



# PA Fish Consumption Advisory Program

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PA DEP

Bureau of Water Standards and  
Facility Regulation

# Benefits of Fish Consumption

- Good source of protein
- Low in fat
- Main source of long-chain omega-3 fatty acids
- Good source of many vitamins and minerals

# Benefits of Fish Consumption

- May to help prevent cardiovascular disease
- Nutrients are important for healthy fetuses
- American Heart Association recommends at least two fish meals per week

An advisory is a set of guidelines.  
In Pennsylvania, these guidelines, or  
recommendations, pertain to both the  
amount of fish a person should eat  
and the cooking and cleaning  
process.

# Program Description

- Interagency technical workgroup
  - Department of Environmental Protection
  - Department of Health
  - Department of Agriculture
  - PA Fish and Boat Commission

# Program Description

- Interagency policy workgroup
  - Deputy Secretaries
    - Department of Environmental Protection
    - Department Of Health
  - Executive Director
    - PA Fish and Boat Commission
  - Representative
    - Governor's Policy Office
    - Department of Agriculture

# History

- Fish tissue sampling began in 1976 to study levels of polychlorinated biphenyls (PCBs) and organochlorine pesticides
- November 1976 advised anglers to eat eel, carp and channel catfish caught in the lower Schuylkill River “only occasionally”



# History

- 1988: began collecting fillet samples
- Sampling rotating through the WQN stations
- The EPA outlined a list of parameters: PCB, pesticides, and selected heavy metals

# History

- EPA and the U.S. Food and Drug Administration (FDA) issued nationwide advice in January 2001 due to the presence of mercury in fish tissue
- Advised pregnant and nursing mothers, women who may become pregnant, and young children to limit consumption of sport-caught fish to one meal per week

# History

- April 11, 2001- Statewide 1 meal/week advisory for sport caught fish
  - provides public health protection for all contaminants, even those whose presence or effects are currently unknown
  - concerns about waters that have not been tested and untested fish in waters with a species specific advisory

# Timeline

- April/May
  - review of previous years' data
  - determine programmatic needs
  - follow-up on existing advisories
  - verification (second) samples for possible new advisories or de-listing
  - Water Quality Network (WQN) rotation

# Timeline

- May/June
  - request for suggested sampling station locations and target species
    - DEP Regional Biologists
    - PA Fish and Boat Commission Area Fisheries Managers (AFMs)
    - Erie County Department of Health (ECDH)

# Timeline

- June/July
  - prioritize suggested sampling locations/species versus statewide needs and laboratory capability
  - issues a preliminary list of samples to be collected to DEP Regions, AFMs and ECDH, with a copy to the Bureau of Laboratories

# Timeline

- August/October
  - collection of fish tissue samples
    - target species is a representative, recreationally important species for the waterbody
    - commonly taken by anglers for consumption and be of legal size
    - trout streams, fish should be wild or holdovers of seven inches or more

# Timeline

- August/October
  - collection of fish tissue samples
    - bass, crappie, rock bass, redbreast sunfish, bluegill or pumpkinseed
    - channel catfish can be collected if recreationally important



# Sample Collection

- Approximately 65 samples/year
- Collected by
  - PA DEP
  - PA Fish and Boat Commission
  - Erie County Department of Health
  - ORSANCO
- Analysis of PCBs, pesticides and metals
- Analyzed by DEP Bureau of Laboratories

# Sample Preparation

- 10 scaled, skin-on fillets from a composite of five fish
- Channel catfish or bullhead samples consist of 10 skinless fillets
- American eel - five 1-inch sections from each skinned and gutted eel

# Sample Preparation

- Same species and size
  - (smallest at least 75% of the length of the largest)
- Fish are measured and weighed
- Notes on general condition, tumors, lesions, collection problems, weather conditions, etc.

# Sample Preparation

- Instruments are cleaned with purified hexane
- Wrapped in clean, aluminum foil with the dull side in contact with the fish
- Placed in a plastic bag and frozen

# Timeline

- October/January
  - sample preparation and analysis conducted

# Fish Advisory Meal-Specific Advice

- 1 meal/week
- 2 meals/month
- 1 meal/month
- 6 meals/year
- Do not eat

**\*\*Note: One meal is considered to be one-half pound of fish for a 150-pound person**

# PCB Advisory Groups

## Great Lakes Protocol

ADVICE	PCB (ppm)
Unrestricted	0 – 0.05
1 meal/week	0.06 – 0.2
1 meal/month	0.21 – 1.0
6 meals/year	1.1 – 1.9
Do Not Eat	>1.9

# Chlordane Advisory Groups

**Great Lakes Task Force (Tom Hornshaw)**

ADVICE	Chlordane (ppm)
Unrestricted	0 – 0.15
1 meal/week	0.16 – 0.65
1 meal/month	0.66 – 2.82
6 meals/year	2.83 – 5.62
Do Not Eat	>5.62



# Mercury Advisory Groups

## EPA 9/99 Fact Sheet

ADVICE	Mercury (ppm)
Unrestricted	0 – 0.12
1 meal/week	0.13 – 0.25
2 meals/month	0.26 – 0.50
1 meal/month	0.51 – 1.0
6 meals/year	1.1 – 1.9
Do Not Eat	>1.9

# Mercury Advisory Groups

**EPA 9/99 Fact Sheet**

**Great Lakes Protocol  
Addendum**

ADVICE	Mercury (ppm)	Mercury (ppm)
Unrestricted	0 – 0.12	$0 \leq 0.05$
2 meals/week	-	$>0.05 \leq 0.11$
1 meal/week	0.13 – 0.25	$>0.11 \leq 0.22$
2 meals/month	0.26 – 0.50	-
1 meal/month	0.51 – 1.0	$>0.22 \leq 0.95$
6 meals/year	1.1 – 1.9	-
Do Not Eat	$>1.9$	$>0.95$

# FDA Action Levels

Contaminant	FDA Action Level
Aldrin and Dieldren (sum)	0.3 ppm
Chlordecone (Kepone)	0.3 ppm
DDT, DDE, and TDE (sum)	5.0 ppm
Heptachlor and heptachlor epoxide (sum)	0.3 ppm
Mirex	0.1 ppm

# PA Fish Advisories

- Listing Criteria
  - Minimum of 2 samples
  - Do Not Eat – 1 sample

# PA Fish Advisories

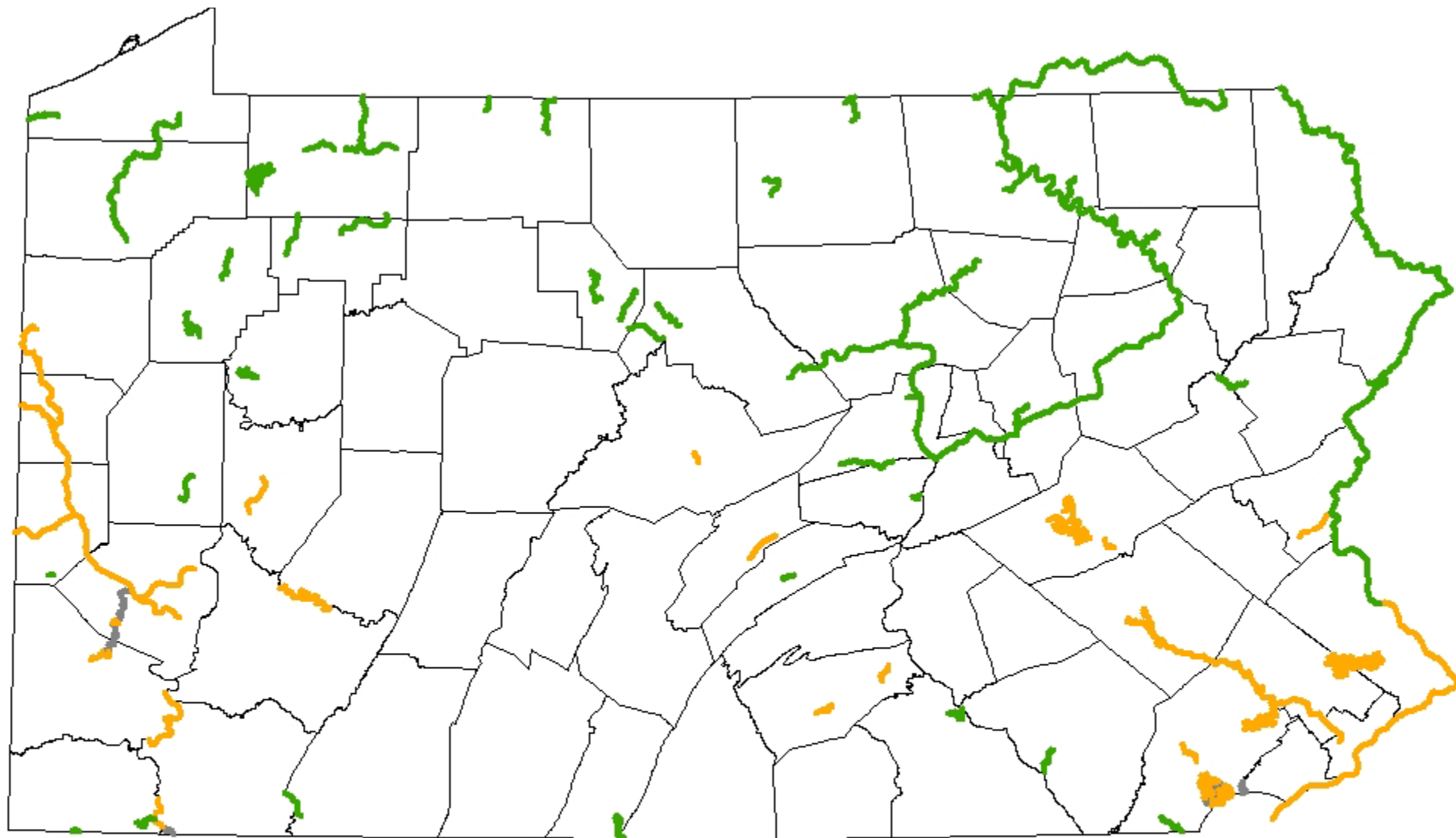
- Currently
  - 197 specific advisories
  - 114 waterbodies
    - 30 Lakes

# PA Fish Advisories

- Mercury
  - 877 miles of stream
  - 28 Lakes – 28,500 acres
- PCB
  - 1,036 miles of streams
  - 2 Lakes – 3,344 acres

# PA Fish Advisories

- Chlordane
  - 316 miles of streams
- Doixin
  - 36 miles of streams



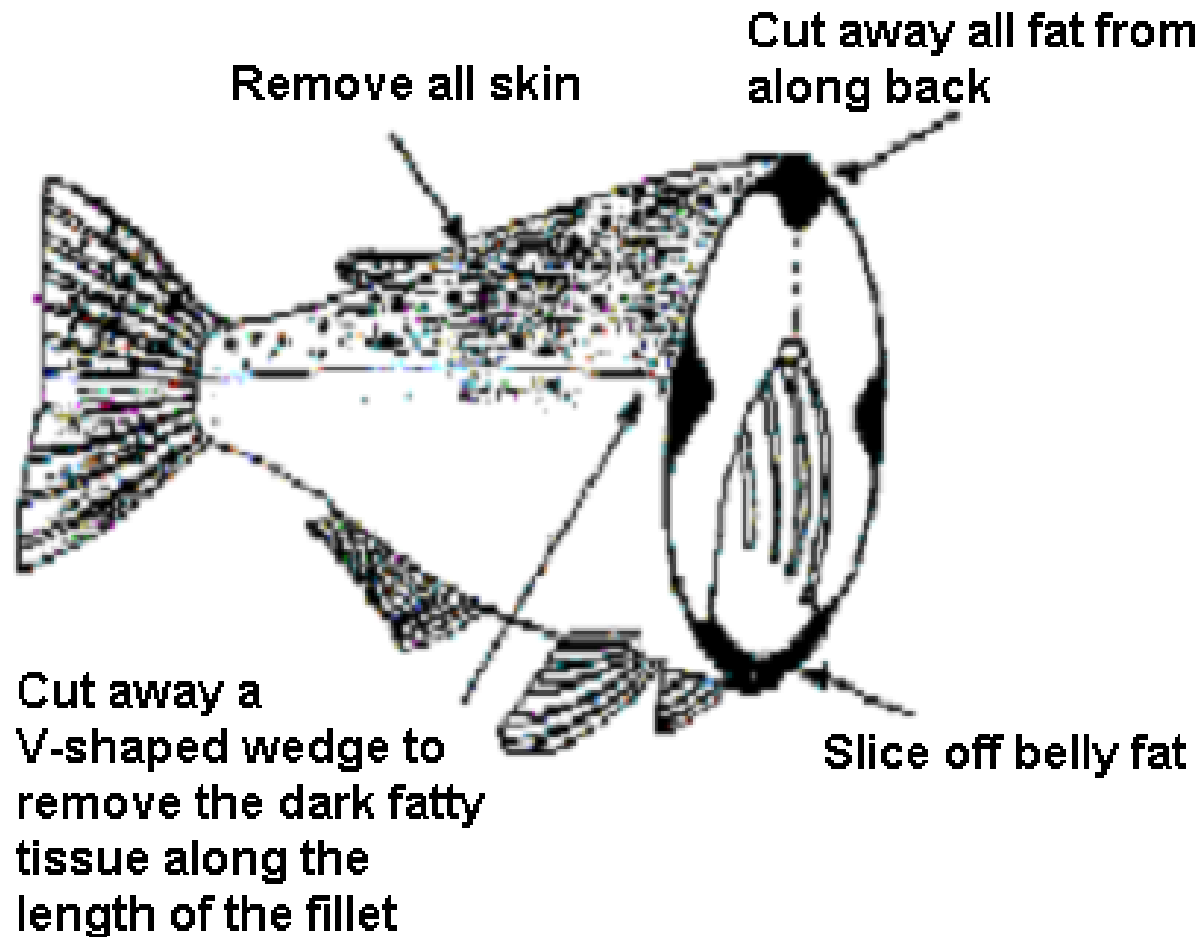
- Mercury
- PCBs
- Chlordane



# Cleaning and Cooking Fish

- Consumption advice applies to eating skinned and trimmed fish only
- Limit exposure to contaminants like PCBs, you must follow the advisory's cleaning and cooking directions
- Mercury in fish tissue cannot be reduced by cleaning and cooking methods

# Fish Preparation



# Fish Preparation

- Bake or broil trimmed fish on a rack or grill so that some of the remaining fat drips away
- Discard any drippings
  - Do not use them for cooking other foods

# Outreach

- Press Release issued in November
- Published in PFBC Regulation booklet
- Advisory list posted on DEP and PFBC web pages
  - Includes contact information for questions
  - DEP included video of cleaning and cooking
- DEP Fact Sheet

