

Representative Policy Board
Land Use Committee
South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, CT
Or
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Meeting ID: 258 632 637 09
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[+1 469-965-2517](tel:+14699652517).,575824894# United States, Dallas
Phone Conference ID: 575 824 894#

AGENDA

Regular Meeting of Wednesday, April 10, 2024 at 5:30 p.m.

1. Safety Moment
2. Approval of Minutes – March 13, 2024 meeting
3. Invasive Species Update: J. Tracy
4. Updates on land and RWA properties, including invasive species update
5. Other land items
6. Upcoming Meetings:
 - a. Joint meeting of Consumer Affairs and Land Use – Monday, April 15, 2024 at 5:30 p.m. (FY 2025 Budget Review – All *RPB members are invited to attend*)
 - b. Next regular meeting - Wednesday, May 8, 2024 at 4:30 p.m.
7. Adjourn

Members of the public may attend the meeting in person or remotely by using the link at the top of the agenda. 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
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SAFETY MOMENT

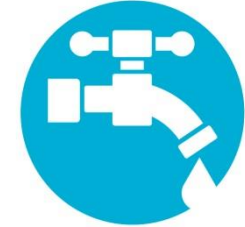
SPRING FEVER – SAFETY AWARENESS

The sun's shining, the temperature's rising, and nature's bursting into life. Spring is here, and the days are getting longer again. But some people enjoy this time of year less than others. For many, the first days of spring bring fatigue, oversensitivity to changes in the weather, and problems with circulation.

Spring fever isn't a threat to your health and will go away by itself. But you can help the process along by following a few tips:

- Begin the day with alternate hot and cold showers to get your circulation going.
- Get plenty of exercise in fresh air. If you work in an office, try to go outdoors during lunchtime.
- Make sure your workplace is well lit.
- Eat a healthy diet with plenty of vitamins, and drink lots of liquids. Avoid heavy meals that make you lethargic.
- Try and reduce day-to-day stress and get enough sleep.

Tap Into
Safety



Regional Water Authority



Service – Teamwork – Accountability – Respect – Safety

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
 March 13, 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, March 13, 2024 at the South Central Connecticut Regional Water Authority, 90 Sargent Drive, New Haven, Connecticut and via remote access. Chair Betkoski presided.

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

Representative Policy Board: R. Harvey and N. Campbell (R)

RWA: K. Curseaden (R)

Management: S. Lakshminarayanan (R), N. Smith, and J. Triana

Staff: J. Slubowski

Chair Betkoski called the meeting to order at 5:30 p.m. He reviewed the Safety Moment distributed to members.

On motion made by Mr. Malloy, and seconded by Mr. Oslander, the Committee voted to approve the minutes of its February 14, 2024 regular meeting and its February 28, 2024 special meeting, with Mr. Eitzer abstaining for February 14, 2024.

Ms. Smith, the RWA’s Natural Resources Analyst, provide an update of the 2023 Deer Hunt, which included:

- Historical property and harvesting information since 2009
- Reasons for reducing deer density
- Season overview and survey information
- Permits and harvesting amounts
- Impacts, data, and DPH reporting requirements

Committee members discussed hunting methods on RWA properties, doe incentives, deer attractants, hunter requirements, and methods of removal.

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
February 29	95%	92%	82%	None

Rainfall (inches)

	Current Year	Previous Year	Historical Average
February 2024	1.60	0.88	3.31
Fiscal YTD (6/1/23 – 2/29/24)	45.42	29.63	34.11

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

- Cheshire, Bis/Bowman property – Signed P&SA for 78+/- acres.
- Cheshire – Corresponded with property owner of 20+/- acres.
- Cheshire – Corresponded with property owner of 16+/- acres.
- Bethany – Corresponded with property owner of 60+/- acres.
- Bethany – Corresponded with property owner of 35+/- acres.
- Hamden – Corresponded with property owner of 10+/- acres.
- North Branford, Beech St. and Poms La. properties (NB 4) – Corresponded with land trust staff about the purchase.
- Seymour, Squantuck Rd. (SE 5) – Continued the attempts to get town’s plans for the property in order to prepare the disposition application.

Rental houses:

- Nothing to report.

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) – **20% complete.**
 - Conducted LSR grant planning and administrative duties related to revised budget for steam weeder, capital spending procedures, and award letter amendments.
 - Compiled and submitted US Department of Agriculture Land Value Survey report.
 - Sent out permit renewal packets for woodcutters and maple tappers.
 - Arranged delivery of partial resistant chestnuts from The American Chestnut Foundation.

Recreation

- Invasive plants walk at Saltonstall had 12 people.
- Owl walk at Chamberlain had over 50 people.
- Maple sugaring tour had 34 people.
- Recruited new staff for 2024 fishing season.
- Pine Hill permit was renewed by DPH.
- Permit renewals were submitted to DPH for activities at Lake Saltonstall, Big Gulph, Hammonasset, Sugarloaf and Genesee.
- Customer Service Rep. attended meeting where pin pad usage for payment was discussed.

	February		January	
	2024	2023	2023	2022
Permit Holders	4,771	4,822	4,743	4,847

Special Activity Permits

- Yale University, School of the Environment (Mark S. Ashton) - Education/field trips for grad students, North end of Lake Gaillard – site classification and stand assessment exercise; North Madison off Rt. 79N Silvicultural systems demonstration area (2/9/2024 field trip to Lake Gaillard coordinates -41.377670, -72.758137; 3/1/2024 field trip to North Madison – silvicultural systems demonstration area coordinates latitude and longitude are 41.393639; -72.650112.)
- Prospect Volunteer Fire Department, (Mr. Ryan Angelicola) – teach the members of the Fire Department how to correctly treat felling trees and working with chainsaw on log cutting, Tress Road Entrance, 14 Chatfield Drive, Prospect, (4/1/24 – 7/1/24)
- UConn, Dept of Ecology & Evolutionary Biology (Dr. Mark Urban) – Research on pond amphibians - Totoket mountain in Northford; ridge north of Lake Gaillard; 60 ponds distributed to the west and east of Big Gulph Brook (3/1/2024- 3/1/2025)
- CTDEEP (Ansel Aarrestad, Environmental Analyst II) - To monitor and assess the surface waters across CT as part of a probabilistic study. Install temperature logger, diatom community survey, fish community survey, macroinvertebrate community survey, swap temperature logger, remove temperature logger. Mill River (41.394847-72.892324) off of Riverside Drive, Hamden (3/20/2023-3/20/2024) Extension until November 30, 2024.

Other items

- Encroachments/agreements –
 - West Haven, Shingle Hill tanks (WH 7) – Answered questions from Yale about the draft agreement.
 - North Branford, 67 Woods Hill Rd. (NB 7) – Discovered tree house over the property line. Sent letter to abutters.
 - Orange, 821 Alling Rd. (OR 6) – Discovered items stored over the property line. Sent letter to abutters to remove materials.
 - Orange 835 Alling Rd. (OR 6) - Discovered items stored over the property line. Sent letter to abutters to remove materials.
 - Orange, 845 Alling Rd. (OR 6) – Discovered a lawn extended over the property line. Sent letter to abutters to stop mowing or enter into a license agreement. Abutters called and said they would enter a license agreement. Draft agreement mailed.
 - Orange, 849 Alling Rd. (OR 6) - Discovered items stored over the property line. Sent letter to abutters to remove materials.
 - Orange, 158 Ohman Rd. (OR 6) - Discovered items stored over the property line. Sent letter to abutters to remove materials.
 - Hamden, Lake Whitney access (HA 4) – Received updated draft agreement from UI to review.
- Invasive plants – Treated or documented invasive plant populations in Branford, East Haven, and North Branford. Issued PO for steam weeder as part of the LSR grant. Assisted Engineering with planning for vegetation removal over water mains at West River.

Invasive Species Documented/ Mapped (ac)	39 acres
Invasive Species Treated (ac/MH)	5.4 acres

Representative Policy Board
Land Use Committee
March 13, 2024

- Hamden, Hamden Hall scoreboard – Notified by Environmental Planning staff that the school submitted a P&Z application for a new scoreboard.
- Hamden, Tennessee Gas Pipeline work – Forwarded notice from gas company about their planned work in the ROW east of Downs Rd. in Hamden.
- Boundaries – Checked and remarked boundaries in Madison, East Haven, North Branford, Branford, Hamden, West Haven, Orange and Woodbridge.
- Lake Whitney dam project – Replied to Engineering about access question off of Whitney Ave.
- Woodbridge, 1955 Litchfield Tpk. – Exchanged emails with others about the fate of the house, barn, and other buildings at this address.
- Genesee tunnel inspection – Corresponded with Engineering staff about their plans to inspect the tunnel east of Lake Menunketuc.
- New Haven, Greenwich Ave. easement – Assisted Operations staff with contacting UI about getting access to a property they own and we have an easement over.
- Woodbridge, DOT sediment basin property – Looked up information for Engineering about a property we conveyed to the state for a sediment basin in the 1970's.

Committee members discussed the status of the RWA police and future topics of interest.

Chair Betkoski reported on upcoming meetings in April:

- Finance Committee regular meeting – Monday, April 8, 2024 (FY 2025 Budget Review – *All RPB members are invited to attend*)
- Next regular meeting - Wednesday, April 10, 2024 at 5:30 p.m.
- Joint meeting of Consumer Affairs and Land Use – Monday, April 15, 2024 at 5:30 p.m. (FY 2025 Budget Review – *All RPB members are invited to attend*)

At 6:28 p.m., on motion made by Mr. Malloy, and seconded by Mr. Oslander, the Committee voted to adjourn the meeting.

Peter Betkoski, Chairman

South Central Connecticut Regional Water Authority
90 Sargent Drive, New Haven, Connecticut 06511-5966
<http://www.rwater.com>

To: RPB Land Use Committee:
Peter Betkoski, Chair
Peter DeSantis
Brian Eitzer
Charles Havrda
Mike Horbal
Mark Levine
Greg Malloy
Joe Oslander
Jamie Mowat Young

Cc: Larry Bingaman, President & CEO
Sunny Lakshminarayanan, VP, EES

From: Joshua Tracy, Invasive Species Management Technician

Date: 10 April 2024

Subject: Invasive species update- plan for mitigation and prevention in 2024.

RWA's invasive species program was initiated in 2018 to document and treat invasive species populations on RWA properties. To date, the program has documented over 4,800 acres of invasive species populations and treated 550 acres of invasive species. Efforts have been made to experiment with new technologies and techniques to relinquish the need for herbicides to mitigate the impacts of invasives on our properties. Recently, RWA has acquired a grant through the U.S. Department of Agriculture that will aid in valuable research toward this goal. RWA has also been involved with various committees to change the legislative status of specific species to reflect their invasiveness and danger to our native ecosystems.

The RWA applied for a Landscape Scale Restoration grant in 2022 and recently secured nearly \$200,000. The genesis of the project spawned from a bat hibernaculum at Lake Gaillard that is utilized by every native bat in Connecticut, including species that will be classified as endangered or of special concern. The RWA decided it would be beneficial to ask DEEP Wildlife division to gather acoustical and geographical data on the bats hibernating in the tunnel. This data would be used to inform potential management activities within a certain radius of the hibernaculum. Currently there are restrictions on forestry operations near the hibernaculum due to minimal insight regarding where bats raise their offspring. Bats need a litany of diverse ecosystems, some of which can be created through timber management. Using information acquired by DEEP, we hope to identify frequently used trees and perform management on surrounding forest ecosystems to provide potential feeding areas for these bat species, while still performing important timber harvests.



Northern Longeared bat, endangered.



Tri-color Bat, proposed endangered.

Recently acquired grant funding will allow RWA to hire two seasonal workers for three years to assist with controlling invasive species and providing inventory of RWA forests. A large portion of the budget is dedicated to a piece of equipment called a steam weeder. The steam weeder utilizes pressurized saturated steam to burn herbaceous plants without the use of fire. The unit is trailer mounted and can be mobilized on RWA woods roads that are infested with invasives.



Example of steam weeder trailer.



Saturated steam head in action.

This is an experimental technique to kill plants such as Japanese Stiltgrass and Black Swallow-wort, which are two plants that are typically controlled with a broadcast application of herbicide. Our hypothesis is that the steam will impede the growth of these plants prior to releasing seed, causing populations to decrease over time. RWA's woods roads are one of the largest vectors for spreading invasives due to the seeds attaching to vehicles, shoes, and animals, which eventually drop off and reseed in new locations. In addition, we plan to use the steam weeder at log landings in the future to reduce the spread of invasives to timber management areas.



Japanese Stiltgrass (*Microstegium vimineum*).



Black Swallow-wort (*Vincetoxicum nigrum*).

RWA has been involved in the Connecticut Invasive Plant Working Group (CIPWG) for five years and was recently invited to join a new committee that determines if a plant meets all nine criteria of an invasive species. Through this experience, both anecdotally and professionally, we have been able to provide evidence that at least one species commonly found on RWA property should be added to the list of prohibited invasive species, while another species found on the property was designated to a watch list. As a committee, we determined seven new plants to be considered invasive, all of which the State Environmental Committee added to the official ban list. The ban list consists of over one hundred plants considered invasive and declares no person shall "import, move, sell, purchase, possess, transplant, cultivate or distribute" these listed plants. Having the opportunity to be a stakeholder in this committee allows RWA to provide input on plants that could potentially harm public drinking water supply watersheds and helps educate the public on associated negative impacts.



Japanese Angelica tree, proposed invasive found on RWA property.

In addition, the RWA sits on the CIPWG planning committee, where we plan the bi-annual symposium, which educates members and the public about invasive plants and methods to treat them. Speakers from esteemed universities and organizations, as well as volunteers and landowners attend to speak about their experiences and educate about new and innovative methods to control invasive species. These opportunities aid in prevention of spreading future invasives and may give RWA an advantage controlling species being spread from neighboring properties. The next symposium will be October 2024 and will provide practical advice to those who want to aid in reclamation of our native habitats.

April 10, 2024
Land Use Committee Meeting

Reservoir Levels (Percent Full)

	Current Year	Previous Year	Historical Average	Drought Status
March 31	100%	98%	91%	None

Rainfall (inches)

	Current Year	Previous Year	Historical Average
March 2024	9.57	3.83	4.34
Fiscal YTD (6/1/23 – 3/31/24)	54.99	33.46	38.46

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

- Branford, Cherry Hill Rd. – Executed quit claim deed to address title issues and filed on land records.
- Cheshire, Bis/Bowman property – Money wired to their attorney for the deposit. Authorized Juliano to start survey.
- Bethany – Corresponded with property owner of 35+/- acres.
- Hamden – Corresponded with property owner of 10+/- acres.
- North Haven – Corresponded with property owner of 15+/- acres.
- North Branford, Beech St. and Poms La. properties (NB 4) – Corresponded with land trust staff about the purchase.
- Seymour, Squantuck Rd. (SE 5) – Discussed plans for open space with the town. Authorized the preliminary assessment and appraisal.

Rental houses:

- Hamden, Skiff St. house (HA 9A) – Received check from court through Murtha for the condemnation.
- Woodbridge, 1955 Litchfield Tpk. (WO 1) – Met Environmental Planning staff at the house to inspect the house, barn, and old treatment building.

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) – 20% complete.
 - Contractor completed clearing of Harry Field Rd., Madison.
 - Scheduled and participated in several meetings related to necessary road repairs and improvements at Menunketuc watercourse crossings.
 - Identified additional white oak saplings in BE 13 clearcut to expand CAES release study.
 - Conducted LSR grant planning and administrative duties related to revised budget for steamweeder, capital spending procedures, and award letter amendments.
 - Surveyed hemlock stand in BE23 for hemlock wooly adelgid.

Recreation

- Easter egg hunt had 36 kids attending with their families.
- Participated in a PayTrac migration meeting to discuss accepting credit cards for boat rentals.
- Amended the boat rental form.
- Hired one new staff member and started training.
- Ordered trout for stocking Maltby Lakes and filed the liberation permit with DEEP.
- Worked on plastic bait recycling program.

	March		February	
	2024	2023	2023	2022
Permit Holders	4,827	4,954	4,771	4,822

Special Activity Permits

- Boys Scouts of America Troop 610 (Michael Collins) – hiking trip to Camp Whiting on Route 69, Woodbridge, (3/16/2024).
- Connecticut Agricultural Experiment Station (Dr. Chris T. Maier, Agricultural Scientist)-Conduct research on insects, particularly longhorned beetles (continuation of 2023 projects), and flower flies and to survey for abnormal emergencies of periodical cicadas, Near Lake Gaillard and Totoket Mountain complex (North Branford); near Beaver Head Road, especially Beaver Head Swamp (Guilford); River Road Hamden (3/12/2024-11/30/2024).
- CT DEEP (Christopher McDowell, Fisheries Biologist)-To assess the fish community via night boat electrofishing at Lake Saltonstall to assess stocked Walleye population on 3/20/24 and 4/3/24 and all species on 5/15/24. (3/20/2024 - 5/31/2024).
- Trinity Baptist Church (George Hayner)-to walk Lake Chamberlain with international students bible study group at Trinity Baptist Church (3/23/24).

Other items

- Encroachments/agreements –
 - North Branford, 67 Woods Hill Rd. (NB 7) – Tree house was dismantled and removed from our property.
 - Orange, 845 Alling Rd. (OR 6) – Executed license agreement with abutters to allow the lawn and drain pipe.
 - Orange, 849 Alling Rd. (OR 6) – Abutters said they would move their materials back over the property line.
 - Orange, 854 Greenway Rd. (OR 4) – Had surveyors remark corners of the property so that we could properly mark it.
 - Woodbridge, 888 Greenway Rd. (OR 4) – Sent letter to abutter about extensive lawn over the property line.
 - Seymour, 284 Roosevelt Dr. (SE 1) – Sent letter to abutter about materials over the property line.
 - West Haven, 20 Saw Mill Rd. (WH 8) – Sent letter to abutter about dumpsters over the property line.
- Invasive plants – Treated or documented invasive plant populations in Seymour, Branford, East Haven, and North Branford. Attended state invasive plant subcommittee meeting to discuss plants to be added to the ban list. Attended CIPWG planning committee meeting.

Invasive Species Documented/ Mapped (ac)	44.6 acres
Invasive Species Treated (ac/MH)	9.7 acres

- Hamden, Hamden Hall scoreboard – The school notified us that the application for the scoreboard was approved by the P&Z commission. Sent email to P&Z commission stating our permission for the scoreboard to be installed.
- East Haven, Borrmann Rd. – Met with abutters about water coming from the ridge.
- Deer hunt – Notified one hunter that they will not be allowed to apply for the 2024 hunt. 381 applications for 2024 were mailed out.
- Branford, Yowago Ave. easement – Corresponded with consultant working at 15 Yowago Ave. about an old watermain and easement that crosses that property.
- Boundaries – Checked and remarked boundaries in East Haven, North Branford, Madison, Seymour, West Haven, Orange, Woodbridge, and Hamden.
- Genesee tunnel inspection – Corresponded with Engineering staff about their plans to inspect the tunnel east of Lake Menunketuc.
- Woodbridge, DOT sediment basin property – Completed research about this property and sent summary to Engineering. Filed documents in the vault that we missing.
- Cell phone towers – Met with consultant at High Rock Tank in Hamden.
- Hamden, Lake Whitney dam project – Corresponded with UI staff about signing the license agreement about our access.

Attachments

- March 11, 2024 - Thousands of dams in CT pose risks and challenges – CT Mirror
- March 13, 2024 - Connecticut's trout stocking season is underway statewide. If you fish, here's where to find them – CT Insider
- March 21, 2024 - 70 million Americans drink water from systems reporting PFAS to EPA. Is yours on our map? – USA Today
- March 25, 2024 - Aging dams sprinkled across Connecticut are hidden flood hazards waiting in plain sight – NH Register
- March 27, 2024 - Study finds Lyme disease-carrying deer ticks often infest Connecticut's stone walls – NH Register

Upcoming Agenda Items

May 2024 - Oaks?

Thousands of dams in CT pose risks and challenges

By Jan Ellen Spiegel / CTMIRROR.ORG - March 11, 2024

Kinneytown Dam in Seymour looks practically idyllic rimmed in two-day-old mid-February snow as the Naugatuck River cascades off its ledges. But this hulk of a structure, however majestically flowing, is causing more harm than anything.

Originally built around 1840 in the river's industrial age of mills, the dam stopped generating its small amount of hydropower about five years ago. The artificially high part of the river created upstream by the man-made falls poses flooding risks to Route 8 on one side and a Metro-North rail line on the other. The base of the falls, which is a large concrete apron that transitions to a boulder-strewn river, often becomes a fish graveyard — those that go plunging over the falls and those migratory ones that can't make it up a poorly constructed fish ladder that by all accounts has never worked well.

"If you don't have good downstream passage as well as upstream passage, you can pass them upstream all you want, but it's going to kill them on the way down," said Laura Wildman, a fisheries water resource engineer and vice president of ecological restoration for the advocacy group Save the Sound, which for years has pushed for and assisted with dam removals.

Kinneytown is destined for exactly that. More than \$16 million — mostly federal money augmented with a little state funding — has been made available for its removal, though a good bit more will likely be needed.

But Kinneytown is just one of thousands of aging dams in the state that challenge those that oversee and regulate them — public officials, environmentalists, landowners, utilities and almost every community with conflicting interests and priorities.

Historically, dams have provided power, recreational enhancement and water supplies, but their environmental impacts have been a focus for state and national advocates for decades. Climate change is now exacerbating those impacts.

More recently, dams are being considered for their potential to contribute to Connecticut's quest for more renewable energy.

The competing interests and responsibilities around these structures are playing out in increasingly urgent, but often uneasy, ways.

Dams, dams and more dams

The Department of Energy and Environmental Protection puts the number of dams in Connecticut at approximately 4,800. If that sounds like a lot, that's because it is. Based on U.S. Army Corps of Engineers information, that's believed to be the highest number of dams per 100 river miles of any state in the nation.

The vast majority of Connecticut's dams have histories that go back more than 100 years (though some are much older), range in size from small to tiny, and are privately owned. Most are not even noticeable — a waterfall here, a cute little pond there that in reality are the products of a dam redirecting water flow. And they likely would have remained unnoticed if not for a near-catastrophic breach in January at a small, poorly maintained dam with longstanding non-compliance issues.

The Fitchville Pond Dam along the Yantic River in Bozrah catapulted dams in Connecticut into public consciousness, at least briefly. Storms and runoff — likely intensified by climate change — caused the January problem, just as they have caused flooding and dam breaches around the state in recent years.

Last summer, old earthen dams proved no match for a series of storms as flooding of a magnitude not seen since catastrophic floods in 1955 washed out some areas in the Northwest part of the state. Many of those old dams were actually part of a dam-building frenzy after 1955 that was aimed at preventing further such catastrophes.

While dam issues can cross several state departments, local and federal jurisdictions, DEEP is the key regulator. It maintains a publicly available spreadsheet of dam registrations as well as a point-and-click map that is so crowded, it is almost impossible to read without zooming in to miniscule areas at a time.

The most important regulations concern safety. Classifications include hazard level — "high" and "significant" being the two worst. High hazard denotes a probable loss of life if a dam failure occurs. Then there are condition categories that range from unsatisfactory to good, based on an engineers' investigations.

At last count, DEEP said 567 dams fall into the two worst hazard categories, and 66 of those are considered to be in poor condition. Owners of dams in the high and significant hazard categories are required to file what's known as an emergency action plan with DEEP, although they have no responsibility to tell nearby residents if they are living in a dam breach inundation zone.

"Those emergency action plans have inundation mapping, so we know, if that dam were to fail, what areas would be inundated," said Chuck Lee, assistant director of dam safety programs at DEEP. "It doesn't require the dam owner to

notify people downstream. It does require the dam owner to notify emergency personnel and give a copy of that emergency action plan to any municipality that would be affected.”

A new dam inspection system in place since 2014 has put the onus on dam owners to inspect and complete repairs and emergency action plans as needed. It has enabled DEEP to better account for its dams, especially those at highest risk, and better maintain them.

In 2021, the state passed a law that requires property sellers to indicate if there is a registered dam on their property. In many cases dams can be so obscure that property buyers may not even be aware of their existence, let alone understand the requirements owning one.

Dams were built for many purposes. Those that generate electricity, control flooding and supply water are the kinds most likely to be kept in use. Some were built for recreation, providing large and small water bodies — referred to as impoundments — calmer and safer than the river itself.

Many, many more in Connecticut, however, were built in the 1800s to run mill operations for everything from textile manufacturing to grinding grain. Many of these have been left to essentially rot, posing all kinds of hazards, likely to be felt more profoundly due to the extremes of climate change.

Torrential rains and runoff put more pressure on dams that were not built to handle those volumes of water. Drought and heat can result in other problems.

“That sort of speaks to the requirement for owner-responsible inspections,” Lee said. “Those inspections we’re receiving are much more detailed than we would have done in the past. And what part of that inspection will look at is the spillway and the capacity of that spillway.”

Even if components like a spillway are adequate to meet the Army Corps of Engineers standards the department uses, Lee said that when owners come in for permits, his office will push them to increase spillway sizes to accommodate the unknowns of climate change and to even think about removing dams.

But very few permits are requested in any given year compared to the number of dams.

Advocates argue there’s a lot more to consider environmentally than whether a spillway is big enough.

Dams and their environment

“One of the things that people don’t realize about rivers is that they transport water and sediment. And that’s a delicate balance,” said Wildman, of Save the Sound.

What she means is that if you put in a dam in a river, instead of allowing for the natural erosion and rebuilding process that fills deltas and beaches downstream, the river leaves sediment and contaminants clogged behind the dam. Just about anything in or around the river can wind up stuck there too — from fish to mussels, to aquatic invertebrates to little bugs to turtles.

These beings need to move for all kinds of reasons — their life cycles, to avoid predators, and to deal with the changing climate, re: moving to cooler waters if it’s too hot in one area.

“Anything you affect as far as the aquatic species affects the terrestrial species, the birds of prey, the bears, the raccoons everything else,” Wildman said. “When you’re putting a dam in this dynamic, interconnected ecosystem, you’re changing all these natural processes and functions, and it has a cascading effect.”

But don’t think a fish ladder or fish passage that’s supposed to help migrating fish up over a dam to spawn upstream will fix it. They’re species-specific, leaving the majority of fish behind. And if there’s no way to get the fish back down, then it’s for nothing.

“Fish passages, fishways are horrifically inefficient,” Wildman said. “The most recent studies show fish passages can be, in best case scenarios, like 50% passage, and worst case scenarios zero, and many of the fishways we have in Connecticut actually probably aren’t passing any fish.”

Dams arguably are a key reason Atlantic salmon are basically gone from Connecticut. And they’re no small part of why shad, river herring and lamprey eels are reduced to tiny populations.

That’s not the extent of the problems caused by dams, however.

Over decades, the build-up of impervious surfaces like roads and buildings are producing more and more runoff that, in turn, stresses dam systems built when roads were often porous dirt and there were fewer people.

The runoff now carries more debris, chemicals, septic contamination and potential toxins than it did a century ago, dumping all of this into rivers and dammed bodies of water. This creates a contamination stew that can also heat water, making it more hospitable to invasive species, dangerous insects and other types of growth.

The impacts of climate change and weather extremes can make the situation even worse. There's less flushing and aeration of the water and lower dissolved oxygen, which leads to toxic algae blooms in the less dynamic water bodies created by dams.

Rainbow Reservoir on the Farmington River in Windsor still has an active small hydro-electric plant, but even that amount of water movement has not prevented algae from growing.

"Three separate summers, the algae blooms got to such high levels that the water became toxic," Wildman said. "It would have been dangerous for your pets or your children, or anyone for that matter."

And that's just the short list of reasons removal is often the preferred course of action for so many of the state's dams — something DEEP supports when it's appropriate and feasible.

"If anything comes from this emergency and almost tragedy in Bozrah, we hope it will be really a renewed interest in barrier removal or dam removal," said Graham Stevens, bureau chief for water protection and land reuse at DEEP.

The key question, he said, is whether the dam is still serving its intended purpose. For instance, if water regularly pours over a spillway of a flood control dam, then it's causing flooding, not preventing it.

Stevens points to Dana Dam on the Norwalk River in Wilton, removed last September with help from a number of groups that had fought for nearly a quarter-of-a-century to eliminate the dam. The cost was nearly \$4 million, and it opened a fish passage that had been blocked for 125 years and almost immediately narrowed the channel, allowing for better water flow.

"We really want to work with dam owners, municipalities, nonprofit organizations, to strategically address dams that no longer serve their intended purpose and that pose a risk so that Connecticut is better positioned to deal with the effects of climate change," Stevens said.

But some people have begun pushing for another option for at least a few of the state's old dams. A legislatively mandated task force has been looking into repurposing some for hydropower, which is considered renewable energy.

Could hydro help?

The task force was proposed last session by Rep. Bill Buckbee, R-New Milford, the house ranking member on the Energy and Technology Committee. Buckbee runs a nonprofit park where the Still River meets the Housatonic, not far from some of the state's biggest hydropower dams.

Aside from the park flooding more regularly, either from storms or from letting more water out of the nearby impoundments to deal with those storms, Buckbee said his research determined that hydro is keeping energy rates down in other parts of the country.

"Why aren't we rethinking things here?" he said. "Every time people talk green energy, that means we're talking wind or solar, wind or solar, wind or solar. ... We have to explore the other options and see what's going to be the safest and the most economical."

He's not talking about the tiny dams — some of those, he said, should come out. But he figures some dams could be upgraded. "I don't think you can make great decisions unless you're looking at the whole picture," he said in explaining the point of a task force.

The legislation received few comments. DEEP was noncommittal in its brief, three-paragraph submission that essentially just offered assistance.

Since then, the task force has been criticized for being top-heavy with energy industry representation, with only one environmental advocate. The report, due Feb. 1, has now been delayed to April 1.

The task force chair is Len Greene, vice president of external affairs for FirstLight Energy, which, by its account, owns about 84% of the total installed capacity of hydropower in the state — about 10 of the roughly three dozen active hydropower operations.

Connecticut doesn't buy a drop of FirstLight's power.

The nearly 91 megawatts — roughly enough to power around 68,000 homes — generated by four of FirstLight's plants is all purchased by an array of municipal electric operations in Massachusetts through contracts that don't expire until sometime between 2029 and 2040. Among those plants is the largest hydro in the state at 42.6 megawatts — Shepaug Dam on the Housatonic River in Southbury and Newtown — and the Stevenson Dam in Monroe, providing 28 megawatts.

By way of comparison, the two largest hydro operations in New England are on the upper Connecticut River between Vermont and New Hampshire — Moore Dam at 192 megawatts and Comerford Station at 168 megawatts.

The point of the task force is to assess whether it's worth getting some of Connecticut's many old dams, just sitting there producing no power, back in operation to help increase the renewable power mix.

The answer, according to Greene, is maybe.

The big issue, likely to no one's surprise, is money.

"The very, very few dams that exist right now that could be powered, the reality is that it's incredibly expensive to build, incredibly difficult from a regulatory standpoint," Greene said. "But even if you got over those hurdles, building and maintaining those facilities without a solid revenue stream is impossible."

Even for dams that are already powered, it's a stretch, said Duncan Broatch, chair of the Connecticut Small Power Producers Association and a task force member.

Broatch, who has rehabbed a number of small dams in the state, owns Dayville Hydro, which generates 100 kilowatts. That's 0.1 megawatts. The problem the way Broatch sees it is Connecticut only pays hydro owners like him the wholesale rate for their power — an approximate, meager 3 cents per kilowatt hour. That means he makes about \$11,000 gross revenue annually. His insurance runs \$5,000, and he has to pay people to maintain and repair his dam.

"I lose money every year," he said. "Fifteen cents [per kilowatt hour] would keep projects like this in the black."

He said that amount would cover relicensing by the Federal Energy Regulatory Commission, which issues licenses or exemptions to all hydropower dams, and would help dam owners upgrade their systems as new technology becomes available.

"Connecticut is way behind; it's embarrassing how they have neglected hydro," Broatch said. He'd like to see hydro get the same kind of consideration from the state as wind and solar. "The main thing in my mind is to save the ones that are still running so they don't close up shop, and also those ones that were decommissioned — put those back on line."

Hydropower has a problematic status in the environmental community. Although it is not carbon-emitting like fossil fuel power, there are greenhouse gas emissions associated with it.

It can also suffer from the effects of climate change. Hydro in the western U.S. and Canada has literally dried up during recent droughts. Even the Northeast, which buys big Canadian hydro, has faced temporary cutoffs — as recently as last summer — when heat and wildfires spurred by those droughts resulted in transmission shutdowns.

Hydro also often includes intentionally flooding certain areas to provide water sources, which has meant submerging towns, which was the case with Candlewood Lake north of Danbury when it was created in 1926 as part of the still-operating Rocky River hydro plant.

Pumping water into a reservoir, which certain types of hydro do, often requires a lot of power and can cause portions of a river to flow backwards for periods of time.

"There's a good possibility that some of those that are out there now are not worth saving and may have much, much higher environmental impact than they're worth," Greene said.

But Greene also notes that hydros have a lot of flexibility. FirstLight, he said, is looking to potentially pair its dams with battery storage and other renewables. For instance, it's considering putting solar panels on dams or at the Shepaug facility, on the adjacent land.

Environmental advocates urge caution for a variety of reasons.

Wildman, the lone advocate on the task force, and others repeatedly point out that even small hydro can have significant environmental impacts, which is why Wildman would like to see the focus on larger hydro facilities, especially those not on the main stem of a river where a dam can diminish water flow in the upstream tributaries.

"Yes, they have significant impacts on the ecosystem, but we're getting a significant amount of power and economic benefits out of these. I would rather have the impacts in fewer spots and get more benefit from that one spot than spread the energy out over an entire landscape," she said.

She and others also suggest that the best candidates for producing power are dams that already serve a critical purpose such as flood control — the state has about 75 of these dams — or large-scale recreation with economic benefits.

"A good example of a dam that I think should be producing hydropower [is] Colebrook dam," said Alicea Charamut, executive director of the Rivers Alliance of Connecticut, who is not on the task force but has monitored its work.

Colebrook was one of several dams built for flood control after the 1955 floods. Its three-megawatt hydro component was shut down a few years ago.

"That dam's not going anywhere. It's a flood control dam. It's a dam behind another dam," Charamut said. "That's a very good example of something that should be incentivized."

She and others point to the Upper Collinsville hydro, also known as the Canton hydro. It was re-activated last year — more than half-a-century after the hydro portion of the dam, built in the 1860s, shut down — with a \$6.5 million retrofit with

state-of-the-art equipment and a fishway. The lower Collinsville dam, on the other hand, is slated for removal, and Charamut said that's the right move.

"There has already been a feasibility study that says that it is not going to be economically feasible," she said.

Given the flooding and extreme storms in the last few years, Greene said that dams that were never designed for flood control are essentially serving that function anyway by releasing water from impoundments in anticipation of large volumes of stormwater and runoff.

"We have to manage that water as best as we can to try to mitigate flooding where we can. At some point, though, the river just takes over, and it doesn't matter what we do," he said. "We basically just have to open all of the gates up and just let the water through."

As to the question of whether Connecticut should look to nature or hydro as a way to deal with its dams, there's no single answer.

But for Kinneytown Dam, the answer is clear to Aaron Budris, environmental planning director at the Naugatuck Valley Council of Governments.

"I think it's a really good example of hydro is not necessarily a bad idea, but hydro in a bad location is a bad idea. And I think Kinneytown Dam is in just a really bad location."

Losing Kinneytown

Kinneytown is the first dam on the Naugatuck, so it essentially blocks migratory fish from the entire river. Until Kinneytown is removed, Tingue Dam — a mile north — is stuck with a brand-new, but essentially useless, \$7 million fishway and adjacent park. Tingue was not removed because its structure is intertwined with a road over the river. After Tingue, there's no dam until Thomaston.

Kinneytown actually has two powerhouses — a bigger one in Seymour and a smaller one in Ansonia. Ansonia stopped operating in 2010, Seymour in 2019. It's arguably 30 years behind on maintenance after having changed ownership a number of times. And it can't always handle the kinds of water flows extreme storms are producing.

"It is an example of small hydro that's no longer a viable place to create electricity," Budris said.

Best case scenario, it will take another couple of years to remove Kinneytown, which will bring to around 50 the number of dams Connecticut has removed in the last 90 years.

Small earthen dams are relatively easy to remove, compared to a big, concrete dam like Kinneytown. Some of the removal problems stem from the Naugatuck River's industrial history. Not only was it known for changing colors depending on what had been dumped in it, it also caught fire in the 1940s.

The remnants of all that contamination can likely be found in the sediment that has built up behind the dam, downstream at the Ansonia portion, and in the canal and pond between them. Disposing of that sediment will be tricky at best.

"I think towns that own dams, they're starting to come to terms with the real cost of owning that type of infrastructure. And I think if you remove a dam, it's a one-time cost," Budris said. "If you want to keep it, you have to maintain it, you have to inspect it, you have to work on it. It's a lifetime of costs."

River experts say little river restoration will most likely be needed at Kinneytown or other dam removals.

"There is no more effective way to restore a river than to take out a dam," said Colleen McNally-Murphy, associate national director of the Hydropower Reform Coalition. "What we've seen time and time again is that the rivers can heal themselves. It takes time. It's not necessarily overnight. But again and again, we've seen that once a dam is out, the river heals itself faster than people expect."

After Kinneytown is removed, the flood risk the area faces now from all the impounded water will basically disappear, and the river will be able to open up to greater recreational use.

Laura Wildman from Save the Sound tramps through snow, past the rusted metal of the old hydro station above the inert fish ladder, careful to avoid rotted flooring.

She said that she sees taking out the dam as the key to turning what was once an industrial sewer of a river back into what she called a "gem."

And then added: "I've always said it's my favorite river I've ever worked on because it's the one that needs me the most."

Connecticut's trout stocking season is underway statewide. If you fish, here's where to find them.

By Vincent Gabrielle, Staff writer – CT Insider - March 13, 2024

Get the fishing gear ready, because the state Department of Energy and Environmental Protection has been stocking trout in Connecticut lakes and rivers for the last four weeks.

DEEP's Fisheries Division plans to release 500,000 brown trout, rainbow trout, brook trout and tiger trout — most of them about a foot long with some "much larger" — all grown from state fish hatcheries. The state plans to release the fish well into May, with about 10,700 trout dumped into 17 rivers and streams on March 13.

According to a DEEP stocking report, conditions now are very good for fishing. Air temperatures are warming to about 70 degrees Fahrenheit while the water is still chilly, perfect for cold-water adapted fish like trout.

DEEP maintains three fish hatcheries: the Burlington, Kensington and the Quinebaug Valley State Fish Hatchery in Plainfield. The majority of trout grown to stock Connecticut streams come from Quinebaug, which is capable of housing about half a million trout in its 50 "grow out tanks."

Trout from the state hatchery program are released into about 150 rivers and streams and 100 lakes and ponds statewide. In 2023, DEEP released over 582,000 trout of various species into Connecticut waters.

Some trout management areas allow for yearlong catch-and-release, with some restrictions. Others are seasonal or time-limited due to conservation concerns. Currently, trout species are available for catch-and-release between March 1 to April 14 statewide.

There are also 28 Wild Trout Management Areas statewide. Nine of these are sections of rivers with adequate reproduction to support year-round fishing with no hatchery stocking. This is where you'll typically find native brook trout. The rest require the state to stock fry and baby brown trout to support the population.

Regulations on when and how to catch can vary by location and species, so consult the DEEP fishing guide online prior to fishing.

70 million Americans drink water from systems reporting PFAS to EPA. Is yours on our map?

Austin Fast Cecilia Garzella, Yoonserk Pyun - USA TODAY – 3/21/24

At least 70 million Americans get their water from a system where toxic PFAS "forever chemicals" were found at levels that require reporting to the Environmental Protection Agency.

That's according to new data the EPA released in its ongoing 5-year review of water systems across the nation. The number will almost certainly grow as new reports are released every three months.

PFAS, or per- and polyfluorinated alkyl substances, are nearly indestructible chemicals widely used across industries for decades. Found in drinking water, food, firefighting foam, and nonstick and water-repellent items, PFAS resist degradation, building up in both the environment and our bodies.

Salt Lake City; Sacramento, California; Madison, Wisconsin; and Louisville, Kentucky, were among the major systems reporting PFAS contamination to the EPA in the latest data release.

Map: Where the EPA found pollutants

This map shows water systems included in the EPA's records, as of Jan. 11. It's based on boundaries developed by SimpleLab, a water-testing company. Click on a system to see the number of pollutants detected at or above the EPA's minimum reporting levels and how much the most concentrated pollutant exceeded those levels. Points represent systems where the exact boundaries are not available. If you don't see a map, click here.

The man-made chemicals have turned up in water systems large and small, from those serving a few thousand customers to over half a million.

Of about 3,800 systems included so far, 1,245 measured at least one PFAS compound above the EPA's reporting levels, according to USA TODAY's analysis.

The EPA plans to collect data from thousands more systems through 2026, including many of the nation's largest systems, such as Los Angeles, Chicago, Boston and Philadelphia.

What are forever chemicals?

PFAS can lead to serious health problems, including increased risk of some cancers, if people are exposed to them over a long period of time. Even at very low doses, PFAS can pose health risks.

The EPA's minimum reporting level – the lowest concentrations reliably measured by most laboratories – for some PFAS are measured in parts per trillion. The current thresholds are near zero, replacing older limits that were higher and didn't detect smaller concentrations of PFAS, said Shalene Thomas, a PFAS industry expert and emerging contaminants program manager at Battelle, a nonprofit research institute.

"People hear that, and they think, 'This is really, really low. Why are we concerning ourselves with this?'" Thomas said, referring to the detection levels. "The risk to individuals and the population is based on not just what the concentration is but what the frequency of that exposure is."

"How often are you exposed, and what's the duration of the exposure?"

The purpose of the reporting limits, Thomas said, is to trigger water utilities to react and find treatment solutions if needed.

"Why is there a limit? It's not like if you're above this number, you're going to die, and if you're below that number, you're going to live," Thomas said. "It's about population protection. It's an action level so that utilities can react and protect you."

Is there a national drinking water standard for PFAS?

There are no enforceable national drinking water standards in the U.S. for PFAS, but the EPA is expected to issue new regulations this year.

Last March, the EPA proposed the first-ever national drinking water standard for six PFAS. Though there are thousands of PFAS chemicals, the six compounds in the regulation had the highest manufacturing volume in the U.S. and are thought to be the most toxic, Thomas said.

If the rule is finalized and implemented, public water systems will be required to monitor for these chemicals, notify the public and reduce PFAS contamination if levels exceed the proposed standards.

Water utilities tasked with treating PFAS

Water utilities didn't manufacture or use the chemicals, Thomas said, yet they are still tasked with cleaning them up and protecting the public.

Once the EPA's regulation is finalized, the agency would likely use discretionary authority and focus its efforts on going after primary polluters, Thomas said.

However, not all water utilities are equipped to install advanced and costly treatment systems to reduce PFAS from treated water. Systems vary from region to region, each with their own water sources and technical challenges that can make treatment less feasible.

Adapting to changing climate conditions is a concern for Sacramento, California, where about 80% of water supplies come from the American and Sacramento rivers. During dry years, they use groundwater, but if those wells are contaminated with PFAS, the city might not be able to rely on them, said Carlos Eliason, a spokesperson from the City of Sacramento Department of Utilities.

The city has taken several groundwater sources out of service because they contained levels of PFAS above state guidelines. Upcoming federal regulations could increase the amount of groundwater sources that need to be shut down.

Similarly, 90% of Salt Lake City's water supply is from surface water, but groundwater wells are still important during droughts. PFAS pollution was found in two wells, one of which is important for peak summertime use, said Laura Briefer, director of Salt Lake City Department of Public Utilities.

"Water is such a priority for us in the western United States, where water is scarce," Briefer said. "When we have challenges where contaminants can impact our ability to use water for public purposes, that is a really profound issue. We don't have a lot of water to spare."

More than 6,000 miles away in Guam, a U.S. island territory in Micronesia with a longtime military presence, civilians rely primarily on water produced from an aquifer in the northern half of the island. Should the aquifer become contaminated, there are no reasonable alternatives, as defined by the EPA.

Of nearly 100 water supply wells that provide water to the island, about a third had PFAS that exceeded the EPA's proposed regulations.

The level of funding to U.S. territories to cover the cost of treatment is not enough, said Miguel Bordallo, the general manager of Guam Waterworks Authority. The authority will have to significantly raise the rates it charges its customers to finance these capital improvement projects, Bordallo said.

Guam also absorbs costs that most utilities on the U.S. mainland don't feel, such as shipping hazardous byproducts from PFAS treatment off the island.

"It's a huge concern, but the way we view it is that it's the train that's coming down the tracks and there's no way to stop that," Bordallo said of the imminent PFAS rule.

"Rather than trying to stop that train, we're trying to get ahead of it."

Aging dams sprinkled across Connecticut are hidden flood hazards waiting in plain sight

By Vincent Gabrielle, Eric Bedner, March 25, 2024

Charise Hewitt has lived near Konold's pond in the West Hills neighborhood of Woodbridge for about 20 years, and every spring and summer her yard floods twice a month. It takes weeks for it to dry out enough to walk on the ground, she said, and it's gotten worse over time.

In a nearby grove of trees, a small ancient dam more than 100-years-old is choked with brush as it holds back the swollen West River that drains the pond. It's spring, and more water is coming as the snow melts up north.

"The water stays; there's more of a chance that the water is gonna rise" in the pond, said Hewitt. "It's going to stay on our side of the flow, rather than spilling out into the river where it belongs, where it's supposed to go."

Down the road, on a little cul-du-sac abutting the pond, resident Steve Sappo said the neighborhood floods constantly. "The last few times it's rained ... it's been, well you know ... we have two pumps running downstairs." Sappo, who works in construction, said it would "be smart" if someone removed the dam, or dredged the pond.

Connecticut is one of the most heavily dammed states in the country, with about 4,800 spread throughout cities and towns, 84 percent of which are privately owned and many more than a century old. According to the U.S. Army Corps of Engineers, the state is home to 54 dams per every 100 miles of free-flowing rivers — more than any other state per river mile. The national average is six.

Over half of the dams were originally built to supply local water power to mills or to make small ponds. They easily blend into the landscape, largely going unnoticed until catastrophe strikes.

Making matters worse, there are no federal or state laws that require owners of high risk or significant hazard dams to disclose who might be in the flood zone should a dam fail, or get clogged and backup.

Keeping count

The state Department of Energy and Environmental Protection classifies all dams by the level of risk to life, property and infrastructure it poses to the region should it fail, ranging from the lowest being Class AA, a "negligible hazard," and the most hazardous and likely to cause severe damage or loss of life classified as C. Class B dams pose significant risk to the local area, while Class BB dams are considered a moderate risk, should they fail.

There are a total of 288 dams in the state with a C classification, 27 of which are privately owned, according to DEEP officials. Konold Pond dam is rated Class A, according to DEEP records.

The dams are also classified by inspectors and rated for their condition, including unsatisfactory, poor, fair, or good. Dam owners must hire the inspector, who submits the rating to DEEP.

The Fitchville Pond Dam was among those that had a long history of missing inspections before it breached. Other privately-owned Class C dams can be found throughout the state, including Pemberwick Dam in Greenwich, Williams Pond Dam in Glastonbury, Warren Pond Dam in Stafford, and the Hockanum Reservoir Dam in Vernon.

According to DEEP, there are roughly 960 dams in Connecticut that have no hazard ratings at all — the dam has not been inspected and in some cases, the state isn't sure if it still exists.

Laura Wildman, vice president of the nonprofit Save the Sound, said frequently people living and working downstream of high hazard dams have "no idea" they are in a potential flood zone. "This is a national problem, not just a Connecticut problem," said Wildman. "There are no laws, no federal or state laws, that require people who live in dam breach inundation zones to be told that they live in a dam breach inundation zone. That's even the case when buying a property."

In October 2007, owners of high and significant hazard dams in Connecticut were required to file a notice with municipal land records and register "all dams in the state of Connecticut" with DEEP, but neither the state nor the municipality is required to warn residents or businesses downstream of a high-hazard dam.

The state has oversight of all dams in Connecticut, regardless of who owns it, except for those regulated by the Federal Energy Regulatory Commission or the U.S. Army Corps of Engineers, DEEP spokesman Paul Copelman said. If a dam is given a Class AA negligible hazard rating, its management and regulation is transferred to the local municipality, as it's of little consequence, he said.

Under state law, every dam should have undergone a regulatory inspection by at least 2016 that included a determination by a professional engineer recommending a hazard classification in order for DEEP to accept it, Copelman said. However, close to 1,000 dams throughout the state have no hazard class rating because they were not inspected before the 2016 deadline.

In 2014, Connecticut transferred the obligation to inspect dams to the dam's owner, with higher risk dams requiring more frequent inspections and the most hazardous requiring an emergency action plan submitted to the state, showing the land most at risk from a dam failure and recommended responses to breaches. The statutory change requires dam owners to

hire a licensed professional engineer to conduct the inspections and report the results to DEEP.

However, since 2015, DEEP's Dam Safety Program has issued 69 notices of non-compliance and 52 notices of violations for Class C dams lacking emergency action plans. Some of these were issued multiple times to the same dam owner.

About 14 percent of high and significant hazard dams are past their inspection due dates, per DEEP, while 17 percent of high and significant hazard dams have submitted emergency action plans that DEEP has not accepted because they need revisions or updates.

Wildman said that even with good dam safety requirements, funding for enforcement is lacking from the state.

"You can send dam safety orders to a dam owner over and over again," said Wildman. "We have almost no funding for enforcement, and because of that these things are almost never enforced."

According to DEEP, there are no high or significant hazard dams in unsatisfactory condition in Connecticut, however there are 30 rated as poor.

One such dam is the Freshwater Pond Dam in Enfield, which is owned by the town. The dam's most recent inspection report filed with DEEP was conducted in April of 2020, listing the dam's overall condition as "poor." At the time, parts of the dam, which was built in 1900, showed "significant deterioration" since its previous 2014 inspection.

It has since been repaired following the 2020 inspection, town officials say. Enfield spent roughly \$441,000 to address concerns raised by DEEP, Public Works Director Donald Nunes said. Work included removing all vegetation from a masonry retaining wall, constructing a new retaining wall adjacent to the downstream spillway retaining wall, and repairing storm drains, among other improvements, he said.

"We have done exactly what was required of us and it's all been repaired," Nunes said. "We've made extraordinary efforts to make sure this dam is safe."

State and federal response

State Sen. Cathy Osten, D-Sprague, said that while the legislature has made strides in providing accountability for dam owners, such as making sure prospective property buyers are aware there's a dam on a parcel they're purchasing and the responsibilities that come with it, more should be done. A large issue, she said, is that people who own private dams most likely don't have the money to make costly repairs or even pay for inspections.

"Inspections are not cheap," Osten said. "To fix a dam is not cheap. There isn't a dam that is going to cost less than \$1 million and that's just construction." Other costs include engineering and permits, she said. "All of that is expensive, takes time, and there is no real enforcement on making sure that private land owners of dams do all of those things."

In hindsight, Osten questions if moving some regulatory authority from DEEP to the dam owners was the best approach, even though it minimizes the cost to taxpayers. And while the state Bond Commission has approved millions of dollars for dam repairs throughout the state in recent months, funds don't go to private dams.

U.S. Sens. Richard Blumenthal and Chris Murphy agree more needs to be done and are looking for solutions at the federal level. While there is no new legislation proposed by Congress to address Connecticut's private, aging dams there are a variety of existing sources that could be of use, including through the Federal Emergency Management Agency, or FEMA.

"Each year, Connecticut gets hit with increasingly frequent and dangerous storms that come at a huge cost to homeowners, local businesses, and municipalities," Murphy said. "Repairs after a devastating flood are vital, but we need to get serious about mitigating damage before disaster strikes."

There are limited federal funding avenues for privately-owned dams, however, said Blumenthal, who added that he's explored possibilities through the U.S. Army Corps of Engineers and general flood resiliency funding. Any money from the Corps Water Infrastructure Financing Program is a loan, not a grant, and is limited to dam safety projects that are not federally owned, operated, and maintained. Privately-owned dams like the one in Bozrah or West Haven could potentially be eligible for those funds, he said.

The funds would be a welcome relief to those like Heidi Duff, who estimates she'll spend \$25,000 or more on repairs to her Norwich hair salon that flooded when the Fitchville Pond Dam in Bozrah cracked and spilled water down her street before the state stepped in to make emergency repairs. The final damage could've been much worse at the Details Hair Salon and other neighboring businesses, Duff said. "If that dam were to collapse, my basement would be filled with water," said Duff, noting that in 2010, the former tenant had four feet of water in their basement space. With that in mind, Duff bought a flood door that she and her husband reinforced with sealant.

"I'm hoping we'll be OK for the next one," Duff said. "Spring is coming; we've never had a flood like this in the winter, but you can't stop Mother Nature with her rain and the volume of snow that we had prior to that. ... We'll hope and pray, and if the water comes again, we'll clean it out."

Duff says she was one of the more fortunate business owners in the area, as others were “totally annihilated.” She places most of the blame on the town for not properly maintaining the Yantic River. “I think the bigger story, in all honesty, is the history of the area and what was or wasn’t put in place for future generations to be protected,” she said, adding that the river is routinely littered with debris that creates its own dam, causing water to flow over the river’s banks. “My concern is more the obstructions that are down river that aren’t being addressed,” Duff said. “Without the maintenance of the river, it could be a catastrophe.”

Why so many dams?

With so many ancient dams in the state, the question remains if they’re all necessary. People initially built dams to power water wheels, make ponds for fishing or livestock, while others were created for flood control or canals. With the advent of the Industrial Revolution, dam building reached a fever pitch as early mills relied on fast-flowing rivers, plugging them up with dams to power the mills.

Brian A. Pounds/Hearst Connecticut Media

Ari Perez, a Quinnipiac University civil engineering professor said that over time, as economics and technology shifted, many of those dams deteriorated. Water can burrow through earthen dams, eroding holes to make them larger. Reinforced concrete chips and cracks with age, exposing rebar to rust. And maintenance wasn’t always a priority once they were no longer needed.

“But the other thing that’s more difficult to account for is that sometimes things just run their course,” said Perez. When the U.S. Army Corps of Engineers inspects a dam, part of their process is asking the question “does this dam still need to be here?”

Andrew Fisk, northeast regional director for the nonprofit environmental group American Rivers, said that there were many thousands of privately owned dams across America that no longer serve a purpose. “They are suffering from needed maintenance in order to prevent them from partially breaching and fully breaching,” he said, pointing to an earthen dam in Michigan that was not maintained and burst in 2020, forcing tens of thousands of people to evacuate.

Back in Woodbridge, Jon Vander Werff, a fish biologist, strolled the banks of Konold's Pond and wondered if the same thing might happen there. The water on that sunny, March 13 day was just out of flood stage, but still really high. The small concrete-and-stone wier creating the shallow and widening pond runs the width of the river. Beyond it, shaded in a stand of maples and oaks and choked with brush is an earthen dam that’s over a century old.

Recent rains have pushed the pond beyond its normal bounds, as the West River roars down through the trees. Vander Werff, who works with Save the Sound, said it’s unclear when the ancient dam was built or who built it, but it was probably installed to make a fishing pond. There’s no evidence of a mill here, unlike other sites downstream, he said.

“In my eyes it’s creating all kinds of issues,” said Vander Werff. “It’s not super big, but it’s making the water level higher.”

Some of the neighborhood residents contacted Save the Sound during a dam removal and river restoration project at the former site of the Lilly Pond Dam, he said, asking if anything could be done about the Konold Pond dam that was flooding the neighborhood. Discussions are at the early stages. The problem with this dam, and this pond, is that over its long life span Konold Pond has gotten shallower and shallower as silt has built up, Vander Werff said.

Resident Carol Perrotti said the pond used to be beautiful, but it’s now choked with lily pads. “It’s just deteriorated, that’s all I can say, since I was a kid, the last few years especially,” she said, adding that she was lucky to have a basement high enough to avoid the water. Other houses in the neighborhood experienced flooding in their backyards and basements in recent months. “The people on both sides of me have water in their basements. It cracked the floor, the water; it cracked the floor from the ground up.”

According to the Woodbridge Assessor's Office the dam and the pond are privately owned and controlled by an LLC, so dredging the silt or removing the dam isn’t easily done, and prospects are few. No one from the LLC or the family trust attached to the company could be reached for comment.

“What takes so much time is that there are so many different stakeholders,” said Vander Werff. Downstream, the river channels, which makes pond remediation tricky. If work is done on the dam to lower the pond, it needs to be engineered so that it doesn’t make the West River more prone to flooding, or destroy the homes and businesses that abut the channel, he said.

“We want to lower this pond down to reduce the water (flooding) back here, but not reduce it enough where it gets a faster velocity” downstream, he said. “If it gets a faster velocity in the straightaway it’s going to erode, and all the walls are gonna come down.” It’s a great example of how complicated a small, privately owned dam can be, and the problems it can cause after blocking a river for a century or more, both upstream, and down.

Study finds Lyme disease-carrying deer ticks often infest Connecticut's stone walls

By Jesse Leavenworth, Staff writer March 27, 2024

Ticks that spread Lyme disease teem on the edges of backyards and along Connecticut's ubiquitous stone walls, according to a new study by Connecticut Agricultural Experiment Station scientists.

"Backyards continue to be high-use and subsequently high-exposure risk areas for the public," authors Megan A. Linske and Scott C. Williams wrote in the study focused on deer ticks. "Gaining a better understanding of the variability in tick densities in these areas cannot only increase awareness for homeowners, but also produce more informed and lower volume pesticide applications as well as landscaping or vegetation management."

Published Feb. 20 in *Environmental Entomology*, the study by the Connecticut Agricultural Experiment Station researchers was done on 42 residential properties in Guilford, where ticks were collected from May to July 2022. Guilford was chosen, in part, because Lyme disease is endemic in the shoreline town, the authors wrote.

First identified in Old Lyme in 1975, the disease is still significant throughout the state and is the most prevalent tick-borne infection in the U.S. About 476,000 people are treated for Lyme disease annually, according to the Centers for Disease Control and Prevention, but only about 35,000 cases are reported each year in part due to diagnostic errors and unnoticed infections. If left untreated by antibiotics, it can cause chronic neurological, cardiac, or arthritic symptoms, sometimes lasting years.

About 30 percent of ticks in Connecticut are infected with the the bacterial cause of Lyme disease. About 6 percent of ticks in the state also carry another pathogen.

Linske and Williams found ticks were three times as dense along stone walls compared with areas without walls. They also found that wood piles were not heavily infested, likely because most wood piles are not permanent while stone walls have crisscrossed the state for decades and in some cases centuries.

Ticks were most abundant in the meter-wide strip where maintained yards met woods, according to the study. White-tailed deer and white-footed mice, hosts to the Lyme-causing ticks, frequent these areas, and mice also live and breed in stone wall recesses.

"Deer, and other wildlife hosts, use these forested interior habitats as travel corridors between properties for safety during much of the day and as conduits to exploit the maintained landscape during their peak crepuscular (dawn and dusk) activity periods," study authors wrote.

The authors also found that wood chip barriers along lawn edges likely have minimal impact on deer ticks, but "the presence of a wood chip barrier may provide a visual reminder for homeowners that the ideal tick habitat lies just behind."

Warmer, wetter seasons are conducive to deer tick proliferation. But the researchers caution that other species of disease-carrying ticks found in Connecticut, including the Asian longhorned and lone star species, persist in a variety of habitats and do not need the humid environment necessary for the deer tick.

Asian longhorned ticks are potential vectors of disease for both livestock and humans. In Asia, these ticks spread several different diseases including a viral hemorrhagic fever and Japanese spotted fever, two serious diseases that can be fatal. Another study found that Asian longhorned ticks can carry and spread Rocky Mountain spotted fever in laboratory conditions.

The study on backyard ticks was funded mostly by a contract with the CDC and also by the state general fund and the U.S. Department of Agriculture's National Institute of Food and Agriculture.