

Representative Policy Board
Land Use Committee
Lake Whitney Water Treatment Plant
900 Whitney Avenue, Hamden, Connecticut

AGENDA

Regular Meeting of Wednesday, February 14, 2024 at 5:30 p.m.

1. Safety Moment
2. Approval of Minutes – January 10, 2024 meeting
3. Lake Whitney Water Treatment Plant Site Walkthrough
4. Updates on land and RWA properties, including invasive species update
5. Other land items
6. Next Regular Meeting: Wednesday, March 13, 2024 at 5:30 p.m.
7. Adjourn

****Members of the public may attend the meeting in person at 900 Whitney Avenue, Hamden. To view meeting documents, please visit <http://tinyurl.com/tvu5cy9m>. For questions, contact the board office at 203-401-2515 or by email at jslubowski@rwater.com**

SAFETY MOMENT

PREVENTING SLIPS, TRIPS AND FALLS

It's probably happened to most of us. That momentary lapse of attention, thinking about a personal problem or distraction by an activity that ends in a slip, trip or fall. A stumble down a stairway. A trip over an uneven surface. Slipping on the ice. It can lead to a variety of regrettable events ranging from a simple bruised shin to an extremely serious injury. It's just one of a number of conditions and situations that set the stage for slips, trips and falls in the workplace or at home.

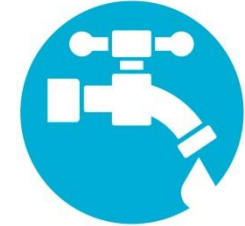
Here are six guidelines to help you create a safer environment for you, your employees, and at home.

1. Create Good Housekeeping Practices
2. Reduce Wet or Slippery Surfaces
3. Avoid Creating Obstacles in Aisles and Walkways
4. Create and Maintain Proper Lighting
5. Wear Proper Shoes
6. Control Individual Behavior

Service – Teamwork – Accountability – Respect – Safety



**Tap Into
Safety**



Regional Water Authority



Safety is a core company value at the Regional Water Authority .
It is our goal to reduce workplace injuries to zero.

 Regional Water Authority

Representative Policy Board
Land Use Committee
South Central Connecticut Regional Water District
January 10, 2024

Minutes

The regular meeting of the Land Use Committee (“Committee”) of the Representative Policy Board (“RPB”) of the South Central Connecticut Regional Water District (“RWA”) took place on Wednesday, January 10 2024, at 90 Sargent Drive, New Haven, Connecticut, and via remote access. Chair Betkoski presided.

Committee Members Present: P. Betkoski, P. DeSantis, B. Eitzer, C. Havrda, M. Horbal, M. Levine, G. Malloy, J. Oslander and J. Mowat Young

Committee Members Absent:

Representative Policy Board:

RWA: S. Sack

Management: S. Lakshminarayanan, J. Hill, and J. Triana

Chair Betkoski called the meeting to order at 5:32 p.m. He reviewed the Safety Moment distributed to members.

On motion made by Mr. Malloy, and seconded by Mr. Havrda, the Committee voted to approve the minutes of its December 13, 2023 regular meeting, with Mr. Eitzer abstaining.

The Committee viewed a video, “*Protecting the Water Supply, (1951) 24:32*,” hosted by General Electric (<https://www.c-span.org/video/?527411-1/protecting-water-supply>). “*Made in cooperation with the U.S. Public Health Service, this 1951 General Electric film showed how water is used in everyday life, the impact of pollution, and how citizens can protect America’s water supply.*”

Committee members discussed the evolution of water service and delivery, bottled water lenient regulations, and the Lead and Copper Rule Revisions.

Update on *The Land We Need for the Water We Use Program* – Mr. Triana, the RWA’s Real Estate Manager, reported:

Reservoir Levels (Percent Full)

	Current Year	Previous Year	Historical Average	Drought Status
December 31	94%	80%	72%	None

Rainfall (inches)

	Current Year	Previous Year	Historical Average
December 2023	9.49*	4.55	4.14
Fiscal YTD (6/1/23 – 12/31/23)	37.87	23.86	27.20

* - December 2023 was the wettest December in our 112-year history at Lake Whitney. The previous wettest December was in 1973 (8.82”).

Land We Need for the Water We Use Program (Dispositions/Acquisitions)

- Cheshire – Corresponded with property owner of 50+/- acres.

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- Cheshire – Corresponded with property owner of 20+/- acres.
- Branford – Corresponded with property owner of 3+/- acres.
- Bethany – Corresponded with property owner of 60+/- acres.
- Bethany – Corresponded with property owner of 30+/- acres.
- Hamden – Corresponded with property owner of 10+/- acres.
- North Branford, Beech St. and Pumps La. properties (NB 4) – Shared our title work with the NBLCT.
- Seymour, Squantuck Rd. (SE 5) – Received letter from town expressing interest in the parcel. Looking for new environmental consultant for dispositions.

Rental houses:

- Hamden, 233 Skiff St. (HA 9A) – Received condemnation papers from state marshal.
- Hamden, 95 Ives St. – Responded to call from property owner about connecting the house to the water main.

Forestry Update

- Killingworth - East Hammonasset Leaf Screen Thinning, (KI 4) – 75% complete.
- Hamden - Overstory removal and Tornado Salvage, (HA 36) – The harvest was halted in early June, and the logger pulled his equipment off the property on June 13th. It is uncertain at this point whether the buyer will continue with the salvage operation even if a market is found - 15% complete.
- Killingworth - N. Chestnut Hill Patch Cuts, (KI 6) – 100% complete. Equipment removed, but some firewood logs still at the landing.
- Guilford - Menunketuc High-Grade Rehabilitation Cut and Conifer Release (GU12/12A) – Sales agreement signed with vendor. Harvest is expected to start in January 2024.
 - Continued discussions with Bromage and Juniver on future use of sugar bushes at the Saltonstall and Gaillard properties.
 - Scheduled kick-off safety meeting for Timber Sale #2023-01 awardee and RWA Safety Team.
 - Conducted a pre-harvest, walk-through for adjoining landowners in Guilford.
 - Prepped for upcoming LSR grant kick-off meeting and led a field day with USFS grant liaison.
 - Met with a procurement forester conducting a timber-harvesting operation on abutting property in Killingworth.
 - Worked with CAES researcher at the Nathan's Pond slash wall to collect stump sprouting/deer browse data.

Recreation

- Held tree identification walk at LWWTP with 30 attendees.
- Cleared more trails at Genesee and Maltby Lakes.
- Took delivery of four new dock sections at Lake Saltonstall.
- Spoke to others about impending minimum wage increase at the beginning of January.

	December		November	
	2023	2022	2023	2022
Permit Holders	4,742	4,851	4,780	4,913

Special Activity Permits

- Resources in Search and Rescue, Inc.-(Ms. Celeste Robitaille and designees)- Training of Search and Rescue K9 teams to locate lost or missing individuals, RT 42 Swamp southeast of RT 42 Bethany; (11/27/23-11/27/24)
- Resources in Search and Rescue, Inc.-(Ms. Celeste Robitaille and designees)-Training of Search and Rescue K9 teams to locate lost or missing individuals, Lake Watrous and Lake Dawson, (11/27/23-11/27/24).
- New Haven Bird Club (Chris Loscalzo) - Annual Christmas Bird Count survey - Saltonstall, Whitney, Wepawaug, Maltby, Dawson, Glen, Chamberlain, Watrous – (12/16/2023).
- Dr. Chris Loscalzo (at request of CTDEEP) - Annual Midwinter Bald Eagle Survey - Lakes Saltonstall and Gaillard – (1/13/2024).

Other items

- Encroachments/agreements –
 - West Haven, Shingle Hill tanks (WH 7) – Received revised draft agreement and made comments.
 - Hamden, New Haven Country Club parking lot (HA 5) – Indicated they would not be paving the parking lot within the licensed area.
 - North Branford, Great Hill Rd. field (NB 4) – Received signed agreement from the Page's.
 - North Branford, 215 Forest Rd. (NB 17) – Current owner indicated she was selling her property. Sent draft license agreement to use with new owners.
 - Woodbridge, Woodbridge tank radio (WO 16) – Received letter from town to extend the agreement for another 5 years.
 - Woodbridge, Baldwin Rd. (WO 15) – Sent draft license agreement to use with the Sexton's after learning that their father had passed a couple years ago.
- Invasive plants – Treated or documented invasive plant populations in North Branford, Madison, Killingworth, and Guilford.

Invasive Species Documented/ Mapped (ac)	105 acres
Invasive Species Treated (ac/MH)	0.5 acres

- North Branford, former trolley line – Met virtually again with UI's real estate staff. Contacted Murtha staff about preparing the conflict waiver documents.
- East Haven, Borrmann Rd. drainage – Corresponded with abutter about water coming off the ridge.
- Hamden, Lake Whitney dam access – Waiting for Murtha to supply conflict waiver documents with UI.
- Madison class III land – Met with member of Madison's affordable housing committee about class III land in town.
- Woodbridge, Fox Den Way (WO 15) – Received email from town staff about drainage issues with abutters.
- Deer hunt - The end of deer hunt surveys were distributed.

Mr. Triana solicited ideas for next month's special topic. Committee members should contact the board office with suggestions.

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Land Use Committee
January 10, 2024

Chair Betkoski reviewed committee member attendance for the Authority meeting on January 25, 2024.

The next regular meeting is on Wednesday, February 14, 2024 at 5:30 p.m.

At 6:15 p.m., on motion made by Mr. Havrda, and seconded by Mr. DeSantis, the Committee voted to adjourn the meeting.

Peter Betkoski, Chairman

UNAPPROVED

February 14, 2024
Land Use Committee Meeting

Reservoir Levels (Percent Full)

	Current Year	Previous Year	Historical Average	Drought Status
January 31	98%	90%	77%	None

Rainfall (inches)

	Current Year	Previous Year	Historical Average
January 2024	5.95	4.89	3.60
Fiscal YTD (6/1/23 – 1/31/24)	43.82	28.75	30.80

Land We Need for the Water We Use Program (Dispositions/Acquisitions)

- Branford – Acquired 3.51 acres off o Cherry Hill Rd. as part of P&Z open space requirement from developer.
- Cheshire – Corresponded with property owner of 50+/- acres.
- Cheshire – Corresponded with property owner of 20+/- acres.
- Cheshire – Corresponded with property owner of 16+/- acres.
- North Haven – Corresponded with property owner of 15+/- acres.
- Bethany – Corresponded with property owner of 60+/- acres.
- Hamden – Corresponded with property owner of 10+/- acres.
- Cheshire – Town of Cheshire/former Ricci property – Contacted DEEP and town staff about the status of the OSHA grant.
- North Branford, Beech St. and Poms La. properties (NB 4) – Corresponded with land trust staff with questions they had about the property and survey.
- Seymour, Squantuck Rd. (SE 5) – Attempted to get town’s plans for the property in order to prepare the disposition application.

Rental houses:

- Hamden, 233 Skiff St. (HA 9A) – Murtha filed with the superior court to accept the town’s figure.
- Woodbridge, 1029 Johnson Rd. – Owners stated they were talking to another party about selling the property.

Forestry Update

- Killingworth - East Hammonasset Leaf Screen Thinning, (KI 4) – 75% complete.
- Hamden - Overstory removal and Tornado Salvage, (HA 36) – The harvest was halted in early June, and the logger pulled his equipment off the property on June 13th. It is uncertain at this point whether the buyer will continue with the salvage operation even if a market is found - 15% complete.
- Killingworth - N. Chestnut Hill Patch Cuts, (KI 6) – 100% complete. Equipment removed, but some firewood logs still at the landing.
- Guilford - Menunketuc High-Grade Rehabilitation Cut and Conifer Release (GU12/12A) – **Safety meeting held.**
 - Received letter from USFS saying we received the LSR grant.
 - Conducted LSR grant planning and administrative duties related to steamweeder, intern hiring, implementation activities, and staffing.
 - Held a meeting with maple tapers, Bromage and Juniver, to finalize the transfer of the portion of the Juniver’s sugar bush north of Rose’s Brook to Bromage. Approximately 350 taps changed hands.

Recreation

- New Year's Day walk at Rt. 42 in Bethany had 35 people.
- Programs at the Eli Whitney Museum had at least 18 people.
- Submitted annual report to DPH.
- Renewal of trails permit for Pine Hill submitted to DPH.

	January		December	
	2024	2023	2023	2022
Permit Holders	4,743	4,847	4,742	4,851

Special Activity Permits

- Branford Land Trust (Tom Cleveland) - Tracking class - Lake Saltonstall woods - 1/27/24 (Rain Date: 1/28/2024) & 2/10/2024 (Rain Date: 2/11/2024).
- Women of Forestry and Arboriculture (Nicole Smith) – tree and shrub id walk and quarterly meeting of the group – Lake Gaillard - 5/4/24 (Rain Date: 5/5/24) or 5/18/24 (Rain Date: 5/19/24).
- CT Agricultural Experiment Station (Dr. Jeff Ward, et al) - General forestry and wildlife research, tick/Lyme Disease studies - Lake Gaillard, North Madison, Prospect, Seymour, Branford, Bethany (1/24/2024-1/24/2025).
- CT Dept. of Energy & Envir. Protection Wildlife Biologist (Dr. Devaughn Fraser) - acoustic monitoring of bats to determine species occupancy of hibernacula and species presence/bat activity in Fall, Spring, and Summer to help inform tree management activities, Lake Gaillard (1/29/2024-1/29/2025)
- New Haven Bird Club (Patrick T. Leahy) – Maintain and monitor bluebird nesting boxes on 7 sites – Downes Road, Bethany, adjacent to Lake Bethany property and field below Lake Dawson dam, Woodbridge, farm field on Sperry Road and Lake Chamberlain below the dam, Lake Watrous and other properties – (1/31/2024-12/31/2024).

Other items

- Encroachments/agreements –
 - Agricultural agreements – Responded to inquiry about hosting goats on our property.
 - West Haven, Shingle Hill tanks (WH 7) – Sent additional comments on the latest draft agreement to Yale's consultant.
 - North Branford, 215 Forest Rd. (NB 17) – Executed license agreement with new owners.
 - Woodbridge, Baldwin Rd. (WO 15) – Executed license agreement with new owners.
 - Branford, 20 Autumn Ridge Rd. (BR 10A) – Executed license agreement with owner who were encroaching on new parcel we acquired.
 - Hamden, Lake Whitney access (HA 4) – Sent comments on the license agreement back to UI for their review.
- Invasive plants – Treated or documented invasive plant populations in North Branford, Branford, Woodbridge, and Bethany.

Invasive Species Documented/ Mapped (ac)	75 acres
Invasive Species Treated (ac/MH)	1.1 acres

- Woodbridge, Fox Den Way (WO 15) – Met town staff at the site and found privately-owned drain for the pond was clogged. Unclogged and town staff was going to talk to owner about maintaining the system.
- Deer hunt - Deer hunt surveys were returned. Annual report was sent to DPH. Based on the responses from the surveys , the total effort spent during the hunt was 300 days scouting, 1100 days spent hunting.
- Seymour, Haddad Rd. – Corresponded with Seymour staff about continued ponding issues at Haddad Rd.
- New Haven, Yale Golf Course – Met with golf course staff to discuss drainage changes occurring during their renovations.
- East Haven, Rock Rd. SNET easement (EH 2)– Corresponded again with Frontier about their abandoned equipment at Rock Rd.
- Boundaries – Checked and remarked boundaries in Madison, North Branford, Branford, Orange and Woodbridge.
- Watermain easement encroachments – Discussed composing a letter for such situations with Murtha’s assistance.

Attachments

- January 10, 2024 - Leaky dam with troubled past tests CT’s dam safety system – CT Mirror
- January 31, 2024 - Jeep driver swerved to avoid deer, ended up in Lake Whitney, Hamden police say – NH Register
- January 14, 2024 - American burying beetle: The meat-eating insect that buries bodies for its babies to feast on – Yahoo Life
- January 24, 2024 - Noticing less snow in New England? Researchers are too. – CT Public Radio
- January 26, 2024 - From frost fans to hayrides, wild weather is forcing CT farmers to adapt to a changing climate – CT Public Radio
- January 31, 2024 - DEEP Requests Grant Proposals for Aquatic Invasive Species Control on Lakes, Ponds, and Rivers – DEEP press release

Upcoming Agenda Items

March 2024 -

Leaky dam with troubled past tests CT's dam safety system

by Mark Pazniokas January 10, 2024 - CT Mirror

The thunderous roar of the swollen Yantic River cascading over the 95-foot-wide spillway of the Fitchville Pond Dam, a 19th-century artifact of a tiny village's past as a thriving textile manufacturer, was dramatic, if relatively unconcerting.

It was the quiet, steady flow from an abutment at the edge of the stone and concrete dam that drew the attention of a firefighter who shot a video on a smart phone in the pre-dawn darkness. One of Connecticut's aging and privately owned "high-hazard" dams was leaking.

The discovery Wednesday of the leak down the hill from Bozrah's sturdy stone town hall, itself a repurposed relic of an extinct industry, set off an all-day scramble: the evacuation of downstream homes in Norwich, a temporary repair and the beginning of an expensive assessment by the state of what to do next.

"This is a privately owned dam, so our role here is in an emergency posture," said Katie Dykes, the commissioner of the Department of Energy and Environmental Protection. "We've got several contractors that we brought on scene to be able to provide for emergency assistance."

Dykes joined Gov. Ned Lamont and other state and local officials at the scene to brief reporters. As the flood waters caused by heavy rains and melting snow receded during the day, pressure on the dam abated, and leaking slowed to a trickle. By nightfall, the evacuation order was rescinded.

The incident draws attention to Connecticut's decade-old, public-private system of inspecting the 3,300 dams that fall under its regulatory authority: A nine-person dam safety unit enforces a requirement that owners of dams submit safety assessments conducted by

The unit's relationship with the Bozrah Water Works, the dam's owner and one of the businesses owned by the locally prominent Adelman family, has been fraught for years, beginning in the era when the state was responsible for the inspections. The Adelmans have owned the dam since at least 1979, according to one inspection report.

At least once every decade in the 1960s, '70s and '80s, the state ordered repairs or other work on the dam, according to an inspection report provided Wednesday night by DEEP.

The state deemed the dam unsafe in 1963 and ordered repairs that were completed in 1964. A decade later, the state found leakage and again ordered repairs. Unspecified "remedial work" was ordered in 1987.

Connecticut passed a law in 2014 that transferred responsibility for inspecting privately owned dams to their owners and another in 2016 requiring that owners of dams classified as Class C (high hazard) and Class B (significant hazard) prepare an emergency action plan and update it every two years. The first inspection was due in 2015, the emergency action plan in 2017.

According to a summary of violation notices released Wednesday night, the company never submitted either one. (An inspection report did note, however, a 30-year-old emergency plan was on file.)

Seymour Adelman, who is variously listed in public records as an owner or agent for Bozrah Water Works, did not respond to a call for comment.

DEEP commissioned its own emergency inspection of the dam in September 2021 and then a full inspection by Fuss & O'Neill in July 2022. The engineering firm concluded that the dam should remain listed as a Class C high hazard dam.

"Failure of the dam is likely to cause major damage to the downstream state roadway bridge (Route 608, Fitchville Road) and utility crossings (30 inch water supply pipe for the City of Norwich), potential damage to habitable structures in the flood inundation area, major economic damage, and potential loss of life," the firm warned. "An up-to-date dam breach analysis would help clarify potential damage to habitable structures."

Technically, a Class C designation means loss of life is deemed probable, not potential, in a failure. Also downstream is an electric substation and a firehouse in the Yantic section of Norwich.

The draft inspection report noted "major cracks" and a history of "seepage" from a concrete wall to the left of the spillway if looking downstream, the same side of the dam that was leaking Wednesday. The report still is deemed a draft because it never was signed by the owner.

"The dam has had a history of foundation leakage, and leakage through the stone masonry," the report said.

Graham Stevens, who oversees DEEP's bureau of water protection and land reuse, said the incident showed the system is working, despite the alleged non-compliance over nearly a decade.

“The one thing I’d say about this event is there was great work on behalf of the town of Bozrah and the city of Norwich, and the emergency apparatus in the state of Connecticut worked,” Stevens said. “They activated the right people, the experts, and we brought in contractors and other experts.”

Crushed rock was piled Wednesday against the portion of the dam structure that was leaking.

Chuck Lee, a supervisor in the dam safety unit, said the agency was issuing an emergency contract for the construction of a cofferdam — essentially a dam in front of the dam. With a cofferdam in place, the area in front of the dam can be drained and engineers can make a more detailed assessment of the damage and threat.

It is a relatively small dam — 200 feet wide and 27 feet high — that was constructed in 1871 as an earthen and stone dam to serve downstream mills of the Palmer Brothers Company in the Fitchville village of Bozrah, just upstream from Norwich. In 1914, it was reinforced with concrete poured over its stone work, including the spillway.

With mills in Fitchville and New London, Palmer Brothers manufactured upscale quilts and bedding for department stores and mail-order customers. It foundered during the Great Depression, rebounded with a contract to supply blankets to the U.S. Army and ceased production a year after the end of World War II.

The dam no longer has an industrial use. But it created Fitchville Pond, a recreational asset to a campground on the pond that Norwich Mayor Peter Nystrom says also is owned by the Adelman family. Nystrom said the Adelman family has played a positive role in civic life.

A watershed of 68.5 square miles drains into the Yantic, which flows into the Thames River.

“We’re grateful for the attention from the state, our governor joining us today,” said Nystrom, the mayor of Norwich. “Hopefully this dam will not go. That’s our biggest fear right now.”

“People are telling me they’ve never seen the Yantic River as full as it is today,” Lamont said. “It goes back to the flooding of 1938, maybe Noah.”

More rain was forecast for the weekend.

Jeep driver swerved to avoid deer, ended up in Lake Whitney, Hamden police say

By Matthew P. Knox, - New Haven Register - Jan 31, 2024

HAMDEN — A jeep had to be pulled from Lake Whitney Wednesday morning after a man drove into the water while trying to avoid a deer, police said.

Police said they responded to a report of a one-car crash on Mather Street and located a Jeep that had driven into the lake.

The driver, who was able to exit the vehicle, told officers he ended up in the water after swerving to avoid a deer, according to police. The driver was not injured, but was transported to the hospital to be evaluated because of the temperature of the water, police said.

American burying beetle: The meat-eating insect that buries bodies for its babies to feast on

Megan Shersby - January 13, 2024

Name: American burying beetle or giant carrion beetle (*Nicrophorus americanus*)

Where it lives: U.S. and Canada

What it eats: Dead animals

Why it's awesome: The American burying beetle exhibits a rare behavior for its kind — parental care. And to take it a step further, both the male and female are involved in this duty.

Upon emerging from hibernation in late spring, the males and females search for mates — and importantly, a dead vertebrate. It's a bit of a Goldilocks mission to find just the right size carcass — between 2.8 and 7.1 ounces (80 and 200 grams) — for what's ahead. Once beetles find a suitable carcass and mate, and any potential competitors shooed off, the male and female get to work. Not mating just yet, but working together to bury the carcass underground.

Once this step is complete, they can finally mate and create a brood chamber. The duo strips the dead animal of its fur (or feathers) and then rolls it into a ball, before coating it with a mix of anal and oral secretions that reduce decay.

They lay the eggs in the soil next to the carcass, and once hatched, the parents feed the larvae regurgitated food before the young progress to feeding directly on the carcass.

Generally a female with a larger carcass produces more eggs, but sometimes they choose their incubator poorly. If the parents don't pick a large enough carrion for the number of larvae, they will cannibalize some of the brood — a brutal but effective method to improve the survival of their surviving larvae.

The American burying beetle is the largest of the carrion beetles in North America. It measures up to 1.8 inches (4.5 centimetres) in length, and has distinctive orange-red antennae tips and a large orange-red marking on its pronotum (the section behind the head).

The American burying beetle is listed as critically endangered by the International Union for Conservation of Nature Red List of Threatened Species, as it had become extinct across much of its natural range. Scientists are now working now to breed and reintroduce the species, and in 2015 it was chosen as the state insect of Rhode Island.

Editor's note: This article has been corrected to say the American burying beetle is the the largest of the carrion beetles in North America.

Noticing less snow in New England? Researchers are too.

Connecticut Public Radio | By Mara Hoplamazian - January 24, 2024

With much of New Hampshire covered in a white blanket, this moment in January feels like winter to many.

The rainstorms, flooding, 50-degree temperatures, and bare ground earlier in the season? Not so much.

But that kind of weather is becoming a new kind of normal with climate change. A new study from Dartmouth, focused on snowpack in the last 40 years across the Northern Hemisphere, shows human-caused warming is having a big impact on winter. In New England, the researchers found, many river basins are losing 10% or more of their snowpack per decade.

Justin Mankin, one of the researchers, says New Hampshire's weird weather in December and January is "emblematic" of the trends that are shrinking the region's snow. Rain on snow, snow melting days after it falls, and bare ground are all par for the course in our climate-changing world, he said.

Winter, Mankin said, is starting to look like "vacillations between being briefly snow covered and a prolonged stick season."

Mankin, along with PhD student Alex Gottlieb, set out to study whether climate change has been affecting snowpack in a way that can clearly be attributed to human influence.

That has historically been a tough question for scientists to answer. For one, it's hard to measure how much snow accumulates on the ground – there are many different ways of measuring that, and they don't all agree with each other over time, the researchers said.

Climate change is also having a different impact on snow, depending on the average winter temperature of a place.

In places that are very cold, a few degrees of warming won't have much of an impact, Gottlieb said. Most of the precipitation will still fall as snow instead of rain, and there won't be big warm spells to melt the snow that is on the ground.

But in places where the average winter temperature is above about 17 degrees, the sensitivity to temperature shifts is different.

The likelihood that a storm will bring rain instead of snow, or that a warm period will thaw snowpack that has accumulated on the ground increases exponentially when a place's average temperature is closer to the freezing point, Gottlieb said.

And that's what's happening in the Northeast.

"What this work makes clear is that in places like New England, we're still going to get these snowy storms, we're still going to get these snowy winters, but they're just going to be kind of increasingly anomalous blips on this overall downward trajectory," Gottlieb said.

The researchers focused on how river basins are losing snow, studying in particular how the snowpack looked in March – generally the peak of snow accumulation. In about half of the river basins they studied across the Northern Hemisphere, they detected clear trends for snowpack, and in 40% of those they were able to attribute the changes to global warming caused by humans.

With less snowpack, the researchers said, there could be less meltwater running down rivers and streams in the spring, when people are starting to demand more water. That's particularly an issue in places like the American West, which has a dry season.

For New England, which gets pretty much the same amount of precipitation every month, no matter the season, how losing snowpack could affect water conditions is an ongoing question, the researchers said.

What's clear is that as humans continue burning fossil fuels and heat up the atmosphere, this area of the world will lose snow more quickly.

"New England basins are particularly vulnerable to even modest amounts of global warming going forward. And the possibility of moving to a regime of near-permanent snow loss, or something that looks quite like that, strikes me as very likely," Mankin said.

From frost fans to hayrides, wild weather is forcing CT farmers to adapt to a changing climate

Connecticut Public Radio | By Patrick Skahill - January 26, 2024

Jeff Sandness' farm is filled with tools you'd expect – things like trucks and tractors. But nestled near rows of dormant apple trees and sweet cherries, there's something a bit more eye-catching: a massive propane-powered frost fan.

It's a curious sight, a windmill-like contraption, popping above a quiet winter farmscape in northeastern Connecticut. But as Sandness powers it up, the fan's purpose becomes clear: It moves warm air around.

"Seem a little strange standing under a helicopter?" Sandness jokes, as the fan spins above.

Around him, grass shakes and plants sway from the air. On cold spring nights, the device could be a lifesaver for his crops as it gently raises the ambient air temperature to protect his fruit from devastating spring frosts.

"It will keep rotating very slowly," Sandness said as the fan noisily rattled and rotated overhead. "Takes about five minutes to go around the circle ... just creeping around really slow."

Last year was a tough one for Connecticut farmers. From late-spring frosts to devastating summer floods, 2023 was the latest in a string of wild weather. And it's forcing farmers to rethink what they grow and how they do it.

On Sandness' farm in Eastford, subzero February temperatures wiped out his 2023 peach crop. Temperatures then warmed up, but in May, a freak frost stuck around for a few extra hours overnight, damaging his crop of delicate young apples.

"Spring can't come earlier and then go away," Sandness said. "That becomes the issue that we're facing as far as getting through the spring and freezing weather."

'There's no time to breathe'

Even a few degrees of temperature variation is a big deal for fruit farmers in the Northeast, said Evan Lentz, an assistant extension educator at UConn.

"That can really mean the difference between life and death for some of these fruit crops," he said.

On a cold blustery day, Lentz walked among rows of dormant McIntosh apples and sweet cherries on Sandness' farm. Lentz, who consults with farmers across the state, said the recent wild weather was on lots of their minds.

"The major consideration is like, where do you put your time and your money, especially when your crop is already so compromised," he said.

As the growing season progressed, Lentz said some farmers would spray to protect their crops from pests, only to see torrential summer rains wash away all that work.

"And then you have to consider, is it worth going out again, spending more money, just to get the spray on, so it's actually effective? Or do I just let it go?" Lentz said.

Farmers are asking these questions more and more, said Bryan Hurlburt, head of the Connecticut Department of Agriculture.

"The challenge that the weather and the climate has posed over the past couple of years is there's no break," he said. "There's no time to breathe and say, 'What are we going to do next? How do we pivot from here?'"

Since Hurlburt took over the agency in March 2019, the state has requested five federal disaster declarations after weather wiped out crops.

Extreme weather 'pretty scary' for farmers

Drought and severe rain are driving most of those requests, said Julie Fine, New England's climate and agriculture specialist for American Farmland Trust. Farmers are getting overwhelmed by the ping-pong between these climate extremes, she said.

"People feel like they're having to prepare for two extremes instead of one extreme. And that's pretty scary for a lot of people," Fine said.

Across the region, farmers are adapting their fields, installing irrigation or drainage as needed and some are putting up buildings to protect their crops.

"Installing a lot of high tunnels and greenhouses just trying to get a little more control over the environment," Fine said.

Farmers are also changing their sales tactics to adapt, Hurlburt said.

"They try to do different things across multiple seasons, so that they're not necessarily relying on one good time of year for all their sales," Hurlburt said.

In the Northeast, that means agritourism and direct-to-consumer sales. Think pick-your-own apples or popping the kids on a hayride to go grab pumpkins.

Pick-your-own strawberries has been great for bringing in customers, Sandness said.

In addition to the frost fans, he's considering other changes to adapt to the weather, like installing more irrigation. That's because for farmers like Sandness, climate threats are always changing.

"We had a wet, wet, wet year. A dry, dry, dry year. And another wet, wet, wet one," he said. "So what's 2024 gonna be?"

01/16/2024 – DEEP Press Release

DEEP Requests Grant Proposals for Aquatic Invasive Species Control on Lakes, Ponds, and Rivers

Program to Allocate \$500,000; Applications Due by January 31, 2024

(HARTFORD) — The Connecticut Department of Energy and Environmental Protection (DEEP) is now accepting proposals for the State's Aquatic Invasive Species (AIS) Grant Program. The program makes \$500,000 available to reduce impacts of aquatic invasive species on inland waters in Connecticut. Applications will be accepted through January 31, 2024.

Municipalities, state agencies, and not-for-profit organizations are eligible to receive grants through this program.

Aquatic invasive species, such as Zebra Mussels and Hydrilla, are a serious threat to our ecosystems. They negatively affect native plants and animals and are extremely costly to control. The dense mats formed by invasive plants make boating, fishing, and swimming difficult. They directly impact both the quality of outdoor recreation in Connecticut and the state's outdoor recreation economy, of which boating and fishing are the largest contributors.

"Aquatic invasive species are not just a serious threat to our ecosystems – they are a direct attack on Connecticut's outdoor recreation economy," said DEEP Commissioner Katie Dykes. "These species are costly to counteract, but the grants will enable the recipients to do the critical work of researching and controlling aquatic invasives, which will preserve the quality of our state's waterways and outdoor recreational opportunities."

Connecticut has awarded approximately \$952,700 to 46 projects statewide during the first three years of the AIS Grant Program. Examples of the various projects selected include:

Town of Coventry: Hydrilla treatment for Coventry Lake

Candlewood Lake Authority: Candlewood Lake Steward Program to Educate Boaters on Aquatic Invasives Threatening Candlewood Lake

Connecticut River Watershed Council: Water Chestnut tracking and management in the Connecticut River watershed

Visit <https://portal.ct.gov/DEEP/Business-and-Financial-Assistance/Grants-Financial-Assistance/Grants-for-the-Control-of-Aquatic-Invasive-Species> for details on how to apply for AIS grants.

Boaters are reminded that according to Connecticut General Statute 15-180, no person shall transport a vessel, or any trailer used to transport such vessel, in Connecticut without first inspecting such vessel for the presence of vegetation and aquatic invasive species and properly removing and disposing of any such vegetation and aquatic invasive species that are visible and identifiable. Any person who violates the provisions shall be fined not more than \$100 for each violation. Connecticut boaters who do not purchase the Aquatic Invasive Species (AIS) Stamp upon registration of their vessel are subject to a fine of \$103. Anyone intending to operate an out-of-state registered vessel on Connecticut inland waters also must purchase an AIS Stamp.

The AIS Grant Program was made possible in 2019 when the Connecticut General Assembly established an Aquatic Invasive Species Stamp fee (Public Act 19-190), applied to all registered boats using Connecticut waters, to provide a dedicated funding source for the "Connecticut Lakes, Rivers and Ponds Preservation Account." This account funds programs to protect the state's lakes, ponds, and rivers by addressing aquatic invasive species and cyanobacteria blooms.