



Fact Sheet

Update: Listing of Fish and Wildlife Advisories

Summary

The 1997 update for the database, *Listing of Fish and Wildlife Advisories (LFWA)*, 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, and four U.S. territories and has been expanded to include the 12 Canadian provinces and territories. The database contains information provided to EPA by the states, tribes, and Canada as of December 1997. This includes advisories issued by the Great Lakes Indian Fish and Wildlife Commission for several Native American tribes in Michigan, Minnesota, and Wisconsin. The number of advisories in the U.S. rose by 125 in 1997 to a total of 2,299, a 5% increase over 1996. The number of waterbodies under advisory represents 16.5% of the Nation's total lake acres and 8.2% of the Nation's total river miles. In addition, 100% of the Great Lakes waters and their connecting waters and a large portion of the Nation's coastal waters are also under advisory. The total number of advisories in the U.S. increased for three major contaminants (mercury, dioxin, and DDT) but declined for PCBs. However, 30 new advisories for PCBs were issued nationwide.

Beginning in 1996, the U.S. EPA contacted health officials in Canada in an effort to identify fish consumption advisories in effect. The number of Canadian advisories rose by 26 in 1997 to a total of 2,625, less than a 1% increase over 1996. All of the current Canadian fish advisories have resulted from contamination from one or more of the following five pollutants: mercury, PCBs, dioxins/furans, toxaphene, and mirex. Of the 2,572 advisories, 94% resulted from mercury contamination in fish tissues. In addition, 86% were issued by the provinces of Ontario and Quebec. Two provincewide advisories for mercury are in effect for New Brunswick and Nova Scotia.

Background

The states and the four U.S. territories and Native American tribes (hereafter referred to as states) have primary responsibility for protecting their 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 (usually pregnant women, nursing mothers, and young children). 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 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, all types of advisories increased in number from 1993 to 1997.

Table 1. U.S. Advisories Issued from 1993 to 1997 by Type

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

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
- Date the advisory was issued
- Percentage of waters assessed by states for fish advisories.

The 1994, 1995, 1996, and the new 1997 version of the LFWA database can generate national, regional, and state maps that illustrate any combination of these advisory parameters. In addition, the 1996 and 1997 versions of the database can provide information on the percentage of waterbodies in each state that is currently under an

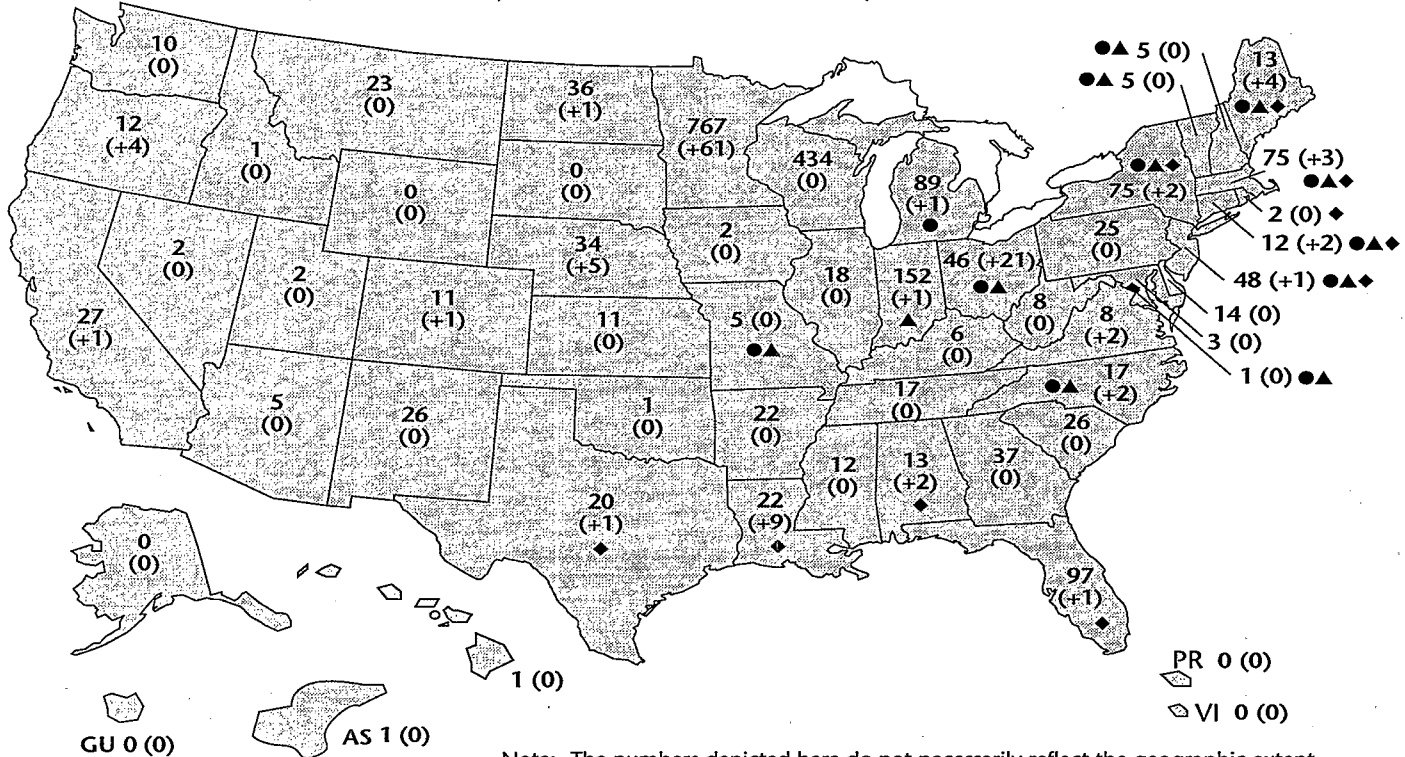
advisory and the percentage of waters assessed. A new feature of the 1997 database provides users access to fish tissue residue data for those waterbodies under advisory in eight states: Delaware, Louisiana, Michigan, Minnesota, New Hampshire, North Carolina, Oklahoma, and Wisconsin. The name of each state contact, a phone number, and a FAX number 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 U.S. under advisory reported in 1997 (2,299) represents a 5% increase from the number reported in 1996 (2,196 advisories) and a 80% increase from the number of advisories issued since 1993 (1,278 advisories). 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 assessments were

Figure 1

**Total Number of Fish Advisories in Effect in Each State in 1997
(number of new advisories)**



Note: The numbers depicted here do not necessarily reflect the geographic extent of chemical contamination in each state nor the extent of a state's monitoring efforts. The methods used to establish fish advisories vary among the states. Eighteen states have issued statewide advisories for particular pollutants and types of waterbodies. For these states, a ● denotes a statewide advisory for lakes, a ▲ denotes a statewide advisory for rivers, and a ◆ denotes a statewide advisory for coastal waters.

Maine and New York have statewide wildlife advisories for moose liver and kidney and waterfowl, respectively.

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 more rigorous EPA risk assessment procedures in setting advisories rather than use of Food and Drug Administration (FDA) action levels. Figure 1 shows the number of advisories currently in effect for each state and the number of new advisories issued since 1996.

Bioaccumulative Pollutants

Although advisories in the U.S. 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 in sediments for relatively long periods 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 fatty tissues that can be a million times higher than the concentrations in water. Mercury, PCBs, chlordane, dioxins, and DDT (and its degradation products, DDE and DDD) were responsible for 95% of all fish consumption advisories in effect in 1997. A similar pattern was also seen in the 1993, 1994, 1995, and 1996 databases (see Figure 2).

Mercury

Advisories for mercury increased 6% from 1996 to 1997 (1,677 to 1,782) and increased 98% from 1993 to 1997 (899 to 1,782). The number of states that have issued mercury advisories also has risen steadily from 27 to 34 to 35 in 1993, 1994, 1995, 1996, and 1997, respectively. The rise in the number of mercury advisories in

1997 can be attributed primarily to issuance of new mercury advisories in 11 states. The majority (85%) of these new advisories, however, were issued in three states: Minnesota (61), Ohio (14), and Louisiana (9).

It should also be noted that 11 states (Connecticut, Indiana, Maine, Massachusetts, Michigan, Missouri, 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, Massachusetts, and Texas) have statewide advisories for mercury in their coastal waters. To date, 89% of the 1,782 mercury advisories in effect have been issued by the following 11 states: Minnesota (761), Wisconsin (390), Indiana (109), Florida (96), Massachusetts (55), Michigan (41), North Dakota (36), New Jersey (30), New Mexico (26), South Carolina (24), and Georgia (23).

PCBs

Advisories for PCBs decreased 5% from 1996 to 1997 (617 to 588) although 30 new advisories were issued, but increased overall by 84% from 1993 to 1997 (319 to 588). The decline in PCB advisories in 1997 was primarily due to the rescinding of some advisories and readjustments in advisories issued during previous years. 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 then increased to 35 states in 1997. The majority (80%) of the 30 new PCB advisories were issued by seven states: Ohio (10), Maine (4), Alabama (2), Connecticut (2), Minnesota (2), Nebraska (2), and New York (2). To date, 81% of the 588 PCB advisories have been issued by 11 states: Indiana (120), Minnesota (78), Wisconsin (53), New York (48), Michigan (54), Ohio (33), Georgia (21), Nebraska (20), Pennsylvania (18), Massachusetts (17), and New Jersey (12). Four states (Indiana, Missouri, New York, and District of Columbia) have issued statewide advisories for PCBs. Four other states (New Jersey, Connecticut, New York, and Rhode Island) have issued PCB advisories for all of their coastal marine waters.

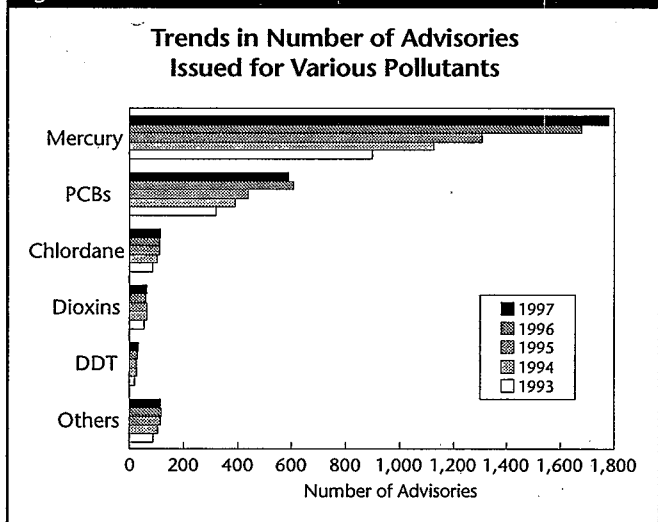
Other Pollutants

The total number of advisories for DDT (and its degradation products, DDE and DDD) increased by one advisory from 32 in 1996 to 33 in 1997. The total number of advisories for dioxins was 54 in 1993, then rose to 63 in 1994, held steady at 63 in 1995, declined to 60 advisories in 1996, and increased to 65 in 1997. One dioxin advisory on the Brazos River in Texas was also rescinded in 1997. Dioxins are one of several chemical contaminants for which advisories have been rescinded by some states, in part because many pulp and paper mills have changed their processes.

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),

Figure 2



Massachusetts (1), Minnesota (7), and New York (statewide advisory). One state (Massachusetts) has an advisory for frogs, New York has a statewide advisory for waterfowl (mergansers), and Arkansas has an advisory for woodducks. Maine issued a statewide advisory for moose liver and kidneys due to cadmium levels.

Table 2. Summary of Statewide Advisories by Waterbody Type

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	Mercury
Michigan	Mercury		
Missouri	Mercury PCBs Chlordane	Mercury PCBs Chlordane	
New Hampshire	Mercury	Mercury	
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	

*These states also have statewide wildlife advisories for cadmium in moose liver and kidney tissue (Maine) and for PCBs, DDT, mirex, and chlordane in mergansers and other waterfowl (New York).

1997 Advisory Listing

The 1997 database lists 2,299 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,

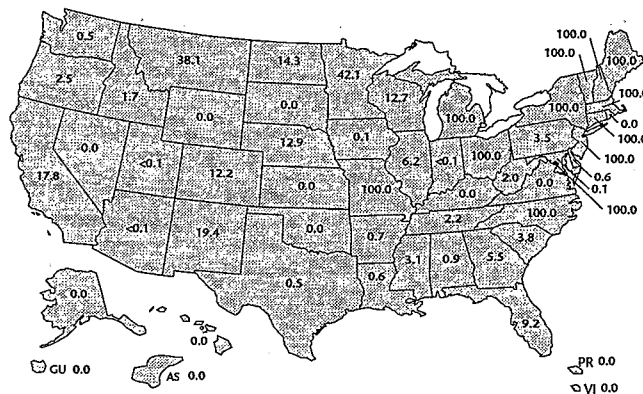
Louisiana, Maine, Massachusetts, Michigan, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Rhode Island, Texas, and Vermont) currently have statewide advisories in effect (see Table 2). A statewide advisory is issued to warn the public of the potential for widespread contamination 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 2,299 specifically named waterbodies represent approximately 16.5% of the Nation's total lake acreage and 8.2% of the Nation's total river miles. In addition, 100% of the Great Lakes waters and their connecting waters are also under advisory. 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.

A large portion of our nation's estuarine and coastal waters are also under advisory. With respect to estuarine waters, fish and shellfish advisories have been issued for a large number of estuaries, bays, and harbors. Some of these major estuaries, bays, and harbors include Great Bay Estuary in New Hampshire; Boston Harbor in Massachusetts; the Connecticut and New York waters of Long Island Sound; the Lower Hudson River Estuary including the Harlem and East Rivers and New York Harbor area; Raritan, Newark, and Sandy Hook Bays in New Jersey; the New Jersey and Delaware portions of the Delaware Bay Estuary;

Figure 3

Percentage of Lake Acres Currently Under Advisory

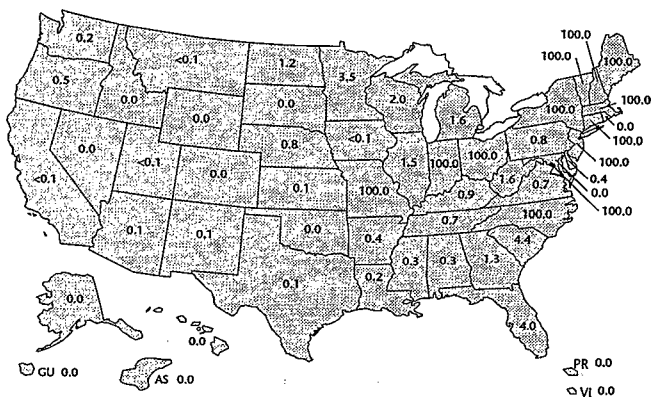


Twelve states have 100% of their lake acres under fish advisories (these include some states with statewide advisories), another 8 states have 10% to 50% of their lake acres under advisories, 21 states have <10% of their lake acres under advisories, and 14 states have no lake acres under advisories.

Baltimore Harbor in Maryland; portions of Albemarle Sound in North Carolina on the Atlantic Coast; the Houston Ship Channel on the Texas Gulf Coast; and Los Angeles/Long Beach Harbor, Richmond Harbor, and the San Francisco Bay Delta in California and Puget Sound and Eagle Harbor in Washington on the Pacific Coast. In addition to these estuarine areas, several states have issued fish advisories for all of their coastal waters. Using coastal mileages calculated by the National Oceanic and Atmospheric Administration, an estimated 58% of the coastline of the contiguous 48 states currently is under advisory. This includes 61% of the Atlantic Coast and 97% 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.

Figure 4

Percentage of River Miles Currently Under Advisory



Eleven states have 100% of their river miles under fish advisories (these include some states with statewide advisories), 29 states have <10% of their river miles under advisories, and 15 states have no river miles under advisories.

Summary of Canadian Advisories

Beginning in 1996, the U.S. EPA contacted health and environmental officials in the 12 Canadian provinces and territories to obtain narrative and geographic information systems (GIS) information on advisories throughout Canada. The number of Canadian advisories in effect in 1997 was 2,625. This represents less than a 1% increase in the number of fish advisories issued in 1996; however, this small increase in 1997 is partly due to the fact that some of the Canadian provinces report new advisories only every 2 years. Currently two provincewide advisories for mercury are also in effect for Nova Scotia and New Brunswick. Figure 5 shows the number of waterbodies under advisory for each of the Canadian provinces. Ontario and Quebec

Figure 5

Total Number of Fish Advisories in Effect in Canada in 1997 (number of new advisories)



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

reported the highest number of advisories, 1,537 and 712, respectively. Based on all the advisories reported, 86% were issued for waterbodies in these two provinces. 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.

Database Use and Access

The LFWA database was developed by EPA to help federal, state, 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.

The 1997 version of the Listing of Fish and Wildlife Advisories is PC-based and is available to the public free of charge on both CD-ROM (EPA document number EPA-823-C-98-001) and 3.5-inch diskettes (EPA document number EPA-823-C-98-002). For copies of the diskettes or CD-ROM, contact:

U.S. Environmental Protection Agency
National Center for Environmental
Publications and Information
11029 Kenwood Road
Cincinnati, Ohio 45242
(513-489-8190).

EPA will make this 1997 update of the LFWA database available for downloading from the Internet through the following URL:

<http://www.epa.gov/OST>

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 Contamination Program, contact:

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