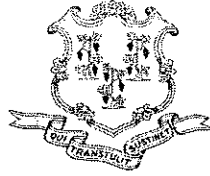


STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

Raul Pino, M.D., M.P.H.
Commissioner



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Governor
Susan Bysiewicz
Lt. Governor

Environmental and Occupational Health Section

TO: Erik Bedan, Connecticut Department of Energy and Environmental Protection (CTDEEP)

FROM: ^{SR} Sharee Rusnak, Epidemiologist, Site Assessment and Chemical Risk Unit

SUBJ: Pine Lake Contaminants in Fish Evaluation

DATE: February 13, 2019

This Letter Health Consultation (LHC) was prepared to document our evaluation of fish contaminant data from Pine Lake in Bristol, Connecticut. Fish contaminant data in this LHC was obtained from Connecticut Department of Energy and Environmental Protection (CTDEEP).

Statement of Issues

In July 2017, the Inland Fisheries Program at the Connecticut Department of Energy and Environmental Protection (CTDEEP) requested that CTDPH evaluate fish tissue data from Pine Lake in Bristol. This LHC documents the data evaluation process for Pine Lake.

Background

Pine Lake is approximately 54.6 acres and is located in Bristol, Connecticut.

As part of site investigation/remedial effort at the nearby former Superior Electric facility located at 383 Middle Street in Bristol, the CTDEEP Inland Fisheries Program sampled fish from Pine Lake in November 2017. Fish were sampled and analyzed for heavy metals because elevated levels of metals (cadmium) were present in sediment sampled upgradient in a wetland area in a previous study. The Connecticut Department of Public Health (CT DPH) provided fish sampling recommendations to DEEP and the town of Bristol as part of the Supervisor Electric site investigation process and they were carried out.



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Fish Contaminant Levels

In November 2017, 14 fish (10 largemouth bass, 3 pickeral, and 1 perch) were analyzed for heavy metals (arsenic, zinc, total chromium, cadmium, lead, mercury, silver, copper, and nickel).

Average heavy metal concentrations in all fish species collected from Pine Lake in 2017 were very low and did not exceed levels where CTDPH would issue a consumption advisory. In addition, all individual metal concentrations in fish fillets were very low with the exception of one fish, a perch, with a total chromium concentration of 3050 parts per billion (ppb). When evaluating fish contaminant levels as a basis for developing a fish consumption advisory, CTDPH typically averages contaminant concentrations and average heavy metal concentrations for all metals analyzed were below detectable limits.

Discussion

Environmental data show that the fish from Pine Lake contain very low levels of heavy metals. Individuals who catch and eat fish in these water bodies would likely be exposed to low levels of heavy metals in the fish. Because average heavy metal concentrations in fish are very low, it is unlikely that consuming fish from Pine Lake would result in any health impacts. Nevertheless, the Statewide Fish Consumption Advisory for Freshwater Lakes and Streams which is based on mercury contamination in fish, recommends 1 meal/month for high risk groups and 1 meal/week for everyone else and thus, already sets a protective limit for all freshwater bodies in Connecticut, including Pine Lake.

It is also important to mention again that there was one fish (a perch) that had elevated levels of total chromium and it is suggested that additional sampling and analysis of fish for total chromium may be needed to further ensure that consumption advice more stringent than the Statewide Fish Consumption Advisory for Freshwater Lakes and Streams is not needed.

Conclusion

CTDPH has concluded that average heavy metal concentrations in fish from Pine Lake are very low and do not warrant a site-specific fish consumption advisory.

Recommendations

1. Since there was one fish (a perch) that had an elevated total chromium level, additional testing of fish for total chromium could strengthen and confirm that a site-specific fish consumption advisory is not needed.

Please contact me at (860) 509-7583, sharee.rusnak@ct.gov to discuss the findings of this letter.