

# **SRBC Invasive Species Tracking**

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Water Quality Advisory Committee

May 22, 2013

Historical documentation of invasive in "comments" on Habitat Assessment Form

Riffle/ Run Habitat Assessment Sheet

Stream		Date		
Station ID		Time		
Sample #		Crew		
Location Description:				
Stream type: Limestone Sandstone Valley Headwater Large River Glacial Other				
Habitat Assessment		Weather Conditions		
Parameter	Score	Air Temperature @		
1. Epifaunal Substrate		Current Conditions: Sunny Cloudy Partly Cloudy		
		Present Precipitation: None Rain Snow Mixed Precip.		
		Heavy? (> 1 inch) Yes No		
2. Instream Cover		Precip. Within last 24 hours: None Rain Snow Mixed Precip.		
		Heavy? (> 1 inch) Yes No		
		Ice Present at Site? Yes No		
3. Embeddedness		Functionally Important Stream Characteristics		
4. Velocity/Depth Regimes				
5. Sediment Deposition				
6. Channel Flow Status				
7. Channel Alteration				
8. Frequency of Riffles		Predominant Substrate Material (circle one)		
		Bedrock (> 160 inches in diameter)		
		Boulder (10 - 160 inches in diameter)		
		Cobble (2.5 - 10 inches in diameter)		
		Gravel (0.1 - 2.5 inches in diameter)		
		Sand/Silt/Clay (< 0.1 inches in diameter)		
9. Condition of Banks (Score each bank)		Residential	Commercial	
		Industrial	Cropland	
		Nursery	Pasture	
Left Bank		Abd. Mining	Old Fields	
Right Bank		Forest	Other	
10. Vegetative Protective Cover (score each bank)		Comments:		
Left Bank				
Right Bank				
11. Riparian Vegetative Zone Width (score each bank)				
Left Bank		Temp.	Cond.	D.O.
Right Bank		pH	Acid.	Alk.

Spring 2012, SRBC added invasive species checklist to back of Habitat Assessment form.

### Invasive Species Checklist

Stream			Date		
Station ID			Time		
Sample #			Crew		
Location Description:					
<i>BENTHICS/PLANKTON</i>			<i>ANIMALS</i>		
Type	Presence	Comments	Type	Presence	Comments
Spiny water flea			Canada goose		
Fishhook water flea			Mute swan		
Asian clam			Nutria		
Quagga mussel			Red-eared slider		
Zebra mussel			Yellow-bellied slider		
Rusty crayfish			Feral swine		
Virile crayfish			Emerald ash borer		
New Zealand mudsnail			Gypsy moth		
Louisiana crayfish					
<i>AQUATIC VEGETATION</i>					
Brazilian elodea/waterweed			Didymo		
Water hyacinth			Golden alga		
Hydrilla			Wild taro		
Parrot feather			Alligator weed		
Eurasian water milfoil			Water spinach		
Curly-leaved pondweed			East Indian hygrophila		
Giant salvinia			Asian marshweed		
Water chestnut			Carolina fanwort		
<i>TERRESTRIAL VEGETATION</i>					
<i>Vine</i>			<i>Tree</i>		
Mile-a-minute			Tree of heaven		
Japanese honeysuckle			Norway maple		
Kudzu			Sycamore maple		
Oriental bittersweet			Princess tree		
Five-leaf akebia			Siberian elm		
Porcelain-berry					
Japanese hop					
<i>Herbaceous</i>			<i>Shrub</i>		
Giant hogweed			Guelder rose		
Purple loosestrife			Multiflora rose		
Asian stiltgrass			Russian & autumn olive		
Common reed			Japanese spiraea		
Reed canary grass			Wineberry		
Japanese knotweed			Burning-bush		
Giant knotweed			White mulberry		
Canada thistle			Common & glossy buckthorns		
Crown vetch			Bush honeysuckle		
Cheatgrass			Border privet		
Narrow-leaved cattail			Japanese & European barberry		
Goatsrue					
Johnsongrass					
Garlic mustard					

# SRBC Internal Water Quality Database- Invasive Species Tracking

## Invasives

### Benthics/Plankton

- Spiny Water Flea
- Fishhook Water Flea
- Asian Clam
- Quagga Mussel
- Zebra Mussel
- Rusty Crayfish
- Virile Crayfish
- New Zealand Mudsail
- Louisiana Crayfish

### Animals

- Canada Goose
- Mute Swan
- Nutria
- Red-Eared Slider
- Yellow-Eared Slider
- Feral Swine
- Emerald Ash Borer
- Gypsy Moth

### Aquatic Vegetation

- Brazilian Elodea/waterweed
- Water Hyacinth
- Hydrilla
- Parrot Feather
- Eurasian Water Milfoil
- Curly-Leaved Pondweed
- Giant Salvinia
- Water Chestnut

### Aquatic Vegetation

- Didymo
- Golden Alga
- Wild Taro
- Alligator Weed
- Water Spinach
- East Indian Hygrophila
- Asian Marshweed
- Carolina fanwort

## Terrestrial Vegetation

### Vine

- Mile-A-Minute
- Japanese Honeysuckle
- Kudza
- Oriental Bittersweet
- Five-Leaf Akebia
- Porcelain Berry
- Japanese Hop

### Tree

- Tree Of Heaven
- Norway Maple
- Sycamore Maple
- Princess Tree
- Siberian Elm

### Herbaceous

- Giant Hogweed
- Purple Loosestrife
- Asian Stiltgrass
- Common Reed
- Reed Canary Grass
- Japanese Knotweed
- Giant Knotweed
- Canada Thistle
- Crown Vetch
- Cheatgrass
- Narrow-Leaved Cattail
- Goatsrue
- Johnsongrass
- Garlic Mustard

### Shrub

- Guelder Rose
- Multiflora Rose
- Russian \_Autumn Olive
- Japanese Spiraea
- Wineberry
- Burning-Bush
- White Mulberry
- Commom \_Glossy Buckthorns
- Bush Honeysuckle
- Border Privet
- Japanese \_European Barberry

[Close](#)

[Next Habitat Record](#)

[Exit Database](#)

# Invasives Recorded 2012 Field Season

Rusty Crayfish  
Virile Crayfish  
Mile-A-Minute  
Japanese Honeysuckle  
Tree Of Heaven  
Asian Stiltgrass  
Reed Canary Grass  
Japanese Knotweed  
Canada Thistle  
Crown Vetch  
Johnson grass  
Garlic Mustard  
Multiflora Rose  
Russian Autumn Olive  
Wineberry  
Bush Honeysuckle  
Japanese European Barberry

# Biosecurity

- Protocol adopted 2009
- Highlights
  - Avoid felt soled waders/boots.
  - Beware of existing problems in watersheds, act with caution
  - Sample with flow (i.e. headwaters to mouth)
  - Drain all water from boats/barges to allow drying
  - Disinfect/decontaminate waders, nets, buckets, meters, trailers etc. with proper treatment (Salt, bleach, detergent, "Vikron Aquatic etc.) between watersheds or field days.

## 2013 ZEBRA & QUAGGA MUSSEL SURVEY FORM

Please complete this form in pencil or indelible pen using one form for each survey date and location.

Please take a new GPS reading even if you've sampled from this location before.

### SURVEYOR INFORMATION:

First name:		Last name:	
E-mail:		Affiliation:	
Area code and telephone:	(Work) _____	(Cell) _____	
Street address:	_____		
City:	State:	Zip:	- (extension) _____

### SURVEY DATA:

Date of survey:	Time:	Station Name:	
Name of waterbody:		County:	State:
If new location, nearest town and direction: _____			
If new location, road crossing, route or street name: _____			
Location: <b>Either</b> decimal degrees		Latitude	Longitude
<b>OR</b> degrees-minutes-seconds	Latitude	(degrees) _____ (minutes) _____ (seconds) N	
	Longitude	(degrees) _____ (minutes) _____ (seconds) W	
Method of survey: (check)	Scuba	Snorkel	Swim/wade
	Dock Search	Other: _____	
Approximate water visibility	(meters) _____	Approximate depth range surveyed	(meters) _____
How much time did you spend searching this location?	(minutes) _____		
Description of location and substrates examined			
Were any zebra or quagga mussels found? (Yes / No) _____			
If you find zebra or quagga mussels at a new location, please call Sarah Whitney immediately - 610-304-8753.			
Describe the extent of infestation, and/or other organisms present, comments, or observations:			

### Additional Physical and Chemical Data (Optional):

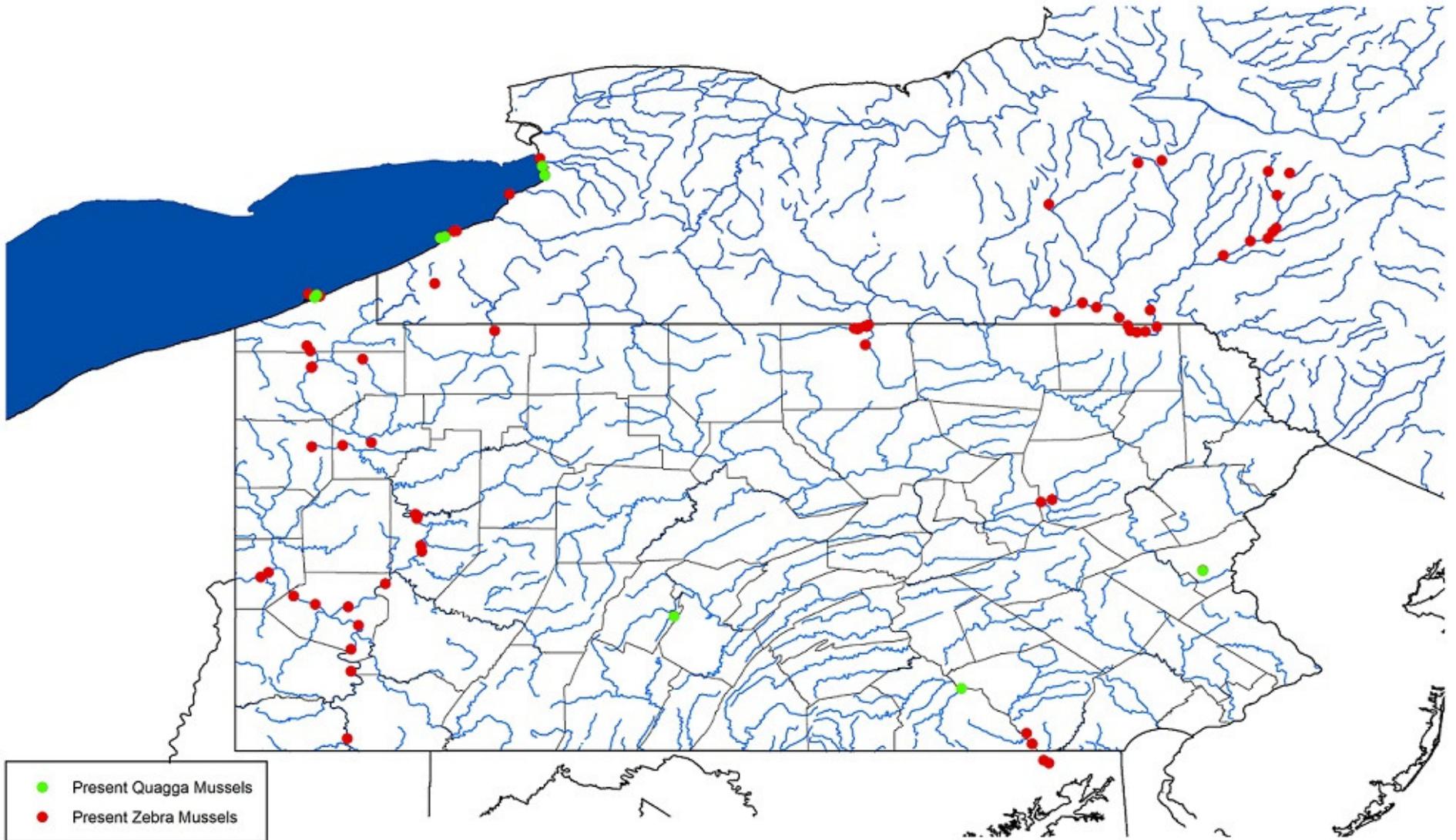
Temperature C	pH	Dissolved Oxygen (mg/l)	Conductivity (umhos/cm <sup>3</sup> )
Total Calcium (mg/l)	Secchi Depth (m)	Current Velocity (m/sec)	Water Depth (m)

<p><b>Quagga Mussel</b> <i>Dreissena rostriformis bugensis</i></p>  <ul style="list-style-type: none"> <li>Shell: D-shaped and triangular; thin, fragile; smooth or shallowly ridged; solid light to dark brown or dark concentric rings; paler near hinge</li> <li>Attaches to hard and soft surfaces</li> </ul>  <p style="font-size: small;">No ridge Byssal groove Asymmetrical; curved midventral line; shells do not join together tightly</p>	<p><b>Zebra Mussel</b> <i>Dreissena polymorpha</i></p>  <ul style="list-style-type: none"> <li>Shell: D-shaped and triangular; thin, fragile; smooth or shallowly ridged; solid light to dark brown or striped</li> <li>Attaches to hard surfaces</li> </ul>  <p style="font-size: small;">Ridge Byssal groove Bilaterally symmetrical; join together in a midventral line</p>	<p><b>Asian Clam</b> <i>Corbicula fluminea</i></p>  <ul style="list-style-type: none"> <li>Shell: fan-shaped and symmetrical; thick, hard; deep ridges; solid light to dark brown; may have a white patch near hinge</li> <li>Burrows into sand or mud; never attaches to structures</li> <li>Dead shells often found along shoreline</li> </ul>
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Illustration courtesy of California Department of Water Resources

Please e-mail this completed form to: Sarah Whitney, [swhitney@psu.edu](mailto:swhitney@psu.edu), 610-304-8753

You should receive an e-mail confirmation that we received your data. Thank you for your assistance!





## Welcome

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### What is iMapInvasives?

iMapInvasives provides an on-line, GIS-based data management system to assist citizen scientists and natural resource managers working to protect natural resources from the threat of invasive species. There are six types of data available in iMapInvasives:

iMapInvasives provides six types of data:

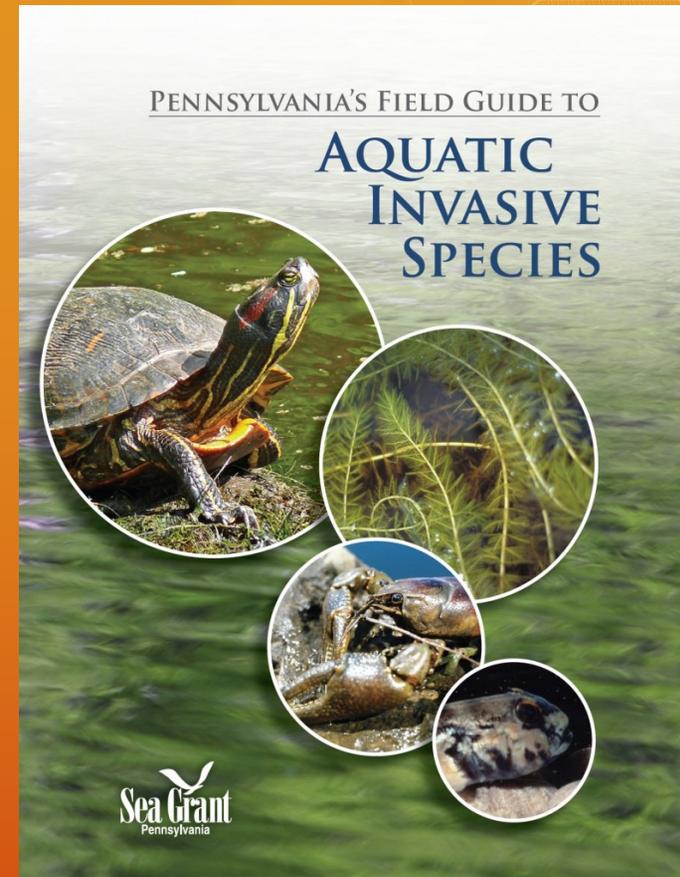
-  **1. Observation** – *who, what, when, where*
-  **2. Assessment** – *detailed information about an observation*
-  **3. Survey** – *planned search of an area to determine presence or absence of specific invasive species*
-  **4. Treatment** – *information about treatment*
-  **5. Infestation** – *information about a population*
-  **6. Project** – *a way to group data*



Read about the [iMapInvasives Features](#).

For information about how your state/province can participate with the iMapInvasives Project see [How The Partnership Works](#) section.

# Resources/Trainings-



## FLATHEAD CATFISH

*Pylodictis olivaris*



\*Note: The flathead catfish poses specific management and policy challenges. It is native to the western part of Pennsylvania in the Ohio, Allegheny, and Monongahela river watersheds; however, it is considered invasive in eastern Pennsylvania.

### SPECIES AT A GLANCE

The flathead catfish is one of the largest species in the catfish family. It voraciously feeds on other fish, making it an extreme threat to native ecosystems. It has many nicknames, including Pied Cat, Mud Cat, Mississippi Cat, Shovelhead Cat, Yellow Cat, and Opelousa Cat.

### IDENTIFICATION

Key characteristics of the flathead catfish are its flattened head, tiny eyes, squared tail, and protruding lower jaw. It can grow up to 152 cm (60 in) long and weigh on average 30 pounds, although some have been known to reach over 100 lbs. Coloration is usually brownish-yellow with mottled speckles on the back and a cream-colored white to yellow belly.

### SIMILAR SPECIES

Unlike other catfish, which prey on dead organisms, the flathead feeds on live fish, eating mostly sunfish, carp, and even other catfish. Flathead catfish are nearly double the weight of the channel catfish (*Ictalurus punctatus*). The lower jawbone of the flathead extends outward from the rest of the face, like an under-bite, whereas the channel catfish's upper jaw extends over the lower. The channel catfish also has a forked tail instead of a squared tail.

### HABITAT

Thriving in reservoirs, lakes, rivers, and large streams, flathead catfish prefer deep, still, muddy waters with logs and other debris to use as shelters.

### SPREAD

The most likely vector of spread is intentional stocking and release by anglers for game and food fishing.

### DISTRIBUTION

Native to North America, including areas of the Mississippi River Basin and the Ohio River drainage in western Pennsylvania, flathead catfish are invasive in eastern parts of Pennsylvania, including the Blue Marsh Reservoir, the Schuylkill River in Philadelphia, the Susquehanna River, and the Springton Reservoir in Media.

### Environmental Impacts

The flathead catfish poses an enormous threat to native fish populations because it feeds on other fish. Young flathead catfish also feed on crayfish, darters, shad, and possibly crabs and young American eel. Species such as sunfish and native catfishes have declined heavily in some areas where flathead catfish are present.



INVASIVE FISH

# Discussion