



## Fact Sheet

# Update: National Listing of Fish and Wildlife Advisories

### Summary

The 1998 update for the database **National Listing of Fish and Wildlife Advisories (NLFWA)** is now available from the U.S. Environmental Protection Agency (EPA). This database includes all available information describing state-, tribal-, and federally-issued fish consumption advisories in the United States for the 50 states, the District of Columbia, four United States territories and one tribal organization. It also includes information from 1997 for 12 Canadian provinces and territories. The database contains advisory information provided to EPA by the states as of December 1998. The number of advisories in the United States rose by 205 in 1998 to a total of 2,506, a 9% increase over 1997. The number of waterbodies under advisory represents 15.8% of the Nation's total lake acres and 6.8% of the Nation's total river miles. In addition, 100% of the Great Lakes waters and their connecting waters and 58.9% of the Nation's coastal waters are also under advisory. The total number of advisories in the United States increased for three major contaminants—mercury, PCBs, and DDT—but declined for dioxins and chlordane.

Beginning in 1996, EPA contacted health officials in Canada in an effort to identify fish consumption advisories in effect. The number of Canadian advisories in effect as of December 1997 was 2,625. No updates to information on Canadian advisories were made in 1998. All of the 1997 Canadian fish advisories resulted from contamination from one or more of the following five pollutants: mercury, PCBs, dioxins/furans, toxaphene, and mirex. Provincewide advisories for mercury were in effect for New Brunswick and Nova Scotia in 1997.

The NLFWA is now available for use on the Internet at: <http://www.epa.gov/ost/fish>

### Background

The states and the four U.S. territories and Native American tribes (hereafter referred to as states) have primary responsibility for protecting residents from the health risks of consuming contaminated noncommercially caught fish and wildlife. They do this by issuing consumption advisories for the general population, including recreational and subsistence fishers, as well as for sensitive subpopulations (such as pregnant women, nursing mothers, and children). These advisories inform the public that high concentrations of chemical contaminants (e.g., mercury and dioxins) have been found in local fish and wildlife. The advisories include recommendations to limit or avoid consumption of certain fish and wildlife species from specific waterbodies or, in some cases, from specific waterbody types (e.g., all lakes). Similarly, in Canada, the provinces and territories have primary responsibility for issuing fish consumption advisories for their residents.

States typically issue five major types of advisories and bans to protect both the general population and specific subpopulations.

- When levels of chemical contamination pose a health risk to the general public, states may issue a no-consumption advisory for the general population (**NCGP**).
- When contaminant levels pose a health risk to sensitive subpopulations, states may issue a no-consumption advisory for the sensitive subpopulation (**NCSP**).
- In waterbodies where chemical contamination is less severe, states may issue an advisory recommending that either the general population (**RGP**) or a sensitive subpopulation (**RSP**) restrict their consumption of the specific species for which the advisory is issued.
- The fifth type of state-issued advisory is the commercial fishing ban (**CFB**), which prohibits the commercial harvest and sale of fish, shellfish, and/or wildlife species from a designated waterbody and, by inference, the consumption of all species identified in the fishing ban from that waterbody.

As shown in Table 1, advisories of all types increased in number from 1993 to 1998.

	1993	1994	1995	1996	1997	1998
No Consumption – General Population	503	462	463	563	545	532
No Consumption – Sensitive Subpopulation	555	720	778	1,022	1,119	1,211
Restricted Consumption – General Population	993	1,182	1,372	1,763	1,843	2,062
Restricted Consumption – Sensitive Subpopulation	689	900	1,042	1,370	1,450	1,595
Commercial Fishing Ban	30	30	55	50	52	50

## Advisories in Effect

The database includes information on

- Species and size range of fish and/or wildlife
- Chemical contaminants identified in the advisory
- Geographic location of each advisory (including landmarks, river miles, or latitude and longitude coordinates of the affected waterbody)
- Lake acreage or river miles under advisory
- Population for whom the advisory was issued.

The 1994, 1995, 1996, 1997, and the new 1998 versions of the NLFWA database can generate national, regional, and state maps that illustrate any combination of these advisory parameters. In addition, the 1996 through 1998 versions of the database can provide information on the percentage of waterbodies in each state that is currently under an advisory and the percentage of waters assessed. A new feature of the 1998 database provides users access

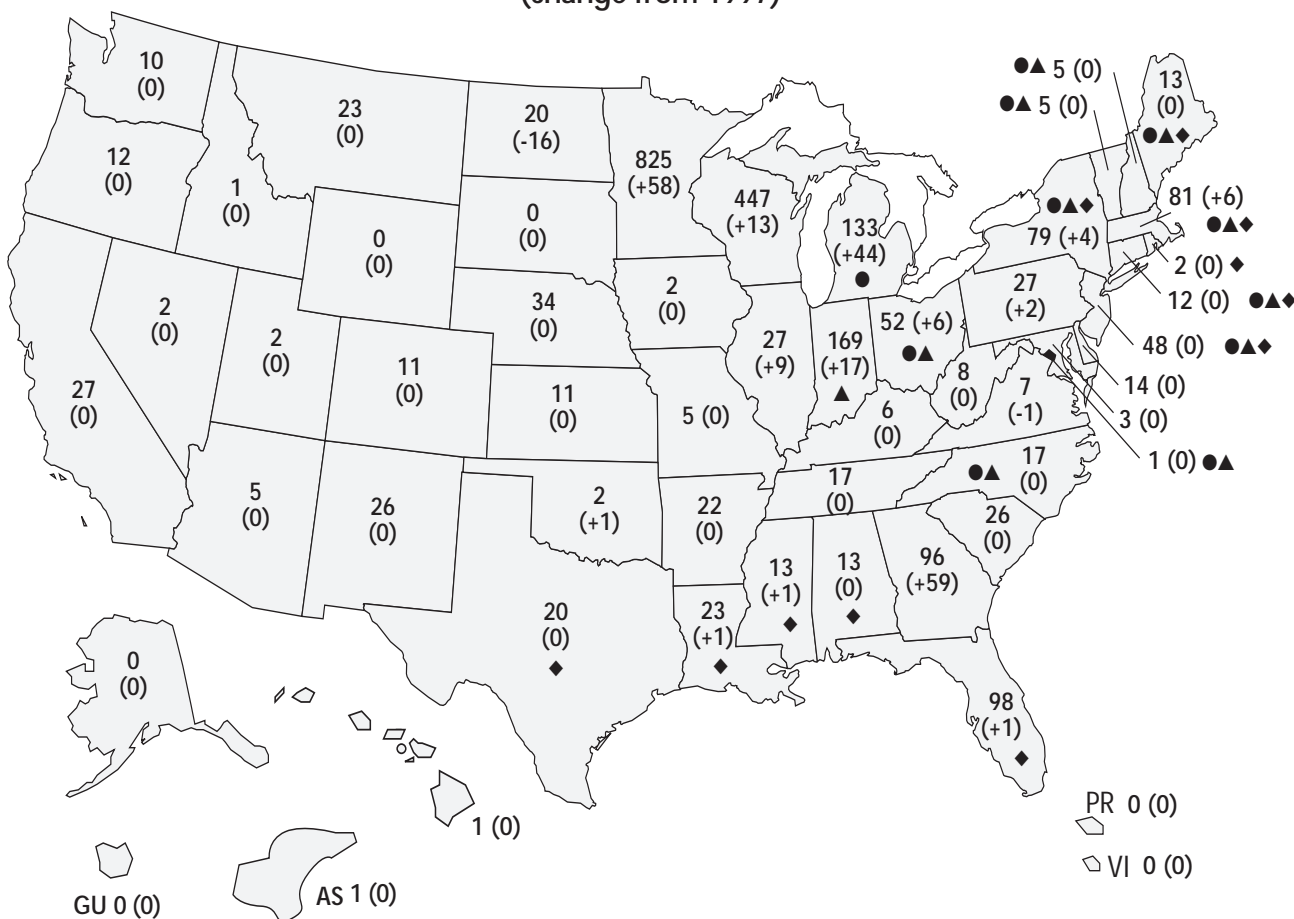
to fish tissue residue data for those waterbodies under advisory in 16 states. The name of each state contact, a phone number, FAX number, and e-mail address are also provided so that users can obtain additional information concerning specific advisories. Comparable advisory information (excluding tissue residue data) and contact information for 1997 are provided for each Canadian province or territory.

## Advisory Trends

The number of waterbodies in the United States under advisory reported in 1998 (2,506) represents a 9% increase from the number reported in 1997 (2,299 advisories) and a 98% increase from the number of advisories issued since 1993 (1,266 advisories). Figure 1 shows the number of advisories currently in effect for each state and the number of new advisories issued since 1997. The increase in advisories issued by the states generally reflects an increase in the number of assessments of the levels of chemical contaminants in fish and wildlife tissues. These additional

Figure 1

**Total Number of Fish Advisories in Effect in Each State in 1998  
(change from 1997)**



assessments were conducted as a result of the increased awareness of health risks associated with the consumption of chemically contaminated fish and wildlife. Some of the increase in advisory numbers, however, may be due to the increasing use of EPA risk assessment procedures in setting advisories rather than Food and Drug Administration (FDA) action levels developed for commercial fisheries.

### Bioaccumulative Pollutants

Although advisories in the United States have been issued for a total of 46 chemical contaminants, most advisories issued have involved five primary contaminants. These chemical contaminants are biologically accumulated in the tissues of aquatic organisms at concentrations many times higher than concentrations in the water. In addition, these chemical contaminants persist for relatively long periods in sediments where they can be accumulated by bottom-dwelling animals and passed up the food chain to fish. Concentrations of these contaminants in the tissues of aquatic organisms may be increased at each successive level of the food chain. As a result, top predators in a food chain, such as trout, salmon, or walleye, may have concentrations of these chemicals in their tissues that can be a million times higher than the concentrations in the water. Mercury, PCBs, chlordane, dioxins, and DDT (and its degradation products, DDE and DDD) were at least partly responsible for 99% of all fish consumption advisories in effect in 1998. (See Figure 2.)

### Mercury

Advisories for mercury increased 8% from 1997 to 1998 (1,782 to 1,931) and increased 115% from 1993 to 1998 (899 to 1,931). The number of states that have issued mercury advisories also has risen steadily from 27 in 1993 to 40 in 1997 and remained at 40 in 1998. The rise in the number of mercury advisories in 1998 can be attributed primarily to issuance of new mercury advisories in 11 states. The majority (80%) of these new advisories,

however, were issued in three states: Minnesota (61), Georgia (57), and Indiana (17).

It should also be noted that 10 states (Connecticut, Indiana, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, North Carolina, Ohio, and Vermont) have issued statewide advisories for mercury in freshwater lakes and/or rivers. Another five states (Alabama, Florida, Louisiana, Mississippi, and Texas) have statewide advisories for mercury in their coastal waters. To date, 90% of the 1,931 mercury advisories in effect have been issued by the following 11 states: Minnesota (821), Wisconsin (402), Indiana (126), Florida (97), Georgia (80), Massachusetts (58), Michigan (53), New Jersey (30), New Mexico (26), South Carolina (24), and Montana (22).

### PCBs

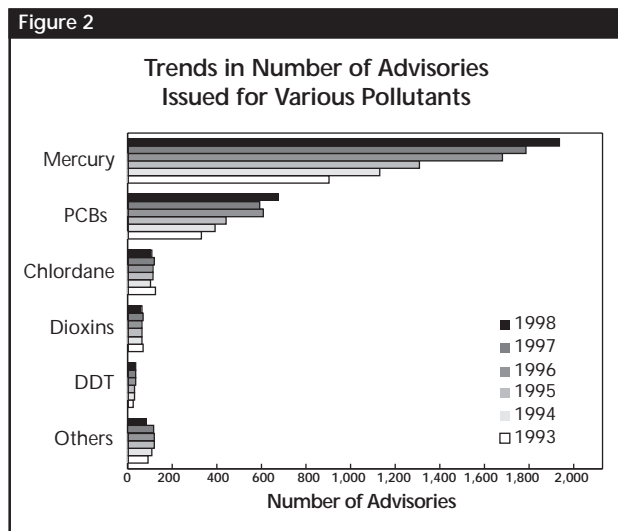
Advisories for PCBs increased 15% from 1997 to 1998 (from 588 to 679) and increased 112% from 1993 to 1998 (319 to 679). The number of states that have issued PCB advisories increased only slightly from 31 to 35 from 1993 to 1994, declined to 34 states in 1995 and 1996, and increased to 35 states in 1997 and up to 36 states in 1998 with the addition of Hawaii. The majority (77%) of the new PCB advisories in 1998 were issued by four states: Michigan (48), Illinois (11), Indiana (5), and Minnesota (5). To date, 79% of the of the 679 PCB advisories in effect have been issued by 10 states: Indiana (125), Michigan (104), Minnesota (83), Wisconsin (54), New York (47), Ohio (37), Georgia (25), Nebraska (22), Pennsylvania (22), and Massachusetts (20). Three states (Indiana, New York, and District of Columbia) have issued statewide freshwater (river and/or lake) advisories for PCBs. Six other states (New Jersey, Connecticut, New York, Rhode Island, New Hampshire, and Massachusetts) have issued PCB advisories for all of their coastal marine waters.

### Other Pollutants

The total number of advisories for DDT (and its degradation products, DDE and DDD) increased from 33 in 1997 to 34 in 1998. The total number of advisories for dioxins rose from 54 in 1993 to 63 in 1994, held steady at 63 in 1995, declined to 60 in 1996, increased to 65 in 1997, and fell to 59 in 1998, a 9% decrease from the previous year. Dioxins are one of several chemical contaminants for which advisories have been rescinded by many states, in part because many pulp and paper mills have changed their processes. In 1998, three states (Arkansas, Michigan, and Virginia), rescinded a total of four dioxin advisories. The number of chlordane advisories also decreased, by 11%, from 117 in 1997 to 104 in 1998.

### Wildlife Advisories

In addition to advisories for fish and shellfish, the database also contains several wildlife advisories. Four states have issued consumption advisories for turtles: Arizona (3), Massachusetts (1), Minnesota (8), and New York (statewide advisory). One state (Massachusetts) has an advisory for



frogs, New York has a statewide advisory for waterfowl (including mergansers), Arkansas has an advisory for woodducks, and Utah has an advisory for American coot and ducks. Maine issued a statewide advisory for moose liver and kidneys due to cadmium levels.

State	Lake	River	Coastal Waters
Alabama			Mercury
Connecticut	Mercury	Mercury	PCBs
Dist. of Columbia	PCBs	PCBs	
Florida			Mercury
Indiana		Mercury PCBs	
Louisiana			Mercury
Maine	Mercury	Mercury	Dioxins
Massachusetts	Mercury	Mercury	PCBs organics
Michigan	Mercury		
Mississippi			Mercury
New Hampshire	Mercury	Mercury	PCBs
New Jersey	Mercury	Mercury	PCBs Cadmium Dioxins
New York	PCBs Chlordane Mirex DDT	PCBs Chlordane Mirex DDT	PCBs Cadmium Dioxins
North Carolina	Mercury	Mercury	
Ohio	Mercury	Mercury	
Rhode Island			PCBs
Texas			Mercury
Vermont	Mercury	Mercury	

### 1998 Advisory Listing

The 1998 database lists 2,506 advisories in 47 states, the District of Columbia, and the U.S. Territory of American Samoa. Some of these advisories represent statewide advisories for certain types of waterbodies (e.g., lakes, rivers, and/or coastal waters). An advisory may represent one waterbody or one type of waterbody within a state's jurisdiction. Statewide advisories are counted as one advisory. The database counts one advisory for each waterbody name or type of waterbody regardless of the number of fish or wildlife species that are affected or the number of chemical contaminants detected at concentrations of human health concern. Eighteen states (Alabama, Connecticut, District of Columbia, Florida, Indiana, Louisiana, Maine, Massachusetts, Michigan, Mississippi, New Hampshire, New Jersey, New York, North Carolina, Ohio, Rhode Island, Texas, and Vermont) currently have statewide advisories in effect (see Table 2). Missouri rescinded its statewide advisories for lakes and rivers in 1998, and Mississippi added a statewide coastal advisory for mercury. A statewide advisory is issued to warn the

Table 3. Fish Advisories Issued for the Great Lakes

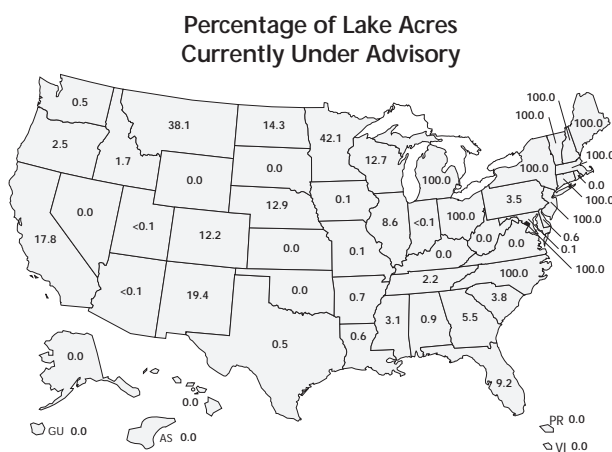
Great Lakes	PCBs	Dioxins	Mercury	Chlordane
Lake Superior	●		●	●
Lake Michigan	●		●	●
Lake Huron	●	●		●
Lake Erie	●			
Lake Ontario	●	●		

public of the potential for widespread contamination of certain species of fish in certain types of waterbodies (e.g., lakes, rivers and streams, or coastal waters) or certain species of wildlife (e.g., moose or waterfowl). In such a case, the state may have found a level of contamination of a specific pollutant in a particular fish or wildlife species over a relatively wide geographic area that warrants advising the public of the situation.

The statewide advisories and 2,506 specifically named waterbodies represent approximately 15.8% of the Nation's total lake acreage and 6.8% of the Nation's total river miles. In addition, 100% of the Great Lakes waters and their connecting waters are also under advisory (see Table 3). The Great Lakes waters are considered separately from other lakes, and their connecting waters are considered separately from other river miles. The percentages of lake acres and river miles in each state that are currently under a fish advisory are shown in Figures 3 and 4, respectively.

In addition to the Great Lakes, many other Great Waters of the United States are currently under fish consumption advisories for various pollutants. The Great Waters include not only the Great Lakes but also Lake Champlain (which is under advisories for PCBs and mercury), the Chesapeake Bay, 28 National Estuary Program (NEP) Sites, and 23

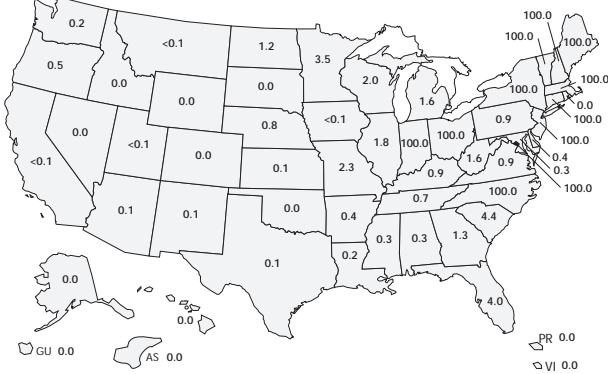
Figure 3



Eleven states have 100% of their lake acres under fish advisories (these include some states with statewide advisories), another 8 states have 10% to 50% of their lake acres under advisories, 21 states have <10% of their lake acres under advisories, and 15 states have no lake acres under advisories.

Figure 4

Percentage of River Miles Currently Under Advisory



Eleven states have 100% of their river miles under fish advisories (these include states with statewide advisories), 30 states have <10% of their river miles under advisories, and 13 states have no river miles under advisories.

National Estuarine Research Reserve System (NERRS) Sites (see Table 4). Although the Chesapeake Bay itself is not under any advisories, the Potomac, James, Black, and Anacostia rivers, which connect to the Chesapeake, are all under advisories. All of these rivers, with the exception of the James River (which is under advisory for kepone), are under chlordane advisories. The Anacostia River is also listed for PCBs, and the Potomac River is listed for PCBs and dioxins in addition to chlordane. Baltimore Harbor, which also connects to the Chesapeake, is under advisory for chlordane contamination in fish tissue.

A number of the major estuaries listed in the NEP and/or designated as NERRS sites are under fish and/or shellfish advisories for a range of chemical contaminants (see Table 4). Sixty-three percent of the total number of NEP, NERRS, and combined sites are under fish consumption advisories. There are 18 sites that have no current fish consumption advisories.

Several states have issued fish advisories for all of their coastal waters. Using coastal mileages calculated by the

Table 4. Fish Consumption Advisories Issued for NEP and NERRS Sites

Waterbody	PCBs	Dioxins	Mercury	Cadmium	Chlordane	Others
Casco Bay, ME *		●				
Wells, ME #		●				
Great Bay, NH #	●					
Great Bay, Little Bay, and Hampton Harbor, NH *	●					
Massachusetts Bay *	●					● <sup>1</sup>
Buzzards Bay, MA *	●					● <sup>1</sup>
Waquoit Bay, MA #	●					● <sup>1</sup>
Narragansett, RI * #	●					
Long Island Sound, NY/CT *	●	●		●		
Peconic Bay, NY *	●	●		●		
Hudson River, NY #	●			●	● <sup>2</sup>	
New York/New Jersey Harbor *	●	●		●	●	
Barnegat Bay, NJ *	●	●		●	●	
Jacques Cousteau-Great Bay and Mullica River, NJ #	●	●		●	●	
Delaware Estuary, DE/NJ/PA * #	●	●		●	●	
Albemarle-Pamlico Sounds, NC *		●				
Ashepoo-Combahee-Edisto Basin, SC #			●			
Indian River Lagoon, FL *			●			
Charlotte Harbor, FL *			●			
Rookery Bay, FL #			●			
Sarasota Bay, FL *			●			
Tampa Bay, FL *			●			
Apalachicola Bay, FL #			●			
Mobile Bay, AL *			●			
Casco Bay, ME*						
Wells, ME #						
Great Bay, NH #	●					
Weeks Bay, AL #			●			
Baratarria-Terrebonne Estuarine Complex, LA *			●			
Galveston Bay, TX *		●	●			
Corpus Christi Bay, TX *			●			
Puget Sound, WA *	●	●	●			● <sup>3</sup>
Columbia River, OR/WA *	●	●	●			● <sup>4</sup>
San Francisco Bay, CA *	●	●	●		●	● <sup>5</sup>

<sup>1</sup>Organic compounds.

<sup>2</sup>For waterfowl.

<sup>3</sup>Specific embayments of Puget Sound are listed for the following pollutants; creosote, pentachlorophenol, volatile organic compounds (VOCs), tetrachloro-ethylene, arsenic, metals (unspecified), vinyl chloride, polyaromatic hydrocarbons (PAHs), polynuclear aromatics, and pesticides (unspecified).

<sup>4</sup>DDT.

<sup>5</sup>DDT, dieldrin, other unspecified pesticides.

\* NEP site.

# NERRS site.



National Oceanic and Atmospheric Administration, an estimated 58.9% of the coastline of the contiguous 48 states currently is under advisory. This includes 61.5% of the Atlantic Coast and 100% of the Gulf Coast. No Pacific Coast state has issued a statewide advisory for any of its coastal waters although several local areas along the Pacific Coast are under advisory. The Atlantic coastal advisories have been issued for a wide variety of chemical contaminants including mercury, PCBs, dioxins, and cadmium, while all of the Gulf Coast advisories have been issued for mercury.

### Summary of Canadian Advisories

No new information was collected regarding fish advisories in Canada for 1998. Beginning in 1996, EPA contacted health and environmental officials in the 12 Canadian provinces and territories to obtain narrative and geographic information system (GIS) information on advisories throughout Canada. Figure 5 shows the number of waterbodies under advisory in 1997 for each of the Canadian provinces. The number of Canadian advisories in effect in 1997 was 2,625. Provincewide advisories for mercury were also in effect in 1997 for Nova Scotia and New Brunswick. With respect to chemical contaminants, advisories in Canada have been issued for a total of five bioaccumulative chemical contaminants including mercury (2,572), PCBs (59), dioxins/furans (68), toxaphene (16), and mirex (9). More than 97% of all Canadian advisories have been issued for mercury.

Figure 5

Total Number of Fish Advisories in Effect in Canada



\*Provincewide advisories in effect in 1997 for Nova Scotia (all rivers and lakes) and New Brunswick (all lakes).

### Database Use and Access

The NLFWA database was developed by EPA to help federal, state, and local government agencies and Native American tribes assess the potential for human health risks associated with consumption of chemical contaminants in noncommercially caught fish and wildlife. The data contained in this database may also be used by the general public to make informed decisions about the waterbodies in which they choose to fish or harvest wildlife; the frequency with which they fish these waterbodies; the species, size, and number of fish they collect; and the frequency with which they consume fish from specific waterbodies.

EPA will make this 1998 update of the NLFWA database available on the Internet at:

<http://www.epa.gov/ost/fish>

Further information on specific advisories within a particular state is available from the appropriate state agency contact listed in the database. This is particularly important for advisories recommending that consumers restrict their consumption of fish from certain waterbodies. State health departments provide more specific information for restricted consumption advisories (RGP and RSP) on the appropriate meal size and meal frequency (number of meals per week or month) that is considered safe to consume for a specific consumer group (e.g., the general public versus pregnant women, nursing mothers, and young children). For further information on Canadian advisories, contact the appropriate provincial contact given in the database.

For more information concerning the National Fish and Wildlife Contamination Program, contact:

U.S. Environmental Protection Agency  
Office of Science and Technology  
401 M Street SW, Maildrop 4305  
Washington, DC 20460

U.S. EPA contact: Jeffrey Bigler  
Phone 202 260-1305 FAX 202 260-9830  
e-mail: Bigler.Jeff@epa.gov