United States Environmental Protection Agency
Office of Water 4305
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Fact Sheet

Update: National Listing of Fish and Wildlife Advisories

Summary

The 2000 ***National Listing of Fish and Wildlife Advisories*** *is now available from the U.S. Environmental Protection Agency (EPA). States, tribes, and territories report that the number of fish consumption advisories issued in 2000 rose by 187, a 7% increase over 1999. The total number of advisories in the United States increased for four major contaminants—mercury, PCBs, dioxins, and DDT—but remained the same for chlordane. This is the third year in which the number of advisories issued for chlordane has declined or remained constant. The increase in advisories generally reflects an increase in the number of assessments performed and the improved quality of monitoring and data collection methods. The number of acres of lakes under advisory increased from 20.4% in 1999 to 23% in 2000, a total of 63,288 lakes, while the number of river miles under advisory increased from 6.8% in 1999 to 9.3% in 2000. The survey showed that 100% of the Great Lakes and their connecting waters and 71% of coastal waters of the contiguous 48 states were under advisory in 2000.*

The national listing is available on the Internet at: http://www.epa.gov/waterscience/fish/

Background

The states, territories, and Native American tribes (hereafter referred to as states) have primary responsibility for protecting residents from the health risks of eating contaminated fish and wildlife. If high concentrations of chemicals, such as mercury or PCBs, are found in local fish and wildlife, then a state may issue a consumption advisory for the general population, including recreational and subsistence fishers, as well as for sensitive subpopulations (such as pregnant women, nursing mothers, and children). A consumption advisory may include recommendations to limit or avoid eating certain fish and wildlife species caught 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.

- **No-consumption advisory for the general population** – Issued when levels of chemical contamination in fish or wildlife pose a health risk to the general public. The general population is advised to avoid eating certain types of locally caught fish or wildlife.
- **No-consumption advisory for sensitive subpopulations** – Issued when contaminant levels in fish or wildlife pose a health risk to sensitive subpopulations (such as pregnant women and children). Sensitive subpopulations are advised to avoid eating certain types of locally caught fish or wildlife.
- **Restricted consumption advisory for the general population** – Issued when contaminant levels in fish or wildlife may pose a health risk if too much fish or wildlife is consumed. The general population is advised to limit eating certain types of locally caught fish or wildlife.
- **Restricted consumption advisory for sensitive subpopulations** – Issued when contaminant levels in fish or wildlife may pose a health risk if too much fish or wildlife is consumed. Sensitive subpopulations are advised to limit eating certain types of locally caught fish or wildlife.
- **Commercial Fishing Ban** – Issued when high levels of contamination are found in fish caught for commercial purposes. These bans prohibit the commercial harvest and sale of fish, shellfish, and/or wildlife species from a designated waterbody.

As shown in Table 1, advisories of all types increased in number from 1993 to 2000.

Table 1. U.S. Advisories Issued from 1993 to 2000 by Type

	1993	1994	1995	1996	1997	1998	1999	2000
No Consumption – General Population	503	462	463	563	545	532	570	663
No Consumption – Sensitive Subpopulation	555	720	778	1,022	1,119	1,211	1,285	1,417
Restricted Consumption – General Population	993	1,182	1,372	1,763	1,843	2,062	2,213	2,475
Restricted Consumption – Sensitive Subpopulation	689	900	1,042	1,370	1,450	1,595	1,630	1,802
Commercial Fishing Ban	30	30	55	50	52	50	50	51

2000 National Listing of Fish and Wildlife Advisories Web Site

The 2000 National Listing of Fish and Wildlife Advisories web site lists 2,838 advisories in 48 states, the District of Columbia, and the U.S. Territory of American Samoa. The web site includes

- Information on species and size of fish or wildlife under advisory
- Contaminants identified in the advisory
- Geographic location
- Lake acreage or river miles under advisory
- Population for whom the advisory was issued
- Fish tissue residue data
- State and tribal contact information.

Some of the 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. An advisory for each waterbody name or type of waterbody may be listed as one advisory regardless of the number of fish or wildlife species affected or the number of chemical contaminants detected.

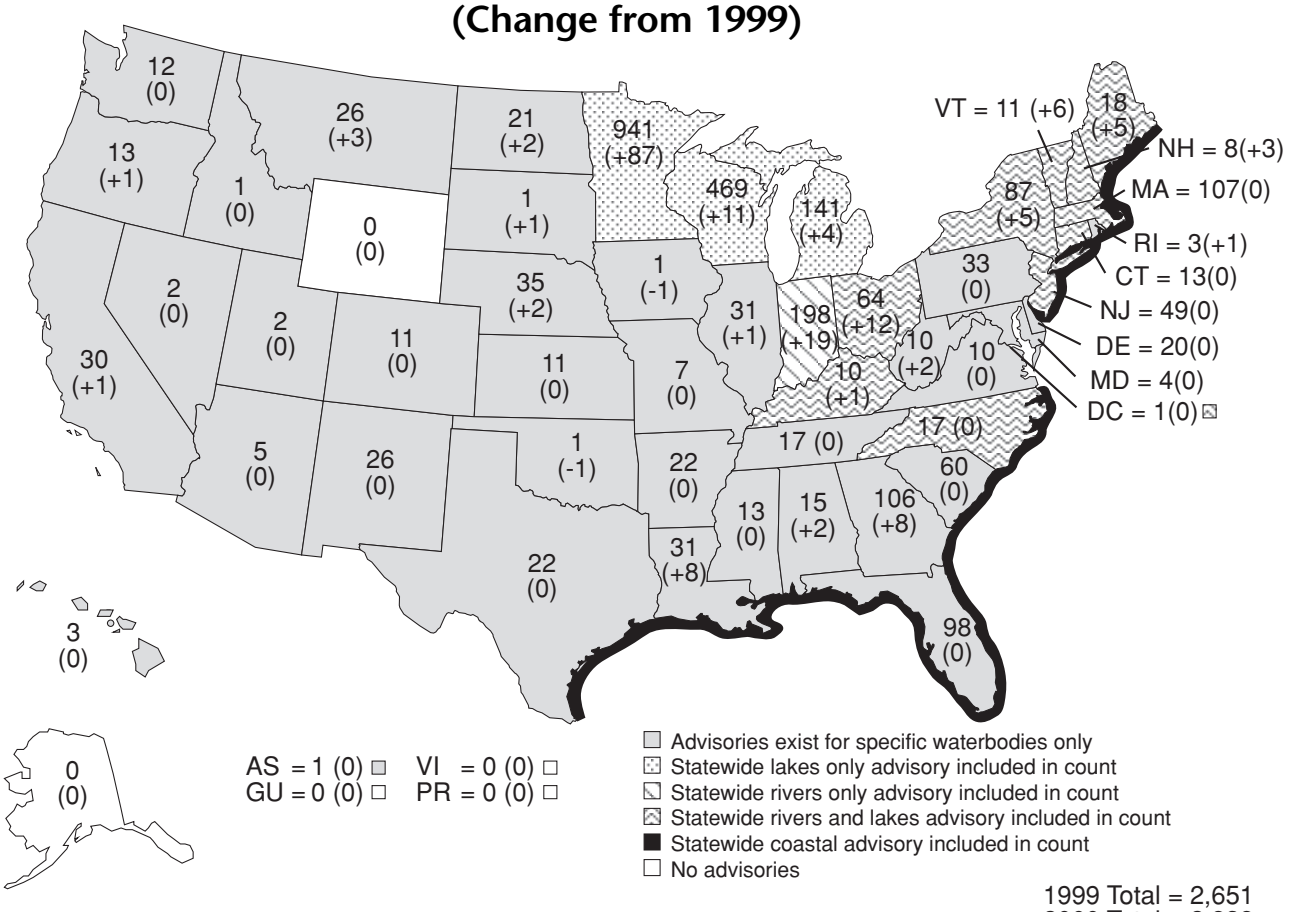
The web site can generate national, regional, and state maps that summarize advisory information. A new feature of the web site this year is fish tissue residue data for those waterbodies under advisory in 44 states. Also included on the web site are the names of each state and tribal contact, a phone number, FAX number, and e-mail address. 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 advisories in the United States reported in 2000 (2,838) represents a 7% increase from the number reported in 1999 (2,651) and a 124% 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 1999. The increase in advisories issued by the states generally reflects an increase in the number of assessments of chemical contaminants in fish and wildlife tissues. These

Figure 1

Total Number of Fish Consumption Advisories – 2000 (Change from 1999)



Note: A statewide advisory is issued to warn the public of the potential for widespread contamination of specific species in certain types of waterbodies. State advisory data should not be used for characterizing geographic distribution of chemical contaminants or for making interstate comparisons.

additional assessments were conducted as a result of increased awareness of health risks associated with eating chemically contaminated fish and wildlife. Although approximately 80% of advisories have been issued at least in part because of mercury, other contaminants are likely present in many of these advisory locations.

A statewide advisory is issued to warn the public of the potential for widespread contamination of specific species of fish or wildlife (e.g., moose or waterfowl) in certain types of waterbodies (e.g., lakes, rivers and streams, or coastal waters). Twenty-three states currently have statewide advisories (see Table 2). Five states added statewide advisories in 2000: Georgia, North Carolina, and South Carolina each added an advisory for king mackerel in all coastal waters. Wisconsin issued a mercury advisory for all lakes, and Kentucky issued a mercury advisory for all rivers and lakes.

The 2,838 advisories in the national listing represent approximately 23% of the Nation's total lake acreage and 9.3% of the Nation's total river miles. Approximately 63,288 lakes and 325,500 miles of river are under advisory. In addition, 100% of the Great Lakes 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 currently under a fish advisory are shown in Figures 2 and 3, respectively.

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
Georgia			Mercury
Indiana		Mercury PCBs	
Kentucky	Mercury	Mercury	
Louisiana			Mercury
Maine	Mercury	Mercury	Dioxins Mercury PCBs
Massachusetts	Mercury	Mercury	PCBs
Michigan	Mercury		
Minnesota	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	Cadmium Dioxins
North Carolina	Mercury	Mercury	Mercury
Ohio	Mercury	Mercury	
Rhode Island			PCBs
South Carolina			Mercury
Texas			Mercury
Vermont	Mercury	Mercury	
Wisconsin	Mercury		

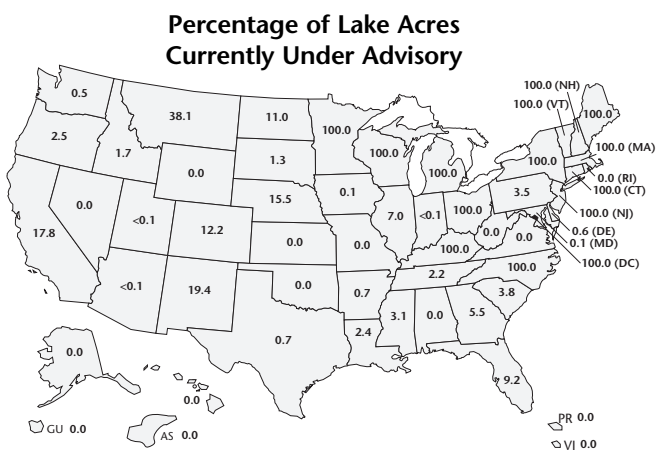
Table 3. Fish Advisories Issued for the Great Lakes

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

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 (PCBs and mercury), the Chesapeake Bay, 20 National Estuary Program (NEP) sites, and 14 National Estuarine Research Reserve System (NERRS) sites (see Table 4). Although the Chesapeake Bay is not under any advisories, the Potomac, James, Black, and Anacostia rivers, which connect to it, 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

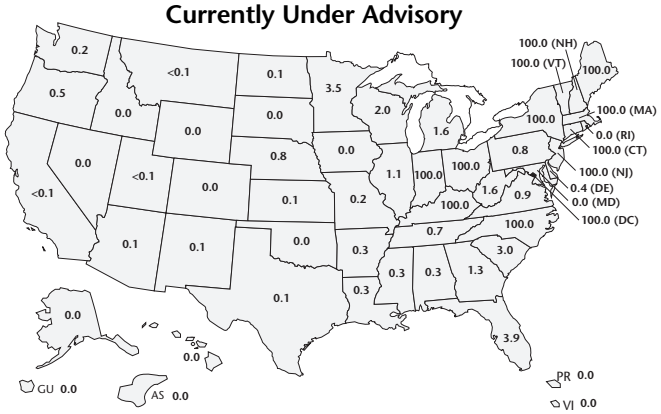
Figure 2.



Fourteen states have 100% of their lake acres under fish advisories (including those with statewide advisories), 10% to 50% of lake acres in 6 states are under advisories, 20 states have <10% of their lake acres under advisories, and 15 states have no lake acres under advisories.

Figure 3.

Percentage of River Miles Currently Under Advisory



Twelve states have 100% of their river miles under fish advisories (states with statewide advisories), 28 states have <10% of their river miles under advisories, and 15 states have no river miles under advisories.

advisories for a range of chemical contaminants (see Table 4). Sixty-five percent of the total number of NEP, NERRS, and combined sites are under fish consumption advisories. There are 17 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 National Oceanic and Atmospheric Administration, an estimated 71% of the coastline of the contiguous 48 states currently is under advisory. This includes 92% 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. All of the Gulf Coast advisories have been issued for mercury, although other contaminants may also be present.

Table 4. Fish Consumption Advisories Active for NEP and NERRS Sites – 2000

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, MA *	●					
Buzzards Bay, MA *	●					
Waquoit Bay, MA #	●					
Narragansett, RI * #	●					
Long Island Sound, NY/CT *	●	●		●		
Peconic Bay, NY *		●		●		
Hudson River, NY #	●	●		●	●[2]	●[1,4]
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 *		●				
North Carolina sites #			●			
Ashepoo-Combahee-Edisto Basin, SC #			●			
North Inlet/Winjah Bay, SC #			●			
Sapelo Island, GA #			●			
Indian River Lagoon, FL *			●			
Charlotte Harbor, FL *			●			
Rookery Bay, FI #			●			
Sarasota Bay, FL *			●			
Tampa Bay, FL *			●			
Apalachicola Bay, FL #			●			
Mobile Bay, AL *			●			
Weeks Bay, AL #			●			
Galveston Bay, TX *		●				
Puget Sound, WA *	●	●	●			●[3]
Columbia River, OR/WA *	●	●				●[4]
San Francisco Bay, CA *	●		●		●	●[5]

[1] Mirex.

[2] For waterfowl.

[3] Specific embayments of Puget Sound are listed for the following pollutants; creosote, pentachlorophenol, volatile organic compounds (VOCs), tetrachloroethylene, arsenic, metals (unspecified), vinyl chloride, polyaromatic hydrocarbons (PAHs), polynuclear aromatics, and pesticides (unspecified).

[4] DDT.

[5] DDT, dieldrin, other unspecified pesticides.

* NEP site.

NERRS site.

Source: EPA 2000 National Listing of Fish and Wildlife Advisories (NLFWA) Database (Advisories current through December 2000).

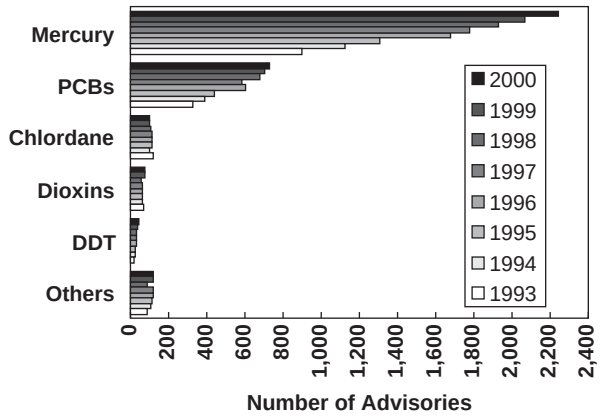
Bioaccumulative Pollutants

Although there are advisories in the United States for a total of 38 chemical contaminants, most advisories have involved five primary contaminants: mercury, PCBs, dioxin, DDT, and chlordane. These chemical contaminants accumulate in the tissues of aquatic organisms at concentrations many times higher than concentrations in the water. These chemical contaminants also persist for relatively long periods in sediments where bottom-dwelling animals can accumulate and pass them up the food chain to fish.

Concentrations of these contaminants in the tissues of aquatic organisms may increase at each level of the food chain. As a result, top predators in a food chain, such as largemouth bass or walleye, may have concentrations of these chemicals in their tissues that may 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 2000. (See Figure 4.)

Figure 4

Trends in Number of Advisories Issued for Various Pollutants



Mercury

Advisories for mercury increased 8% from 1999 to 2000 (2,073 to 2,242) and increased 149% from 1993 to 2000 (899 to 2,242). The number of states that have issued mercury advisories has risen steadily from 27 in 1993 to 41 in 2000. This can be attributed to a net increase of mercury advisories in 19 states. Six states account for the majority (80%) of this increase: Minnesota (+87), Indiana (+12), Wisconsin (+11), Georgia (+10), Louisiana (+8), and Ohio (+8). It should also be noted that 13 states (Connecticut, Kentucky, Indiana, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, North Carolina, Ohio, Vermont, and Wisconsin) have issued statewide advisories for mercury in freshwater lakes and/or rivers. Both Kentucky and Wisconsin issued a statewide advisory for mercury in 2000. Another nine states (Alabama, Florida, Georgia, Louisiana, Maine, Mississippi, North Carolina, South Carolina, and Texas) have statewide advisories for mercury in their coastal waters. In 2000, Georgia, North Carolina, and South Carolina each issued a statewide advisory for king mackerel in coastal waters.

PCBs

Advisories for PCBs increased 3% from 1999 to 2000 (from 703 to 726) and increased 128% from 1993 to 2000 (319 to 726). The number of states that have issued PCB advisories remained at 38 (including American Samoa) in 2000, up from 31 states in 1993 and 36 states in 1998. The majority (87%) of the net gain in PCB advisories in 2000 came from 4 states: Indiana (+10), Ohio (+4), Michigan (+4), and Maine (+2). To date, 75% of the PCB advisories in effect have been issued by 9 states: Indiana (138), Michigan (109), Minnesota (84), Wisconsin (56), New York (48), Ohio (38), Pennsylvania (28), Illinois (22), and Georgia (21). Three states (Indiana, New York, and District of Columbia) have issued statewide freshwater advisories (river and/or lake) advisories for PCBs. Six other states (Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, 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 from 40 in 1999 to 44 in 2000. California had the most DDT advisories active in 2000 (13), followed by New York (4) and Texas (4). Maine added 3 DDT advisories in 2000. The total number of advisories for dioxins increased by 2 (3%) from 1999 to 76 in 2000, following an increase of 25% the year before. West Virginia issued two new dioxin advisories in 2000. Maine issued one, and North Carolina rescinded one. Dioxins are one of several chemical contaminants for which advisories have recently been rescinded, in part because pulp and paper mills have changed their processes. Many advisories for the pesticide chlordane have also been rescinded in recent years. All uses of chlordane in the United States were banned in 1988, and the compound continues to be degraded in the environment. The number of chlordane advisories remained the same in 2000 (101) after a 3% decrease from 1998 to 1999 and a 14% decrease from 1997 to 1998.

Wildlife Advisories

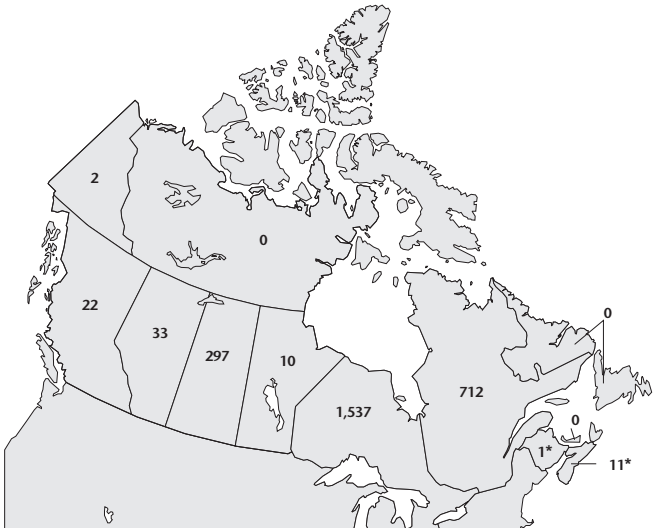
In addition to advisories for fish and shellfish, the web site also contains several wildlife advisories. Four states have issued consumption advisories for turtles: Arizona (3), Massachusetts (1), Minnesota (8), and New York (statewide advisory). One state (Massachusetts) has an advisory for frogs. New York has a statewide advisory for waterfowl (including mergansers). Arkansas has an advisory for wood ducks. Utah has an advisory for American coot and ducks. Maine issued a statewide advisory for moose liver and kidneys due to cadmium.

Summary of Canadian Advisories

No new information was collected about fish advisories in Canada for 2000. 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).

For More Information

For more information on specific advisories within a state, contact the appropriate state agency listed on the National Listing of Fish and Wildlife Advisories web site at *www.epa.gov/waterscience/fish/listing.html*. This is particularly important for advisories that recommend consumers restrict their consumption of fish from certain waterbodies. State health departments provide more specific information for restricted consumption advisories on the appropriate meal size and meal frequency (number of meals per week or month) that is considered safe to eat.

The data available on the national listing web site may also be used to assist the public in making informed decisions about the waterbodies where they choose to fish or harvest wildlife, and the species and size of fish they choose to eat. The National Listing of Fish and Wildlife Advisories web site includes advisory information for all states through December 2000. For some states, the web site includes data on advisories issued in 2001.

For more information on how to properly clean fish to reduce exposure, consult EPA's brochure "Should I Eat the Fish I Catch," available in several languages on EPA's fish advisory web site: *www.epa.gov/waterscience/fish*.

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

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