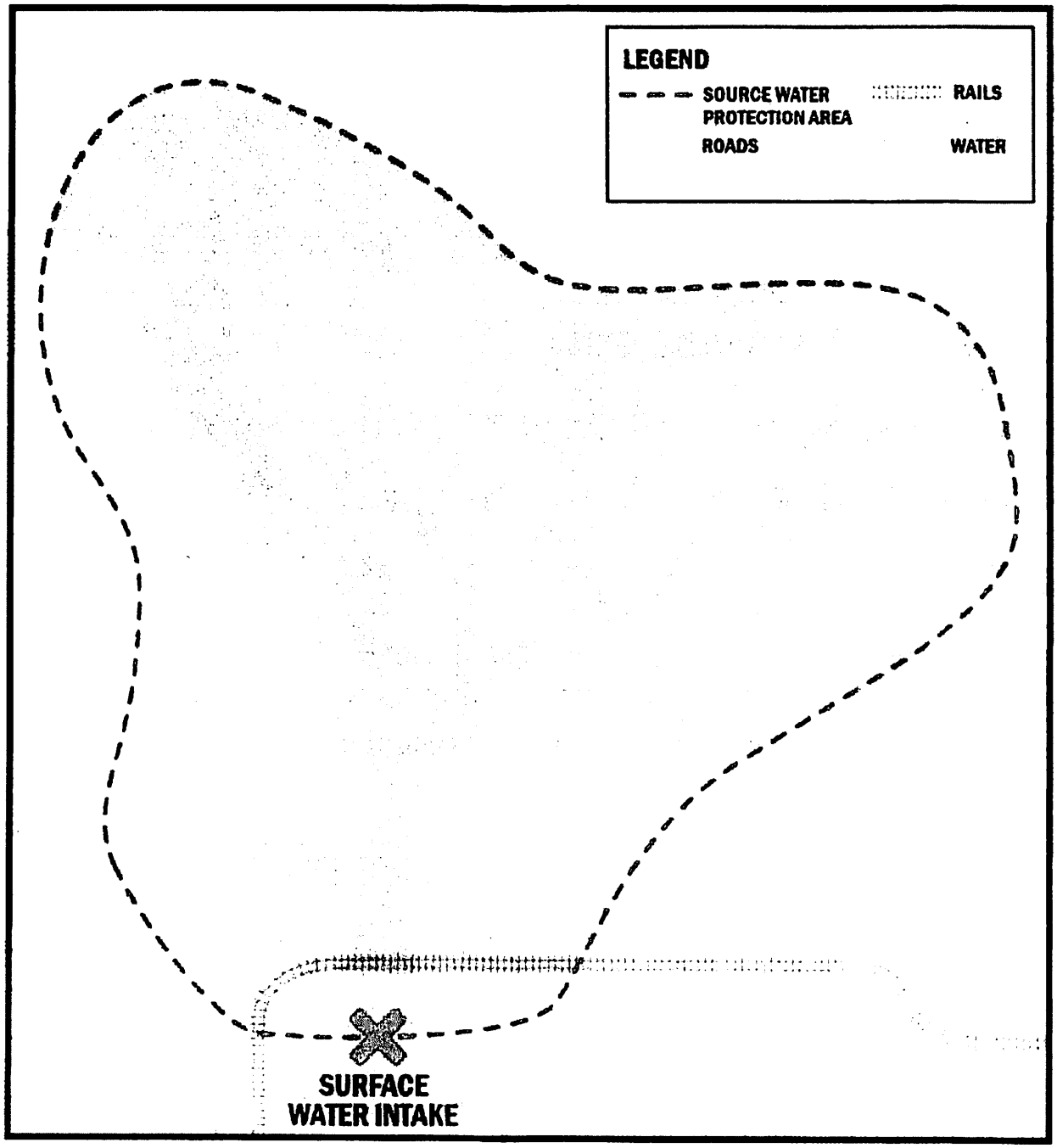
Delineation for Groundwater Sources

Drinking water systems use information about the flow of underground water and surface-to-ground interactions to delineate (or map) groundwater source protection boundaries (also known as a wellhead protection area). The amount of precipitation, soil porosity, presence of Karst topography, location of groundwater recharge areas, urbanization, well design, and other site-specific factors may all inform the location of wellhead protection area boundaries. By mapping the boundaries, drinking water systems will be able to identify the land areas where spilled or discharged pollutants could filter through the surface into the groundwater source.

Drinking water systems may choose to segment wellhead protection areas to identify relative zones of concern. The purpose of these zones is to define portions of the wellhead protection area where activities have a higher risk of contaminating the source water and where aquifer conditions and land surface activities should be more closely evaluated. Boundaries of these zones are often based on the time it takes underground water to reach the well or to account for locations of known contaminant sources. For example, watershed areas closest to a well are often considered areas of higher concern.



Delineate the Source Water Protection Area

The first step in completing a source water assessment (SWA) is to delineate (or map) the land area that contributes water to the drinking water supply and where pollution from human activities or natural sources poses the greatest threat to source water quality. This delineated area is often called a source water protection area (SWPA) or zone of concern. The SWPA designates the area within which a water system will conduct a potential contaminant source inventory (Step 2).

Source Water Protection (SWP)

CONTACT US <https://epa.gov/sourcewaterprotection/forms/contact-us-about-source-water-protection>

Delineate the Source Water Protection Area

This page provides information about delineating source water protection areas (SWPA) to be assessed and protected as part of a source water protection program. Learn more about other components of source water protection programs <https://epa.gov/node/237583>.

On this page:

What is a Source Water Protection Area?

- OLS indicated that the sentence ending in line 5 was incomplete, so we made it more clear that the five-year "clock" would start when groundwater at the landfill site first became contaminated, for any reason.

- In lines 12-13, we added three words ("adequate and representative"), so that DES would be able to advise applicants to conduct the minimal amount of testing needed to roughly estimate whether the soils and bedrock at the site are very porous or very impermeable. DES has indicated it would *not* need to do rulemaking to further define these three words, but could work with applicants on a case-by-case basis.

- In line 14, we changed the adjectives "shallow and deep" to the more precise terms that indicate that some testing must occur in the soils near the surface and into the bedrock beneath it. Because the velocity of groundwater through bedrock can be much faster *or* much slower than through near-surface soils, it is necessary to collect at least some samples in both strata. Generally speaking, surface spills, flooding, and other above-ground failures can contaminate near-surface groundwater, whereas failures at the bottom of the landfill itself can contaminate groundwater that flows through bedrock to nearby lakes, rivers, and wells.

For discussion HB 1454 2-8-22

For any proposed new landfill, the department shall establish a setback distance from any perennial river, lake, or coastal water of New Hampshire, as defined in RSA 483-B:4, XVI. The setback distance shall be sufficient to prevent any groundwater at any part of the actual solid waste disposal area from reaching any perennial river, lake, or coastal water of New Hampshire, as defined in RSA 483-B:4, XVI within five years of any leak, spill, or other failure. No permit shall be issued by any division of the department for siting a new landfill that fails to conform with this setback distance as calculated using the method set forth in paragraph (b) of this section. Nothing in this paragraph shall be construed to prohibit the expansion of any landfills that are in operation at the time this act takes effect.

(b) To determine the individual, site-specific, distance of this setback, the applicant shall hire an independent hydrogeologist, at the applicant's expense, to estimate, based upon adequate and representative on-site field testing, the maximum seepage velocity of groundwater in both overburden/till and in bedrock, whichever is the larger estimate. The estimate of velocity shall be expressed in units of "X feet per year." The setback from any perennial river, lake, or coastal water of New Hampshire, as defined in RSA 483-B:4, XVI shall be the greater of 200 feet or X times 5 feet.

EXPLANATION OF REVISIONS (in chronological order)

1. Following a telephone conversation among Rep. Tucker, Dir. Wimsatt, and Dr. Finkel on Jan. 25, Rep. Tucker agreed to delete the *entire* part (c) of the bill, which dealt with protecting water bodies *after* a properly-sited landfill leaked and migrated off-site. Now, nothing in the revised bill in any way involves property outside the site boundaries.

2. After the Feb. 1 work session, Rep. Bixby *completely rewrote* sections (a) and (b), to improve the logical flow of ideas and eliminate imprecise references to regulations.

3. After receiving comments from Dir. Wimsatt and several members of the Subcommittee, the drafters made three clarifying changes, denoted above with text boxes:

Rep. Tucker, Coos 5
January 31, 2022
2022-0380h
08/05

Amendment to HB 1454-FN

Amend the bill by replacing section 1 with the following:

1 New Paragraph; Landfill Permits; Groundwater Protection. Amend RSA 149-M:9 by inserting after paragraph XIV the following new paragraph:

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HOUSE COMMITTEE ON ENVIRONMENT AND AGRICULTURE

SUBCOMMITTEE WORK SESSION on HB 1454-FN

BILL TITLE: relative to permits for the siting of new landfills.

DATE: 2/8/22

Subcommittee Members: Reps. M. Murray, Comtois, Verville, Stapleton, Homola, Andrew Bouldin and Caplan

Comments and Recommendations:

Draft amendment by Rep Bixby
Schedule another wrk session to discuss
new language

MOTIONS: OTP, OTP/A, ITL, Retained (1st Yr), Interim Study (2nd Yr)
(Please circle one)

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

Adoption of Amendment # _____

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

_____ Amendment Adopted _____ Amendment Failed

MOTIONS: OTP, OTP/A, ITL, Retained (1st Yr), Interim Study (2nd Yr)
(Please circle one)

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

Adoption of Amendment # _____

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

_____ Amendment Adopted _____ Amendment Failed

Respectfully submitted,

Rep. _____
Subcommittee Chairman/Clerk

HOUSE COMMITTEE ON ENVIRONMENT AND AGRICULTURE

SUBCOMMITTEE WORK SESSION on HB 1454-FN

BILL TITLE: relative to permits for the siting of new landfills.

DATE: February 8, 2022

Subcommittee Members: Reps. M. Murray, Comtois, Stapleton, Homola and Caplan

Comments and Recommendations: Draft amendment by Rep. Bixby. Schedule another work session to discuss new language.

Respectfully submitted,

Rep. Barbara Comtois
Subcommittee Clerk

HOUSE COMMITTEE ON ENVIRONMENT AND AGRICULTURE

SUBCOMMITTEE WORK SESSION on HB 1454-FN

BILL TITLE: relative to permits for the siting of new landfills.

DATE: 3/1/22

Subcommittee Members: Reps. Pearl, Aron, Comtois, ~~Verville~~ Abrami, Davis, Stapleton, Homola, Kennedy, ~~Mason~~, ~~G. Sanborn~~, Bixby, Sofikitis, Andrew Bouldin, Dutzy, M. Murray, Von Plinsky, Caplan and ~~Perez~~ Petrack Berry Nutting-Wong

Comments and Recommendations:

HB 1049 - study committee takes into all criteria elements of 1454 are part of it - (HB 1454 result of stakeholders in the Northern part of the State) Rep Sofikitis let study committee established under HB 1049 do their job

MOTIONS: OTP, OTP/A, ITL, Retained (1st Yr), Interim Study (2nd Yr)
(Please circle one)

Moved by Rep. ________ Seconded by Rep. ________ AM Vote: ____

Adoption of Amendment # ________

Moved by Rep. ________ Seconded by Rep. ________ Vote: ____

____ Amendment Adopted ____ Amendment Failed

MOTIONS: OTP, OTP/A, ITL, Retained (1st Yr), Interim Study (2nd Yr)
(Please circle one)

Moved by Rep. ________ Seconded by Rep. ________ AM Vote: ____

Adoption of Amendment # ________

Moved by Rep. ________ Seconded by Rep. ________ Vote: ____

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Respectfully submitted,

Rep. [signature]
Subcommittee Chairman/Clerk

HOUSE COMMITTEE ON ENVIRONMENT AND AGRICULTURE

SUBCOMMITTEE WORK SESSION on HB 1454-FN

BILL TITLE: relative to permits for the siting of new landfills.

DATE: March 1, 2022

Subcommittee Members: Reps. Pearl, Aron, Comtois, Davis, Stapleton, Homola, Kennedy, Bixby, Sofikitis, Andrew Bouldin, Dutzy, M. Murray, Von Plinsky, Caplan and Perez

Comments and Recommendations: HB 1049 - study committee takes into all criteria elements of 1454 are part of it. HB 1454 result of stakeholders in the Northern part of the state. Rep. Sofikitis let study committee establish under HB 1049.

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groundwater, whichever is the larger estimate" shall be used to establish a setback from perennial river, lake, or coastal water of New Hampshire. In most cases, there are multiple geologic units present at a site, each with their own maximum seepage velocity. The language proposed in HB 1454 does not clearly indicate how seepage velocities between different geologic units should be considered when multiple units are present as is common in the state of New Hampshire.

Further, the reference to "deep" groundwater is not defined in the proposed revision to the RSA, and, more critically, the concept of "deep" groundwater ignores the technical question of whether deeper groundwater is or is not in hydraulic communication with the perennial river, lake, or coastal water in question. In many geologic settings, "deep" groundwater may lack hydraulic connectivity with surface water bodies and the language of the proposed revision to the RSA ignores this important technical consideration when establishing a setback.

Due to the technical complexities of establishing setback criteria using this calculated approach, inclusion of a revision like the one proposed in HB 1454 may be appropriate for NHDES to consider as an update to existing NH Solid Waste Rules Env-Sw 100-2000, but is too ambiguous and requires too many technical considerations to be able to be effectively incorporated into the RSA itself.

To: SPONSORS: Rep. Tucker, Coos 5; Rep. Thompson, Coos 1; Rep. Massimilla, Graf. 1; Rep. Egan, Graf. 2; Rep. Hatch, Coos 6; Rep. Merner, Coos 7; Rep. Laflamme, Coos 3; Rep. Myler, Merr. 10; Rep. Deshaies, Carr. 6; Sen. Hennessey, Dist 1; Sen. Sherman, Dist 24
COMMITTEE: Environment and Agriculture

Re: Letter of Opposition to Amended House Bill 1454-FN
2022 SESSION
AN ACT relative to permits for the siting of new landfills.

From:

Michael F. Dacey, PG
Nikki Delude Roy, PG
Verdantas LLC

Date: February 8, 2022

As environmental consultants and Professional Geologists, we oppose House Bill (HB) 1454-FN as amended for the following reasons:

- The New Hampshire Department of Environmental Services (NHDES) has existing rules (NH Solid Waste Rules Env-Sw 100-2000) that govern the construction, operation, and closure of solid waste facilities in the State including, Env-Sw 804 which establishes siting requirements that focus on protection of groundwater and surface water (Env-Sw 804.02 through 804.05). These existing regulations establish protective distances from sensitive receptors including drinking water supplies and surface water bodies.

  Env-Sw 804.02(b) states: "A landfill and all associated leachate storage units shall be located only in areas where groundwater monitoring for release detection, characterization and remediation can be conducted prior to a release having an adverse effect on a water supply." Along with the body of the remainder of Env-Sw 804, these existing regulations requires that landfills evaluate hydrogeologic conditions such that an applicant could not demonstrate these requirements without hiring an independent hydrogeologist (at the applicant's expense) to develop a technically robust conceptual site model which includes (but is not limited to) maximum seepage velocity of groundwater. The addition of the language in amended HB 1454 is unnecessary and redundant to existing NHDES' promulgated regulations.

  Moreover, HB 1454 would essentially transfer only one set of existing setback criteria from Env-Sw 804 to NH RSA 149-M, while leaving others (e.g., minimum distance to the seasonal high groundwater table, distance from geologic faults) in regulations. The transition of this single set of setback requirements to NH RSA 149-M is unnecessary and inconsistent. Further, a transfer of this single siting requirement to the RSA would remove NHDES' ability to revise these expectations in the future, if necessary.

- NH RSA 149-M, as written, oversimplifies location specific geologic conditions and would therefore be prohibitively difficult to implement. Although the proposed revision to the RSA appears relatively straightforward, rarely do geologic settings in New Hampshire have clear "shallow" and "deep" groundwater units as described. For example, as written, "the reasonable maximum seepage velocity of shallow or deep

contaminant sources. Water systems use various methods to delineate surface water-based SWPAs, such as:

- The entire watershed or hydrologic unit containing the intake;
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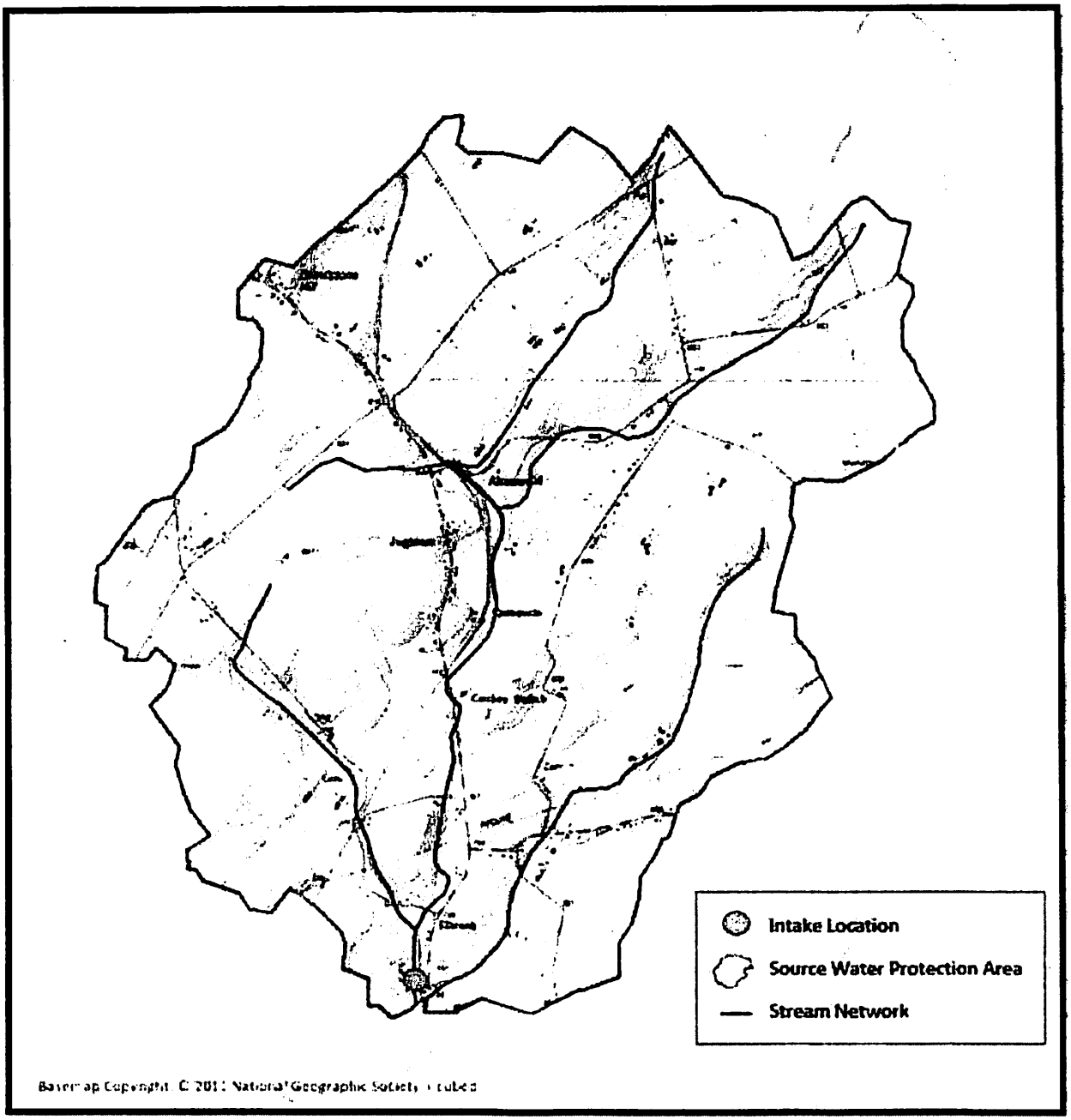

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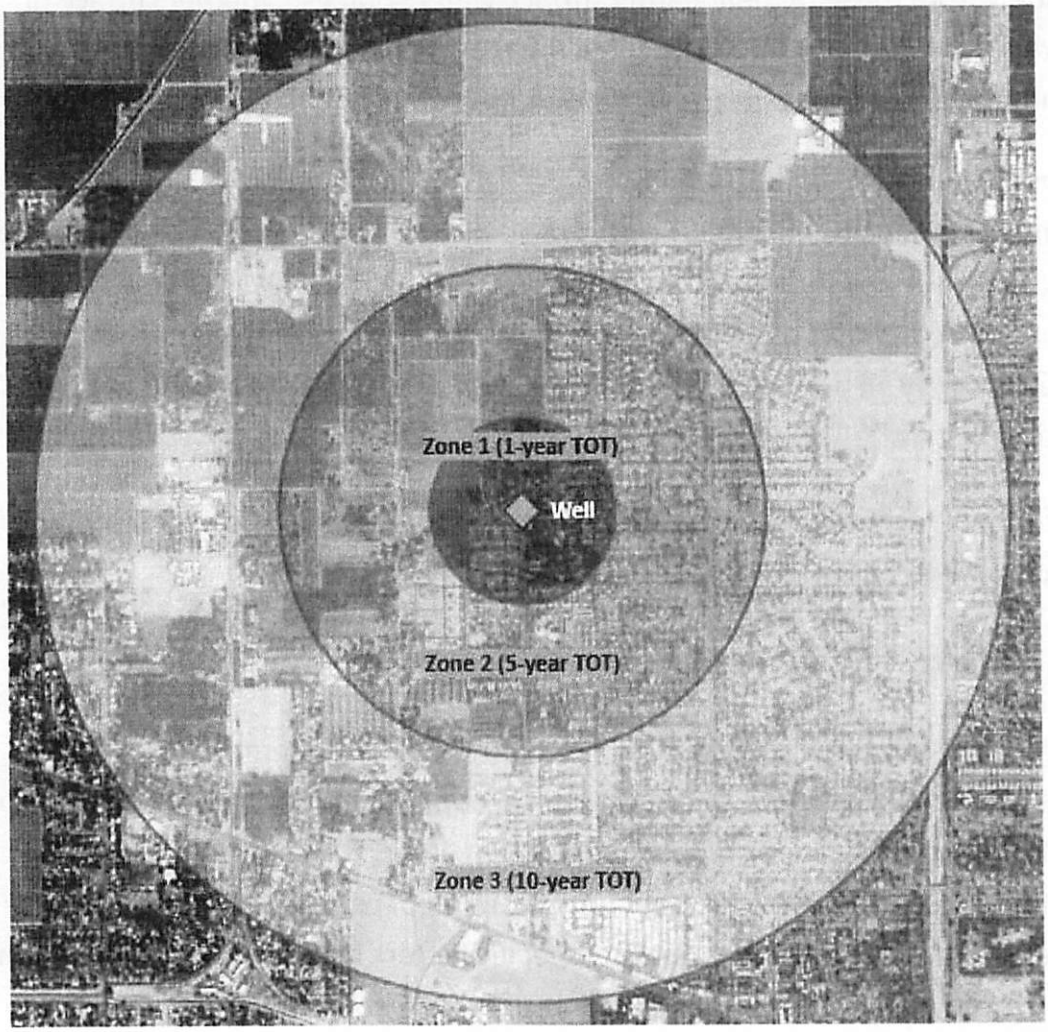
- 

Delineations are often described as a buffer distance from a well or intake structure and expressed in Time of Travel (TOT) (e.g., a 2-year TOT refers to a distance from a well where it will take 2 years for water or contaminants to reach the well). Water systems may choose to divide SWPA's into relative zones of concern.

Arbitrary Radial Distance – The simplest method for delineating a wellhead protection area, this approach involves drawing a circle (or circles) with an arbitrary fixed radius around the well. The radius of the circle may be determined by an evaluation of local hydrogeological conditions, such as soil porosity or groundwater flow rate.

The size of the SWPA may vary based on a variety of hydrogeological, environmental, regulatory, and management factors. Methods for delineating groundwater sources can differ widely from those for delineating surface water sources. Whether surface or groundwater source, it is important to regularly evaluate and redefine SWPAs and zones to account for land use changes, water monitoring data, and new information.

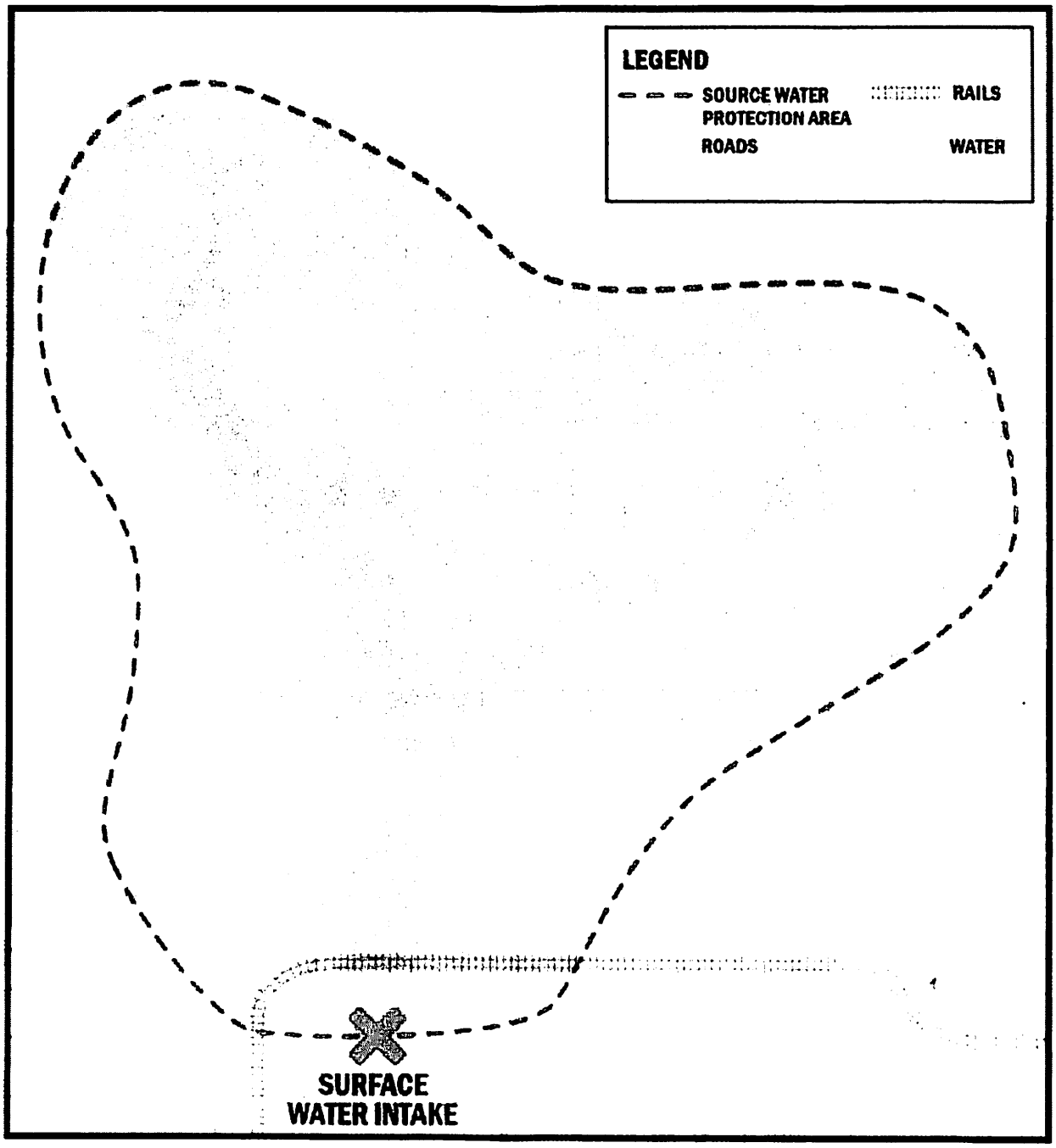
Water systems can ask for help when completing delineations. State public health and environmental agencies, federal agencies (e.g., the Natural Resources Conservation Service (NRCS), United States Geological Survey (USGS), or EPA), state cooperative extension services, water associations, conservation districts, universities, and private organizations may all provide technical assistance and/or data to complete delineations.

Find additional technical resources, guidance, and links to mapping and modeling tools <https://epa.gov/node/237549/#tab-3>.

Delineation for Groundwater Sources

Drinking water systems use information about the flow of underground water and surface-to-ground interactions to delineate (or map) groundwater source protection boundaries (also known as a wellhead protection area). The amount of precipitation, soil porosity, presence of Karst topography, location of groundwater recharge areas, urbanization, well design, and other site-specific factors may all inform the location of wellhead protection area boundaries. By mapping the boundaries, drinking water systems will be able to identify the land areas where spilled or discharged pollutants could filter through the surface into the groundwater source.

Drinking water systems may choose to segment wellhead protection areas to identify relative zones of concern. The purpose of these zones is to define portions of the wellhead protection area where activities have a higher risk of contaminating the source water and where aquifer conditions and land surface activities should be more closely evaluated. Boundaries of these zones are often based on the time it takes underground water to reach the well or to account for locations of known contaminant sources. For example, watershed areas closest to a well are often considered areas of higher concern.



Delineate the Source Water Protection Area

The first step in completing a source water assessment (SWA) is to delineate (or map) the land area that contributes water to the drinking water supply and where pollution from human activities or natural sources poses the greatest threat to source water quality. This delineated area is often called a source water protection area (SWPA) or zone of concern. The SWPA designates the area within which a water system will conduct a potential contaminant source inventory (Step 2).

United States Environmental Protection Agency

MENU

Search EPA.gov

Source Water Protection (SWP)

CONTACT US <https://epa.gov/sourcewaterprotection/forms/contact-us-about-source-water-protection>

Delineate the Source Water Protection Area

This page provides information about delineating source water protection areas (SWPA) to be assessed and protected as part of a source water protection program. Learn more about other components of source water protection programs <https://epa.gov/node/237583>.

On this page:

What is a Source Water Protection Area?

applications on a site-by-site basis and maintain adequate groundwater and surface water protection.

In closing, I hope this supplemental information helps the Committee clarify the protections to surface water provided by the existing NHDES landfill siting and permitting requirements. To re-iterate a point from my prior testimony, HB 1454 should be struck down as amended because of its arbitrary assumption of groundwater travel time and the duplication of current NHDES regulatory requirements.

Thank you for the opportunity to provide supplemental information to the Committee. I appreciate your time and consideration of these comments.

Very truly yours,

SANBORN, HEAD & ASSOCIATES, INC.

Timothy M. White, P.G.
Project Director

Program[9], which have guided development of the New Hampshire Source Protection Rules, do not by themselves prohibit specific land uses relative to public water supplies. The table below summarizes the stated responsibilities of each of the programs.

USEPA's Wellhead Protection Program	USEPA's Source Water Assessment Program
Established to help communities perform the following: • form a local team which will assist with protection of public supply wells in their area; • determine the land area which provides water to public supply wells; • identify existing and potential sources of contamination; • manage potential sources of contamination to minimize their threat to drinking water sources; and • develop a contingency plan to prepare for an emergency well closing and to plan for future water supply needs.	Established state drinking water programs responsible for the following: • identifying the land areas which provide water to each public drinking water source in their state; • completing an inventory of existing and potential sources of contamination in those areas; • determining the susceptibility of each drinking water system to contamination; and • releasing the results of the assessment to water users and other interested entities.

The key finding is: The prohibition of specific property uses included in HB 1454 is not included in the scopes of USEPA's Wellhead Protection Program or Source Water Assessment Program.

It is important to consider: Why does USEPA's source protection program not restrict property uses based on groundwater travel time to a drinking water source?

The answer is: groundwater and surface water interactions are complex and heterogeneous, and should be considered on a case-by-case basis. Assuming a universal restriction of a specific land use (e.g., landfills) based on a single groundwater travel time is not a technically rigorous approach and should be rejected.

CLOSING

Groundwater and surface water protection are adequately addressed in the existing NHDES solid waste landfill regulations. An additional provision in law that includes a siting restriction based on an arbitrary groundwater travel time is not needed, particularly a provision such as the 5 year restriction in HB 1454 that has no basis in New Hampshire law.

Further, there is no identified basis in USEPA drinking water source protection programs – which were reportedly a basis for the approach in HB 1454 – that supports prohibitions on property uses, including landfills, based on groundwater travel time. The permitting experts at NHDES currently have the administrative tools necessary to adequately evaluate landfill

[9] https://www3.epa.gov/region1/eco/drinkwater/pc_sourcewater_assessment.html

2.0 TECHNICAL PROBLEMS WITH PROPOSED APPROACH

Below I summarize two technical problems with the proposed approach included in HB 1454.

2.1 Unsupported Rationale for the Minimum Five Year Travel Time to Surface Water Restriction

Representative Tucker explained in her testimony on January 18, 2022 that the concept of the groundwater travel time to surface water was adopted from a USEPA approach used for evaluating siting industrial facilities relative to public drinking water supplies ("source water") protection areas. However, I am not aware that the Bill's sponsors have provided a technical basis for including a 5 year minimum travel time restriction in HB 1454. When questioned at the January 18, 2022 hearing whether the "years to cause harm" approach was being used in New Hampshire, Representative Tucker responded that it was "used typically on industrial sites in certain states", but was not able to confirm if this approach was or was not used in New Hampshire.

The current New Hampshire Source Protection Rules[5] regulations do not include restriction that prohibit specific land uses (such as a landfill) based on a 5-year – or other – groundwater travel time from a potential contaminant source to a drinking water supply. Regarding regulation of potential contaminants in groundwater, NHDES' community well siting rules for small systems (Env-Dw 305)[6] and large systems (Env-Dw 302)[7] specify the site selection criteria and groundwater withdrawal procedures, but do not restrict land use based on a groundwater travel time to water supply sources.

The important question is: On what technical basis should a method reportedly developed for evaluating public drinking water source protection be subjectively modified and adopted for restricting siting of landfills relative to certain surface water bodies, particularly when different methods are currently used for public drinking water source protection in New Hampshire?

In my opinion, the answer to this question is: there is no technical basis for the approach included in the proposed amendment to HB 1454 and therefore the proposed amendment and Bill should be rejected.

2.2 Prohibition of Specific Property Uses – Not Included in USEPA's Source Protection Programs

As discussed above in Section 2.1, the approach used in the proposed amendment was reportedly based on USEPA's drinking water source protection programs. It is important to note that the USEPA's Wellhead Protection Program[8] and Source Water Assessment

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5 https://www.des.nh.gov/climate-and-sustainability/conservation-mitigation-and-restoration/source-water-protection

6 https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Dw%20305.pdf

7 https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Dw%20302.pdf

8 https://www3.epa.gov/region1/eco/drinkwater/pc_wellhead_protection.html

1.2 Existing Surface Water Setback Requirements

Based on testimony and responses to Committee members' questions at the January 18, 2022 hearing[3], it may have been possible to conclude that the 200-foot setback for landfills to surface water under the existing NHDES rules is the only setback requirement for surface water. This is not accurate. Under *Env-Sw 804.03(d)*, there is a required 200-foot setback between a landfill and surface water; however, the 200-foot distance represents only the minimum setback a landfill must have to surface water. As discussed above in Section 1.1 relative to *Env-Sw 804.03(c)(3)*, in addition to the 200-foot minimum setback, a landfill applicant is also required to demonstrate that the landfill is sited in an area where the potential release of contaminants to surface waters can be prevented, attenuated, or otherwise remediated.

1.3 Surface Water Protections under Groundwater Release Detection Permits

In addition to the landfill siting requirements discussed above in Sections 1.1 and 1.2, the conditions contained in Groundwater Release Detection Permits issued to the State's lined landfills include surface water protections.

Each of the six operating lined landfills in New Hampshire has either a Groundwater Management Permit or Release Detection Permit, or a combined permit. In each of these permits, there are conditions that require protection of surface water. Below, I have excerpted Mt. Carberry's November 25, 2019 Groundwater Release Detection Permit[4] as an example to indicate this standard permit condition and shown the requirement in red highlighting:

Excerpt of Mt. Carberry Landfill's Groundwater Release Detection Permit:

STANDARD RELEASE DETECTION CONDITIONS

1. The permittee shall not cause a regulated contaminant as defined in RSA 485-C to be introduced to the ground or groundwater.

2. The permittee shall not cause groundwater degradation that results in a violation of surface water quality standards (N.H. Admin. Rules Env-Wq 1700) in any surface water body.

The existing NHDES permitting regulations have a track record of successful environmental protection. As Waste Management Director Michael Wimsatt testified to the Committee on January 18, 2022, NHDES has not documented a case in New Hampshire where a landfill liner failure has resulted in a leachate release to groundwater. As the Director indicated, where impacts to groundwater have been identified at landfill sites, the source has been a release other than the liner system. In these cases, the groundwater monitoring programs have successfully identified the releases, and corrective actions have been put in place prior to groundwater impacts reaching surface water.

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[3] Hearing recording available at the NH House of Representatives Committee Streaming YouTube channel: https://www.youtube.com/watch?v=2ef68aCI3bM

[4] https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4818915

duplicative and therefore redundant, as well as a discussion of some of the technical problems with the proposed amendment.

1.0 EXISTING NHDES LANDFILL REGULATIONS

Under the current rules, NHDES already maintains the authority to prevent development of a landfill at a site where surface water impacts could occur and an additional provision in law is not necessary. Key portions of the existing NHDES regulations are summarized below.

1.1 Landfill Siting Regulations – Surface Water Protection

Groundwater and surface water protection are integral parts of siting and permitting a solid waste facility in New Hampshire. Under *Env-Sw 804.03* (*Surface Water Protection Standards* section of the *Env-Sw 800 Landfill Requirements* rules)[2], there is a requirement for siting a landfill where a hydrogeologic study has demonstrated "the potential release of contaminants to surface waters can be prevented, attenuated or otherwise remediated."

I have excerpted *Env-Sw 804.03* below, and indicated the relevant requirements in a red outline:

Excerpt of Env-Sw 800 "Landfill Requirements":

Env-Sw 804.03 Surface Water Protection Standards.

(a) The location of a landfill relative to surface water resources shall comply with the requirements of RSA 485-A.

(b) A landfill and all associated leachate storage units shall be located only in areas where potential adverse effects to surface water quality, due to erosion, sedimentation, siltation, flood, or discharge of contaminants, can be prevented or minimized and mitigated by facility design.

(c) Identification of the areas cited in (b) above shall be based on a thorough hydrogeological investigation to demonstrate the following:

(1) Compliance with Env-Sw 804.02;

(2) That engineering design measures can be incorporated to control erosion, sedimentation and siltation; and

(3) The potential release of contaminants to surface waters can be prevented, attenuated or otherwise remediated.

(d) The footprint of a landfill shall not be located within 200 feet of any perennial surface water body, measured from the closest bank of a stream and closest shore of a lake, as applicable.

In accordance with *Env-Sw 804.03(c)(3)*, the applicant must demonstrate that the proposed landfill is sited in an area where the potential release of contaminants to surface waters can be prevented, attenuated, or otherwise remediated.

[2] https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Sw%20800.pdf

SANBORN HEAD
Building Trust. Engineering Success.

20 Foundry Street
Concord, NH 03301

The Honorable Howard Pearl, Chair
Committee on Environment and Agriculture
Legislative Office Building, Room 303
Concord NH 03301

February 8, 2022

Re: Supplemental Testimony of Timothy M. White, P.G.
Comments on Proposed Amendment to HB 1454

Dear Chairperson Pearl:

Thank you for this opportunity to provide supplemental written comments to the Committee regarding the proposed amendment to HB 1454.

My name is Tim White, and I am a Project Director at Sanborn, Head & Associates, Inc. (Sanborn Head). I am a licensed Professional Geologist in New Hampshire and am one of the hydrogeologists at Sanborn Head responsible for managing the groundwater monitoring and reporting programs at several of the state's lined landfills. I have worked in the field of geology for over 20 years.

I provided written and spoken testimony at the Committee's hearing on HB 1454 on January 18, 2022. I have prepared this supplemental information for the Committee's consideration regarding the proposed amendment to HB 1454.

The two main issues I would like to summarize regarding the proposed amendment to HB 1454 are as follows:

1. The approach used in the proposed amendment fails to consider that lined landfills in New Hampshire have several decades of successful and adequate solid waste regulation under the existing NHDES rules.

2. Rather than relying on the effectiveness of the existing NHDES regulations, the proposed amendment to HB 1454 asserts that an arbitrary 5 year groundwater travel time to certain surface water bodies (4th order streams, tidal waters, and lakes, ponds, and artificial impoundments greater than 10 acres in size[1]) is needed to protect the State's surface water.

As a groundwater professional, actively engaged in managing environmental monitoring at solid waste landfills in the state, there is no technical basis in New Hampshire law for a 5 year groundwater travel time in prohibiting land use, and it is my opinion that HB 1454 and its amendment should be stuck down as written. Below, I provide a brief summary of the relevant portions of the NHDES rules which make HB 1454 and its proposed amendment

[1] RSA 483-B:4, XVI

HOUSE COMMITTEE ON ENVIRONMENT AND AGRICULTURE

SUBCOMMITTEE WORK SESSION on HB 1454-FN

BILL TITLE: relative to permits for the siting of new landfills.

DATE: 3/1/22

~~Potucek~~

Subcommittee Members: Reps. M. Murray, Comtois, ~~Verville~~, Stapleton, Homola, Andrew Bouldin and Caplan

Comments and Recommendations:

Introduction of 2022-0894H to clean up language in original bill

MOTIONS: OTP, OTP/A, ITL, Retained (1st Yr), Interim Study (2nd Yr)
(Please circle one)

Moved by Rep. Murray Seconded by Rep. Bouldin AM Vote: 6-0

Adoption of Amendment # 2022-0894H

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

✓ Amendment Adopted _____ Amendment Failed

MOTIONS: OTP, (OTP/A), ITL, Retained (1st Yr), Interim Study (2nd Yr)
(Please circle one)

Moved by Rep. Murray Seconded by Rep. Bouldin AM Vote: 4-2

Adoption of Amendment # _____

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

_____ Amendment Adopted _____ Amendment Failed

Respectfully submitted,

Rep. _____
~~Subcommittee~~ Chairman/Clerk

HOUSE COMMITTEE ON ENVIRONMENT AND AGRICULTURE

SUBCOMMITTEE WORK SESSION on HB 1454-FN

BILL TITLE: relative to permits for the siting of new landfills.

DATE: March 1, 2022

Subcommittee Members: Reps. M. Murray, Comtois, Stapleton, Homola, Andrew Bouldin and Caplan

Comments and Recommendations: Introduction of 2022-0894h to clear up language in original bill.

MOTIONS: **OUGHT TO PASS WITH AMENDMENT**

Moved by Rep. M. Murray | Seconded by Rep. Andrew Bouldin | AM Vote: 6-0

Amendment # 2022-0894h

Moved by Rep. M. Murray | Seconded by Rep. Andrew Bouldin | Vote: 4-2

Respectfully submitted,

Rep. Barbara Comtois
Subcommittee Clerk

Heather Goley

From: Lorraine White <lwhite303@gmail.com>
Sent: Saturday, February 26, 2022 2:56 PM
To: ~House Environment and Agriculture Committee
Subject: Please support bill 1049 and 1454

Bills HB 1049 and HB 1454 both would ensure that the siting of new landfills is appropriate and would not endanger our natural environment and water sources. Here in Bethlehem NH we are very concerned with Casellas application to get a permit to build a landfill in nearby Dalton that is in wetland areas next to Forest Lake State Park and close to water headways that flow into the Ammonusuuc which provides a water source for down river towns. There are many other serious environmental concerns about this proposal and establishing appropriate means to prevent such serious threats to our environment is a welcome action. Please support these bills

Rgds
Lorraine McPhillips
Bethlehem NH 03574

Sent from my iPhone

The challenges presented by landfill siting and monitoring to drinking water and the natural landscape are profound in New Hampshire. The goal to protect these natural resources and public health is at the heart of these bills. No one wishes for a landfill to leek but we need to make precautions for when they do. The Sierra Club policy ranks landfilling and incineration of municipal waste as the very last option, recognizing that there are many opportunities to reduce waste before ever needing to bury or burn it. While this list of bills does not address redesigning and reducing waste, these bills do provide creative options to raise the level of public health and the environmental protection.

By providing a new approach, with financial and insurance tools in HB1121, with a different measure for the site placement in HB1454, instituting a pause until the state plan is approved in HB1420 and creating a study commission in HB1049, all of these bills address current problems in landfill siting.

NHSC asks the committee to support passage of HB1121, HB1049, HB1420 and HB1454.

Respectfully submitted,

Catherine M. Corkery

Chapter Director
NH Sierra Club
40 North Main Street, Suite 2
Concord, NH 03301

SIERRA CLUB
NEW HAMPSHIRE

January 18, 2022

Chair Pearl
NH House Committee on the Environment and Agriculture
NH State House
Concord, NH

RE: Landfill bills, HB1454, HB1420, HB1121

Dear Chair Pearl and Honorable Members,

I am the Chapter Director of the NH Chapter of the Sierra Club. NH Sierra Club (NHSC) is an environmental group whose goal is to protect the environment and the communities on it. NHSC represents over 20,000 members and supporters in New Hampshire.

During the pandemic of COVID-19, NHSC has supported the use of virtual participation in the legislature, including watching hearings and committee meetings, testifying, signing in and other engagement with technology, for our members, supporters, interns, and employees. There was record attendance by Granite Staters in the public hearings. You can understand our disappointment that the 2022 calendar year has not allowed virtual testimony and requires in-person testimony only. While the remote sign-in and emailing testimony remains, I cannot, in good conscience, ask our engaged volunteers to attend hearings or meetings because of the reckless disregard for appropriate health safeguards. I encourage this committee and others to adopt increased protections appropriate for the extreme health risk of the pandemic for public engagement as is the right of all citizens.

The Chapter supports the passage of the various landfill bills:

HB1121	relative to new solid waste sites.
HB1049	establishing a committee to study landfill siting criteria and methods for reducing pressure on landfill capacity.
HB1454	relative to permits for the siting of new landfills.
HB1420	prohibiting the issuance of new landfill permits until the state's solid waste plan is updated.

The Sierra Club's members are over 2.1 million of your friends and neighbors with over 20,000 in New Hampshire. Inspired by nature, we work together to protect our communities and the planet. The Sierra Club is America's oldest, largest and most influential grassroots environmental organization.

New Hampshire Sierra Club 40 North Main Street, Second Floor Concord, NH 03301
603/224-8222 FAX: 603/224-4719
www.sierraclub.org www.sierraclub.org/new-hampshire

Heather Goley

From: hillbonnie@aol.com
Sent: Sunday, February 27, 2022 5:02 PM
To: ~House Environment and Agriculture Committee
Subject: Please support HB 1454

Dear committee members,
I am writing to urge you to support HB 1454, which would prohibit the siting of landfills within a proscribed distance of groundwater sources.
Considering the problems we have been seeing in New Hampshire in recent years with PFAS contamination in the water supplies of some of our communities, I would think this bill would be regarded as simple common sense. No one wants to drink contaminated water, and once it is contaminated, it can't be undone.
I really hope you will vote to pass this bill, for the sake of all our health.

Thank you.
Bonnie Hill
South Sutton

Heather Goley

From: Tracy Glenn <artb4dishes@gmail.com>
Sent: Saturday, January 15, 2022 10:05 PM
To: ~House Environment and Agriculture Committee
Subject: I support HB 1454

Dear NH House Environment and Agriculture Committee Members:

Please support legislation, HB 1454. It is a vital component in considering ANY new landfill site to look at how that site will affect our water sources. It is reckless to believe that a landfill site does NOT affect our water.

Who isn't concerned with the quality of the water we drink, the water the fish we eat swims in, that our livestock drink, the water we water our food with? People count on their government to address these issues.

Thank you for your time and your commitment to doing the right thing for the people you represent.

Tracy Glenn/Glover Family
64 Newell Lane and 43 Maple Street
Whitefield, NH 03598

It is simply not good enough for DES to tell developers to "do no harm." If it was, we would have no statutes, and everything would be done by "handshake." HB 1454 is a simple fix to an outdated regulation (saying that 200 feet is always OK); it will help to ensure that new landfills CANNOT cause groundwater pollution that affects lakes, rivers, and water wells, not merely that they SHOULD not and will be in violation of their permits if they do!

The ironies of a consultant to various landfill companies in New England, claiming that *permit conditions alone* can solve all environmental, public health, and quality-of-life problems, are quite amazing. Any simple search of the spills, leaks, worker fatalities, traffic accidents, and other lapses in our region in recent years connected with landfill operations will immediately reveal numerous cases where regulations and words on a permit saying "do no harm" have failed. And, of course, DES has already issued numerous notices of violation against these companies, for operating outside the terms of their permits, even when no demonstrable harm has (yet) occurred; permits can be and are violated.

One of Mr. White's clients is the waste management company who claimed at a public hearing (July 14, 2021, Whitefield NH) that "this [proposed] landfill will not have any impact on groundwater or surface water quality; it can't happen."

A company in this business, who makes that kind of statement, is either incredibly competent or incredibly arrogant. The point of HB 1454 is to help ensure that if a new landfill has a catastrophic failure, or <u>when</u> it begins to leak, that will **only** be a permit violation. *By siting landfills at minimally appropriate distances from water bodies, HB 1454 will allow DES to issue permits secure in the knowledge that lapses and violations will cause less harm, and will allow for remediation before the damage is irreversible.*

Thank you for considering this contrary view to Mr. White's cavalier opposition to this common-sense bill, and special thanks for all the thought and care you have all obviously been giving to this legislative proposal.

Best regards,

Adam M. Fiske

365 Forest Lake Rd., Dalton, NH 03598 ♦ adfinkel@umich.edu ♦ (202) 406-0042 (cell)

February 16, 2022

Dear Members of the Environment and Agriculture Committee:

I recently received a copy of a February 8 letter sent to the Committee by Timothy White (Sanborn, Head & Assocs.), and wish to respond to it.[1]

Mr. White's six-page letter makes only two claims: (1) that NH DES rules and permits are so strict, and so effective, that it is somehow safe and appropriate to site a landfill as close as 200 feet from a lake or river, regardless of how porous the soil is—that HB 1454 is not needed because "nothing can go wrong"; and (2) that US EPA does not *require* specific setbacks based on groundwater time-of-travel. In reverse order:

The second complaint is accurate, but trivial and non-germane. The authors of HB 1454 never claimed that EPA had such requirements. They merely stated (correctly) that EPA *advises* communities to consider setbacks based on time-of-travel rather than one-size-fits-all setbacks based on a fixed distance, that EPA has *offered* for decades the free software to estimate and map various setbacks, and that EPA *recommends* setbacks of 2, 5, or 10 years, depending on the severity of consequences if the setbacks turn out to be inadequate. EPA very often provides advice to states and municipalities, but stops far short of dictating terms to them. *But the fact that time-based setbacks are not federally required has not stopped states from using time-to-travel, and from requiring that new landfills be no closer than **six years** (the example of Maine's rule) from rivers and lakes.*

The first complaint is extraordinarily glib. Mr. White is arguing that the Legislature should never write any statute governing environmental or health protection, because facility operators and DES can just "play it by ear" and get it right every time. *As the former head of a federal environmental-health regulatory program, I would never have wanted to operate without a statute, or with one that let me do whatever I personally thought best.*

Consider the actual words of the requirements that Mr. White claims make any new law unnecessary. First, he points to Env-SW 804.03(c)(3), in which DES requires that "the potential release of contaminants to surface waters ***can*** be prevented, attenuated, or otherwise remediated" (emphasis added). Second, he quotes from the Mt. Carberry permit stating that this facility "shall not cause groundwater degradation." (!)

Mr. White's main argument makes as much sense as saying that "we don't need speed limits on roads, because every driver can be trusted to go as fast as his/her own driving skills dictate." In the case of landfills, yes, *there are fines for violating a permit, but these are of no comfort to citizens and their environment once the damage has been done.*

[1] By way of personal background, I am a university professor, having taught at schools of medicine, public health (Univ. of Michigan), economics, law (Univ. of Pennsylvania), and policy (Princeton Univ.) over the past 35 years. For 12 years I was a top-level appointee in a federal health and safety regulatory agency (OSHA) under Presidents Clinton and GW Bush, and am a former member of the EPA's highest-level Science Advisory Board. I've co-authored two books about how regulatory agencies can improve to become "best in class."

clf

conservation law foundation

While landfill leachate can contain dozens of harmful chemicals, one of the most concerning is per-and-polyfluoroalkyl substances ("PFAS"). PFAS are a class of compounds that are called "forever chemicals" because they never fully break in either the natural environment or in the human body. PFAS are used in a wide variety of consumer products including electronics, microwave popcorn bags, carpet, upholstery, nonstick cookware, dental floss, and textiles.[2] All of which end up in our trash. PFAS are bioaccumulate and highly mobile in water.

PFAS are toxic to humans in very small concentrations—in the *parts per trillion* (ppt).[3] PFAS are suspected carcinogens and have been linked to growth, learning and behavioral problems in infants and children; fertility and pregnancy problems, including pre-eclampsia; interference with natural human hormones; increased cholesterol; immune system problems; and interference with liver, thyroid, and pancreatic function.[4]

HB 1454 will address the concerns associated with contamination from landfills, like PFAS contamination, in three important ways. First, it will force landfill developers to select suitable locations for any potential new landfills. A site where contaminants can enter a New Hampshire water body within five years from migration offsite is not suitable and would no longer be a permissible location. Second, it will ensure there is sufficient time to remediate any potential groundwater impacts prior to contaminants entering a river, stream, lake, or other body of water. Third, it would require comprehensive monitoring around the landfill and require landfilling activities to halt if the monitoring data indicates pollutants are migrating off-site.

While the state must begin moving away from landfilling as a means of solid waste management, it is also important that New Hampshire develop strong laws regarding how and where landfills are sited to contain the inevitable pollution these facilities create. For these reasons, CLF urges the Committee to support HB 1454 and vote *ought to pass*. Thank you for the opportunity to submit this testimony. I am happy to answer any questions you may have.

Sincerely,

Peter W. Blair Jr

Peter Blair
Staff Attorney, Zero Waste Project
Conservation Law Foundation

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[2] National Center for Environmental Health, *An Overview of Perfluoroalkyl and Polyfluoroalkyl Substances and Interim Guidance for Clinicians Responding to Patient Exposure Concerns*, Center for Disease Control (June 7, 2017), https://www.atsdr.cdc.gov/pfc/docs/pfas_clinician_fact_sheet_508.pdf

[3] Agency for Toxic Substances and Disease Registry, *Per- and Polyfluoroalkyl Substances (PFAS) and Your Health*, https://www.atsdr.cdc.gov/pfas/health-effects.html; Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Perfluoroalkyls*, https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf, at 5–6.

[4] Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Perfluoroalkyls*, https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf, at 5–6.

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For a thriving New England

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January 14, 2022

The Honorable Howard Pearl
Chairman, House Environment and Agriculture Committee
New Hampshire House of Representatives
107 N. Main St.
Concord, NH 03303

RE: HB 1454: Relative to Permits for the Siting of New Landfills

Chairman Pearl and Honorable Committee Members:

Thank you for the opportunity to provide testimony in support of House Bill 1454, an Act Relative to Permits for the Siting of New Landfills.

Conservation Law Foundation (CLF) is a member-supported nonprofit advocacy organization working to conserve natural resources, protect public health, and build healthy communities in New Hampshire and throughout New England. Through its Zero Waste Project, CLF aims to improve solid waste management through source reduction, recycling, and composting.

HB 1454 requires an applicant seeking to develop a new landfill in New Hampshire to utilize an independent hydrologist to establish that groundwater at the chosen location will not be able to reach any New Hampshire waterbody (lake, stream, river, coastal waters, etc.) within five years of migrating off-site.

This is a necessary requirement because the truth is all landfills eventually leak.[1] Some slowly overtime, and others beginning from the first day of operation. The theory behind modern landfills is that once the waste is buried, the contamination remains inert. However, this only works if the waste is kept dry – which is impossible. Rain and snow inevitably make their way into the landfill while it is operational and accepting waste. And even after the landfill is sealed, the plastic caps use as cover develop holes over time, letting in more rain, snow, and moisture. Landfills are permanent, and the liners above and below them will deteriorate and break down.

The material that leaks out of landfill is called leachate; a toxic form of liquid pollution created when water in the landfill becomes contaminated with the harmful chemicals found in the various types of waste buried inside the facility. Many of the chemicals found in leachate are known to cause cancer or other serious illnesses that are harmful to human health.

[1] See, U.S. Environmental Protection Agency, 1988, Federal Register, v. 53, no. 168, August 30, 1988, p. 33345, and Flawed Technology of Subtitle D Landfilling of Municipal Solid Waste, G. Fred Lee & Associates, p. 6. (Updated Jan. 2015).

But even a fixed distance between a new landfill and a river, wetland or lake can be different because there is fast soil, like gravel, and slow soil, like clay, said Finkel.

"It can vary by over a million-fold at how fast the water moves," he said. "Literally, on the first day you can figure out how fast the groundwater moves."

Casella Waste Systems has proposed a new commercial landfill beside Forest Lake State Park in Dalton, which prompted the previous two-mile, landfill-state park buffer bill.

As for groundwater, the flow from Mt. Carberry is about 15 feet per year, while the groundwater in Dalton is measured by a flow rate of about 10 feet per day, making Dalton about 400 times faster and meaning contaminated landfill groundwater at the Dalton site would reach a waterway in just three weeks, said Finkel.

In her testimony before the House committee on Tuesday, Tucker said HB 1454 is based on one basic and indisputable fact, and that is "there are sensible places to site landfills and senseless places to site them."

"It's inappropriate and dangerous to build a landfill where groundwater speeds away toward a lake or river," said Tucker. "It is appropriate and safe to locate a landfill where groundwater happens to flow very, very slowly toward a lake or river."

All landfills eventually leak, and that's not only an EPA conclusion from the 1990s, but one the EPA continues to believe today and that is supported by new peer-reviewed studies, said Tucker.

She also said New Hampshire is not projected to have a landfill capacity shortfall until 2034.

The vast majority of testimony before the House committee was in support of HB 1454 and the other bills, and the more than 200 people joining the hearing online were in support, versus one not in favor.

HB 1454 does not pertain to expansions of existing landfills.

Robert Blechl

The concept, said Finkel, is if contaminated groundwater is detected and is moving toward a waterway, it will take time and money to fix it.

"Two years is the minimum the EPA uses and they use up to 10," he said. "We picked five, which is in the middle."

Despite the New Hampshire Department of Environmental Services claiming HB 1454 would cost the department and municipalities money, it would clearly be a cost savings, said Finkel.

"First of all, there's no cost to the applicant because the test to determine how fast the groundwater moves has to be done anyway," he said. "It's just saying you do that on the first day and send in a letter saying we're going to apply with a 2,000-page report and hundreds of thousands of dollars in filing fees based on our belief that we're far enough away from the waterways given that we did a test on how the groundwater moves. Since they're doing it anyway, it just saves them enormous money for not having to do a full application that's not going to pass. And DES will be reviewing fewer applications and more applications that make sense. It can't possibly cost them money."

The bill would allow the state to not even look at an application that doesn't meet the minimum five years, he said.

He called the idea that HB 1454 would cost municipalities money "crazy" because all that the bill does is channel where a landfill can go.

"It's going to save money because the biggest expense is hundreds of millions in remediation money," said Finkel. "Presumably, if you put it in the right place there won't be a need for that."

Maine uses six years, and in New Hampshire, the municipally-owned Mt. Carberry landfill near Berlin used the time formula in its application 10 years ago and in its most recent application, he said.

"They are 60 to 150 years away from the tributary of the Androscoggin River, and DES seems very familiar with that idea, and they should be," he said. "It's not a brand new crazy idea. It's how ground water works. You would pick miles if you were thinking in units of distance and we're picking time because it allows you to change the distance based on the site."

Existing New Hampshire rules allow a landfill to be located 200 feet from a waterway.

House Bill 1454, prime-sponsored by state Rep. Edith Tucker, D-Randolph, and co-sponsored by state representatives who include Dennis Thompson, R-Stewartstown; Linda Massimilla, D-Littleton; Timothy Egan, D-Sugar Hill; Troy Merner, R-Lancaster, as well as state Sen. Erin Hennessey, R-Littleton, focuses instead on new landfill siting within a proscribed distance of groundwater sources and uses time as the measure.

On Tuesday, HB 1454 — along with House bills that seek to implement a deposit of 10 cents on beverage containers (known as a "bottle bill") establish a committee to study ways to extend landfill capacity and the siting criteria for new landfills, establish another committee to study the extended responsibility of producers to provide relief to solid waste disposal costs borne by municipalities, and require applicants of landfills to obtain a bond against all damages — went to a hearing before the New Hampshire House of Representatives' Environment and Agriculture Committee.

In short, HB 1454 would prohibit the siting of any new landfill in an area where the groundwater from the landfill could reach the nearest perennial tributary, river, lake or coastal water within five years of migrating off-site.

Helping Tucker draft the language of HB 1454 is Adam Finkel, of Dalton, an environmental sciences professor and a former director of health standards programs with the U.S. Occupational Safety and Health Administration.

"There are two big changes in it," Finkel said Friday. "They both were motivated by specific criticisms we got last year [from several lawmakers]. The weight of the criticisms were why state parks? If you're trying to protect drinking water or the environment around waterways, then why not go directly to that? The second is we were told a fixed radius of two miles was 'arbitrary.' We changed it from a fixed distance of two miles to a variable distance of five years, where the years come from measuring the speed at which groundwater flows and multiplying it out and converting speed to time, which equals distance."

The formula is common and is used by the U.S. Environmental Protection Agency, which suggests two years, five years or 10 years and for three decades has advised states and towns on the concept of how long it takes groundwater from a facility to reach a sensitive water area like a wetland, lake or river, he said.

Available software can quickly calculate the time, he said.

https://www.caledonianrecord.com/news/local/nh-house-bills-target-changes-to-solid-waste-management-landfill-siting/article_e12a15e4-9b2d-5fe3-8b98-4b8afab11f74.html

FEATURED

NH House Bills Target Changes To Solid Waste Management, Landfill Siting

Robert Blechl rblechl@caledonian-record.com Staff Writer
Jan 23, 2022

Sen. Edith Tucker (D-Randolph) speaks during a public listening session hosted by the legislative redistricting committee at the Lancaster Courthouse on Thursday, Oct. 7, 2021. (Photo by Paul Hayes)

After the New Hampshire Senate last year voted to kill House Bill 177, which sought to prohibit any new landfill within two miles of any state park, North Country lawmakers took the input they received and are back with another bill relative to permits and the siting of new landfills in the state.

Heather Goley

From: Tom DeRosa <tom@bfreshconsulting.com>
Sent: Tuesday, February 1, 2022 8:44 AM
To: ~House Environment and Agriculture Committee
Subject: A few points on HB1454

Good morning Chairman Pearl and members of Environment and Agriculture,

I understand that HB1454 will have a second work session but wanted to bring a few points to your attention today on behalf of North Country Alliance for Balanced Change:

- this bill saves money, by moving tests that already have to be done to a "pre-approval stage";
- it replaces the "one size fits all" setback in HB177 with a site-specific one;
- DES, affected voters, and applicants all deserve to know at the outset whether a proposed site is doubly inappropriate ("bad" soil and very nearby lake/river); that's all this bill does.

I am looking forward to a robust conversation during today's work session and am happy to address any questions/concerns you may have.

Best,

Tom

Tom DeRosa
cell: 603.657.0051
www.bfreshconsulting.com

Heather Goley

From: Mary Menzies <maryhealdmenzies@gmail.com>
Sent: Tuesday, January 18, 2022 8:55 AM
To: ~House Environment and Agriculture Committee
Subject: Support for HB1454

Please support HB1454. Clean groundwater is important to our health and economy. It is much cheaper to protect it than to try to correct pollution after the damage has been done. I think that five years' of "protection distance" is too little and that the distance should be further.

Thank You,
Mary Menzies
(603) 444-2165 Home
(603) 991-0323 Cell

applications on a site-by-site basis and maintain adequate groundwater and surface water protection.

In closing, I hope this supplemental information helps the Committee clarify the protections to surface water provided by the existing NHDES landfill siting and permitting requirements. To re-iterate a point from my prior testimony, HB 1454 should be struck down as amended because of its arbitrary assumption of groundwater travel time and the duplication of current NHDES regulatory requirements.

Thank you for the opportunity to provide supplemental information to the Committee. I appreciate your time and consideration of these comments.

Very truly yours,

SANBORN, HEAD & ASSOCIATES, INC.

Timothy M. White, P.G.
Project Director

Program[9], which have guided development of the New Hampshire Source Protection Rules, do not by themselves prohibit specific land uses relative to public water supplies. The table below summarizes the stated responsibilities of each of the programs.

USEPA's Wellhead Protection Program	USEPA's Source Water Assessment Program
Established to help communities perform the following: • form a local team which will assist with protection of public supply wells in their area; • determine the land area which provides water to public supply wells; • identify existing and potential sources of contamination; • manage potential sources of contamination to minimize their threat to drinking water sources; and • develop a contingency plan to prepare for an emergency well closing and to plan for future water supply needs.	Established state drinking water programs responsible for the following: • identifying the land areas which provide water to each public drinking water source in their state; • completing an inventory of existing and potential sources of contamination in those areas; • determining the susceptibility of each drinking water system to contamination; and • releasing the results of the assessment to water users and other interested entities.

The key finding is: The prohibition of specific property uses included in HB 1454 is not included in the scopes of USEPA's Wellhead Protection Program or Source Water Assessment Program.

It is important to consider: Why does USEPA's source protection program not restrict property uses based on groundwater travel time to a drinking water source?

The answer is: groundwater and surface water interactions are complex and heterogeneous, and should be considered on a case-by-case basis. Assuming a universal restriction of a specific land use (e.g., landfills) based on a single groundwater travel time is not a technically rigorous approach and should be rejected.

CLOSING

Groundwater and surface water protection are adequately addressed in the existing NHDES solid waste landfill regulations. An additional provision in law that includes a siting restriction based on an arbitrary groundwater travel time is not needed, particularly a provision such as the 5 year restriction in HB 1454 that has no basis in New Hampshire law.

Further, there is no identified basis in USEPA drinking water source protection programs – which were reportedly a basis for the approach in HB 1454 – that supports prohibitions on property uses, including landfills, based on groundwater travel time. The permitting experts at NHDES currently have the administrative tools necessary to adequately evaluate landfill

[9] https://www3.epa.gov/region1/eco/drinkwater/pc_sourcewater_assessment.html

2.0 TECHNICAL PROBLEMS WITH PROPOSED APPROACH

Below I summarize two technical problems with the proposed approach included in HB 1454.

2.1 Unsupported Rationale for the Minimum Five Year Travel Time to Surface Water Restriction

Representative Tucker explained in her testimony on January 18, 2022 that the concept of the groundwater travel time to surface water was adopted from a USEPA approach used for evaluating siting industrial facilities relative to public drinking water supplies ("source water") protection areas. However, I am not aware that the Bill's sponsors have provided a technical basis for including a 5 year minimum travel time restriction in HB 1454. When questioned at the January 18, 2022 hearing whether the "years to cause harm" approach was being used in New Hampshire, Representative Tucker responded that it was "used typically on industrial sites in certain states", but was not able to confirm if this approach was or was not used in New Hampshire.

The current New Hampshire Source Protection Rules[5] regulations do not include restriction that prohibit specific land uses (such as a landfill) based on a 5-year – or other – groundwater travel time from a potential contaminant source to a drinking water supply. Regarding regulation of potential contaminants in groundwater, NHDES' community well siting rules for small systems (Env-Dw 305)[6] and large systems (Env-Dw 302)[7] specify the site selection criteria and groundwater withdrawal procedures, but do not restrict land use based on a groundwater travel time to water supply sources.

The important question is: On what technical basis should a method reportedly developed for evaluating public drinking water source protection be subjectively modified and adopted for restricting siting of landfills relative to certain surface water bodies, particularly when different methods are currently used for public drinking water source protection in New Hampshire?

In my opinion, the answer to this question is: there is no technical basis for the approach included in the proposed amendment to HB 1454 and therefore the proposed amendment and Bill should be rejected.

2.2 Prohibition of Specific Property Uses – Not Included in USEPA's Source Protection Programs

As discussed above in Section 2.1, the approach used in the proposed amendment was reportedly based on USEPA's drinking water source protection programs. It is important to note that the USEPA's Wellhead Protection Program[8] and Source Water Assessment

[5] https://www.des.nh.gov/climate-and-sustainability/conservation-mitigation-and-restoration/source-water-protection
[6] https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Dw%20305.pdf
[7] https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Dw%20302.pdf
[8] https://www3.epa.gov/region1/eco/drinkwater/pc_wellhead_protection.html

1.2 Existing Surface Water Setback Requirements

Based on testimony and responses to Committee members' questions at the January 18, 2022 hearing[3], it may have been possible to conclude that the 200-foot setback for landfills to surface water under the existing NHDES rules is the only setback requirement for surface water. This is not accurate. Under *Env-Sw 804.03(d)*, there is a required 200-foot setback between a landfill and surface water; however, the 200-foot distance represents only the minimum setback a landfill must have to surface water. As discussed above in Section 1.1 relative to *Env-Sw 804.03(c)(3)*, in addition to the 200-foot minimum setback, a landfill applicant is also required to demonstrate that the landfill is sited in an area where the potential release of contaminants to surface waters can be prevented, attenuated, or otherwise remediated.

1.3 Surface Water Protections under Groundwater Release Detection Permits

In addition to the landfill siting requirements discussed above in Sections 1.1 and 1.2, the conditions contained in Groundwater Release Detection Permits issued to the State's lined landfills include surface water protections.

Each of the six operating lined landfills in New Hampshire has either a Groundwater Management Permit or Release Detection Permit, or a combined permit. In each of these permits, there are conditions that require protection of surface water. Below, I have excerpted Mt. Carberry's November 25, 2019 Groundwater Release Detection Permit[4] as an example to indicate this standard permit condition and shown the requirement in red highlighting:

Excerpt of Mt. Carberry Landfill's Groundwater Release Detection Permit:

STANDARD RELEASE DETECTION CONDITIONS

1. The permittee shall not cause a regulated contaminant as defined in RSA 485-C to be introduced to the ground or groundwater.

2. The permittee shall not cause groundwater degradation that results in a violation of surface water quality standards (N.H. Admin. Rules Env-Wq 1700) in any surface water body.

The existing NHDES permitting regulations have a track record of successful environmental protection. As Waste Management Director Michael Wimsatt testified to the Committee on January 18, 2022, NHDES has not documented a case in New Hampshire where a landfill liner failure has resulted in a leachate release to groundwater. As the Director indicated, where impacts to groundwater have been identified at landfill sites, the source has been a release other than the liner system. In these cases, the groundwater monitoring programs have successfully identified the releases, and corrective actions have been put in place prior to groundwater impacts reaching surface water.

[3] Hearing recording available at the NH House of Representatives Committee Streaming YouTube channel: https://www.youtube.com/watch?v=2ef68aCI3bM

[4] https://www4.des.state.nh.us/IISProxy/IISProxy.dll?ContentId=4818915

duplicative and therefore redundant, as well as a discussion of some of the technical problems with the proposed amendment.

1.0 EXISTING NHDES LANDFILL REGULATIONS

Under the current rules, NHDES already maintains the authority to prevent development of a landfill at a site where surface water impacts could occur and an additional provision in law is not necessary. Key portions of the existing NHDES regulations are summarized below.

1.1 Landfill Siting Regulations – Surface Water Protection

Groundwater and surface water protection are integral parts of siting and permitting a solid waste facility in New Hampshire. Under *Env-Sw 804.03* (*Surface Water Protection Standards* section of the *Env-Sw 800 Landfill Requirements* rules)[2], there is a requirement for siting a landfill where a hydrogeologic study has demonstrated "the potential release of contaminants to surface waters can be prevented, attenuated or otherwise remediated."

I have excerpted *Env-Sw 804.03* below, and indicated the relevant requirements in a red outline:

Excerpt of Env-Sw 800 "Landfill Requirements":

Env-Sw 804.03 Surface Water Protection Standards.

(a) The location of a landfill relative to surface water resources shall comply with the requirements of RSA 485-A.

(b) A landfill and all associated leachate storage units shall be located only in areas where potential adverse effects to surface water quality, due to erosion, sedimentation, siltation, flood, or discharge of contaminants, can be prevented or minimized and mitigated by facility design.

(c) Identification of the areas cited in (b) above shall be based on a thorough hydrogeological investigation to demonstrate the following:

(1) Compliance with Env-Sw 804.02;

(2) That engineering design measures can be incorporated to control erosion, sedimentation and siltation; and

(3) The potential release of contaminants to surface waters can be prevented, attenuated or otherwise remediated.

(d) The footprint of a landfill shall not be located within 200 feet of any perennial surface water body, measured from the closest bank of a stream and closest shore of a lake, as applicable.

In accordance with *Env-Sw 804.03(c)(3)*, the applicant must demonstrate that the proposed landfill is sited in an area where the potential release of contaminants to surface waters can be prevented, attenuated, or otherwise remediated.

[2] https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Sw%20800.pdf

SANBORN HEAD
Building Trust. Engineering Success.

20 Foundry Street
Concord, NH 03301

The Honorable Howard Pearl, Chair
Committee on Environment and Agriculture
Legislative Office Building, Room 303
Concord NH 03301

February 8, 2022

Re: Supplemental Testimony of Timothy M. White, P.G.
Comments on Proposed Amendment to HB 1454

Dear Chairperson Pearl:

Thank you for this opportunity to provide supplemental written comments to the Committee regarding the proposed amendment to HB 1454.

My name is Tim White, and I am a Project Director at Sanborn, Head & Associates, Inc. (Sanborn Head). I am a licensed Professional Geologist in New Hampshire and am one of the hydrogeologists at Sanborn Head responsible for managing the groundwater monitoring and reporting programs at several of the state's lined landfills. I have worked in the field of geology for over 20 years.

I provided written and spoken testimony at the Committee's hearing on HB 1454 on January 18, 2022. I have prepared this supplemental information for the Committee's consideration regarding the proposed amendment to HB 1454.

The two main issues I would like to summarize regarding the proposed amendment to HB 1454 are as follows:

1. The approach used in the proposed amendment fails to consider that lined landfills in New Hampshire have several decades of successful and adequate solid waste regulation under the existing NHDES rules.

2. Rather than relying on the effectiveness of the existing NHDES regulations, the proposed amendment to HB 1454 asserts that an arbitrary 5 year groundwater travel time to certain surface water bodies (4th order streams, tidal waters, and lakes, ponds, and artificial impoundments greater than 10 acres in size[1]) is needed to protect the State's surface water.

As a groundwater professional, actively engaged in managing environmental monitoring at solid waste landfills in the state, there is no technical basis in New Hampshire law for a 5 year groundwater travel time in prohibiting land use, and it is my opinion that HB 1454 and its amendment should be stuck down as written. Below, I provide a brief summary of the relevant portions of the NHDES rules which make HB 1454 and its proposed amendment

[1] RSA 483-B:4, XVI

ATTACHMENT 1
Hypothetical Scenario Illustrating Differences Between Existing Release Detection Regulations and the HB 1454 Approach

Background: The hypothetical scenario presented below was prepared to show how under proposed HB 1454 requirements, a relatively minor detection of a Priority Pollutant (toluene) above the background concentration could lead to the unnecessary shut down of a landfill. Of particular note in this scenario are the absence of an actual release from the landfill, and the isolated nature of groundwater impacts (i.e., assumed detection in only one monitoring well, at concentrations far below groundwater, drinking water and surface water standards). Although hypothetical, this scenario is considered plausible for most solid waste facilities in New Hampshire.

Scenario: Toluene (a Priority Pollutant and ubiquitous analyte in petroleum-related products) is detected in one monitoring well near a landfill perimeter access road at a concentration of 5 micrograms per liter (µg/l; equivalent to parts per billion), marginally above the laboratory reporting limit (1 µg/l), but well below the drinking water MCL and NHDES GW-1/AGQS for toluene (1,000 µg/l), and the lowest human health-based surface water quality criteria (1,300 µg/l). Toluene is a minor constituent of leachate, but has not typically been detected in site groundwater, so the site background level is equal to the laboratory reporting limit (1 µg/l). As such, the detection at 5 µg/l is considered an exceedance of the background. Toluene is not detected in any other site monitoring wells.

Timeline	Hypothetical Events	Current Approach (Release Detection Rules Env-Or 700)	Proposed Approach (HB 1454)
Month 1	• Groundwater sampling is repeated within 48 hours of the initial detection to confirm the result. The toluene detection is confirmed at the same monitoring well at the same concentration; toluene remains non-detect at other monitoring wells. • Over the course of the next several days, operational records for the site are reviewed for potential sources of toluene. No obvious sources are identified.	• Landfill continues operating and routine quarterly groundwater monitoring is performed. • Given the low toluene concentration and absence of other detections, report recommends evaluation of toluene detection in next quarterly round.	• Upon detection, the landfill is immediately prohibited from accepting waste. • Activities commence to further identify potential toluene sources, map the contaminant plume, and intercept and remediate groundwater as required by HB 1454 requirements. • A Work Plan is prepared to install additional monitoring wells for groundwater characterization.
Month 2	• Approximately 1 month after the initial detection, routine maintenance of a water truck used at the site for dust suppression identifies a small leak in its fuel tank. • The truck's fuel tank is repaired.	• The truck fuel tank is evaluated as a potential source of toluene in groundwater; further evaluation at next quarterly sampling event is recommended.	• Characterization activities performed in Months 2 & 3 – toluene is only detected in the original monitoring well; the concentration has declined, but remains detectable above background. • The truck fuel tank is evaluated as a potential source of toluene in groundwater; sampling/remediation plans must continue in order to resume landfilling.
Month 3	• No action under current regulations; corrective actions required under HB 1454		
Month 4	• Routine quarterly groundwater monitoring is performed under the site's Permit. Results indicate that the toluene concentration has declined to non-detect levels.	• Report notes truck fuel tank as suspected toluene source and recommends continued evaluation as part of future quarterly sampling.	• Upon receipt of confirmed non-detect toluene concentrations, the landfill operator requests approval from NHDES to resume operations. • Approval is granted to resume landfill operations.
Outcome:		Non-detect toluene concentrations in groundwater	
Total time landfill was shut down:		0 days	3 months

Landfill open ↓ *Landfill shut down* ↓

Very truly yours,

SANBORN, HEAD & ASSOCIATES, INC.

Timothy M. White, P.G.
Project Director

Attachment 1 - Hypothetical Scenario Illustrating Differences Between Existing Release Detection Regulations and the HB 1454 Approach

emphasize early detection of potential releases from landfills therefore, the requirements proposed in HB 1454 are unnecessary.

Issue 3. Inconsistencies in permitting between new landfills and expansion at existing sites.

As proposed, HB 1454 excludes regulation of expansions at existing landfills. This means HB 1454 would not prohibit expansion at an existing landfill site regardless of groundwater travel time to particular surface water bodies, nor does it require immediate cessation of landfilling operations at an expanded landfill if Priority Pollutants are detected above baseline conditions, simply because the facility existed at the time of HB 1454's passage.

If adopted the approach proposed under HB 1454 would create a major inconsistency between how new and expanded facilities are regulated. A new facility that is virtually identical in design, construction, and operation to an expanded facility will be regulated very differently, even with the possibility of facilities having the same liner systems, leachate and gas collection systems, waste types, and capacities. The approach proposed under HB 1454 should be rejected because it arbitrarily distinguishes between new and expanding facilities and in doing so creates an inconsistent regulatory landscape.

It is my opinion that the existing New Hampshire solid waste laws and rules are adequate for permitting expansions and can be used consistently to permit new landfills. I base my conclusion on the fact that existing New Hampshire regulations have been successfully used for decades at the state's lined landfill facilities and have shown themselves to be protective of human health and the environment.

Closing

In closing, HB 1454 should be struck down as written because of the technical infeasibility of implementing its standards, in conjunction with standard industry practice, and duplication of current NHDES regulatory requirements.

A potential source of contamination cannot be conclusively identified from a single exceedance in a groundwater sample. Immediate closure based on such a requirement is detrimental to the operation of any landfill.

Additionally, implementation of hard-and-fast benchmarks such as a 5-year groundwater travel time to particular surface waters, and the failure to consider travel times to release detection wells, results in inaccurate depiction of potential landfill leachate contamination. These benchmarks, or lack thereof, also do not reflect standard industry practice, and are either in conflict with, or duplicative of, current NHDES regulations.

Lastly, creating different regulatory requirements for new landfills and expansions on existing landfills is unreasonable given that both types of projects may implement similar, if not the exact same, capture technologies, type of waste handling, or capacities.

Thank you for the opportunity to provide input to the Committee. I appreciate your time and consideration of these comments.

a. As proposed, HB 1454 focuses on establishing a single benchmark for groundwater travel time to particular surface water bodies. It is well-known that contaminants typically move more slowly than the average groundwater velocity, and pollutants flow and react in the subsurface, which can reduce how far and fast they travel. For example, if it takes groundwater a year to travel ¼-mile to surface water, it may take a pollutant 1.5 or 2 years to travel the same distance, assuming the pollutant isn't degraded or diluted before it reaches surface water. Given the nature of groundwater flow, focusing on groundwater travel time rather than the time for potential contaminant transport, has the potential to result in unnecessarily long and restrictive setback distances to surface water. In effect, HB 1454 could prohibit development of a landfill site, even if there is low likelihood of a contaminant arriving at 4th Order surface water at detectable concentrations, based on a strict and limited set of possibilities.

b. The measurement of travel time in groundwater can be variable, and methods used to estimate it are subject to some level of interpretation. HB 1454 creates several technical questions such as: What methods would be acceptable? How many tests would be required? Are groundwater discharges to a lower Order stream which then flows to the 4th Order stream in less than 5 years included in the siting prohibition? Given that estimates of travel time are subject to possible misinterpretation and misapplication it does not make sense technically to establish such a hard-and-fast benchmark for siting a landfill.

c. The requirement that a new permit will not be issued for a landfill "...located sufficiently close to any perennial lake, or coastal water of New Hampshire, as defined in RSA 483-B:4, XVI, such that groundwater on the landfill site would be able to reach the water body within 5 years of migrating off-site" is an arbitrary benchmark.[2] HB 1454 does not provide an explanation for this requirement and there is no basis for it under existing NHDES regulations. Assuming a site is sampled two times per year, as proposed under HB 1454, it is unnecessary to perform what would amount to 10 or more semi-annual events. This is because corrective actions to mitigate a potential release, that presents a significant threat to groundwater or particular surface water, would be required by NHDES much sooner than five years.

d. The proposed standard in HB 1454 for a new permitted landfill to "...establish one or more networks of groundwater monitoring wells such that each nearby lake or river shall have a network at a distance of 5 times X feet from the water body" conflicts with standard industry practice.[3] For release detection purposes, standard industry groundwater testing protocols, and existing state regulations[4], require measurement at release detection wells downgradient from the landfill. This approach provides an indication of a potential release as early as possible. Current NHDES regulations

[2] *Id.*
[3] *Id.*
[4] https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Or%20700.pdf

Issue 1. Requiring the immediate shutdown of a landfill if a Priority Pollutant is detected at any concentration above baseline.

As proposed, HB 1454 unreasonably ignores the source of detections and requires shutdown "[i]f any of the pollutants monitored for is detected above baseline concentrations... until the plume of contamination is mapped, intercepted, and remediated."[1] Based on my experience it is unrealistic to assume that a landfill should be shut down immediately, even if a fractionally small exceedance of a background concentration is recorded, particularly if the source of the exceedance has not been confirmed.

At the lined landfills currently operating in New Hampshire, dozens of potential pollutants are analyzed in groundwater samples, including many of the Priority Pollutants referenced in HB 1454. In my experience concentrations of analytes monitored at landfills, including naturally occurring analytes (i.e. metals, nitrate, and chloride), can vary due to natural effects, such as increased or decreased precipitation. The variation of concentrations in groundwater may be unrelated to contaminant releases from landfills. Therefore, it is not appropriate to automatically assume every detection or variation is sourced from the landfill.

Groundwater monitoring programs are best conducted using repeatable results, and decisions to remediate should be made using multiple lines of evidence that confirm the source of contamination. It is only once the source is confirmed, and the potential for adverse impacts to human health and/or the environment are identified, that remediation should commence.

Attachment 1 illustrates a hypothetical, but plausible example, of how low-level detection of a Priority Pollutant could result in a landfill shutdown of weeks to months, even if the ultimate source of the background exceedance is not the landfill.

In short HB 1454, as proposed, is far too simplistic in the assumption <u>any</u> exceedance of a background concentration is indicative of a release from a lined facility, much less a release with the scope and magnitude that requires immediate shutdown of waste acceptance at a landfill, and initiation of remediation. It is possible landfills would find it infeasible to operate if they were constantly subject to immediate shutdowns of indefinite duration.

Further, through rules and operation permit conditions, the New Hampshire Department of Environmental Services (NHDES) has the authority to suspend landfilling at a facility, to address groundwater contamination, if they were to deem that action necessary. As such, the proposed language of HB 1454 is duplicative, and therefore unnecessary.

Issue 2. Misplaced focus on downgradient travel time rather than release detection monitoring

HB 1454 wrongly emphasizes groundwater travel time to particular surface water features which could potentially be located at significant distance from a landfill. In my opinion, there are several technical issues with focusing on the downgradient surface water bodies:

[1] HB 1454, 2022 Leg., Reg. Sess., (NH. 2022).

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20 Foundry Street
Concord, NH 03301

The Honorable Howard Pearl, Chair
Committee on Environment and Agriculture
Legislative Office Building, Room 303
Concord NH 03301

January 18, 2022

Re: Testimony of Timothy M. White, P.G.
Comments on HB 1454

Dear Chairperson Pearl:

Thank you for this opportunity to provide written comments to the Committee regarding HB 1454.

My name is Tim White, and I am a Project Director at Sanborn, Head & Associates, Inc. (Sanborn Head), a multi-disciplinary engineering and geosciences consulting firm headquartered in Concord, New Hampshire. Sanborn Head has provided environmental and engineering services to public and private solid waste clients in New Hampshire since the firm was founded in 1993. We currently manage the groundwater monitoring and reporting programs at several of the state's lined landfills.

I am one of the hydrogeologists at Sanborn Head and have worked in the field of geology for over 20 years. I am a licensed Professional Geologist in New Hampshire as well as in four other states.

With its introduction, HB 1454 asserts that landfills in New Hampshire are inadequately regulated despite several decades of successful solid waste management of existing facilities in the state. As a groundwater professional, actively engaged in managing environmental monitoring at solid waste landfills in the state, I disagree with this premise.

The proposed language in HB 1454 contains several technical shortcomings, but the most concerning are:

1. Requiring the immediate shutdown of a landfill if a Priority Pollutant is detected at any concentration above baseline.

2. Misplaced focus on downgradient travel time rather than release detection monitoring.

3. Inconsistencies in permitting between new landfills and expansion at existing sites.

Below, I provide a brief summary of these issues for the Committee's consideration.

not clearly indicate how seepage velocities between different geologic units should be considered when multiple units are present as is common in the state of New Hampshire.

Further, the reference to "deep" groundwater is not defined in the proposed revision to the RSA, and, more critically, the concept of "deep" groundwater ignores the technical question of whether deeper groundwater is or is not in hydraulic communication with the perennial river, lake, or coastal water in question. In many geologic settings, "deep" groundwater may lack hydraulic connectivity with surface water bodies and the language of the proposed revision to the RSA ignores this important technical consideration when establishing a setback.

Due to the technical complexities of establishing setback criteria using this calculated approach, inclusion of a revision like the one proposed in HB 1454 may be appropriate for NHDES to consider as an update to existing NH Solid Waste Rules Env-Sw 100-2000, but is too ambiguous and requires too many technical considerations to be able to be effectively incorporated into the RSA itself.

- Section (c) of proposed HB 1454 would establish groundwater monitoring requirements for landfills. However, groundwater and surface water monitoring system design standards are already established in Env-Sw 805.08. Revisions to the expectations for groundwater and surface water monitoring should be made to the existing rules (Env-Sw 805.08) to avoid the potential for inconsistencies between the rules and the RSA, and to allow NHDES to continue with their ability to revise these expectations in the future as additional contaminants or issues of concern arise, if necessary.

verdantas
PEOPLE FOCUSED FUTURE

To: SPONSORS: Rep. Tucker, Coos 5; Rep. Thompson, Coos 1; Rep. Massimilla, Graf. 1; Rep. Egan, Graf. 2; Rep. Hatch, Coos 6; Rep. Merner, Coos 7; Rep. Laflamme, Coos 3; Rep. Myler, Merr. 10; Rep. Deshaies, Carr. 6; Sen. Hennessey, Dist 1; Sen. Sherman, Dist 24
COMMITTEE: Environment and Agriculture

Re: Letter of Opposition to House Bill 1454-FN - AS INTRODUCED
2022 SESSION
AN ACT relative to permits for the siting of new landfills.

From:

Nikki Delude Roy, PG
Senior Consultant/Vice President
Verdantas LLC

Date: January 18, 2022

As an environmental consultant and Professional Geologist, I oppose House Bill (HB) 1454-FN as introduced for the following reasons:

- The New Hampshire Department of Environmental Services (NHDES) has existing rules (NH Solid Waste Rules Env-Sw 100-2000) that govern the construction, operation, and closure of solid waste facilities in the State including, Env-Sw 804 which establishes siting requirements that focus on protection of groundwater and surface water (Env-Sw 804.02 through 804.05) and these currently establish protective distances from sensitive receptors including drinking water supplies and surface water bodies. HB 1454 would essentially transfer one set of setback criteria from Env-Sw 804 to NH RSA 149-M, while leaving others (e.g., minimum distance to the seasonal high groundwater table, distance from geologic faults) in regulations. The transition of this single set of setback requirements to NH RSA 149-M is unnecessary and inconsistent. Further, a transfer of these siting requirements to the RSA would remove NHDES' ability to revise these expectations in the future, if necessary.

- NH RSA 149-M, as written, oversimplifies location specific geologic conditions and would therefore be prohibitively difficult to implement. Although the proposed revision to the RSA appears relatively straightforward, rarely do geologic settings in New Hampshire have clear "shallow" and "deep" groundwater units as described. For example, as written, "the reasonable maximum seepage velocity of shallow or deep groundwater, whichever is the larger estimate" shall be used to establish a setback from perennial river, lake, or coastal water of New Hampshire. In most cases, there are multiple geologic units present at a site, each with their own maximum seepage velocity. The language proposed in HB 1454 does

designed and intended to provide for prompt detection and remedial action on the site proper, it is not clear to NHDES how a monitoring well network that is located further afield from the landfill would enhance protection. In addition, NHDES is also concerned that the monitoring wells for the networks required by the bill would need to be located on properties that may not be owned by the applicant, again creating access challenges.

Third, the bill requires that if any contaminant is detected above baseline concentrations in the newly required monitoring well networks, landfilling at the facility shall immediately cease until the plume is remediated. NHDES is concerned that this provision appears to presume that any detection above background in any well has occurred as a result of a release from the landfill. Given that the required networks may be located a significant distance from the landfill, such a presumption may be in error, with the contaminant being sourced from some other off-site source. In addition to the obvious issue of fairness, NHDES is concerned that this could needlessly cause a sudden disposal capacity crisis and market disruption.

Thank you again for the opportunity to comment on HB 1454-FN. Should you have questions or need additional information, please feel free to contact Michael Wimsatt, Waste Management Division Director (michael.wimsatt@des.nh.gov, 271-1997).

Sincerely,

Robert R. Scott
Commissioner

ec: Sponsors of HB 1454: Representatives Tucker, Thompson, Massimilla, Egan, Hatch, Merner, Laflamme, Myler, Deshaies; Senators Hennessey and Sherman

The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

January 18, 2022

The Honorable Howard Pearl
Chairman, House Environment & Agriculture Committee
Legislative Office Building, Room 303
Concord, NH 03301

RE: HB 1454-FN, An Act relative to permits for the siting of new landfills

Dear Chairman Pearl and Members of the Committee:

Thank you for the opportunity to testify on HB 1454-FN. This bill would prohibit the siting of a new solid waste landfill within a proscribed distance from public waters. The New Hampshire Department of Environmental Services (NHDES) is not taking a position on this bill, but does have concerns about several provisions of the bill.

First, the bill would prohibit NHDES from issuing any permit for the siting of a new landfill if groundwater migrating from the landfill site could reach "any perennial river, lake or coastal water of New Hampshire, as defined in RSA 483-B:4, XVI.," within five years. In order to determine this distance for a given site, the bill requires the applicant to hire an independent hydrogeologist to perform field testing and estimate groundwater velocities in both shallow and deep groundwater. NHDES is concerned that, given the heterogeneous and complex nature of New Hampshire's geology and aquifers, the bill may underestimate the complexity and nature of the work required to complete such an analysis. Further, the required field testing would need to be conducted on properties that may not be owned by the applicant, which may present access problems.

Second, the bill would require that when a permit is granted for a landfill site, one or more networks of monitoring wells must be established at a distance equal to the determined five-year travel distance from each water body. NHDES believes that such networks would not add to the protectiveness already provided by currently existing monitoring requirements. Under current rules, NHDES monitors groundwater quality around landfills using a "Groundwater Release Detection Permit." The permittee conducts "detection monitoring" under the permit, periodically sampling and analyzing a network of monitoring wells for a specified set of parameters. These well networks are located in close proximity to the landfill footprint. If a contaminant is detected above the background value at any down-gradient well, the permittee must begin "assessment monitoring," which entails enhanced monitoring for a larger panel of contaminants. If assessment monitoring confirms the exceedance, a Corrective Action Plan must be submitted and implemented. If successful, then the permittee can eventually return to regular detection monitoring. However, if the problem cannot be rectified, then under existing rules, the permittee must submit a schedule of activities to implement facility closure. Given that this system is

Healthy environment.
Healthy economy.

Support of HB 1454

January 18, 2022

Members of the House Environment and Agriculture Committee:

Thank you for the opportunity to testify today. For the record, my name is Tom Tower and I'm a resident of Whitefield and speaking here today on behalf of The North Country Alliance For Balanced Change (NCABC) to speak in **support of HB 1454**.

Last year, there was an enormous amount of support from people across the state in favor of HB 177 which worked to prevent siting of a landfill within a 2 mile buffer of a state park. As you recall, HB 177 was eventually passed by the House but failed in the Senate.

Although ultimately unsuccessful, the momentum of this legislation did help encourage many new important bills this session having to do with topics surrounding solid waste, groundwater and PFAS.

Once such bill is HB 1454, which seeks to create science-based setbacks for new landfills from any perennial river, lake, or coastal water.

The drafters of HB 1454 listened carefully to the concerns that this Committee and the Senate had in regards to HB 177 and worked to develop a smart and workable piece of legislation.

This bill makes it explicitly clear that it does not apply to existing landfills and their expansions, does not use an arbitrary setback number and instead allows for an independent hydrogeologist to determine reasonable seepage per year.

Smart project siting is not just a "North Country" issue. This legislation will project all valuable state resources from our coastline to the Merrimack River, Lake Winnipesaukee, Lake Sunapee and every town and community in-between.

As we have seen with PFAS, this is not about telling people or developers what they can and can't do, it about making sure what they do doesn't carry lifelong, detrimental effects to our communities and state.

Thank you,

Tom Tower
North Country Alliance For Balanced Change (NCABC)

ATTACHMENT 1

Hypothetical Scenario Illustrating Differences Between Existing Release Detection Regulations and the HB 1454 Approach

Background: The hypothetical scenario presented below was prepared to show how under proposed HB 1454 requirements, a relatively minor detection of a Priority Pollutant (toluene) above the background concentration could lead to the unnecessary shut down of a landfill. Of particular note in this scenario are the absence of an actual release from the landfill, and the isolated nature of groundwater impacts (i.e., assumed detection in only one monitoring well, at concentrations far below groundwater, drinking water and surface water standards). Although hypothetical, this scenario is considered plausible for most solid waste facilities in New Hampshire.

Scenario: Toluene (a Priority Pollutant and ubiquitous analyte in petroleum-related products) is detected in one monitoring well near a landfill perimeter access road at a concentration of 5 micrograms per liter (µg/l; equivalent to parts per billion), marginally above the laboratory reporting limit (1 µg/l), but well below the drinking water MCL and NHDES GW-1/AGQS for toluene (1,000 µg/l), and the lowest human health-based surface water quality criteria (1,300 µg/l). Toluene is a minor constituent of leachate, but has not typically been detected in site groundwater, so the site background level is equal to the laboratory reporting limit (1 µg/l). As such, the detection at 5 µg/l is considered an exceedance of the background. Toluene is not detected in any other site monitoring wells.

Timeline	Hypothetical Events	Current Approach (Release Detection Rules Env-Or 700)	Proposed Approach (HB 1454)
Month 1	• Groundwater sampling is repeated within 48 hours of the initial detection to confirm the result. The toluene detection is confirmed at the same monitoring well at the same concentration; toluene remains non-detect at other monitoring wells. • Over the course of the next several days, operational records for the site are reviewed for potential sources of toluene. No obvious sources are identified.	• Landfill continues operating and routine quarterly groundwater monitoring is performed. • Given the low toluene concentration and absence of other detections, report recommends evaluation of toluene detection in next quarterly round.	• Upon detection, the landfill is immediately prohibited from accepting waste. • Activities commence to further identify potential toluene sources, map the contaminant plume, and intercept and remediate groundwater as required by HB 1454 requirements. • A Work Plan is prepared to install additional monitoring wells for groundwater characterization.
Month 2	• Approximately 1 month after the initial detection, routine maintenance of a water truck used at the site for dust suppression identifies a small leak in its fuel tank. • The truck's fuel tank is repaired.	• The truck fuel tank is evaluated as a potential source of toluene in groundwater; further evaluation at next quarterly sampling event is recommended.	• Characterization activities performed in Months 2 & 3 – toluene is only detected in the original monitoring well; the concentration has declined, but remains detectable above background. • The truck fuel tank is evaluated as a potential source of toluene in groundwater; sampling/remediation plans must continue in order to resume landfilling.
Month 3	• No action under current regulations; corrective actions required under HB 1454		
Month 4	• Routine quarterly groundwater monitoring is performed under the site's Permit. Results indicate that the toluene concentration has declined to non-detect levels.	• Report notes truck fuel tank as suspected toluene source and recommends continued evaluation as part of future quarterly sampling.	• Upon receipt of confirmed non-detect toluene concentrations, the landfill operator requests approval from NHDES to resume operations. • Approval is granted to resume landfill operations.
Outcome:		Non-detect toluene concentrations in groundwater	
Total time landfill was shut down:		0 days	3 months

Landfill open ↓

Landfill shut down ↓

Very truly yours,

SANBORN, HEAD & ASSOCIATES, INC.

Timothy M. White, P.G.
Project Director

Attachment 1 - Hypothetical Scenario Illustrating Differences Between Existing Release Detection Regulations and the HB 1454 Approach

emphasize early detection of potential releases from landfills therefore, the requirements proposed in HB 1454 are unnecessary.

Issue 3. Inconsistencies in permitting between new landfills and expansion at existing sites.

As proposed, HB 1454 excludes regulation of expansions at existing landfills. This means HB 1454 would not prohibit expansion at an existing landfill site regardless of groundwater travel time to particular surface water bodies, nor does it require immediate cessation of landfilling operations at an expanded landfill if Priority Pollutants are detected above baseline conditions, simply because the facility existed at the time of HB 1454's passage.

If adopted the approach proposed under HB 1454 would create a major inconsistency between how new and expanded facilities are regulated. A new facility that is virtually identical in design, construction, and operation to an expanded facility will be regulated very differently, even with the possibility of facilities having the same liner systems, leachate and gas collection systems, waste types, and capacities. The approach proposed under HB 1454 should be rejected because it arbitrarily distinguishes between new and expanding facilities and in doing so creates an inconsistent regulatory landscape.

It is my opinion that the existing New Hampshire solid waste laws and rules are adequate for permitting expansions and can be used consistently to permit new landfills. I base my conclusion on the fact that existing New Hampshire regulations have been successfully used for decades at the state's lined landfill facilities and have shown themselves to be protective of human health and the environment.

Closing

In closing, HB 1454 should be struck down as written because of the technical infeasibility of implementing its standards, in conjunction with standard industry practice, and duplication of current NHDES regulatory requirements.

A potential source of contamination cannot be conclusively identified from a single exceedance in a groundwater sample. Immediate closure based on such a requirement is detrimental to the operation of any landfill.

Additionally, implementation of hard-and-fast benchmarks such as a 5-year groundwater travel time to particular surface waters, and the failure to consider travel times to release detection wells, results in inaccurate depiction of potential landfill leachate contamination. These benchmarks, or lack thereof, also do not reflect standard industry practice, and are either in conflict with, or duplicative of, current NHDES regulations.

Lastly, creating different regulatory requirements for new landfills and expansions on existing landfills is unreasonable given that both types of projects may implement similar, if not the exact same, capture technologies, type of waste handling, or capacities.

Thank you for the opportunity to provide input to the Committee. I appreciate your time and consideration of these comments.

a. As proposed, HB 1454 focuses on establishing a single benchmark for groundwater travel time to particular surface water bodies. It is well-known that contaminants typically move more slowly than the average groundwater velocity, and pollutants flow and react in the subsurface, which can reduce how far and fast they travel. For example, if it takes groundwater a year to travel ¼-mile to surface water, it may take a pollutant 1.5 or 2 years to travel the same distance, assuming the pollutant isn't degraded or diluted before it reaches surface water. Given the nature of groundwater flow, focusing on groundwater travel time rather than the time for potential contaminant transport, has the potential to result in unnecessarily long and restrictive setback distances to surface water. In effect, HB 1454 could prohibit development of a landfill site, even if there is low likelihood of a contaminant arriving at 4th Order surface water at detectable concentrations, based on a strict and limited set of possibilities.

b. The measurement of travel time in groundwater can be variable, and methods used to estimate it are subject to some level of interpretation. HB 1454 creates several technical questions such as: What methods would be acceptable? How many tests would be required? Are groundwater discharges to a lower Order stream which then flows to the 4th Order stream in less than 5 years included in the siting prohibition? Given that estimates of travel time are subject to possible misinterpretation and misapplication it does not make sense technically to establish such a hard-and-fast benchmark for siting a landfill.

c. The requirement that a new permit will not be issued for a landfill "...located sufficiently close to any perennial lake, or coastal water of New Hampshire, as defined in RSA 483-B:4, XVI, such that groundwater on the landfill site would be able to reach the water body within 5 years of migrating off-site" is an arbitrary benchmark.[2] HB 1454 does not provide an explanation for this requirement and there is no basis for it under existing NHDES regulations. Assuming a site is sampled two times per year, as proposed under HB 1454, it is unnecessary to perform what would amount to 10 or more semi-annual events. This is because corrective actions to mitigate a potential release, that presents a significant threat to groundwater or particular surface water, would be required by NHDES much sooner than five years.

d. The proposed standard in HB 1454 for a new permitted landfill to "...establish one or more networks of groundwater monitoring wells such that each nearby lake or river shall have a network at a distance of 5 times X feet from the water body" conflicts with standard industry practice.[3] For release detection purposes, standard industry groundwater testing protocols, and existing state regulations[4], require measurement at release detection wells downgradient from the landfill. This approach provides an indication of a potential release as early as possible. Current NHDES regulations

[2] *Id.*
[3] *Id.*
[4] https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Or%20700.pdf

Issue 1. Requiring the immediate shutdown of a landfill if a Priority Pollutant is detected at any concentration above baseline.

As proposed, HB 1454 unreasonably ignores the source of detections and requires shutdown "[i]f any of the pollutants monitored for is detected above baseline concentrations... until the plume of contamination is mapped, intercepted, and remediated."[1] Based on my experience it is unrealistic to assume that a landfill should be shut down immediately, even if a fractionally small exceedance of a background concentration is recorded, particularly if the source of the exceedance has not been confirmed.

At the lined landfills currently operating in New Hampshire, dozens of potential pollutants are analyzed in groundwater samples, including many of the Priority Pollutants referenced in HB 1454. In my experience concentrations of analytes monitored at landfills, including naturally occurring analytes (i.e. metals, nitrate, and chloride), can vary due to natural effects, such as increased or decreased precipitation. The variation of concentrations in groundwater may be unrelated to contaminant releases from landfills. Therefore, it is not appropriate to automatically assume every detection or variation is sourced from the landfill.

Groundwater monitoring programs are best conducted using repeatable results, and decisions to remediate should be made using multiple lines of evidence that confirm the source of contamination. It is only once the source is confirmed, and the potential for adverse impacts to human health and/or the environment are identified, that remediation should commence.

Attachment 1 illustrates a hypothetical, but plausible example, of how low-level detection of a Priority Pollutant could result in a landfill shutdown of weeks to months, even if the ultimate source of the background exceedance is not the landfill.

In short HB 1454, as proposed, is far too simplistic in the assumption <u>any</u> exceedance of a background concentration is indicative of a release from a lined facility, much less a release with the scope and magnitude that requires immediate shutdown of waste acceptance at a landfill, and initiation of remediation. It is possible landfills would find it infeasible to operate if they were constantly subject to immediate shutdowns of indefinite duration.

Further, through rules and operation permit conditions, the New Hampshire Department of Environmental Services (NHDES) has the authority to suspend landfilling at a facility, to address groundwater contamination, if they were to deem that action necessary. As such, the proposed language of HB 1454 is duplicative, and therefore unnecessary.

Issue 2. Misplaced focus on downgradient travel time rather than release detection monitoring

HB 1454 wrongly emphasizes groundwater travel time to particular surface water features which could potentially be located at significant distance from a landfill. In my opinion, there are several technical issues with focusing on the downgradient surface water bodies:

[1] HB 1454, 2022 Leg., Reg. Sess., (NH. 2022).

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The Honorable Howard Pearl, Chair
Committee on Environment and Agriculture
Legislative Office Building, Room 303
Concord NH 03301

January 18, 2022

Re: Testimony of Timothy M. White, P.G.
Comments on HB 1454

Dear Chairperson Pearl:

Thank you for this opportunity to provide written comments to the Committee regarding HB 1454.

My name is Tim White, and I am a Project Director at Sanborn, Head & Associates, Inc. (Sanborn Head), a multi-disciplinary engineering and geosciences consulting firm headquartered in Concord, New Hampshire. Sanborn Head has provided environmental and engineering services to public and private solid waste clients in New Hampshire since the firm was founded in 1993. We currently manage the groundwater monitoring and reporting programs at several of the state's lined landfills.

I am one of the hydrogeologists at Sanborn Head and have worked in the field of geology for over 20 years. I am a licensed Professional Geologist in New Hampshire as well as in four other states.

With its introduction, HB 1454 asserts that landfills in New Hampshire are inadequately regulated despite several decades of successful solid waste management of existing facilities in the state. As a groundwater professional, actively engaged in managing environmental monitoring at solid waste landfills in the state, I disagree with this premise.

The proposed language in HB 1454 contains several technical shortcomings, but the most concerning are:

1. Requiring the immediate shutdown of a landfill if a Priority Pollutant is detected at any concentration above baseline.

2. Misplaced focus on downgradient travel time rather than release detection monitoring.

3. Inconsistencies in permitting between new landfills and expansion at existing sites.

Below, I provide a brief summary of these issues for the Committee's consideration.

HB1454 is meant to be a siting criterion for landfills, not an operational criterion, meaning that before a property can obtain a permit for use as a landfill, it first must demonstrate that there are no lakes or rivers within a 5-year groundwater travel time. If groundwater is traveling at rates which could transport contamination from the landfill to a surface water body in 5 years or less, than the landfill would fail the siting criteria of adequate setback from water bodies too close, and the landfill could not be built. This saves everyone time and money as inappropriate sites, due to setbacks, can be quickly ruled out.

As an example, if groundwater is traveling approximately 0.5'/day (which equates to 182 feet/year), a rate which is not uncommon for sands/gravels, then it can travel over 912 feet in 5 years. So a potential landfill property with this groundwater flow rate would need a setback of at least 912 feet from any lakes or rivers to provide the operator and DES with the necessary response time to be protective of water quality. If lakes or rivers were closer than 912 feet, then the property could not be permitted for use as a landfill. Conversely, if a potential landfill site's groundwater flow rate was 20'/year (which equates to 0.05 feet/day), a rate that is not uncommon in NH's silty till materials, then groundwater would only travel about 100 feet in 5 years. With this groundwater flow rate, rivers and lakes located 100' and more near the potential site are setback sufficiently to allow the 5-year response window which is protective of surface water quality.

By these two examples given above, you can see that the appropriate (protective of surface water) setbacks calculated with HB1454's methodology varies from 100 feet to 912 feet. If NH's goal is to be protective of surface water quality, our current "one size fits all sites" 200-foot setback is clearly not providing it. HB1454's methodology can.

How hard is it to measure groundwater flow? This is a science that is well known, having been brought to the forefront more than 150 years ago by Henry Darcy. Field methods for collecting the site-specific measurements to allow for calculating groundwater flow are common and not expensive and the mathematics very straightforward. DES reviews groundwater flow calculations on a regular basis, whether in response to drinking water wells or contaminated sites. Consultants are used to designing investigations such that site media can be tested such that the groundwater calculations can be made. Field testing requires placement of boreholes into the various media at a potential site and performing hydraulic tests on the groundwater located in that media to determine how rapidly the media transmits water.

To be conservative, HB1454 envisions that the reasonable maximum groundwater flow (e.g. X (ft/year)) measured at a site would be used to determine the necessary setback (5(yr) times X) from lakes or rivers. Therefore, HB1454 provides a relatively simple way to quantify our setback criteria, making it appropriate for specific site conditions, and thus protective of NH's lakes and rivers.

I urge you to recommend HB1454 Ought to Pass. Thank you.

Muriel S. Robinette, P.G

Testimony Regarding HB1454 – An ACT relative to permits for the siting of new landfills

By

Muriel S. Robinette, P.G.

Senior Consultant, Calex Environmental, LLC

Colebrook, NH

To NH House Environment and Agriculture Committee Members:

Thank you for the opportunity to provide input and support of HB1454. For the record, my name is Muriel Robinette. I am a licensed geologist and have been a practicing hydrogeologist in NH since 1984, beginning with employment at the NH Water Supply and Pollution Control Commission (the lead environmental agency before the formation of NHDES) and now as a private consultant. My specialty is in investigating and understanding groundwater flow and how it can carry contaminants to various water resources receptors, such as wells, springs, wetlands, rivers and lakes.

This legislation proposes to address the setback factor in NH's landfill siting process, a factor which is not based on science or any site characteristics – simply put, the current setback of 200' from surface water bodies is an arbitrary, "one size fits all" factor.

We know that one size does not fit all. By living and traveling in this great state we can see significant variations in our regions; from mountains and upland forests to the seacoast, with valleys, swamps and fields in between. The same types of variations that you see on the landscape are also true as subterranean variations affect how groundwater and contaminants travel. Therefore, a siting factor such as landfill setback that does not reflect site specific conditions may not be protective (as it is meant to be) of contamination reaching our precious surface water resources.

A landfill, once in operation, is a source of potential contamination to our water resources for the better part of 100 years. Making sure that new landfills are not located in areas where groundwater can easily transmit contaminants to surface water bodies is common sense. That is the intent of HB1454 – common sense setbacks.

HB1454 proposes to use the distance that groundwater can flow within a 5-year window in determining a protective setback. Why 5 years? Because if contaminants from a landfill are detected in groundwater, we need to allow a sufficient response time for the landfill operator and DES to react and protect the nearby surface water supplies. The DES is responsible for evaluating and responding simultaneously to many sites with contamination. In my experience, a typical timeframe for review, comment and DES approval of technical submittals for initial discovery/reporting of contamination through to design, installation and operation of a remedial system is measured in years, usually 5 or more. And if the site is in federal oversight (i.e. Superfund program), it can easily take 10 years and more to get a site into remedy. Therefore, HB1454 uses a 5-year window as an appropriate state-level response timeframe to allow for parties to react, as needed, to cut off and remediate any contamination before it can reach the lakes and/or rivers near a landfill.

ground water

On Using Simple Time-of-Travel Capture Zone Delineation Methods

by Admir Ceric[1] and Henk Haitjema[2]

Abstract

As part of its Wellhead Protection Program, the U.S. EPA mandates the delineation of "time-of-travel capture zones" as the basis for the definition of wellhead protection zones surrounding drinking water production wells. Depending on circumstances the capture zones may be determined using methods that range from simply drawing a circle around the well to sophisticated ground water flow and transport modeling. The simpler methods are attractive when faced with the delineation of hundreds or thousands of capture zones for small public drinking water supply wells. On the other hand, a circular capture zone may not be adequate in the presence of an ambient ground water flow regime. A dimensionless time-of-travel parameter $\tilde{T}$ is used to determine when calculated fixed-radius capture zones can be used for drinking water production wells. The parameter incorporates aquifer properties, the magnitude of the ambient ground water flow field, and the travel time criterion for the time-of-travel capture zone. In the absence of interfering flow features, three different simple capture zones can be used depending on the value of $\tilde{T}$. A modified calculated fixed-radius capture zone proves protective when $\tilde{T} < 0.1$, while a more elongated capture zone must be used when $\tilde{T} > 1$. For values of $\tilde{T}$ between 0.1 and 1, a circular capture zone can be used that is eccentric with respect to the well. Finally, calculating $\tilde{T}$ allows for a quick assessment of the validity of circular capture zones without redoing the delineation with a computer model.

Introduction

The delineation of time-of-travel capture zones is important in the context of both ground water protection (EPA's Wellhead Protection Program) and aquifer remediation. Delineating these capture zones can be difficult due to the complex nature of the geological formations that make up the aquifer. In practice many of these complexities are ignored to arrive at a simple conceptual model of the aquifer suitable for the capture zone delineation process. Additionally, the lack of reliable field data and the cost of computer modeling form further incentives to use as simple a model as possible. Although a simple model may be convenient, the resulting capture zone may not be adequate.

The U.S. EPA (1987) suggests a series of delineation methods, starting with a circle of arbitrary radius centered at the well and progressing in complexity to full-blown computer modeling of solute transport. The arbitrary fixed-radius method, for instance, does not require any hydrogeologic data and is quick and cheap. The resulting wellhead protection area (time-of-travel capture zone) is rather arbitrary; however, it may or may not properly protect the water supply well. Yet, because a state often has several thousands of low-capacity (public) drinking water wells for which a wellhead protection area is required, the arbitrary fixed radius is often the method of choice for these systems. In reality, however, a circle does not always offer a good approximation of the capture zone for low-capacity wells, as they tend to have a very elongated rather than a circular shape. This is due to the fact that the ambient ground water flow usually dominates in the presence of low-capacity wells, resulting in linear (uniform) rather than radial flow. An example of the use of the arbitrary fixed-radius method is found in the Wellhead Protection Rule of Indiana (Indiana Administrative Code 1997), which allows for the use of a 3000-foot

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Alpine Brook (a tributary of the Androscoggin River). The Carberry application also concluded that this "demonstrates a sufficient amount of time to remediate a potential impact from leachate breaching the landfill liner and entering the groundwater system in a hypothetical leak scenario."

(3) Perhaps most significantly, Dr. Finkel has begun to look into which U.S. states have established setbacks from landfills using the time-to-travel concept. He's not been able to do a comprehensive search, and I'd like to suggest that one is not necessary, because we know from research presented to this Committee last year during the HB 177 debate that at least 12 states have fixed setback distances, ranging up to 7 miles.

But the first state we looked into – Maine, our neighbor to the east – protects its sensitive water resources exactly as HB 1454 would do for New Hampshire, except that the Maine system is more restrictive than our proposal. As seen on page 1 of the attached portion of Maine's Solid Waste Management Rules (Sec. 401-1(C)(1)(c)), highlighted in yellow, the DEP there requires a 6-Year setback based on a time-of-travel estimate. On page 9 (Sec. 401-2(C)(2)), the Rules explain how the time-of-travel estimate shall be made.

We note with interest that Maine also adds a second – even more restrictive criterion – that we have **NOT** put into HB 1454. On page 3 (Sec. 401-1(C)(3)(b)), Maine's Rules prohibit construction of a new landfill, regardless of how far away water bodies might be, if the soil at the proposed site has a hydraulic conductivity greater than or equal to $1x10^{-5}$ cm/sec.

This establishes that a nearby state not only uses time-of-travel to establish a larger setback than we propose, but also further restricts all landfilling to areas with relatively impermeable soils. HB 1454 would impose fewer restrictions on landfilling here in New Hampshire.

Answer from Rep. Edith Tucker on Time-to-Travel Concept asked at the Environment and Agriculture hearing on HB 1454 this past Tuesday (1/18) to the question asked by Rep. Megan Murray on whether the "time to travel" concept – that is, setting a minimum distance between landfills and surface water bodies based on a given amount of time for contaminated groundwater to flow at any particular site and reach the lake or river – is in use elsewhere.

I'm happy to provide a 3-part "yes" answer to this question. Simply put, the "time to travel" concept is in widespread use and is quite reliable and accepted. The first 2 parts elaborate on information I mentioned during my testimony, while the third is based on research Dr. Finkel did over the past couple of days.

(1) As I mentioned at the hearing, the U.S. Environmental Protection Agency has recommended for more than 30 years that states and municipalities demarcate their "Source Water Protection Areas" using the time-to-travel concept. As this EPA webpage makes clear, "boundaries of these zones are often based on the time it takes underground water to reach the well." See https://www.epa.gov/sourcewaterprotection/delineate-source-water-protection-area.

I've attached to this note the first page of an article from a 2005 issue of the peer-reviewed journal *Ground Water,* which states that "EPA mandates the delineation of 'time-of-travel capture zones' as the basis for the definition of wellhead protection zones." You can also refer to this EPA website https://www.epa.gov/ceam/wellhead-analytic-element-model-whaem to download public-domain software that estimates the size of the capture zone for any desired travel time, given data on the hydraulic conductivity of the local soil, the gradient, and porosity.

(2) Our own NH DES is certainly familiar with time-to-travel methods, as it approved a "Phase III North Permit Modification" at the Mt. Carberry Landfill based in part on a hydrogeologic report submitted by Sevee & Maher Engineers in August 2009. That report states (p. 2-27) that measurements of conductivity and gradient at the site "resulted in a calculated seepage velocity in the order of 15 feet per year, and an estimated time-of-travel on the order of 150 years" to reach Cascade

Figure 1 (from an introductory Physical Geology course, Univ. of British Columbia):

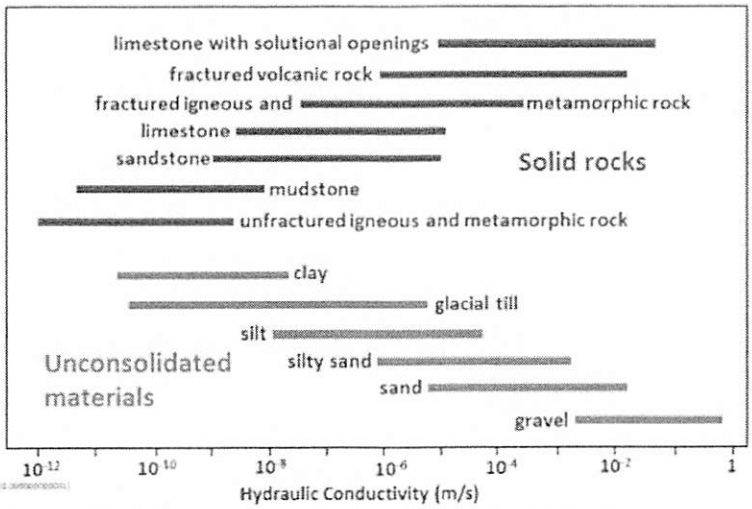

Figure 14.3 Variations in hydraulic conductivity (in metres/second) of unconsolidated materials (in red) and of rocks (in blue) [SE]

[note: 10^{-8} meters/sec (typical clay) equates to about 1 FOOT per year; 10^{-2} m/sec (typical gravelly soil) equates to about 200 MILES per year!]

Figure 2: Why Groundwater Moves So Much More Slowly in Clay than Sand/Gravel:

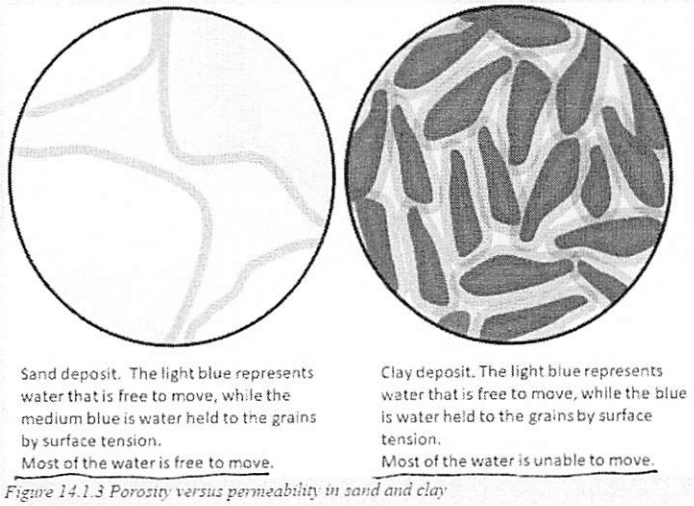

Figure 14.1.3 Porosity versus permeability in sand and clay

Porosity vs permeability in sand and clay.

The velocity was found to be about 50 feet per YEAR there; it is located in appropriate soils and bedrock.

In stark contrast, the applicant that has a pending but still incomplete application to install a landfill in the town of Dalton has already estimated the groundwater flows at that site at 9.5 feet per DAY or faster. If DES's Code setback remains at 200 feet from a water body, then the agency might have only have as little as 21 DAYS to notice and respond to a leak at a site where groundwater flows this quickly. But DES only requires groundwater monitoring every 4 MONTHS or less frequently.

Landfill siting is an important issue for this state. I and many of the public testifying today agree with the premise that we will need to continue to use solid waste landfilling as a way to dispose of some of the waste we generate. But we need to be realistic about how many more landfills N.H. might need and where we might need them.

Despite self-interested claims by at least one publicly traded corporation that there's a "landfill capacity crisis," it is clear that N.H. has no need for additional capacity until at least 2034, assuming that the pending Mt. Carberry landfill expansion in the Unincorporated Place of Success – near Berlin – is renewed. (There was no public opposition at the Dec. 2021 public Zoom hearing.) And if the Turnkey landfill in Rochester is allowed to expand according to its original plan, not until 2045 or beyond.

So, the answer to the question "when will we need more?" is 15 or 20 years away. But we are here today in part because there is an active application pending in the North Country (although DES has returned a large part of it for a complete rewrite) for a new landfill that is clearly located in a tract where groundwater flows extremely rapidly and where a major scenic river and a glacial lake are very nearby. There is no "landfill crisis," but there is a "crisis landfill," which is why I urge you to pass this bill this Session.

I think we all understand even more than we did a year ago, that for a variety of reasons – mostly I assume budgetary – DES has allowed many years to slip by without staying up-to-date on a number of solid waste and waste-related issues. Although there may be a need to tweak this proposed bill's specific language – and certainly to correct the many inaccuracies in the Fiscal Note – HB 1454 is ready for prime time, designed to help bring DES up-to-date NOW.

HB 1454 would update and modernize a key number in the state's Code of Administrative Rules: A current 200-foot "one-size-fits-all" setback from N.H. water bodies.

Yes, you heard me correctly. One size fits all, and that ONE SIZE is so small a distance that in porous soil, it could allow a landfill to be sited only 2 to 3 WEEKS away from seriously polluting a lake or river.

DES rules are NOT now based on science. Requiring only a 200-foot buffer at a landfill means that needless environmental harm and other harms could take place, including to our thriving travel and tourism industry.

Furthermore, DES only requires groundwater monitoring at landfills every 4 months or less frequently.

Because this bill ensures that the state's next new landfill would not be located within a few months' flow of one our state's precious lakes or rivers, it has the potential to save 10s or 100s of millions of dollars in future remediation expenses.

That's because all landfills will leak. This is not just the conclusion that the EPA reached in the 1990s, but one it continues to believe today. Unfortunately, new peer-reviewed studies support this conclusion.

None of the "new" landfills around the country – built after, say, 2000 – are old enough to have established a real TRACK RECORD of how long they can go without leaking. We just don't know if they'll leak after 25 or 50 or 75 years.

Although new to me, the "years to cause harm" concept is NOT at all new. Since 1993 – nearly 30 years ago – the EPA has made the formulas and software freely available to find the "calculated fixed radius" from drinking water wells within which new industrial facilities ought NOT to be located.

EPA recommends using a radius of 2 YEARS, 5 YEARS, or 10 years, all depending on how serious the concern would be if wells were to be contaminated.

(see https://www.epa.gov/sourcewaterprotection/delineate-source-water-protection-area)

Rather than merely talking about the theoretical, however, I'm going to present 2 ACTUAL examples of the "years to cause harm" concept as documented in Coos County.

The application pending at DES for an expansion of the existing landfill at Mt. Carberry provides data showing that contaminated groundwater from that site would take "60 to 150 YEARS" to reach a tributary of the Androscoggin River.

HB 1454 does two simple things.

First, it asserts that out of all the negatives of siting a landfill – noise, truck traffic, odors, dust, scavenger birds – by far the most serious is the essentially irreversible danger to WATER that our citizens drink, that our wildlife lives in and around, and on which our tourism economy depends. This bill is designed to protect our state's lakes and rivers. Protecting them from pollution will also serve to protect the public and private wells on which those living near lakes and rivers depend.

Second, it simply asserts that the best way to protect a lake or river from pollution is to site a landfill far enough away so we have a FIVE-YEAR window in which to detect, intercept, and stop any chemical or bacteria-related contamination BEFORE it reaches the precious water on which all life depends.

It's inappropriate and DANGEROUS to build a landfill where groundwater speeds away toward a lake or river.

It IS appropriate and SAFE to locate a landfill where groundwater happens to flow very, very slowly toward a lake or river.

This bill merely says that an applicant or a potential applicant should find out – EARLY ON – how close the nearest lake or river is to what they hope will be a potential landfill site and whether groundwater in that area trickles away from that location or hurtles rapidly away from it.

As House Environment and Agriculture Committee members likely know, groundwater can move as slowly as one foot per YEAR in soils with a high clay content and/or in bedrock that's not full of fractures.

In contrast, groundwater can move as quickly as 50 feet per DAY in soils that are high in gravel or sand content and in fractured rock.

This bill does NOT call for a 2-mile setback as did last year's bill (HB 177) that I introduced on Zoom. Some legislators thought that 2 miles was an arbitrary "one-size-fits-all" figure.

This year, our proposed legislation is more science-based: the applicant must estimate the speed at which groundwater flows away from a particular site so that it cannot reach the nearest water body for at least 5 YEARS at that flow rate.

HB 1454 Introductory Testimony

Prime sponsor Rep. Edith Tucker & Adam M. Finkel, Sc.D.

I'm Rep. Edith Tucker, Coos 5. I represent the towns of Whitefield, Jefferson, Carroll and Randolph.

Much of the science in my testimony reflects the knowledge and research of Dr. Adam Finkel, a resident of Dalton and former member of the EPA Science Advisory Board and OSHA's chief scientist in both the Clinton and George W. Bush administrations. It also reflects the work of a bipartisan group of legislators and citizens who came together to address the concerns of those legislators who in our last Session could not support HB 177, which was designed to prohibit a new landfill within 2 miles of a N.H. state park.

I am very pleased and proud to be able to introduce HB 1454 as an improved way to balance health and environmental protection with the economic and other concerns some of you brought up last year.

I firmly believe that its passage this Session would be a giant step forward for the Department of Environmental Services, significantly reducing its costly time commitment to new landfill projects that are quite obviously not environmentally sensible.

THIS BILL IS PREMISED ON ONE BASIC and INDISPUTABLE FACT: there are sensible places to site landfills and senseless places to site them.

The bill requires one simple, inexpensive and verifiable test <u>at the beginning of the process</u> that will reveal to an applicant, to DES, and to N.H. citizens and communities whether a particular site is – or is NOT – an environmentally sensible place for the one new landfill New Hampshire might need over the next 40 to 50 years.

The test involves digging a few holes, estimating the speed at which the groundwater flows at that site, and then siting the landfill so that it would take at least <u>5 YEARS</u> for any polluted groundwater to reach the nearest lake or river. <u>This test is already part of all completed applications submitted to DES, so HB 1454 creates no new burden for developers</u>; it merely requires that the test be done at the outset. The bill would NOT require DES to permit every applicant whose proposed project passes the 5-YEAR test; only that it does not have to spend time considering the whole application after it has failed this "entrance exam."

HOUSE COMMITTEE ON ENVIRONMENT AND AGRICULTURE

EXECUTIVE SESSION on HB 1454-FN

BILL TITLE: relative to permits for the siting of new landfills.

DATE: 3-1-22

LOB ROOM: 307

MOTION: (Please check one box)

☐ OTP ☐ ITL ☐ Retain (1st year) ☑ Adoption of Amendment # 2022-0894H (*if offered*)

☐ Interim Study (2nd year)

Moved by Rep. Murray Seconded by Rep. Comtois Vote: 19-0

MOTION: (Please check one box)

☐ OTP ☑ OTP/A ☐ ITL ☐ Retain (1st year) ☐ Adoption of Amendment # _____ (*if offered*)

☐ Interim Study (2nd year)

Moved by Rep. Murray Seconded by Rep. Bixby 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** ✓ **NO**

Minority Report? ✓ Yes ____ No If yes, author, Rep: Comtois Motion 10-9

Respectfully submitted: _____

Rep Barbara Comtois, Clerk

HOUSE COMMITTEE ON ENVIRONMENT AND AGRICULTURE

EXECUTIVE SESSION on HB 1454-FN

BILL TITLE: relative to permits for the siting of new landfills.

DATE: March 1, 2022

LOB ROOM: 305 - 307

MOTIONS: **OUGHT TO PASS WITH AMENDMENT**

Moved by Rep. M. Murray	Seconded by Rep. Comtois	AM Vote: 19-0
Amendment # 2022-0894h		
Moved by Rep. M. Murray	Seconded by Rep. Bixby	Vote: 10-9

CONSENT CALENDAR: NO

Statement of Intent: Refer to Committee Report

Respectfully submitted,

Rep Barbara Comtois, Clerk

OFFICE OF THE HOUSE CLERK

1/26/2022 9:05:26 AM
Roll Call Committee Registers Report

2022 SESSION

Environment and Agriculture

Bill #: HB 1484 **Motion:** OTP/A **AM #:** 2022-0894h **Exec Session Date:** 3-1-22

Members	YEAS	Nays	NV
Pearl, Howard C. Chairman		✓	
Aron, Judy F. Vice Chairman		✓	
Comtois, Barbara Clerk		✓	
~~Verville, Kevin~~ G. Abrami, Pat		✓	
Davis, Arnold G.		✓	
Stapleton, Walter A.	✓		
Homola, Susan		✓	
Kennedy, Margaret Anne		✓	
~~Mason, James~~ L. Potucek, John		✓	
~~Sanborn, Gail~~ E. Berry Ross		✓	
Bixby, Peter W.	✓		
Sofikitis, Catherine M.	✓		
Bouldin, Andrew J.	✓		
Dutzy, Sherry	✓		
Murray, Megan A.	✓		
Von Plinsky, Sparky	✓		
Caplan, Tony	✓		
Perez, Maria	✓		
TOTAL VOTE:	10	9	

Nutting-Wong Allison ✓

OFFICE OF THE HOUSE CLERK

1/26/2022 9:05:26 AM
Roll Call Committee Registers Report

2022 SESSION

Environment and Agriculture

Bill #: ~~HB HB~~ 1491-FN Motion: Adopt AM #: 2022-0894H Exec Session Date: 3-1-22

Members	YEAS	Nays	NV
Pearl, Howard C. Chairman	✓		
Aron, Judy F. Vice Chairman	✓		
Comtois, Barbara Clerk	✓		
~~Verville, Kevin G.~~ Abramson, Pat	✓		
Davis, Arnold G.	✓		
Stapleton, Walter A.	✓		
Homola, Susan	✓		
Kennedy, Margaret Anne	✓		
~~Mason, James L.~~ Potucek, John	✓		
~~Sanborn, Gail E.~~ Berry Ross	✓		
Bixby, Peter W.	✓		
Sofikitis, Catherine M.	✓		
Bouldin, Andrew J.	✓		
Dutzy, Sherry	✓		
Murray, Megan A.	✓		
Von Plinsky, Sparky	✓		
Caplan, Tony	✓		
Perez, Maria	✓		
TOTAL VOTE:			
Nutting-Wong-Allison	✓		
	19	0	