

LEGISLATIVE COMMITTEE MINUTES

HB1454

Bill as Introduced

HB 1454-FN - AS AMENDED BY THE HOUSE

16Mar2022... 0894h

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

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.

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Matter which is either (a) all new or (b) repealed and reenacted appears in regular type.

STATE OF NEW HAMPSHIRE

In the Year of Our Lord Two Thousand Twenty Two

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

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

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

7 2 New Paragraph; Landfill Permits; Groundwater Protection. Amend RSA 149-M:9 by inserting
8 after paragraph XIV the following new paragraph:

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

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

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

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

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

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

28 3 Effective Date. This act shall take effect upon its passage.

HB 1454-FN- FISCAL NOTE
AS AMENDED BY THE HOUSE (AMENDMENT #2022-0894h)

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

FISCAL IMPACT: State County Local None

LOCAL:	Estimated Increase / (Decrease)			
	FY 2022	FY 2023	FY 2024	FY 2025
Revenue	\$0	\$0	\$0	\$0
Expenditures	Indeterminable	Indeterminable	Indeterminable	Indeterminable
<i>Funding Source:</i>	<input type="checkbox"/> General	<input type="checkbox"/> Education	<input type="checkbox"/> Highway	<input type="checkbox"/> Other

METHODOLOGY:

This bill would require new landfills to be sited a certain minimum distance from any perennial river, lake, or coast water of New Hampshire. To the extent a municipality seeks to site a new landfill, it may experience limited costs relative to the requirements of this bill.

AGENCIES CONTACTED:

Department of Environmental Services

LBA
22-2237
Amended 4/5/22

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13 of New Hampshire within 5 years. The setback distance shall be calculated as follows:

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15 expense, to estimate based upon adequate and representative on-site field testing, the seepage
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17 velocity shall be the highest rate estimated for any test site in the disposal area.

18 (2) The 5-year distance-of-travel estimate shall be calculated by multiplying the
19 maximum seepage velocity, in units of feet per year, by 5 years.

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21 shall be the greater of the 5-year distance-of-travel estimate calculated in subparagraph (2) or 200
22 feet.

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

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

28 (d) The department may adopt rules under RSA 541-A to allow for the use of project
29 improvement allowances that may enable a project to meet the minimum 5-year setback, even if it is
30 located less than the 5-year distance-of-travel estimate from a surface water body. One or more

HB 1454-FN - AS AMENDED BY THE SENATE

- Page 2 -

1 allowances, of one additional year each, may be added to the calculated travel time, based on specific
2 additional control technology, monitoring programs, or funding guarantees that the department
3 believes may increase the effective safety of the project. In no case, however, shall any one project
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Department of Environmental Services

HB 1454-FN - FINAL VERSION

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HB 1454-FN - FINAL VERSION

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AGENCIES CONTACTED:

Department of Environmental Services

Amendments

Floor Amendment to HB 1454-FN

1 Amend RSA 149-M:9, XV as inserted by section 2 of the bill by replacing it with the following:

2
3 XV.(a) The department shall establish a site-specific setback distance for any proposed new
4 landfill from any perennial river, lake, or coastal water of New Hampshire, as defined in RSA 483-
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Committee Minutes

SENATE CALENDAR NOTICE

Energy and Natural Resources

Sen Kevin Avard, Chair
 Sen Bob Giuda, Vice Chair
 Sen James Gray, Member
 Sen David Watters, Member
 Sen Rebecca Perkins Kwoka, Member

Date: March 31, 2022

HEARINGS

	Tuesday	04/05/2022
	(Day)	(Date)
Energy and Natural Resources		9:00 a.m.
(Name of Committee)		(Time)
	State House 103	
	(Place)	
9:00 a.m.	HB 1454-FN	relative to permits for the siting of new landfills.
9:20 a.m.	HB 1599-FN	relative to customer generators who sell renewable energy certificates.
9:40 a.m.	HB 1629-FN	relative to default service for net metering.
10:00 a.m.	HB 1187	relative to milk pasteurization.
10:15 a.m.	HB 241	repealing the definition of brook trout.

EXECUTIVE SESSION MAY FOLLOW

Sponsors:

HB 1454-FN

Rep. Tucker

Rep. Hatch

Rep. Deshaies

HB 1599-FN

Rep. Vose

HB 1629-FN

Rep. Berezchny

HB 1187

Rep. Allard

Rep. Merchant

HB 241

Rep. Avellani

Rep. Thompson

Rep. Merner

Sen. Hennessey

Rep. Notter

Rep. Lang

Rep. Woodcock

Rep. Aron

Rep. Massimilla

Rep. Laflamme

Sen. Sherman

Rep. Nunez

Rep. Marsh

Rep. A. Lekas

Rep. Egan

Rep. Myler

Rep. Deshaies

Daley Frenette 271-3042

Kevin A. Avard
Chairman

Senate Energy and Natural Resources Committee
Daley Frenette 271-3042

HB 1454-FN, relative to permits for the siting of new landfills.

Hearing Date: April 5, 2022

Members of the Committee Present: Senators Avard, Giuda, Gray, Watters and Perkins Kwoka

Members of the Committee Absent : None

Bill 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.

Sponsors:

Rep. Tucker

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Rep. Egan

Rep. Hatch

Rep. Merner

Rep. Laflamme

Rep. Myler

Rep. Deshaies

Sen. Hennessey

Sen. Sherman

Who supports the bill: 174 people signed in support.

Who opposes the bill: 8 people signed in opposition.

Who is neutral on the bill: None.

Summary of testimony presented:

Representative Tucker, Coos-District 5

- HB 1454 addresses one basic and indisputable fact, there are sensible places to site landfills and there are totally inappropriate places to site them. We are not here to debate the future need for landfills, but only where they can appropriately be sited. She does think that the next landfill in New Hampshire would be sited sooner if applicants and DES could focus on completing and reviewing only applications at sensible sites. HB 1454 is designed to focus limited public and private sector resources on appropriate sites. This bill changes the landfill siting requirements in order to help applicants understand what DES will be looking for.
- Groundwater can move as slowly as one foot per year in soils with a high clay content or in bedrock that is not full of fractures. It is appropriate and safe to locate a landfill where groundwater flows slowly toward a lake or river. In

contrast, groundwater can move as quickly as 50 feet per day in soils high in gravel or sand content as well as in fractured rock. It is inappropriate and dangerous to build a landfill where groundwater speeds away towards a lake or river. By far the most serious potential hazard of any landfill is the essentially irreversible danger to the water we drink and that wildlife lives in and around as well as the surface waters we all enjoy and on which our tourism industry depends.

- Much of the science in this bill reflects the knowledge and research of Doctor Adam Finkel who is a resident of Dalton and a former member of the EPA science Advisory Board and OSHA's chief scientist in both the President Clinton and President George W Bush administrations. Doctor Finkel was present for the hearing and was available for questions from the committee.
- This bill also reflects the work of a bipartisan group of citizens and legislators including District 1 Senator Erin Hennessy. The group came together early last fall to address the concerns of those lawmakers who could not support HB 177 last year. HB 177 passed by the House, but not the Senate. It would have prohibited a new landfill within a fixed two-mile distance of any New Hampshire State Park.
- HB 1454, which last month passed the house in a definitive and bipartisan voice vote, is a more scientific, flexible, site-specific way to replace the less flexible and current 200-foot set back from waterbodies that DES has had in its administrative code since 1991. This set back has no defenders and is simply a problem that can and should be fixed by the legislature as soon as possible. This bill would ensure that the states next new landfill will not be located within a few weeks or months flow of any of our states precious lakes or rivers. This bill has the potential of saving millions of dollars in future remediation expenses. All landfills will leak pollution and the EPA has known this since the 1990's. Other failures such as leachate spills can take place at any time.
- The years to cause harm concept is not new. Since 1993, 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. At least five other states already used time of travel setbacks from landfills and other pollution sources. The state of Maine's DEP requires a six-year set back based on the travel time of groundwater. Doctor Finkel recently emailed a senior manager in Maine's waste management division to ask what that states experience has been over the last 15 years that this provision has been in effect. The manager replied "Regarding the success of Maine's implementation of time of travel calculations and subsequent contaminant transport analysis, I am not aware of any concerns expressed about the use of this methodology". Maine continues to be successful in siting and developing new solid waste landfills.
- The key provisions in HB 1454 clearly work elsewhere and it is time we allow them to work here in the Granite State.

- Senator Gray asked a question regarding page 1 line 14 of the bill. He said that he usually sees an approved list from the department or something similar. Representative Tucker agreed with Senator Gray and concluded that is reasonable.
- Senator Avard said that he believes that the Senate recently passed a bill that allows the department to have an independent hydrologist. Representative Tucker believes that DES is underfunded and needs more specialists. We do not want to spend more money in NH so it is a balancing act.

Representative Egan, Grafton-District 2

- Representative Egan serves on the House Fish and Game and Marine Resources Committee as well as the House Committee on Resources, Recreation and Development.
- Representative Egan spoke in support of HB 1454. He stated that the bill establishes a formula for determining the distance at which a new landfill shall be located from a perennial river, lake, or coastal water. He emphasized that waste and waste management as well as the preservation of clean water is a statewide issue. It seems to be a local issue for Coos County and also effects Grafton County.
- Representative Egan represents Grafton District 2 which is where there are many trails as well as Cannon Mountain and Franconia Notch State Park. He has concerns knowing that while the proposed landfill could be over 12 miles away, groundwater contamination that can impact the Gale River, Echo Lake, and the Ammonoosuc River which could impact local residents drinking water as well as visitors that are enjoying swimming, fishing, boating, and the irrigation of area organic farms.
- We are seeing a “years to cause harm” concept in Coos County. Per the expertise and the advice of Doctor Adam Finkel, the application that's pending at the DES for the expansion of the existing landfill at Mount Carberry near Berlin provides data showing that contaminated groundwater from that site would take 60 to 150 years to reach a tributary like the Androscoggin River. The velocity of water there was found to be about 50 feet per year and it is located in appropriate soils and bedrock. In contrast, the pending but still incomplete application to install a landfill in Dalton is already estimated to have groundwater flows at 9.5 feet per day or faster at that site. If the setback that is now listed in the DES administrative code remains at 200 feet from a surface water body, then the agency might have as few as 21 days to notice and respond to a leak at this sites groundwater flows. This is because it flows so quickly towards the Ammonoosuc River. That issue does not justify forcing the people living or visiting New Hampshire to be susceptible to this type of environmental danger that could

- occur as quickly as three weeks. Therefore, the set back from a proposed landfill to such a water body should be sufficient to prevent groundwater contamination by a leak, spill, or other failure from reaching a water body before remedial action can be implemented. The protection of perennial rivers, lakes, and coastal waters in New Hampshire from contamination is in the public interest. We see this in our tourism, our lifestyle, and the quality of life in New Hampshire.
- HB 1454 can help protect our environment, our economy, and our residents.

Representative Thompson, Coos-District 1

- House bill 1454 is a follow up HB 177. It passed the House virtually unanimously. HB 1454 has some technical changes aimed at making it more palatable for the industry as well as DES. We can contaminate the soil and remediate it, we can put filters in the stacks of industrial processes that will remediate those contaminants, but once we contaminate the water we will have significantly damaged the planet. The average person could live three days without a clean supply of water.
- Developers are already required to determine the speed that groundwater moves on a proposed site and it instructs the state environmental services not to grant a permit to any new location where contaminated water could flow from the site to surface water within five years. This five-year distance of travel setback would allow a landfill operator to detect and begin remediation of the spill or leak before it reaches surface water. The House passing HB 177 last year and the passing of HB 1454 this year shows a need for new rules regarding the environment. The situation at involving Saint Gobain taught us about water pollution in our state and what it would cost potentially. Because of HB 1454's updates to the criteria that DES needs to use when siting new landfills, it is important to recognize that groundwater is the source of much of the drinking water on which we all depend. Modern landfills have plastic and other liners underneath them, but unfortunately these will ultimately fail some 30 to 50 years later.
- Representative Thompson personally asked an official of the EPA what they plan to do with the garbage once the landfills start to leak. The official said it is not a problem, none of us will be here in 30 years. This shows the concern of the federal government.
- In some areas, groundwater at a specific site flows very slowly away from the landfill. Perhaps as slowly as a foot a year where the soil is largely made of clay and where there are only a few cracks in the bedrock. At other sites, unfortunately the groundwater can flow away from the site at speeds as fast as 10 feet per day especially when the soil is full of sand and gravel and bedrock is full of cracks. In this situation, the current 200-foot setback would only allow a

20 day window before a leak or spill could contaminate a nearby water body. The leak may not even be detected before it has started to do irreparable damage. This illustrates the importance of using a proposed 5-year distance of travel setback. The best way to protect the rivers, lakes, and coastal areas that are near a landfill, or to make sure that every new one is sited where groundwater flows slowly. The faster groundwater moves the farther away a landfill must be put from any lake or river. Current law in New Hampshire allows a new landfill to be built as close as 200 feet from a lake or river, but groundwater can travel that 200-foot distance in as little as three weeks.

- HB 1454 will not reduce the ability of a private company or public authorities to build new landfills in our state when needed. It will just help to ensure that none are sited in a damaging location. One example is when the Mount Carbary landfill near Berlin got permission to expand around 10 years ago. That landfill operator reported to DES that the groundwater there would take between 60 and 150 years for any polluted groundwater to reach even a tributary of the Androscoggin River.
- Granite State citizens want to preserve the health of their families, the environment, and the recreational tourist economy. They want to avoid spending billions of dollars in an attempt to remedy the pollution problems that never should have happened.

Representative Bixby, Strafford - District 17

- Representative Bixby is the ranking member of the House Environment and Agriculture Committee. The bill came to his committee and they determined that the critical aspect of the bill was updating the setback distance of new landfills from perennial waterbodies. The current distance is set at 200 feet in environmental rule ENVSW 80404. That section also requires that “the potential release of contaminants to surface water can be prevented, attenuated, or otherwise remediated”. In some situations, like that of Mount Carbary, the hydrogeological conditions are such that 200 feet would work, but in other situations you might have as little as 21 days before a potential leak reached a body of water within 200 feet. The committee chose to follow the recommendation of doing a time of travel distance so that any potential spill would be able to be recognized and the remediation process started within a five-year window.
- In order to calculate that five-year window, the committee established a requirement to conduct a representative number of tests of wells around the potential sites. Using the hydrogeological measurement of the groundwater flow both in the upper soil and on bedrock layer will allow the calculation of the maximum seepage velocity which is the fastest rate of travel of

groundwater away from that site. In any soil or any bedrock, there is always some amount of groundwater flow. At that point of measurement, it is basically clean groundwater because nothing has been contaminated, but by getting that measurement before you start, at the very beginning of the permitting process, you can assess whether that flow rate is going to be able to reach a water body within a certain number of years by simply measuring that flow rate and feet per year and then multiplying by five years. This results in how far that water would travel in five years.

- The amendment adopted by the House to the bill as introduced replaces the current standard of 200 feet with a standard of a minimum of 200 feet, but if that flow rate distance is greater than that flow rate distance calculated based on the measurement made at the site multiplied by five years.
- Representative Bixby provided an amendment because when the bill was drafted, OLS inadvertently left out the units for the measurements. This amendment would have to be a committee amendment. The amendment simply adds the units of maximum seepage velocity shall be measured in feet per year and the distance of travel is multiplying that by five years. It makes no other change to the to the language of the bill.
- Representative Bixby stated that the committee may hear testimony that HB 1454 is spot zoning. He stated that it is not spot zoning, it is simply taking a number that is currently in law and coming up with a new way of calculating that number to make sure that failures can be detected and remediated before water bodies are damaged.
- Representative Bixby also stated that the committee may hear that DES does a good job in establishing appropriate policies and the legislature should not interfere. He stated that administrative departments are charged with executing policies that the legislature sets forth and it is the duty of the Legislature to give the executive branch clarity in the policies they need to execute. This bill is simply a clarification.
- Senator Watters asked if the amendment just adds the phrase “maximum seepage velocity shall be measured in feet per year”. Representative Bixby stated that it adds that phrase and adds multiplied by 5 years rather than simply multiplied by 5.
- Senator Giuda asked how accurate the flow rate is given the different substrata in geology and over a 5-year period. Representative Bixby clarified that it is not a 5 year average. He stated that on any given site, a hydrogeologist can measure the flow of groundwater at various different depths. That rate of flow can be expressed in feet per year. There can be some minor variation depending on the season and weather conditions. The main determinate of the flow rate is the composition of the soil and the structure of the underlying bedrock. While there may be variation, it is important to build in a margin for error. It should be sufficient.

- Senator Gray is concerned that the composition of the soil in an area may vary and could impact the accuracy of a calculation. Representative Bixby stated that one of the requirements is that the sample be representative of a proposed site. There may be several test wells on a site to gather the data, but it depends on the size of the site. It will be up to DES to determine what is an appropriate representative sample. We cannot assume an entire area around a site necessarily has the same soil type. However, getting samples for the entire area would require permission from the landowners to have those wells dug on their property. Representative Bixby and the committee that passed the bill did not feel like it was appropriate to insist on having wells dug on private property. He stated that this is the best option within the confines of property rights.

Representative Merner, Coos-District 7

- Representative Merner spoke in support of the bill. The bill has been vetted by Director Mike Wimsatt from the Department of Environmental Services. The bill eliminates sections that concerning for him and his staff. He asked for the committees support for the bill.

Representative Massimilla, Grafton-District 1

- Representative Massimilla spoke in support of the bill. She stated that with DES updating their solid waste policy, this bill is relevant. She asked for the committees support for the bill.

Representative Murray, Hillsborough-District 22

- Representative Murray spoke in support of the bill and the amendment. She was the Chair for the subcommittee work session that worked on this bill. They worked closely and collaboratively to develop a proactive metric for consideration in the sighting of landfills. The bill passed out of her committee then passed the House on a voice vote.
- The subcommittee felt that there is an absolute need for the metric that takes a proactive rather than reactive approach when it comes to perennial bodies of water. She added that they are aware that in NH, we are struggling with well water contamination from certain pollution sources, and it is affecting communities throughout the Granite State. She stated that she and her fellow

committee members believe that it is pertinent to our tourism industry as well as to the residents of New Hampshire to make sure that in perpetuity we are protecting our water sources so that NH residents and children can play, eat, drink, and fish from the water sources that we have.

- She fully supports the bill and the amendment. She believes the amendment clears up some of the language.

Dr. Adam Finkle, Dalton

- Dr. Finkle spoke in support of the bill and offered written testimony for the committee to reference for his public testimony. He explained 9 points that he believes to be true regarding the bill.
- For about 30 years, New Hampshire has tried to make do with a landfill siting criterion that is exactly what this committee is called unacceptable. The uniform 200-foot set back is one size fits all despite all we have heard about the tremendous variation in the speed of groundwater flow. It is unprotective, arbitrary, and it sets in motion a siting process that wastes hundreds of thousands of dollars for the applicant and thousands of hours of DES staff time. This bill fixes all of that with one simple step by asking the applicant to do their required groundwater seepage test at the beginning of the process and it disqualifies only those few applicants who wish to build a landfill in extremely porous soil and very near one of our precious rivers or lakes. This bill is pro-landfill because it helps applicants find sensible sites which can only increase the success rate of worthy projects. He stated that he and Director Wimsatt do not believe that there is a crisis, and this bill will speed up the siting of the next landfill because DES will not be tied up in knots for years reviewing an application that should not have been presented.
- One, this bill is exactly what the doubters asked for when they voted against HB 177 last year. It protects waterbodies and not state parks, it is site specific, and it is not one size fits all. The State of Maine has had great success with their six-year set back.
- Two, it will be very easy to propose a landfill that meets the criteria of this bill in any region of the state. Dr. Finkle handed out a chart of the speeds of groundwater flow at our two unlimited air operating landfills and the proposed new third landfill for the North Country. The question is whether we want the next landfill to be three weeks away from a lake or river or 60 to 100 years away as Mount Carbury already is. The Turnkey landfill is closer to that than the three weeks by a lot.
- Three, no promised miracle technology can substitute for sensible siting. All landfills leak and some have a history of emergency spill events. He handed out a page that shows new information that is not just the EPA saying this autonomically for 30 years. There are brand new studies of exhuming landfills that are modern state of the art and they are found to be degraded.

- Four, this bill can have no effect and will have no effect on the price, quantity, or demand for landfill services. This bill is a simple statement about an obvious incompatible use. Not being able to build an athletic field with flood lights that shine onto a military base has no effect anywhere on the supply of athletic fields.
- Five, landfill siting implicates competing property rights and the needs of the many outweigh the whims of the very few. Nobody has an entitlement to get a permit approved if it is against public policy. This bill just clarifies that certain unwise applications should be marked “return to sender” so they can be improved and then approved.
- Six, other than Director Wimsatt who is not here, nobody else in the room can tell you from experience what it is like to run a Federal Regulatory agency. That has been Dr. Finkle’s experience. DES does not and should not resent the setting of broad policy by this legislature. Director Wimsatt has told the House Committee, Dr. Finkle, and Representative Tucker on the phone several times and Dr Finkle quoted him directly stating, “taking a look at our setback criteria is an appropriate topic for the legislature”. Director Wimsatt was involved with several long phone conversations to eliminate provisions of this bill that he found vexing and he worked with them to tighten up the definitions such that he has stated that he does not believe there will be any need to do rulemaking to implement this bill. All the terminology and all of the formulas are in the bill.
- Seven, the claim by the industry that DES permit language can cover up regulatory and policy mistakes is frankly hideous. A piece of paper with the words “don’t pollute anything” does not work to stop leaks and very prominent spills. Dr. Finkle handed out a letter that he wrote to the House Environment Committee refuting the testimony from Sanborn Head which argues that they have permits. Dr. Finkle stated that permits are only as good as the permittee and that cannot cover up for bad policy. When he was running a federal regulatory agency, he and his team looked to Congress all the time for help, and they did not resent it. They really thought it was appropriate and it helped them exercise their discretion within their limits.
- Eight, as Representative Bixby said, this bill in no way constitutes spot zoning. Dr. Finkle handed out a legal memo about why this is completely wrong. The case law about Tilton is very clear that public health and welfare supersede any claim as false or true about spot zoning.
- Finally, this bill protects the waters of the state for the next century and beyond. It is not aimed at one misguided project. Perhaps an applicant who has got a currently withdrawn permit will later claim that it nevertheless has an entitlement to be exempted from this bill. If so, that is a matter for the courts. If the bill happens to be enacted too late to protect Forest Lake and the Ammonoosuc that would be a tragedy, but the bill is still needed now so that the next company that comes along will know that this state will not entertain a ruinous proposal for no good reason.

- Senator Gray asked Dr. Finkle what his degree is in. Dr. Finkle stated that he has a degree in environmental health science and public policy.
- Senator Gray asked if he is a hydrologist. Dr. Finkle is not a hydrologist, but he has worked in and around that field for 40 years.
- Senator Avarad asked if sites at a higher elevation would be exempt from testing. Dr. Finkle stated that surface topography has nothing to do with the underground topography. Groundwater typically flows with gravity, but the wells in around Forest Lake are usually 300-400 feet deep. It is true that the footprint of the landfill could contain more sand and clay than the “donut” around the landfill. We did talk about if it would be unfair to multiply the flow rate around the site by five. It could be faster or slower when it leaves, but it is a private property problem that is insurmountable. To require the applicant to get permission to go offsite and average it over the whole traversal between the site and the waterbody would implicate private property rights. Dr. Finkle stated that the key to this bill is the compact and streamlined nature of it. This is a first pass at a permit that allows the applicant to get a simple answer to if they can go further and spend 100s of thousands on a five-year process or not. To encumber the applicant with all kinds of requirements to go off site and map the whole area seemed counter to the spirit of giving them a point of entry that would be quick and inexpensive.
- Senator Avarad asked Dr. Finkle to further explain his previous point. Dr. Finkle explained that the footprint of the landfill is the center of the “donut” and the ring around it between the landfill and the waterbody which would have private property on it generally. They did not think it was appropriate to ask an applicant to get permission to average the speeds at all the points between the site and the waterbody. Most of the time, it would not be their land anyway.
- Senator Giuda stated he is concerned about property rights. He stated that he could envision a scenario where a person or group of people who are opposed to a landfill that may otherwise be appropriately sited could refuse to allow testing, bias the result, or prevent accurate testing results from happening. Dr. Finkle stated that the bill does not allow for any testing on private property. Senator Giuda stated that this is his point because private property owners who have land located between the proposed landfill and a waterbody could stop the testing needed to validate the flow rate. Dr. Finkle stated that there will be no testing on private property. The criterion is based on the testing at the land that you own as the applicant or proposed applicant. You do not need and cannot ask a landowner for permission. The five years comes from the flowrate at the site. Senator Giuda responded saying that the flow rate may not be accurate 500 meters from the site with for example, two house lots in between whose owners refuse to allow the applicant to test. Dr. Finkle stated that that is the status quo. The permits he has read for Mount Carbury, Turnkey, and Dalton have had no testing off-site. All of this is already done, they just seek to have this done at the beginning of the process instead of the end. Senator Giuda stated that he

does not disagree with the process but disagrees with the inability to accurately test the ground between the landfill and the land that may be affected by leakage. He is concerned that they will not be able to accurately predict where leakage may happen without testing where it could occur. Dr. Finkle stated that he agrees with Senator Giuda that this is a problem and landowners are frequently put in a tough position because of these facilities. The bill fixes the more pressing issue.

- Senator Gray asked Dr. Finkle to explain the mitigation strategies for constructing a landfill that would deter septage from traveling from the site no matter what the composition of the soil is. Dr. Finkle stated that they use geosynthetic liner that laid underneath the trash followed by a compacted clay liner which is underneath the geosynthetic liner. It is double-line system with interception of leachate in-between. The problem with all this is geosynthetic liner breaks down overtime. The natural clay slows down the flow of groundwater tremendously, but that compacted clay is brought in from elsewhere and eventually cracks.
- Senator Gray asked if there is testing to see if the liners have failed. Dr. Finkle stated that is correct and the premise of the bill is not that it would be impossible to avert a tragedy. The premise is reducing the probability of that tragedy happening and the significant remediation that comes with it.
- Senator Gray stated that he would consider a different decision depending on if there is a small but detectable leak versus a large and catastrophic leak. Dr. Finkle stated that if we put a landfill in the wrong place, we will not be able to choose if it is a small or large leak. The leakage is only part of the problem, there is also the poor management that causes the acute events that lead to disaster on the surface.
- Senator Gray asked Dr. Finkle to elaborate on “failure of management”. Dr. Finkle stated that in addition to distance being a reasonable thing to do for the long-term lifetime of a facility, there are also events that happen over the course of time such as spills and leaks that occur on the surface but will have significant impacts.

Tim White, Sanborn Head

- Mr. White is a hydrogeologist at Sanborn Head with 20 years of experience. He spoke in opposition to the bill.
- He stated that the bill’s provisions do not represent a needed surface water protection strategy and would create an inconsistent regulatory landscape in the state. DES’s existing authority to regulate landfills is adequate. They already have the authority to prevent development of a landfill at a site where surface water impacts could occur. Therefore, this bill is not necessary. Under existing NH regulation there is a landfill siting requirement for a hydrogeologic study requiring the landfill applicant to demonstrate that the proposed landfill is sited

in an area where the potential release of contaminants can be addressed prior to prevent impacts to surface water.

- Proponents of HB 1454 suggest that NH's existing 200-foot setback to landfills to surface water is inadequate without considering that this is only the minimum setback requirement. The 200-foot setback is not applicable if surface water protection cannot be demonstrated. It has been mentioned that landfills in Maine have a six-year groundwater travel time setback to surface water. It is important to understand that Maine regulations allow offsets for certain design and monitoring approaches. Features such as additional liners, leak detection systems, creation of a contingency plan, and remedial action funding mechanism can be used to reduce the six-year travel time requirement.
- Theoretically, offsets could be used in some cases to reduce the six-year requirement to zero. Notably, many of the features considered offset to Maine are required components of aligned landfill in New Hampshire. Therefore, direct comparison of the six-year travel in Maine to the five-year travel time proposed for NH is not a fully accurate or representative comparison.
- The five-year travel time restriction is not supported in NH law. Proponents for HB 1454 have suggested that the bill's methods were adopted from a US EPA approach for evaluating existing industrial facilities relative to public drinking water supplies, so-called source water protection areas. While the proposed approach in HB 1454 may be generally similar in some ways to US EPA guidance, there is a critical difference. The US EPA and NH source protection rules do not include restrictions that prohibit specific land uses such as landfills based on a five-year or other groundwater travel time to a potential drinking water supply. We should ask why landfills be restricted based on this approach when no other industry in NH is restricted in this manner. We should also ask why regulatory preference be given to expansion at existing facilities.
- Under the bills provisions, it is possible that the new and expanded facilities could have the same liner systems, leachate and gas collection systems, and waste types and capacities yet they would be regulated differently. To have different levels of environmental permitting and regulation makes no regulatory or technical sense.
- HB 1454 requires calculation of the five-year distance of travel to be based on the maximum seepage velocity value which is not consistent with standard hydrogeologic practice for calculating a representative site-wide value typically based on spatial averages from testing.
- Using Hb 1454 as an absolute site screening tool carries with it a major assumption that there are many sites in NH on which to develop landfills. This assumption is not valid. Given the practical considerations for citing a landfill and the numerous setbacks to landfills, there is simply not many properties in NH on which to site a landfill. If a suitable site were to have a groundwater time even marginally less than five years, it would be disqualified for consideration for landfill development. Five years is also an unnecessarily long travel time.

Corrective actions to mitigate a potential release that presents a significant threat to groundwater or surface water would be required by DES much sooner than 5 years. To potentially prohibit landfill development at otherwise suitable sites based on an arbitrary groundwater travel time is not prudent for the future of the state's solid waste management.

- BH 1454 should be struck down because of its arbitrary requirement for groundwater travel time and the redundancy with current DES regulations which are adequately protective.
- Senator Gray asked Mr. White to further explain additional liners. Mr. White clarified that he was referring to the Maine regulations which allow offsets so reductions in years of travel time if an additional liner is installed. They recognize that would be a requirement for a NH landfill to have a primary and a secondary liner. Maine views the secondary liner as a way to reduce the six-year travel time requirement.
- Senator Giuda asked if they could do a third liner. Mr. White is not involved in the design of the facility, and he is not aware of a facility with a third liner.
- Senator Giuda asked if they would still be able to get an accurate reflection of the flow of water from the site to a waterbody if they are unable to drill wells to test flow rates on private property that lies between the proposed site and the waterbody. Mr. White stated that the proposed language in the bill is referring to values that are only from borings within the proposed footprint so they would not be representative of the down gradient areas where the direction which groundwater flows. Furthermore, the bill would require the maximum seepage velocity value to be calculated which in his experience means they would take a site-wide average or spatial average of the area which may include off-site down gradient areas.

Nikki Roy

- Mrs. Roy is Vice President and Senior Consultant at a firm called Verdantis. She is a hydrogeologist with 25 years of experience. She is a licensed professional geologist and serves as the chair of the NH professional geologist board.
- This bill is not necessary to protect surface water in NH because DES currently has regulations in place that address this issue. They govern the siting, operation, and closure of solid waste facilities in NH. One of the existing provisions already serves to identify protective distance to sensitive receptors including surface waterbodies.
- Passage of HB 1454 would arbitrary remove one of the setback criteria and put it in statute while leaving setbacks from things like drinking water wells, sources, wetlands, etc. in the regulations so really separating those setbacks.

- The existing regulations already require an applicant who might want to propose and develop a landfill in the state to hire an independent hydrogeologist to do a comprehensive hydrogeology analysis of the site-specific conditions at that proposed development. This would include calculation of that maximum seepage velocity which is included in the bill.
- It may appear that the five-year time of travel setback is more protective of surface water than the 200-foot setback in the regulation. The 200-foot setback is indeed a minimum setback that allows DES experts to look at the site-specific information and determine what the appropriate setback is. If the 5-year setback gets put into state statute, it eliminates the experts at DES and their ability to make site-specific judgments.
- NH currently has 7 operating lined landfills. If HB 1454 were in place prior to permitting and construction of those landfills, using a high-level quick analysis 3 of the 7 landfills would not have been permitted. NH faces a significant challenge in managing waste across the state and this would have eliminated almost 50 percent of our current existing landfill capacity.
- Lined modern landfills are not documented sources of contaminated groundwater and surface water. They are constructed with double liners, engineered systems that include leak detection systems, and there are ways to alert landfill operators quickly if there was a leak from a primary liner. Modern landfills are constructed with active leachate collection systems which properly collect and identify moisture that comes with landfills and degradation of waste. HB 1454 may be intended to be modeled after the state of Maine; however, it is important to emphasize the point that Mr. White made in that Maine's six-year travel time setback can be reduced in acknowledgement of the importance of engineering and institutional controls. Furthermore, those engineering and institutional controls, when built properly and permitted correctly, can allow landfills to exist adjacent to or closer to surface water bodies and other sensitive receptors.
- Mrs. Roy asked the committee to oppose HB 1454 to continue to allow DES to regulate the setback of landfills to surface water as they do with drinking water supplies, geologic faults, wetlands and other sensitive receptors through their existing set of regulations.
- Senator Giuda asked if the current DES rules and regulations are sufficient to protect groundwater and subsurface water. Mrs. Roy agreed with Senator Giuda and stated that DES has groundwater release detection permits that they assign to operating landfills and those systems require landfills to be monitored quarterly with data provided to the state. On a quarterly basis they are reporting groundwater conditions in a series of monitoring wells established to monitor and detect any impact from a landfill with a great deal of notice. That data is being reported to the state within 45 days of collection. There is a very short time frame between collection of groundwater data and reporting it to the state for problems to be identified in the existing process.

- Senator Giuda asked if Mrs. Roy believes that DES appropriately responds to leaks or other pollution incidents relative to groundwater and subsurface water. Mrs. Roy stated that DES has been very responsive in her experience. She has also worked in other states and said that DES is responsive compared to other states.

Bryan Gould, Lawyer with Cleveland, Waters, and Bass.

- Spoke in opposition to the bill and stated that the bill is a targeted project killer masquerading as an environmental protection bill.
- It is important to consider that no one has told the committee that there have been releases of leachate from landfill liners to groundwater. No one has indicated that there have been contaminates from lined landfills that have polluted surface water. No one has told the committee that the existing setback in DES rules has proven ineffective or unworkable. No one has suggested that DES thinks HB 1454 fills a gap in its regulatory scheme. No one has offered a scientific basis for five years as a measuring period. No one except Mrs. Roy has told the committee how long it now takes begin remediation of groundwater contamination. He questioned whether we really want five years to transpire between the detection and commencement of remediation as the bill contemplates. No one has explained why the bill would allow expansions of existing landfills into areas with less than five years of groundwater travel time to perennial surface water, yet that is accepted under the bill.
- The reason this bill reads the way it does is that the proponents looked at the groundwater data at the Dalton site and thought that it could not meet the five-year travel time, so they backed into this provision to kill this deal without considering what effect it would have on other sites. This bill would likely make it virtually impossible to site a landfill in New Hampshire.
- The reason for the five years remains obscure because no one has explained it more than that it seems like a good number.
- This is inconsistent with the rule of law which refers to neutral application of principles to individuals. This is not the neutral application of law; this is the application of power to affect a single individual. The bill is not worthy of becoming law in New Hampshire.

Berkley Parenteau, 7th Grader

- Berkley spoke in support of HB 1454.

- Berkley, like many people her age, is concerned about the environment, New Hampshire's water, and the pollution caused by humans. The contamination we have created hurts all life, plants, animals, and people. It could have consequences that older folks may never see, but younger people could.
- She has spent most of her life in her grandparents' home in Whitefield where she has enjoyed the nearby lake with her family. She is worried that it may not be safe to return there.
- She has learned that proper placement of a landfill is critical, and there is a correct and incorrect way to build them. The correct way is to place them on locations with the proper foundation.
- She fears that a leak or spill at a landfill may ruin her life at the lake. People enjoy the lake and having clean water is essential for life.
- Landfills like the ones at Mt. Carberry and Turnkey have soils that slow the flow of toxic water if there is a leak or spill. This allows the problem to be corrected so that our waters are not ruined by harmful chemicals.
- The danger to our waters from poorly located landfills is a problem that can be corrected in best interests of young people and the future of NH.
- Senator Avarad stated that Berkley's testimony was well done. He commented that as a child he used to fish along the Merrimack River and that he used to watch raw sewage flow into the river and found it disgusting. He stated that we are on the path to making progress and we have come a long way since he was a child.
- Senator Giuda asked Berkley to share with the committee anything that she sees is wrong with the current laws that she would like to see changed. Berkley stated that we should do what is right. We need to think about this issue and how putting a landfill next to a waterbody may not be the best idea because people use that water for activities.
- Senator Giuda asked if Berkely feels that the rules and regulations that are currently in place by DES are jeopardizing the waterbody near her home. He asked if she believes that there is not adequate testing or perhaps not enough preparation beforehand or follow-up after a facility is built. Berkley deferred the question.
- Senator Avarad praised Berkely for testifying on the bill and for how she handled the committees' questions.

Fred Anderson

- Mr. Anderson stated that HB 1454 is the bill the committee asked for last year. Mr. Anderson stated that Senator Gray talked about 2 miles being arbitrary and that 200 feet is very arbitrary. He stated that Senator Gray wanted science and this bill is giving him science. This science is credible and not one size fits all. He stated that Senator Gray was concerned that a circle around the site was

inappropriate because the flows may be different. They have designed the bill to address Senator Gray's concerns.

- Mr. Anderson stated that Senator Avard asked him possibly 3 times in the past "why state parks and why not water". Mr. Anderson stated that Senator Avard was correct in his questions and that the bill is designed to talk about water and to preserve it. It is a five-year setback. It is not about commencing remediation as Mr. Gould said, it is to give time to detect, determine, decide on what appropriate engineering would be, apply it, and finish it. We are here to protect water and to design criteria. No criteria is going to be perfect, but HB 1454 is more perfect than what we are currently dealing with. If there is something wrong with the bill, we can change it.
- Senator Gray stated that although he likes this bill a lot more than the one from last year, we just had testimony from two licensed hydrologists who stated that the bill is redundant. Mr. Anderson stated that he is not a hydrologist. The supporters of the bill had a hydrologist who testified last year but they were unavailable to testify on the bill. He stated that he could provide more information on that if the committee wishes.
- Mr. Anderson asked the committee to tell him what is wrong with the bill and he guaranteed they would return next year with answers.
- Senator Watters asked if other states have similar 5–6-year rules. Mr. Anderson believes that the information came from DES and that 5 years is a period that is reasonable in which to detect, determine, and remediate. If the flow is fast, we are going to have polluted water. We are going to have pollutants in the Ammonoosuc River.
- Mr. Anderson addressed Senator Giuda's previous question that he would be delighted to have a test well dug on his land.

Wayne Morrison

- Presented packets that included a letter with signatures from over 200 people who across the state who support this bill. He also provided a letter of testimony from hydrogeologist Muriel Robinette who supports the bill. He stated that prominent businessmen in the North Country such as Dave Kerner and David Sunmen who support the bill and believe it will be good for business.
- He believes that there are antiquated regulations that need updating in the system. This 200-foot setback is something that needs to be changed.
- HB 1454 requires no new testing that applicants do not already do. It is being used in other states besides Maine. This simply requires the test to be done at the beginning of the process instead of the end. It requires that the site be appropriately evaluated before more work gets done. The bill does not ban landfills or restrict how many landfills we can have. It applies to any and all new landfills and it leverages science to really have site specific measurements of where a landfill should go relative to bodies of water.

- HB 1454 provides the state with the opportunity to ensure siting of new landfills is science-based and delivers real, reliable, and predictable protection.
- The purpose of a setback is to provide a margin of safety. In essence, it is about risk management. Despite the latest technologies that are currently available by the best intentioned landfill operators, accidents occur, people make mistakes, switches and valves fail, and double liner materials deteriorate. We should press the operators to continue to apply technology, but this bill is about a barrier, a risk management system beyond that. When things inevitably go south, the only thing protecting our rivers, lakes, and drinking water supplies is the setback distance in this bill.
- He asked the committee to support the bill because they will have to deal with the consequences of the new landfill for the next 100 years.

Nancy Morrison

- Mrs. Morrison is from Mont Vernon and works very hard to educate herself on the matters of waste management and landfilling. She asked for the committee to support HB 1454 because it updates New Hampshire's antiquated land testing citing criteria. The science of this bill is nothing new and has been used to site new landfills in other states such as Maine.
- Turnkey and Mt. Carberry are located in proper locations that protect waterbodies within the five-year remediation window that this bill provides. This bill makes siting new landfills more safe and less costly to DES, the developer, and the state in the long run.
- The committee has the option to proactively decide to prevent the possibility of the next NH site cleanup. We have way to many of these in New Hampshire and one of them is the Coakley Landfill in North Hampton where groundwater, surface water, and wells have been found to be contaminated with PFAS and dioxane. If HB 1454 was law when that landfill was being sited, we would not be dealing with the cleanup today. She does not believe that any of the members of the committee would want their name and legacy attached to a new poorly sited landfill that would have the possibility of contaminating NH waterbodies simply because it is available.
- The bill is not anti-landfill or anti-business. It is about proper and responsible landfill siting and environmental justice. Some sites use 4 year or 6 years to track the water velocity. 5 years is a good middle ground.

Henry Veilleux, Waste Management

- Mr. Veilleux spoke in opposition to the bill. This bill would not directly impact the Turnkey Landfill because it does not affect existing landfills and expansions of their landfills, but when these bills come through the company looks at them through the lens of if it did affect them. One day this could apply to their operation.
- This bill is unnecessary and the protections that are already in place are sufficient. He believes that the reason that DES is not present and not signed in on this bill and is not present at the hearing asking for this to be another tool in their toolbox speaks volumes.
- Ultimately, the goal of this bill is to stop the landfill up north but doing that is not necessarily good public policy.

Heidi Trimarco, CLF

- Mrs. Trimarco stated that all landfills leak as the committee heard from both proponents and opposers to this bill. This bill is a very common-sense measure. There is no reason to suppose that this would cause a shortage of landfills in the state. DES has testified repeatedly that the state has excess landfill capacity. It makes sense to slow down and put common sense measures in place that are based on science.
- The hydrogeologists that testified in opposition to the bill also work for the landfill companies in landfill siting. Mrs. Roy testified that we could imagine that DES would impose stricter setbacks than the 200-feet, but DES does not do that. They impose the standards that are set in the regulations and in the statute. We should put these requirements on DES to protect our state and resources.

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Date Hearing Report completed: April 18, 2022

Speakers

Senate Energy & Natural Resources Committee

SIGN-IN SHEET

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Date: 4/5/2022 Time: 9:00 a.m.

HB 1454-FN AN ACT relative to permits for the siting of new landfills .

Name/Representing (please print neatly)

Name/Representing	Support	Oppose	Speaking?	Yes	No
Adam Finkel (self)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Tim White	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Speaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Nikki Dulude Roy	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Speaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Bob Grillo	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Speaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Rep. Megan Murray	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Rep. EDITH TUCKER PRIME SPONSOR	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Berkley Parenteau	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TOM TOWER	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fred Anderson (self)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Nancy Carbonneau Morrison	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Jon Swan (SAVE FOREST LAKE)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
REP. DENNIS THOMPSON (FOR)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
WAYNE MAURISON	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Rep. Lee Overman	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input type="checkbox"/>	<input type="checkbox"/>
Rep. Peter Bixby (House 5 & A)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Rep. Linda Massimilla	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input type="checkbox"/>	<input type="checkbox"/>
Bryan Gould	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Speaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
J/M McAmmer McElammer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	Speaking?	<input type="checkbox"/>	<input type="checkbox"/>

(page 2 is next)

Senate Energy & Natural Resources Committee

SIGN-IN SHEET

②

Date: 4/5/2022 Time: 9:00 a.m.

HB 1454-FN AN ACT relative to permits for the siting of new landfills .

Name/Representing (please print neatly)

	Support	Oppose	Speaking?	Yes	No
— Rep. TIMOTHY EGAN	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
— Tom De Rosa NCABC	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
— Kirsten Koch BIA	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
— Rep Troy Mercer	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
— Henry Veilleux Waste Management	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

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✓

Senate Energy & Natural Resources Committee

SIGN-IN SHEET

3

Date: 4/5/2022 Time: 9:00 a.m.

HB 1454-FN AN ACT relative to permits for the siting of new landfills .

Name/Representing (please print neatly)

	Support	Oppose	Speaking?	Yes	No
— Heidi Trimarco, CLF	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
— Matt Leahy Forest Society	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
— John Tutthill, Acworth	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

2.

Senate Remote Testify

Energy and Natural Resources Committee Testify List for Bill HB1454 on 2022-0

Support: 152 Oppose: 2

<u>Name</u>	<u>Title</u>	<u>Representing</u>	<u>Position</u>
Swan, Jon	A Member of the Public	Save Forest Lake	Support
Davis, Peggy	A Member of the Public	Myself	Support
Hannaford, Ernie	A Member of the Public	Myself	Support
Recor, Lora	A Member of the Public	Myself	Support
Tuthill, John	A Member of the Public	Myself	Support
Kelly, Rachelle	A Member of the Public	Myself	Support
Correia, Anthony and Kim	A Member of the Public	Myself	Support
Renaud, Ron	A Member of the Public	Myself	Support
levy, irit	A Member of the Public	Myself	Support
Pastoriza, Kris	A Member of the Public	Myself	Support
Ghioto, Gary	A Member of the Public	Myself	Support
Nute, Dana	A Member of the Public	Myself	Support
Marshall, Janet	A Member of the Public	Myself	Support
Damiano, Paul	A Member of the Public	Myself	Support
Damiano, Janet	A Member of the Public	Myself	Support
Davis, Michelle	A Lobbyist	NH LAKES	Support
Kellogg, Patricia	A Member of the Public	Myself	Support
Seymour, Margaret	A Member of the Public	Myself	Support
Wiley, David	A Member of the Public	Myself	Support
Wright, Michael	A Member of the Public	Myself	Support
Grosholz, Robert	A Member of the Public	Myself	Support
mosedale, irene	A Member of the Public	Myself	Support
Ruggles, Wayne	A Member of the Public	Myself	Support
Comeau, Nancy	A Member of the Public	Myself	Support
EVANS, John	A Member of the Public	Myself	Support
Doucette, Sarah	A Member of the Public	Myself	Support
Crannell, Charles	A Member of the Public	Myself	Support
Adler, Karen	A Member of the Public	Myself	Support
Madden, David	A Member of the Public	Myself	Support
Madden, Jeanne	A Member of the Public	Myself	Support
Corkery, Catherine	A Lobbyist	NH Sierra Club	Support
Moore, Susan	A Member of the Public	Myself	Support
Little, Sarah	A Member of the Public	Myself	Support
Menard, Joyce	A Member of the Public	Myself	Support
Little, Morgan	A Member of the Public	Myself	Support
Anderson, Questa	A Member of the Public	Myself	Support
chase, wendy	An Elected Official	Myself	Support
Laramie, Michael	A Member of the Public	Myself	Support
Sacharuk, Chris	A Member of the Public	Myself	Support
McGuire, Brittany	A Member of the Public	Myself	Support
Doucette, Roger	A Member of the Public	Myself	Support
Morrison, Wayne	A Member of the Public	Myself	Support
Morrison, Nancy	A Member of the Public	Myself	Support
Almy, Susan	An Elected Official	Myself	Support
Booth, Joanne	A Member of the Public	Myself	Support
Craxton, Edward	A Member of the Public	Myself	Support
Geil, Leon	A Member of the Public	Myself	Support

Orzech, Joseph	A Member of the Public	Myself	Support
Laramie, Arlene	A Member of the Public	Myself	Support
Ross, Duncan	A Member of the Public	Myself	Support
Eisner, Mary	A Member of the Public	Myself	Support
Dreier, Leslie	A Member of the Public	Myself	Support
Cahill, Atinuke	A Member of the Public	Myself	Support
Marks, Nisa	A Member of the Public	New Hampshire Audubon	Support
A Stapleton, Rep Walter	An Elected Official	Constituents	Support
Despres, Charles	A Member of the Public	Myself	Support
Hilbert, Laura	A Member of the Public	Myself	Support
Walter, Cynthia	A Member of the Public	Myself	Support
Craxton, Ann	A Member of the Public	Myself	Support
Adler, Steve	A Member of the Public	Myself	Support
Bouchard, Donald	An Elected Official	Myself	Support
Dontonville, Roger	An Elected Official	Myself	Support
Dudley, Jo Beth	A Member of the Public	Myself	Support
Beffa-Negrini, Patricia	A Member of the Public	Myself	Support
Weber, Jill	A Member of the Public	Myself	Support
Berk, Bruce	A Member of the Public	Myself	Support
SEIDLER, REINMAR	A Member of the Public	Myself	Support
Richman, Susan	A Member of the Public	Myself	Support
Damon, Claudia	A Member of the Public	Myself	Support
Nelson, Elizabeth	A Member of the Public	Myself	Support
Glass, Jonathan	A Member of the Public	Myself	Support
Reed, Barbara	A Member of the Public	Myself	Support
Earle, Ralph	A Member of the Public	Myself	Support
Lucas, Janet	A Member of the Public	Myself	Support
Dontonville, Anne	A Member of the Public	Myself	Support
FRIEDRICH, ED	A Member of the Public	Myself	Support
Rettew, Annie	A Member of the Public	Myself	Support
Cousineau, Edward	A Member of the Public	Myself	Support
Jones, Andrew	A Member of the Public	Myself	Support
Devore, Gary	A Member of the Public	Myself	Support
Ellermann, Maureen	A Member of the Public	Myself	Support
Grassie, Chuck	An Elected Official	Strafford 11	Support
Smith, Jessy	A Member of the Public	Myself	Support
Atherton, John	A Member of the Public	Myself	Support
Beaulieu, Rebecca	A Member of the Public	Myself	Support
O'Donnell, Margaret	A Member of the Public	Myself	Support
Dickowski, Nancy	A Member of the Public	Save Forest Lake	Support
Sinibaldi, Jack	A Member of the Public	Myself	Support
Blanchard, Sandra	A Member of the Public	Myself	Support
Noyes, Judit	A Member of the Public	Myself	Support
Day III, Maurice	A Member of the Public	Myself	Support
Schefer, Bill	A Member of the Public	Myself	Support
Diamond, Linda	A Member of the Public	Myself	Support
Vincent, Laura	A Member of the Public	Myself	Support
Boswell, Bonnie	A Member of the Public	Save Forest Lake	Support
Koutroubas, Alex	A Lobbyist	American Council of Engineering Companies of NH (ACEC-NH)	Oppose
Boswell, Laurie	A Member of the Public	Myself	Support
Torpey, Jeanne	A Member of the Public	Myself	Support
Webb, Nina	A Member of the Public	Myself	Support
Griffin, Ann	A Member of the Public	Myself	Support
Griffin, Johann	A Member of the Public	Myself	Support
Urffer, Kathy	A Lobbyist	Connecticut River Conservancy	Support
Jakubowski, Deborah	A Member of the Public	Myself	Support

Hennessey, Erin	An Elected Official	Myself	Support
Thomas, Anne	A Member of the Public	Myself	Support
Hershey, Jane	A Member of the Public	Myself	Support
Merlone, Lynn	A Member of the Public	Myself	Support
Martin, Patricia	A Member of the Public	Myself	Support
Nardino, Marie	A Member of the Public	Myself	Support
Bushueff, Catherine	A Member of the Public	Myself	Support
Lynch, Chrisinda	A Member of the Public	Myself	Support
LINDSEY, JUDITH	A Member of the Public	Myself	Support
ZIELINSKI, SUSAN	A Member of the Public	Myself	Support
Glazner, Michael	A Member of the Public	Myself	Support
Wilson, Erin	A Member of the Public	Myself	Support
Hunt, Sarah	A Member of the Public	Myself	Support
HALLOCK, LINDA	A Member of the Public	Myself	Support
Bruno, Darla	A Member of the Public	Myself	Support
Hunnewell, Anne	A Member of the Public	Myself	Support
Hunnewell, Richard	A Member of the Public	Myself	Support
Wright, Richard	A Member of the Public	Myself	Support
Spencer, Louise	A Member of the Public	Myself	Support
Spencer, Rob	A Member of the Public	Myself	Support
MILNE, Cindy	A Member of the Public	Myself	Support
blaney, bruce	A Member of the Public	Myself	Support
perencevich, ruth	A Member of the Public	Myself	Support
Borowski, Marianne	A Member of the Public	Myself	Support
Quigley, Ned	A Member of the Public	Myself	Support
Allen, Laurene	A Member of the Public	Myself	Support
Allen, Daniel	A Member of the Public	Myself	Support
Mooney, Birdie	A Member of the Public	Myself	Support
Levreault, Aaron	A Member of the Public	Myself	Support
kwasnik, joseph	A Member of the Public	Myself	Support
Lajoie, Katie	A Member of the Public	Myself	Support
Lajoie, John	A Member of the Public	Myself	Support
Meuse, David	An Elected Official	Rockingham 29	Support
Sinclair-pappas, Barbara	A Member of the Public	Myself	Support
Tower, AnnMarie	A Member of the Public	Myself	Support
Reardon, Donna	A Member of the Public	Myself	Support
Koch, Helmut	A Member of the Public	Myself	Support
Wilke, Mary	A Member of the Public	Myself	Support
graham, chris	A Member of the Public	Myself	Support
Corell, Elizabeth	A Member of the Public	Myself	Support
Bellavance, Phyllis	A Member of the Public	Myself	Support
arnold, william	A Member of the Public	Myself	Support
arnold, irmgard	A Member of the Public	Myself	Support
Jacobs, Eugene	A Member of the Public	Myself	Oppose
BOORAS, Hon. EFSTATHIA	An Elected Official	Constituents	Support
Davis, Gregory	A Member of the Public	Myself	Support
Beaton, Deborah	A Member of the Public	Myself	Support
Sellarole, Jana	A Member of the Public	Myself	Support
Altschiller, Debra	An Elected Official	Stratham, Rockingham 19	Support
Baucom, Pam	A Member of the Public	Myself	Support
Stinson, Benjamin	A Member of the Public	Myself	Support

Testimony

Daley Frenette

From: Michelle Davis <mdavis@nhlakes.org>
Sent: Friday, April 1, 2022 10:34 AM
To: Kevin Avard; Bob Giuda; James Gray; Rebecca Perkins Kwoka; David Watters; Daley Frenette
Subject: In Support of HB 1454

New Hampshire State Senate
107 North Main Street
Concord, NH 03301

RE: HB 1454, relative to permits for new landfills

Dear Senators:

NH LAKES urges you to support the passage of HB 1454 as amended, relative to permits for new landfills. Landfills pose a significant threat to surface and ground water quality, threatening to undermine some of the core purposes of public lands protection and conservation.

NH LAKES is a statewide nonprofit organization dedicated to keeping New Hampshire's lakes clean and healthy, and advocates for laws, public policies and other programs designed to achieve this mission. We work with partners, promote clean water policies and responsible use, and inspire the public to care for our lakes. We base our work in science—watershed hydrology included. We believe a science-based setback is necessary for new landfills in order to protect our important natural resources.

HB 1454 is a common sense effort to ensure that new landfills are not sited in places that will jeopardize water quality, and utilizes sound scientific methodology to determine site specific setbacks that are protective of lake and river health. Lake water comes not only from rainfall and snowmelt, but also from overland flow, through the ground, and by way of streams and other lake tributaries. Landfills are sources of potential contamination to both groundwater and surface water not only during their many years of operation, but for many decades after. HB 1454 will help ensure that new landfills are appropriately sited and it will also eliminate the need to spend millions of dollars to remediate preventable contamination of surface waters. It is critical to enact this legislation to protect our precious natural resources.

Thank you for the opportunity to comment on HB 1454. We urge the Senate to "OTPA" on HB 1454, implementing clear and science-based criteria to protect our valuable and beloved surface water resources.

Respectfully,



Michelle Davis (she/her)
Policy and Advocacy Program Manager, NH LAKES
p: 603.226.0299 | 17 Chenell Drive, Suite One | Concord, NH 03301
www.nhlakes.org
Working for clean and healthy lakes



Daley Frenette

From: waltstapleton <waltstapleton@comcast.net>
Sent: Saturday, April 2, 2022 11:20 PM
To: Kevin Avard; Bob Giuda; James Gray; Rebecca Perkins Kwoka; David Watters; Daley Frenette
Cc: Edith Tucker
Subject: Testimony In Support of HB-1454-FN Set-Back for citing of new Landfills
Attachments: NHhouseBillHB1454FNresearch-TimeInTravelsetbackAdamFinkel20220222.pdf
Importance: High

Honorable Senators, Senate Energy & Natural Resources Committee,

My testimony as follows in Support of HB-1454-FN to be heard at your committee scheduled for Tuesday, 04/05/2022, 9:00 am, State House Room 103:

On 03/01/22, I was the deciding vote to make this a bi-partisan OTP/A motion 10-9 in House Environment & Agriculture Committee.

I stepped out of a party position for Interim Study on this one because I saw the value of an established scientific protocol for set-backs to protect surface waters in citing new landfills. We had several other waste, recycling and landfill related bills but they were consolidated into one study commission bill, HB-1049, while HB-1454 was moved as a stand-alone bill for its timely importance and as a starter to "get the ball rolling" on the studies.

HB-1454-FN originally had a lot of stuff in it that many members of the committee found objectionable, like an immediate shutdown of a landfill upon discovery of a priority pollutant, which would be disastrous! There were other items, but a good amendment, 2022-0894h by Rep. M. Murray eliminated all of that to focus instead on a prominent element of protecting nearby surface waters with an established "Time-in-Travel" permeability measurement protocol that determines what a safe and practicable setback distance should be for a landfill citing, which would enable timely remediation of any leaked or spilled pollutant.

Since you will likely have professional testimony at the hearing on the nuts and bolts of that process, I will only mention it here briefly as a prelude:

An independent professional hydrologist is engaged to make soils and bedrock study and measurements to determine their permeability and establish the highest seepage velocity rate of ground waters movement at the site as a foot per year factor for the "travel" component. The "time" component is then a multiplication factor of 5 for a five year span, multiplied by the "travel" rate to obtain a minimum setback distance. The bill maintains the existing 200-foot in RSA-149-M:9 as a minimum, but the applicable setback will be the greater of either that 200 feet or the calculation product.

In the House E&A Committee hearings we heard professional testimonies that such measurement protocols are already in practice, so this bill will enable the law to catch up to technology and assure safe distancing from our important water resources. The ongoing operation of the landfill will of course be subject to NHDES requirements and regulations, including monitoring, testing, remedial protocols in the event of a detection, and so forth.

I have attached an information sheet by Mr. Adam M. Finkel, Sc.D, dated Feb. 22, 2022, that indicates several States where this "Time-in-Travel" methodology has been in use since at least 2003 in the examples shown. Our neighbor in Maine has had this in effect for about 15 years, but at a greater time factor of a 6 year multiplier to suit their particular geology. Other states shown use varied year time factors.

Walter A. Stapleton

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WALTER A. STAPLETON
NH House Representative
Claremont Ward 3
Sullivan County District 5

90 Veterans Park Road
Claremont NH 03743
Cell: 603-995-1034
Offc: 603-542-8656

Email: waltstapleton@comcast.net
Email: walt.stapleton@Leg.State.NH.us



This email has been checked for viruses by Avast antivirus software.
www.avast.com

To: **New Hampshire Senate Energy and Natural Resources Committee**

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

From: Nikki Delude Roy, PG
Verdantas LLC

Date: April 5, 2022

My name is Nikki Delude Roy. I am Vice President/Senior Consultant at Verdantas LLC¹, an environmental and engineering consulting firm with offices throughout the United States, including in Manchester, New Hampshire. As Geolnsight and continuing as Verdantas, we have managed groundwater monitoring and reporting programs at several unlined landfills in New Hampshire and have been involved in the design, construction, closure, and long-term monitoring of a number of lined landfills across the country.

I have a Bachelor of Arts (BA) in Geology from Mount Holyoke College and a Master of Science (MS) in Hydrogeology from the University of New Hampshire. I have been employed as an environmental consultant for more than 25 years. I am a licensed Professional Geologist in New Hampshire. I have personally been involved in evaluating hydrogeologic and environmental data from solid waste facilities for approximately 20 years.

As an environmental consultant and Professional Geologist, I 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) provides: "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 require evaluation of hydrogeologic conditions such that an applicant would have to demonstrate these requirements by hiring an independent hydrogeologist

¹ In May 2021, Geolnsight, Inc. merged with four similarly sized environmental and engineering firms to form Verdantas which currently has approximately 420 employees across the US.

(at the applicant's expense) to develop a technically robust conceptual site model which includes (but is not limited to) calculation of a maximum seepage velocity of groundwater. Based on this existing requirement, 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 New Hampshire Solid Waste Rule Env-Sw 804 and place it within New Hampshire Statute, NH RSA 149-M, while leaving many others (e.g., minimum distance to the seasonal high groundwater table, distance from geologic faults, wetlands setbacks, 100-year flood level) within New Hampshire Solid Waste Rules, creating inconsistency and removing NHDES' ability to revise these expectations in the future, if necessary.

- The 5-year time of travel consideration included in amended HB 1454 is arbitrary and without scientific or technical justification and is far more conservative than necessary. Under existing New Hampshire regulations, the *minimum* setback from surface water is 200 feet. As discussed above, NHDES regulations require the applicant demonstrate that a proposed development will be protective of surface water in consideration of the site-specific hydrogeological data collected and used to develop the conceptual site model.

HB 1454 would establish an arbitrary setback from surface water that appears to be more protective, but which is actually an arbitrary and technically unjustified setback distance that does not take into account important analysis and understanding of site-specific hydrogeologic data.

- The 5-year time of travel consideration included in amended HB 1454 would have prevented construction of at least three (3) of the seven (7) operating, modern, lined landfills in the state (as identified in the "Solid Waste Facilities" data layer, downloaded from the NHDES OneStop Data Mapper). Using the "Solid Waste Facilities" data layer, mapped NH surficial geologic data, and conservative assumptions regarding groundwater transport velocity, Verdantas completed a high-level Geographic Information Systems (GIS) evaluation and established a 5-year time of travel buffer around waterbodies greater than 10 acres, designated rivers, streams and rivers from the New Hampshire National Hydrography Dataset, and coastal boundaries in the state. As a result of this high-level evaluation, we identified that the North Country Environmental Services, Inc. (NCES) landfill in Bethlehem, NH; the Lebanon Regional Solid Waste Facility in Lebanon, NH; and the TLR-III South Area Development Rochester, NH would have each likely been prohibited from being developed if amended HB 1454 had been passed prior to their construction. If all "perennial rivers" were included in our analysis, as covered in amended HB 1454, the number of modern, lined landfills that would have been prohibited from development would have been even greater.

In a state with very little landfill capacity, a limitation on siting of these important waste management resources based on an arbitrary, overly conservative and technically unjustified setback distance would have had a significant impact on the state's ability to manage waste in New Hampshire.

- The state of Maine approaches landfill setbacks to surface water using a travel time approach. However, there are a number of important differences between Maine's approach and the one included in HB 1454 as proposed. Maine regulations allow for off-sets for certain design and monitoring aspects of the proposed project to reduce the 6-year travel time setback requirement. Components of a proposed landfill design, construction, or operation (e.g., additional liners, leak detection systems, generation of a contingency plan, and remedial action funding) can be used to reduce the 6-year travel time setback requirement to a setback of zero feet from surface water. Maine's approach recognizes that engineering and/or institutional controls can be implemented while providing the desired level of protection for surface water. Under current regulations, NHDES regulations require an evaluation of the siting, engineering and design, and operation and are protective of surface water without amending New Hampshire Statute and including a setback that does not have technical justification.
- Modern, lined landfills are not documented sources of contamination of groundwater. They are constructed with a double-lined, engineered system and a sophisticated leak detection system that allows landfill operators to be alerted and remedy the issue if there was ever to be a leak from the primary liner. In addition, modern landfills are constructed with an active leachate collection system which collects and properly removes and treats liquids to prevent the migration of moisture.

Under existing NHDES regulations, landfills do not require groundwater *discharge* permits per Env-Wq 402 because modern, lined landfills are not anticipated sources of *discharge* to groundwater. Rather than being managed by NHDES under the Groundwater *Discharge* Permitting Program, landfills apply for and maintain Groundwater *Release Detection* Permits which are issued as a preventative measure and are established by NHDES with the goal of detecting potential impacts to groundwater from potential sources. These release detection permits require regular monitoring with a network of groundwater and/or surface water monitoring locations approved by NHDES and are generally held to a more sensitive performance standard than groundwater discharge permits so that they are designed to identify impacts to groundwater quality close to the potential time and source of the release. Groundwater *Release Detection* Permits are designed to identify changes in groundwater quality relative to original background (pre-operational) concentrations, which generally occur before concentrations are high enough to exceed Ambient Groundwater Quality Standards (AGQS). Results from the regular monitoring required under Groundwater Release Detection Permits are required to be submitted to NHDES within 45 days of receipt from the analytical laboratory and part of the data transmittal requires identification of any new detection. Under this reporting expectation, changes in groundwater quality are identified quickly by the owner, consultant and State of New Hampshire.

The monitoring networks established under the Groundwater Release Detection Permit program, provide sufficient warning to detect and map a failure, assess appropriate remediation, meet engineering and regulatory requirements, and initiate the remedy before an adverse impact to the environment is realized at many sites, including landfills, within the state of New Hampshire. Given that NHDES already has an effective monitoring approach clearly identified within the current regulatory framework, the addition of the language in amended HB 1454 is unnecessary and redundant to existing NHDES' promulgated regulations.

For the reasons outlined above, we urge the Committee to continue the siting of landfills (including the setbacks to waterbodies of the state) to be regulated within existing NH Solid Waste Rules (Env-Sw 100-2000), rather than incorporate a setback that does not have a technical justification like that proposed in amended HB 1454 into New Hampshire Statute.

Thank you, Senators, for this chance to speak to you. I am Berkley Parenteau and I am skipping my 7th grade classes today to tell you why I support House Bill 1454.

First you should know that, like many people my age, I am worried about our environment and our water and all the ways we have caused pollution. The contamination we have created hurts all life, plants, animals, and people. It could ruin the future for my generation. The decisions you make today will have consequences that you may never see. But I will see them.

I have spent much of my life in New Hampshire at my grandparents' Whitefield home, near a beautiful clean lake where I swim with my family, play fetch with my dog Winnie, jump from the floating dock with my cousins, and take boat rides with my Grampy. Last summer I learned to paddle board there. I love my time at the lake, but now I am worried the water there may not be safe in the future.

I have learned proper placement of a landfill is critical, and there is a correct and incorrect way to build them. The correct way is to place them on locations with the proper foundation.

I have learned that our life at the lake could be ruined by a landfill. A leak or spill at a landfill even several miles away could ruin the water. We know that clean water is a basic need for all forms of life. And it brings exercise and activities that keep us well and happy. House Bill 1454 asks you to put landfills in places that will keep water safe and healthy.

Landfills like Mt. Carberry in Success and Turnkey in Rochester have soils that slow the flow of toxic water if there is an accidental leak or spill. This can allow the problem to be corrected so that our waters are not ruined by harmful chemicals.

The danger to our waters from badly located landfills is a problem you can correct for the best interests of my generation and the future of this wonderful state. I ask you Committee members, along with the entire Legislature and Governor Sununu, to pass this smart, simple law.

Landfills bring many dangers to our waters and environment. House Bill 1454 is a way to make them safer right from the beginning by making sure they are built in the least damaging areas.

I will leave you with a quote from the great character, Albus Dumbledore, from the Harry Potter series: "We must all face the choice between what is right and what is easy." I hope you choose what is right.

Thank you
Berkley Parenteau Norfolk MA

Berkley Parenteau 

April 5, 2022

Senate Energy and Natural Resources Committee
New Hampshire State House
107 North Main Street
Concord, New Hampshire 03301

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

Dear Chairperson Avard and Committee Members:

Thank you for this opportunity to provide written comments to the Committee regarding amended 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 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 implicitly 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 the premise that landfills in New Hampshire are inadequately regulated to be protective of surface water.

SUMMARY OF POINTS

The main points I would like to raise regarding amended HB 1454 are summarized below:

1. **NHDES' Existing Authority to Regulate Landfills is Adequate:** NHDES already has authority to prevent development of a landfill at a site where surface water impacts could occur, and therefore, HB 1454 is not necessary. For example, under existing New Hampshire regulation, there is a landfill siting requirement for a hydrogeologic study demonstrating "the potential release of contaminants to surface waters can be prevented, attenuated or otherwise remediated." This rule requires the landfill applicant demonstrate that the proposed landfill is sited in an area where the potential

release of contaminants can be addressed to prevent impact to surface waters. *See discussion in Section 1.*

2. **Existing Landfill Setback Requirements are Protective of Surface Water:** Proponents of HB 1454 suggest that New Hampshire's existing 200-foot setback for landfills to surface water is inadequate without taking into account that this is a minimum setback requirement. As discussed in the previous bullet, NHDES regulations also require the applicant demonstrate that a proposed project will be protective of surface waters. *See discussion in Section 1.*
3. **Unsupported Rationale for a 5-Year Travel Time Restriction:** Proponents of HB 1454 have suggested that the Bill's approach was adopted from a USEPA approach used for evaluating siting industrial facilities relative to public drinking water supplies ("source water") protection areas. While the proposed approach in HB 1454 may be generally similar in some ways to USEPA guidance, there is a critical difference: the USEPA and New Hampshire Source Protection Rules do not include restrictions 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. Further, HB 1454 requires calculation of the 5-year distance-of-travel to be based on the maximum seepage velocity value, which is not consistent with standard hydrogeologic practice for calculating a representative sitewide value. Thus comparing HB 1454 to USEPA source protection guidance is not fully accurate – source protection guidance does not prohibit specific land uses, including landfills. Why should landfills be restricted based on this approach when no other industry in New Hampshire is restricted in this manner? *See discussion in Section 2.*
4. **Actual Comparison of Setbacks to Other Northeastern States:** Proponents of HB 1454 have referenced a 6-year travel time to surface water as a siting restriction for landfills in Maine. This is not a full characterization of the Maine regulations. Maine does have a 6-year travel time to surface water requirement for landfill siting; however, it is important to understand that Maine regulations allow "offsets" for certain design and monitoring approaches. Features such as additional liners, leak detection systems, creation of a contingency plan, and a remedial action funding mechanism can be used to reduce the 6-year travel time requirement. Theoretically, offsets could be used in some cases to reduce the 6-year requirement to zero. Therefore, a direct comparison of the 6-year travel time in Maine to the 5-year travel time proposed for New Hampshire is not a fully accurate or representative comparison. *See discussion in Section 3.*
5. **Inconsistencies Between Regulation of Existing and Proposed Facilities:** If adopted, the approach proposed under HB 1454 would create a major inconsistency between how new and expanded landfill facilities are regulated. A new facility that is virtually identical in design, construction, and operation to an expanded facility would face significantly different regulatory requirements in terms of groundwater travel time. HB 1454 could create the possibility that facilities having the same liner systems, leachate and gas collection systems, waste types, and capacities would be regulated very differently. A major anticipated result of HB 1454 would be to bias future landfill development in New Hampshire toward expansion at existing landfills because existing

sites would not be subject to the 5-year groundwater travel time restriction. Biasing future landfill development strongly in favor of existing facilities is not prudent for the future of the state's solid waste management. *See discussion in Section 4.*

6. **Invalid Assumptions of the 5-Year Groundwater Travel Time as a Screening Tool:** Proponents of HB 1454 have portrayed the approach as a "simple and verifiable" tool for NHDES to use "early on" in the permitting process to screen sites for landfill development. The argument that groundwater travel time should be used as a screening tool in this manner carries with it a major assumption: that there are a large number of sites in New Hampshire on which to develop landfills. This assumption is not valid. Given the practical considerations for siting a landfill (for example: properties of sufficient size, suitable slopes and soils, and access to transport routes), and the numerous setback requirements for landfills, there simply are not a large number of properties available in New Hampshire on which to site a landfill. If a suitable site were to have a groundwater travel time even marginally less than 5 years – say 4 to 4.5 years, it would be disqualified from consideration for landfill development. To potentially prohibit landfill development at otherwise suitable sites based on an arbitrary groundwater travel time is not prudent for the future of the state's solid waste management. *See discussion in Section 5.*

These points are discussed in additional detail below.

DETAILED DISCUSSION

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 therefore an additional provision in law is not necessary. Key portions of 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)*¹, and require compliance with groundwater protection standards², and that the applicant demonstrate by hydrogeologic study that "the potential release of contaminants to surface waters can be prevented, attenuated or otherwise remediated."

¹ <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Sw%20800.pdf>

² Env-SW 804.02 requires compliance with Groundwater Protection Standards

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.

1.2 Existing Surface Water Setback Requirements

There has been testimony in earlier proceedings, including at the January 18, 2022 House Environment and Agriculture (E&A) Committee hearing³, that could cause one to conclude that the 200-foot setback for landfills to surface water under 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 Permit⁴ as an

³ The January 18, 2022 Hearing recording is 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>

example to indicate this standard permit condition, and shown the requirement in red outline:

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 at lined landfills. HB 1454's groundwater travel time requirement pertains to releases from "any part of the actual solid waste disposal area". In New Hampshire, solid waste disposal areas are required to be double-lined to contain the waste. As Waste Management Director Michael Wimsatt testified⁵ to the House E&A 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. The regulatory record demonstrates existing New Hampshire laws and rules allow NHDES to maintain adequate groundwater and surface water protection at lined landfills.

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 to the House E&A Committee 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 E&A Committee 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. I am not aware if Representative Tucker provided supplemental information showing how the "years to cause harm" concept is used in New Hampshire regulations, including to restrict specific property uses.

⁵ Question and response beginning at 5:14:30 of the following video of the January 18, 2022 Hearing:
<https://www.youtube.com/watch?v=2ef68aCI3bM>

Below I summarize several technical issues with the arbitrary 5-year groundwater travel time approach:

- a. HB 1454 states “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”. 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 during the time required for groundwater to flow from the landfill footprint to the nearest surface water. Corrective actions to mitigate a potential release that presents a significant threat to groundwater or surface water would be required by NHDES much sooner than five years.
- b. As proposed, HB 1454 focuses on establishing a single benchmark for groundwater travel time to 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 1 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 is not 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, because HB 1454 uses a single, arbitrary groundwater travel time, it could prohibit development of a landfill site, even if there is low likelihood of a contaminant arriving at surface water at detectable concentrations.
- c. HB 1454 requires the 5-year distance-of-travel for the site to be calculated using the maximum seepage velocity value. Given that permeability values can vary over several orders of magnitude, using the maximum seepage velocity value is unlikely to be representative of the entire site. Because of this potential lack of representativeness, the requirement to use the maximum seepage velocity value for the site is not consistent with standard hydrogeological assessments, which recognize that seepage velocities are variable, and typically calculate a sitewide representative value from an average of test results from the site.
- d. 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 regarding travel time calculation such as: What test 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 technical sense to use the maximum value or establish such a hard-and-fast, single groundwater travel time benchmark for siting a landfill.

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 Program⁶ and Source Water Assessment Program⁷, 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
<p>Established to help communities perform the following:</p> <ul style="list-style-type: none"> • 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. 	<p>Established state drinking water programs responsible for the following:</p> <ul style="list-style-type: none"> • 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 an arbitrary groundwater travel time is not used in source protection because it is not a technically rigorous approach.

The current New Hampshire Source Protection Rules⁸ regulations do not include restrictions 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

⁶ https://www3.epa.gov/region1/eco/drinkwater/pc_wellhead_protection.html

⁷ https://www3.epa.gov/region1/eco/drinkwater/pc_sourcewater_assessment.html

⁸ <https://www.des.nh.gov/climate-and-sustainability/conservation-mitigation-and-restoration/source-water-protection>

siting rules for small systems (Env-Dw 305)⁹ and large systems (Env-Dw 302)¹⁰ 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.

There is no technical basis in New Hampshire law for taking a concept reportedly developed for evaluating public drinking water source protection and subjectively modifying and adopting it for restricting siting of landfills relative to certain surface water bodies. The absence of technical basis is particularly evident in HB 1454 because the New Hampshire public drinking water source protection rules do not include prohibitions on property uses based on groundwater travel time. Why should landfills be restricted based on this approach when no other industry in New Hampshire is restricted in this manner?

3.0 ACTUAL COMPARISON OF SETBACKS TO OTHER NORTHEASTERN STATES

Attachment 1 summarizes setback distance requirements from landfills to surface water in Maine, Vermont, and New York.

Proponents of HB 1454 have referenced^{11,12} a 6-year travel time to surface water as a siting restriction for landfills in Maine. This is not a full characterization of the Maine regulations. Maine regulations¹³ include a 6-year travel time to surface water requirement, but the regulations allow “offsets” (one offset is equivalent to one year of groundwater travel time) for certain design and monitoring approaches. Features such as additional liners, leak detection systems, creation of a contingency plan, and remedial action funding mechanism can be used to reduce the 6-year travel time requirement. Theoretically, offsets could be used in some cases to reduce the 6-year requirement to zero. Groundwater travel time offsets included in the Maine regulations are excerpted below.

⁹ <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Dw%20305.pdf>

¹⁰ <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/Env-Dw%20302.pdf>

¹¹ February 8, 2022 House Environment and Agriculture Committee Work Session:
https://www.youtube.com/watch?v=SAxBucp0i_k

¹² February 22, 2022 House Environment and Agriculture Committee Hearing:
<https://www.youtube.com/watch?v=Ggkrf6zWDbE>

¹³ <https://www.maine.gov/sos/cec/rules/06/096/096c401.doc>

Excerpted Table 1 of Maine's Improvement Allowance System Maine Solid Waste Management Rules Chapter 401 Landfill Siting, Design and Operation [06-096 CMR ch. 401 2(D)(2)]:

The improvement allowances in Table 1 afford sufficient design, monitoring or management benefits to provide the equivalent time of travel offsets specified in the table. Other alternative improvement allowances may be considered by the Department if the applicant can demonstrate that the alternative allowance equals or exceeds the performance standard of the listed allowance. For the purposes of this subsection, one offset is equivalent to one year of ground water time of travel.

TABLE 1

(in years)

Improvement Allowance Description		Offset
1a.	Addition and monitoring of a leak detection system underlain by a 40 mil HDPE liner beneath the primary liner system;	2
1b.	or Addition of composite liner(s) and a leak detection system	3
2.	Artificial creation and maintenance of ground water discharge conditions into the facility structures	1
3.	Creation of a contingency plan including necessary action trigger levels and remedial action funding mechanisms	2
4.	Creation of an innovative performance monitoring program and/or creation of an intensive environmental monitoring program exceeding the standards of 06-096 CMR ch. 405.	To be determined, but no more than 2
5.	For the expansion of an existing facility only, and in conjunction with at least the addition of a composite liner and leak detection system, the addition of engineered systems that will improve existing ground and/or surface water quality conditions.	To be determined, but no more than 2

As indicated on the excerpt above, it is possible that other alternative improvement allowances may also be considered by the Maine Department of Environmental Protection.

A number of the "Improvement Allowance" offsets indicated above (for example: secondary liner, leak detection monitoring, contingency plan, financial assurance) are standard requirements for landfills in New Hampshire. Also, it is worth noting that with Improvement Allowance 2, Maine allows groundwater discharge into solid waste facility structures, whereas New Hampshire requires a 6-foot separation from the liner system to underlying groundwater. Therefore, a direct comparison of the 6-year travel time in Maine to the 5-year travel time proposed for New Hampshire is not an accurate or reasonable comparison.

As indicated in Attachment 1, Vermont and New York do not have travel time based setbacks for landfills to surface water, but rather have fixed setback distances to surface water (Vermont) and surface water used as drinking water (New York).

4.0. INCONSISTENCIES BETWEEN REGULATION OF EXISTING AND PROPOSED FACILITIES BASED ON GROUNDWATER TRAVEL TIME

As amended, 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 surface water bodies, 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. Under HB 1454, a new facility that is virtually identical in design, construction, and operation to an expanded facility would face significantly different regulatory requirements in terms of groundwater travel time. HB 1454 could create the possibility that facilities having the same liner systems, leachate and gas collection systems, waste types, and capacities would be regulated very differently.

A major anticipated result of HB 1454 would be to bias future landfill development in New Hampshire toward expansion at existing landfills because existing sites would not be subject to the 5-year groundwater travel time restriction. Biasing future landfill development strongly in favor of existing facilities is not prudent for the future of the state's solid waste management.

5.0 INVALID ASSUMPTIONS OF THE 5-YEAR TRAVEL TIME RESTRICTION AS A SCREENING TOOL

Proponents of HB 1454, including at the January 18, 2022 House E&A Committee Hearing, have portrayed the approach as a "simple and verifiable" tool for NHDES to use "early on" in the permitting process to screen sites for landfill development.

The argument that the single, arbitrary groundwater travel time should be used as a screening tool in this manner carries with it a major assumption: that there are a large number of sites in New Hampshire on which to develop landfills. **This assumption is not valid.** Under the existing New Hampshire *Env-Sw 800 Landfill Requirements*, there are numerous setback requirements, including but not limited to setbacks for:

- Wetlands
- Perennial surface water bodies (streams, rivers, lakes)
- Flood hazard zones
- Surface water reservoir or intake for community drinking water supply
- Roadways
- Airports
- Property lines
- Residences not owned by applicant

There are also prohibitions on developing landfills on or within the following:

- Existing community water supply well head protection zones¹⁴
- Land susceptible to mass movement (e.g., landslides)
- Karst terrain (limestone, dolomite)
- Geologic faults with displacement in the last 11,000 years

¹⁴ As discussed above in Section 2, the New Hampshire Source Water Protection rules, under which well head protection areas are established, do not prohibit specific land uses – such as landfill – based on a single groundwater travel time.

In addition to these setbacks, there are a number of important considerations for siting a landfill, including but not limited to: distance to nearby water supply wells, a property of sufficient size, suitable slopes, suitable soils, and access to transport routes.

Given the practical considerations for siting a landfill and the numerous setback requirements for landfills, there simply are not a large number of properties available in New Hampshire on which to site a landfill. If a suitable site were to have a groundwater travel time even marginally less than 5 years – say 4 to 4.5 years, it would be disqualified from consideration for landfill development under HB 1454.

This possibility of precluding otherwise suitable sites reinforces the arbitrary nature of the 5-year travel time restriction because corrective actions to mitigate a potential release that presents a significant threat to groundwater or surface water would be required by NHDES much sooner than five years. As such, HB 1454's approach of screening sites "early on" in the permitting process could needlessly eliminate suitable candidate sites from consideration.

To potentially prohibit landfill development at otherwise suitable sites based on an arbitrary groundwater travel time is not prudent for the future of the state's solid waste management.

6.0 CLOSING

As a groundwater professional actively engaged in managing environmental monitoring at solid waste landfills in the State of New Hampshire, it is my opinion that there is no technical basis in New Hampshire law for a 5-year groundwater travel time in prohibiting land use, including landfills.

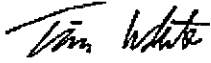
Further, it is my opinion that the permitting experts at NHDES currently have the administrative tools necessary to adequately evaluate landfill applications on a site-by-site basis and maintain adequate groundwater and surface water protection. I base my conclusion on the fact that existing New Hampshire 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.

In closing, I hope this information helps the Committee clarify the protections to surface water provided by the existing NHDES landfill siting and permitting requirements. Amended HB 1454 should be struck down because of its arbitrary requirement for groundwater travel time and the redundancy with current NHDES regulations.

Thank you for the opportunity to provide this 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

Attachment

Attachment 1 - Summary of Minimum Solid Waste Landfill Setback Distances to Surface Water

Attachment 1
Summary of Minimum Solid Waste Landfill Setback Distances to Surface Water

State	Minimum Setback Distance to Surface Water	Notes	Reference
Maine ^{1,2}	<p align="center">Performance Standards³:</p> <p>6 year groundwater travel time to “sensitive receptors” from landfill and leachate pond liner systems;</p> <p>3 year groundwater travel time to “sensitive receptors” from leachate storage structures and pump stations.</p> <p>Offsets to travel time restrictions may be gained through the use of improvement allowances pursuant to Section 2.D(2).</p>	<p>“Sensitive receptor” definition includes Class AA, A, and B surface water bodies and great ponds, as well as other non-surface water features [Ch 400.1.Aaa].</p> <p>Section 2.D(2) allows various travel time offsets to be gained (for example for additional liners and leak detection systems, and creation of a contingency plan and remedial action funding mechanism). Offsets could potentially reduce the 6-year travel time requirement to zero.</p>	ME DEP Solid Waste Management Rules 06-096 CMR ch. 401 1.C(1)(c)
	<p align="center">Prohibitive Siting Criteria⁴:</p> <p align="center">1,000 feet</p> <p>(from “waste handling area” to Class AA or SA waters)</p>	Ch. 401 1.C(1)(d) also requires that “Contaminant releases from the area within the solid waste boundary must not pose an unreasonable threat to sensitive receptors”.	ME DEP Solid Waste Management Rules 06-096 CMR ch. 401 1.C(2)(a)
	<p align="center">Restrictive Siting Criteria⁵</p> <p align="center">100 feet</p> <p>(between a solid waste boundary and a “surface water body”, and between the “waste handling area and classified surface water”)</p> <p align="center">1,000 feet</p> <p>(between a “solid waste boundary and any water supply spring at the time the Preliminary Information Report is filed”)</p>	Minimum setbacks to other non-surface water features are also included in Ch. 401 1.C(3)(a)	ME DEP Solid Waste Management Rules 06-096 CMR ch. 401 1.C(3)(a)(iv),(v), and (vi)
Vermont ⁶	<p align="center">300 feet</p> <p>(from “waste management boundary” to “waters”)</p>	The regulations also include minimum acceptable subsurface permeability values for underlying soils.	VT DEC Solid Waste Management Rules; Table B in § 6-703
New York ⁷	<p align="center">500 feet</p> <p>(from landfill to “surface waters actively used as sources of municipal drinking water supply”).</p>	The regulations also require sufficient horizontal separation to protect surface water quality for use as drinking water [363-5.1(d)(2)].	NYSDEC 6 CRR-NY IV B 363-5.1(d)

¹ <https://www.maine.gov/sos/cec/rules/06/096/096c400.doc>

² <https://www.maine.gov/sos/cec/rules/06/096/096c401.doc>

³ Ch. 401.1.c(1); see discussion on table regarding possible offsets to travel time restrictions with improvements.

⁴ Ch. 401.1.c(2); no variance is allowed for Prohibitive Siting Criteria.

⁵ Ch. 401.1.c(3); variances may be granted for some Restrictive Siting Criteria.

⁶ https://dec.vermont.gov/sites/dec/files/documents/SWRRule.final_.pdf

⁷ [https://govt.westlaw.com/nycrr/Document/Id4d6f24bdf911e7aa6b9b71698a280b?viewType=FullText&originati onContext=documenttoc&transitionType=CategoryPageItem&contextData=\(sc.Default\)](https://govt.westlaw.com/nycrr/Document/Id4d6f24bdf911e7aa6b9b71698a280b?viewType=FullText&originati onContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default))

Other U. S. states and counties that use TIME-OF-TRAVEL-BASED SETBACKS to surface

Researched by Adam M. Finkel, Sc.D.; Feb. 22, 2022

Note: this is *not* at all a comprehensive list. It is very hard to find these laws and regulations without searching each's states codes manually. So, these are just meant to satisfy any concern that Maine (see #6) is unusual in having adopted a strict time-based standard about 15 years ago.

- 1) **New Jersey:** 2003 guidance gives three zones for protection of water wells, all based on groundwater time-of-travel: 2 years, 5 years, and 12 years. The 2-year setback is used only when bacteria are the contaminant of concern (they don't survive longer in groundwater, whereas chemicals last far, far longer). Key quote (pp. 3-4): "The Department [of Environmental Protection] is not reasonably certain that it can ensure containment of pollution from a known discharge at times of travel ranging from two to five years" (so that's why they recommend *at least* 5, perhaps 12, years for chemical pollution). See <https://www.state.nj.us/dep/njgs/whpaguide.pdf>
- 2) **Washington:** 2010 guidance delineates 4 zones based on time of travel: 6 months, 1 year, 5 years & 10 years. It recommends localities choose either *5 years or 10 years* when source is a landfill.
<https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs//331-018.pdf>.
- 3) **Minnesota:** 2021 document recommends 5 years.
<https://www.pca.state.mn.us/sites/default/files/c-prp4-01.pdf>
- 4) **Wisconsin:** current guidance (<https://dnr.wisconsin.gov/topic/DrinkingWater/swpDelineations.html>) sets a 5-year time-of-travel setback.
- 5) **Summit County, Utah:** 2019 ordinance sets 4 zones, 3 of which are time-based at 250 days, 3 years, and *15 years*. For landfills, it allows localities to choose 3 years or 15 years. <https://summitcountyhealth.org/wp-content/uploads/2019/08/Proposed-Ordinance-Summit-County-Groundwater-Source-Protection-.pdf>
- 6) **Maine:** As seen on page 1 of Maine's Solid Waste Management Rules (Sec. 401-1(C)(1)(c)), the DEP there requires a six-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, and even more restrictive criterion that we have **not** incorporated 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 1×10^{-5} cm/sec.

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

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 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."



For a thriving New England

CLF New Hampshire 27 North Main Street
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www.clf.org

April 4, 2022

The Honorable Kevin Avar
Chairman, Senate Energy and Natural Resources Committee
New Hampshire Senate
107 N. Main St.
Concord, NH 03303

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

Dear Chairman Avar 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 protect public health and natural resources, 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, and to protect New Hampshire's people and environment from the pollution and adverse health impacts associated with solid waste.

HB 1454 requires an applicant seeking to develop a new landfill 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 all landfills eventually leak – some slowly over time, others shortly after construction.¹ 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 used 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 water that enters a landfill picks up contaminants from the waste and becomes leachate. What is in the leachate depends on the landfill. However, toxics such as volatile organic

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).



conservation law foundation

compounds, chloride, nitrogen, solvents, phenols, heavy metals, and per-and-polyfluoroalkyl substances ("PFAS") are almost always present. When leachate escapes the landfill, it can enter groundwater threatening nearby drinking water sources and waterbodies such as lakes and rivers. The speed in which contamination can reach nearby waterbodies depends on the amount and type of contamination, solubility of the contaminants, and the velocity of the groundwater at the site. Additionally, fractures in bedrock can allow both groundwater and contaminants to move more rapidly and unpredictably.

HB 1454 will address the concerns associated with contamination from landfills in two 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 after migrating offsite is not a suitable location. Under HB 1454, these sites would no longer be a permissible location for a new landfill. Second, the passage of this bill will ensure there is sufficient time to remediate any potential landfill groundwater impacts prior to contaminants entering a river, stream, lake, or other body of water.

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,

A handwritten signature in black ink, appearing to read 'Heidi Trimarco', is written over a light blue horizontal line.

Heidi Trimarco
Staff Attorney

Conservation Law Foundation

Good morning. Chairman Avard & the Senate Committee on Energy & Natural Resources

If here to speak in support of HB 1454 because 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. I want to emphasize, waste and waste management as well as the preservation of clean water is a statewide issue, which is why I became involved in what to some seemed like a local issue in Coos County.

Part of Grafton #2 is representing Sugar Hill and Franconia, home of the Cooley-Jerricho Trail, Cannon Mountain and Franconia Notch State Park. I have concerns knowing that while the proposed landfill could be over 12 miles away, ground water contamination can impact the Gale River, Echo Lake and the Ammonoosuc River which can harm area residents drinking water, visitors enjoying the swimming, fishing or boating and the irrigation of area organic farms.

Rather than talk about the theoretical, I'd like the Committee to hear two examples of the "years-to-cause-harm" concept in Coös County.

Per the expertise and advice from Dr. Adam Finkle, the application that is pending at DES for an expansion of the existing landfill at Mt. Carberry near Berlin provides data showing that contaminated groundwater from that site would take "60 to 150 YEARS" to reach a tributary of the Androscoggin River. The velocity was found to be about 50 feet per YEAR there; it is located in appropriate soils and bedrock.

In sharp contrast, the applicant that has a pending, but still incomplete, application to install a landfill in Dalton has already estimated the groundwater flows at 9.5 feet per DAY or faster at that site. If the setback now listed in NHDES's Administrative Code remains at 200 feet from a surface water body, then the agency might have only as few as 21 DAYS at a site like this, to notice and respond to a leak at this site where groundwater flows so quickly towards the Ammonoosuc River. It's not acceptable to force the people living in or visiting NH to susceptible to this environmental danger that could occur in just three weeks.

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. The protection of perennial rivers, lakes, and coastal waters from contamination is in the public interest of the entire state of New Hampshire. HB 1454 can help protect NH's environment, its economy and its residents.

Rep. Timothy T. Egan
Grafton #2

Daley Frenette

From: Ian Oxenham <ian.r.a.oxenham@gmail.com>
Sent: Monday, April 4, 2022 7:46 PM
To: Kevin Avard; Bob Giuda; James Gray; David Watters; Rebecca Perkins Kwoka
Cc: Daley Frenette
Subject: Written Testimony in Opposition to HB 1629

Dear Chairman Avard and Members of the Energy and Natural Resources Committee:

I oppose HB 1629 because it would allow utilities to charge customer-generators far more for default service than the cost of providing default service to them. For reasons I explain below, HB 1629 proposes to stop crediting certain net-metered exports for numerous cost components of default service that such exports actually avoid. That necessarily means utilities will assess default service charges on customer-generators that significantly exceed the net cost of providing them with default service. HB 1629 thus effectively proposes to impose punitive and economically inefficient charges on customer-generators for doing nothing more than advancing New Hampshire's official policy of increasing in-state renewable energy generation.

To begin with, it is important to understand that New Hampshire utilities do not acquire the energy they use for default service by participating in ISO New England (ISO-NE) markets directly. Rather, they hire suppliers via competitive bidding processes to act as middlemen and perform that work for them. The suppliers then provide the utilities with a bundled product that includes all required energy, capacity, and ancillary services, for which an individual utility will pay an individual supplier a set price per megawatt-hour (MWh). That price also includes hedging costs and the supplier's profit margin. The utility then pays that set price for every MWh the supplier delivers to the utility's wholesale meter point.

Net-metered exports avoid the full cost of everything included in that bundled energy product by reducing the amount of energy the supplier delivers to the wholesale meter point. This is because net-metered energy exports are delivered to other customers on the same distribution system, thereby reducing the amount of energy the supplier delivers to that distribution system's wholesale meter point. Consequently, every kilowatt-hour (kWh) a net-metered system exports reduces the supplier's energy deliveries to the utility by a kWh. That in turn means the utility avoids paying the full price of the bundled product of energy, capacity, and ancillary services, including hedging costs and the supplier's profit margin. Net-metered exports thus actually avoid the energy, capacity, ancillary service, hedging costs, and supplier profit cost components of default service. Moreover, in the case of small customer-generators, exports that net out imports within the same month also avoid RPS compliance costs for the utility.

To illustrate, consider a hypothetical small, residential customer-generator taking default service from Eversource under the 2.0 net metering tariff. Eversource's current default service rate for residential customers is 10.669 cents per kWh, a value I will round 10.5 cents per kWh. That default service rate represents Eversource's combined cost of RPS compliance and purchasing energy bundled with capacity and ancillary services from a supplier. Let us also assume that our hypothetical customer-generator imports 500 kWh from Eversource's distribution grid and exports 400 kWh to that distribution grid in a given month. At 10.5 cents per kWh, Eversource's gross cost of providing 500 kWh worth of default service to the customer-generator is \$52.50 (this is a slight simplification, as technically Eversource would only incur gross RPS compliance costs for its 100-kWh worth of net deliveries). However, by exporting 400 kWh of energy to the distribution grid, the

customer-generator reduces the amount of energy Eversource has to purchase from its supplier by 400 kWh and relieves Eversource from paying RPS compliance costs for 400 kWh as well. At 10.5 cents per kWh, that means those exports save Eversource \$42.00 in avoided default service costs. Thus, the net cost to Eversource of providing default service to the customer-generator in that month was \$52.50 minus \$42.00, that is, \$10.50.

Under the current net metering design, that is also what the customer-generator would pay for default service. This is because they are only assessed default service charges based on the net amount of electricity they draw from the grid in a given month. As the customer-generator's net imports were only 100 kWh, they would be charged exactly \$10.50 at a default service rate of 10.5 cents per kWh. In other words, they pay Eversource's net cost of providing them with default service.

Yet if HB 1629's proposed regime applied to the customer-generator, they would be forced to pay Eversource nearly *three* times Eversource's net cost of providing them with default service. This is because the HB 1629 regime would only compensate the customer-generator for the avoided "raw energy," or more precisely the locational marginal price (LMP), cost component of the default service rate. Using ISO New England data on the average monthly locational marginal price (LMP) in New Hampshire, I calculate that the average LMP in New Hampshire over the January-2021-to-January-2022 period was \$55.29 per megawatt-hour (MWh), which works out to about 5.5 cents per kWh. If the customer-generators' 400 kWh of exports were only credited at this rate, they would receive \$22.00 worth of bill credits for exports that actually saved Eversource \$42.00. Eversource would then bill the customer-generator \$30.50 (\$52.50 minus \$22.00) for providing the customer-generator with their monthly default service, even though Eversource only incurred \$10.50 in providing that service. Such a large discrepancy between Eversource's cost of providing default service to customer-generators and what they would be charging for doing so is patently unjust and unreasonable.

It is also worth note that net metered generation produces significant capacity cost savings for ratepayers across New England. Specifically, ISO-NE calculates that in 2020 net-metered solar in New England reduced net annual peak load by about 800 megawatts (MW) (see table 3.2 in linked document). That is because net-metered generation, including net-metered generation exported to local distribution grids, reduces load on the bulk regional grid and is thus a load reducer from ISO-NE's perspective. As the Forward Capacity Market (FCM) clearing price in the 2020/2021 capacity commitment period was \$5.30 per kilowatt-month (or \$63,600 per MW-year), this means net-metered generation saved New England ratepayers at least \$50 million in avoided capacity costs during that commitment period alone. I say at least because once one accounts for how reduced demand for capacity due to net-metered solar suppresses the FCM clearing price, the true avoided capacity costs savings are significantly greater. Indeed, clearing prices in the 2021 FCM auction were less than 40% of what they were in the 2016 auction, a result that ISO-NE's External Market Monitor attributes to declining load driven primarily by increased energy efficiency and net-metered solar (see page 5 of linked document). Even if one conservatively assumes that net-metered solar only caused 10% of that fall in FCM clearing prices, net-metered solar would still generate hundreds of millions of dollars in capacity cost savings for ratepayers *every year*.

The fact that net-metered exports actually avoid such costs beyond the cost of "raw energy" is also why language in the template Community Power Aggregation Plan drafted by the Community Power Coalition of New Hampshire credits net-metered exports at the full energy service rate. Furthermore, my understanding is that multiple community power aggregations are adopting that template language. In other words, community power aggregations are voluntarily choosing, in the absence of any legal requirement, to credit net-metered exports at the same rate they charge for energy sales. They are doing so because crediting net-metered exports at that rate accurately reflects the costs such exports avoid.

• Yet HB 1629 irrationally proposes to ascribe an arbitrary value of zero to all such avoided default service costs except for the cost of “raw energy.” That is fundamentally wrong-headed from both a ratemaking and public policy standpoint, not to mention unfairly punitive to customer-generators. I therefore urge the Committee to find this bill inexpedient to legislate.

Sincerely,

Ian Oxenham

Ian R. A. Oxenham, Esq., Attorney at Law
New Hampshire Bar ID 272771
603-443-2465

Daley Frenette

From: Peter Bixby
Sent: Monday, April 4, 2022 9:27 PM
To: Kevin Avard; %20Bob.Giuda@leg.state.nh.us; %20James.Gray@leg.state.nh.us; %20Rebecca.PerkinsKwoka@leg.state.nh.us; %20David.Watters@leg.state.nh.us; %20daley.frenette@leg.state.nh.us
Subject: Amendment for HB 1454
Attachments: HB 1454 - 2022-1052h.pdf

Members of the Senate E&NR committee:

You will be hearing HB 1454 tomorrow. In my testimony, I will be presenting an amendment that corrects a drafting error in the version that passed the House. That version was missing the units of measurement for the groundwater velocity measurement and the time of travel calculation. The amendment adds those units. I have attached the amendment and will also bring copies to the hearing.

Thank you,
Peter Bixby

Rep. Bixby, Straf. 17
March 9, 2022
2022-1052h
08/04

Floor Amendment to HB 1454-FN

1 Amend RSA 149-M:9, XIV(a)(1)-(2) as inserted by section 2 of the bill by replacing it with the
2 following:

3

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

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

Daley Frenette

From: Jim McClammer <mcclammer@aol.com>
Sent: Wednesday, April 13, 2022 10:40 AM
To: Kevin Avard; Bob Giuda; Rebecca Perkins Kwoka; David Watters; Daley Frenette
Subject: Please vote OTP on HB 1454, Relative to permits for the siting of new landfills
Attachments: CVES HB1454Testimony.pdf

Good Morning Senators,

Because I believe this bill should be passed to protect our surface waters, I attended the hearing on April 5th to speak to the merits of the bill. Unfortunately, I was not provided an opportunity to give oral testimony.

I am now asking that you please read my letter and should you have any questions please feel free to contact me at 603-826-5214.

Sincerely,

Jim McClammer
Connecticut Valley Environmental Services, Inc.
Charlestown, NH

-----Original Message-----

From: Jim McClammer <mcclammer@aol.com>
To: Kevin.Avard@leg.state.nh.us <Kevin.Avard@leg.state.nh.us>; Bob.Giuda@leg.state.nh.us <Bob.Giuda@leg.state.nh.us>; James.Gray@leg.state.nh.us <James.Gray@leg.state.nh.us>; Rebecca.PerkinsKwoka@leg.state.nh.us <Rebecca.PerkinsKwoka@leg.state.nh.us>; David.Watters@leg.state.nh.us <David.Watters@leg.state.nh.us>; daley.frenette@leg.state.nh.us <daley.frenette@leg.state.nh.us>
Sent: Mon, Apr 4, 2022 2:37 pm
Subject: Comments on HB 1454, Relative to permits for the siting of new landfills

Dear Chairman Avard and Honorable Members of the Committee

I strongly recommend that this committee recommend passage of this bill with the minor edits suggested in the attached letter.

Please feel free to contact me if you have any questions.

Sincerely,

Jim McClammer
Connecticut Valley Environmental Services, Inc.
Charlestown, NH

TESTIMONY IN SUPPORT OF HB 1454

Adam M. Finkel, Sc.D.

Dalton, NH; April 5, 2022

Thank you for the opportunity to support this important, common-sense, and environmental/economic win-win piece of legislation. Given the time constraints, I will offer one very brief summary, and then offer 9 one-sentence facts about the bill and its implications. I am available now or at any time to explain, at any degree of detail you want, why each assertion I make here is unequivocally correct. You may hear claims to the contrary; I wish we could have an evidence-based discussion about all this, and I'm happy to participate in one. All I can say is that my own views are based on 35 years of training and experience in environmental science, public health, economics, and law, and 10 years as head of the rulemaking divisions of a major federal health and safety agency, and that I have no financial stake in the outcome.

Summary:

For approximately 30 years, New Hampshire has tried to make do with a landfill siting criterion that is *exactly* what this Committee has called unacceptable. The uniform 200-foot setback between new landfills and surface water is "one-size-fits-all," despite the irrefutable fact that in one location, polluted groundwater can flow as rapidly as 20 feet per DAY, while elsewhere in the same region, groundwater can flow as slowly as 10 feet per YEAR. 200 feet is grossly unprotective, arbitrary, and sets in motion a siting process that wastes hundreds of thousands of dollars for the applicant and thousands of hours of precious DES staff time. *HB 1454 fixes all of that with one simple step*: it asks the applicant to do their required groundwater seepage test at the very beginning of the process, and it disqualifies only those few applicants who wish to build a landfill in extremely porous soil, and very near one of our precious rivers and/or lakes. *The bill is "pro-landfill"—it helps applicants find sensible sites, which can only increase the success rate of worthy projects.*

Nine Facts:

1. HB 1454 is exactly what the doubters asked for when they voted against HB 177. It protects water bodies per se, not state parks. Time-of-travel setbacks are used by various states (Maine—stricter than HB 1454 in 2 ways) and have been recommended by the US EPA for decades. As a senior manager in Maine's DEP wrote to me last week,

Based on Maine's time of travel calculations and contaminated transport analyses which guide the selection of the landfill's design, Maine continues to be successful in siting and developing new solid waste landfills.

2. It will be easy to propose a landfill that meets the criteria in this bill, in any region of New Hampshire. I've handed out a simple chart of speeds of our state's two unlimited-area operating landfills and of the proposed new "third landfill in a row in the North Country." Simple question: do we want the next NH landfill to be 3 weeks away from a lake/river, or 60-100 years away, as Mt. Carberry was and is?

3. No promised miracle technology can substitute for sensible siting. All landfills leak, and some have a history of emergency spill events. I've handed out a brief memo summarizing very recent studies showing that the most state-of-the-art landfills are bound to fail. *When* they fail, and *if* they are sited according to this bill, it will be possible to detect and remedy the damage before it is irreversible.

4. HB 1454 can and will have NO effect on the quantity of, price of, or demand for landfill services. The bill is a simple statement about an obvious "incompatible use." Not being able to build a softball field with floodlights next to any military base has had no effect, anywhere, on the supply of softball fields.

5. Landfill siting implicates competing property rights—and the needs of the many outweigh the whims of the very few. No one has an entitlement to get a permit *approved*, if it is against public policy. HB

1454 merely clarifies that certain unwise applications should be marked "return to sender" so they can be *improved and then approved*.

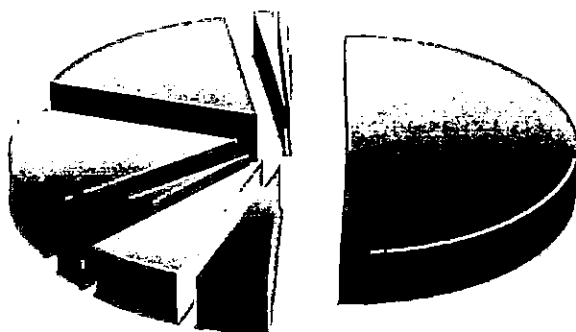
6. Other than Mr. Wimsatt, no one else here can tell you from experience what it's like to run a federal regulatory agency. DES does not and should not resent the setting of broad policy by the Legislature. Indeed, he told the House committee that "taking a look at our setback criteria is an appropriate topic for the Legislature." Mr. Wimsatt worked with Rep. Tucker and me to improve the bill, which we very much appreciate.

7. The claim by industry that DES permit language can cover up regulatory and policy mistakes is hideous. A piece of paper with the words "don't pollute anything" hasn't worked to stop leaks and very prominent spills.

8. HB 1454 in no way constitutes "spot zoning." I've handed out a short legal and policy memo explaining why this claim is completely wrong. In any event, NH law is clear that public health and welfare supersede any claims of "spot zoning."

9. This bill protects the waters of the state for the next century and beyond. It is not a "kill shot" aimed at one misguided project. Perhaps an applicant who has a currently-withdrawn permit will later claim that it nevertheless has an entitlement to be exempted from this legislation; if so, a court will decide that specific claim. So, if HB 1454 happens to be enacted too late to protect Forest Lake and the Ammonoosuc River, that will be a tragedy, but the bill is still needed NOW so the next company that drives by a big sand and gravel sign, between a lake and a river, will know that this state won't entertain a ruinous proposal for no good reason.

Default Service Price 2019



- ▣ Basic energy price
- ▣ Load following energy
- ▣ Supplier profit & risk
- ▣ RPS
- ▣ Capacity
- ▣ Installed Reserve Capacity with Load Factor
- ▣ Short-term reliability service
- ▣ A & G

Item	Product	Cents/kWh
A	Basic energy price	5.079
B	Load following energy	0.468
C	Wholesale supplier profit & risk	0.650
D	RPS	0.275
E	Capacity	1.525
F	Installed reserve capacity with load factor	1.730
G	Short-term reliability service	0.160
H	A & G	0.098
TOTAL		9.985

Item	Basis/Type	Description
A	Market	Average cost for providing a constant quantity of energy in all hours
B	Portfolio Management	The additional energy cost of serving customer's loads that vary from hour to hour
C	Business planning	An estimate of wholesale supplier's revenues to cover price and volume risks and wholesaler's profit
D	Market	Cost to acquire state-mandated RECs
E	Market	ISO-NE payments made to a capacity resource that operates at an 85% capacity factor
F	ISO Charge	Excess capacity purchased to cover load uncertainty, unit availability, and market dynamics

G	ISO Charge	ISO-NE payments made to generation resources dispatched to provide service such as Automatic Generation Control, Forward Reserves, Operating Reserves, and ISO-NE expenses
H	Cost of service	Eversource administrative and general expenses for energy service

WHY IS HB 1454 ABSOLUTELY, POSITIVELY, NOT ANYTHING LIKE “SPOT ZONING”?

Adam M. Finkel; March 2022

Against the hundreds of NH voters who have testified in favor of, or indicated support for, HB 1454, there have been three voices in opposition to date. One of these works for an engineering firm, and told the House Environment and Agriculture Committee that the bill is not necessary because DES issues permits that say things like “the operator shall not pollute groundwater.” I wrote a letter to the E&A Committee (att.) at the time rebutting all of those arguments.

The other two opponents have charged that HB 1454 is improper because it implements a “spot zoning” plan to block one or more particular projects (so far, we’ve seen this argument made in an article in *InDepthNH* (<https://www.libertymedianh.org/casella-aims-to-open-dalton-landfill-with-lawsuit-if-necessary/>) and in the comments section of the *Caledonian-Record* (https://www.caledonianrecord.com/news/local/nh-house-bills-target-changes-to-solid-waste-management-landfill-siting/article_e12a15e4-9b2d-5fe3-8b98-4b8afab11f74.html)).

This claim is nonsense, and has no basis in law or fact. Here are some of the many reasons why it makes no sense, and is quite misleading, to call HB 1454 “spot zoning”:

- *Legislatures do not “zone”—municipalities do—but legislatures do make policy.* The definition of spot zoning is the “singling out a small parcel of land for a use classification totally different from that of the surrounding area *for the benefit of the owner of such property and to the detriment of other owners.*” Obviously, this is the opposite of the case here, where the Legislature might STOP the singling out of one parcel for the benefit of the owner and to the detriment of all others!
- In fact, what the House did by passing HB 1454 is to agree that **any** parcel with very porous soil and bedrock underneath it, and a lake or river very nearby, is suitable for many uses, but NOT for the burial of millions of tons of trash. *This is describing an “incompatible use,” no different from dozens of existing laws saying that in earthquake zones, nuclear plants are a bad idea, or that next to kindergartens, taverns are a bad idea.*
- *Even if a municipality was considering HB 1454 rather than the entire state, the controlling NH legal case on “spot zoning” makes it clear that public health for the many trumps the rights of the few, or the one.* The Governor’s own Office of Strategic Initiatives prominently displays this primer on spot zoning

(<https://www.nh.gov/osi/resource-library/zoning/documents/spot-zoning.pdf>), which refers to the 1995 case *Miller v. Town of Tilton* and puts this whole issue to rest thus:

“An area is spot zoned when it is singled out for treatment different from that of similar surrounding land which *cannot be justified on the bases of health, safety, morals or general welfare of the community* and which is nor in accordance with a comprehensive plan.” (emphasis added)

HB 1454 is all about health and safety: it can't be “spot zoning,” because the law says it can't.

- Most oddly, all HB 1454 does is to **change an existing restriction applied uniformly at the state level for decades.** Was it “spot zoning” when DES decided that no landfill could be built within 200 feet of a surface water body? Was it “spot zoning” in 2000 when the U.S. Congress overwhelmingly passed a law (the Wendell Ford Aviation Investment and Reform Act) that said no new landfill *anywhere in the nation* could be built within six miles of an airport? Was it “spot zoning” when the state of Maine (and at least 5 other states) enacted time-of-groundwater-travel restrictions on new landfills near surface waters?

If the few opponents of HB 1454 ever cried “spot zoning!” at any of these NH, state, or federal restrictions in the past, they were wrong then too—but I submit they never complained about these restrictions because they didn't affect them personally.

What you are hearing, Senators, from the few opponents is “spot lobbying.” Please reject it.

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."

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 when 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. Fitch

OTHER U.S. STATES (and counties) WITH TIME-OF-TRAVEL-BASED SETBACKS FROM LANDFILLS
TO SURFACE WATER BODIES

Adam M. Finkel, Sc.D.; March 2022

The basic concept behind HB 1454—that new landfills should not be sited perilously close to NH lakes and rivers, and that “close” should be a flexible distance depending entirely on how quickly contaminated groundwater could reach a water body—*has been in common use in many federal, state, and local laws and recommendations for decades*. The U.S. EPA has recommended “time-of-groundwater-travel” setbacks from sources of industrial pollution since the 1990s.

Anywhere in NH, it is quite possible to dig in an (inappropriate) area where groundwater flows at up to 20 feet per DAY, or in a very appropriate area where the groundwater flows at less than 10 feet per YEAR. In an area full of sand and gravel, pollution can reach a lake a mile away in less than a year, but it can take more than 5 years just to map the pollution and begin the 20-30 year process of treating the groundwater to remove pollutants before they irreversibly ruin a water supply.

I was asked by the chair of the solid waste subcommittee of the House Environment & Agriculture Committee whether there are U.S. states other than Maine (see #6 below) that have set time-of-travel buffers between landfills and surface water. In a very short time, I found 5 more examples. This is *not* at all a comprehensive list. It is very hard to find these laws and regulations without searching each’s state’s codes manually. So these examples are just meant to *amply* satisfy any concern that New Hampshire would be in any way unusual if it adopts a time-based standard to protect its lakes and rivers from toxic leachate and other pollutants.

- 1) **New Jersey:** 2003 guidance gives three zones for protection of water wells, all based on groundwater time-of-travel: 2 years, 5 years, and 12 years. The 2-year setback is used only when bacteria are the contaminant of concern (they don’t survive longer in groundwater, whereas chemicals last far, far longer). Key quote (page 3-4): “The Department [of Environmental Protection] is not reasonably certain that it can ensure containment of pollution from a known discharge at times of travel ranging from two to five years” (so that’s why they recommend *at least* 5, perhaps 12, years for chemical pollution). See <https://www.state.nj.us/dep/njgs/whpaguide.pdf>
- 2) **Washington (state):** 2010 guidance delineates four zones based on time of travel: 6 months, 1 year, 5 years, and 10 years. It recommends localities choose either *5 years or 10 years* when the source is a landfill. See <https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs//331-018.pdf>
- 3) **Minnesota:** 2021 document recommends 5 years.
<https://www.pca.state.mn.us/sites/default/files/c-prp4-01.pdf>
- 4) **Wisconsin:** current guidance (<https://dnr.wisconsin.gov/topic/DrinkingWater/swpDelineations.html>) sets a 5-year time-of-travel setback.

- 5) **Summit County (Utah):** 2019 ordinance sets four zones, three of which are time-based at 250 days, 3 years, and *15 years*. For landfills, it allows localities to choose 3 years or 15 years. https://summitcountyhealth.org/wp-content/uploads/2019/08/Proposed-Ordinance_Summit-County-Groundwater-Source-Protection-.pdf
- 6) **Maine:** 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 *six 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, and even more restrictive criterion that we have **not** incorporated 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 1×10^{-5} cm/sec.

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

One other point: 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 Alpine Brook (a tributary of the Androscoggin River). The Carberry application also concluded that the 150-year window "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."

"ALL LANDFILLS WILL LEAK": TRUE IN 1988, STILL TRUE NOW

Adam M. Finkel, Sc.D. (former member, EPA Science Advisory Board)

When U.S. EPA Administrator Anne Gorsuch announced the Agency's new requirements for landfills in July 1982, she said that "the regulations are the nation's insurance policy against the need for future cleanups." EPA scientists echoed her words at the time, stating that "all landfills leak eventually." In 1988, EPA set out newer regulations for municipal landfills (53 *Federal Register*, at 33345), stating unequivocally that "even the best liner and leachate collection systems will ultimately fail due to natural deterioration."

We have heard some amount of vague complaint from lobbyists about these conclusions, on the grounds that they are now "out of date"; that technology has improved since then. This is not the case. First, "happy talk" about how the newest landfills haven't (yet) failed is just that; because there are no "old new landfills," all anyone can truthfully say is that improvements made in recent years establish that failures during the first 20 years of the multi-century life of a state-of-the-art landfill may be unlikely.

More importantly, *peer-reviewed studies continue to demonstrate that in fact, modern landfills do fail:* the geosynthetic liners are prone to being punctured, cracked, or degraded, and the compacted clay liner apparently can't be put in place without developing very large cracks.

Here are quotes from three recent studies, and a Table from a fourth:

Rowe et al (2003): "The geomembrane liner most likely *stopped being effective as a contaminant barrier ... sometime between 0 to 4 years* after the installation."

Regadio et al (2019): "Because containment liners eventually fail independently of their low permeability properties, *landfills are potential "ticking time bombs"* that store and isolate waste until the confined pollutants are accidentally released to the environment in leachate."

Koerner and Koerner (2019): "The opportunity of exhuming and evaluating various components of a double lined landfill system after 23 years of service is presented herein... *The plastic cable ties holding the geonet sheets together were all broken in a brittle manner. The compacted clay liner beneath the secondary geomembrane was observed to have numerous long vertical cracks up to 15 mm wide throughout its thickness.* The intact sections between the longer vertical cracks were striated with smaller cracks in all directions."

Madon et al. (2019):

Table 3

Risk assessments for probabilities of aquifer contamination [%] and median post-closure times for contamination to occur.

	Modern landfill: dry type		Modern landfill: wet type	
P_{MLP}	99.9%	26 years	86.1%	23 years
P_{SLP}	40.0%	72 years	1.4%	0 years
P_{IIP}	75.2%	82 years	0.7%	38 years

P_{MLP} , P_{SLP} , P_{IIP} : probability the aquifer would become moderately, severely or 'irreversibly' contaminated due to landfill leakages at any point in time after landfill closure. Example of table data interpretation: P_{SLP} for wet-type modern landfill appears to be only 1.4%. Median time required for such extremely low-probability event to happen is less than one year.

[explanation: even the "best" modern landfills, either dry or wet type, have a very high probability of at least "moderately" contaminating nearby aquifers, within about 20 years of closure]

New Hampshire cannot hope to protect its surface waters and the health of those who depend on them by engineering alone. The current 200-foot setback between new landfills and lakes/streams is untenable and is an affront to common sense. The experience of Mt. Carberry and Turnkey shows unequivocally that it is easy to site a landfill in a hydrogeologically sensible area, such that WHEN a failure occurs, the nearest surface water body will be decades, not weeks away.

I also emphasize that this short note only refers to "chronic" landfill failure; given the history of "acute" failures—spills, floods, and other above-ground problems, it ALSO makes no sense to allow any landfill within several hundred feet of a river or lake, where today's spill can be tomorrow's irreversible and incredibly expensive long-term cleanup mess.

References:

- Koerner, G.R., and R. M. Koerner (2019). "Case History of an Exhumed Landfill Double Liner System." American Society of Civil Engineers, *Eighth International Conference on Case Histories in Geotechnical Engineering*, 12 pp.
- Madon, I., D. Drev, and J. Likar (2019). "Long-Term Risk Assessments Comparing Environmental Performance of Different Types of Sanitary Landfills." *Waste Management*, **96**: 96-107.
- Regadio, M., J.A. Black, and S.F. Thornton (2020). "The Role of Natural Clays in the Sustainability of Landfill Liners." *Detritus: Multidisciplinary Journal for Waste Resources and Residues*, available at (doi.org) [10.31025/2611-4135/2020.13946](https://doi.org/10.31025/2611-4135/2020.13946).
- Rowe, R.K., H. Sangam, and C. Lake (2003). "Evaluation of an HDPE Geomembrane after 14 Years as a Leachate Lagoon Liner." *Canadian Geotechnical Journal*, **40(3)**: 536-550.

**“ONE SIZE FITS ONE”: HOW SOME LOCATIONS ARE SENSIBLE FOR LANDFILLS, WHILE
OTHER LOCATIONS ARE “ESPECIALLY HEINOUS” (nod to *Law and Order: SVU*)**

Adam M. Finkel, Sc.D.; March 2022

These data and calculations are all derived from published reports *submitted to NH DES by the landfill operators themselves*. The velocities here were measured in shallow bedrock; the velocities would be slightly lower (and the times slightly longer) if I had instead used the measurements also made in the soil (“overburden”) above the bedrock. I suspect, however, that the velocities might be similar or greater had the applicants measured in deeper bedrock.

Site	Velocity (in ft/yr)	Time to Traverse the 200-ft DES setback	Time to Traverse 1 mile *
<i>Mt. Carberry (Berlin)</i>	15	4 YEARS	106 YEARS
<i>Turnkey (Rochester)</i>	584	125 DAYS	9 YEARS
<i>Proposed Granite State Landfill (Dalton/Whitefield)</i>	5,840	12 DAYS	330 DAYS

* I chose 1 mile as a logical unit, but also because the proposed Granite State Landfill will be just slightly over one mile from the Ammonoosuc River (and about 0.4 mile from Forest Lake).

DES permits generally require groundwater monitoring once every 4 to 12 months. *It is therefore folly to allow a landfill to be built where pollution could reach a surface water body such as a lake or river within several weeks or months of a spill, leak, or other failure.* DES would be unlikely even to *know about* a plume of contaminated groundwater before it reached the water body, let alone to map and design a remedy. When contamination has already reached a lake or river, remediation becomes *extremely* difficult and costly, if not impossible.

Other U. S. states and counties that use TIME-OF-TRAVEL-BASED SETBACKS to surface

Researched by Adam M. Finkel, Sc.D.; Feb. 22, 2022

Note: this is *not* at all a comprehensive list. It is very hard to find these laws and regulations without searching each's states codes manually. So, these are just meant to satisfy any concern that Maine (see #6) is unusual in having adopted a strict time-based standard about 15 years ago.

- 1) **New Jersey:** 2003 guidance gives three zones for protection of water wells, all based on groundwater time-of-travel: 2 years, 5 years, and 12 years. The 2-year setback is used only when bacteria are the contaminant of concern (they don't survive longer in groundwater, whereas chemicals last far, far longer). Key quote (pp. 3-4): "The Department [of Environmental Protection] is not reasonably certain that it can ensure containment of pollution from a known discharge at times of travel ranging from two to five years" (so that's why they recommend *at least* 5, perhaps 12, years for chemical pollution). See <https://www.state.nj.us/dep/nigs/whpaguide.pdf>
- 2) **Washington:** 2010 guidance delineates 4 zones based on time of travel: 6 months, 1 year, 5 years & 10 years. It recommends localities choose either *5 years or 10 years* when source is a landfill.
<https://doh.wa.gov/sites/default/files/legacy/Documents/Pubs//331-018.pdf>.
- 3) **Minnesota:** 2021 document recommends 5 years.
<https://www.pca.state.mn.us/sites/default/files/c-prp4-01.pdf>
- 4) **Wisconsin:** current guidance
(<https://dnr.wisconsin.gov/topic/DrinkingWater/swpDelineations.html>) sets a 5-year time-of-travel setback.
- 5) **Summit County, Utah:** 2019 ordinance sets 4 zones, 3 of which are time-based at 250 days, 3 years, and *15 years*. For landfills, it allows localities to choose 3 years or 15 years. https://summitcountyhealth.org/wp-content/uploads/2019/08/Proposed-Ordinance_Summit-County-Groundwater-Source-Protection-.pdf
- 6) **Maine:** As seen on page 1 of Maine's Solid Waste Management Rules (Sec. 401-1(C)(1)(c)), the DEP there requires a six-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, and even more restrictive criterion that we have **not** incorporated 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 1×10^{-5} cm/sec.

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

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 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."

Connecticut Valley Environmental Services, Inc.
Charlestown, New Hampshire

April 4, 2022

Senate Energy and Natural Resources Committee
Sen. Kevin Avard, Chair
107 North Main Street
Concord, NH 03301

Re: HB 1454, Relative to permits for the siting of new landfills.

Dear Chairman Avard and Honorable Members of the Committee:

I support HB 1454 which will prevent contaminated groundwater from a solid waste disposal area from reaching surface waters. Simply put, because landfills contain concentrated sources of contaminants, these facilities must be carefully sited to protect our State's most valuable resource – water.

I have advanced degrees in natural resource science and more than 30 years of experience as a consulting natural resource and land use scientist in New England. I am certified as a wetland scientist by the State of New Hampshire and served as a New Hampshire State Representative on the House Resources and Development Committee from 2008-2010. I have participated in formulating local, state, and federal water protection policies in a variety of capacities, including as a member of my local planning board as well as the Upper Valley Lake Sunapee Regional Planning Commission; participant in the New Hampshire Department of Environmental Services (DES) Water Quality Standards Advisory Committee; and as a gubernatorial-appointed commissioner on the Connecticut River Joint Commissions.

I believe HB 1454, which requires the determination of the distance groundwater will travel in five years, will make a significant contribution to protecting our surface waters. This bill is clearly consistent with existing provisions in statute (e.g., RSA 485-A:8) and regulations (e.g., Chapter Env-Wq 1700 Surface Water Quality Regulation) whose purpose is to protect existing and designated uses of our waters. These rules are specifically intended "to protect public health and welfare, enhance the quality of water and serve the purposes of the Clean Water Act and RSA 485-A. These standards provide for the protection and propagation of fish, shellfish, and wildlife, and provide for such uses as recreational activities in and on the surface waters, public water supplies, agricultural and industrial uses, and navigation..." (Env-Wq 1701.01).

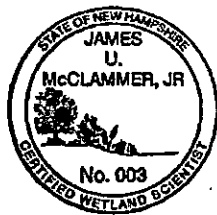
I suggest three minor editorial changes to the bill as currently drafted. First, in "2 New Paragraph; Landfill Permits; **Surface Ground** Water Protection". Second, in "(1) The applicant shall hire an independent hydrogeologist at the applicant's expense, to estimate based upon adequate and representative on-site field testing, the seepage velocity of groundwater in both ~~overburden/till~~ **surficial geological deposits** and in bedrock". Lastly, in "(2) The 5-year distance-of-travel estimate shall be

calculated by multiplying the distance groundwater will travel at the maximum seepage velocity in one year by 5”.

Fifty years ago, passage of the federal Clean Water Act (“Act”) conveyed primary responsibility for protecting “waters of the United States” to the federal government and delegated administration of the law to the Army Corps of Engineers (“Corps”) and the United States Environmental Protection Agency (“EPA”). The Act passed with broad bipartisan support in both houses of Congress who agreed that the Corps and EPA had the expertise to administer the law, with the understanding the federal courts could intervene when agency overreach was suspected. Over time, challenges to the Act have occurred, definitions have been refined, and through the creation of federal tools such as watershed grants and general permits the federal government has down-shifted much of its stewardship role to the states.

In New Hampshire, this stewardship role is implemented by the DES under guidance enacted through statutes by this legislature. Protecting waters held in public trust may at times appear contrary to goals of protecting private property rights. However, in my opinion, it is the responsibility of this body to prevent degradation of our public waters which will ensure each citizen’s right to use those waters is preserved.

Therefore, I strongly recommend that this committee recommend passage of this bill with my minor edits discussed above. Thank you for the opportunity to comment on this bill, and should you have any questions, please feel free to contact me at McClammer@aol.com.



Sincerely,

James U. McClammer, Jr.
 Former NH State Representative
 NH Certified Wetland Scientist #003
 President & Senior Environmental Scientist
 Connecticut Valley Environmental Services, Inc.

Testimony of Rep. Troy Merner on HB 1454 [4/5/22]

Thank you for hearing my testimony, Mr. Chairman and members of the Senate Environment and Natural Resources Committee. I'm Rep. Troy Merner of Lancaster, who represents Coös 7. I'm a co-sponsor of HB 1454 and a member of the House Science, Technology and Energy Committee.

- Passage of HB 1454 will fix the current Department of Environmental Services' "one-size-fits-all" 200-foot setback for new landfills from rivers, lakes, and coastal waters.
- If enacted, it would replace today's arbitrary and unprotective setback with one that is based on site-specific, science-based hydro-geological measurements of groundwater flow. This is what this Senate Committee asked for when its members were asked to support HB 177.
- This new setback would guarantee a 5-YEAR window to address any landfill leak, spill, or failure, preventing contamination of New Hampshire's valuable surface waterbodies.
- This bill - based on science - is truly a bi-partisan bill that was vetted by a good-sized group of legislators and concerned citizens from both Coös and Grafton counties.
- The bill as originally written was also vetted by Director Mike Wimsatt of the state Department of Environmental Services, resulting in a shorter version that eliminated the sections that had concerned him and staff members.
- This bill will help NHDES protect all our rivers and lakes all across our state.



— A C T —
AMMONOOSUC
CONSERVATION
T R U S T

March 31, 2022

New Hampshire Senate Energy & Natural Resources Committee
Mr. Kevin Avard, Chairman
c/o Senate Chamber
107 North Main Street
Concord, New Hampshire 03301

Subject: Support for HB 1454 (Help Us Protect NH Bodies of Water)

Dear Chairman Avard and Committee Members,

Please accept our support for this extremely important bill – the health of our State residents and visitors, wildlife, flora and fauna are at risk unless passed and enacted.

We have recently accepted the \$50,000 settlement from the lawsuit filed by the Conservation Law Foundation and Community Action Works against Casella Waste Management and North Country Environmental Services for contamination of the Ammonoosuc River from the current landfill in Bethlehem. The funds will be used for projects designed to promote restoration, preservation, protection, and/or enhancement of water quality in the Ammonoosuc River watershed.

As you know, the State currently has no surface water PFAS standards. With current setbacks at 200', our surface water is already contaminated as proven by the recent lawsuit. Maintaining these standards increases the potential not only for continued contamination but, now, we face the potential for PFAS contamination as well.

If current standards and poorly designed landfill sites have enabled violation of the Clean Water Act, it is very likely a short matter of time before we face PFAS contamination in addition to existing violations. Increasing setbacks by enacting HB 1454 is only the first crucial step in stopping these health threats. We must do all we can to protect our New Hampshire waters.

Sincerely,

Marilyn Booth

President - ACT Board of Trustees

cc: Jon Swan 25 Cashman Rd Dalton, NH 03598 Founder, Save Forest Lake



BUSINESS & INDUSTRY ASSOCIATION
New Hampshire's Statewide
Chamber of Commerce

Kirsten Koch

BIA Testimony on HB 1454

Senate Energy and Natural Resources

April 5, 2022

Mr. Chairman and Members of the Senate Energy and Natural Resources Committee, my name is Kirsten Koch, and I am the Director of Public Policy for the Business and Industry Association (BIA), New Hampshire's statewide chamber of commerce and leading business advocate. BIA represents more than 400 members in a variety of industries. Member firms employ 89,000 people throughout the state, which represents one in seven jobs, and contribute \$4.5 billion annually to the state's economy.

I am here today to express BIA's opposition for House Bill 1454, relative to permits for the siting of new landfills. This bill would circumvent the expertise of study and working groups and prematurely propel forward major changes to the solid waste siting process without the thorough study of the economic and environmental impacts. House Bill 1454 is premature.

In addition, BIA believes that another bill filed this session, House Bill 1049, offers the best solution. House Bill 1049 establishes a study committee to examine landfill siting criteria, specifically calling for the study of "changing the definition of the required setback of landfills from water bodies by establishing standards that use the hydrogeological characteristic of the site and the time it would take potential contaminants to flow to water bodies." The study committee created by this bill allows time for a thorough review to determine if a change is necessary and whether the change truly resolves concerns.

BIA respectfully requests this committee not to pass House Bill 1454 because proposed changes to the solid waste siting process should undergo thorough study and review before enacted.

Thank you for your consideration of BIA's opposition for this legislation. I will gladly try to answer any questions from the committee.

HB 1454: Rep. Edith Tucker's April 5 Testimony

Thank you, Mr. Chairman, and members of the Senate Energy and Natural Resources Committee. I'm Rep. Edith Tucker, Coos 5, representing Whitefield, Jefferson, Carroll and Randolph.

HB 1454 addresses one basic and indisputable fact: there are sensible places to site landfills, and there are totally inappropriate places to site them. We're not here to debate the future need for landfills, but only where they can be appropriately sited.

But I do think the next landfill in New Hampshire would be sited sooner if applicants and DES could focus, respectively, on completing and reviewing only application(s) at sensible site(s).

That's what HB 1454 is designed to do: focus limited public- and private-sector resources on appropriate sites. This bill changes the state's landfill siting requirements, helping applicants understand what DES will be looking for first.

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

In contrast, groundwater can move as quickly as 50 feet per DAY in soils high in gravel or sand content and in fractured rock. It's inappropriate and DANGEROUS to build a landfill where groundwater speeds away toward a lake or river.

By far the most serious potential hazard of any landfill is the essentially irreversible danger to the WATER we drink and that wildlife lives in and around, and the surface WATERS we all enjoy, on which our tourism industry depends.

Much of the science in this bill reflects the knowledge and research of Dr. Adam Finkel, a Dalton resident and former member of the EPA Science Advisory Board and OSHA's chief scientist in both the Clinton and George W. Bush administrations. He's here with me and can answer any technical questions you may have.

This bill also very much reflects the work of a bipartisan group of citizens and legislators - including District I Senator Erin Hennessey of Littleton - who came together early last fall to address the concerns of those lawmakers who could not support HB 177 last year. That earlier bill - passed by the House but not the Senate - would have prohibited a new landfill within a fixed 2-mile distance of any N.H. state park.

HB 1454 – which last month passed the House in a definitive and bipartisan voice vote – is a more scientific and flexible, site-specific way to replace the current 200-foot “one-size-fits-all” setback from water bodies that DES has had in its Administrative Code since 1991. This setback has no defenders. It’s simply a problem that can – and should – be fixed by the Legislature as soon as possible.

This bill would ensure that the state’s next new landfill will not be located within a few weeks or months’ flow of any of our state’s precious lakes or rivers, potentially saving 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, supported by new peer-reviewed studies. Other failures, such as leachate spills, can take place at any time.

The “years to cause harm” concept is NOT new. Since 1993, 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.

And at least 5 other states already use time-of-travel setbacks from landfills and other pollution sources.

The State of Maine’s DEP requires a 6-YEAR setback based on the travel time of groundwater. Dr. Finkel recently emailed a senior manager in Maine’s waste management division to ask what the state’s experience has been over the 15 years it’s been in effect.

The manager replied: “Regarding the success of Maine’s implementation of time of travel calculations and subsequent contaminant transport analyses, I’m not aware of any concerns expressed about the use of this methodology. Maine continues to be successful in siting and developing new solid waste landfills.”

The key provisions in HB 1454 clearly work elsewhere, and it’s time we allow them to work here in the Granite State.



Connecticut River Conservancy

Clean water. Healthy habitat. Thriving communities.

15 Bank Row, Greenfield, MA 01301

413.772.2020 • www.ctriver.org

April 4, 2022

The Honorable Kevin Avard
Senate Committee on Energy and Natural Resources
State House Room 103
Concord, NH 03301

Re: HB 1454- An Act relative to permits for the siting of new landfills

Dear Chair Avard and Members of the Committee,

The Connecticut River Conservancy (CRC) wishes to convey our support for HB 1454. This bipartisan legislation would use a scientific approach to ensure new landfills are sited far enough from New Hampshire's water bodies that any contamination would take at least five years to reach the surface waters, allowing enough time to take remedial action.

CRC is a nonprofit citizen group established in 1952 (originally called the Connecticut River Watershed Council) to advocate for the protection, restoration, and sustainable use of the Connecticut River and its four-state watershed. CRC's vision of both economic and ecological abundance informs our work to collaborate, educate, organize, restore, and intervene to preserve the health of the entire Connecticut River watershed, including its tributaries for generations to come. This mission includes protecting New Hampshire's surface waters from the toxic organic compounds, heavy metals, and other substances that leach from landfills into the surrounding environment.

Even the best-kept and maintained landfills leak eventually. The plastic caps and covers that separate municipal solid waste from the air and soil wear down. Precipitation such as rain and snow permeate the landfill and carry chemicals from the waste that has accumulated there into the groundwater. If the surrounding soil is loose and porous, this contamination can reach nearby surface waters relatively quickly, carrying dissolved heavy metals such as cadmium, lead, and mercury, various acids, and toxic organic compounds including PFAS into the water column. If the surrounding soil is dense and hard for groundwater to travel through, however, it can take contaminated groundwater much longer to reach other water bodies.

New Hampshire's highly diverse geology means that some potential landfills sites would potentially leach contamination to nearby surface waters much faster than others over the same distance. The existing two-hundred-foot setback rule for landfills does not account for soil and geological differences and attempts to apply a simple solution to a complex problem. HB 1454 would create a more comprehensive setback planning system that considers how quickly or slowly groundwater from a specific site would flow into nearby surface waters. The five-year minimum seepage time would allow responsible parties to detect and mitigate any contamination long before it reaches adjacent water bodies.

It is past time to consider a potential site's geology in the landfill siting process. HB 1454 provides a proactive process for protecting New Hampshire's waters. For these reasons, CRC supports HB 1454 and encourages you to vote it "ought to pass."

Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in black ink that reads "Kathy Urffer". The signature is written in a cursive style with a large initial "K".

Kathy Urffer
River Steward
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802-258-0413



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April 5, 2022

The Honorable Kevin Avard, Chair
Senate Energy and Natural Resources Committee
Legislative Office Building
Concord, New Hampshire 03301

Re: Testimony of Robert J. Grillo, P.E.
Comments on HB 1454
Comparison of HB 1454 to Maine Travel Time Regulations

Dear Chairperson Avard:

Thank you for the opportunity to provide written and oral comments to the Committee on HB 1454. My name is Bob Grillo, and I am a Principal at CMA Engineers, Inc. CMA Engineers is a civil and environmental engineering consulting firm headquartered in Portsmouth, with offices in Manchester and Portland, Maine. CMA Engineers has provided permitting, design, construction oversight and operational aid services to public and private solid waste clients in New Hampshire and Maine since our founding in 1988. We are currently the prime engineer for three lined landfills in New Hampshire and three in Maine.

I have worked in the solid waste landfill field in New Hampshire since 1986, starting with the first double-lined landfill in the state. I am a licensed professional engineer in New Hampshire and Maine, and a licensed Professional Geologist in New Hampshire.

HB 1454 proposes to amend RSA 149-M:9 to establish a setback distance from a landfill to perennial surface water¹ based on a five-year contaminant travel time. The existing regulations require landfills to be sited in areas where groundwater can be monitored, characterized and remediated prior to a potential release having an adverse effect on the water supply. (804.02) The proposed setback in HB 1454 sets an arbitrary five year timeline between a release from the landfill and contaminants reaching regulated surface waters, postulated to be a satisfactory period to detect, characterize, and remedy the release.

I understand the Committee may be aware of the 6-year ground water time of travel performance standard in the State of Maine Solid Waste Management Rules² that have been in place for over 25 years. The focus of my comments are the relevant differences between

¹ Defined in RSA 483-B:4, XVI

² 06-096 CMR Chapter 401: 1.C.(1)(c) and 2.D.(2)

the existing Maine rules and the proposed New Hampshire amendment to its governing law. I offer the following comments on the proposed legislation for consideration by the Committee.

Maine Improvement Allowance System

In Maine, an applicant may show that the intent of the 6-year groundwater time of travel performance standard is met by incorporating certain design, financial and enhanced operating/monitoring practices, as described below.

Improvement Allowance Description		Offset ¹
1a.	Addition and monitoring of a leak detection system underlain by a 40 mil HDPE liner beneath the primary liner system;	2
1b.	or Addition of composite liner(s) and a leak detection system	
2.	Artificial creation and maintenance of ground water discharge conditions into the facility structures	1
3.	Creation of a contingency plan including necessary action trigger levels and remedial action funding mechanisms	2
4.	Creation of an innovative performance monitoring program and/or creation of an intensive environmental monitoring program exceeding the standards of 06-096 CMR ch. 405.	To be determined, but no more than 2
5.	For the expansion of an existing facility only, and in conjunction with at least the addition of a composite liner and leak detection system, the addition of engineered systems that will improve existing ground and/or surface water quality conditions.	To be determined, but no more than 2

Note 1: one offset is equivalent to one year of groundwater time of travel

The improvement allowance offsets may be added to the calculated groundwater time of travel to achieve the required 6-year period. For example, if the groundwater time of travel from the landfill to surface water is calculated to be only four years, two years of offsets from items 1 or 3 above could be incorporated into the project by the applicant to satisfy the 6-year requirement. Therefore, in Maine most all sites could comply with the travel time requirements as more than 6 years of offsets are available to be employed. While both states consider time of travel in establishing setback distances, the Maine rule focuses on taking proactive actions to protect surface water quality at a wide range of sites by using the offsets, while HB 1454 simply and unnecessarily eliminates sites from consideration without any reasonable and supportable recourse.

Time of Travel Computation

HB 1454 requires using the maximum seepage velocity rate from any test site within the landfill area to compute the 5-year travel time setback distance. A dozen or more such tests may be conducted at a site. The natural soils at any site have been deposited through glaciation and water flow to produce a heterogeneous mix of different soil types and grain sizes. Calculated seepage velocities can vary by factors of 10 or 100 or more on a site. Characterizing a site takes the skill, knowledge, and experience of a professional hydrogeologist. Simply applying the highest test result per HB 1454 is unscientific as those soil deposits may be discontinuous or otherwise not governing or important in overall flow velocity. For example using a suitable site seepage velocity at a site could produce a setback distance of 1,000 feet while using the HB 1454 maximum value criteria could result in a setback distance of over 10 miles. In Maine time of travel is appropriately computed by the applicant's independent professional hydrogeologist, subject to regulatory review and concurrence.

Relevant Differences in Existing NH and ME Rules

New Hampshire Solid Waste Rules require landfills to be built with a secondary liner and leak detection system. This is essentially a redundant liner and leachate collection system situated directly below the primary liner. In Maine, this design feature is not required but is similar to Offset 1 in the above Improvement Allowance table. In addition to the secondary liner regulations, New Hampshire requires flow in the leak detection system (i.e., flow through or around the primary liner) to be measured on a near continuous basis. These leak detection flows must be kept under a low threshold value, proving the landfill primary liner is performing as intended on a continuous and real time basis. If this threshold is exceeded, the landfill operator must find the defective or damaged primary liner and make repairs. If repairs cannot be made and flows continue exceed the regulatory threshold, the landfill must close.

The existing New Hampshire regulatory program of robust groundwater release detection monitoring combined with near continuous monitoring of the primary liner containment function has performed exceedingly well. I am not aware of a single double lined landfill that has leaked and needed groundwater remediation over the entire 35-year period when these landfills have been in service in the state. In my opinion this outstanding track record negates the need for the flawed HB 1454 legislation.

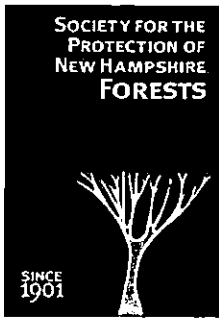
Thank you for the opportunity to supply written and oral comments to the Committee. I appreciate your time and consideration of this matter.

Best regards,

CMA ENGINEERS, INC.



Robert J. Grillo, P.E.
Principal



April 5, 2022

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The Honorable Kevin Avar, Chairman
Committee on Energy and Natural Resources
New Hampshire Senate
State House, Room 103
Concord, NH 03301

Dear Mr. Chairman and Members of the Committee:

Thank you for this opportunity to express the Society for the Protection of New Hampshire Forests' support House Bill 1454, legislation to establish a method for determining the distance for which a new landfill shall be located from a perennial river, lake, or coastal water.

One of New Hampshire's distinguishing traits is the State's deep natural beauty. This landscape, especially the forests and water resources, contributes to the environmental and economic health and well-being we enjoy. The protection and conservation of these natural areas is the result of a diverse partnership of public agencies, non-profit organizations and private citizens. We view the goal of this bill as a key part of the State's responsibility to steward these natural resources for the long-term public good of all the residents of New Hampshire. We wish to thank the bill's sponsors for their introduction and support of them.

As you know, in 2019 the Committee to Study Recycling Streams and Solid Waste Management in New Hampshire (the HB 617 Study Committee) extensively studied how the State can better manage its solid waste stream. The Committee noted that state law (RSA149-M) established a hierarchy of solid waste disposal solutions. The priority approach to this challenge is to reduce the amount of waste the State produces. The least preferred method is to dispose of it in landfills.

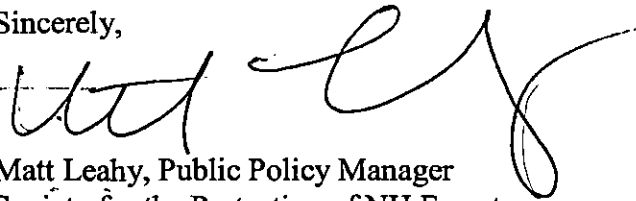
While the HB 617 Study Committee report acknowledged the issue of solid waste management is complex, it also pointed out that "land used for disposal has other worthwhile uses" and that "most solid waste, including much plastic, construction and demolition debris and innumerable other types of waste, remain entombed in perpetuity". Landfills are known to contain toxic substances like volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs) and heavy metals. In short, converting open space into a dumping ground for unwanted and dangerous material is not a wise use of the land.

We are especially supportive of HB 1454's focus on limiting or prohibiting the siting of landfills within a defined distance of groundwater sources. Given the threats some communities across the state are facing to their local drinking water supplies from such problems as PFAS

contamination, New Hampshire must prioritize policies that better protect these critical water resources. The passage of HB 1454 will help to accomplish that goal.

For these reasons, we would encourage the Committee to pass HB 1454. Thank you again for accepting this testimony.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matt Leahy', written in a cursive style.

Matt Leahy, Public Policy Manager
Society for the Protection of NH Forests



Healthy environment.
Healthy economy.

Support of HB 1454

April 5, 2022

Good Morning Chairman Avar and Members of the Energy and Natural Resources Committee:

For the record, my name is Wayne Morrison and I serve as the President of North Country Alliance for Balanced Change. I am here today to testify in support of HB 1454. I also have with me a letter with signatures from over 200 NH residents and business owners declaring their support for HB 1454 and urging the Energy and Natural Resources Committee to do the same. Additionally, I have testimony from NH hydro-geologist Muriel Robinette, who is unable to attend today's hearing in person, that describes the science behind the bill and her support for its passage.

New Hampshire enacted the current 200-foot setback requirement between landfills and perennial bodies of water in 1991. In that same year, the World Wide Web was launched, there were only 16 million mobile phone users in the world vs. 7 billion today, not a single text message had yet been sent, there was no Google search engine, and not until 7 years later was the EPA first alerted to the health hazards of toxic fluorinated chemicals, known as PFAS.

The breadth and speed of technological change continues to bring both benefits and risks. It is why today, we all have the ability to carry the World Wide Web in our pockets and this hearing can be streamed live to anyone with an internet connection. It is also why it is so dangerous to ignore antiquated regulations or expect them to adequately protect some of our most valuable and irreplaceable resources, such as our precious water bodies.

Why then, are we continuing to site landfills with an outdated, arbitrary, one size fits all 200-foot setback? Depending on the speed at which contaminated groundwater can flow (very slowly in clay, very quickly in sand/gravel), a lake or river could be polluted within as little as *three weeks* after a spill or leak—while DES only requires groundwater monitoring every 4 to 12 *months*.

HB 1454 requires NO testing that applicants don't already have to do, the science is proven, other states, such as Maine, have already adopted this process and the testing time is short. It simply requires that the test be done on the front end of the process when the applicant evaluates a potential site. This bill doesn't ban landfills, it doesn't restrict how many landfills we have, it does not affect existing landfills, it applies to any and all new landfills, and it simply uses science to determine a safe site-specific setback distance to ensure there is sufficient time to prevent an inevitable spill from contaminating a perennial body of water.

NCABC, PO Box 553, Littleton, NH 03561



Healthy environment.
Healthy economy.

This is the third year that advocates of safer landfill siting regulations have brought forward legislation. Given past criticisms about an arbitrary 2-mile setback and a narrow focus on State Parks, we internalized your feedback, consulted with experts and returned this year with a bill that utilizes well-accepted science to establish site-specific setback distances to protect perennial bodies of water anywhere in the state. This is the opposite of "one size fits all".

HB 1454 provides the state of New Hampshire with the opportunity to ensure the siting of new landfills is science based and delivers real protection for some of our most valuable and irreplaceable resources.

The purpose of a setback is to provide a margin of safety, in essence it's about risk management. Despite the latest technology currently available and the best-intentioned landfill operators, accidents occur, people make mistakes, switches and valves fail, double lined materials deteriorate.....shit happens! When it inevitably does, the only thing protecting our rivers, lakes and drinking water supplies from a landfill's toxic leachate chemicals is the setback distance you have before you today. HB 1454 won't solve all the state's solid waste problems but it is a smart, pragmatic, common sense solution to one of the most important and impactful decisions about any landfill - how close it is sited to any perennial body of water.

Chairman Avard and Members of the Energy and Natural Resources Committee, I ask you to recognize the urgency to address the state's out of date and dangerous 200-foot setback regulation, to have the courage to act and to vote HB 1454 ought to pass.

Thank you and I'm happy to take any questions.

Wayne Morrison
President
North Country Alliance for Balanced Change
PO Box 533 Littleton, NH 03561

From: Sanborn, Mark A <mark.a.sanborn@des.nh.gov>
Sent: Wednesday, April 13, 2022 2:10:25 PM
To: Kevin Avard (avardsenate@gmail.com) <avardsenate@gmail.com>; Kevin Avard <Kevin.Avard@leg.state.nh.us>; Bob Giuda <Bob.Giuda@leg.state.nh.us>; James Gray <James.Gray@leg.state.nh.us>; David Watters (watterssenate@gmail.com) <watterssenate@gmail.com>; David Watters <David.Watters@leg.state.nh.us>; Rebecca Perkins Kwoka <Rebecca.PerkinsKwoka@leg.state.nh.us>
Cc: Crepeau, Adam <Adam.J.Crepeau@nh.gov>; Melanson, Jonathan <Jonathan.A.Melanson@nh.gov>; Wimsatt, Mike <michael.j.wimsatt@des.nh.gov>
Subject: HB 1454 Public Hearing

Good Afternoon Chairman Avard and Senate Energy and Natural Resources Committee Members,

It has been brought to my attention that at the April 5th Public Hearing for HB 1454, there were statements made by witnesses testifying in support of the bill who were not staff from the NH Department of Environmental Services that gave the impression that NHDES supported this legislation and that NHDES staff had vetted the language in the bill indicating the Department's approval of the language. Throughout this legislative session, NHDES has remained neutral on this bill because we have a pending application that would be impacted by this legislation; it is NHDES's practice to remain neutral on a bill that could impact a pending application to ensure there is no appearance of pre-determination of the pending application.

Please accept this note on behalf of the Department as clarifying the record of our neutral stance on the bill and that we have not vetted the language in the bill in a manner that should be interpreted as the Department's approval of the bill's language.

If any committee member has any questions or concerns regarding NHDES's perspective of HB 1454, please do not hesitate to contact me.

Thanks so much for your continued support of NHDES, our staff, and our efforts to carry out the Department's mission.

Best Regards,

Mark

Mark Sanborn
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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.

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.

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.

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

April 4, 2022

Chairman Kevin Avard
Senate Energy and Natural Resources
State House, Room 103
Concord, NH 03301

Re: HB1454-FN relative to permits for the siting of new landfills

Dear Chairman Avard and Members of the Energy and Natural Resources Committee:

In 1991, New Hampshire established a "one size fits all" 200 feet setback between new landfills and major surface water bodies. We believe it is time to end the arbitrary setback and enact common-sense policy by supporting the science-based HB1454.

We believe that as landfill developers seek new sites to be permitted, our state must have in place transparent and science-based siting criteria to protect our surface water resources.

HB1454 requires no additional testing for applicants, and the tests are easy, rapid, and inexpensive - it simply requires that the test be done on the first day when the applicant evaluates a possible site. We believe that this due diligence upfront will save the applicant time and money. Currently, the Department of Environmental Services (DES) receives the results of the velocity tests along with thousands of pages of reports and hundreds of thousands of dollars of filing fees. This process makes it needlessly difficult for DES to tell the applicant that the site is not suitable for a landfill and is unduly costly for the applicant.

Testing the soil on the first day is akin to ensuring you do not place a fireworks factory next to a match factory. Furthermore, this will help to ensure that new landfills are appropriately sited and not located in areas where groundwater flow can rapidly transmit contaminants to surface water bodies.

This legislation is good for DES, well-intentioned developers, citizens, small businesses that rely on our surface waters and our state's precious natural resources.

We urge you to support HB1454-FN and recommend ought to pass.

Respectfully,

Tom	Tower	Whitefield	VP - NCABC
Gary and Theresa	Ghioto	Lisbon	
Gary	Ghioto	Lisbon	
Fred	Anderson	Whitefield	Retired
Questa	Anderson	Whitefield	Retired
Erik	Johnson	Dalton, NH	

Judith	Johnson	Dalton, NH	
Gregg	Crowell	Bedford	CPA
marcy	verrone	Dalton	
Joanne	Blaney	Bethlehem	self/tax payer/voter
Teresa	Perrotta	Whitefield	
Tom	Perrotta	Whitefield	
Joel	Bedor	Littleton	Adair Inn
Joanne	Linden	Dalton and Concord	Linden Counseling and Consulting, PLLC
Michael	Crowell	Merrimack	
Victoria	Martin	Lincoln	
Michael	Casey	Whitefield	
James	Martin	Lincoln	East Branch Builders
Nancy	Mittleman	Dalton	
William	Stiffler	Newport	
Wesley	Simonson	Portland	
Amber	Merkens	Brooklyn	
Janet	Damiano	Dalton	
Timothy	Cayer	Whitefield	
Dana	Nute	Concord	Resilient Buildings Group, Inc.
Larra	Anderson	Bethlehem	
Paul	Damiano	Dalton	Retired
Paul	Damiano	Dalton	Retired
Richard	Cayer	Kensington	
Susan	Cayer	Kensington	
Cliff	Cayer	Whitefield	
Teresa	Jounakos	Whitefield	
Pavlin	Lange	Albuquerque	Retiree
Ellen	Hays	Whitefield	

Wayne	Morrison	Mont Vernon	North Country Alliance for Balanced Change
David	Sundman	Dalton	
Nancy	Morrison	Mont Vernon	Retired
Jeannette	Marinow	Nashua	
Alysha	Marinow	Nashua	
Arthur	Torrey	Nashua	
Dave	Manning	Bedford	
Gloria	GAUDREAU	Nashua	
Janice	Merrill	Amherst	
Mina	Awad	Pelham	
Michelle	Demerjian	Merrimack	
Eileen	Savage-Creedon	Dalton	Psychologist
Cynthia	Barrett	Milford	
Kevin	Crowell	Manchester, NH	
David	Koerner	Manchester	Kerner's Car Wash and Quick Lube Centers
Lorraine	Koerner	Dalton	
Christine	Sundman	Littleton	
Charles	Despres	Whitefield	
Jean	Despres	Whitefield	
Edward	Craxton	Hanover	Retired
Phyllis	Crowell	Bedford	
Denise	St Jean	Dalton	
Marc	St Jean	Dalton	
Renee Crowell	Crowell	Merrimack	
Bethany	Adams	Louisville	Bethany Adams Interiors
Bethany	Adams	Louisville	
Elaine	Millen	Dalton	
Stan	Millen	Dalton	

Daniel	Edgar	Littleton	
Kayla	Goodale	Boston, MA	
Kim	Hudson	Littleton	Little Herb Shoppe
V. Joshua	Adams	Dalton	
Clare	Brooks	Littleton	Little Village Toy & Book Shop
Majka	Burhardt	Jackson	Legado
Lynn	Markert	Newmarket	
Eileen	Savage-Creedon	Dalton	Psychologist
Charles	Crannell	Bethlehem	
Susan	Argetsinger	Whitefield	Retired
David	Madden	Whitefield	Aviation
Bert	Corley	Clarksville	
Jeanne	Madden	Whitefield	Customer service
Robert	Buxton	Littleton	
Keith	Ashton	Dalton	
Robert	Copeland	Littleton	
Olivia	Carnevale	Bedford	
Jo-Anne	Dombrowskas	Derry	
Liran	Edelist	Whitefield	
Marcia	Copeland	Littleton	
Lennie	Fillius	Bethlehem	
Peter	Doucette	Jackson	Mountain Sense LLC (Owner)
Martin	Kessel	Bethlehem	
Donald	Davis	Bethlehem	Retired
Judith	Brownell	Farmington	
Fred	Apple	Bretton Woods	
Donna	M Zangri	Manchester	
Janet	Marshall	Lisbon	Jan Marshall

Steven	Liffmann	Salem	
Shaun	Terhune	Littleton	Shaun Terhune Gallery & Mountain Goods
Cynthia Gale	Harris	Colebrook	
Diane	Roumeliotis	Hebron	
Tracy	Glenn (Glover)	Whitefield	Retired
Susan	Randall	Rochester	
Thomas	Rodrigue	Whitefield	Retired
Margaret	Gale	Bethlehem	retired librarian
Christine	Raymond	North Conway	
Mary	Fillius	Bethlehem	
Sarah	Doucette	Whitefield	
Roger	Doucette	Whitefield, NH	
Claire	Lupton	Whitefield	
Paul	Murphy	Whitfield	Finance
Christine	Sheley	Littleton	
Leon	Geil	Whitefield	Retired
Marcus	Sminkey	Whitefield	North Of The Notches llc
Tom	Arrison	Dalton	
Marion	Schafer	Dalton	Coos Riviera Peonies
Mary Ellen	Russell	Bethlehem	
Jessica	Lang Wright	Manchester	
Edith	McKown	Lyman	
Sarah	Tremblay	Merrimack	
Alex	Tremblay	Merrimack	
William	Livengood III	Whitefield	Retired
Beth	Simon	Littleton	Littleton Fine Crafts,LLC
Susan	Sherrouse	Concord	
Patricia	Mills	Salem	Employed at Original Gourmet Food Co.

Patricia	Kellogg	Littleton	retired physician assistant, family practice
Amy	Delventhal	Bethlehem	MasterPeace Massage
Diana	Bourbeau	Milan	Retired
Thomas	Hedberg	Canterbury	Retired
Bruce	Brekke	Whitefield	Land Owner
Duncan	Ross	Whitefield	
Patricia	Toussaint	Sanbornville	Retired
Lisa	Romick	Chester	
Michael	Romick	Chester	
Thomas	Romick	Chester	
Helen	Wright Miller	North Hampton	
Herbert	Dwyer	Berlin	
Tina	Peabody	Franconia	Retired
David	Glover	Whitefield	Retired
Chris	Walker	Whitefield	Retired.
Edward	Cowan	Whitefield	
Paula	Murphy	Twin Mountain	
Deborah	Munson	Chester	
Amy	Cozens	Littleton	
Elizabeth	Fraser	Sugar Hill	None
Allegra	Wright	Bethlehem	
Rebecca	Riggio	Littleton	
Gary	Riggio	Littleton	
gordon	leblanc	Littleton	
Jennifer	Sonnabend	Littleton	
Debra	Putnam	Hudson	Retired
Sikt	Grote	Nashua	Retired
Sharon	Hunt	Manchester	Healthcare

Martha	Smith	Lyme	
Nancy	Richardson	Hampstead	No
Jay	Peabody	Lisbon	Retired
Jamed	Doucette	Whitefield	
Matthew	Sonnabend	Littleton	Nunya
Roger	Maykut	Whitefield	North Country Orchard
Paul	Parkhurst	Newport	
Kevin	O'Brien	Easton	
Jeanne	Goodwin	Ashland	
Gail	Kimball	Bath	
Nancy	Decourcey	Jefferson	
Beth	Allard	Rochester	
John	Tuthill	Acworth	
Laurie	McIntosh	Dover	Our Place, Inc
Mary	Doh	Whitefield	
Bob	Switzer	Sullivan	
Norman	Emmons	Charlestown	
Kimberly	Tower	Whitefield	
Amy	Bahr	Franconia	librarian
Thomas	Burke	Ashland	retired
Evelyn	Michaud	Wentworth	Retired
Alexis	Scavetta	Littleton	
Sondra	Brekke	Whitefield	
Carol	Jean	Berlin	AmeriCorps Member
Janet	Pendlebury	Peterborough	
Kevin	MacMillan	North Conway	MacMillan&Associates
William	Livengood	Whitefield	Retired
Kathryn	Fessenden	Kensington	

Judith	Kaufman	Cornish	Community Development Services
Nancy	Wightman	Cornish	Retired
Bella	Vargas	Allston	
Connie	White	Harrisville	Retired
John	White	Harrisville	Retired
Traci	Wagner	Dalton	Resident
Angelina	Donahue	Taunton	
John	Danos	Dalton, NH	
Peter	Degnan	Newmarket	
John	Murphy	Salem	
Jack	Hurley	Claremont	
Jo Beth	Dudley	Dalton	
John	Sutcliffe	Whitefield	
Nancy	Spencer	Littleton	
Kesaya E.	Noda	Hanover/Etna	Writer
Jonathan	Glass	Cornish	Retired
Cheryl	Marshall	Jefferson	Retired
Robert	Roseen	Stratham	Civil engineering
Laurie	Boswell	Franconia	Private citizen
catherine	sofikitis	Nashua	
Barbara	Andross Odell	Dalton	
Becky	Cyganiewicz	Campton	
Jeanne	Cyganiewicz	Campton	
Susan	Kaplan	Lebanon	Sustainable Futures Consulting
Cathy	Fulkerson	Carroll	Retired Resident
Nancy	Pollard	Keene	
Elise	Caplan	Grantham	Volunteer
Kit	Lord	Northwood	Manager

Margaret	Hurley	Claremont	writer
briane	pinkson	Cornish	
Rebecca	Webb	Bethlehem	Resident
Judith	Reed	Keene	
Andrew	Tuthill	Hanover	Civil Engineer
Herrika	Poor	Cornish	
Virginia	Jeffryes	Franconia	
Kelly	Cannon	Waterville Valley	
Barbara	Emmons	Littleton	The Healthy Rhino
Olivia	Reckley	Manchester	Patagonia
Daniel	Wessler	Whitefield	National Geographic
Eliot	Wessler	Whitefield	Board of Directors, NCABC
Connie	White	Harrisville	Retired
Denise	Hagen	Boston	
Pamela	Lancey	Gorham	
Mary	Menzies	Littleton	Badger Peabody & Smith Realty (retired)
Mary Lou	Krambeer	Bethlehem	
Douglas	Menzies	Littleton	Equity Investments
Abbe	Kirsch	Whitefield	

CC: Senator Chuck Morse
Senator Donna Soucy

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

Dear Members of the Senate Energy and Natural Resources Committee and Chairman Avard:

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 contaminated 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 landfill-related contamination before it can reach the nearby lakes and/or rivers.

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 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 supplies or contaminated sites. Consultants are versed in designing investigations such that site media can be tested so 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. Studies which are already done now during the landfill permitting process.

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



April 5, 2022

Good Morning Chairman Avard and Members of the Senate Energy and Natural Resources Committee:

For the record, my name is Dave Koerner. I reside in Auburn and am the owner of Kerner's Car Wash and Quick Lube Centers which has multiple locations in the southern tier of our great state.

I am writing to you today to offer my support for HB1454 relative to permits for the siting of new landfills. As the owner and operator of a regulated business within the state of New Hampshire, I have seen firsthand the positive changes that elected officials in Concord can impart when they pass common sense legislation.

HB1454 if just that.

This legislation uses science to update the current, arbitrary, one size fits all, 200 foot setback in use when siting a landfill. The bill will establish a five year rule to ensure contaminated groundwater does not ever reach our surface waters.

Our state has seen tremendous growth and provided economic opportunity to countless individuals. Maintaining clean waters throughout the state will ensure that tourism thrives and businesses continue to grow here.

Chairman Avard and Members of the Energy and Natural Resources Committee, I ask you to vote HB 1454 ought to pass.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Koerner". The signature is fluid and cursive, with a long horizontal line extending to the right.

Dave Koerner
President
66 S. Beech Street
Manchester, NH 03103

DAVID SUNDMAN

PO Box 99, Littleton, NH 03561-0099

New Hampshire Senate Committee on Energy and Natural Resources

Re: House Bill 1454-FN

relative to permits for the siting of new landfills

April 5, 2022

Testimony IN FAVOR of Ought to Pass

Dear Chairman Avard and Honorable Members of the Committee:

Thank you for the opportunity to offer testimony in favor of HB 1454-FN. My name is David Sundman. I am testifying as a lifelong resident of northern NH and a Littleton businessman.

The sound science and hydrogeology behind this bill make it clear NH must update its regulations for landfill siting to ensure the safety of our waters for both public health and recreation. I believe the bill is equally critical for the health and vitality of our business and industrial sectors.

It is obvious that our ever-growing tourist and outdoor recreation industries must have pure water to serve the fundamental needs and interests of our visitors. It may be less obvious that the entire business community has a stake in the protection that HB 1454 will bring.

Although we often take it for granted, clean water underpins New Hampshire's business and industrial sectors in both large and small operations. What is more basic for businesses and prospective businesses? We all know healthy water is not assured as we recognize and scramble to address the hazardous residuals of industrial pollutants and the "forever chemicals" now showing up in our water and soils. No one wants that for their family or their business plan.

The existing 200 foot buffer between landfills and our rivers and lakes can now be replaced by clear guidelines to safeguard those water bodies from highly toxic contamination and the stunning cost of trying to remediate damage after it has occurred. NH knows that process all too well from industrial damage to our waters in the southern part of the state.

We want a thriving business economy here. We want to be able to start and grow our businesses, diversify them, hire young professionals and new workers, and generate income and prosperity for everyone. If we become a state where water and health are questionable, how do we attract investors, workers, and visitors?

David Sundman, Littleton, NH

I am sure you have your eye on the impact of this bill for New Hampshire businesses and corporations. But please back up enough to see the **WHOLE** picture, to consider **ALL** the businesses and industries whose future could be in jeopardy if we do not take this opportunity to update and improve landfill siting.

House Bill 1454-FN asks for testing that is already in place in the permitting process, so it is not an imposition on landfill developers. It is surely common sense to do that testing at the **START** of a landfill proposal when the site is chosen, saving needless corporate expense if a developer's site is inappropriate for the area's soils and water flow. The bill will also save precious staff time and resources at NH DES, avoiding pointless work on a project that is doomed from the start by its location. Comparable legislation has proven effective in several other states, including Maine.

Please vote **Ought to Pass** on HB1454-FN and move New Hampshire's faltering waste management regulations forward with proven, site-specific testing. Don't let New Hampshire miss this pivotal opportunity to preserve precious water resources for a thriving business community, right alongside the protection of public health and environmental vitality.

Thank you for your consideration.

David Sundman

NEW HAMPSHIRE UNION LEADER

Muriel S. Robinette: Science matters siting landfills

Feb 10, 2022

NEW HAMPSHIRE LAWMAKERS have a unique opportunity to allow science to play a role in the responsible siting of new landfills. This opportunity presents itself in **HB 1454**, currently before the House Environment and Agriculture Committee.

As landfill developers seek new sites to be permitted, it is crucial that our state has in place a clear and science-based siting criteria to protect our surface water resources.

House Bill 1454 proposes to protect rivers and lakes by addressing the 200-foot setback factor in our state's landfill siting process, a factor that currently is not based on science or any site characteristics. Why is this requirement 200 feet from surface water bodies? No one appears to know exactly, and though it may be well-intentioned as "protective", this requirement is an arbitrary, one-size-fits-all factor with no scientific basis. Unfortunately, one size most certainly doesn't fit all when it comes to millions of gallons of landfill leachate and our state's water bodies.

The Granite State is diverse — from mountains and upland forests to the seacoast, with valleys, swamps, and fields in between. The variations that we see on the landscape are also valid below the ground. These variations affect how groundwater and contaminants travel. Therefore, a landfill setback siting factor that does not reflect site-specific conditions may not be protective, as it is meant to be, against contamination reaching our precious rivers, streams, and lakes.

HB 1454 proposes using the distance that groundwater can flow within a five-year window to determine a protective setback. Why five years? Because when contaminants from a landfill are detected in groundwater, we need to allow a sufficient response time for the landfill operator and the Department of Environmental Services (DES) to react, design and implement a remedy to try and protect the nearby surface water supplies.

Measuring site-specific groundwater flow is an inexpensive and well-known science that has been going on for more than 150 years. The math is simple and trained hydrogeologists perform these measurements routinely; this bill merely moves the testing to the beginning of the site evaluation, much like anyone wanting to buy a piece of land for a home would ask the seller to do a simple "perc test" to see if the land can support a septic system.

The concept of setbacks based on groundwater travel times is an accepted technical methodology. Our neighboring state of Maine has had a six-year setback for its landfills since 2015, while the federal EPA recommends up to 10 years' separation between certain types of polluting facilities and drinking water wells.

If, as a state, our goal is to be protective of our natural resources and proper site development, the current "one size fits all" 200-foot landfill setback is not the answer. A landfill, once in operation, is a source of potential contamination to our water resources, not only during its decades of active operations, but for many decades after.

Just as we have seen with the recent news regarding PFAS in water supplies, it is crucial that we protect the resources that surround areas that are chosen for development.

HB 1454 will help to ensure that new landfills are appropriately sited and not located in areas where groundwater flow can rapidly transmit contaminants to surface water bodies. Ultimately, it should reduce the need for tens of millions of dollars to be spent trying to clean up contamination to our surface waters that can be prevented in the first place by use of appropriate sites for landfilling of New Hampshire's waste.

This legislation is good for DES, well-intentioned developers, citizens, small businesses that rely on our surface waters, and our precious natural resources.

Professional geologist Muriel S. Robinette lives in Tuftonboro. She is a senior consultant at Calex Environmental, LLC in Colebrook.

CONCORD MONITOR

Opinion: What are we going to do to stop the influx of out-of-state trash?

By WAYNE MORRISON

Published: 3/13/2022

Wayne Morrison is president of North Country Alliance for Balanced Change. He splits his time between his home in Mont Vernon and a family camp in Whitefield.

If you haven't noticed, there's a long-overdue surge in legislative activity and public discourse regarding the state of New Hampshire's lagging solid waste planning, policies and regulations.

On the positive side, a solid waste working group has been formed and is actively working to assist New Hampshire's Department of Environmental Services (DES) in updating its outdated 19-year-old plan. In addition, the legislature has established clear, aggressive and measurable solid waste reduction goals calling for a 25% reduction by 2030 and a 45% reduction by 2050.

Nearly 30 bills related to environmental and solid waste matters are winding their way through the legislature. Public pressure is mounting for action on a broad set of solid waste reforms to keep residents safe, protect businesses and keep New Hampshire from becoming the solid waste dump for all of New England.

Since it became clear that Casella Waste Systems' NCES landfill in Bethlehem would be closing in 2026, there has been a persistent false narrative about an impending landfill capacity "crisis" in the state. Casella has amplified this notion as part of their public benefit justification for a new landfill project in the town of Dalton. Such a narrative creates both urgency and fear among local select boards and legislators alike by describing shrinking landfill capacity and rapidly growing solid waste demand in the state.

The waste industry warns we won't have anywhere to take our trash and asserts that costs will rise as capacity becomes scarce. New Hampshire's solid waste tonnage remains relatively flat at just over 1.1 million tons per year and has hovered around that level for almost six years. On the capacity side, the closure of Casella's NCES landfill in Bethlehem will take about 200,000 tons of capacity for New Hampshire trash offline in 2026. However, pending expansion plans at the Mt. Carberry landfill in Success and expected expansion at the Turnkey landfill in Rochester will exceed any capacity lost at NCES.

As for potentially higher costs when the Bethlehem landfill closes, there is no compelling evidence to support an argument up or down. Tipping fees are set by a variety of factors and market conditions. Ironically, the Town of Dalton moved its solid waste from Bethlehem to Mt. Carberry and realized an overall cost reduction despite higher transportation costs.

During a recent sub-committee work session of the House Environment and Agriculture Committee, Mike Wimsatt, DES Director of the Waste Management Division, stated, "the expectation is that these facilities, in aggregate, that are permitted in the state, will be prepared to take the waste that is generated in the state," in response to questions concerning the availability of capacity for in-state trash. Mr. Wimsatt further commented that providing the necessary capacity for in-state waste is required to fulfill their public benefit obligation in the permitting process.

So, what is the real problem if the state doesn't have a capacity crisis? The "elephant in the landfill" is that the state has a burdensome and growing out-of-state trash problem. Two of the three largest landfills in the state are operated by private, for-profit, out-of-state companies importing trash, primarily from Massachusetts, driving annual out-of-state waste tonnages equal to in-state. You read that right: about 50% of landfill capacity in New Hampshire is being consumed to support the disposal needs of other states and the economic interests of the shareholders of these private companies. Despite this practice, New Hampshire still has sufficient capacity, even without factoring in any progress in overall solid waste stream reduction goals through diversion, re-use, recycling and composting.

Casella Waste Systems' proposed new landfill in Dalton is not only unneeded capacity, but it is also overwhelmingly burdensome and unwanted by North Country communities. If permitted, the Dalton landfill would further institutionalize New Hampshire's out-of-state trash problem for decades to come as Casella is planning to use 49% of the site's capacity to bury out-of-state trash. Where is the public benefit for New Hampshire, especially for such an environmentally impactful project?

New Hampshire desperately needs to address its lagging solid waste planning process, invest and drive significant progress in solid waste stream reduction actions, and enact smart legislation to better protect its citizens, businesses and tourists' health, safety and environmental interests.

Let's free ourselves of the idea of an urgent landfill capacity crisis. It simply isn't so! That myth only serves to fatten the waste industry's bottom line at the expense of New Hampshire's best interests. The call to action for New Hampshire is: what are we going to do to stop the influx of out-of-state trash?

Daley Frenette

From: birdiequest@aol.com
Sent: Monday, May 2, 2022 8:49 PM
To: Bob Giuda
Cc: Daley Frenette
Subject: HB 1454 Compromise Amendment
Attachments: HB 1454 Amendment.pdf

Dear Senator Giuda,

As the leaders of the North Country Alliance for Balanced Change and the Forest Lake Association we wanted to reach out to you and unequivocally denounce the actions of Jon Swan and his personal social media platform titled "Save Forest Lake" along with any others, whose identity is unknown to us, who have harassed you and your colleagues unjustly.

There is no excuse for their actions, and none will be provided by us. Last week we reached out to Senator Soucy via email to apologize for these actions and express our utter disapproval.

Both of our organizations pride ourselves on being professional, fact based, measured and respectful while vigorously advocating for the much-needed solid waste reforms we believe are necessary for New Hampshire.

Although we cannot control the actions of others, even those who support our policy objectives, we believe it is our responsibility to acknowledge their reprehensible behavior and our profound dismay at what they have done and our chagrin that you have been subjected to it in the name of this bill.

This week, you and your colleagues have an opportunity to help put in place a truly bipartisan common-sense environmental reform. HB 1454 and the attached compromise amendment says that siting decisions should depend, to some extent, upon the use of better technology than is required by regulations but keeps in place the core principle that our state will not allow landfills to be built upon soils that will allow contaminants to imminently reach water bodies.

Many of you voted last year to support legislation that allowed for no landfills to be within 2 miles of any state park. This year's much improved legislation offers a site-specific, science-based approach and now further incentivizes operators to embrace technology and better protection methods.

We understand that this is not a political issue and that there is substantial support from members of both caucuses. **Now is not the time to study! All of our neighbors have either banned landfills or have had much stricter regulations in place for 20 years or more.** There is nothing left to study.

The merits of this legislation are as important today as they were before these individuals sabotaged the proper process of political discourse. **Please do not allow the despicable actions of one or two individuals to drown out the earnest voices of hundreds/thousands of NH voters, or to compromise good environmental policy for the benefit of our entire state.**

Respectfully,

Wayne Morrison
President
North Country Alliance for Balanced Change

Fred Anderson
President
Forest Lake Association



HB 1454-FN - AS AMENDED BY THE HOUSE

16Mar2022... 0894h

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

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.

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.

16Mar2022... 0894h 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 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 surficial geological deposits 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, in units of feet per year, by 5 (years).

(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.

(d) The Department may establish rules to allow for the use of project improvement allowances that may enable a project to meet the minimum 5-year setback, even if it is located less than 5 years from a surface water body. One or more allowances, of one additional year each, may be added to the calculated travel time, based on specific additional control technology, monitoring programs, or funding guarantees that the Department believes may increase the effective safety of the project. In no case, however, shall any one project receive more than 3 additional years added to its calculated travel time.

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

LBA

22-2237

Amended 4/5/22

Voting Sheets

Senate Energy & Natural Resources Committee

EXECUTIVE SESSION RECORD

2021-2022 Session

Bill # 1454-FN

Hearing Date: 4/5/22

Executive Session Date: 4/12/22

Motion of: ETL Vote: 3-1

Committee Member	Present	Made by	Second	Yes	No
Sen. Avard, Chair	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sen. Giuda, Vice Chair	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sen. Gray	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sen. Watters	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Sen. Perkins Kwoka	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Motion of: _____ Vote: _____

Committee Member	Present	Made by	Second	Yes	No
Sen. Avard, Chair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sen. Giuda, Vice Chair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sen. Gray	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sen. Watters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sen. Perkins Kwoka	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Motion of: _____ Vote: _____

Committee Member	Present	Made by	Second	Yes	No
Sen. Avard, Chair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sen. Giuda, Vice Chair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sen. Gray	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sen. Watters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sen. Perkins Kwoka	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Motion of: _____ Vote: _____

Committee Member	Present	Made by	Second	Yes	No
Sen. Avard, Chair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sen. Giuda, Vice Chair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sen. Gray	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sen. Watters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sen. Perkins Kwoka	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Reported out by: Avard

Notes: _____

Committee Report

STATE OF NEW HAMPSHIRE

SENATE

REPORT OF THE COMMITTEE

Thursday, April 14, 2022

THE COMMITTEE ON Energy and Natural Resources

to which was referred **HB 1454-FN**

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

Having considered the same, the committee recommends that the Bill

IS INEXPEDIENT TO LEGISLATE

BY A VOTE OF: 3-1

Senator Kevin Avar
For the Committee

Daley Frenette 271-3042

ENERGY AND NATURAL RESOURCES

HB 1454-FN, relative to permits for the siting of new landfills.

Inexpedient to Legislate, Vote 3-1.

Senator Kevin Avard for the committee.

General Court of New Hampshire - Bill Status System

Docket of HB1454

Docket Abbreviations

Bill Title: relative to permits for the siting of new landfills.*Official Docket of HB1454.:*

Date	Body	Description
12/1/2021	H	Introduced 01/05/2022 and referred to Environment and Agriculture
1/18/2022	H	Public Hearing: 01/18/2022 1:00 p.m. LOB301-303
1/28/2022	H	Full Committee Work Session: 02/01/2022 10:00 am LOB 301-303
2/19/2022	H	Subcommittee Work Session: 02/22/2022 10:30 am LOB305-307
2/22/2022	H	Subcommittee Work Session: 03/01/2022 10:30 am LOB305-307
2/22/2022	H	Full Committee Work Session: 03/01/2022 11:00 am LOB305-307
3/7/2022	H	Majority Committee Report: Ought to Pass with Amendment # 2022-0894h (Vote 10-9; RC)
3/7/2022	H	Minority Committee Report: Inexpedient to Legislate
3/20/2022	H	Amendment # 2022-0894h : AA VV 03/16/2022 HJ 7
3/20/2022	H	Ought to Pass with Amendment 2022-0894h: MA VV 03/16/2022 HJ 7
3/22/2022	S	Introduced 03/17/2022 and Referred to Energy and Natural Resources; SJ 6
3/31/2022	S	Hearing: 04/05/2022, Room 103, SH, 09:00 am; SC 14
4/14/2022	S	Committee Report: Inexpedient to Legislate, 04/21/2022; SC 16
4/21/2022	S	Special Order to 05/05/2022, Without Objection, MA; 04/21/2022 SJ 9
4/26/2022	S	Committee Report: Inexpedient to Legislate, 05/05/2022; SC 18
5/5/2022	S	Special Order to the beginning of Regular Calendar, Without Objection, MA; 05/05/2022; SJ 11
5/5/2022	S	Inexpedient to Legislate, MF, VV; 05/05/2022; SJ 11
5/5/2022	S	Sen. Bradley Moved Ought to Pass; 05/05/2022; SJ 11
5/5/2022	S	Sen. Hennessey Floor Amendment # 2022-1938s , RC 14Y-10N, AA; 05/05/2022; SJ 11
5/5/2022	S	Sen. Avard Moved Laid on Table, RC 3Y-21N , MF; 05/05/2022; SJ 11
5/5/2022	S	Ought to Pass with Amendment 2022-1938s, RC 16Y-8N , MA; OT3rdg; 05/05/2022; SJ 11
5/13/2022	H	House Concurs with Senate Amendment (Rep. Pearl): MA VV 05/12/2022 HJ 13
6/10/2022	S	Enrolled Bill Amendment # 2022-2109e Adopted, VV, (In recess of 05/26/2022); SJ 13
6/14/2022	H	Enrolled Bill Amendment # 2022-2109e : AA VV (in recess of) 05/26/2022 HJ 14
6/15/2022	S	Enrolled Adopted, VV, (In recess 05/26/2022); SJ 13
6/15/2022	H	Enrolled (in recess of) 05/26/2022 HJ 14
6/29/2022	H	Vetoed by Governor Sununu 06/24/2022 HJ 14

NH House

NH Senate

Other Referrals

Senate Inventory Checklist for Archives

Bill Number: HB 1454-FN

Senate Committee: Energy

Please include all documents in the order listed below and indicate the documents which have been included with an "X" beside

Final docket found on Bill Status

Bill Hearing Documents: (Legislative Aides)

- Bill version as it came to the committee
- All Calendar Notices
- Hearing Sign-up sheet(s)
- Prepared testimony, presentations, & other submissions handed in at the public hearing
- Hearing Report
- Revised/Amended Fiscal Notes provided by the Senate Clerk's Office

Committee Action Documents: (Legislative Aides)

All amendments considered in committee (including those not adopted):

___ - amendment # ___ ___ - amendment # ___

___ - amendment # ___ ___ - amendment # ___

- Executive Session Sheet
- Committee Report

Floor Action Documents: (Clerk's Office)

All floor amendments considered by the body during session (only if they are offered to the senate):

- amendment # 1938 ___ - amendment # ___

___ - amendment # ___ ___ - amendment # ___

Post Floor Action: (if applicable) (Clerk's Office)

___ Committee of Conference Report (if signed off by all members. Include any new language proposed by the committee of conference):

- Enrolled Bill Amendment(s) 2109E
- Governor's Veto Message

All available versions of the bill: (Clerk's Office)

as amended by the senate ___ as amended by the house

final version

Completed Committee Report File Delivered to the Senate Clerk's Office By:

Committee Aide

Date

Senate Clerk's Office AK

June 8, 2022
2022-2109-EBA
04/05

Enrolled Bill Amendment to HB 1454-FN

The Committee on Enrolled Bills 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 as amended ought to pass.

FOR THE COMMITTEE

Explanation to Enrolled Bill Amendment to HB 1454-FN

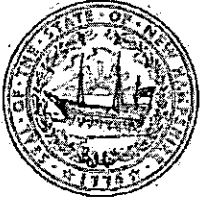
This enrolled bill amendment renumbers a paragraph to avoid a conflict with SB 396-FN of the 2022 regular legislative session.

Enrolled Bill Amendment to HB 1454-FN

Amend section 2 of the bill by replacing lines 1-3 with the following:

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

XVI.(a) The department shall establish a site-specific setback distance for any proposed new



**STATE OF NEW HAMPSHIRE
OFFICE OF THE GOVERNOR**

CHRISTOPHER T. SUNUNU
Governor

June 24, 2022

Governor's Veto Message Regarding House Bill 1454

By the authority vested in me, pursuant to part II, Article 44 of the New Hampshire Constitution, on June 24, 2022, I have vetoed House Bill 1454, relative to permits for the siting of new landfills.

I agree with the experts at the Department of Environmental Services (DES) that this bill would have been better suited as a study. It is extremely likely this bill would curtail landfill development in the state and lead to New Hampshire's waste to be transported out of state, creating higher costs and property taxes for our citizens.

New Hampshire's landfill regulations are already rigorous and robust. According to the DES, there is no data indicating that the lined landfills currently operating and adhering to our regulations in the state are adversely affecting our state's waterways. Therefore, while the intent of this bill is good, it is ultimately a solution in search of a problem. The requirements in HB 1454 would have likely prevented construction of some of the seven lined landfills operating in the state.

Acknowledging the desire to strengthen the state's requirements, I signed a reasonable bill (SB 396) earlier this year enabling the DES to require a landfill applicant to hire an independent engineer or hydrogeologist to ensure their proposed landfill meets our permitting requirements. I am open to further changes to our landfill requirements, but these changes must be based on data. Now is not the time to raise additional fees and taxes on our citizens as a result of asking other states to manage our trash.

For the reasons stated above, I have vetoed House Bill 1454.

Respectfully submitted,

A handwritten signature in cursive script that reads "Christopher T. Sununu".

Christopher T. Sununu
Governor