QUESTIONS AND ANSWERS

Smith and Bybee Lakes Management Area

Environmental Health and Safety Risks

What is the Smith and Bybee Lakes Management Area?

The Smith and Bybee Lakes Management Area is a 2,000-acre wetland area that provides habitat for wildlife, fish and plants. It is located in North Portland, between Marine Drive and Columbia Boulevard. Approximately five miles of the Columbia Slough, including its North Slough Arm, runs through the area. The North Slough Arm leads to the area's two shallow lakes, Smith and Bybee lakes. The St. Johns Landfill, closed to waste disposal since 1992, is also located in the area.

Why are environmental and health risks a concern in the area?

For years, pollutants have entered and accumulated in the area from many sources. Runoff drains into the area from storm drains and surrounding land, carrying contaminants with it. During rainy weather, stormwater often mixes with sewage in the combined sewers and overflows into the Columbia Slough. The slough picks up contaminants from ground water from as far away as East Multnomah County. Industry discharges water that may contain contaminants into the slough, and air-borne pollutants eventually settle in the area. Tidal activity causes the Willamette River to back up into the slough twice daily, bringing with it any pollutants the river carries. The St. Johns Landfill may also contribute pollutants. Metro and the city of

METRO

Regional Environmental Management Department

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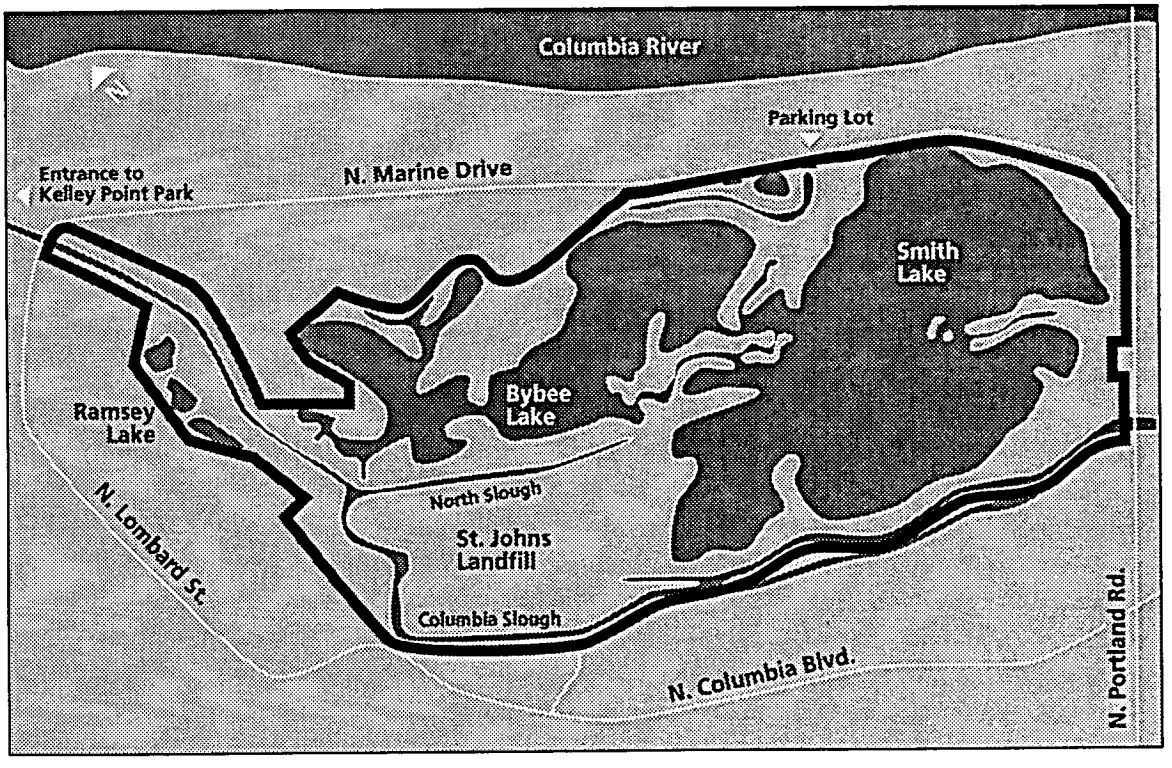

Smith and Bybee Lakes Management Area

Portland are working together to assess the environmental and human health risks from contaminants in the area.

How are risks being evaluated?

Metro and the city of Portland have conducted screening level risk assessments to detect and compare all potential risks in the area and provide a basis for future action. Metro's efforts have focused only on the Smith and Bybee Lakes Management Area, while the city has investigated the entire Columbia Slough. The studies have analyzed sediment, surface water, fish and shellfish in the area and ground water in the sand and gravel under the area. Metro's study also addressed potential risks from untreated landfill gas at the closed St. Johns Landfill. The studies focused on potential risks to people, aquatic life and wildlife.

The assessments take a cautious approach by assuming worst-case exposure scenarios. For example, when assessing the risk from eating fish caught in the area, a person is assumed to eat one-half pound of fish twice each week for 24 or more years. Although real-life exposure would likely be much lower, this approach ensures that risk estimates are likely to be overestimated rather than underestimated.

What are the areas of concern?

The Metro study produced the following key conclusions:

Risks to human health

- Eating fish caught in the lakes and the North and Lower sloughs may pose a cancer risk to humans. The human cancer risk from eating shellfish in the Lower Slough is relatively low. Shellfish were not found in the North Slough and the lakes.

- Non-cancer human health risks from eating fish are low and no non-cancer risks were identified from eating shellfish.

- Arsenic and PCBs are the chemicals of most concern in fish from the area.

- Potential cancer risks from exposure to sediments and surface water during recreational activities (swimming, wading or boating) are relatively low. No non-cancer health risks from these exposures were identified.

- Non-cancer health risks from occasionally drinking ground water from the deep sand/gravel under the area would be low. Cancer risks were not evaluated because only short-term exposures would occur.

- Landfill workers working within three feet downwind of open gas wells may face potential risks from untreated gas venting at the St. Johns Landfill.

- The chemicals of most concern in untreated landfill gas include hydrogen sulfide, carbon dioxide and methane.

Risks to aquatic life

- Sediment-dwelling organisms may be at potential risk from chemicals in sediments at many area sites. Low risks were found for fish and other organisms that live in the water.

- Chromium is the chemical of most concern for organisms that live in the sediment.

Risks to wildlife

- Eating fish and incidentally ingesting sediment may pose risks to great blue herons and river otters that live in the area.

- Lead, chromium and selenium are the chemicals of most concern for wildlife.

The city of Portland study produced the following information about risks in the area:

- Sediment samples taken from three sites along the Columbia Slough in the area were among higher risk samples for fish-eating wildlife and organisms that live in sediment. Samples taken at other area sites were among those with lower overall risk to humans and animals.

- Dioxins and furans were identified in fish caught in the lower Columbia Slough, including the Smith and Bybee Lakes Management area. Concentrations of these chemicals were similar to, or lower than, concentrations found throughout

the region and the nation. These chemicals pose potential cancer and other risks to humans and animals who eat fish.

Most of the dioxins and furans found in fish are likely to enter the slough via tidal action and air pollution.

What is being done to address the public health and environmental concerns?

A number of actions are under way to reduce risks to humans and wildlife in the area.

- Environmental groups and the city of Portland have posted warning signs and alerted people not to eat fish from the Columbia Slough.
- The city of Portland has launched a major project to virtually eliminate combined sewer overflows into the Columbia Slough and the Willamette River.
- Metro is capping the St. Johns Landfill to prevent rainwater from entering the buried waste and leaching contaminants into the ground water.
- The city of Portland is conducting numerous source control and illicit discharge actions to eliminate current pollution.
- Metro requires landfill workers to use protective equipment when working near open gas wells. A landfill gas collection system is nearing completion. The collected gas is burned to minimize risk.

Metro and the Oregon Department of Environmental Quality are reviewing the risk assessment reports to determine future action. Options include:

- Collect more information about contaminants in the area and human and wildlife exposures to determine realistic risks.
- Identify the sources of key contaminants.
- Determine how to effectively manage risks whether or not sources can be identified.

How can I learn more about the studies conducted in the Smith and Bybee Lakes Management Area?

For a copy of Metro's Screening Level Risk Assessment report for the area, call Metro Regional Environmental Management at 797-1650. For a copy of the city of Portland report, call Susan Barthel, 823-7268. For more information, contact Dennis O'Neil at Metro, 797-1697, or Chee Choy at the city of Portland, 823-5310.

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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

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This is a message from:

Oregon Health Division

Multnomah County Health Department

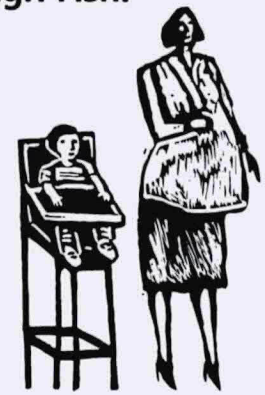
ENVIRONMENTAL SERVICES
CITY OF PORTLAND
CLEAN RIVER WORKS
Dean Marriott, Director

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:

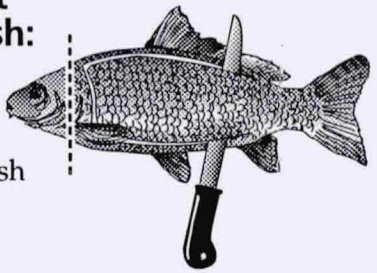
- Babies can be exposed to the chemicals before they are born and through breast milk.
- These chemicals increase in the body and may cause health problems many years after eating the fish.

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.

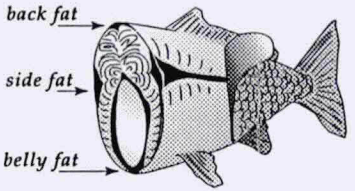
If You Choose To Eat Columbia Slough Fish:



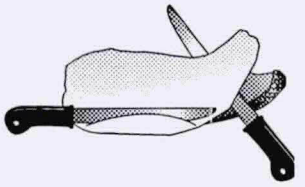
To reduce health risks:

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

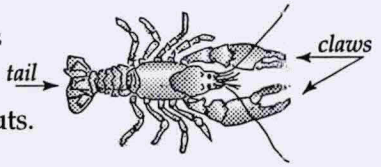
Follow these steps:



- 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.



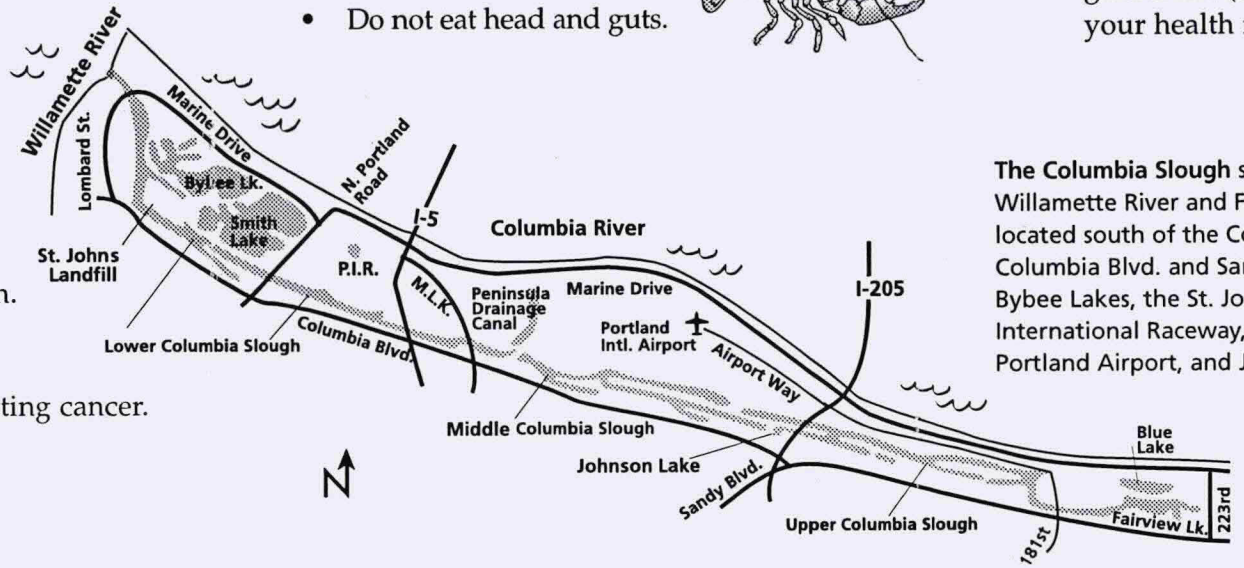
Are There Safer Places To fish?

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.