Eat Fish –
But Choose Wisely

By

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Chippewa Ottawa
Resource Authority

Inter-Tribal Fisheries and Assessment Program

Chippewa Ottawa Resource Authority

Grant Funded Through

the Agency for Toxic Substances and Disease Registry (ATSDR)

- Stated purpose is “A Pilot Program to Educate Vulnerable Populations about Fish Advisories in Michigan”
- Specifically Addresses the Upper Peninsula of Michigan
- Develop and Provide Reliable, Understandable Information for Affected Communities, Tribes and Stakeholders.
- Build and Enhance Effective Partnerships.

Three Objectives:

- **Focus Groups (Talking Circles) to determine advisory knowledge**

- **Better determine contaminant loads by testing fish in U.P. waters.**

- **Create educational materials based on data collected**

Focus Groups Took the Form of Traditional Talking Circles

There were a total of thirty-five participants, ranging in age from fourteen to eighty-six years, including twenty-five women (71%) and ten men (29%). Thirty-one out of thirty-five participants (89%) are Tribal members.

Participants self-identified as belonging to the following demographic groups:

"Choose one description that best describes you at present" ***Total n = 35*** ***(Some participants chose more than one answer)***	
Women of reproductive age	11
Men of reproductive age	2
Pregnant women	3
Commercial fisher	5
Recreational fisher	8
Elders	19
"Are your family member:"	
Commercial fishers	10
Recreational	16

I eat fish that is…

Total n = 35

(Participants could choose more than one answer

1. Freshly caught (locally)	29	83%
2. Store bought	16	46%
3. Frozen	18	51%
4. From U.P streams, Rivers and/or lakes	18	52%
6. From oceans	11	32%
7. From restaurants	22	63%

“Why do you fish?”
Total n = 35

(Participants could choose more than one answer)

1.	**Livelihood/work**	**13**	**37%**
2.	**Food for family**	**18**	**51%**
3.	**Tradition/custom**	**18**	**51%**
4.	**Way of life**	**19**	**54%**
5.	**Pleasure**	**20**	**57%**
6.	**Family involvement**	**17**	**49%**
7.	**Recreation**	**11**	**31%**
8.	**Other: “I don’t fish”**	**5**	**14%**

“Fishing is not only a way of life for us, it is life.”(Young fisherman)

Focus Group Members Evaluate Existing Fish Advisories

- Feedback from the Participants Favored those Materials that were ***Short*** and ***to the Point***.
- Easy Reading.
- Relevant Graphics and Photos.

Previous Studies

- Ojibwa Health Study

Dr. John Dellinger

University of Wisconsin - Milwaukee

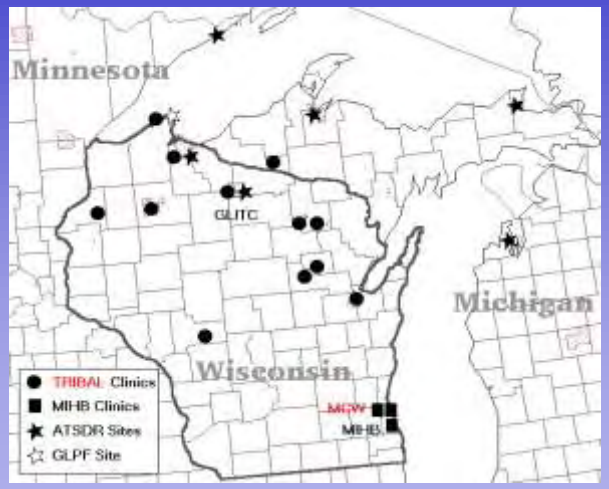
Ojibwe Health Study

•Cross-sectional epidemiologic study (822 tribal volunteers) 1993 - 2003.

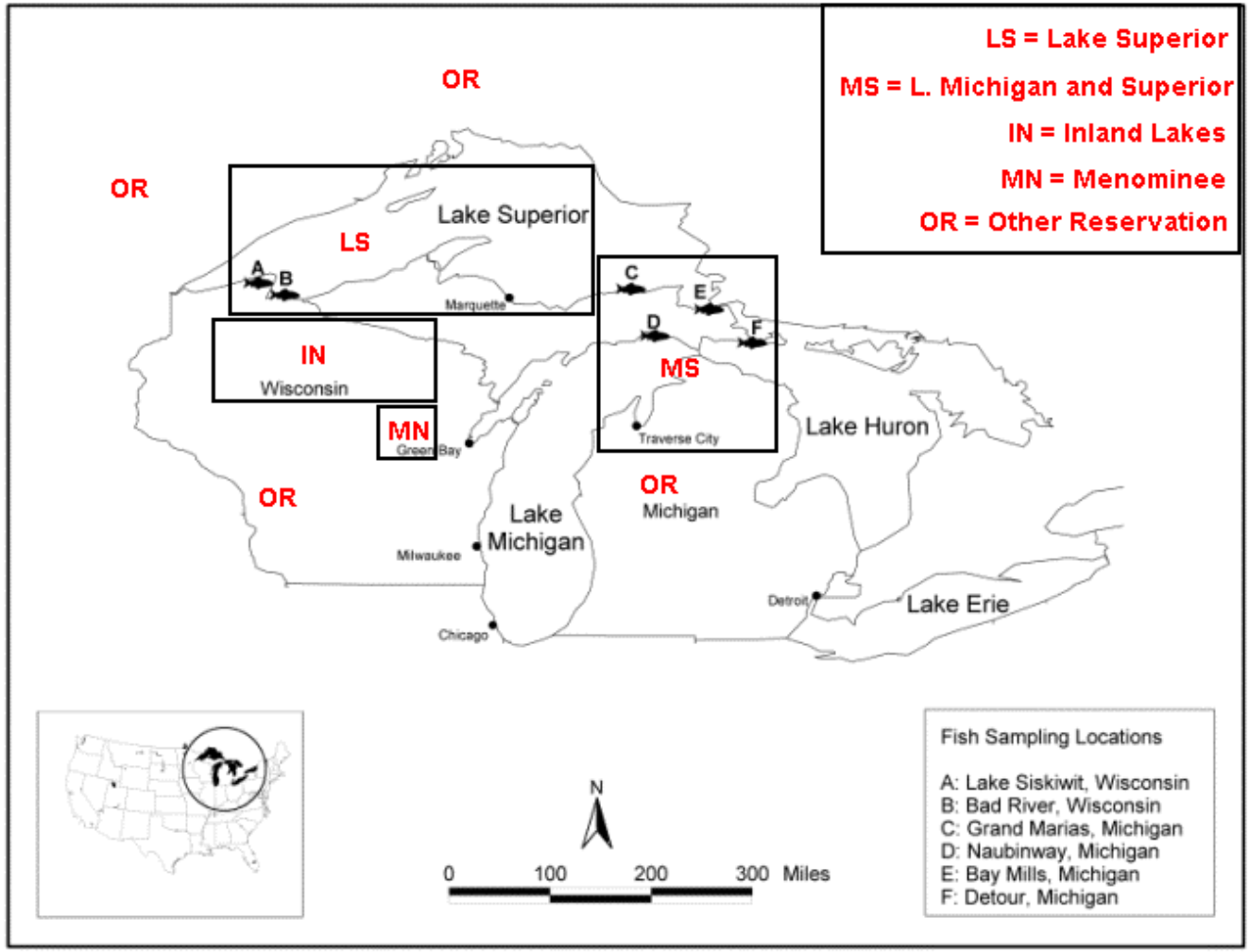
•Measured fish consumption (retrospective recall and prospective).

•Quantified chronic disease (self reported).

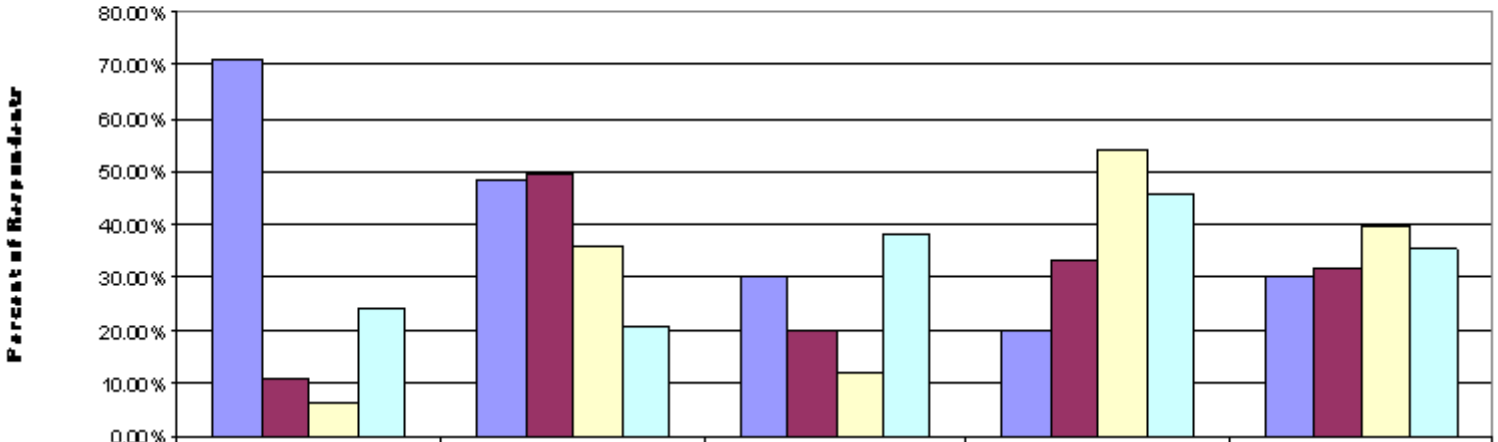
•Analyzed state death certificate information.



•Eight Ojibwe reservations (MN, WI, and MI) plus the Menominee in WI.

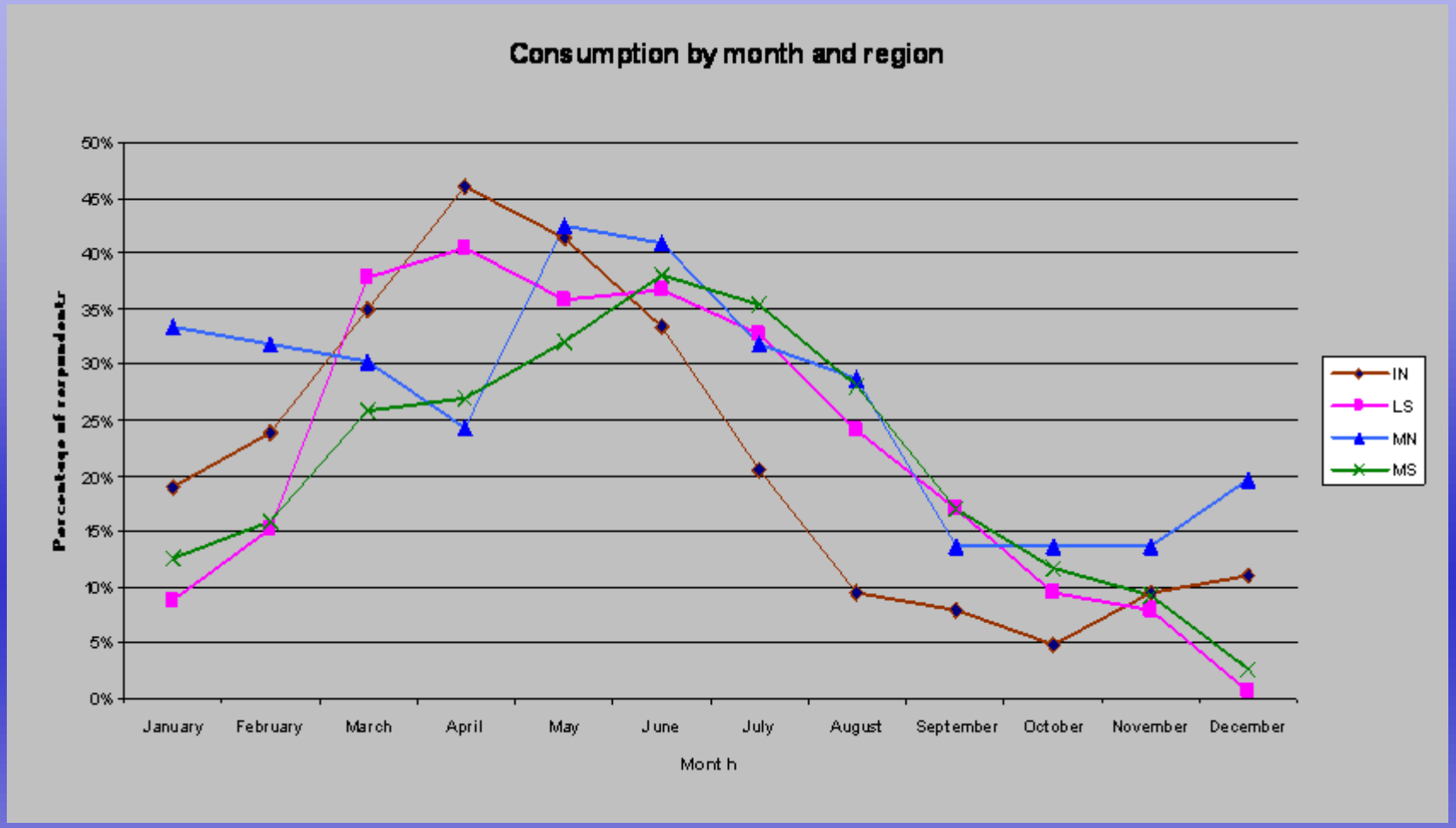

LS = Lake Superior
MS = L. Michigan and Superior
IN = Inland Lakes
MN = Menominee
OR = Other Reservation
OR
OR
LS
Lake Superior
A
B
Marquette
C
E
D
F
IN
Wisconsin
MS
MN
Green Bay
Traverse City
Lake Huron
OR
OR
Michigan
Lake
Michigan
Milwaukee
Detroit
Lake Erie
Chicago
N
0
100
200
300 Miles
Fish Sampling Locations
A: Lake Siskiwit, Wisconsin
B: Bad River, Wisconsin
C: Grand Marias, Michigan
D: Naubinway, Michigan
E: Bay Mills, Michigan
F: Detour, Michigan

Most Commonly Reported Species



	IN	LS	MN	MS	OR
Walleye	71.43%	48.55%	30.30%	19.56%	30.26%
Lake Trout	11.11%	49.13%	19.70%	33.21%	31.58%
Whitefish	6.35%	35.84%	12.12%	53.87%	39.47%
Perch	23.81%	20.52%	37.88%	45.76%	35.53%

Tribal Group



Harvesting/Eating peaks 1-2 months before Health Fairs (June – Aug). Leads to differences between peak hair & blood values.

Fish Consumption

Benefits

- Nutrition
  - Omega (n-3) FA
  - Vitamins &Proteins
  - Selenium
- Family &Cultural
- Recreational
- Economic

Francais

Diet Related Health Problems Are Rising

- Native Americans more than twice as likely to develop diabetes according to NIDDK

- Obesity is significantly higher in the U.P. according to a 1998 NIH study

- Heart Disease is the number one killer amongst U.P. and Wisconsin tribes (GLITC Epicenter Reports)

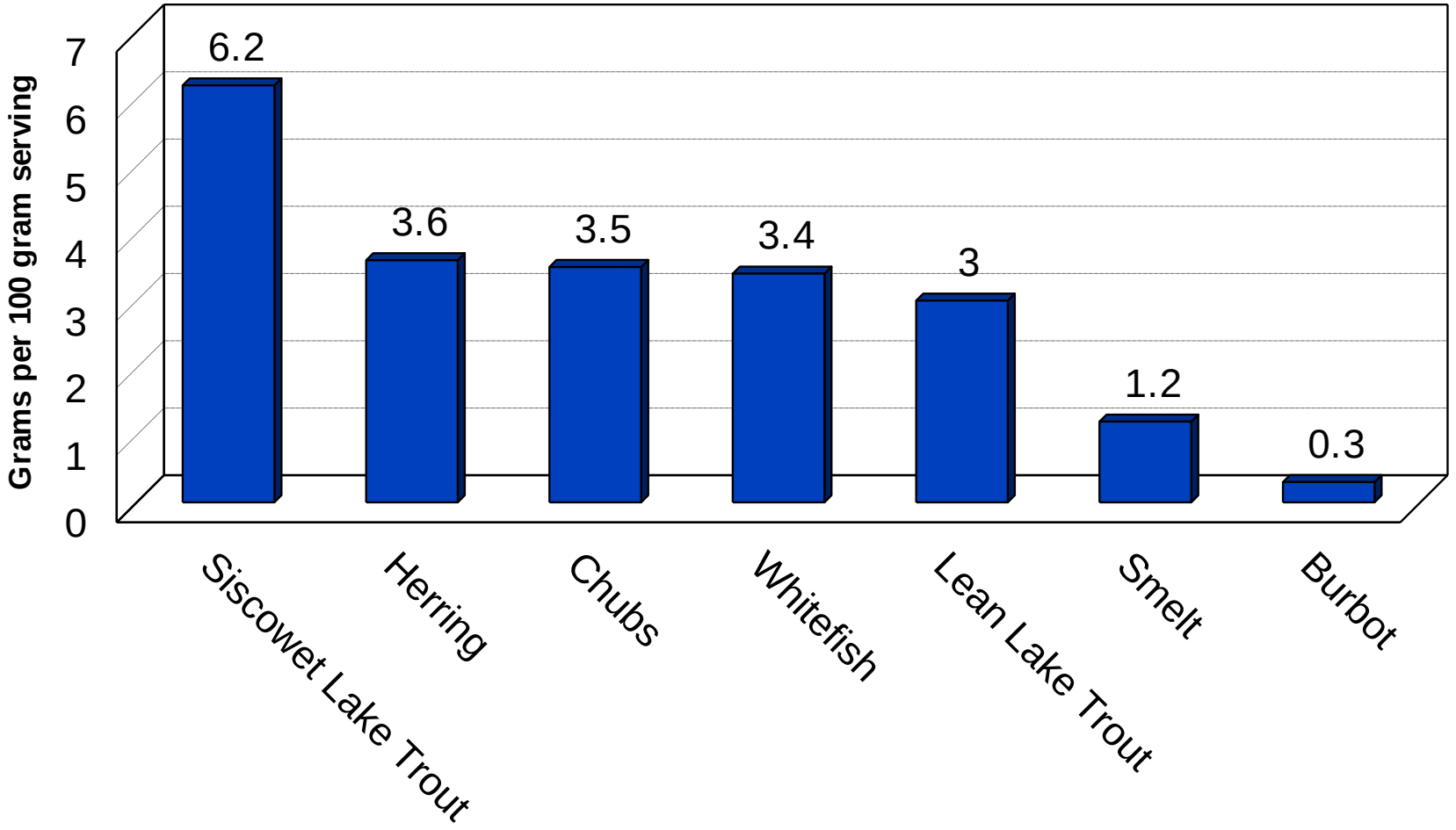
Great Lakes Fish With Lower Contaminant Levels Could Benefit Health Of U.P. Residents

- Omega-3 Fatty Acids strongly linked to reduced incidences of heart disease, stroke and arrythmias (American Heart Association)

- Omega-3 Fatty Acids for pregnant women "essential for development of an infant's brain and eyes " (Holman et. al. 1991)

- Low contaminant fish are a healthy protein alternative

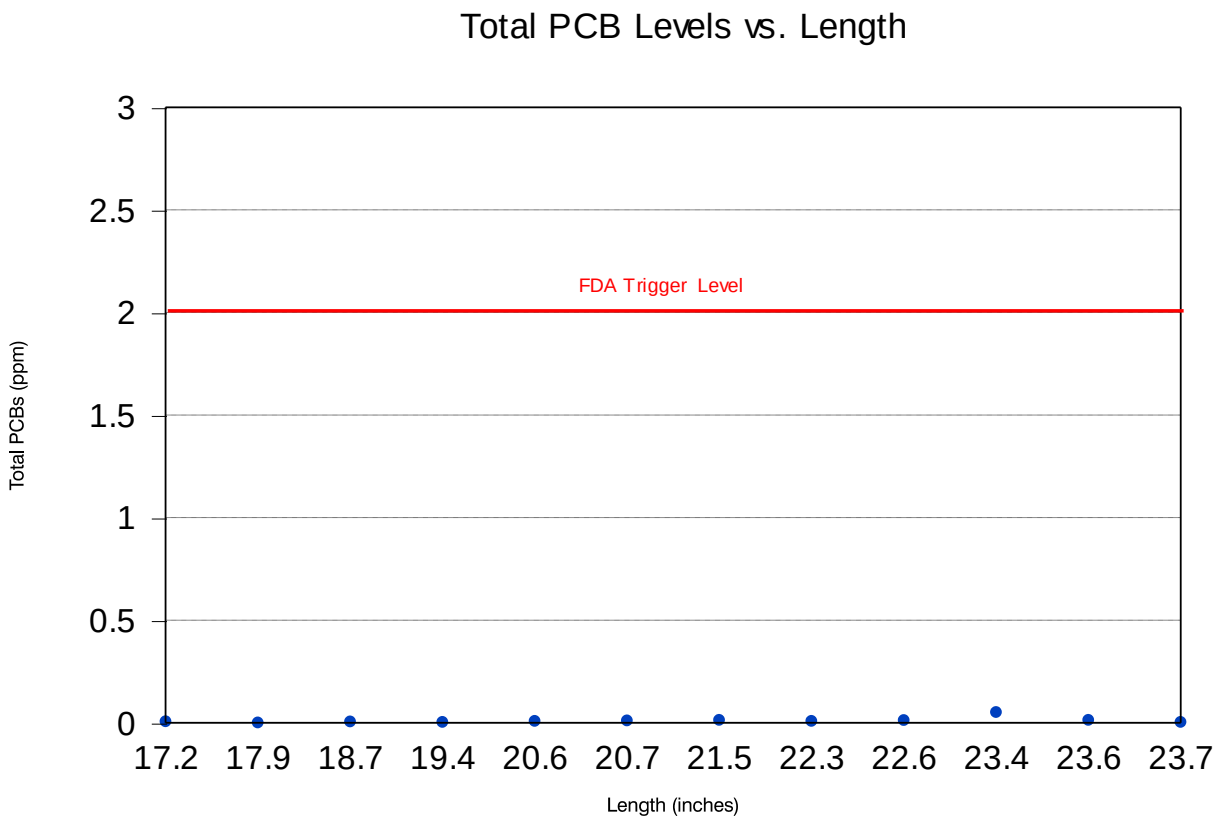
Omega-3 Fatty Acid Content in Lake Superior Fish



Tribal Commerical and Subsistence Fish Were Analyzed Over Three Years

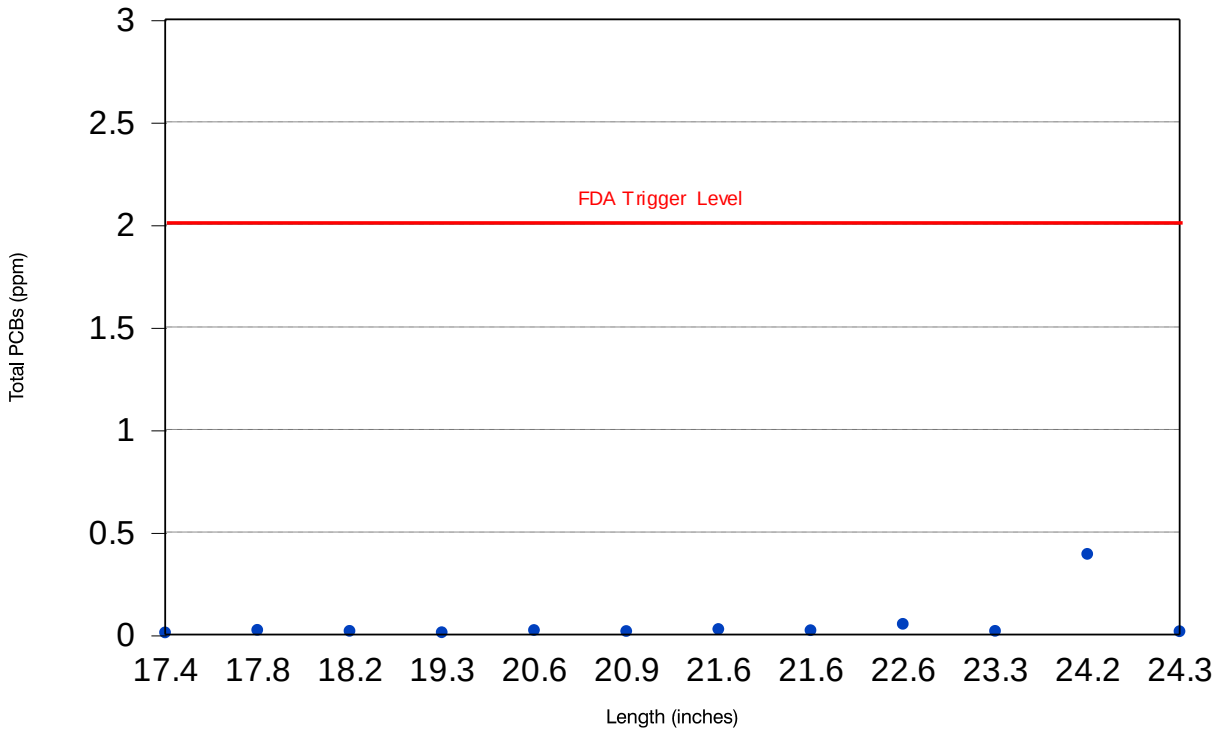
Sites where fish were tested for contaminant levels.

Lake Superior Whitefish 2004

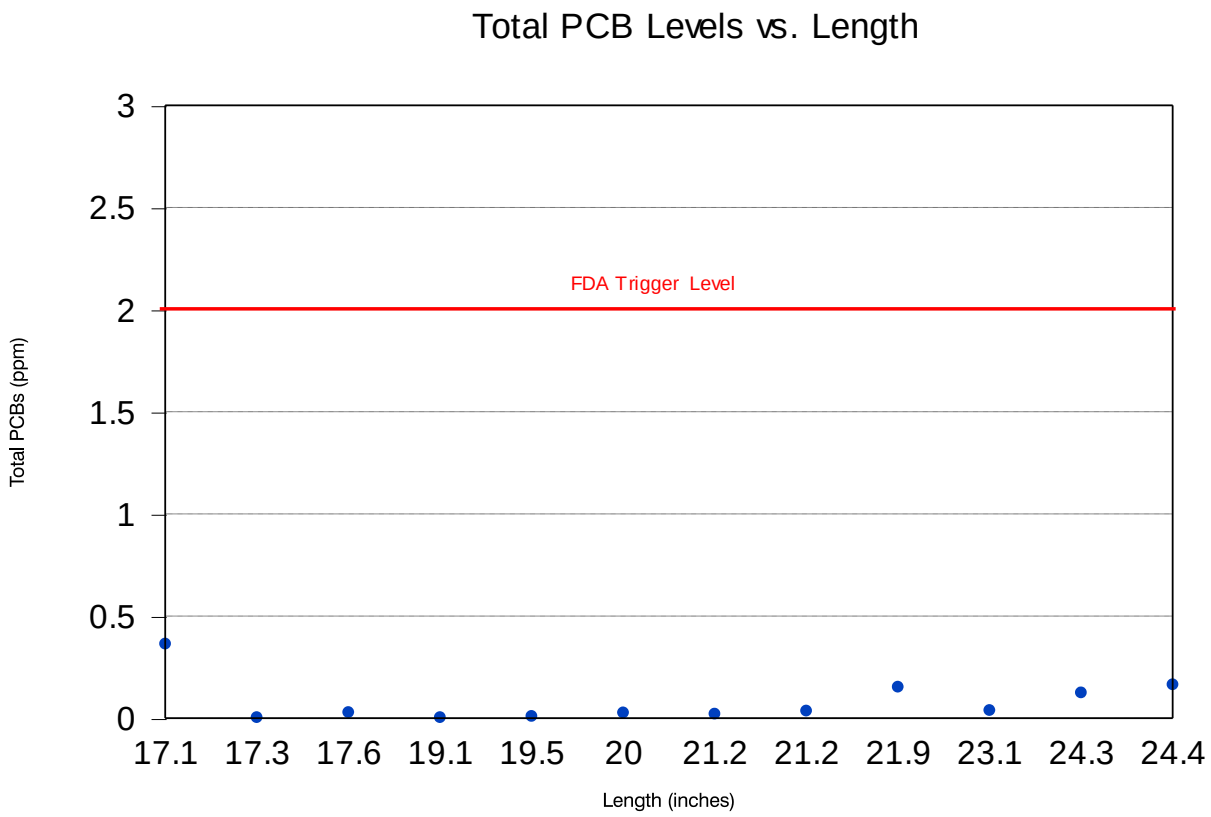


Lake Huron Whitefish 2005

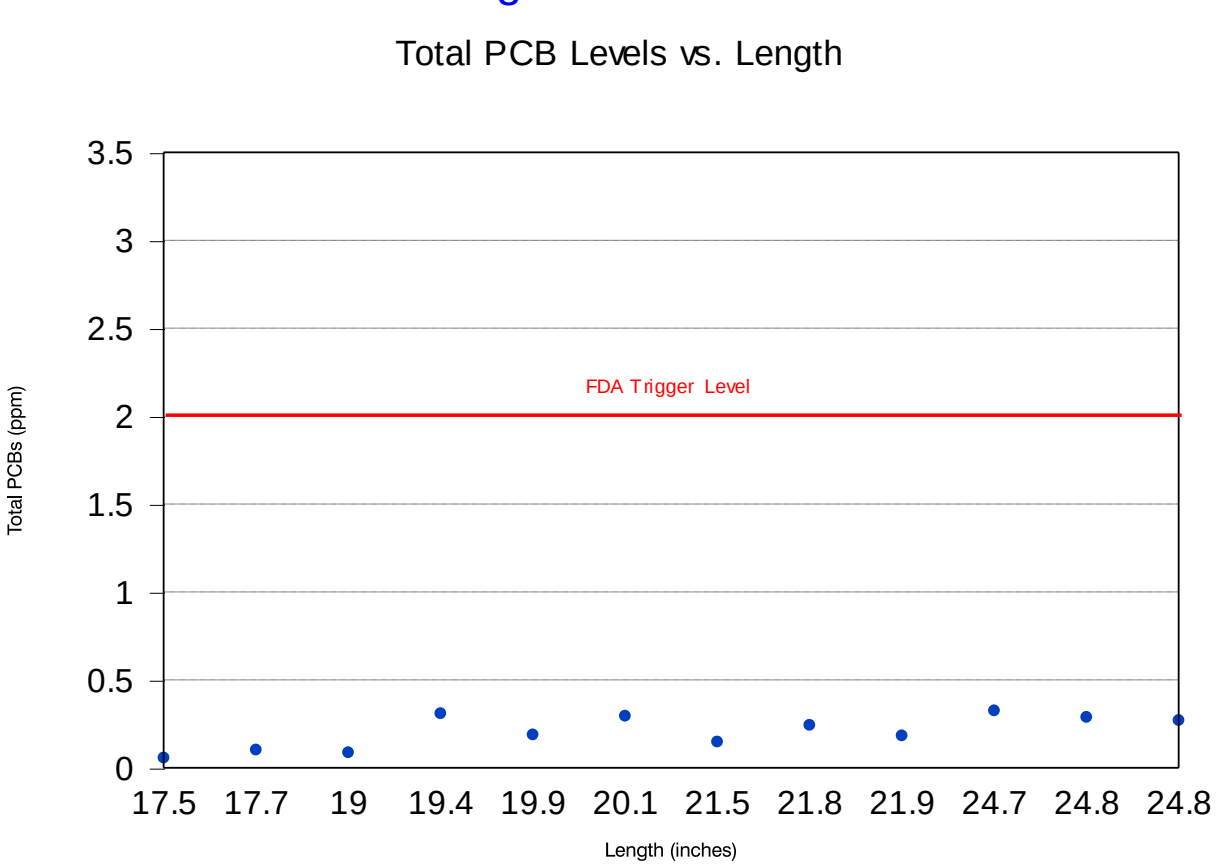
Total PCB Levels vs. Length



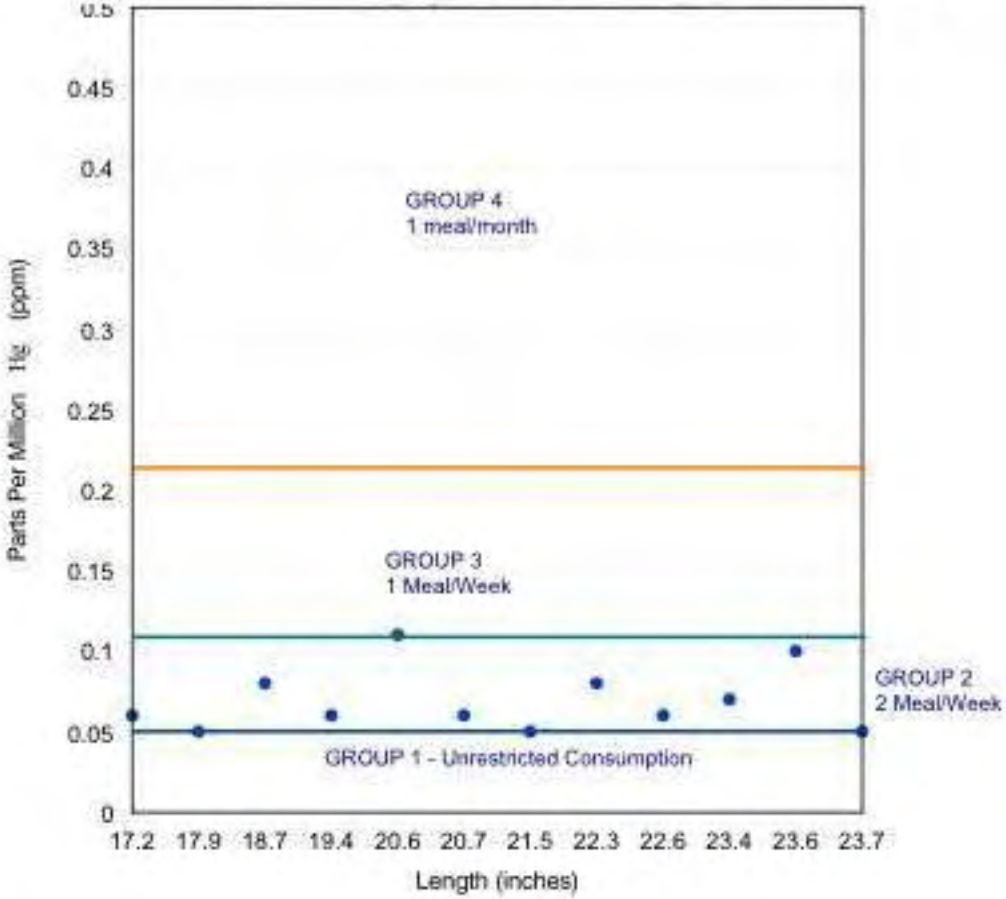
Lake Michigan Whitefish 2003



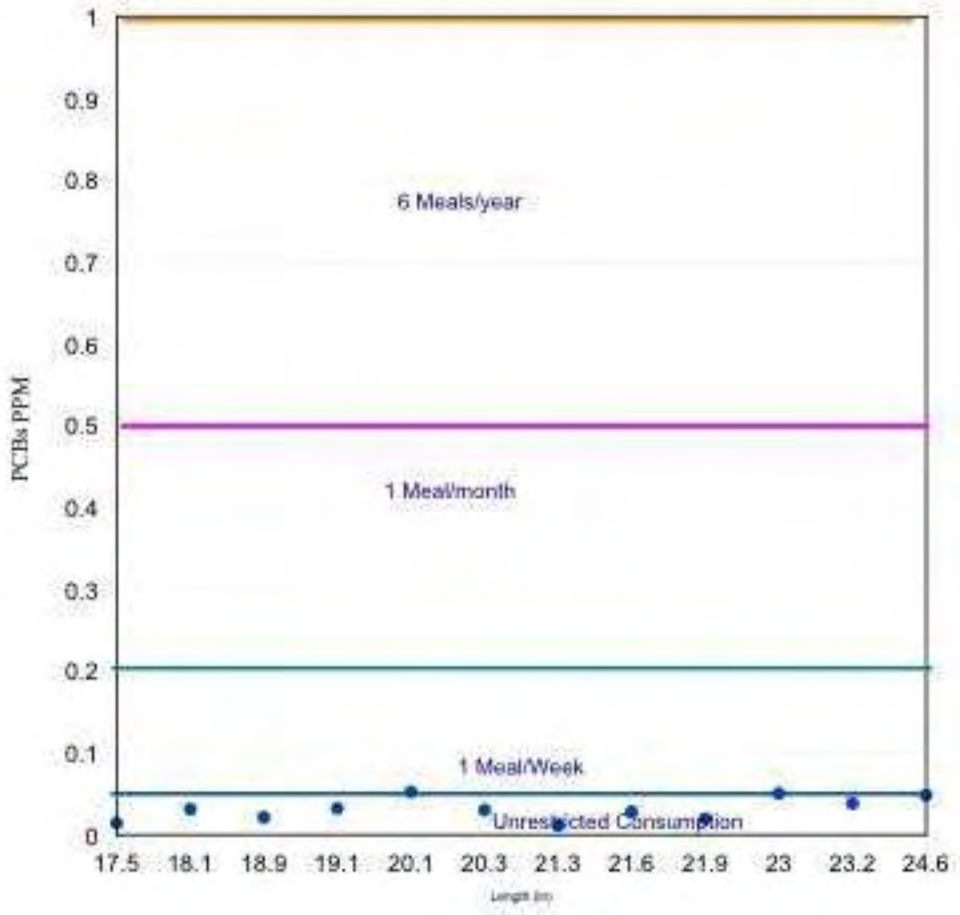
Lake Michigan Lake Trout 2003



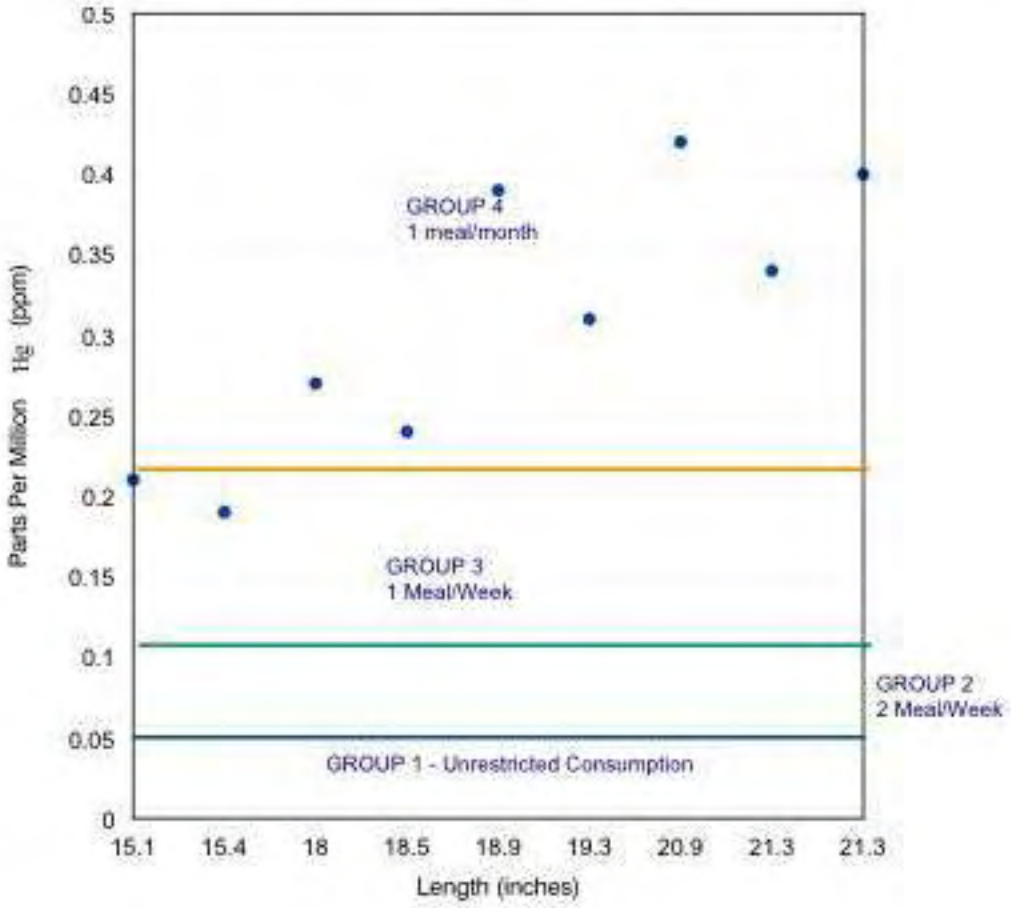
Lake Superior Whitefish 2004 Compared to UGLSFCA for Mercury



Lake Superior Lake Trout 2004 Compared to UGLSFCA for PCBs

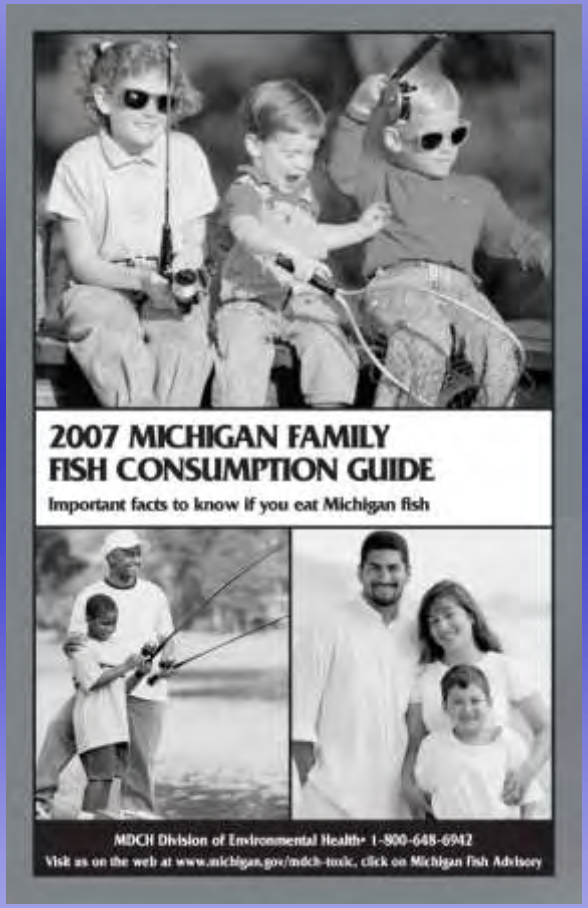


Bay de Noc Walleye 2004
Compared to UGLSFCA for Mercury



Department of Community Health

Fish Contaminant Data from MDEQ's Fish Contaminant Database Were Also Used to Determine Mercury Levels in Other Great Lakes Fish



A Family Guide to Eating Fish

Eat Fish ... But
Choose Wisely

Mercury Levels In Upper Great Lakes Fish

Lower

Rainbow Smelt
Introduced Species

Lake Whitefish
Atikamig

Lake Herring
Okewis

Perch
Azaawe

Lake Trout
Namegos

Salmon
Introduced Species

Northern Pike
Gnoozhe

Walleye
Ogaa

Loche (Burbot)
Mize

Higher

Guide to Preparation on Back of Brochure

Reducing Contaminants

Except for mercury, contaminants that may be in your fish can be greatly reduced by trimming off fat and skin. Choose low mercury fish, then trim, skin and grill.

The Easiest Way to Fillet

Use a sharp knife to cut down the back of the fish from the tail to the head. Slice down to the backbone.

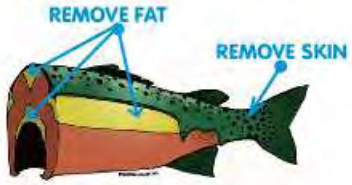
Angle the knife to cut away the flesh from the backbone, allowing the knife to run over the rib bones. Cut around the tail.

Now your fillet is free and just needs skinning. With the flesh facing upward, start from the tail, holding the skin firmly between your fingers. Place the knife with the edge facing away from you. Slice between the skin and the flesh. *(See photo above.)*

The "Eat More Fish But Choose Wisely" Project is a collaboration between Inter Tribal Council of Michigan Inc. (ITC), Inter Tribal Fisheries and Assessment Program (ITFAP) and Chippewa Ottawa Resource Authority (CORA). Project educational materials and the scientific research upon which they are based were made possible by a U.S. Department of Health and Human Services Agency for Toxic Substances and Disease Registry (ATSDR) grant. For more information about fish consumption, see <www.[Project website name].net>

Trimming and Skinning

If there are contaminants such as PCBs in your fish, removing the fat and skin before cooking will remove a significant portion of these contaminants. The fat is located at the top and the sides of the fish. Mercury is an exception. Instead of storing up in the fat, it stores up in the fillet — exactly the part you want to eat. To avoid mercury, choose fish with low mercury levels. Use Source, Species and Size (*see other side*) to guide you.



Grilling or Baking Fillets

Baking or grilling is the best way to reduce contaminants that may be in your fish. Frying only adds unneeded fats and breading. Season your fillets with salt and pepper. Use olive or canola oil when needed.

To bake, place fillets in well-oiled baking pan in a 350°F oven until tender and flaky.

Or, wrap each fillet in foil and bake at 425°F, 8 minutes for a 1/2-inch thick fillet or 15 minutes for a 1-inch fillet.

TIP: Never overcook your fish.

To grill, place lightly oiled fillets on a pre-heated grill that is 2 to 4 inches from the heat. Grill 5 minutes for a 1/2-inch thick fillet or 9 minutes for a 1-inch fillet. Now you can experiment — try adding lemon or parsley, or use your favorite marinade in place of oil.

Sources: "Eat More Fish But Choose Wisely" Project data; MSU Sea Grant (contaminant reduction); Paul Addis PhD (Lake Superior fish omega-3 levels); USDA National Nutrient Database for Standard Reference R-17 (omega-3 values) The bone necklace on the cover was created by Native-owned RT Computers. Thanks to Anishinabekwe who volunteered as photo models.

EAT MORE FISH ...

... but Choose WISELY

A Woman's Guide to Eating Fish

Reducing Contaminants: filleting, trimming, skinning, grilling …

The Most Omega-3s

Eating fish is more than healthy — it's essential

Nutrients in fish are important for people of all ages. Fish is a source of lean protein, vitamins and minerals, and omega-3 fatty acids. Babies need omega-3 fatty acids for brain development. Omega-3s help cut the risk of diabetes, heart disease, Alzheimer's, arthritis and stroke.

Americans eat too few omega-3 fatty acids and too many saturated fats in red meat and fast foods. This contributes to obesity, heart disease and diabetes.

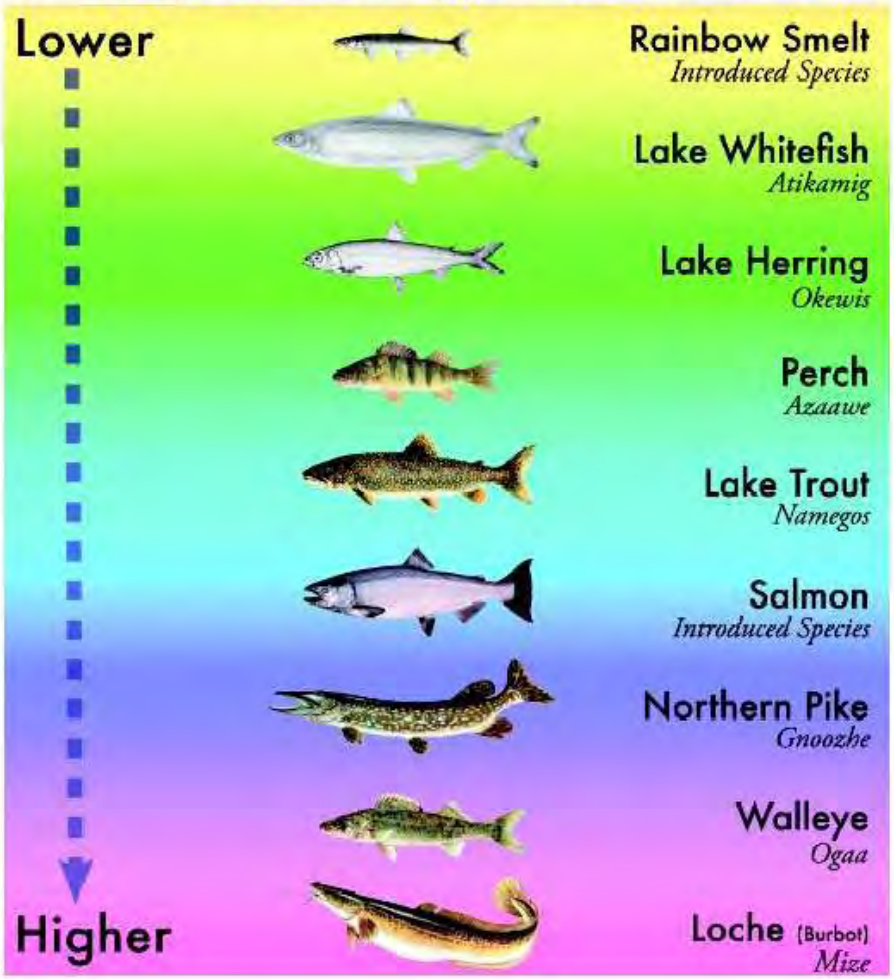
Our bodies can't make omega-3 fatty acids, so we have to include it in our diet. Pregnant moms must eat foods with omega-3s in order to pass them on to their babies, and later by breastfeeding.

Women and children are advised to eat two meals a week of fish that is lower in mercury. Many Great Lakes fish are a good source of omega-3s. Several of these species have more omega-3s than canned tuna, which has 1.5 grams per 3 oz. serving *(see below)*.

Favorite Great Lakes Fish Species	Omega-3 Fatty Acid Grams / 3 oz serving
Lake Herring	3.6
Chubs	3.5
Lake Whitefish	3.4
Lean Lake Trout	3.0
Coho Salmon	1.5
Chinook Salmon	1.3
Rainbow Smelt	1.3
Walleye	0.4
Yellow Perch and Loche	0.3

The Least Mercury

Mercury Levels In Upper Great Lakes Fish



3 Guidelines to Choose Fish

Choosing your fish is easy if you remember —

SOURCE SPECIES SIZE

Some contaminants can build up in the fatty parts of the fish. Other contaminants build up in the fillet. As the fish grows it can accumulate more contaminants. So, choose your fish using the three guidelines below:

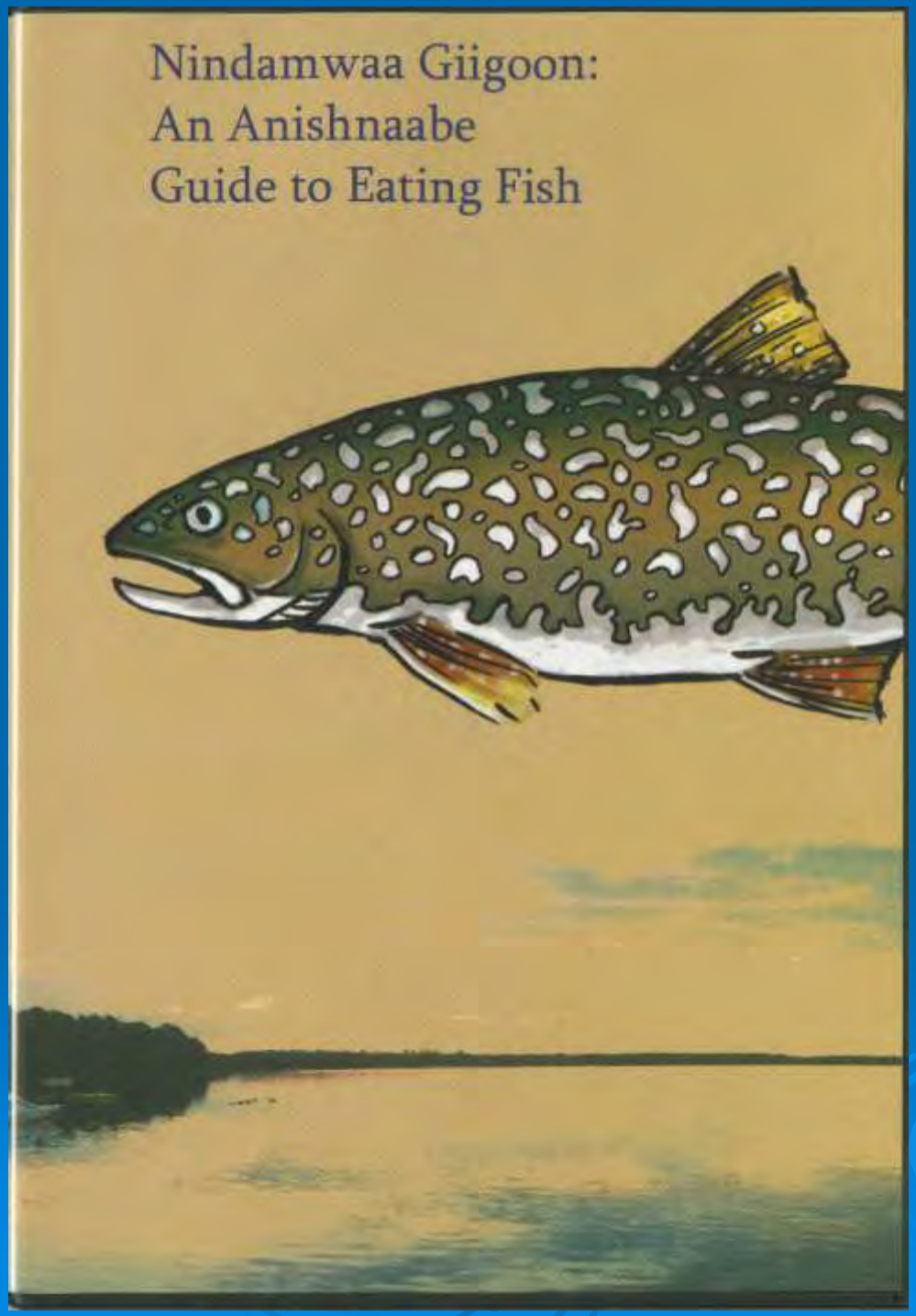
SOURCE — Find out where your fish is from. Some lakes and rivers have less contaminants than others. Lakes Superior, Michigan and Huron have lower levels of mercury than inland lakes and reservoirs. If there's no label, ask.

SPECIES — Fish that eat other fish tend to build up more contaminants in their flesh. Some species grow more slowly, allowing more time for contaminants to build up.

SIZE — Choose smaller fish. Larger fish eat other large fish, building up even more contaminants.

University of Wisconsin Milwaukee, Inter-Tribal Council of Michigan and CORA Worked Together to Produce a Great Lakes Anishinaabe Oriented Video to Accompany the Brochure

Nindamwaa Giigoon: An Anishnaabe Guide to Eating Fish



Next Steps

- Initial Assessment of Brochure Has Been Completed More Could Be Done to Assess Brochure in the Wider Community

- Video Needs Wider Distribution and Assessment

- Suggestions?

Contacts

University of Wisconsin: www4.uwm.edu/chs/

Inter-Tribal Council of Michigan: www.itcmi.org

Chippewa Ottawa Resource Authority: www.1836cora.org