

**Representative Policy Board
Land Use Committee
South Central Connecticut Regional Water District
Lake Saltonstall, 100 Hosley Avenue, Branford
(Meet at the Fish Shack)**

AGENDA

Regular Meeting of Wednesday, October 13, 2021 at 4:30 p.m.

1. Safety Moment
2. Approval of Minutes – September 8, 2021 meeting
3. Special Topic – Lake Saltonstall Updates: J. Triana
4. Updates on land and RWA properties, including invasive species update
5. Other land items
6. Next Regular Meeting: Wednesday, November 10, 2021 at 5:30 p.m.
7. Adjourn

******In the event of rain, the meeting will be held remotely. Members of the public may attend the meeting via conference call. For information on attending the meeting and to view meeting documents, please visit <https://www.rwater.com/about-us/our-boards/board-meetings-minutes?year=2021&category=1435&meettype=&page=>. For questions, contact the board office at jslubowski@rwater.com or call 203-401-2515.

(The meeting will be held via remote access *ONLY* in the event of rain)

Topic: RPB Land Use Committee Meeting

Time: Oct 13, 2021 04:30 PM Eastern Time (US and Canada)

Join Zoom Meeting *(via conference call)*

Dial by your location

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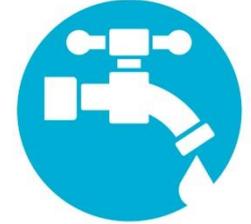
Meeting ID: 842 2725 6044

Passcode: 589733

For questions on joining the meeting via conference call please contact the board office at 203-401-2515 or by email at jslubowski@rwater.com

SAFETY MOMENT

Tap Into
Safety



Regional Water Authority

INVASIVE SPECIES

Invasive species are defined as a species that is not-native to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health. We have heard about the impact of invasive species on the environment but what about the health impacts. Disease causing microorganisms such as bacteria, viruses and fungi of plants can spread rapidly and have significant impacts on humans across the U.S. such as:

- Psychological effects
- Phobias
- Discomfort and nuisance to allergies
- Poisoning
- Lyme Disease
- Possible death

The best protection is to educate yourself on invasives in your area, wear proper protection when in the woods and always carry gloves. Don't ever eat or collect leaves, flowers or plants that you cannot identify as safe.



Service – Teamwork – Accountability – Respect – Safety

UNAPPROVED DRAFT

**Representative Policy Board
Land Use Committee
South Central Connecticut Regional Water District**

Minutes of September 8, 2021 Meeting

The regular meeting of the Land Use Committee of the Representative Policy Board of the South Central Connecticut Regional Water District (“RWA”) took place on Wednesday, September 8, 2021 at Lake Chamberlain, 1 Sperry Road, Bethany, Connecticut. Chair Betkoski presided.

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

Authority: D. Borowy
Management: T. Norris and J. Triana
RPB Staff: J. Slubowski

Chair Betkoski called the meeting to order at 4:45 p.m. He reviewed the Safety Moment distributed to members.

On motion made by Mr. Malloy, seconded by Mr. Horbal, and unanimously carried, the Committee approved the minutes of its August 11, 2021 meeting, as presented.

Mr. Triana, the RWA’s Real Estate Manager, led a discussion on recreation activities at Lake Chamberlain, which included:

- 8 new recreation trails
- Trail locations
- Access information
- Fishing
- Horseback riding (through the Bethany Horseman)

He also provided historical information on the dam, which was built in the 1890’s. Mr. Triana reported that Lake Chamberlain contains about four square miles of watershed property and its reservoir holds about 900 million gallons of water that is used as storage for use in New Haven, West Haven, Woodbridge and the valley area.

Committee members discussed embankment dams, climate change, horseback riding requirements, spillage, and dam improvements.

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

Reservoir Levels (Percent Full)

	Current Year	Previous Year	Historical Average	Drought Status
August 31 th , 2021	92%	75%	74%	None

Rainfall (inches)

	Current Year	Previous Year	Historical Average
August 2021	3.15	2.84	3.98
Fiscal YTD (6/1/21 – 8/31/21)	13.51	8.44	11.40

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

- Durham - Corresponded with property owner of 16+/- acres.
- Killingworth – Corresponded with a property owner of 4+/- acres.
- Cheshire – Corresponded with property owner of 56+/- acres.
- Derby, Derby Tank site – Reviewed more documents dealing with this property.
- North Branford, Beech St. and Poms La. properties (NB 4 and NB 4A) – Authorized new appraisals of the two pieces that are part of land unit NB 4.
- Hamden, transfer of option for Olin property – Murtha preparing document to re-execute in order to file on the land records.
- Marlborough commercial property – Property found through a contact in the area.

Rental houses:

- Hamden, 95 Ives St. (HA 13) – Talked to Preservation Connecticut about advertising the bid once it goes out.
- Hamden, 233 Skiff St (HA 9A) – Set email to Town Engineer to see if he has reviewed the updated survey or not.
- Woodbridge, 2040 Litchfield Tpk. – Fence installed along property lines.

Forestry Update

- Guilford – West of Sugar Loaf ash salvage (GU 4) – 40% complete
- Killingworth - East Hammonasset Leaf Screen Thinning, (KI 4) – **25% complete.**
- Hamden - Overstory removal and Tornado Salvage, (HA 36) – Not started yet.
- Madison - Nathan’s Pond Slash Wall Harvest (MA 6) – **65% complete.**
- Seymour - Silvermine Road Slash Wall Harvest (SE 9) – Awarded contract. Not started yet.
- Killingworth - N. Chestnut Hill Patch Cuts, (KI-6) - **Marking Complete, Job out to Bid.**
 - Completed marking timber harvest 2021-02.
 - Met with representatives of CT DEEP to discuss the bat hibernaculum at the northern end of Lake Gaillard and possible forest management in the vicinity.
 - Met with representatives of the NB land trust, Yale forestry, UConn, and the CAES to discuss a meeting the slash wall harvest at Nathan’s pond for all southern CT land trusts.
 - Met with New England (Yankee) Society of American Foresters representatives to discuss Fall meeting at Nathan’s pond slash wall.
 - Worked with facilities department to get the Christmas tree plantation mowed as well as the traffic circle/future pollinator garden.

Recreation

- Dealt with numerous trespassing issues at Pine Hill, Maltby Lakes, and Lake Hammonasset.
- Botany walk at Lake Hammonasset had 25 participants.
- Gave tour of properties to four customer service reps.
- Dealt with many issues of permittees not being able to access the website.
- Water Wagon attended one event and deployed to CT Hospice during an emergency.

	August		July	
	2021	2020	2021	2020
Permit Holders	5,926	5,615	5,873	5,583

Special Activity Permits

- CT Dept. of Energy & Envir. Protection Fisheries Division (Christopher McDowell and designees) – recapture population estimate on the Channel Catfish populations, Maltby Lake #2 and #3 (9/27/21-11/01/21).

Other items

- Encroachments/agreements –
 - Agricultural agreements – Tanev cut the fields in Prospect, Bethany, and Woodbridge. Discussed other fields with another potential farmer.
 - Cheshire, Harrison Rd. (CH 2) – Alerted by neighbor about potential encroachment at 264 Harrison Rd. Sent letter and will check in the field in the fall.
 - East Haven, 167 Saltonstall Parkway (Route 1) (EH 7) – Got quote for erecting a fence along the property line. No word from Lucido or his insurance company by month’s end.
- Invasive plants – Documented and/or treated invasive populations in East Haven, North Branford, Madison, and Guilford. Completed the water chestnut harvest at Furnace Pond. Performed a drone flight over furnace pond to document how much water chestnut was harvested. Alerted by members of the Branford Land Trust that there were water chestnut plants in the property they received from Cosgrove recently. The CAES completed collecting insects at Lake Saltonstall, and will be reporting back any notable findings in a few months. Collected herbicide plot data from Prospect on multiple days.

Invasive Species Documented/ Mapped (ac)	20.5 acres
Invasive Species Treated (ac/MH)	3 acres

- East Haven, Beach Ave. watermain – Spoke to last property owner who was not in favor of the easement. Alerted RWA and Murtha staff.
- Bethany, Bear Hill Rd. (BE 36 and BE 37) – Received an email from the Town Attorney of Bethany notifying us that they will be partially discontinuing the unimproved portion of Bear Hill Rd. Discussed their intentions and went over our concerns about promoting access to this area.
- Eversource upgrading towers (EH 12) – Corresponded with Burns and McDonald staff about Eversource’s replacement of towers in their ROW off of Barberry Rd.
- Allings Crossing Rd., West Haven (WH 6) – Contacted by UI staff about the need for an easement on this property for a 100’ pole.
- Access road to Whitney-Wintergreen Tank (HA 30) – Alerted DEEP staff about a sinkhole in the road at the bridge north of Lake Wintergreen.

Members discussed the status of Derby Tank project.

Committee assignments for the next quarter Authority meetings were made, as follows:

- October 21, 2021 – Mr. Malloy
- November 18, 2021 – Mr. Oslander
- December 16, 2021 – Ms. Young
- January 20, 2022 – Mr. Eitzer

The next regular meeting of the committee is Wednesday, October 13, 2021 at 4:30 p.m. at Lake Saltonstall and will include the committee’s annual pizza dinner.

At 5:26 p.m., on motion made by Mr. Harvey, seconded by Mr. Oslander, and unanimously carried, the meeting adjourned.

Peter Betkoski, Chairman

**October 13, 2021
Land Use Committee Meeting**

Reservoir Levels (Percent Full)

	Current Year	Previous Year	Historical Average	Drought Status
September 30, 2021	89%	68%	68%	None

Rainfall (inches)

	Current Year	Previous Year	Historical Average
September 2021	7.99	2.99	3.77
Fiscal YTD (6/1/21 – 9/30/21)	21.50	11.43	15.17

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

- Killingworth – Corresponded with a property owner of 4+/- acres.
- Cheshire – Corresponded with property owner of 56+/- acres.
- Madison – Corresponded with property owner of 19+/- acres.
- Madison – Corresponded with property owner of 23+/- acres.
- North Branford, Beech St. and Poms La. properties (NB 4 and NB 4A) – Authorized new appraisals of the two pieces that are part of land unit NB 4.
- Guilford and Madison (GU 21 and MA 2A) – Discussed Class III land with member of the Guilford Sportsman Association.

Rental houses:

- Hamden, 95 Ives St. (HA 13) – Compiled material for the bid, but await amendments from Murtha.
- Hamden, 233 Skiff St (HA 9A) – Town stated updated survey was fine. They would start condemnation procedure. Sent them the property description to use.
- Woodbridge, 1029 Johnson Rd. – Received plans from the Tarlowski’s for the work on the house.
- Orange, 499 Derby Ave. – Received plans from the Corjuc’s for the work on the house.

Forestry Update

- Guilford – West of Sugar Loaf ash salvage (GU 4) – 40% complete
 - Killingworth - East Hammonasset Leaf Screen Thinning, (KI 4) – 25% complete.
 - Hamden - Overstory removal and Tornado Salvage, (HA 36) – Not started yet.
 - Madison - Nathan’s Pond Slash Wall Harvest (MA 6) – **75% complete.**
 - Seymour - Silvermine Road Slash Wall Harvest (SE 9) – Awarded contract. Not started yet.
 - Killingworth - N. Chestnut Hill Patch Cuts, (KI-6) - Marking Complete, Job out to Bid.
- Hosted and presented to Yankee Society of American Forester’s meeting on RWA property in Madison. 50+ attendees from MA, RI, NY, and CT.
 - Worked with NRCS in Madison to expand soil pits intended for the measurement of organic carbon in the soil.
 - Ordered Christmas trees for planting next spring.
 - Completed necessary timber harvest notifications for 2021-03 (Guilford – Menunketuc).

Recreation

- Storage container was delivered to Lake Saltonstall to house the patrol boat.
- Held history walk at Maltby Lakes with 25 participants.
- Astronomical Society cancelled the planned star gazing event in October due to pandemic.

- The Water Wagon attended three events.

	September		August	
	2021	2020	2021	2020
Permit Holders	5,684	5,711	5,926	5,615

Special Activity Permits

- CT Dept. of Energy & Envir. Protection Fisheries Division (Christopher McDowell and designees) - , Boat night electroshocking to access the lake’s fishery, Lake Gaillard (9/7/2021 – 10/7/2021).
- Dog Gone Recovery Volunteers (Melanie Heltke and designees) - To locate a missing dog last seen in the woods at the area of Big Gulph (9/10/2021-10/10/2021).
- Univ.of New Haven Army ROTC Program Coordinator (Robert Clark) - Squad Tactical and Platoon Tactical Training - 1955 Litchfield Turnpike/West River Training Area, Woodbridge (9/13/21-9/13/22).
- 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 (10/1/2021-10/01/2022)
- Save the Sound (Ms. Briana Costello) – volunteer clean up captain, trash cleanup along public road and residential debris removal along access road to prevent it from entering the river and flowing to Long Island Sound, 255 Rock Street, East Haven, CT, (9/18/2021)
- Southern Connecticut State University (Michael J. Maloney)-looking to set mesh minnow traps in several ponds in Madison, transport the wood frogs that swim into the traps to the lab in New Haven for tests (strength, jump distance, etc.) then return the frogs to the ponds where they came from, Rt. 79 north of the traffic circle and Summer Hill Road, (09/17/2021-09/17/2022).
- 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; (09/17/2021-09/17/2022)
- Robert Uhl - photography for purpose of documenting CT Waterfalls; south of Falls Rd. in Bethany, along Hopp Brook; (9/27/21-10/4/21).

Other items

- Encroachments/agreements –
 - Agricultural agreements – Spoke to Galgano about use of one of the Downs Rd. fields in Hamden. Replied to another potential farmer.
 - East Haven, 167 Saltonstall Parkway (Route 1) (EH 7) – Spoke to neighbor about the encroachment of Lucido. She claimed that we did something to exacerbate flooding in her yard. Installed fence along property line. Observed car parked antagonistically in front of our property. Murtha trying to contact their attorney and insurance carrier.
- Invasive plants – Got quotes from Charter Oak for clearing fields on Downs Rd., Hamden and Sugarloaf recreation area, Guilford. Recorded herbicide plot data in Prospect. Installed two Spotted Lanternfly traps on the Saltonstall ridge to monitor for the invasive pest. Discussed water chestnut removal and disposal with Branford Land Truss staff regarding a pond on BLT property that drains on to RWA property. Documented 4.4 acres of water chestnut harvested from furnace pond this season, using drone mapping that took place before and after the harvest. Though this collection covered roughly the same area as the collection from last year, there was significantly more material collected in comparison. The operator estimated that he harvested material on more like 5-6 acres of a pond, but it’s difficult to determine that while you are in the pond collecting, and he might have determined this based on the volume of material. The removal of more material this year will hopefully lead to less material needing to be collected next year to make the same impact.

Invasive Species Documented/ Mapped (ac)	15.6 acres
Invasive Species Treated (ac/MH)	1.8 acres

- East Haven, Beach Ave. watermain – Contacted property owner who was not in favor of the easement to find out where the letter was from his lawyer. He said he would check.
- West Haven, Allings Crossing Rd. (WH 6) – Met with UI contractor and CP&D staff to discuss the matter. They will get a special permit from us to conduct their borings to see if there is the right base for the new poles.
- Deer hunt – The check-station volunteer acceptance and rejection letters were mailed to the volunteers. Started remarking the boundaries.
- Bethany, Simon dam – Corresponded with owners of dam between Lake Bethany and Lake Watrous. Conditions have not allowed us to cooperate with them like we did last year.
- Hamden, LWWTP bat boxes (HA 1) – Met with girl scout about potential locations for bat boxes.
- Prospect dam – Participated in discussion about the report about the Prospect dam.

Attachments

- September 3, 2021 - Storm Ida Pushes Hundreds Of Millions Of Gallons Of Untreated Water Into Rivers And Streams - CT Public Radio
- October 8, 2021 - Drivers urged caution as deer mating season starts – Hearst Illinois
- August 29, 2021 - How widespread are PFAS chemicals? CT officials are about to inspect more than 2,400 locations – CT Post

Upcoming Agenda Items

November 2021 – ?

Storm Ida Pushes Hundreds Of Millions Of Gallons Of Untreated Water Into Rivers And Streams

Connecticut Public Radio | By Patrick Skahill - September 3, 2021

Heavy rainfall from the remnants of Hurricane Ida caused massive stress on the state's wastewater infrastructure. The National Weather Service reported more than 8 inches of rain in Stamford, Clinton, Uncasville, North Madison and Seymour. Elsewhere in the state, totals ranged from 3 inches to more than 7 inches of rain.

In many cities, stormwater goes into combined pipes that also take in household waste. When it rains a lot, all that water needs to flow somewhere. In order for it to not backup into homes and businesses, water officials across the state instead divert untreated stormwater and sewage into rivers and streams.

While the total amount of untreated water that got diverted was not immediately available, the state Department of Energy and Environmental Protection said Thursday that Ida could result in untreated runoff volumes that "could be up to hundreds of millions of gallons statewide."

Major overflows were reported across the state, including in and around Bridgeport, Hartford, Stamford and New Haven.

Nick Salemi, a spokesperson for the Metropolitan District Authority, which manages water around Hartford, said in a text, "No system is designed to take that much water in that short of a time period. It's the third major storm in a few weeks."

As Ida brought tornadoes to New Jersey and major flooding that caused loss of life in Connecticut and the region this week, the impacts of climate change from intense storms are becoming increasingly apparent in the Northeast.

"We really need to start focusing on these storm events, and we need to accept the fact that they're going to be worse," said Bill Lucey, Long Island Soundkeeper, with the environmental advocacy group Save the Sound.

In addition to the physical hazards presented by flooding and rapidly rising water tables, Lucey said heavy rain can also push pollutants into overwhelmed sewage systems.

"All the nutrients, fertilizer, any kind of pollutants, any of the stuff from the roads: asphalt pieces, chunks of your roof which are made out of shingles, antifreeze, hydraulic fluid," he said. "All that stuff ends up going into our streams."

Because of the large-scale water contamination, state environmental and public health officials Thursday urged residents to avoid "direct contact with surface water" in areas in close proximity to drainage pipes and said residents should not swim, fish or paddle in those areas.

Bridgeport, Hartford, Waterbury, Middletown, Meriden, Wallingford, Stamford, Norwalk, Norwich, and the greater New Haven were all listed in the state's advisory.

Lucey said stormwater runoff is the number one water quality impediment in the state. But he said there are ways cities and individual residents can make a difference.

In addition to larger scale stormwater management projects like one underway by the MDC, Lucey said homeowners can try to redirect some rain flow away from stressed sewage pipes.

"What an individual homeowner can do is try to intercept that runoff through rain gardens," Lucey said. "Someplace where the water — instead of it running down concrete or pavement into a catchment basin and a stream [and] bringing all that pollution — it gets intercepted."

"What these rain gardens do is they slow the water, they put it back into the ground," Lucey said. "The plants that are in them will suck up the pollutants and the nutrients."

Lucey said he hopes more towns encourage the growth of rain gardens locally by forming stormwater authorities.

Gov. Ned Lamont authorized municipalities to create these agencies earlier this year, which his office said would allow cities and towns to afford green infrastructure and resiliency investments.

Lucey said cities like New London have formed authorities to study stormwater runoff issues. And that places like New Haven have put out rain gardens, which are proving effective.

"If you can put hundreds or thousands of these structures all around the state to soak up that rainwater, instead of shooting it down the road into a stream, we're going to move a lot less pollution," he said.

Drivers urged caution as deer mating season starts

Ron DeBrock Hearst Illinois - Oct. 8, 2021

SPRINGFIELD — The return of deer mating season is prompting caution for motorists from the Illinois Department of Transportation and Illinois Department of Natural Resources.

“Although a collision with a deer can happen any time of year, we are entering the peak season,” said Illinois Transportation Secretary Omer Osman. “Deer can often appear suddenly in some surprising environments so you are urged to be on alert.”

Last year Madison County recorded 375 accidents involving deer, as well as 19 injuries. That was down from 2019 when 434 deer accidents were recorded in the county, including 23 injuries and one death.

For 2020, Madison County had the second highest number of deer accidents for any county in Illinois, surpassed only by Cook County with 469.

Macoupin County recorded 226 deer accidents in 2020, down from 260 in 2019. Jersey County recorded 109 accidents, down from 122 in 2019. Calhoun County had 50 deer accidents, down from 96 in 2019. And Greene County had 27 deer accidents last year, down from 47 in 2019.

“Whether in rural or urban areas, deer are part of the Illinois landscape and we need to be alert to their presence,” said Illinois Department of Natural Resources Director Colleen Callahan. “Please be cautious while on the road as deer are particularly active during the mating season in the fall and during busy driving times around dawn and dusk.”

From October through December, deer become more active — mainly at dawn and dusk. In addition to the mating season, the removal of crops reduces cover for deer and prompts them to seek new locations.

Osman said motorists should remember: “Don’t veer for deer.”

“While the urge to swerve is instinctual, it could cause you to lose control of your vehicle and increase the severity of a crash,” he said.

Statewide in 2020, 13,787 deer accidents were recorded in Illinois, resulting in 611 injuries and 10 deaths. That compares to 2019 when there were 16,213 accidents, with 719 injuries and four deaths.

More than 43% of deer crashes occurred in October, November and December, with November being the highest-risk month. Rural environments were the site of more than 62% of the accidents; more than 72% occurred at twilight or nighttime.

During the deer mating season, drivers are encouraged to:

- Be aware of their surroundings, especially in areas with deer crossing signs.
- Scan the sides of the road for eye shine — the reflection of headlights in deer eyes.
- Slow down if they see a deer. Deer travel in groups, so more are likely nearby.
- Prepare for the unexpected. Deer may stop in the middle of the road or double back.
- If a collision is inevitable, try to glance a vehicle off the deer and avoid swerving into the opposite lanes of traffic.

Motorists who hit a deer should pull off to the shoulder, turn on their hazard lights and call 911 to report the accident. They should not exit the vehicle to check on an injured deer or pull it from the road.

How widespread are PFAS chemicals? CT officials are about to inspect more than 2,400 locations

Environment – CT Post - by Andrew Brown - August 29, 2021

Catherine Iino first learned that her small town of roughly 6,000 people might have a problem earlier this spring,

Iino, the First Selectwoman in Killingworth, was contacted by state environmental officials in March and informed that several water samples would need to be pulled from the wells that supplied town hall, the volunteer fire station and a nearby garage used by the local public works department.

Similar testing at a neighborhood less than a half mile to the north, she was told, showed signs of several man-made chemicals known as perfluoroalkyl and polyfluoroalkyl substances, or PFAS. The state was concerned the compounds, which have been studied for possible ties to developmental issues, thyroid disorders and several cancers, might have also found their way into other nearby water supplies.

Those worries were not unfounded, as the results would soon prove.

Several of the water samples taken from the town buildings contained concentrations of the chemicals that were far above a recommended health limit established by the state. And the results continued to get worse from there.

In the weeks that followed, state officials also sampled the wells at another 70 nearby homes to test whether their drinking water was safe and to determine how far the contaminants may have spread underground. Already a member? Thank you for all the work you do!

Roughly 34 of those private wells contained lesser amounts of the chemicals, and 15 of the wells exceeded the advised health limit, just like the tap water at the town hall.

Those results marked one of the first times that Connecticut officials uncovered widespread drinking water contamination tied to PFAS. But it is unlikely to be the last.

Connecticut's health and environmental agencies believe there are other pockets of contamination hiding throughout the state. That's why the agencies plan to expand their search for the chemicals, with officials fanning out to test soil, streams, fish, groundwater and drinking water sources for signs of the toxic compounds.

If additional drinking water contamination is found, it is likely to cause quite an uproar.

In Killingworth, a rural town in Middlesex County, several public meetings were organized for residents earlier this year, and the state quickly stepped in to install treatment systems to reduce the chemical concentrations in people's tap water to safer levels.

Even so, many of the homeowners with contaminated wells remain extremely frustrated with their circumstances and the ongoing response.

Michele and Mark Krumenacker, who own one of wells that tested positive for significant levels of the chemicals, said they've been meeting with their neighbors to talk over the long-term implications.

The group has a lot of lingering questions: How did chemicals get into the groundwater in the first place? How will they affect their health? Will the compounds harm their children? Who is going to pay for health screenings and their water treatment in the coming decades? And what will the news of the contamination do to their property values?

A wider search for PFAS contamination

PFAS have been used in the United States for decades to produce things like non-stick pans, waterproof clothing, stain-resistant carpets, grease-resistant food packaging and a firefighting foam that was routinely sprayed during emergencies and training exercises.

That firefighting product grabbed news headlines in Connecticut in 2019 when a private hangar at Bradley International Airport, north of Hartford, spilled an estimated 21,000 gallons of the chemical-laden foam into the Farmington River.

That episode was likely the first time that most Connecticut residents were introduced to the word PFAS. The spill also showcased how pervasive the chemicals are and how quickly they can spread, which is exactly why the state is casting a wide net in its investigation into potentially-contaminated sites.

In recent months, the state Department of Public Health and Department of Energy and Environmental Protection developed a map of more than 2,400 locations in Connecticut where the agencies suspect the chemicals may have been used or released in the past.

Those sites include airports, landfills, industrial facilities, manufacturing locations, sewage treatment plants, fire stations and firefighter training areas.

The two agencies intend to use the new map, which is not yet available to the public, to pinpoint locations where the chemicals may pose the greatest risk to public water supplies and private drinking water wells.

If you look for the chemicals, you will find them, and if you don't look, you only pretend like it's not a problem. "—
Professor Rainer Lohmann, University of Rhode Island

It's unlikely that all of the locations highlighted on the map are contaminated with PFAS, but they will provide a starting point in the state's scavenger hunt for the chemicals. The map was one of several recommendations that came out of a 2019 taskforce on PFAS that was set up by Gov. Ned Lamont.

With so much testing expected in the coming years, the state is preparing to hire five new employees who will oversee the state's sampling for the chemicals in drinking water.

Connecticut's health agency is also plans to spend roughly \$500,000 to purchase specialized lab equipment that is needed to detect extremely small amounts of the chemicals in the water.

That equipment will save the state time and money by allowing health officials to run the tests in-house, instead of shipping the water samples to private labs, as they did in the Killingworth case.

Democratic state Sen. Christine Cohen, whose district includes Killingworth and several neighboring communities, said those investments are well worth the money to safeguard people's health.

Cohen, who chairs the legislature's Environment Committee, helped pass legislation this year to restrict PFAS in food packaging and limit the use of the firefighting foam, which state officials are currently collecting from local fire departments. That new legislation should limit future spills and public exposure to PFAS, but it will do little to correct any historic contamination that exists in the state.

Research shows the chemicals don't break down in the environment over time. That means they can continue to pose a threat to drinking water long after they are released onto the ground and seep into the groundwater.

That's why lawmakers are eager to provide the agencies with the necessary resources to find the various sources of contamination.

Cohen and other legislators voted in June to spend \$2.3 million over the next two years to pay for testing and treatment of drinking water that is shown to be contaminated.

"We need to take action and figure out exactly what we are up against here," she said, "and the only way to do that is to be testing water across the state."

Emerging concerns

Connecticut isn't the first state to undertake a widescale search for PFAS. Other states, like Michigan, New Jersey and New Hampshire, dispatched state health and environmental officials on similar missions in recent years.

And the results of that testing were often the same: Significant levels of the compound were found in lakes, rivers, groundwater, fish populations and drinking water sources.

Rainer Lohmann, a professor at the University of Rhode Island who has studied PFAS contamination, said residents in Connecticut should expect similar findings once widespread testing gets underway here.

"If you look for the chemicals, you will find them, and if you don't look, you only pretend like it's not a problem," said Lohmann, who leads a program called STEEP, which stands for Sources, Transport, Exposure and Effects of PFAS. "If you want to protect your citizens, you have to look."

PFAS have been used in the United States since at least the 1940s and 1950s, but for most of that history there was very little information about the chemicals available to the public or regulatory agencies.

That started to change in the early 2000s when it was first reported that DuPont, a manufacturer of Teflon cookware, had severely contaminated several community drinking water systems near Parkersburg, W. Va., with one of the chemicals included in the PFAS family.

Lawsuits filed on behalf of those communities led DuPont to pay for a groundbreaking health study in which epidemiologists sampled the blood of nearly 70,000 people near Parkersburg for the chemicals and tracked the health outcomes of those individuals over roughly seven years.

The study eventually found "probable links" between the chemicals and several health issues, including high cholesterol, ulcerative colitis, thyroid disease, testicular cancer, kidney cancer, and pregnancy-induced hypertension.

Since then, further studies and lab testing on animals have raised other medical concerns, including growing evidence the chemicals may affect people's immune response. The compounds have also been shown to pass from mothers to their children during pregnancy or while breastfeeding.

The known sources of PFAS contamination have also expanded since the early 2000s. One of the most common sources of the chemicals in the United States has been the firefighting foam, which was commonly used by local fire departments, airports and the U.S. military.

The manufacturers of that foam, including 3M, are now being sued by hundreds of plaintiffs in federal court for what some people have described as the biggest environmental liability since asbestos.

PFAS are known to accumulate in people's bodies over time, just like they do in the environment. And most Americans have some level of the man-made chemicals in their blood, according to the Centers for Disease Control and Prevention.

The public health response, however, is focused on people who have been exposed to significant levels of the chemicals over extended periods of time. That includes families and communities consuming higher levels of the chemicals in their drinking water.

The U.S. Environmental Protection Agency has not set an enforceable limit for the chemicals in drinking water at this point. But the federal agency and several states have developed so-called health advisory levels for the chemicals in tap water.

In Connecticut, that advised limit is 70 parts per trillion. That is comparable to finding several drops of the chemicals in 20 Olympic-sized swimming pools.

That miniscule limit is reflective of the serious concerns that health experts have about the chemicals.

A lot of towns like Killingworth

Lori Mathieu, who oversees the Department of Health's drinking water program, is well aware of the massive amount of work ahead of her team — and the likelihood that they will find other contaminated tap water in the state.

There is some positive news, however.

Many of the largest public drinking water systems in Connecticut have already been sampled for PFAS in past years, Mathieu said. That testing showed homes and businesses in larger cities like Hartford, New Haven and Stamford did not have significant levels of the chemicals in their tap water.

Those results, Mathieu said, could be a sign that Connecticut was not home to a major manufacturer of PFAS or a factory that used large quantities of the chemicals. They could also be attributed to Connecticut's decades-long efforts to protect its reservoirs and other major sources of drinking water from pesticides, industrial waste and other pollutants, she said.

Still, Mathieu is concerned that the state's smaller water systems and some of the more than 322,000 private drinking water wells in Connecticut won't be so lucky. She told the legislature as much during a hearing earlier this year when lawmakers asked about the upcoming PFAS testing.

"The good news is we're not finding it in the numbers that were found in other states ... But as we start testing more broadly, I think we're going to find it," Mathieu told the lawmakers in February.

The water sampling in Killingworth is already proving that prediction right, Mathieu said.

Connecticut may not find extensive PFAS contamination problems near major factories like Minnesota, Alabama and West Virginia did over the past two decades. But that doesn't mean that smaller contamination problems don't exist next to airports, landfills and fire departments.

Many of Connecticut's 169 towns and cities rely on drinking water systems that are similar to Killingworth, Mathieu said.

Those communities often have a couple public water wells that supply local schools, a library or a few government buildings. And they are surrounded by homes that are supplied by private wells that are maintained by the individual property owners.

More than 20% of Connecticut's residents receive their water from private wells.

"The thing that is concerning is how much is out there that we are not aware of at this point," Mathieu said. "In small communities such as Killingworth, one finding can lead to many."

The water testing that takes place over the next two years, Mathieu said, should give the state a better understanding of how big of a problem PFAS might be in Connecticut. But she said it could take many more years to find and isolate all of the sources of PFAS contamination.

"We are taking it in phases," Mathieu said. "There is so much more to do."