Toxicology Findings Summary and Health Recommendations for Falk Road, Bush Lake and Rice Lake in Holly, Michigan

April Brandon, M.A., LPC

Written January, 2023. Last updated December, 2024.

For several years a few local Holly, MI residents have advocated for what they believe to be unsafe levels of perfluoroalkyl and polyfluoroalkyl acids (PFAS), and (PFOA) a type of perfluorooctanoic acid contamination. This writer conferred with Dr. Brandon M. Armstrong, Aquatic Biology Specialist from Michigan Department of Environment and Brandon Reid, a toxicologist from Michigan Department of Health and Public Safety. Dr. Armstrong takes a couple cases a year from public request to research and has studied some bodies of water in Holly. His findings are as follows:

Bush Lake findings
10 Bluegill filet PFAS: 4 - 25 with an average of 12 parts/billion
10 Bass filet PFAS: 2.3 - 16.2 with an average of 9.3 parts/billion
Surface water PFAS: 1.1 parts/trillion
Surface water PFOA: 2.4 parts/trillion

Rice Lake findings
10 Bluegill filet PFAS: 3.6 -12.9 ave of 7.3 parts/billion
0 Bass were found to be analyzed
Surface water PFAS: None detected
Surface water PFOA: None detected

Dr. Armstrong recommended a conference with Brandon Reid at this point to talk about the impact of these findings and monthly fish consumption recommendations from these lakes. Recommended monthly consumption of fish is determined not only by PFAS but by mercury and polychlorinated biphenyls (PCBs). Mr. Reid made the following recommendations:

Recommendations
Bush Lake: the water is safe for recreation. No recommendations are made.
Rice Lake: the water is safe for recreation. No recommendations are made.
It is always recommended to rinse off if you swim through foam, as foam may have concentrated levels of kicked up contaminates.

Based on PFAS alone, **Bush Lake Bass consumption recommendations** would be 12 servings/month. When you add in mercury content, it brings the recommendation down to **1 serving/month.**

Based on PFAS, the **Bush Lake Bluegill consumption recommendation** would be 8/mo, but goes down to **4 servings/month** when you include mercury content.

Based on PFAS, **Rice Lake Bluegill consumption recommendations** would be 12/mo but the mercury content brings it down to **4 servings/month.**

Confoundings

This writer asked Mr. Reid how the Bluegill in Rice Lake have contamination if the surface water does not. He said these contaminants do not thrive in water but do thrive in fish. The mercury content is inline with expectations for lakes, and the mercury sources were likely closed off years ago based on the numbers. This is called Legacy Contamination. There is also an issue called Atmospheric Deposition, which is from cars and factories that falls from the air into the water and will contaminate the fish or collect on the bottom of the lake to occasionally be kicked up. Fish also take on the contamination of the fish that they eat.

Conclusions

While within a range not considered to be a safety concern the PFAS findings were a bit high for these types of lakes, which might indicate that there is a source nearby contaminating the water. Mr. Reid said all data was collected in 2021. No further action is recommended at this time. Guidelines are approved and expected to be online through the michigan.gov website in spring of 2023.

Falk Road

The contaminant levels in the Falk Road area are considered to be in a range that is not considered a safety concern according to findings from the Michigan Department of Environment, Great Lakes, and Energy, and just as a local advocate stated at Holly Village Council on 12-10-2024 (although the local advocate is very clear that she does not agree with the accepted level of contamination being safe, and she believes there is no such thing as a safe level of PFAS except zero).

If Holly contaminant levels were to reach an unsafe level, Holly could qualify for federal and state grants for the environmental rehabilitation that would be required if contaminate levels were higher. Since the findings are in the safe range, these grants cannot be sought. The expenses would be in the tens of millions of dollars range.

If any resident(s) would like a reconsideration of what is considered a safe range of contaminants, they must seek state and federal legislators as this is not within local government purview. Perhaps with scientific evidence corroborating the need to lower the safe range of contaminants, the appropriate legislative body could be convinced to reexamine recommended safety ranges.

References

Brandon M. Armstrong, Phd. Aquatic Biology Specialist. Michigan Department of Environment, Great Lakes, and Energy, Water Resources Division. Interviewed January 19, 2023.
Contact information ArmstrongB5@michigan.gov

Brandon Reid, MPH. Toxicologist. MIchigan Department of Health and Public Safety. Interviewed January 19, 2023.
Contact information ReidB1@michigan.gov