

News from the New Hampshire Department of Environmental Services

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NHDES Issues New Fish Consumption Advisories for 5 Lakes in Southern New Hampshire *Elevated Levels of Perfluorooctane Sulfonic Acid (PFOS) Detected in Fish Tissue*

Concord, NH – The New Hampshire Department of Environmental Services (NHDES) today announced new and more restrictive fish consumption limits in five lakes as a result of elevated levels of Perfluorooctane sulfonic acid (PFOS) detected in fish tissue samples. These advisories are the result of a study conducted across 14 lakes in south central New Hampshire. NHDES contracted Weston Solutions, Inc., to collect fish tissue, lake water and lake sediment samples to better understand the potential risks to human health associated with eating fish caught in these 14 lakes. The lakes were chosen because of the proximity to known developed and heavily populated areas that were reasonably expected to have sources of per- and polyfluoroalkyl substances (PFAS). These advisories are specific to only those lakes listed here and not applicable to all New Hampshire waterbodies. The samples were analyzed for PFAS, with a [full report](#) available on the [NHDES PFAS website](#). The lake-specific advisories are summarized below:

Summary of recommended fish consumption advisories for 5 NH lakes. Waterbodies not listed here should follow existing advisories for mercury in freshwater fish.

Waterbody	Species	Population Segment*	Recommended Fish Consumption Advisory Limits
NH Statewide Mercury Advisory	Most Species	Most adults & Older children Women of childbearing age Younger Children (<7 years old)	4 meals/month 1 meal/month 1 meal/month
Beaver Lake Derry, NH	Large & Smallmouth bass	Most adults & Older children Women of childbearing age Younger Children (<7 years old)	3 meals/month <i>same as Mercury</i> <i>same as Mercury</i>
Robinson Pond Hudson, NH	All freshwater fish	Most adults & Older children Women of childbearing age Younger Children (<7 years old)	2 meals/month <i>same as Mercury</i> DO NOT EAT
Horseshoe Pond Merrimack, NH	All freshwater fish	Most adults & Older children Women of childbearing age Younger Children (<7 years old)	1 meal/month <i>same as Mercury</i> DO NOT EAT
Canobie Lake Salem, NH	All freshwater fish	Most adults & Older children Women of childbearing age Younger Children (<7 years old)	3 meals/month <i>same as Mercury</i> <i>same as Mercury</i>
Cobbetts Pond Windham, NH	Large & Smallmouth bass	Most adults & Older children Women of childbearing age Younger Children (<7 years old)	2 meals/month <i>same as Mercury</i> <i>same as Mercury</i>

*For adults, women of childbearing age and children ≥7 years of age a serving size is 8 oz. For children younger than 7, a serving size is 4 oz.

For this study, fish muscle tissue samples were analyzed for PFAS concentrations from two species at each of the 14 lakes. The samples represented the species and permissible size of fish frequently caught by anglers. Each sample was a composite of 4 to 5 fish of the same species for each lake. Chemical analyses of water and sediment samples were also conducted. The findings summarized from data in the report were as follows:

- PFAS concentrations in surface water were generally non-detect to the low single digits of parts-per-trillion (ppt or ng/L) with few exceptions.
- Total PFAS concentrations across all composite fish samples ranged from 4.54 to 26.27 parts-per-billion (ppb or µg/kg).

NHDES evaluated the range of PFAS concentrations in fish tissue for potential human health risks. Long-term exposure to PFOS may affect the immune system of adults and children, along with other health risks. Based on this evaluation, NHDES has concluded that the PFOS concentrations in fish are high enough to present risks to consumers, and the consumption of certain fish should be limited at 5 of the 14 sampled lakes.

- Tissue concentrations of PFOS ranged from 1.04 to 18.30 ppb (µg/kg), and was the primary driver of risk to recreational consumers.
- PFAS concentrations in surface water or sediment do not present a risk to skin contact for recreational swimmers or waders.

The existing mercury-based statewide guideline of fish consumption for most freshwater fish is 1 meal per month for young children and pregnant woman and 4 meals per month for adults and children 7 years old or older. In addition, the mercury guidelines state that only fish less than 12" in size should be eaten, which may be below the legal length limit for some species. Please refer to NH Fish and Game guidance. NHDES encourages all anglers to adhere to the mercury fish consumption guidelines wherever they fish.

In comparison to the statewide mercury consumption guidelines, the recommended guidelines for fish consumption in these 5 lakes are more restrictive for certain segments of the population.

However, it is important to note that there is no known risk to catching and handling of fish in all 14 lakes that were sampled in this study, so catch and release fishing is not impacted. Other forms of recreation on these lakes are likewise unaffected.

Background on PFAS:

Per- and polyfluoroalkyl substances are man-made chemicals used as surfactants that grant unique oil and water repellent properties to industrial processes and consumer products. Certain PFAS are highly bioaccumulative, meaning that they build up in the body after repeated exposure. Long-term exposure to certain PFAS is associated with several adverse health effects.

For more information about PFAS and their health effects, please contact Dr. Jonathan Petali, Toxicologist at NHDES, at jonathan.ali@des.nh.gov or (603) 271-1359.

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