Health Advisories

Oregon Health Division has made recommendations regarding public consumption of fish or shellfish from the following waters. These advisories were accurate at the time of publication of this document, however, interested persons should call the Oregon Health Division at 503-731-4015 for subsequent changes.

1. Antelope Reservoir *(Southeast Zone)* - Due to mercury contamination, (a) pregnant women, children 6 years old or younger, and adults with kidney or liver damage should not eat any fish taken here; (b) children between 6 and 17 years old should not eat more than 2-1/2 ounces of fish (one 8-ounce meal) per month from here; and (c) healthy adults should not eat more than 5-1/3 ounces of fish per month (one 8-ounce meal every 6 weeks) from here. MERC.

2. Columbia Slough *(Willamette Zone)* - Due to PCB levels in *carp* and *black crappie* the public is advised to reduce or avoid eating them. Exposure from eating these fish can be reduced by skinning, removing all fat, avoiding the fish eggs or internal organs, eating smaller amounts, and using cooking methods that encourage the escape of fats and oils from the meat. PCB

Removed Coos Bay *(Southwest Zone)* - Due to high levels of tributyltin toxin, the public should not harvest or eat *clams* from three areas in Coos Bay. The areas are (a) the North Slough north of the causeway and west of Hwy. 101; (b) the Jordan Cove area located on North Spit; and (c) Catching Slough in all areas upstream of Catching Slough bridge. TBT

3. Cottage Grove Reservoir *(Willamette Zone)* - Due to mercury contamination, (a) pregnant women, nursing women and children up to 6 years old should not eat any fish taken from these waters; and (b) children older than 6 years old and healthy adults should not eat more than 1/2 pound (1 meal) of such fish per week. MERC

4. East Lake *(Central Zone)* - Due to mercury contamination, (a) children under 6 years old should not eat more than one 4-ounce meal of fish every 10 weeks and should consider eating no fish from this lake; (b) children 6 years or older, women of child-bearing age, and pregnant or nursing women should eat no more than one 8-ounce meal every six weeks, (c) women past the age of child-bearing and other healthy adults should eat no more than 8 ounces of fish every 10 days; and (d) *brown trout* 16 inches in length or longer should not be eaten. MERC

5. Jordan Creek *(Southeast Zone)* - Due to mercury contamination, (a) pregnant women, children 6 years old or younger, and adults with kidney or liver damage should not eat any fish taken here; (b) children between 6 and 17 years old should not eat more than 2-1/2 ounces of fish (one 8-ounce meal) per month from here; and (c) healthy adults should not eat more than 5-1/3 ounces of fish per month (one 8-ounce meal every 6 weeks) from here. MERC

6. Lower Columbia River *(Columbia River Zone)* - Due to PCB, dioxin/furans, DDT, DDE and other organic contaminants found in fat, the public is advised to reduce or avoid eating fish from this area. Exposure from eating these fish can be reduced by skinning, removing all fat, avoiding the fish eggs or internal organs, eating smaller amounts, and using cooking methods that encourage the escape of fats and oils from the meat. This is especially directed toward women of child-bearing age, pregnant or nursing women and children up to 6 years old. ORGANICS

7. Owyhee Reservoir *(Southeast Zone)* - Due to mercury contamination, (a) women who are pregnant or intend to soon become pregnant, nursing women, and children 6 years old or younger should not eat any fish taken here; and (b) children older than 6 years and healthy adults should eat no more than 8 ounces of fish six times a year from these waters. MERC

8. Snake River *(Snake River Zone)* - due to mercury contamination (a) children six years of age and younger should not eat more than one 4-ounce fish meal every month; (b) all women of childbearing age, especially if they are pregnant, nursing or are planning to become pregnant should not eat more than one 8-ounce meal of fish every 2-1/2 weeks; and (c) women past the age of childbearing, children older than 6 year and all other healthy adults may safely eat as much as one 8-ounce meal of fish every 5 days or 6 meals per month.

9. Willamette River and Coast Fork Willamette to Cottage Grove Reservoir *(Willamette Zone)* - Due to mercury contamination, (a) children six years of age and younger should not eat more than one 4-ounce fish meal every 7 weeks; (b) all women of childbearing age, including pregnant females and breastfeeding mothers, should not eat more than one 8-ounce fish meal per month; and (c) women past the age of childbearing, children older than six years and all other healthy adults may consume as much as one 8-ounce fish meal per week. MERC

IDAHO

Brownlee Reservoir *(Northeast Zone)* - Due to mercury contamination, Idaho Dept. of Health (208-334-0606) has recommended that women planning pregnancy, pregnant women, nursing mothers, and children under age 7 are at greater risk *(sensitive population)*. The following dietary guidelines apply: MERC

	General Population	*Sensitive Population*
Group A fish: large *crappie* (over 10 inches), *yellow perch* and *smallmouth bass*	7 ounces, 5 times per month	7 ounces, 1 time per month
Group B fish: small *crappie* (under 10 inches), and *catfish*	7 ounces, 10 times per month	7 ounces, 2 times per month

Statewide Regulations

DRAFT 1998

OREGON FISH & WILDLIFE

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Metro
Sample Matrix: Fish Tissue

Date Received: 07/06/92
Work Order No.: K924199

Total Metals
mg/Kg (ppm)
Dry Weight Basis

Sample Name:	LM Bass (composites) (3)	Blue Gill (5)	White Crapple (3)
	Bybee Lake	Bybee Lake	Bybee Lake
Lab Code:	K4199-1	K4199-2	K4199-3

Analyte	EPA Method	MRL			
Cadmium	7131	0.01	ND <.01	ND <.01	0.03
Lead	7421	0.1	ND <.01	0.4	0.1
Mercury	7471	0.02	0.07	0.03	0.05
Solids, Total (%)	Freeze-dried	--	18.9	16.7	16.8

MRL Method Reporting Limit
ND None Detected at or above the method reporting limit

Approved by Anne Friedman Date 7/22/92

00001

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Metro
Sample Matrix: Fish Tissue

Date Received: 07/06/92
Date Extracted: 07/08/92
Work Order No.: K924199

Organochlorine Pesticides and Polychlorinated Biphenyls (PCBs)
EPA Methods 3540/8080
mg/Kg (ppm)
As Received Basis

Sample Name		LM Bass Bybee Lake	Blue Bill Bybee Lake	White Crappie Bybee Lake
Lab Code:		K4199-1	K4199-2	K4199-3
Date Analyzed:		07/17/92	07/17/92	07/17/92
Analyte	MRL (Method Reporting Limit)			
Alpha-BHC	0.002	ND	ND	ND
Gamma-BHC (Lindane)	0.002	ND	ND	ND
Beta-BHC	0.006	ND	ND	ND
Heptachlor	0.002	ND	ND	ND
Delta-BHC	0.002	ND	ND	ND
Aldrin	0.002	ND	ND	ND
Heptachlor Epoxide	0.002	ND	ND	ND
Endosulfan I	0.002	ND	ND	ND
4,4-DDE	0.002	0.01	ND	0.006
Dieldrin	0.002	ND	ND	ND
Endrin	0.002	ND	ND	ND
4,4'-DDD	0.002	ND	ND	ND
Endosulfan II	0.002	ND	ND	ND
4,4'-DDT	0.002	ND	ND	ND
Endrin Aldehyde	0.002	ND	ND	ND
Endosulfan Sulfate	0.002	ND	ND	ND
Methoxychlor	0.004	ND	ND	ND
Toxaphene	0.03	ND	ND	ND
Chlordane	0.01	ND	ND	ND
PCBs: Aroclor 1016	0.01	ND	ND	ND
Aroclor 1221	0.01	ND	ND	ND
Aroclor 1232	0.01	ND	ND	ND
Aroclor 1242	0.01	ND	ND	ND
Aroclor 1248	0.01	ND	ND	ND
Aroclor 1254	0.01	ND	ND	ND
Aroclor 1260	0.01	ND	ND	ND

MRL Method Reporting Limit
ND None Detected at or above the method reporting limit

Approved by [signature] Date 7/22/92

1317 South 13th Ave. • P.O. Box 479 • Kelso, WA 98626 • Telephone 206/577-7222 • Fax 206/636-1068

Smith & Bybee Lakes Natural Area
Management Committee

METRO
Planning Department
2000 S.W. First Avenue
Portland, OR 97201-5398
(503) 221-1646

September 1, 1992

TISSUE ANALYSIS OF FISH FROM SMITH AND BYBEE LAKES

Smith and Bybee Lakes provide a popular warmwater fishery for many anglers in the region. With many people consuming fish from these lakes, questions have been raised concerning the health risks from consumption of potentially contaminated fish. Fish tissue from fish caught in the lakes were analyzed recently for common contaminants that could pose a health risk if consumed in appreciable quantities.

Only fish taken from Smith and Bybee Lakes were analyzed. Fish in the lakes are isolated from the nearby Columbia Slough and Willamette River, except during high river flow periods. It is assumed that the fish analyzed in this survey are year-round residents of the lakes.

During an electrofishing survey of the lakes conducted June 29-July 2, 1992, by the U.S. Fish and Wildlife Service, specimens of three commonly angled fish species were collected. Three largemouth bass, five bluegill and three white crappie were filleted and composited by species. Analytes were cadmium, lead, mercury, organochlorine pesticides and PCBs.

As shown in the attached laboratory results, low levels of cadmium, lead, mercury and DDE were detected. All other organochlorine pesticides and all PCB congeners for which analysis was conducted were undetected. A summary of detected parameters is given below. **All results are in parts per million (ppm).**

Parameter	Maximum Found in Lake Fish	FDA Action Level	Worldwide Food Standards
Cadmium	0.03	---	0.1 - 5.5
Lead	0.40	---	0.5 - 10.0
Mercury	0.07	1.0	0.1 - 10.0
DDE	0.01	5.0	

Based on these results, a fishing closure or advisory for Smith and Bybee Lakes is not warranted. For a more detailed discussion of health risks, see the attached letter from the Oregon Department of Health.

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FISH MERCURY DATA RECEIVED BY HEALTH DIVISION TO DATE
April 23, 1998

Sample Area	Date Year	No. in sample tested	Species	Hg Range (ppm)	Mean Hg (ppm wet)
Bybee Lakes	92	3	LM Bass	---	0.07
(See Smith-Bybee for		3	W. Crap.	---	0.05
full dataset through		6	Bluegill	---	0.03
1994)		12	Mean of all samples		0.05
Smith-Bybee Lakes	92	3	LMBass		0.07
		3	W. Crappie		0.05
		6	Bluegill		0.03
	94 Parmetrix	2	Bass	.003-01	<0.01
		2	Carp	.05-0.1	0.08
		2	Mixed sp.	.008-.03	0.02
		18			0.03

Memo: Duncan Gilroy
Re: Smith and Bybee Lakes 1995 Screening Level Risk Asssessment report by Parametrix
From: Ken Kauffman
April 22, 1998

Because of the insistence by some departments of the city of Portland that we include Smith and Bybee lakes in our Columbia Slough advisory, I have studied through the 1995 SLRA by Parametrix on the Smith-Bybee Management Area. I have focused specifically on Smith and Bybee Lakes, and more specifically on the fish tissue data in the report. The report is much broader than the lakes, taking in 1784 acres (almost 3 square miles of area), and much broader than the question of fish quality in the lakes. It addresses fish and crayfish quality in parts of Columbia Slough and other water bodies in the same management area. It also evaluates soils, sediments, water, etc. and attempts to assess the additive effects of contaminants in all these media on humans, wildlife, etc.

The data we are concerned with in the lake fish boils down to six composite samples analyzed in 1994. They consisted of two composites each of carp, bass and mixed species from Smith-Bybee Lakes. One of the composites for each species was tested wholebody, and the other was tested as fillet only. Crayfish were tested in parts of the slough but none were found in the lakes. I doubt that this means there are none--they were probably just too difficult to catch.

The assessment report concludes that fish-eating poses moderate, long-term hazards due to the presence of PCB's. It ranks the lakes as lowest priority of the waterbodies in the study area, in terms of degree and kind of risks to humans and the environment. This conclusion is based on the finding of 254 ppb Aroclor 1260 in the wholebody carp composite sample. The wholebody bass and mixed species, as well as the three fillet samples are all reported as nondetect for Aroclors. This gives us a single data point for PCB in fish tissue. If we calculate the mean PCB level for the six composites, using half the DL (87 ppb), the mean level comes down to only 79 ppb. EPA's recommended screening value for PCB in fish tissue is 0.01 ppm or 10 ppb. The one Smith-Bybee sample exceeds this by 25.4X. Even if we use the lower figure, the screen level is exceeded by a factor of almost 8X.

We have discussed the PCB and fish problem a number of times, but I don't think we have ever decided exactly what our advisory criteria ought to be for PCB's. The 254 ppb is in the ballpark of the 380 ppb level that Cathy Neumann used in calculating the existing Columbia Slough advisory. The calculated mean value of 79 ppb is quite a lot lower but still well within an order of magnitude.

We have discussed the fact that marine market fish have PCB loads ranging up to the FDA market limit of 1000 ppb, and a good share of them are above 10 ppb. Levels in Smith and Bybee lakes fall within this lower range of market fish.

over

I have compared all of the other organic and metal findings from the Parametrix report, and none of them come near fish advisory screen levels except for PCB. (Arsenic is noted in the Parametrix report as the second chemical of human health significance, but apparently the conclusion comes from soil, sediment and water exposure assessments, because there are no arsenic in fish tissue in the Parametrix report. They report nondetect for all samples and a DL of 0.1 ppb. The EPA screen value for arsenic in fish tissue is 10 ppm.

For these reasons, I don't think we should propose a fish advisory for these lakes:

1. The PCB data is too scanty (six composite samples and only one "hit");
2. The PCB data is too uncertain (detection limits and quantification limits are too near the one reported finding. (DL=87, PQL= 270; and findings 254 ppb with five ND's) ;
3. The EPA screen value of 10 ppb is based on cancer slope alone, assuming lifetime risk and protection equal to or less than one in a million. Are we ready to go with it for this ubiquitous compound?
4. Market fish and other meat products that a person might turn to as alternatives to eating these sport fish probably have PCB levels similar to, and in some cases much higher than 10 ppb.

I haven't reported this to Emily Roth or anyone else yet. Should we discuss it?

cc: Ron Hall

Call For Information:

Health Risk Questions:
Oregon Health Division
Ken Kauffman (503) 731-4015
Duncan Gilroy (503) 731-4015

Nutrition Questions:
Oregon State Extension
(503) 725-2000

Columbia Slough Questions:
Environmental Services
Chee Choy
(503) 823-5310

Smith and Bybee Lake Questions:
Emily Roth, Metro
(503) 797-1515

Printed on recycled paper. WS 8022 / 5-98

This is a message from:

Oregon Health Division

Multnomah County Health Department

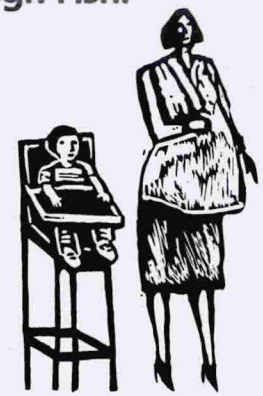
ENVIRONMENTAL SERVICES
CITY OF PORTLAND
CLEAN RIVER WORKS
Dean Marriott, Director

Columbia Slough Fish May Be Hazardous To Your Health

Fish in the Columbia Slough contain PCBs and pesticides. These chemicals may effect human development, reproduction and immune systems. These chemicals may also increase your chance of getting cancer.

Columbia Slough Fish May Be Hazardous To Your Health

Commonly Asked Questions about Columbia Slough Fish:



Who is most at risk?

- Unborn babies
- Pregnant and nursing mothers
- Children
- People eating Slough fish often and for many years

Why are these chemicals a problem?

Even though the concentrations of PCBs and pesticides in Slough fish are fairly low, they still pose a health risk because:

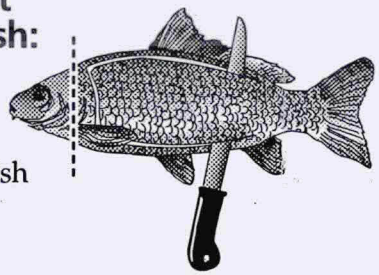
- Babies can be exposed to the chemicals before they are born and through breast milk.
- These chemicals increase in the body and may cause health problems many years after eating the fish.

What are the health risks from eating Slough fish?

Eating fish with these chemicals over time may :

- Harm unborn children. These children may be slower to develop and learn.
- Harm reproductive and immune systems.
- Increase your chance of getting cancer.

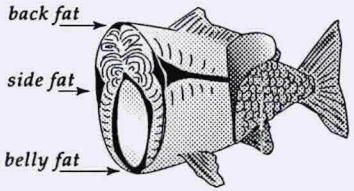
If You Choose To Eat Columbia Slough Fish:



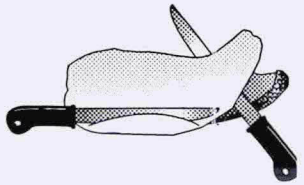
To reduce health risks:

- Eat fewer slough fish
- Eat smaller, younger fish
- Eat smaller portions
- Do not eat raw fish

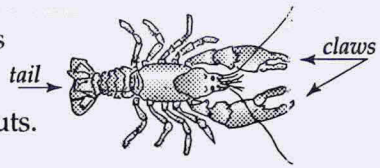
Follow these steps:



- Cut off and throw away head, skin, fatty parts and guts. Chemicals "build up" in these parts.
- Bake or broil the fish (without skin and fat) on a rack so the fat drips off. Do not eat fat drippings.



- Eat only tail and claws of crayfish.
- Do not eat head and guts.



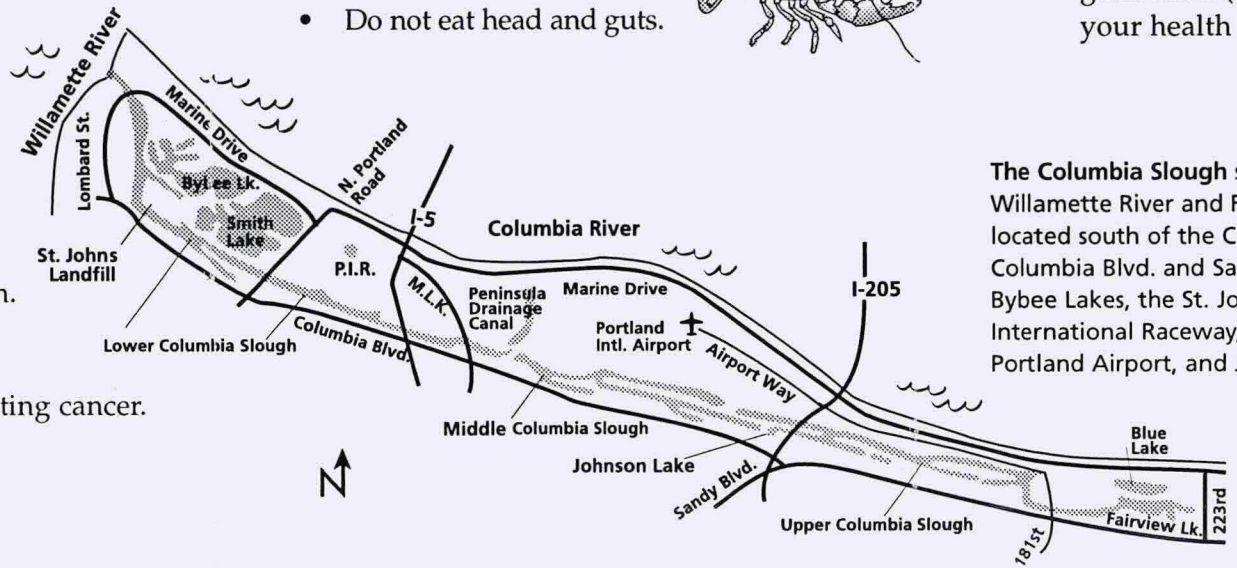
Are There Safer Places To fish?

Ocean fish usually have fewer contaminants. It is likely that many fish in and around cities have hazardous chemicals in them. There are fish advisories for the Willamette River (for mercury) and Columbia River (for PCBs, dioxins and pesticides).

Harmful chemicals are in stormwater running off roads, parking lots, houses and lawns. Pollutants also come from business, industry and farm fields.

Should I stop eating all fish?

No. Fish is an excellent source of protein, is low in fat when baked or broiled, and has other nutritional benefits. Following the preparation guidelines (shown here) will reduce your health risks from eating fish.



The Columbia Slough stretches between the Willamette River and Fairview Lake. The Slough is located south of the Columbia River and north of Columbia Blvd. and Sandy Blvd. It passes Smith and Bybee Lakes, the St. Johns Landfill, the Portland International Raceway, Portland Meadows, the Portland Airport, and Johnson Lake.