



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION



Bureau of Point and
Non Point Source Management

Atlantic Watersheds Warm Water Wadeable Fish Index of Biotic Integrity

Water Resource Advisory Committee
Meeting
February 18, 2015

Three Major Atlantic Slope Watersheds

1. Delaware River Watershed
2. Susquehanna River Watershed
3. Potomac River Watershed

Delaware River Watershed

- The Delaware watershed was removed from the Atlantic warm water wadeable fish IBI.
 - The Delaware watershed has a significantly different distribution of sensitive species.
 - Sensitive species were collected at a much lower frequency at reference quality sites.
- Moving Forward: Susquehanna-Potomac River Watersheds Warm Water Wadeable Fish IBI

Example: Wyalusing Creek

Family	Genus Species	Common Name	# Collected
Catostomidae	Catostomus commersoni	White sucker	24
Catostomidae	Hypentelium nigricans	Northern hogsucker	17
Centrarchidae	Ambloplites rupestris	Rock bass	24
Centrarchidae	Micropterus dolomieu	Smallmouth bass	277
Cottidae	Cottus bairdi	Mottled sculpin	3
Cyprinidae	Campostoma anomalum	Central stoneroller	211
Cyprinidae	Cyprinella spiloptera	Spotfin shiner	2
Cyprinidae	Exoglossum maxillingua	Cutlips minnow	19
Cyprinidae	Luxilus cornutus	Common shiner	1
Cyprinidae	Nocomis micropogon	River chub	56
Cyprinidae	Notropis rubellus	Rosyface shiner	327
Cyprinidae	Notropis volucellus	Mimic shiner	4
Cyprinidae	Pimephales notatus	Bluntnose minnow	2
Cyprinidae	Rhinichthys cataractae	Longnose dace	36
Cyprinidae	Semotilus corporalis	Fallfish	60
Ictaluridae	Noturus insignis	Margined madtom	40
Percidae	Etheostoma blennioides	Greenside darter	163
Percidae	Etheostoma olmstedi	Tesselated darter	19
Percidae	Etheostoma zonale	Banded darter	201
Percidae	Percina peltata	Shield darter	15

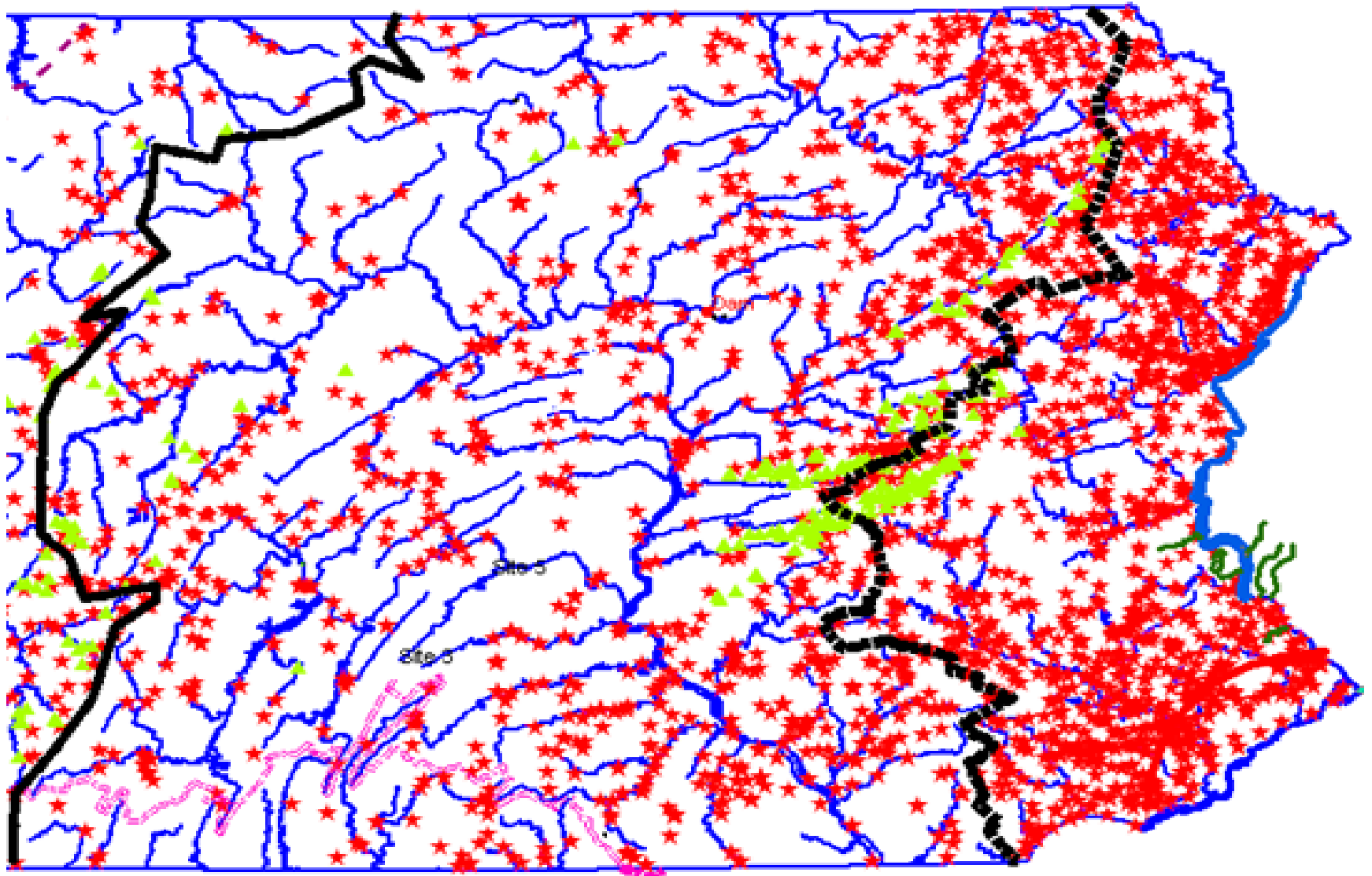
Example: Wyalusing Creek

Metrics	Raw Values	Standard Score
# Intolerant Species	6	100
Becks-Fish 2	23	88.5
# Darters-Madtoms-Sculpins Sp.	3	75.0
# Clean Gravel Spawn	6	66.7
% Tolerant	2.5	98.1
# Intolerant Habitat Sp.	4	58.8
# Benthic Species	5	71.4
% Insectivores	88.1	100
IBI Score		82.3

Fish IBI Limited by Dams

- Dams are a major problem blocking the natural movement of sensitive fish species.
- Multiple anthropogenic and natural catastrophic events displace species from watersheds upstream of dams.
- Dams block smaller sensitive species from re-colonizing watersheds upstream of dams.

Fish IBI Limited by Dams





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Questions?

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