# Evaluation of Polychlorinated Biphenyls Concentrations in Fish from Virginia Watersheds in 2017

Chowan James Rivers, Lake Anna, Lake Gordonsville,

Motts Run Reservoir, and Potomac River Embayments

VIRGINIA

Letter Health Consultation

May 21, 2019

Virginia Department of Health
Division of Environmental Epidemiology
109 Governor Street
Richmond, Virginia 23219

# *COMMONWEALTH of VIRGINIA*

***Department of Health – Office of Epidemiology***

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May 21, 2019

Gabriel Darkwah
Lab Data Coordinator
Virginia Department of Environmental Quality
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Dear Mr. Darkwah,

Thank you for providing the polychlorinated biphenyls (PCBs) fish tissue concentrations results for fish and sediment collected in 2017 from Chowan and James Rivers, Lake Anna, Lake Gordonsville, Motts Run Reservoir, and Potomac River Embayments. The Virginia Department of Health (VDH) has finished reviewing the results for public health implications as requested.

## BACKGROUND AND RESULTS

In October 2000, pursuant to § 32.1-248.01 of the *Code of Virginia*, VDH published guidelines for issuance of fish consumption advisories due to contamination of fish, including PCBs. In 2012, VDH updated the guidelines for establishing a fish consumption advisory. These guidelines are available at Virginia Regulatory Town Hall.[1]

The current fish consumption guidelines for PCBs are as follows:

- When PCBs levels in fish range from 100 to below 500 ppb, VDH recommends limiting consumption of contaminated fish species to two 8-ounce meals per month.
- When levels equal or exceed 500 ppb in fish, VDH recommends avoiding consumption of contaminated fish species.

In 2017, the VA Department of Environmental Quality (DEQ) collected fish from watersheds of the upper portions of the James River, three tributaries of the Chowan River, Lake Anna, two impoundments: Lake Gordonsville and Motts Run Reservoir, and embayments along the

[1] https://law.lis.virginia.gov/vacode/title32.1/chapter6/section32.1-248.01/

Potomac River. A total of 143 fish tissue samples (either individual fillets or composites) were tested for total PCBs concentrations. PCBs were detected in 114 of the 143 samples tested, and 10 of those samples exceeded the VDH lower level of concern of 100 ppb (**Table 1**). All samples were below the VDH upper level of concern of 500 ppb. Complete sample results are in Appendix A. Fish collection and laboratory analysis are not discussed in this letter.

**Table 1: 2017 Fish samples reported with PCBs concentrations greater than 100 ppb.**

| Site # | River Basin | Fish Species | # Fish in Sample | Weight (g) | Length (cm) | PCBs (ppb) |
|---|---|---|---|---|---|---|
| **7** | *Maury River* | *Largemouth Bass* | 6 | 40.4 - 51.9 | 1045 - 2268 | 145.571 |
| **11** | *Upper James River* | *Carp* | 3 | 74.6 - 80.0 | 5600 - 8400 | 101.805 |
| **11** | *Upper James River* | *Carp* | 3 | 77.3 - 79.5 | 6100 - 7800 | 170.358 |
| **22** | Lake Anna | Carp | 3 | 68.0 - 71.5 | 3509 - 5115 | 102.943 |
| **24** | Lake Anna | Channel Catfish | 3 | 38.1 - 48.8 | 458 - 978 | 314.157 |
| **24** | Lake Anna | Striped Bass | 3 | 53.0 - 60.3 | 1542 - 2247 | 117.694 |
| **25** | Lake Anna | Channel Catfish | 5 | 32.9 - 38.5 | 248 - 485 | 124.180 |
| **25** | Lake Anna | White Catfish | 7 | 22.6 - 28.4 | 130 - 251 | 409.598 |
| **25** | Lake Anna | Carp | 3 | 65.0 - 73.2 | 3102 - 4338 | 248.503 |
| **36** | *Nottoway River* | *Blue Catfish* | 1 | 73.7 | 5646 | 128.191 |

Section of River sampled and species in italics are not under a current PCB advisory.
PCBs = polychlorinated biphenyls. g = grams. cm = centimeters. ppb = parts per billion.

One largemouth bass composite sample (6 fish) from the Maury River exceeded VDH's lower level of concern for PCBs. The last year (2005) fish from the Maury River were collected and tested for PCBs concentration, largemouth bass were not analyzed.

Two composite samples of carp from the Upper James River exceeded VDH's lower level of concern for PCBs. The sampling location of the Upper James River where the carp were collected does not have a PCBs fish consumption advisory for carp. Carp are rarely found in this section of the James River.[2]

The four fish species (carp, channel catfish, striped bass, white catfish) collected from Lake Anna that exceeded VDH's lower level of concern for PCBs are already under a PCBs fish consumption advisory for the lake.

One blue catfish from the section of the Nottoway River (Chowan River basin) sampled exceeded VDH's lower level of concern for PCBs. The concentration of PCBs in the other, larger blue catfish did not exceed VDH's lower level of concern for PCBs.

*Assessing the need for changes to the fish consumption advisories*

When assessing the fish tissue PCBs concentrations for the watersheds sampled, VDH considers the abundance of the fish species in the waterway, their size, and the average concentration of contaminant in at least 12 fish of edible size before issuing a fish consumption advisory. VDH also

[2] Personal communication with DEQ. February 13, 2019.

seeks input from DEQ and the Department of Game and Inland Fisheries (DGIF). VDH met with DEQ to discuss the mercury and arsenic concentration in fish from these waterway in March 2019. Subsequently, VDH, DEQ, and DGIF discussed concerns and guidance when issuing a fish consumption advisory in April 2019. Data from future sampling events may support changing the current advisories for these waterways, but at this time there is insufficient data to support the change in the current fish consumption advisories. The current fish consumption advisories for the waterways sampled are attached in Appendix B.

## CONCLUSIONS

VDH concludes that the current polychlorinated biphenyls fish consumption advisories for the 2017 waterways sampled is protective of health.

VDH concludes that additional fish tissue polychlorinated biphenyls concentrations in largemouth bass from the Maury River may warrant a change in the current advisory for that section of the river.

VDH concludes that additional fish tissue polychlorinated biphenyls concentrations in carp from the Upper James River may warrant a change in the current advisory for that section of the river.

## RECOMMENDATIONS

VDH recommends that the current polychlorinated biphenyls fish consumption advisories for the segments of the waterways sampled remain in effect.

VDH recommends additional largemouth bass from the Maury River be collected and tested for polychlorinated biphenyls concentration to determine if a change to the current consumption advisory is warranted.

VDH recommends additional carp from the Upper James River not under a polychlorinated biphenyls advisory be collected and tested for polychlorinated biphenyls concentration to determine if a change to the current consumption advisory is warranted.

For any additional questions please contact Rachel Ellick at rachel.ellick@vdh.virginia.gov

or at (804) 864-8194, or Dwight Flammia, Ph.D., at dwight.flammia@vdh.virginia.gov or at (804)-864-8127.

Sincerely,

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## Appendix A: Data Table

**Table 2. 2017 Fish sampling results for segments of the Chowan and James Rivers, Lake Anna, Lake Gordonsville, Motts Run Reservoir and Potomac River Embayments.**

| DEQ Site # | Station name/location/description | DEQ River mile | Fish Species Name | # fish analyzed | Length (cm) | Weight (g) | Total PCBs* |
|---|---|---|---|---|---|---|---|
| **Upper James River Watershed** | | | | | | | |
| 1 | Lewis Creek Bridge Street bridge | 1BLEW008.24 | White Sucker | 7 | 20.5 - 26.2 | 89 - 194 | 8.787 |
| 1 | Lewis Creek Bridge Street bridge | 1BLEW008.24 | Torrent Sucker | 12 | 12.3 - 16.9 | 24 - 51 | 52.607 |
| 3 | Lewis Creek below Sewage Disposal Discharge | 1BLEW005.40 | Green Sunfish | 5 | 12.0 - 15.8 | 32 - 66 | 14.032 |
| 3 | Lewis Creek below Sewage Disposal Discharge | 1BLEW005.40 | Bluehead Chub | 15 | 12.3 - 15.7 | 21 - 44 | 11.981 |
| 3 | Lewis Creek below Sewage Disposal Discharge | 1BLEW005.40 | White Sucker | 3 | 19.3 - 25.4 | 72 - 163 | 16.895 |
| 3 | Lewis Creek below Sewage Disposal Discharge | 1BLEW005.40 | White Sucker | 17 | 14.1 - 17.3 | 29 - 52 | 32.118 |
| 2 | Lewis Creek near Rt. 931 bridge | 1BLEW002.91 | Bluehead Chub | 12 | 13.0 - 16.9 | 30 - 52 | 13.071 |
| 2 | Lewis Creek near Rt. 931 bridge | 1BLEW002.91 | White Sucker | 4 | 20.3 - 23.7 | 80 - 139 | 17.306 |
| 2 | Lewis Creek near Rt. 931 bridge | 1BLEW002.91 | White Sucker | 10 | 14.6 - 19.4 | 27 - 72 | 13.967 |
| 4 | Middle River second meander after Lewis Creek | 1BMDL020.16 | Rock bass | 7 | 12.6 - 16.4 | 37 - 86 | 0.743 |
| 4 | Middle River second meander after Lewis Creek | 1BMDL020.16 | Redbreast Sunfish | 10 | 14.2 - 17.7 | 59 - 105 | 1.844 |
| 4 | Middle River second meander after Lewis Creek | 1BMDL020.16 | White Sucker | 5 | 39.2 - 46.5 | 662 - 1125 | 3.608 |
| 4 | Middle River second meander after Lewis Creek | 1BMDL020.16 | White Sucker | 5 | 32.2 - 33.6 | 364 - 400 | 2.207 |
| 4 | Middle River second meander after Lewis Creek | 1BMDL020.16 | White Sucker | 5 | 32.2 - 33.6 | 364 - 400 | 0.568 |
| 4 | Middle River second meander after Lewis Creek | 1BMDL020.16 | Bluehead Chub | 10 | 14.5 - 19.6 | 37 - 92 | 2.412 |
| 5 | Hardware Creek below confluence with Dobby Creek | 2-HRD002.06 | Rock bass | 12 | 11.2 - 14.8 | 24 - 64 | nd |
| 5 | Hardware Creek below confluence with Dobby Creek | 2-HRD002.06 | Green Sunfish | 9 | 10.9 - 13.2 | 22 - 46 | nd |
| 5 | Hardware Creek below confluence with Dobby Creek | 2-HRD002.06 | Redbreast Sunfish | 5 | 14.2 - 16.9 | 53 - 87 | nd |
| 5 | Hardware Creek below confluence with Dobby Creek | 2-HRD002.06 | American Eel | 2 | 51.2 - 51.5 | 245 - 259 | 1.346 |
| 6 | Hardware Creek near Rt. 6, above confluence with | 2-HRD007.21 | Bluegill Sunfish | 6 | 13.0 - 17.1 | 42 - 103 | nd |
| 6 | Hardware Creek near Rt. 6, above confluence with | 2-HRD007.21 | Green Sunfish | 5 | 12.5 - 16.2 | 38 - 65 | nd |
| 6 | Hardware Creek near Rt. 6, above confluence with | 2-HRD007.21 | American Eel | 4 | 39.4 - 55.5 | 102 - 253 | 0.912 |

*Total PCB denotes sum of polychlorinated biphenyl congeners in parts per billion (ppb). †Duplicate analysis. **Bold face** values exceed one of VDH's screening values.
g = grams. cm = centimeter. nd = not detected.

**Table 2. 2017 Fish sampling results for segments of the Chowan and James Rivers, Lake Anna, Lake Gordonsville, Motts Run Reservoir and Potomac River Embayments, continued.**

| DEQ Site # | Station name/location/description | DEQ River mile | Fish Species Name | # fish analyzed | Length (cm) | Weight (g) | Total PCBs* |
|---|---|---|---|---|---|---|---|
| **Upper James River Watershed Continued** | | | | | | | |
| 10 | James River near Reed Creek Landing below Big | 2-JMS277.30 | Smallmouth Bass | 7 | 29.2 - 39.0 | 310 - 800 | 0.734 |
| 10 | James River near Reed Creek Landing below Big | 2-JMS277.30 | Rock bass | 4 | 17.2 - 23.2 | 123 - 284 | 0.596 |
| 10 | James River near Reed Creek Landing below Big | 2-JMS277.30 | Channel Catfish | 3 | 55.5 - 60.4 | 1723 - 2205 | 11.131 |
| 10 | James River near Reed Creek Landing below Big | 2-JMS277.30 | Carp | 3 | 70.9 - 77.6 | 5100 - 7500 | 68.034 |
| 7 | Maury River above Rt. 60 near power lines | 2-MRY013.88 | **Largemouth Bass** | 6 | 40.4 - 51.9 | 1045 - 2268 | **145.571** |
| 7† | Maury River above Rt. 60 near power lines | 2-MRY013.88 | **Largemouth Bass†** | 6 | 40.4 - 51.9 | 1045 - 2268 | **149.557** |
| 7 | Maury River above Rt. 60 near power lines | 2-MRY013.88 | White Sucker | 6 | 36.3 - 44.6 | 570 - 1020 | 6.905 |
| 7 | Maury River above Rt. 60 near power lines | 2-MRY013.88 | Rock bass | 7 | 17.2 - 22.6 | 88 - 167 | 3.151 |
| 7 | Maury River above Rt. 60 near power lines | 2-MRY013.88 | Carp | 3 | 71.6 - 75.6 | 5635 - 6077 | 90.379 |
| 8 | Maury River near Rt. 745, (Glen Maury Park) Buena | 2-MRY011.23 | Redbreast Sunfish | 10 | 15.0 - 19.5 | 70 - 168 | 4.154 |
| 8 | Maury River near Rt. 745, (Glen Maury Park) Buena | 2-MRY011.23 | Rock bass | 12 | 17.0 - 19.4 | 81 - 130 | 3.989 |
| 8 | Maury River near Rt. 745, (Glen Maury Park) Buena | 2-MRY011.23 | Rock bass | 15 | 14.5 - 16.8 | 56 - 98 | 1.376 |
| 8 | Maury River near Rt. 745, (Glen Maury Park) Buena | 2-MRY011.23 | Yellow Bullhead Catfish | 4 | 20.6 - 24.4 | 115 - 207 | 8.309 |
| 8 | Maury River near Rt. 745, (Glen Maury Park) Buena | 2-MRY011.23 | Smallmouth Bass | 5 | 28.7 - 35.8 | 254 - 617 | 12.746 |
| 9 | Maury River near Rt. 130 bridge, Glasgow | 2-MRY001.50 | Redbreast Sunfish | 3 | 16.8 - 19.3 | 105 - 147 | 0.837 |
| 9 | Maury River near Rt. 130 bridge, Glasgow | 2-MRY001.50 | Rock bass | 14 | 14.9 - 18.5 | 66 - 124 | 0.717 |
| 9 | Maury River near Rt. 130 bridge, Glasgow | 2-MRY001.50 | Rock bass | 15 | 14.1 - 17.8 | 55 - 112 | 0.607 |
| 9 | Maury River near Rt. 130 bridge, Glasgow | 2-MRY001.50 | Flathead Catfish | 1 | 86.1 | 7000 | 52.575 |
| 11 | James River near Alpine Landing above Natural | 2-JMS298.70 | Smallmouth Bass | 6 | 32.3 - 41.2 | 390 - 991 | nd |
| 11 | James River near Alpine Landing above Natural | 2-JMS298.70 | Flathead Catfish | 1 | 96 | 11100 | 32.705 |
| 11 | James River near Alpine Landing above Natural | 2-JMS298.70 | **Carp** | 3 | 77.3 - 79.5 | 6100 - 7800 | **170.358** |
| 11 | James River near Alpine Landing above Natural | 2-JMS298.70 | **Carp** | 3 | 74.6 - 80.0 | 5600 - 8400 | **101.805** |

*Total PCB denotes sum of polychlorinated biphenyl congeners in parts per billion (ppb). †Duplicate analysis. **Bold face** values exceed one of VDH's screening values.
g = grams. cm = centimeter. nd = not detected.

**Table 2. 2017 Fish sampling results for segments of the Chowan and James Rivers, Lake Anna, Lake Gordonsville, Motts Run Reservoir and Potomac River Embayments, continued.**

| DEQ Site # | Station name/location/description | DEQ River mile | Fish Species Name | # fish analyzed | Length (cm) | Weight (g) | Total PCBs* |
|---|---|---|---|---|---|---|---|
| **Upper James River Watershed Continued** | | | | | | | |
| 12 | James River near Rt. 11 bridge, Buchanan | 2-JMS309.13 | Smallmouth Bass | 6 | 38.1 - 47.6 | 738 - 1203 | 0.712 |
| 12 | James River near Rt. 11 bridge, Buchanan | 2-JMS309.13 | Smallmouth Bass† | 6 | 38.1 - 47.6 | 738 - 1203 | 0.578 |
| 12 | James River near Rt. 11 bridge, Buchanan | 2-JMS309.13 | Rock bass | 10 | 17.3 - 20.5 | 103 - 187 | nd |
| 12 | James River near Rt. 11 bridge, Buchanan | 2-JMS309.13 | Rock bass | 10 | 17.9 - 20.3 | 107 - 167 | nd |
| 12 | James River near Rt. 11 bridge, Buchanan | 2-JMS309.13 | Northern Hogsucker | 6 | 37.0 - 39.9 | 635 - 818 | nd |
| 12 | James River near Rt. 11 bridge, Buchanan | 2-JMS309.13 | Redbreast Sunfish | 8 | 15.6 - 17.3 | 87 - 116 | nd |
| 13 | James River near Rt. 43 at Horseshoe Bend Boat | 2-JMS317.62 | Smallmouth Bass | 10 | 25.5 - 34.1 | 179 - 418 | nd |
| 13 | James River near Rt. 43 at Horseshoe Bend Boat | 2-JMS317.62 | Rock bass | 10 | 15.5 - 21.5 | 84 - 216 | nd |
| 13 | James River near Rt. 43 at Horseshoe Bend Boat | 2-JMS317.62 | Northern Hogsucker | 5 | 37.6 - 44.0 | 683 - 1109 | nd |
| 13 | James River near Rt. 43 at Horseshoe Bend Boat | 2-JMS317.62 | Flathead Catfish | 3 | 46.8 - 55.0 | 994 - 1776 | 4.439 |
| 14 | James River near Rt. 43 bridge, Eagle Rock | 2-JMS330.77 | Smallmouth Bass | 6 | 22.8 - 24.7 | 153 - 200 | 1.811 |
| 14 | James River near Rt. 43 bridge, Eagle Rock | 2-JMS330.77 | Rock bass | 10 | 18.2 - 21.4 | 124 - 225 | 0.532 |
| 14 | James River near Rt. 43 bridge, Eagle Rock | 2-JMS330.77 | Rock bass | 11 | 17.6 -19.6 | 125 - 168 | nd |
| 14 | James River near Rt. 43 bridge, Eagle Rock | 2-JMS330.77 | Northern Hogsucker | 6 | 32.5 - 37.9 | 455 - 662 | 1.368 |
| 15 | James River near Rt. 220 - 1st bridge below | 2-JMS345.73 | Smallmouth Bass | 3 | 32.7 - 41.8 | 411 - 1037 | 11.893 |
| 15 | James River near Rt. 220 - 1st bridge below | 2-JMS345.73 | Rock bass | 11 | 16.1 - 19.6 | 78 - 149 | 0.587 |
| 15 | James River near Rt. 220 - 1st bridge below | 2-JMS345.73 | Northern Hogsucker | 10 | 33.9 - 41.2 | 478 - 893 | nd |
| 16 | Cowpasture River near Rt. 633 bridge, East of Iron | 2-CWP002.58 | Rock bass | 11 | 14.0 - 18.8 | 55 - 134 | nd |
| 16 | Cowpasture River near Rt. 633 bridge, East of Iron | 2-CWP002.58 | Redbreast Sunfish | 10 | 13.8 - 18.5 | 50 - 112 | nd |
| 16 | Cowpasture River near Rt. 633 bridge, East of Iron | 2-CWP002.58 | Black Jumprock Sucker | 6 | 15.8 - 19.9 | 41 - 94 | nd |

*Total PCB denotes sum of polychlorinated biphenyl congeners in parts per billion (ppb). †Duplicate analysis. **Bold face** values exceed one of VDH's screening values.
g = grams. cm = centimeter. nd = not detected.

**Table 2. 2017 Fish sampling results for segments of the Chowan and James Rivers, Lake Anna, Lake Gordonsville, Motts Run Reservoir and Potomac River Embayments, continued.**

| DEQ Site # | Station name/location/description | DEQ River mile | Fish Species Name | # fish analyzed | Length (cm) | Weight (g) | Total PCBs* |
|---|---|---|---|---|---|---|---|
| **Upper James River Watershed Continued** | | | | | | | |
| 18 | Jackson River low water bridge near Dabney | 2-JKS006.67 | Smallmouth Bass | 6 | 21.0 - 27.5 | 100 - 250 | nd |
| 18 | Jackson River low water bridge near Dabney | 2-JKS006.67 | Rock bass | 7 | 19.0 - 21.0 | 90 - 210 | 0.532 |
| 19 | Jackson River near City Park at Covington Gage | 2-JKS023.61 | Carp | 2 | 70.0 - 71.0 | 5210 - 6340 | 9.475 |
| 19 | Jackson River near City Park at Covington Gage | 2-JKS023.61 | Carp | 3 | 56.0 - 66.0 | 2500 - 5430 | 28.553 |
| 19 | Jackson River near City Park at Covington Gage | 2-JKS023.61 | White Sucker | 6 | 40.0 - 56.0 | 759 - 2010 | 1.268 |
| 19 | Jackson River near City Park at Covington Gage | 2-JKS023.61 | Largemouth Bass | 3 | 31.0 - 40.0 | 444 - 1227 | 0.647 |
| 19 | Jackson River near City Park at Covington Gage | 2-JKS023.61 | Rainbow Trout | 2 | 35.0 - 35.0 | 502 - 526 | nd |
| 19 | Jackson River near City Park at Covington Gage | 2-JKS023.61 | Rock bass | 8 | 13.5 - 17.0 | 60 - 114 | nd |
| **Motts Run Reservoir** | | | | | | | |
| 20 | Motts Run Reservoir above Dam | 3-MOT000.39 | Largemouth Bass | 3 | 30.0 - 31.6 | 353 - 390 | 5.079 |
| 20 | Motts Run Reservoir above Dam | 3-MOT000.39 | Largemouth Bass† | 3 | 30.0 - 31.6 | 353 - 390 | 5.271 |
| 20 | Motts Run Reservoir above Dam | 3-MOT000.39 | Bluegill Sunfish | 10 | 15.5 - 21.7 | 71 - 183 | nd |
| 20 | Motts Run Reservoir above Dam | 3-MOT000.39 | Redear Sunfish | 6 | 18.5 - 22.7 | 104 - 201 | nd |
| 20 | Motts Run Reservoir above Dam | 3-MOT000.39 | American Eel | 2 | 57.0 - 60.8 | 331 - 475 | 12.227 |
| 20 | Motts Run Reservoir above Dam | 3-MOT000.39 | Channel Catfish | 7 | 34.2 - 43.5 | 275 - 625 | 0.624 |
| 21 | Lake Gordonsville near Spillway | 8-DOV001.20 | Largemouth Bass | 3 | 27.3 - 30.8 | 244 - 380 | nd |
| **Potomac River Embayments** | | | | | | | |
| 1-PR | Dogue Creek (mid embayment) | 1ADOU001.02 | Northern Snakehead | 3 | 75.1 - 80.5 | 3503 - 5000 | 31.379 |
| 3-PR | Occoquan River near Rt. 123 (Gordon Blvd) (upper | 1AOCC006.71 | Northern Snakehead | 3 | 71.9 - 72.8 | 3103 - 3316 | 37.490 |

*Total PCB denotes sum of polychlorinated biphenyl congeners in parts per billion (ppb). †Duplicate analysis. **Bold face** values exceed one of VDH's screening values.
g = grams. cm = centimeter. nd = not detected.

**Table 2. 2017 Fish sampling results for segments of the Chowan and James Rivers, Lake Anna, Lake Gordonsville, Motts Run Reservoir and Potomac River Embayments, continued.**

| DEQ Site # | Station name/location/description | DEQ River mile | Fish Species Name | # fish analyzed | Length (cm) | Weight (g) | Total PCBs* |
|---|---|---|---|---|---|---|---|
| **Lake Anna** | | | | | | | |
| 22 | Lake Anna (Main) above Dam | 8-NAR034.92 | Largemouth Bass | 4 | 26.3 - 32.1 | 220 - 433 | 6.829 |
| 22 | Lake Anna (Main) above Dam | 8-NAR034.92 | Gizzard Shad | 10 | 28.2 - 35.4 | 208 - 444 | 17.733 |
| 22 | Lake Anna (Main) above Dam | 8-NAR034.92 | Redear Sunfish | 4 | 22.0 - 27.8 | 176 - 338 | 0.455 |
| 22 | Lake Anna (Main) above Dam | 8-NAR034.92 | Channel Catfish | 10 | 34.9 - 38.2 | 322 - 410 | 13.865 |
| 22 | Lake Anna (Main) above Dam | 8-NAR034.92 | **Carp** | 3 | 68.0 - 71.5 | 3509 - 5115 | **102.943** |
| 22 | Lake Anna Lower Lake | 8-NAR034.92 | Striped Bass | 3 | 51.6 - 63.0 | 1417 - 2498 | 62.625 |
| 23 | Lake Anna - near Power Plant | 8-NAR044.68 | Largemouth Bass | 5 | 34.2 - 44.5 | 612 - 1475 | 17.788 |
| 23 | Lake Anna - near Power Plant | 8-NAR044.68 | Redbreast Sunfish | 8 | 16.8 - 21.6 | 102 - 188 | 1.309 |
| 23 | Lake Anna - near Power Plant | 8-NAR044.68 | Gizzard Shad | 8 | 26.5 - 33.5 | 144 - 329 | 6.037 |
| 23 | Lake Anna - near Power Plant | 8-NAR044.68 | Bluegill Sunfish | 5 | 14.5 - 18.8 | 50 - 128 | 1.031 |
| 23 | Lake Anna - near Power Plant | 8-NAR044.68 | Carp | 3 | 64.2 - 77.6 | 3600 - 6500 | 60.638 |
| 24 | Lake Anna - North Anna River near Rt. 522 | 8-NAR056.36 | Largemouth Bass | 6 | 33.5 - 43.2 | 529 - 1134 | 12.029 |
| 24 | Lake Anna - North Anna River near Rt. 522 | 8-NAR056.36 | Largemouth Bass† | 6 | 33.5 - 43.2 | 529 - 1134 | 13.663 |
| 24 | Lake Anna - North Anna River near Rt. 522 | 8-NAR056.36 | Gizzard Shad | 10 | 28.2 - 35.9 | 166 - 323 | 16.206 |
| 24 | Lake Anna - North Anna River near Rt. 522 | 8-NAR056.36 | Bluegill Sunfish | 15 | 16.0 - 17.6 | 65 - 91 | 15.340 |
| 24 | Lake Anna - North Anna River near Rt. 522 | 8-NAR056.36 | **Channel Catfish** | 3 | 38.1 - 48.8 | 458 - 978 | **314.157** |
| 24 | Lake Anna - North Anna River near Rt. 522 | 8-NAR056.36 | Carp | 4 | 63.3 - 65.6 | 2902 - 3735 | 98.074 |
| 24 | Lake Anna North Upper Arm | 8-NAR056.36 | **Striped Bass** | 3 | 53.0 - 60.3 | 1542 - 2247 | **117.694** |

*Total PCB denotes sum of polychlorinated biphenyl congeners in parts per billion (ppb). †Duplicate analysis. **Bold face** values exceed one of VDH's screening values.
g = grams. cm = centimeter. nd = not detected.

**Table 2. 2017 Fish sampling results for segments of the Chowan and James Rivers, Lake Anna, Lake Gordonsville, Motts Run Reservoir and Potomac River Embayments, continued.**

| DEQ Site # | Station name/location/description | DEQ River mile | Fish Species Name | # fish analyzed | Length (cm) | Weight (g) | Total PCBs* |
|---|---|---|---|---|---|---|---|
| **Lake Anna Continued** | | | | | | | |
| 25 | Terry's Run arm Lake Anna near Rt. 719 (Days bridge) | 8-TRY001.37 | Largemouth Bass | 5 | 27.2 - 36.0 | 283 - 729 | 25.693 |
| 25 | Terry's Run arm Lake Anna near Rt. 719 | 8-TRY001.37 | **Channel Catfish** | 5 | 32.9 - 38.5 | 248 - 485 | **124.180** |
| 25 | Terry's Run arm Lake Anna near Rt. 719 | 8-TRY001.37 | Bluegill Sunfish | 15 | 15.7 - 17.3 | 60 - 88 | 40.112 |
| 25 | Terry's Run arm Lake Anna near Rt. 719 | 8-TRY001.37 | **White Catfish** | 7 | 22.6 - 28.4 | 130 - 251 | **409.598** |
| 25 | Terry's Run arm Lake Anna near Rt. 719 | 8-TRY001.37 | **Carp** | 3 | 65.0 - 73.2 | 3102 - 4338 | **248.503** |
| 26 | Pamunkey Creek arm Lake Anna - | 8-PMC002.13 | Largemouth Bass | 5 | 43.5 - 46.7 | 1062 - 1515 | 30.557 |
| 26 | Pamunkey Creek arm Lake Anna - | 8-PMC002.13 | Largemouth Bass | 6 | 33.9 - 38.2 | 660 - 848 | 37.034 |
| 26 | Pamunkey Creek arm Lake Anna - | 8-PMC002.13 | Green Sunfish | 11 | 13.0 - 18.3 | 34 - 120 | 33.854 |
| 26 | Pamunkey Creek arm Lake Anna - | 8-PMC002.13 | Carp | 3 | 65.2 - 71.5 | 3507 - 5226 | 72.559 |
| 26 | Lake Anna both Upper Arms | 8-PMC002.13 | Striped Bass | 3 | 64.3 - 69.0 | 2710 - 3550 | 72.813 |
| 26 | Lake Anna both Upper Arms | 8-PMC002.13 | Striped Bass | 3 | 58.2- 61.3 | 1889 - 2509 | 49.251 |
| **Chowan River Watershed** | | | | | | | |
| 27 | Emporia Reservoir near dam | 5AMHN053.00 | Golden Redhorse | 10 | 43.9 - 54.5 | 847 - 1758 | 2.637 |
| 27 | Emporia Reservoir near dam | 5AMHN053.00 | Bluegill Sunfish | 10 | 13.9 - 16.9 | 46 - 97 | nd |
| 27 | Emporia Reservoir near dam | 5AMHN053.00 | Largemouth Bass | 5 | 27.5 - 34.5 | 243 - 528 | 0.693 |
| 27 | Emporia Reservoir near dam | 5AMHN053.00 | Largemouth Bass† | 5 | 27.5 - 34.5 | 243 - 528 | 0.764 |
| 27 | Emporia Reservoir near dam | 5AMHN053.00 | Redear Sunfish | 10 | 18.0 - 25.4 | 104 - 311 | nd |
| 28 | Meherrin River near Rt. 301 below the city of | 5AMHN051.43 | Bluegill Sunfish | 5 | 16.9 - 20.6 | 109 - 216 | 0.650 |
| 28 | Meherrin River near Rt. 301 below the city of | 5AMHN051.43 | Channel Catfish | 7 | 39.1 - 51.7 | 481 - 1439 | 17.137 |
| 28 | Meherrin River near Rt. 301 below the city of | 5AMHN051.43 | Gizzard Shad | 10 | 32.4 - 39.7 | 285 - 600 | 33.354 |
| 28 | Meherrin River near Rt. 301 below the city of | 5AMHN051.43 | Gizzard Shad | 9 | 31.7 - 39.0 | 333 - 538 | 13.739 |
| 28 | Meherrin River near Rt. 301 below the city of | 5AMHN051.43 | Golden Redhorse | 8 | 40.9 - 49.6 | 795 - 1501 | 14.658 |

*Total PCB denotes sum of polychlorinated biphenyl congeners in parts per billion (ppb). †Duplicate analysis. **Bold face** values exceed one of VDH's screening values. g = grams. cm = centimeter. nd = not detected.

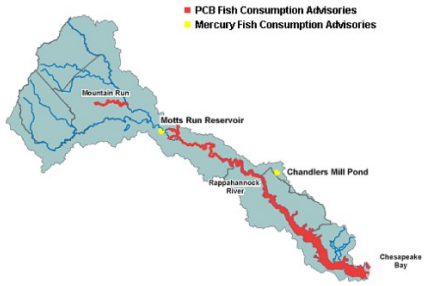
**Table 2. 2017 Fish sampling results for segments of the Chowan and James Rivers, Lake Anna, Lake Gordonsville, Motts Run Reservoir and Potomac River Embayments, continued.**

| DEQ Site # | Station name/location/description | DEQ River mile | Fish Species Name | # fish analyzed | Length (cm) | Weight (g) | Total PCBs* |
|---|---|---|---|---|---|---|---|
| **Chowan River Watershed continued** | | | | | | | |
| 29 | Nottoway River near Rt. 631 Peters bridge | 5ANTW045.45 | Largemouth Bass | 6 | 23.5 - 26.5 | 172 - 268 | 0.511 |
| 29 | Nottoway River near Rt. 631 Peters bridge | 5ANTW045.45 | Channel Catfish | 5 | 50.2 - 55.2 | 1103 - 1420 | 8.598 |
| 29 | Nottoway River near Rt. 631 Peters bridge | 5ANTW045.45 | Golden Redhorse | 10 | 47.1 - 56.4 | 1089 - 2110 | 0.911 |
| 29 | Nottoway River near Rt. 631 Peters bridge | 5ANTW045.45 | Carp | 3 | 68.9 - 73.5 | 4064 - 5030 | 2.677 |
| 30 | Nottoway River near Rt. 653 Careys bridge | 5ANTW035.44 | Largemouth Bass | 5 | 40.7 - 45.5 | 998 - 1219 | 3.744 |
| 30 | Nottoway River near Rt. 653 Careys bridge | 5ANTW035.44 | Channel Catfish | 6 | 49.0 - 53.5 | 910 - 1375 | 15.062 |
| 30 | Nottoway River near Rt. 653 Careys bridge | 5ANTW035.44 | Golden Redhorse | 10 | 45.4 - 58.0 | 936 - 2166 | 8.261 |
| 31 | Nottoway River near Rt. 671 | 5ANTW015.99 | Largemouth Bass | 4 | 34.3 - 43.6 | 563 - 1247 | 0.515 |
| 31 | Nottoway River near Rt. 671 | 5ANTW015.99 | Golden Redhorse | 8 | 48.2 - 56.4 | 1215 - 1974 | 7.723 |
| 36 | Nottoway River near Rt. 258 bridge | 5ANTW003.30 | Blue Catfish | 1 | 92 | 15,300 | 78.080 |
| 36 | Nottoway River near Rt. 258 bridge | 5ANTW003.30 | **Blue Catfish** | 1 | 73.7 | 5646 | **128.191** |
| 33 | Blackwater River near Rt. 603 | 5ABLW031.90 | Largemouth Bass | 2 | 50.0 - 54.3 | 1851 - 2701 | 5.415 |
| 33 | Blackwater River near Rt. 603 | 5ABLW031.90 | Channel Catfish | 4 | 35.7 - 49.2 | 341 - 1136 | 3.509 |
| 33 | Blackwater River near Rt. 603 | 5ABLW031.90 | Carp | 3 | 73.6 - 81.0 | 6700 - 8400 | 7.779 |
| 34 | Blackwater River near Rt. 611 bridge | 5ABLW022.84 | Largemouth Bass | 3 | 31.4 - 38.5 | 460 - 864 | nd |
| 34 | Blackwater River near Rt. 611 bridge | 5ABLW022.84 | Largemouth Bass† | 3 | 31.4 - 38.5 | 460 - 864 | nd |
| 34 | Blackwater River near Rt. 611 bridge | 5ABLW022.84 | Redear Sunfish | 9 | 21.6 - 28.1 | 190 - 478 | nd |
| 35 | Blackwater River near Rt. 258 | 5ABLW013.76 | Largemouth Bass | 3 | 34.3 - 43.2 | 417 - 1314 | 25.731 |
| 35 | Blackwater River near Rt. 258 | 5ABLW013.76 | Bowfin | 5 | 52.3 - 67.5 | 1418 - 2905 | 4.986 |
| 35 | Blackwater River near Rt. 258 | 5ABLW013.76 | Bluegill Sunfish | 8 | 18.3 - 21.3 | 117 - 194 | 1.924 |
| 32 | Blackwater River near state line | 5ABLW000.60 | Largemouth Bass | 4 | 39.7 - 46.1 | 855 - 1781 | 2.025 |
| 32 | Blackwater River near state line | 5ABLW000.60 | Bowfin | 5 | 51.2 - 59.4 | 1068 - 1929 | 0.644 |
| 32 | Blackwater River near state line | 5ABLW000.60 | Redear Sunfish | 7 | 23.6 - 27.5 | 247 - 499 | 0.518 |

*Total PCB denotes sum of polychlorinated biphenyl congeners in parts per billion (ppb). †Duplicate analysis. **Bold face** values exceed one of VDH's screening values.
g = grams. cm = centimeter. nd = not detected.

## Appendix B: Current Fish Consumption Advisories

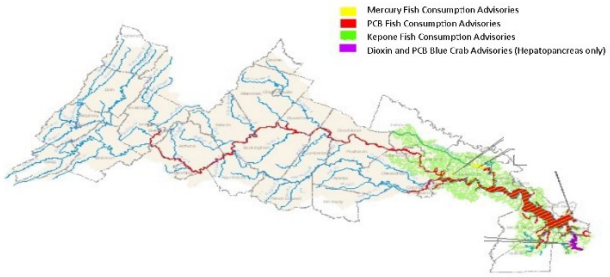
# RAPPAHANNOCK RIVER BASIN




| WATERBODY AND AFFECTED BOUNDARIES | AFFECTED LOCALITIES | CONTAMINANT | SPECIES | ADVISORIES/RESTRICTIONS |
|---|---|---|---|---|
| **Rappahannock River** (from the I-95 bridge above Fredericksburg downstream to the mouth of river near Stingray Point including its tributaries Hazel Run up to I-95 bridge crossing and Claiborne Run up to Rt. 1 bridge crossing. These river segments comprise ~123 miles). | Stafford Co., Spotsylvania Co., Fredericksburg City, Caroline Co., King George Co., Essex Co., Westmoreland Co., Richmond Co., Middlesex Co., Lancaster Co. | PCBs | American Eel  | No more than two meals/month |
| | | PCBs | Blue Catfish  | |
| | | PCBs | Carp  | |
| | | PCBs | Channel Catfish  | |
| | | PCBs | Croaker  | |
| | | PCBs | Gizzard Shad  | |
| | | PCBs | Anadromous (Coastal) Striped Bass  | |
| **Mountain Run** (from Rt. 15/29 bridge crossing near Culpeper City ~19 miles to the confluence with Rappahannock River) | Culpeper Co. | PCBs | American Eel  | No more than two meals/month |
| **Motts Run Reservoir** (entire reservoir, ~ 160 acres) | Spotsylvania Co. | Mercury | Largemouth Bass  | No more than two meals/month |
| **Chandler's Mill Pond** (entire pond, ~ 75 acres) | Westmoreland Co. | Mercury | Largemouth Bass  | No more than two meals/month |

*A meal is considered to be an eight-ounce (half-pound) serving of fish.

# JAMES RIVER BASIN




| WATERBODY AND AFFECTED BOUNDARIES | AFFECTED LOCALITIES | CONTAMINANT | SPECIES | ADVISORIES/RESTRICTIONS |
|---|---|---|---|---|
| **Maury River** (from Buena Vista at Rt. 60 ~15 miles to the confluence of the James River) | Rockbridge Co., Buena Vista City | PCBs | Redbreast Sunfish  | No more than two meals/month |
| | | PCBs | Rock Bass  | |
| | | PCBs | Yellow Bullhead Catfish  | |
| | | PCBs | Carp  | |
| **James River** (from Big Island Dam (below Blue Ridge Parkway) downstream to the I-95 James River Bridge in Richmond including its tributaries Hardware River up to Rt. 6 bridge and Slate River up to Rt. 676 bridge. These river segments comprise ~234 miles). | Amherst Co. Bedford Co., Lynchburg City, Campbell Co., Appomattox Co., Nelson Co., Buckingham Co., Albemarle Co., Fluvanna Co., Cumberland Co., Goochland Co., Powhatan Co., Henrico Co., Chesterfield Co., Richmond City | PCBs | Gizzard Shad  | No more than two meals/month |
| | | PCBs | Carp  | |
| | | PCBs | American Eel  | |
| | | PCBs | Flathead Catfish  | |
| | | PCBs | Quillback Carpsucker  | |

| | | | | |
|---|---|---|---|---|
| **James River** (from the I-95 James River bridge in Richmond downstream to the Hampton Roads Bridge Tunnel and the tidal portion of the following tributaries: Appomattox River up to Lake Chesdin Dam, Bailey Creek up to Rt. 630, Poythress Run, Bailey Bay, Chickahominy River up to Walkers Dam, Skiffes Creek up to Skiffes Creek Dam, Pagan River and its tributary Jones Creek, Chuckatuck Creek, Nansemond River and its tributaries Bennett Creek and Star Creek, Hampton River, Willoughby Bay and the Elizabeth River system (Western Br., Eastern Br., Southern Br., and Lafayette River) and tidal tributaries St. Julian Creek, Deep Creek, and Broad Creek. These river segments comprise ~325 miles). | Richmond City, Henrico Co., Chesterfield Co., Charles City Co., Hopewell City, Colonial Heights City, Petersburg City, Dinwiddie Co., Prince George Co., Surry Co., James City., New Kent Co., Isle of Wight Co., Newport News City, Suffolk City, Portsmouth City, Hampton City, Norfolk City, Chesapeake City, Virginia Beach City | PCBs | Gizzard Shad  | **DO NOT EAT** |
| | | PCBs | Carp  | **DO NOT EAT** |
| | | PCBs | Blue Catfish ≥ 32 inches  | **DO NOT EAT** |
| | | PCBs | Flathead Catfish ≥ 32 inches  | **DO NOT EAT** |
| | | PCBs | Blue Catfish < 32 inches  | No more than two meals/month |
| | | PCBs | Flathead Catfish < 32 inches  | |
| | | PCBs | Channel Catfish  | |
| | | PCBs | White Catfish  | |
| | | PCBs | Largemouth Bass  | |
| | | PCBs | Bluegill Sunfish  | |
| | | PCBs | American Eel  | |
| | | PCBs | Quillback Carpsucker  | |
| | | PCBs | Smallmouth Bass  | |
| | | PCBs | Creek Chub  | |
| | | PCBs | Yellow Bullhead Catfish  | |
| | | PCBs | White Perch  | |
| | | PCBs | Striped Bass  | |
| | | PCBs | Bluefish  | |
| | | PCBs | Croaker  | |
| | | PCBs | Spot  | |
| | | PCBs | Blueback Herring  | |
| | | PCBs | Hickory Shad  | |
| | | Kepone | All Species | PCBs advisory is more restrictive. Follow the PCBs advisory for the species listed. Any fish for species not listed, limit consumption to one meal per day. |

| | | | | |
|---|---|---|---|---|
| **Southern Branch of the Elizabeth River and its tidal tributaries** ( ~ 23miles) | Portsmouth City, Chesapeake City, Norfolk City | PCBs, Dioxins | Blue Crab (Hepatopancreas only)  | **DO NOT EAT** crab's hepatopancreas ("mustard," green gland, tomalley). This advisory applies only to avoiding eating the crab's hepatopancreas or "mustard"(image below). Crab meat is not subject to this advisory.  |
| **Harrison Lake** (entire lake, ~ 82 acres) | Charles City Co. | Mercury | Redear Sunfish  | No more than two meals/month |
| | | Mercury | Largemouth Bass  | |
| | | Mercury | Chain Pickerel  | |
| | | Mercury | Bowfin  | |
| **Chickahominy Lake** (entire lake, ~1230 acres) | Charles City Co. New Kent Co. | Mercury | Largemouth Bass  | No more than two meals/month |
| | | Mercury | Chain Pickerel  | |
| | | Mercury | Bowfin  | |
| **Mill Creek** (entire creek) near Fort Monroe | City of Hampton | PCBs | Gizzard Shad  | No more than two meals/month |

*A meal is considered to be an eight-ounce (half-pound) serving of fish.

This fish consumption advisory provides meal recommendations on eating certain fish species caught from specified waterbodies. It is recommended to follow the guidance presented on this advisory to reduce your total exposure to fish contaminants. For further information regarding waterbodies sampled or the fish tissue sampling process, contact the Virginia Department of Environmental Quality. For questions about human health risks from exposure to fish contaminants, contact the Virginia Department of Health's Division of Environmental Epidemiology at 804-864-8182.

This fish consumption advisory is reviewed annually. No changes or updates are required to this advisory based on review of existing data.

**Virginia Department of Health | Office of Epidemiology | Division of Public Health Toxicology | 109 Governor Street | Richmond, Virginia 23219 | Phone: (804)864-8182 | Fax: (804)864-8190**

# POTOMAC RIVER BASIN


| WATERBODY AND AFFECTED BOUNDARIES | AFFECTED LOCALITIES | CONTAMINANT | SPECIES | ADVISORIES/RESTRICTIONS |
|---|---|---|---|---|
| **Potomac River Basin** (the following tributaries between the VA/MD state line near Rt. 340 bridge (Loudoun County) to the I-395 bridge in Arlington County (above the Woodrow Wilson Bridge): Goose Creek up to the Dulles Greenway Road Bridge, Broad Run up to Rt. 625 bridge, Difficult Run up to Rt. 7 bridge, and Pimmit Run up to Rt. 309 bridge. These tributaries comprise ~24 miles) | Loudoun Co., Fairfax Co., Arlington Co. | PCBs | American Eel  | No more than two meals/month |
| **Potomac River Basin** (the tidal portion of the following tributaries and embayments from I-395 bridge (above the Woodrow Wilson Bridge) to the Potomac River Bridge at Rt. 301: Four Mile Run, Hunting Creek, Little Hunting Creek, Pohick Creek, Accotink Creek, Occoquan River, Neabsco Creek, Powell Creek, Quantico Creek, Chopawamsic Creek, Aquia Creek, and Potomac Creek. These tributaries comprise ~126 miles) | Arlington Co, Alexandria City, Fairfax Co., Prince William Co., Stafford Co., King George Co. | PCBs | Carp  | **DO NOT EAT** |
| | | PCBs | American Eel  | **DO NOT EAT** |
| | | PCBs | Channel Catfish ≥ 18 inches  | **DO NOT EAT** |
| | | PCBs | Channel Catfish < 18 inches  | No more than two meals/month |
| | | PCBs | Bullhead Catfish  | |
| | | PCBs | Largemouth Bass  | |
| | | PCBs | Anadromous (coastal) Striped Bass  | |
| | | PCBs | Sunfish Species  | |
| | | PCBs | Smallmouth Bass  | |
| | | PCBs | White Catfish  | |
| | | PCBs | White Perch  | |
| | | PCBs | Gizzard Shad  | |
| | | PCBs | Yellow Perch  | |

| | | | | |
|---|---|---|---|---|
| **Potomac River Basin** (the tidal portion of the following tributaries from the Potomac River Bridge at Rt. 301 to mouth of river near Smith Point: Upper Machodoc Creek, Monroe Creek, and Coan River. These tributaries comprise ~31 miles) | King George Co., Westmoreland Co., Northumberland Co. | PCBs | Gizzard Shad  | No more than two meals/month |
| | | PCBs | White Perch  | |
| | | PCBs | Channel Catfish  | |
| **Indian Run** (entire Run) (near Annandale (State Route 236) downstream ~ 3 miles to the confluence with Back Lick Run) | Fairfax Co. | PCBs | Creek Chub  | No more than two meals/month |
| **Bull Run** (near Manassas Park (Prince William County) from the I-66 Bridge downstream ~14 miles to the Rt. 612 (Yates Ford Road) bridge) | Fairfax Co., Manassas Park City, Prince William Co. | PCBs | Channel Catfish  | No more than two meals/month |
| | | PCBs | Carp  | |

*A meal is considered to be an eight-ounce (half-pound) serving of fish.

This fish consumption advisory provides meal recommendations on eating certain fish species caught from specified waterbodies. It is recommended to follow the guidance presented on this advisory to reduce your total exposure to fish contaminants. For further information regarding waterbodies sampled or the fish tissue sampling process, contact the Virginia Department of Environmental Quality. For questions about human health risks from exposure to fish contaminants, contact the Virginia Department of Health's Division of Environmental Epidemiology at 804-864-8182.

This fish consumption advisory is reviewed annually. No changes or updates are required to this advisory based on review of existing data.

**Virginia Department of Health | Office of Epidemiology | Division of Public Health Toxicology | 109 Governor Street | Richmond, Virginia 23219 | Phone: (804)864-8182 | Fax: (804)864-8190**

# CHOWAN AND DISMAL SWAMP RIVER BASIN


| WATERBODY AND AFFECTED BOUNDARIES | AFFECTED LOCALITIES | CONTAMINANT | SPECIES | ADVISORIES/RESTRICTIONS |
|---|---|---|---|---|
| **Meherrin River** (from below Emporia Dam downstream ~28 miles to the Rt. 730 bridge). | Greensville Co., Southampton Co. | PCBs, Mercury | Gizzard Shad  | No more than two meals/ month |
| **Blackwater River** (from the Virginia-North Carolina state line upstream to its headwaters near Petersburg including all its tributaries. The main stem Blackwater Swamp and Blackwater River segments comprise ~100 miles). | Surry Co., Southampton Co., Isle of Wight Co., Franklin City, Suffolk City, Sussex Co., Prince George Co., Petersburg City | Mercury | Largemouth Bass  | No more than two meals/ month |
| | | Mercury | Sunfish species (all)  | |
| | | Mercury | Bowfin  | |
| | | Mercury | Chain Pickerel  | |
| | | Mercury | White Catfish  | |
| | | Mercury | Redhorse Sucker  | |
| | | Mercury | Longnose Gar  | |
| **Great Dismal Swamp Canal** (from Deep Creek Locks south to the Virginia-North | Chesapeake City, | Mercury | Bowfin  | No more than two meals/ month |

| | | | | |
|---|---|---|---|---|
| Carolina state line including Lake Drummond and Feeder Ditch. These river segments comprise ~18 miles) | Suffolk City | Mercury | Chain Pickerel  | |
| **Nottoway River** (from the confluence with Blackwater River at the Virginia-North Carolina state line upstream to State Route 619 near Purdy including its tributary Assamoosick Swamp, Three Creek up to I- 95, Rowanty Creek and its tributaries Hatcher Run up to I-85 and Arthur Swamp up to I-85. This main stem Nottoway River segment is ~92 miles). | Dinwiddie Co., Greensville Co., Sussex Co., Southampton Co. | Mercury | Largemouth Bass  | No more than two meals/ month |
| | | Mercury | Smallmouth Bass  | |
| | | Mercury | Bowfin  | |
| | | Mercury | Redhorse Sucker  | |
| | | Mercury | Longnose Gar  | |
| | | Mercury | Channel Catfish  | |
| | | Mercury | Chain Pickerel  | |
| | | Mercury | Sunfish Species (all)  | |
| **Emporia Reservoir** (on the Meherrin River) (entire reservoir, ~ 210 acres) | Greensville Co. | Mercury | Largemouth Bass  | No more than two meals/ month |
| **Meherrin River** (below Emporia Reservoir Dam to the state line including its tributaries Fontaine Creek up to I-95 bridge crossing and Mill crossing | Greensville Co., Southampton Co. | Mercury | Largemouth Bass  | No more than two meals/ month |
| | | Mercury | Bowfin  | |

*A meal is considered to be an eight-ounce (half-pound) serving of fish.

This fish consumption advisory provides meal recommendations on eating certain fish species caught from specified waterbodies. It is recommended to follow the guidance presented on this advisory to reduce your total exposure to fish contaminants. For further information regarding waterbodies sampled or the fish tissue sampling process, contact the Virginia Department of Environmental Quality. For questions about human health risks from exposure to fish contaminants, contact the Virginia Department of Health's Division of Environmental Epidemiology at 804-864-8182.

# YORK RIVER BASIN


| WATERBODY AND AFFECTED BOUNDARIES | AFFECTED LOCALITIES | CONTAMINANT | SPECIES | ADVISORIES/ RESTRICTIONS |
|---|---|---|---|---|
| **York River from West Point** (downstream to the mouth near Tue Point and tidal portion of the following tributaries: King Creek, Queen Creek and Wormley Creek. These river segments comprise ~50 miles). | King William Co., New Kent Co., King and Queen Co., James City Co., Gloucester Co., York Co. | PCBs | Croaker  | No more than two meals/month |
| | | PCBs | Gizzard Shad  | |
| | | PCBs | Spot  | |
| **King Creek** (a tidal tributary of York River~3.5 miles) | York Co. | PCBs | Blue Crab (Hepatopancreas only)  | **DO NOT EAT** crab's hepatopancreas ("mustard," green gland, or tomalley). This advisory applies only to avoiding eating the crab's hepatopancreas or "mustard." Crab meat is not subject to this advisory).  |
| **Lake Anna** (entire lake, ~12,895 acres) including its tributaries Terry's Run, Goldmine Creek and Contrary Creek) | Orange Co., Louisa Co., Spotsylvania Co. | PCBs | Gizzard Shad  | **DO NOT EAT** |
| | | PCBs | Carp  | o more than two meals/month |
| | | PCBs | Largemouth Bass  | |
| | | PCBs | Striped Bass  | |
| | | PCBs | White Perch  | |

| | | | | |
|---|---|---|---|---|
| | | PCBs | White Catfish  | |
| | | PCBs | Channel Catfish  | |
| | | PCBs | Bluegill Sunfish  | |
| **Mattaponi River** (from Rt. 628 near gaging station downstream ~55 miles to the confluence with Pamunkey River near West Point) | King William Co., King and Queen Co | PCBs | Anadromous (coastal) Striped Bass  | No more than two meals/month |
| | | PCBs | White perch  | |
| | | PCBs | Gizzard Shad  | |
| | | Mercury | Largemouth Bass  | |
| **Lake Gordonsville** (also known as Bowlers Mill Lake, for the entire lake). (~75 acres) | Louisa Co. | Mercury | Largemouth Bass  | No more than two meals/month |
| **Pamunkey River** (from Nelson Bridge Road (Route 615 bridge) downstream ~ 72 miles to the confluence with Mattaponi River near West Point) | Hanover Co., King William Co., New Kent Co. | Mercury | Blue Catfish  | No more than two meals/month |
| | | PCBs | Gizzard Shad  | |
| **Herring Creek** (from the Route 628 bridge (Dorrell Road) ~7 miles to the confluence of Mattaponi River) | King William Co. | Mercury | Bluegill Sunfish  | No more than two meals/month |
| | | Mercury | Yellow Bullhead Catfish  | |
| **Reedy Creek** (from Rt. 301 downstream ~4 miles to the confluence with Mattaponi River) | Caroline Co. | Mercury | Redbreast Sunfish  | No more than two meals/month |
| | | Mercury | Yellow Bullhead Catfish  | |

*A meal is considered to be an eight-ounce (half-pound) serving of fish.