

Evaluation of Metals in Fish from Virginia Watersheds in 2023

Multiple Watersheds Statewide

VIRGINIA

March 4, 2025

Virginia Department of Health
Office of Environmental Health Services
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COMMONWEALTH of VIRGINIA

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March 4, 2025

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Dear Gabriel Darkwah,

Thank you for providing the metals in fish tissue concentrations results for fish collected in 2023 from multiple waterways in Virginia. The Virginia Department of Health (VDH) has finished reviewing the results for public health implications as requested.

BACKGROUND

The 2023 dataset reviewed includes 357 edible fish tissue fillet samples which were tested for metals as part of the Virginia Department of Environmental Quality's (DEQ's) statewide sampling and analyses of residual chemical contaminants in fish tissue. The 2023 annual routine statewide fish tissue monitoring primarily targeted the following watersheds: Rappahannock River (Mountain Run, Rapidan River, etc.), Chowan River (Blackwater River, Nottoway River and Meherrin River), Big Sandy River (Levisa Fork, Knox Fork, etc.), and Upper Roanoke River. Follow-up locations were also sampled in other watersheds including Dan River, Roanoke River, and James River.

DISCUSSION

The 2023 fish tissue data that exceeded VDH's lower screening value (0.5 ppm) for mercury is presented in Table 1 and were evaluated further. The number of fish, size, species, and frequency of exceedance of the screening value were considered in determining the need for a mercury fish consumption advisory. Some fish species tested already have a consumption advisory in effect for the sampling location.

Table 1. 2023 Fish tissue results exceeding VDH lower screening value*.

Station location and description	Species Name	No. of fish	Length (cm)	Mercury (ppm)	Advisory exists
Rappahannock River near end of Rt. 683	Smallmouth Bass	4	28.6 – 34.4	0.51	No
Rapidan River near Hunting Run Boat Launch	Largemouth Bass	1	44.6	0.96	No
Motts Run Reservoir – 100' from Dam	Largemouth Bass	5	32.7 – 35.2	0.53	No
Piscataway Creek, 0.12miles upstream Rt. 17	Bowfin	4	57.7 – 70.1	0.62	No
Blackwater Swamp near Rt. 625 Bridge 1 mile NE Disputanta	Longnose Gar	1	71.1	0.97	Yes
Blackwater Swamp near Rt. 625 Bridge 1 mile NE Disputanta	Largemouth Bass	1	26.2	0.60	Yes
Blackwater Swamp near Rt. 625 Bridge 1 mile NE Disputanta	Warmouth Sunfish	2	12.0 – 18.0	0.63	Yes
Blackwater Swamp near Rt. 625 Bridge 1 mile NE Disputanta	Chain Pickerel	4	27.4 – 37.5	0.74	Yes
Blackwater Swamp near Rt. 625 Bridge 1 mile NE Disputanta	Bowfin	1	47.5	0.69	Yes
Warwick Swamp near Rt. 627 Bridge	Flier Sunfish	2	13.8 – 16.0	0.57	Yes
Warwick Swamp near Rt. 627 Bridge	Chain Pickerel	1	24.1	0.58	Yes
Blackwater River near Rt. 621 Proctors Bridge	Largemouth Bass	1	28.6	0.62	Yes
Blackwater River near Rt. 621 Proctors Bridge	Bowfin	2	50.6 – 59.8	0.88	Yes
Blackwater River near Rt. 621 Proctors Bridge	Bowfin	1	67.1	1.99	Yes
Blackwater River near Rt. 603	Largemouth Bass	3	38.9 – 47.9	1.22	Yes
Blackwater River near Rt. 603	Black Crappie	3	23.4 – 28.6	0.77	Yes
Blackwater River near Rt. 603	Chain Pickerel	2	35.2 – 40.3	0.73	Yes
Blackwater River near Rt. 603	Bowfin	1	61.8	1.36	Yes
Blackwater River near Rt. 611 Bridge	Largemouth Bass	3	39.3 – 46.4	0.96	Yes
Blackwater River near Rt. 611 Bridge	Chain Pickerel	2	40.6 – 44.1	0.56	Yes
Blackwater River near Rt. 258	Largemouth Bass	3	26.0 – 36.4	0.63	Yes
Blackwater River near Rt. 258	Chain Pickerel	2	41.2 – 46.6	0.88	Yes
Blackwater River near Rt. 258	Bowfin	1	59.4	0.76	Yes
Blackwater River near state line	Bowfin	1	56.6	0.57	Yes
Nottoway River near Rt. 613 – Gills Bridge	American Eel	3	48.2 – 63.8	0.54	No
Nottoway River near Rt. 631 Bridge	Longnose Gar	2	65.0 – 84.5	0.85	Yes
Nottoway River near Rt. 631 Bridge	Bowfin	1	52.9	0.86	Yes
Three Creek near Rt. 617 Bridge below Slagle	American Eel	3	39.7 – 56.2	0.72	No
Nottoway River near Rt. 653 Careys Bridge	Yellow Perch	6	23.3 – 30.4	0.57	No
Nottoway River near Rt. 671 Bridge	Largemouth Bass	4	30.6 – 33.2	0.60	Yes
Nottoway River near Rt. 671 Bridge	Redhorse Sucker	3	50.0 – 54.3	0.69	Yes
Nottoway River near Rt. 671 Bridge	Bowfin	2	52.3 – 54.5	0.68	Yes
Nottoway River near 4.1 miles downstream from Rt. 684	Largemouth Bass	4	32.6 – 34.6	0.54	Yes
Nottoway River near Rt. 258 Bridge SW of Franklin	Largemouth Bass	4	34.6 – 37.6	0.75	Yes
Nottoway River near Rt. 258 Bridge SW of Franklin	Golden Redhorse Sucker	4	42.6 – 50.4	0.53	Yes
Nottoway River near Rt. 258 Bridge SW of Franklin	Bowfin	1	56.3	1.48	Yes
Nottoway River near VA-N.C. State Line	Bowfin	2	61.0 – 62.5	0.93	Yes
Emporia Reservoir – Sta 1 – Meherrin River	Largemouth Bass	3	47.1 – 49.5	0.74	Yes
Emporia Reservoir – Sta 1 – Meherrin River	Largemouth Bass	3	37.0 – 41.4	0.59	Yes
Meherrin River near Meherrin River Park below Rt. 301	Bowfin	2	46.8 – 53.5	0.74	Yes

Station location and description	Species Name	No. of fish	Length (cm)	Mercury (ppm)	Advisory exists
Meherrin River near Meherrin River Park below Rt. 301	Largemouth Bass	2	45.6 – 52.0	1.01	Yes
Meherrin River near Rt. 730 Bridge	Largemouth Bass	1	52.5	0.98	No
Meherrin River near Rt. 730 Bridge	American Eel	4	50.4 – 59.1	0.58	No
Fontaine Creek near Rt. 625 Bridge	Longnose Gar	4	51.6 – 65.8	0.60	No
Fontaine Creek near Rt. 625 Bridge	Bowfin	1	52.7	0.55	Yes
John Flannagan Reservoir	Walleye	2	48.2 – 50.0	0.61	No
Dan River upstream Schoolfield Dam	Largemouth Bass	2	40.4 – 46.7	0.50	No
James River near Pony Pasture Park Sta. 1 – at Fall Zone	Largemouth Bass	2	43.5 – 44.8	0.53	No
James River near Pony Pasture Park Sta. 1 – at Fall Zone	Flathead Catfish	1	85.6	1.89	No
James River near Pony Pasture Park Sta. 1 – at Fall Zone	Blue Catfish	1	79.4	0.75	No
James River near Tredegar Iron Works	Largemouth Bass	2	47.0 – 47.2	0.50	No
James River near Tredegar Iron Works	Blue Catfish	1	103.9	0.97	No
James River near Tredegar Iron Works	Blue Catfish	1	87.9	0.61	No
James River near Tredegar Iron Works	Blue Catfish	1	105.3	0.90	No
Lake Burnt Mills Sta 1 – Mid Lake, 100M. from Dam	Bowfin	2	61.2 – 65.5	0.51	**
Western Branch Reservoir Sta #3 100 M from Dam	Channel Catfish	1	75.6	0.61	**

*Fish analyzed individually or as composite samples. ** Polychlorinated biphenyls and Kepone advisory in effect for these fish. **cm** – centimeters. **ppm** – parts per million.

CONCLUSION

VDH concludes that no changes to the current fish consumption advisories are warranted at this time.

RECOMMENDATION

VDH does not have any recommendations at this time.

Please let us know if you have any questions or other information to consider.

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This publication was made possible by a cooperative agreement [program # TS-23-0001] from the Agency for Toxic Substances and Disease Registry (ATSDR). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the ATSDR, or the U.S. Department of Health and Human Services.