

# Delaware 2018 Fish Consumption Advisory Data

DOVER – New Delaware fish consumption advisories issued Feb. 20 by the Department of Natural Resources and Environmental Control (DNREC) and the Department of Health and Social Services' Division of Public Health (DHSS/DPH) show that the concentration of chemical contaminants found in fish caught from Delaware waterways continues to decline, indicating water quality is improving across the state and that more fish caught locally can be safely eaten than before. Delaware bodies of water affected by the new advisories can be found below, along with particular information on consuming the fish species cited in the new advisories. For all advisories, the amount of fish constituting a meal is 8 ounces for an adult, 3 ounces for children.

**Tidal Delaware River:** The advisory for the Delaware River between the Delaware/New Jersey/Pennsylvania border and the northeast extent of the Chesapeake & Delaware (C&D) Canal was to eat no more than one 8-ounce meal per year of any fish caught there. For women of childbearing age and children less than 6 years old, the advice is to eat **no fish** from the area. The latest data, including striped bass, channel catfish and white perch collected in 2015 and 2016, indicates that the previous advisory can be relaxed to three 8-oz. meals per year of any fish, tripling the existing advice. Out of an abundance of caution, women of childbearing age and young children are still advised to avoid fish caught in this part of the Delaware River. The primary contaminant of concern in fish in this area is polychlorinated biphenyls (PCBs), an industrial chemical no longer manufactured in the United States but once commonly used in heavy-duty electrical equipment and in other applications. PCBs are probable human carcinogens – they affect the immune system and are associated with neurodevelopment effects. Despite these concerns, the concentration of PCBs in the fish from this part of the river has dropped significantly over time. Much of the improvement is attributed to a concerted effort to identify and control remaining land-based sources. Secondary contaminants of concern for this part of the river include dioxins and furans (mostly from combustion sources) and Dieldrin (used in the past as an insecticide for corn and for termite control, with the later use likely explaining its presence in the tidal Delaware River. Dieldrin is no longer registered for general use). Long-term records show that the concentrations of dioxins, furans, and Dieldrin are dropping in the fish.

**Lower Delaware River and Delaware Bay:** This area extends from the northeast extent of the C&D Canal down to the mouth of the Delaware Bay, defined by a line between Cape Henlopen, Del. and Cape May, N.J. These are shared waters between the State of Delaware and the State of New Jersey. In 2016 and 2017, DNREC, along the New Jersey Department of Environmental Protection (NJDEP), and the Delaware River Basin Commission (DRBC) coordinated fish sampling efforts on the Delaware Bay. Species sampled included striped bass (greater than 28 inches long), bluefish (various sizes), white perch, weakfish and summer flounder. Key findings and the effect on fish advisories are discussed below by species. The states of Delaware and New Jersey are in full agreement on the updated advisories.

- **Striped Bass:** The advisory for striped bass – along with channel catfish, white catfish and American eel – caught from the lower Delaware River and Delaware Bay was to eat no more than two 8-ounce meals per year, while women of childbearing age and children younger than 6 years old were advised to eat none. The latest data indicates that consumption advice can be safely increased to three 8-oz. meals per year for an average adult angler. Women of childbearing age and young children are still advised to avoid consuming large striped bass, channel catfish, white catfish and American eel caught from these waters out of an abundance of caution. The increase in allowable fish consumption for average adult anglers is attributed to less pollution flowing from the tidal Delaware River toward the Bay. PCBs remain the primary contaminant of concern in striped bass in the Delaware Bay, even though concentrations are declining. It also appears that striped bass, which are migratory, are entering the Delaware Estuary in the spring with lower contaminant concentrations than in the past, suggesting water quality is also improving over their broader migratory range.
- **White Perch:** The advisory for white perch caught from the lower Delaware River and Delaware Bay was to eat no more than two 8-oz. ounce meals per year, while women of childbearing age and children younger than 6 years old were advised to eat none. The latest data for white perch from the lower Delaware River and Delaware Bay indicates that the advisory can be safely tripled to six 8-oz. meals per year. This new advice applies to all anglers, and there is no reason for women of childbearing age and young children to avoid consuming white perch caught from the lower Delaware River and Delaware Bay. PCBs remain the primary contaminant of concern in white perch in the Delaware Bay, even though concentrations are declining.
- **Bluefish:** The advisory for bluefish caught from the lower Delaware River and Delaware Bay depends on the length of the fish. For bluefish 14 inches or smaller, the advisory for all consumers was to eat no more than 12 8-oz. meals per year. For bluefish greater than 14 inches, the advice was to eat no more than one 8-oz. meal per year for the average angler and none for women of childbearing age and children younger than 6 years old. New data, collected in 2016 and 2017, indicates it is now safe for all consumers to eat up to 12 8-oz. meals per year for bluefish that are 20 inches or less. Hence, the breakpoint in size for safely consuming 12 meals per year has been increased from 14 inches to 20 inches. For bluefish larger than 20 inches, the new advisory is to limit consumption to no more than three 8-oz. meals per year. This advisory, which triples the previous advice for consumption, applies to the general adult angler. The advice for women of childbearing age and children younger than 6 years old remains “Do not eat” any amount for bluefish larger than 20 inches. PCBs and mercury are the primary contaminants of concern for the larger bluefish, with PCBs also the contaminant of concern for the smaller bluefish. Despite the presence of these contaminants, the levels of PCBs and mercury in bluefish continue to fall in Delaware Bay and along the Eastern Seaboard where these

fish migrate. Additionally, lower PCB and mercury releases on the tidal Delaware River translate to reductions in these contaminants reaching the Delaware Bay.

- **Weakfish (Sea Trout):** The advisory for weakfish caught from the lower Delaware River and Delaware Bay was to eat no more than 12 8-oz. meals per year. This advice was issued a number of years ago when weakfish were more abundant in the Delaware Bay. Not until recently has there been sufficient weakfish available to collect a valid sample for contaminant analysis. The latest data, collected in 2016 and 2017, shows very low contaminant levels in weakfish. This is welcome news for anglers, and justifies removing weakfish from the list of species under advisory for these waters.
- **Summer Flounder:** Based on historically low contaminant concentrations in summer flounder, there was no advisory for this species in the Delaware Bay. New data collected by New Jersey's DEP for this species in 2016 indicates that contaminant concentrations remain low. Therefore, there continues to be no need for a fish consumption advisory for summer flounder caught in the Bay.
- **Other Species:** DNREC, NJDEP, US EPA, and other agencies have previously tested other species commonly caught and consumed from the lower Delaware River and Delaware Bay, including Atlantic croaker and blue claw crab. Contaminant concentrations in these species are low and there was no need to issue advisories for them. DNREC and NJDEP do make a general recommendation, however, that people avoid consuming the "mustard" in the body cavity of blue crab, as it has a higher fat content than body and claw meat, which makes it more likely to accumulate certain contaminants.

**Atlantic Coastal Waters:** Delaware's Atlantic Coastal waters lie beyond the mouth of Delaware Bay and extend three miles out into the Atlantic Ocean between Cape Henlopen and Fenwick Island. Delaware has fish consumption advisories for striped bass and bluefish caught from these waters, including the tidal portions of Delaware's Inland Bays, which have a direct connection to the Atlantic Ocean along this stretch of coastline. Advisories for striped bass and bluefish for these waters are identical to those for Delaware Bay. Based on the migratory habits of these species, the new advice for striped bass and bluefish caught in the Delaware Bay is being extended to Delaware's coastal waters, including the tidal portions of Delaware's Inland Bays. Specifically, the maximum number of meals of striped bass caught from Delaware's Atlantic Coastal Waters is three 8-oz. servings per year. Women of childbearing age and young children are still advised to avoid consuming striped bass caught from these waters. For bluefish larger than 20 inches, the new advisory is to limit consumption to three 8-oz. meals or less per year. This advice applies to the general adult angler. The advice for women of childbearing age and children younger than 6 years old remains "Do not eat" for bluefish larger than 20 inches. PCBs and mercury are the primary contaminants of concern for the larger bluefish, while PCBs are the contaminant of concern for the smaller bluefish.

**Waples Pond, Prime Hook Creek and Slaughter Creek:** These waters are located in northeastern Sussex County and are part of the Prime Hook Creek National Wildlife

Refuge (NWR). There has been a fish consumption advisory in place for Waples Pond, Prime Hook Creek and Slaughter Creek since 2007, with mercury being the contaminant of concern in Waples Pond and Prime Hook Creek, and PCBs and dioxins/furans being the contaminants of concern in Slaughter Creek. Sampling performed in the fall of 2016 demonstrated a dramatic drop in mercury concentrations in fish from Waples Pond (67 percent reduction) and Prime Hook Creek (75 percent reduction). The improvements are attributable to reduced release and atmospheric deposition of mercury from regional coal-fired power plants to these waters. Increased flushing/exchange of water between Prime Hook Creek and the Delaware Bay also appears to have been a factor in the improvement in Prime Hook Creek. Increased flushing of Prime Hook Creek has occurred as a result of several major storms over the previous decade which breached the dunes separating Prime Hook NWR from the Bay. As a result of the dramatic reduction in mercury concentrations in the fish, DNREC and DHSS are lifting the fish consumption advisory for Waples Pond and Prime Hook Creek. The U.S. Fish & Wildlife Service, which manages Prime Hook NWR, concurs with DNREC's and DHSS's findings and recommendations. DNREC and DHSS still recommend, as general advice, that the public not consume more than one 8-oz. meal of fish per week from these waters.

**Slaughter Creek:** The fish advisory for Slaughter Creek was to eat no more than six 8-oz. meals per year based on modest concentrations of PCBs and dioxin and furans. The most recent data collected in 2016 indicates that concentrations of these contaminants have dropped by about 50 percent, and that the advice can be doubled to 12 8-oz. meals per year. Here, again, the U.S. Fish & Wildlife Service concurs with DNREC and DHSS's recommendation.

**Red Clay Creek Stocked Trout:** The Red Clay Creek flows into Delaware from southern Chester County, Pa. Red Clay Creek has a long history of contamination in Pennsylvania and Delaware. Fish consumption advisories have been in place since the 1980s while trout stocking was curtailed in the Delaware portion of Red Clay Creek in 1986. Water quality has slowly improved over the years and a special study conducted by DNREC in 2016 indicates that Red Clay Creek can return to its former status as a Delaware trout-stocking stream. This improvement is big news for trout fishermen, for those who have worked to restore the scenic Red Clay Creek, and for people who live in the Red Clay watershed. DNREC's Division of Fish & Wildlife is expected to stock trout in the Red Clay in the vicinity of Auburn Heights Preserve, in Yorklyn, Del. this spring. The upcoming trout stocking there will be the first in over 30 years.

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In addition to the updated advisories just issued, DNREC and DHSS remind the public of the general statewide fish consumption advisory, which was issued in 2007 and is still in effect:

- Eat no more than one 8-oz. meal **per week** of **any** fish species caught in Delaware's fresh, estuarine and marine waters. This advisory applies to all waters and fish species not otherwise explicitly covered by an advisory.

The statewide advisory is issued in an abundance of caution to protect against eating large amounts of fish or fish that have not been tested, or that may contain unidentified chemical contaminants. Delaware issues more stringent advice for specific waters when justified by the data. One meal is defined as an 8-oz. serving for adults and 3-oz. serving for children.

People who choose to eat fish caught in Delaware waters in spite of the consumption advisories can take steps to reduce exposure. Contaminants tend to concentrate in the fatty tissue, so proper cleaning and cooking techniques can significantly reduce levels of PCBs, dioxins, chlorinated pesticides and other organic chemicals. Larger fish tend to have higher concentrations. To reduce the amount of chemical contaminants being consumed:

- Remove all skin from the fish
- Slice off fat belly meat along the bottom of the fish
- Cut away any fat above the fish's backbone
- Cut away the V-shaped wedge of fat along the lateral line on each side of the fish
- Bake or broil trimmed fish on a rack or grill so some of the remaining fat drips away
- Discard any drippings; do not eat drippings or use them for cooking other foods.

Consumers are likewise cautioned that these techniques will **not** reduce or remove unsafe levels of mercury from fish.

Many of the contaminants that prompt fish advisories in Delaware are “legacy pollutants” – chemicals, such as polychlorinated biphenyls (PCBs), the banned insecticide DDT, and dioxins and furans that were released into waterways in significant quantities in the past. These legacy pollutants are slow to break down in the environment and can accumulate in fish and in bottom sediments of lakes, streams and estuaries.

The improvements in consumption advisories are largely the result of declining PCB concentrations in fish. Tidal areas of the Christina and Brandywine Rivers and Shellpot Creek, historically some of the most contaminated areas in the state, have shown decreases of PCB concentrations of 50 to 60 percent in the last eight years. The reduction in PCB levels is attributed to several efforts, including state-of-the-science testing to identify, prioritize, and control remaining sources of contaminants and to innovative clean-up strategies, including adding activated carbon and quicklime to sediments that bind contaminants and limit their transfer to the water and fish. In addition, DNREC and its partners, including the Delaware River Basin Commission, New Castle County Special Services, the City of Wilmington, state environmental agencies in Pennsylvania and New Jersey, and industrial facilities, have been working cooperatively on strategies and projects that implement the Delaware Estuary total maximum daily load (TMDL) pollution limits since first established in 2003.

A chart showing fish consumption advisories for Delaware waters can be found on DNREC's Division of Fish & Wildlife website at

<http://www.fw.delaware.gov/Fisheries/Pages/Advisories.aspx>.

For more information on the fish consumption advisories, please contact Dr. Richard Greene, DNREC Division of Watershed Stewardship, 302-739-9939.

Please visit the following websites for information on federal fish consumption advisories, on mercury in fish and shellfish, and on how to safely select and serve fresh and frozen fish.

- U.S. Environmental Protection Agency: [www.epa.gov/ost/fish](http://www.epa.gov/ost/fish)
- U.S. Food and Drug Administration:  
<http://www.fda.gov/Food/FoodborneIllnessContaminants/BuyStoreServeSafeFood/ucm077331.htm>
- <http://www.fda.gov/food/resourcesforyou/consumers/ucm110591.htm>

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