PENNSYLVANIA
WILDLIFE ACTION PLAN
2025–2035

Species of Greatest Conservation Need Species Accounts

Appendix 1.4 - Fishes

Ohio Lamprey
Northern Brook Lamprey
Checkered Sculpin
Shortnose Sturgeon
Lake Sturgeon
Atlantic Sturgeon
Spotted Gar
American Eel
Blueback Herring
Alewife
American Shad
Cisco
Lake Whitefish
Brook Trout
Redside Dace
Bigeye Chub
Hornyhead Chub
Popeye Shiner
Bridle Shiner
Ghost Shiner
Ironcolor Shiner
Bigmouth Shiner
Blackchin Shiner
Blacknose Shiner
Swallowtail Shiner
Northern Redbelly Dace
Southern Redbelly Dace
Redfin Shiner
Pugnose Minnow
Longnose Sucker
Bigmouth Buffalo
Spotted Sucker
Mountain Madtom
Tadpole Madtom
Brindled Madtom
Northern Madtom
White Catfish
Burbot - Lake Erie population
Burbot - Allegheny River pop.
Warmouth
Longear Sunfish
Eastern Sand Darter
Iowa Darter
Spotted Darter
Tippecanoe Darter
Longhead Darter
Chesapeake Logperch

Suggested Species Account Citation Format:

Account author last name, first initial, additional authors as applicable. Species common name (*Scientific name*) *In* Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission. 2026. Pennsylvania Wildlife Action Plan, 2025-2035. C. Haffner, D. Day, and N. Welte, editors. Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission, Harrisburg, Pennsylvania.

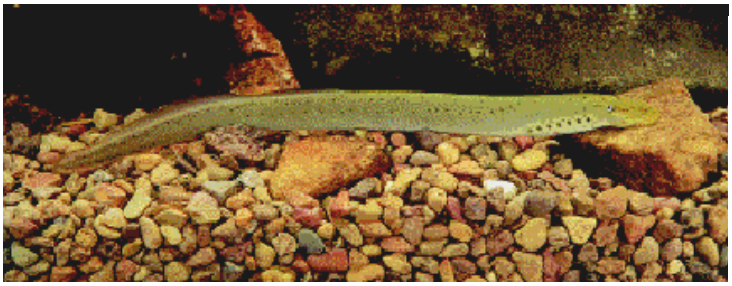
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Ohio Lamprey

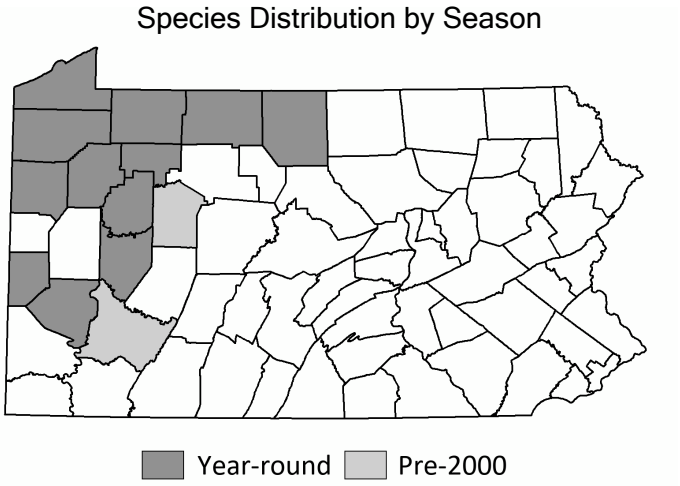
Ichthyomyzon bdellium

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G3G4

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S4

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year):

Cumulative Threat Impact: Low

Season: Year-round

Specific Habitat Requirements: Large streams to large rivers during parasitic phase, but smaller streams for spawning. Adults are generally taken in riffles and runs over gravel, cobble, and rubble. Ammocoetes prefer sluggish sections of small-to-medium sized streams with significant deposits of mud, muck, silt, sand, detritus and coarse woody debris.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Annual and Perennial Non-timber Crops **Threat Impact:** Low

Specific Threat: Impacts to stream habitats from sedimentation associated with land use practices.

Action Category: Complementary or alternative conservation measures

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 4-Low

Action Urgency: Initiate within 5-10 years

Measure: Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Agriculture, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	None	

Season: Year-round

Priority	Survey	Partners
1	Monitoring recommended, but no additional surveys needed at this time. Status sufficiently well-known.	

Name: No Current Monitoring Programs

Lead(s) :

Link:

Description:

Name: This species is common enough over most of its PA range that a specific monitoring program is not necessary. It can be monitored incidentally by PFBC Fisheries Managers' game fish surveys and Scientifc Collectors Program.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description:

Lorson, B. D. 2010. Distribution and the putative origin of fishes in the Allegheny River, Pennsylvania. Unpublished M.S. thesis. The Pennsylvania State University, State College, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

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Northern Brook Lamprey

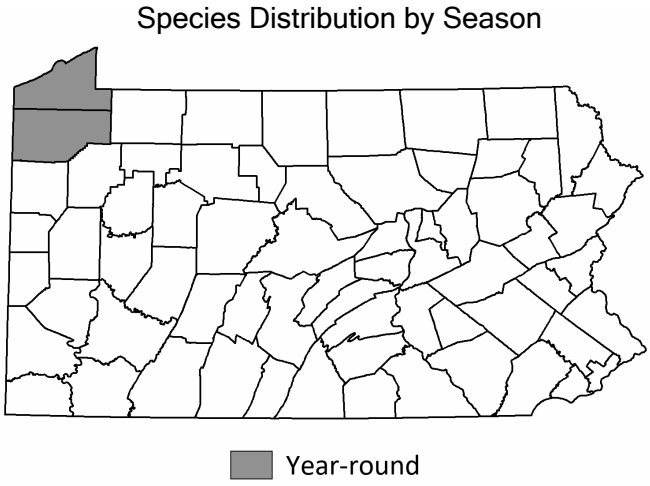
Ichthyomyzon fossor

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Increase poulation in Temple Creek; re-establish populations in Conneaut Creek and its East and West Branches.

NatureServe Global Rank: G4

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: High Concern

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: 50 - 250 individuals

PA Short-term Trend (10-year): Unknown

Cumulative Threat Impact: Very High

Season: Year-round

Specific Habitat Requirements: Small-to-medium sized streams, usually in moderately warm waters. Substrates include sand, gravel, mud, and silt.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Moderate Gradient, Warm, Headwaters and Creeks

Season: Year-round

Threat Category: Work and Other Activities **Threat Impact:** Very High

Specific Threat: Direct mortality due to piscicide application for Sea Lampreys.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with USFWS and developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 1-Highest **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Other federal agency, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, Universities & research institutions

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	Is the remaing Northern Brook Lamprey population viable over the long-term, given its reduction as a result of lampricide treatments?	
2	Can habitat (e.g., sand, muck, detritus) for larvae be enhanced and increased in Temple Creek to augment recruitment?	

Season: Year-round

Priority	Survey	Partners
1	Status of population recommended. Remnant population is very small and potentially impacted by only viable sampling gear (i.e., electrofishing).	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: Surveys to monitor lamprey ammocoete densities in Lake Erie drainage streams every two years or prior to lampricide treatments.

Lead(s) : U.S. Fish & Wildlife Service

Link:

Description: Surveys to monitor lamprey ammocoete densities in Lake Erie drainage streams every two years or prior to lampricide treatments.

Criswell, R. Unpublished fisheries data. Pennsylvania Fish and Boat Commission, Bellefonte, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

PSU (Pennsylvania State University). 2015. Unpublished fisheries data. Ecosystems Science and Management. Pennsylvania State University. University Park, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

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Checkered Sculpin

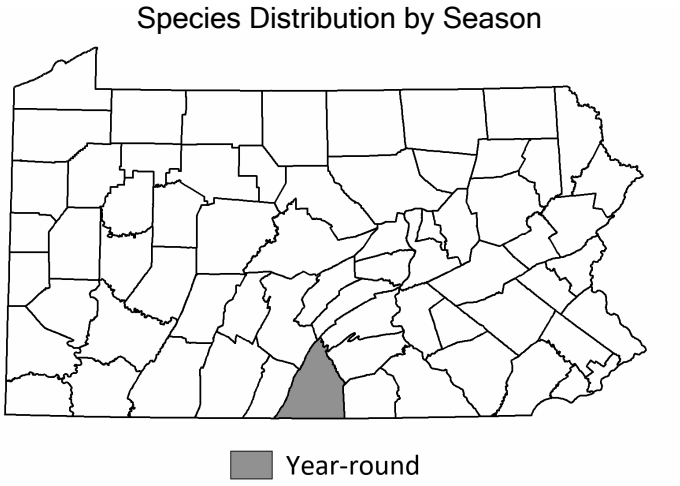
Cottus sp. 7

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels; maintain protection for ground water and springs within the extent of occupation.

NatureServe Global Rank: G4

IUCN Red List Designation:

IUCN Red List Trend:

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: Very High Concern

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S2

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Cold, spring-fed runs and streams over substrates of sand, gravel, cobble, rubble, silt, and organic debris in riffles, runs, and pools.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: High Gradient, Cold, Headwaters and Creeks

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium

Specific Threat: Sediment covers spawning habitat and smothers eggs, reducing their viability or contributing to mortality.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	Describe the specific status of the Checkered Sculpin.	

Season: Year-round

Priority	Survey	Partners
1	Monitoring recommended, but no additional surveys at this time. Status sufficiently well-known.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

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Shortnose Sturgeon

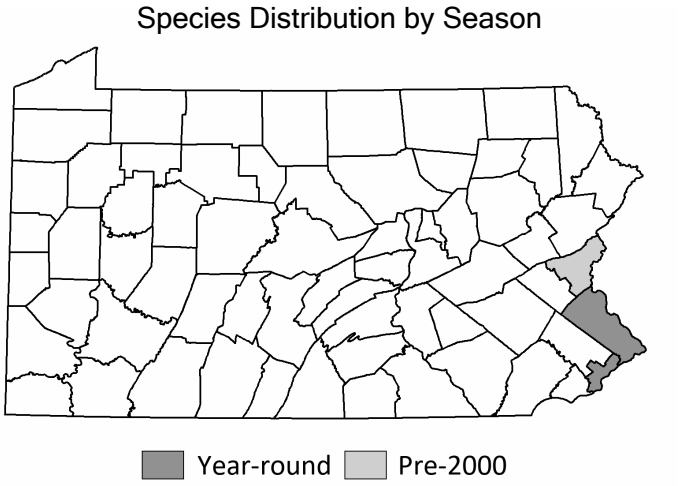
Acipenser brevirostrum

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: For each population segment, the minimum population size will be large enough to maintain genetic diversity and avoid extinction.

NatureServe Global Rank: G3

IUCN Red List Designation: Vulnerable

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: Very High Concern

Federal Listing Status: Endangered

Feasiblity of Recovering or Sustaining the PA Population: Medium

SGCN Season: Year-round

State Rank (Season): S2

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Large coastal rivers and estuaries.

Primary Habitat: Riverine

Primary Habitat Type: Big Rivers

Primary Specific Habitat: Warm, Large River

Season: Year-round

Threat Category: Commercial and Industrial Areas **Threat Impact:** Low

Specific Threat: Water quality degradation

Action Category: Conserve via zoning or informal designations

Specific Action: Continue consultations with developers to protect species habitats and incorporate habitat management into plans.

Objective: To prevent development-related impacts to populations

Action Priority: 3-Medium **Action Urgency:** Initiate immediately **Measure:** Number of consultations that protect habitat

Potential Collaborators:

Locations: HUC6 Watershed: Lower Delaware

Other species likely to benefit from this action: Aquatic species

Season: Year-round

Threat Category: Shipping Lanes **Threat Impact:** Medium

Specific Threat: Water quality degradation and ship strikes

Action Category: Basic research and status monitoring

Specific Action: monitor, research, fill data gaps

Objective: Improve knowledge of distribution and population parameters in order to establish conservation and management actions that will prevent further declines.

Action Priority: 3-Medium **Action Urgency:** Initiate immediately **Measure:** monitoring and surveys conducted

Potential Collaborators:

Locations: HUC6 Watershed: Lower Delaware

Other species likely to benefit from this action: Atlantic Sturgeon

Season: Year-round

Priority	Need	Partners
1	What is the status of the Delaware River population of the Shortnose Sturgeon? (Appears to be stable-to-improving.)	
2	What are the impacts to Shortnose Sturgeon resulting from dredging projects in the shipping channel of the Delaware River?	
3	What are the impacts to Shortnose Sturgeon resulting from impingement and entrainment?	

Season: Year-round

Priority	Survey	Partners
1	Periodic surveys are conducted by NJ, DE, and NMFS, in particular surveys that provide information addressing spawning and nursery habitat.	
2	Acoustic tagging surveys to track activity in response to vessels.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: Periodic status surveys by other states.

Lead(s) : Delaware, NMFS

Link:

Description: Population is surveyed by other states.

Dadswell, M. J., B. D. Taubert, T. S. Squiers, D. Marchette, and J. Buckley. 1984. Synopsis of biological data on Shortnose Sturgeon Acipenser brevirostrum (LeSeur 1818). NOAA Technichal Report NMFS 14.

Friedland, K. D., and B. Kynard. 2004. Acipenser brevirostrum in IUCN red list of threatened species. Available from www.iucnredlist.org (accessed July 2015).

NMFS (National Marine Fisheries Service). 1998. Recovery Plan for the Shortnose Sturgeon (Acipenser brevirostrum). Prepared by the Shortnose Sturgeon Recovery Team for the National Marine Fisheries Service, Silver Spring, Maryland.

Shortnose Sturgeon Status Review Team. 2010. A Biological Assessment of shortnose sturgeon (Acipenser brevirostrum). Report to National Marine Fisheries Service, Northeast Regional Office. November 1, 2010.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

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Lake Sturgeon

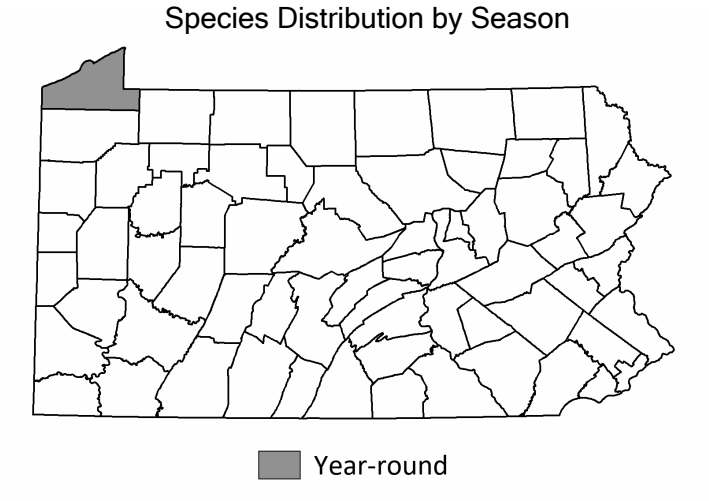
Acipenser fulvescens

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Not able to determine conservation target at this time, more information needed about species in Pennsylvania.

NatureServe Global Rank: G3G4

IUCN Red List Designation: Endangered

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: High Concern

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: 50 - 250 individuals

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Rock, gravel, and firm sand substrates of deep benthic to shoal habitats of large lakes and large river channels, side channels, islands, and backwater complexes; avoids soft substrates and high gradients.

Primary Habitat: Lacustrine

Primary Habitat Type: Great Lakes

Primary Specific Habitat: NA

Season: Year-round

Threat Category: Invasive Non-native/Alien Species/Diseases **Threat Impact:** Medium

Specific Threat: Competition for resources (e.g., non-native species predators; parasites).

Action Category: Complementary or alternative conservation measures

Specific Action: Implement aquatic invasive species (AIS) control and prevention practices.

Objective: Minimize aquatic invasive species (AIS) introductions into Pennsylvania's waters.

Action Priority: **Action Urgency:** **Measure:** Number of individuals reached via social media or number of signage placed regarding aquatic invasive species.

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Low

Specific Threat: Erosion and sedimentation.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Other federal agency, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Industrial and Military Effluents **Threat Impact:** Low

Specific Threat: Water quality degradation is detrimental to fish survival.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Other federal agency, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	What is the status of the Lake Sturgeon in Pennsylvania waters of Lake Erie?	
2	Is it feasible to reintroduce the Lake Sturgeon into the Allegheny River?	
3	What is the trigger for botulism outbreaks in Lake Erie?	

Season: Year-round

Priority	Survey	Partners
1	This species is very rare in the PA waters of Lake Erie. A status survey would be useful, but PA would provide only a minor role in conservation of this species.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: Monitoring by PFBC started in 2014 as part of a larger Lake Erie lake sturgeon initiative. Annual monitioring with gill nets will continue for in the near term then a longer term, periodic appoach will be taken.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Comments: Stocking may somewhat mitigate length of time to reach sexual maturity.

Murray, C. 2014. Personal communication. Pennsylvania Fish and Boat Commission, Erie, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

USFWS (U.S. Fish and Wildlife Service). 2009. Proceedings of the 2004 Great Lakes Lake Sturgeon Coordination Meeting. Available from http://www.fws.gov/midwest/sturgeon/documents/GLCoordMtg04/health.htm. (accessed March 2015).

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Atlantic Sturgeon

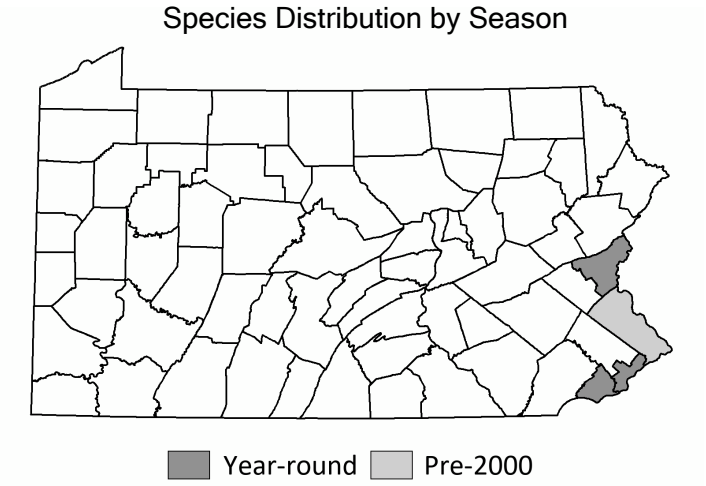
Acipenser oxyrinchus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



Virginia State Parks staff, https://creativecommons.org/licenses/by/2.0/deed.en, unedited, via Wikimedia Commons



Conservation Profile

PA 10-Year Conservation Goal: Stock assessment indicates target of 20 extant year classes (ASMFC 1998).

NatureServe Global Rank: G3

IUCN Red List Designation: Vulnerable

IUCN Red List Trend: Increasing

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: High Concern

Federal Listing Status: Endangered

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S2

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Rivers, estuaries, and coastal oceanic habitats depending upon season; spawn in flowing water over hard substrates and pools at the base of waterfalls.

Primary Habitat: Riverine

Primary Habitat Type: Big Rivers

Primary Specific Habitat: Warm, Large River

Season: Year-round

Threat Category: Domestic and Urban Waste Water **Threat Impact:** Medium - Low

Specific Threat: water quality degradation

Action Category: Conserve via zoning or informal designations

Specific Action: Continue consultations with developers to protect species habitats and incorporate habitat management into plans.

Objective: To prevent development-related impacts to populations

Action Priority: 3-Medium **Action Urgency:** Initiate immediately **Measure:** Number of consultations that protect habitat

Potential Collaborators:

Locations:

Other species likely to benefit from this action: aquatic species

Season: Year-round

Threat Category: Industrial and Military Effluents **Threat Impact:** Medium - Low

Specific Threat: water quality degradation

Action Category: Conserve via zoning or informal designations

Specific Action: Continue consultations with developers to protect species habitats and incorporate habitat management into plans.

Objective: To prevent development-related impacts to populations

Action Priority: 3-Medium **Action Urgency:** Initiate immediately **Measure:** Number of consultations that protect habitat

Potential Collaborators:

Locations:

Other species likely to benefit from this action: aquatic species

Season: Year-round

Threat Category: Shipping Lanes **Threat Impact:** Medium

Specific Threat: water quality degradation and ship strikes

Action Category: Basic research and status monitoring

Specific Action: monitor, research, fill data gaps

Objective: Improve knowledge of distribution and population parameters in order to establish conservation and management actions that will prevent further declines.

Action Priority: 3-Medium **Action Urgency:** Initiate immediately **Measure:** monitoring and surveys conducted

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	What is the status of the Delaware River and Estuary Atlantic Sturgeon populations? Is significant reproduction occurring?	
2	What are the impacts to Atlantic Sturgeon resulting from dredging projects in the shipping channel of the Delaware River?	
3	What are the cumulative impacts, if any, of vessel strikes?	

Season: Year-round

Priority	Survey	Partners
1	Conduct surveys of known and suspected Atlantic sturgeon spawning sites for activity.	
2	Survey non-spawning areas to identify potential concentration areas.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: Periodic status surveys by other states.

Lead(s) : Delaware, NMFS

Link: N/A

Description: Population is surveyed by other states.

ASMFC (Atlantic States Marine Fisheries Commission). 1998. Amendment 1 to the Interstate Fishery Management Plan for Atlantic Sturgeon. Fishery Management Report No. 31. Available from http://www.asmfc.org/uploads/file/sturgeonAmendment1.pdf (accessed July 2015).

Atlantic Sturgeon Status Review Team. 2007. Status Review of Atlantic sturgeon (Acipenser oxyrinchus oxyrinchus). Report to National Marine Fisheries Service, Northeast Regional Office. February 23, 2007.

Mohler, J. Personal communication. U.S. Geological Survey.

NMFS (National Marine Fisheries Service). 2010. Endangered and threatened wildlife and plants; proposed listing determinations for three distinct population segments of Atlantic Sturgeon in the northeast region. Federal Register 75:61872-61903.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

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Spotted Gar

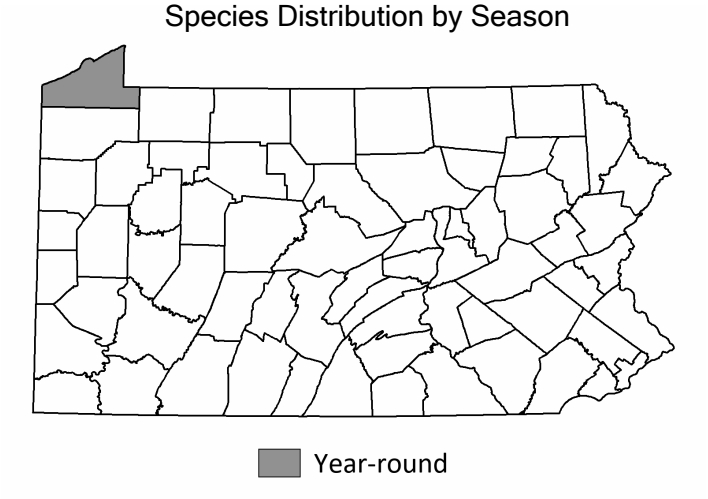
Lepisosteus oculatus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



F. Johns, Pennsylvania Fish and Boat Commission



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact:

Season: Year-round

Specific Habitat Requirements: Clear, weedy backwaters and oxbows of low-gradient creeks and rivers; also swamps, sloughs, ditches, and lakes.

Primary Habitat: Lacustrine

Primary Habitat Type: Great Lakes

Primary Specific Habitat: NA

Season: Year-round

Threat Category: Domestic and Urban Waste Water **Threat Impact:** Low

Specific Threat: Water quality degradation is detrimental to fish survival.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Industrial and Military Effluents **Threat Impact:** Low

Specific Threat: Water quality degradation is detrimental to fish survival.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	No research currently required. Spotted Gar population in Presque Isle Bay currently appears to be stable.	

Season: Year-round

Priority	Survey	Partners
1	Monitoring recommended, but no additional surveys. Spotted gar population in Presque Isle is considered stable at present.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites within Presque Isle is recommended. This could possibly be integrated into ongoing gamefish monitoring initatives.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

PSU (Pennsylvania State University). 2015. Unpublished fisheries data. Ecosystems Science and Management. Pennsylvania State University. University Park, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

American Eel

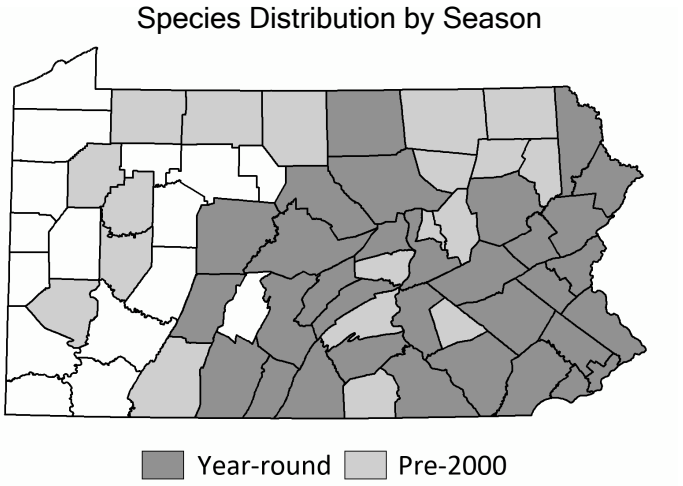
Anguilla rostrata

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: No sustainable targets established in the 2012 Benchmark ASMFC Stock Assessment; ensure all eels are passed by dams on lower Susquehanna (Susquehanna River Anadromous Fish Cooperative - Migratory Fish Management and Restoration Plan Addendum 2013).

NatureServe Global Rank: G4

IUCN Red List Designation: Endangered

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: High Concern

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S4

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Freshwater dwelling American eels appear to be habitat generalists with no consistent habitat requirements. Migrations typically occur throughout lotic environments ranging from estuaries to creeks.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Dams and Water Management/Use **Threat Impact:** Medium

Specific Threat: Dams exclude populations from expanding upstream into suitable upstream habitat.

Action Category: Protect resources with site infrastructure

Specific Action: Create fish passage around barriers.

Objective: Restore species former range.

Action Priority: 3-Medium **Action Urgency:** Initiate within 5 years **Measure:** Number of occupied stream miles upstream of fish dispersal barriers.

Potential Collaborators: Delaware River Basin Commission, Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Department of Environmental Protection, Susquehanna River Basin Commission, U.S. Army Corps of Engineers

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	What is the contribution of silver eel outmigration from PA? What is the passage of eels past dams on Delaware tribs (Schuylkill and Lehigh rivers)?	
2	What affect do multi-species interactions have on the popultions?	
3	Define extent of upstream migrations?	

Season: Year-round

Priority	Survey	Partners
1	See research needs.	

Name: Alosid survey of Schylkill River - annual.

Lead(s) : Philadelphia Water Dept.

Link:

Description: Annual survey to determine species and number of shad/herring running in Schylkill River below Fairmont Dam.

Name: Compliance for 401 water quality certification on lower Susquehanna, fish passage performance measures

Lead(s) : PADEP, PFBC, SRBC, MDNR

Link:

Description:

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: PA contracts with Lewis Haul Seine Fishery for CPUE fishery data (Delware)

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description:

ASMFC (Atlantic States Marine Fisheries Commission). 2012. American Eel Benchmark Stock Assessment. Stock Assessment Report No. 12-01 of the Atlantic States Marine Fisheries Commission. Arlington, Virginia. Available from http://www.asmfc.org/uploads/file/americanEelBenchmarkStockAssessmentReport_May2012.pdf (accessed July 2015).

ASMFC (Atlantic States Marine Fisheries Commission). 2014. Draft Addendum IV to the Fishery Management Plan for American Eel for Public Comment. Available from http://www.asmfc.org/files/PublicInput/AmericanEelDraftAddIV_RevisedJune19_2014.pdf (accessed July 2015).

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

PSU (Pennsylvania State University). 2015. Unpublished fisheries data. Ecosystems Science and Management. Pennsylvania State University. University Park, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

Susquehanna River Anadromous Fish Restoration Cooperative. 2013. American Eel Restoration Plan for the Susquehanna River Basin: Addendum to the Susquehanna River Anadromous Fish Restoration Cooperative 2010 Migratory Fish Management and Restoration Plan for the Susquehanna River Basin. Approved by the Policy Committee, December 5,2013. Available from http://fishandboat.com/pafish/shad/susq/SRAFRC-RestorationPlan.pdf (accessed July 2015).

USFWS (U.S. Fish and Wildlife Service). 2011. Endangered and threatened wildlife and plants; 90-day finding on a petition to list the american eel as threatened. Federal Register 76:60431-60444.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Blueback Herring

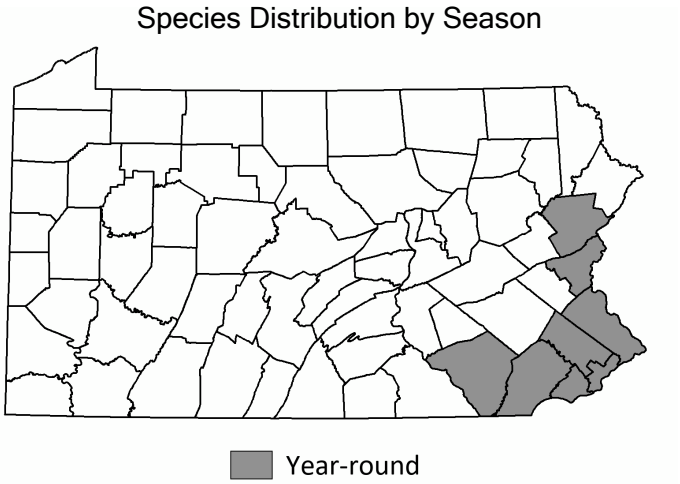
Alosa aestivalis

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Five million spawning herring above York Haven (Susquehanna River Anadromous Fish Cooperative - Migratory Fish Management and Restoration Plan 2010).

NatureServe Global Rank: G3G4

IUCN Red List Designation: Vulnerable

IUCN Red List Trend: Decreasing

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: Moderate Concern

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S3

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year): Decline of 10-30%

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Anadromous coastal marine species: spawns in tidal and non-tidal mainstem river sections, backwater sloughs, and flooded swamps of tributary streams.

Primary Habitat: Riverine

Primary Habitat Type: Big Rivers

Primary Specific Habitat: Warm, Large River

Season: Year-round

Threat Category: Dams and Water Management/Use

Threat Impact: Medium

Specific Threat: Dams exclude expanding populations from suitable upstream habitat

Action Category: Protect resources with site infrastructure

Specific Action: Create fish passage around barriers.

Objective: Restore species former range.

Action Priority: 2-High

Action Urgency: Initiate within 5 years

Measure: Number of occupied stream miles upstream of fish dispersal barriers.

Potential Collaborators: Delaware River Basin Commission, Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Susquehanna River Basin Commission, U.S. Army Corps of Engineers

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	What are the specific causes of the recent population declines?	
2	What affect do multi-species interactions have on the popultions?	
3	Define spawning and nursery habitats (potentially assessed with telemtry?)	

Season: Year-round

Priority	Survey	Partners
1	See research needs.	

Name: Alosid survey of Schylkill River - annual.

Lead(s) : Philadelphia Water Dept.

Link:

Description: Annual survey to determine species and number of shad/herring running in Schylkill River below Fairmont Dam.

Name: Compliance for 401 water quality certification on lower Susquehanna, fish passage performance measures

Lead(s) : PADEP, PFBC, SRBC, MDNR

Link:

Description:

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: PA contracts with Lewis Haul Seine Fishery for CPUE fishery data (Delware)

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description:

Delaware River Basin Fish & Wildlife Management Cooperative. 2011. Delaware River sustainable fishing plan for American Shad. Unpublished report to Atlantic States Marine Fisheries Commission. 67 pp. Available from http://www.asmfc.org/files/Shad%20SFMPs/deRBCoopShadSFMP.pdf (accessed July 2015).

SRAFRC (Susquehanna River Anadromous Fish Restoration Cooperative). 2010. Migratory Fish Management and Restoration Plan for the Susquehanna River Basin. Approved by the Policy Committee, November 15, 2010. Available from http://fishandboat.com/pafish/shad/susq/SRAFRC-RestorationPlan.pdf (accessed July 2015).

Stangl, M., H. Corbett, R. Allen, and M. Hendricks. 2012. Status of river herring in Delaware River and Bay. Pages 378-408 in Atlantic States Marine Fishery Commission. River herring benchmark stock assessment volume 2. Atlantic States Marine Fishery Commission Stock Assessment Report 12-02. Available from http://www.asmfc.org/uploads/file/riverHerringBenchmarkStockAssessmentVolumeIIR_May2012.pdf (accessed July 2015).

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Alewife

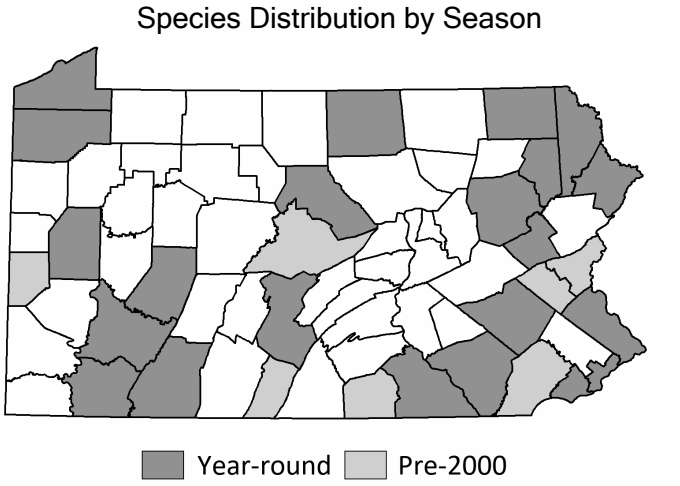
Alosa pseudoharengus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Five million spawning herring above York Haven (Susquehanna River Anadromous Fish Cooperative - Migratory Fish Management and Restoration Plan 2010).

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: High Concern

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S3

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year): Decline of 10-30%

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Anadromous coastal marine species: spawns in tidal and non-tidal mainstem river sections, backwater sloughs, and flooded swamps of tributary streams.

Primary Habitat: Riverine

Primary Habitat Type: Big Rivers

Primary Specific Habitat: Warm, Large River

Season: Year-round

Threat Category: Dams and Water Management/Use **Threat Impact:** Medium

Specific Threat: Dams exclude expanding populations from suitable upstream habitat

Action Category: Protect resources with site infrastructure

Specific Action: Create fish passage around barriers.

Objective: Restore species former range.

Action Priority: 2-High **Action Urgency:** Initiate within 5 years **Measure:** Number of occupied stream miles upstream of fish dispersal barriers.

Potential Collaborators: Delaware River Basin Commission, Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Susquehanna River Basin Commission, U.S. Army Corps of Engineers

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	What are the specific causes of the recent population declines?	
2	What affect do multi-species interactions have on the popultions?	
3	Define spawning and nursery habitats (potentially assessed with telemtry?)	

Season: Year-round

Priority	Survey	Partners
1	See research needs.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description:

Delaware River Basin Fish & Wildlife Management Cooperative. 2011. Delaware River sustainable fishing plan for American Shad. Unpublished report to Atlantic States Marine Fisheries Commission. 67 pp. Available from http://www.asmfc.org/files/Shad%20SFMPs/deRBCoopShadSFMP.pdf (accessed July 2015).

SRAFRC (Susquehanna River Anadromous Fish Restoration Cooperative). 2010. Migratory Fish Management and Restoration Plan for the Susquehanna River Basin. Approved by the Policy Committee, November 15, 2010. Available from http://fishandboat.com/pafish/shad/susq/SRAFRC-RestorationPlan.pdf (accessed July 2015).

Stangl, M., H. Corbett, R. Allen, and M. Hendricks. 2012. Status of river herring in Delaware River and Bay. Pages 378-408 in Atlantic States Marine Fishery Commission. River herring benchmark stock assessment volume 2. Atlantic States Marine Fishery Commission Stock Assessment Report 12-02. Available from http://www.asmfc.org/uploads/file/riverHerringBenchmarkStockAssessmentVolumeIIR_May2012.pdf (accessed July 2015).

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PENNSYLVANIA
WILDLIFE ACTION PLAN

American Shad

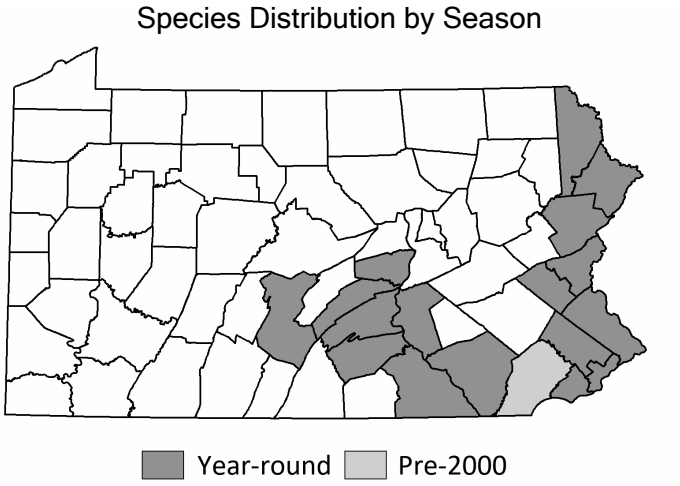
Alosa sapidissima

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



A. Michaels, Pennsylvania Fish and Boat Commission



Conservation Profile

PA 10-Year Conservation Goal: Two million spawning adults above York Haven (Susquehanna River Anadromous Fish Cooperative - Migratory Fish Management and Restoration Plan 2010); In the Delaware Basin, create selfsustaining populations in the Schuylkill and Lehigh rivers (ASMFC 2011).

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: High Concern

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S3

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year): Decline of 10-30%

Cumulative Threat Impact: High

Season: Year-round

Specific Habitat Requirements: Mainstem Susquehanna and Delaware Rivers, tributaries to the mainstem of these rivers and their freshwater tidal areas.

Primary Habitat: Riverine

Primary Habitat Type: Big Rivers

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Dams and Water Management/Use

Threat Impact: High

Specific Threat: Dams exclude expanding populations from suitable upstream habitat.

Action Category: Protect resources with site infrastructure

Specific Action: Create fish passage around barriers.

Objective: Create successful and consistent fish passage for multiple fish species around impassible barriers.

Action Priority: 2-High

Action Urgency: Initiate within 5-10 years

Measure: Number of stream miles restored for migrating fishes.

Potential Collaborators: Conservancies & Land Trusts, Delaware River Basin Commission, Pennsylvania Department of Environmental Protection, Private Landowners, Susquehanna River Basin Commission, U.S. Army Corps of Engineers, Universities & research institutions

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	What are the specific causes of the recent population declines? Define fishing and natural mortality.	
2	What affect do multi-species interactions have on the popultions?	
3	Define spawning and nursery habitats (potentially assessed with telemtry?)	

Season: Year-round

Priority	Survey	Partners
1	See research needs.	

Name: Alosid survey of Schylkill River - annual.

Lead(s) : Philadelphia Water Dept.

Link:

Description: Annual survey to determine species and number of shad/herring running in Schylkill River below Fairmont Dam.

Name: Compliance for 401 water quality certification on lower Susquehanna, fish passage performance measures

Lead(s) : PADEP, PFBC, SRBC, MDNR

Link:

Description:

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: PA contracts with Lewis Haul Seine Fishery for CPUE fishery data (Delware); Smithfield Beach annual gillnetting CPUE for adults (spawning); Raubsville annual monitoring for adult spawning migration (electrofishing, CPUE); Delaware river-wide beach seining

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description:

Delaware River Basin Fish & Wildlife Management Cooperative. 2011. Delaware River sustainable fishing plan for American Shad. Unpublished report to Atlantic States Marine Fisheries Commission. 67 pp. Available from http://www.asmfc.org/files/Shad%20SFMPs/deRBCoopShadSFMP.pdf (accessed July 2015).

PFBC (Pennsylvania Fish and Boat Commission). 2011. Delaware River management plan. Unpublished report. Harrisburg, Pennsylvania. Available from http://www.fishandboat.com/water/rivers/delaware/delaware_river_plan.pdf (accessed July 2015).

PFBC (Pennsylvania Fish and Boat Commission). 2014. Unpublished fish data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

SRAFRC (Susquehanna River Anadromous Fish Restoration Cooperative). 2010. Migratory Fish Management and Restoration Plan for the Susquehanna River Basin. Approved by the Policy Committee, November 15, 2010. Available from http://fishandboat.com/pafish/shad/susq/SRAFRC-RestorationPlan.pdf (accessed July 2015).

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PENNSYLVANIA
WILDLIFE ACTION PLAN

Cisco

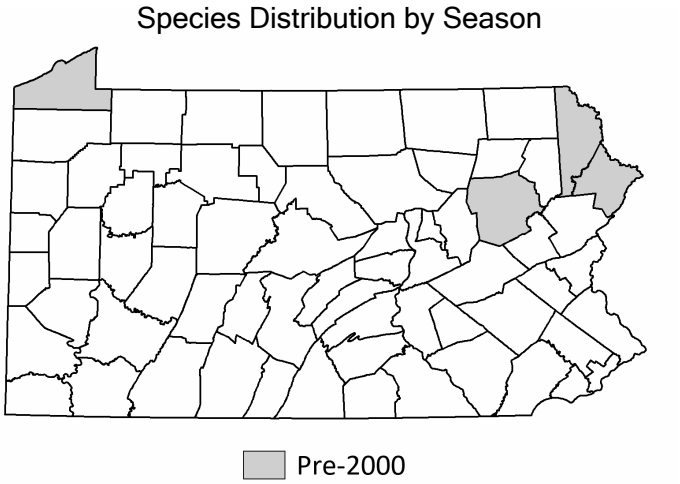
Coregonus artedi

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



D. Fischer, Pennsylvania Fish and Boat Commission



Conservation Profile

PA 10-Year Conservation Goal: Not able to determine conservation target at this time, more information needed about species in Pennsylvania.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend:

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): SX

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year):

Cumulative Threat Impact:

Season: Year-round

Specific Habitat Requirements: Pelagic species occurring in infertile lakes greater than 33 feet (10 meters) deep and large rivers.

Primary Habitat: Lacustrine

Primary Habitat Type: Great Lakes

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Low

Specific Threat: Sedimentation impacts to stream and lake habitats associated with land use practices.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate within 5 years **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Industrial and Military Effluents **Threat Impact:** Low

Specific Threat: Water quality degradation is detrimental to fish survival.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Invasive Non-native/Alien Species/Diseases **Threat Impact:** Medium

Specific Threat: Competition for resources (e.g., non-native species predators; parasites).

Action Category: Conserve via zoning or informal designations

Specific Action: Implement aquatic invasive species (AIS) control and prevention practices.

Objective: Minimize aquatic invasive species (AIS) introductions into Pennsylvania's waters.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of individuals reached via social media or number of signage placed regarding aquatic invasive species.

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	Determine presence of a spawning stock; determining available spawning habitat / habitat quality	
2	Determine fishery effects and how to confront Rainbow Smelt issues.	
3	What are hatchery options in the absence of a spawning stock	

Season: Year-round

Priority	Survey	Partners
1	None	

Name: Benthic trawl and gill net surveys are conducted annually.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Coldwater Task Group. 2015. Report of the Lake Erie Coldwater Task Group, March 2015. Presented to the Standing Technical Committee, Lake Erie Committee of the Great Lakes Fishery Commission. Ann Arbor, Michigan.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

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PENNSYLVANIA
WILDLIFE ACTION PLAN

Lake Whitefish

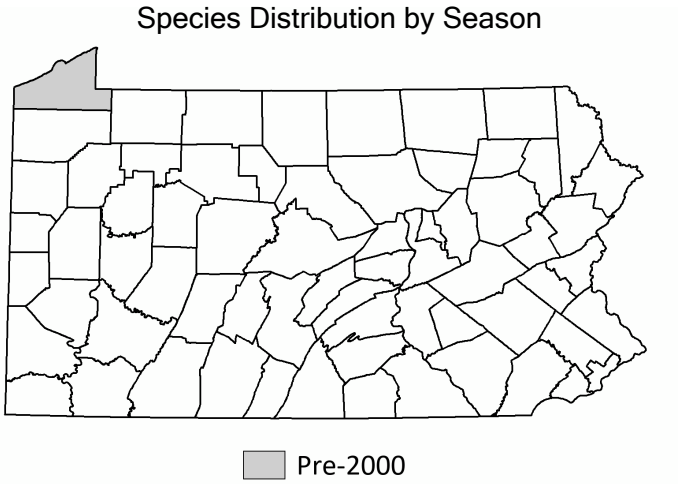
Coregonus clupeaformis

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



J. Shaffer, Strong Winds Fisheries



Conservation Profile

PA 10-Year Conservation Goal:

NatureServe Global Rank: G5

IUCN Red List Designation:

IUCN Red List Trend:

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Data Deficient

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S3S4

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year): Decline of >10%

Cumulative Threat Impact: Unknown

Season: Year-round

Specific Habitat Requirements: Unknown

Primary Habitat: Lacustrine

Primary Habitat Type: Great Lakes

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Invasive Non-native/Alien Species/Diseases **Threat Impact:** Low

Specific Threat: Competition for resources (e.g., non-native species predators; parasites).

Action Category: Outreach, communication and distribution

Specific Action: Implement aquatic invasive species (AIS) control and prevention practices.

Objective: Minimize aquatic invasive species (AIS) introductions into Pennsylvania's waters.

Action Priority: 1-Highest **Action Urgency:** Initiate immediately **Measure:** Number of individuals reached via social media or number of signage placed regarding aquatic invasive species.

Potential Collaborators: Other federal agency, Pennsylvania Fish and Boat Commission, U.S. Fish and Wildlife Service

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Industrial and Military Effluents **Threat Impact:** Low

Specific Threat: Water quality degradation is detrimental to fish survival.

Action Category: Complementary or alternative conservation measures

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service

Locations:

Other species likely to benefit from this action:

No known research needs.

No known survey priorities.

No known monitoring programs.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Brook Trout

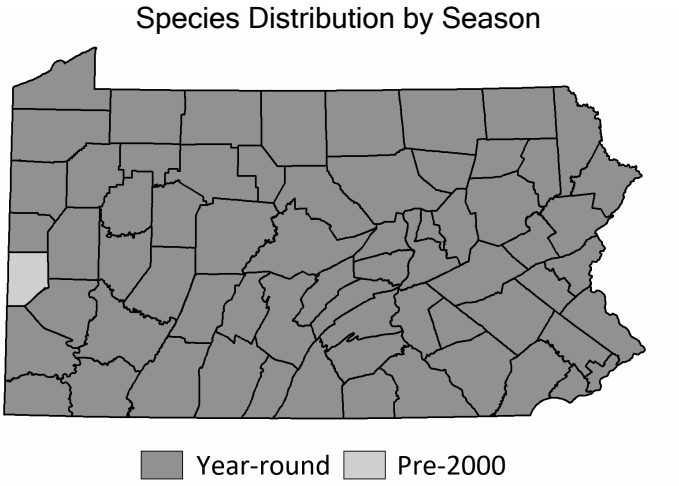
Salvelinus fontinalis

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation:

IUCN Red List Trend:

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Data Deficient

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S3S4

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Clear mountain streams at elevations from 1,500 to 2,000 feet (457 to 610 meters) with high-quality, moderate flow bordered by deeply undercut stream banks, exposed tree root balls, rock, brush piles, and greater than 75 percent ground cover.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: High Gradient, Cold, Headwaters and Creeks

Season: Year-round

Threat Category: Habitat Shifting or Alteration

Threat Impact: Medium

Specific Threat: Coldwater species at thermal limit in headwater or coldwater streams.

Action Category: Manage non-living habitat components

Specific Action: Conduct habitat management activities that maintain coldwater habitats.

Objective: Maintain coldwater habitats in streams.

Action Priority: 3-Medium

Action Urgency: Initiate immediately

Measure: Number of permitted management activities or instream projects focused on Brook Trout.

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	Determine Brook Trout population movements in relation to barriers and characterize movements of individuals.	
2	Develop a Brook Trout status and trends monitoring program, including review and analysis of PFBC data to guide sampling design.	
3	Evaluated Brook Trout population genetics structure within major Pennsylvania drainages. Refine existing models that predict Brook Trout occurrence.	

Season: Year-round

Priority	Survey	Partners
1	Continue surveys conducted through PFBC Unassessed Waters Program.	

Name: The brook trout is being monitored by PFBC Fisheries Managers' game fish surveys in certain streams. A formal state monitoring plan is currently being developed to assess populaiton trends.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description:

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Redside Dace

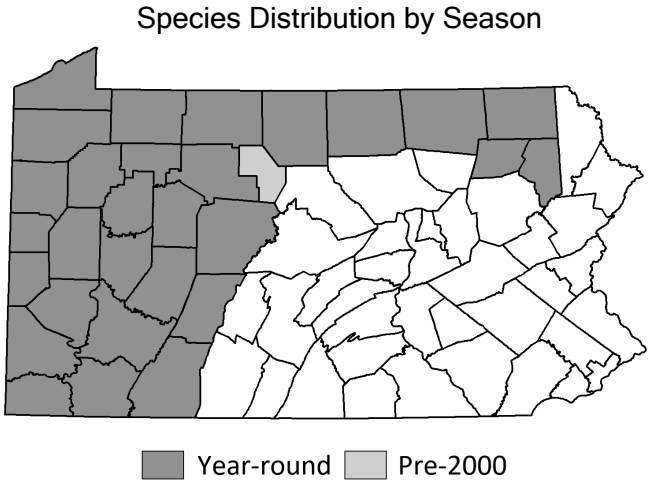
Clinostomus elongatus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G3

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Decreasing

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S4

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Pools of clear, cooler streams and small rivers with hard or sand substrate.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Moderate Gradient, Cool, Headwaters and Creeks

Season: Year-round

Threat Category: Temperature Extremes **Threat Impact:** Unknown

Specific Threat: Increase in water temperature threaten preferred conditions for this species.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: **Action Urgency:** **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Low

Specific Threat: Erosion and sedimentation.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Oil and Gas Drilling **Threat Impact:** Medium

Specific Threat: Water extraction and associated pollution from oil and gas drilling.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	None	

Season: Year-round

Priority	Survey	Partners
1	No surveys recommended. Population appears stable.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. Standardized monitoring protocol at selected reference sites every 5 years is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

PSU (Pennsylvania State University). 2015. Unpublished fisheries data. Ecosystems Science and Management. Pennsylvania State University. University Park, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Bigeye Chub

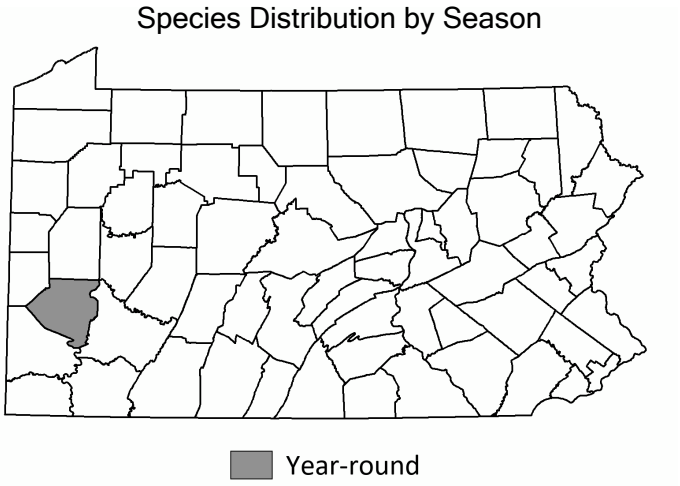
Hybopsis amblops

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal:

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S3

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year): Unknown

Cumulative Threat Impact: Unknown

Season: Year-round

Specific Habitat Requirements: Unknown

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Warm, Medium River

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium

Specific Threat: Siltation impacting sand substrates.

Action Category: Manage non-living habitat components

Specific Action: Restore or maintain forested or well-vegetated habitats along rivers and streams.

Objective: Increase by 10% over 10 years, the forested or vegetative cover along streams inhabited by this species.

Action Priority: **Action Urgency:** Initiate within 5-10 years **Measure:** Number of acres of forested or vegetative buffer.

Potential Collaborators: Conservancies & Land Trusts, Local agencies & municipalities, Pennsylvania Department of Environmental Protection

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium

Specific Threat: Siltation impacting sand substrates.

Action Category: Manage non-living habitat components

Specific Action: Restore or maintain forested or well-vegetated habitats along rivers and streams.

Objective: Increase by 10% over 10 years, the forested or vegetative cover along streams inhabited by this species.

Action Priority: 2-High **Action Urgency:** Initiate within 5-10 years **Measure:** Number of acres of forested or vegetative buffer.

Potential Collaborators: Conservancies & Land Trusts, Local agencies & municipalities, Pennsylvania Department of Environmental Protection

Locations:

Other species likely to benefit from this action:

No known research needs.

No known survey priorities.

No known monitoring programs.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Hornyhead Chub

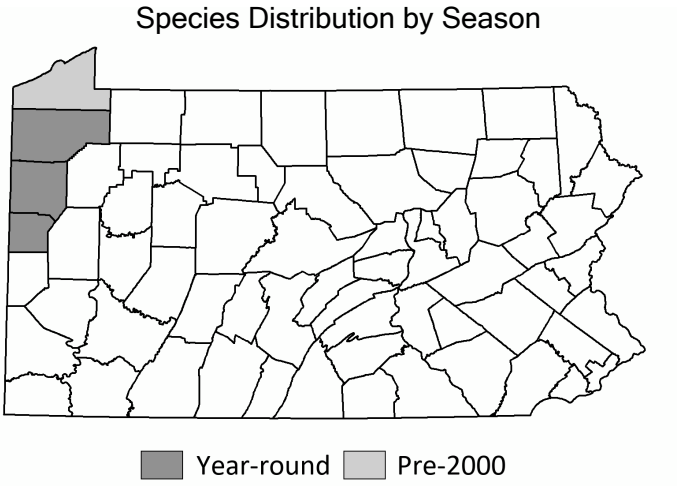
Nocomis biguttatus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain populations in Neshannock Creek and Conneaut Creek. Reintroduce into historic waters that currently exhibit amenable conditions.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Clear, small-to-medium sized streams with clean gravel, rubble, and sandy substrates.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Moderate Gradient, Cool, Headwaters and Creeks

Season: Year-round

Threat Category: Work and Other Activities **Threat Impact:** Medium

Specific Threat: Direct mortality due to piscicide application for Sea Lampreys.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with USFWS and developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 1-Highest **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium

Specific Threat: Erosion and sedimentation.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	What has caused the decline of the Hornyhead Chub in Conneaut Creek, as well as its extirpation in historic waterways.	
2	Are conditions now suitable for a Hornyhead Chub reintroduction project in Little Neshannock Creek and its West Branch?	

Season: Year-round

Priority	Survey	Partners
1	Status survey recently completed. A study to determine life-history requisites and causes for declines and extirpations should be completed. A reintroduction program should be initiated in Little Neshannock Creek and its West Branch, if study determines that it is feasible.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. Standardized monitoring protocol at selected reference sites every 2 years is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Criswell, R. Unpublished fisheries data. Pennsylvania Fish and Boat Commission, Bellefonte, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

PSU (Pennsylvania State University). 2015. Unpublished fisheries data. Ecosystems Science and Management. Pennsylvania State University. University Park, Pennsylvania.

Raney, E. C. 1938. The distribution of the fishes of the Ohio Drainage Basin of western Pennsylvania. Unpublished thesis. Cornell University, Ithaca, New York.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Popeye Shiner

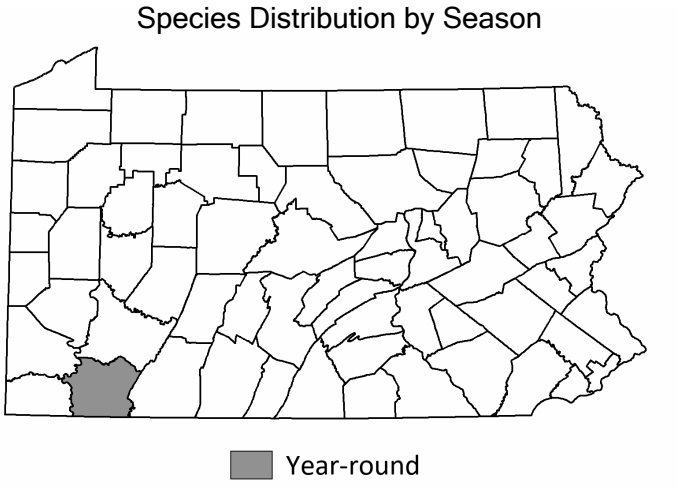
Notropis ariommus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal:

NatureServe Global Rank: G3

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Data Deficient

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): SX

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year):

Cumulative Threat Impact:

Season: Year-round

Specific Habitat Requirements: Unknown

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Annual and Perennial Non-timber Crops **Threat Impact:**

Specific Threat: Impacts to stream habitats from sedimentation, including increased turbidity, associated with land use practices.

Action Category: Reintroduce or relocate individuals

Specific Action: Reintroduce species into the Allegheny River using individuals sourced from an appropriate and suitable source population where turbidity concerns have been addressed.

Objective: Establish a reproducing population of Popeye Shiners.

Action Priority: 4-Low **Action Urgency:** Initiate within 5-10 years **Measure:** Number of individuals reintroduced.

Potential Collaborators: Pennsylvania Fish and Boat Commission, Private Landowners, U.S. Forest Service, Universities & research institutions

Locations:

Other species likely to benefit from this action:

No known research needs.

No known survey priorities.

No known monitoring programs.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Bridle Shiner

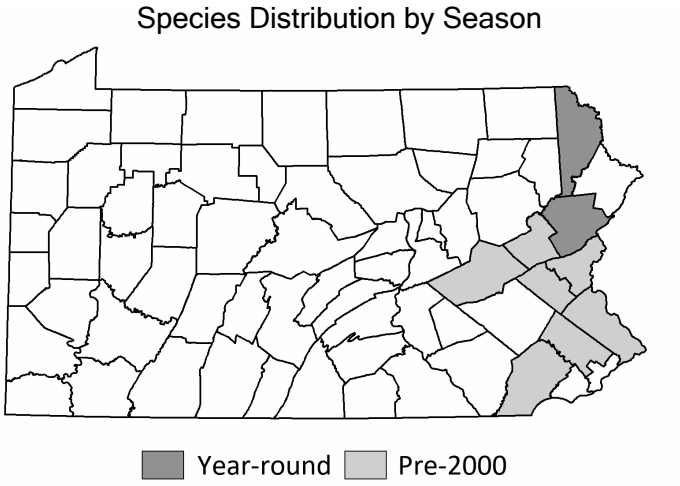
Notropis bifrenatus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



D. Fischer, Pennsylvania Fish and Boat Commission



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels; continue to protect the ecology and habitats within Marshalls Creek, Monroe County.

NatureServe Global Rank: G3

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Decreasing

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: Very High Concern

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Swamps and sluggish sections of clear, warmwater creeks and rivers with abundant coarse woody debris and aquatic vegetation.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium

Specific Threat: Impacts to stream habitats from sedimentation associated with land use practices.

Action Category: Complementary or alternative conservation measures

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Delaware River Basin Commission, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Agriculture, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners, U.S. Army Corps of Engineers

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Roads and Railroads **Threat Impact:** Medium

Specific Threat: Conversion of habitats associated with development degrades environmental conditions for this species.

Action Category: Complementary or alternative conservation measures

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Delaware River Basin Commission, Local agencies & municipalities, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, U.S. Army Corps of Engineers

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	Is it feasible to reintroduce the Bridle Shiner elsewhere within its historic range? An unsuccessful attempt was made to re-establish the Bridle Shiner in the Brodhead Creek drainage.	

Season: Year-round

Priority	Survey	Partners
1	Monitoring recommended, but no additional surveys. Status fairly well-known.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place; however PSU has monitored this population since the late 1990s until recently. Standardized monitoring protocol at occupied site every 2 years is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description:

Criswell, R. Unpublished fisheries data. Pennsylvania Fish and Boat Commission, Bellefonte, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

PSU (Pennsylvania State University). 2015. Unpublished fisheries data. Ecosystems Science and Management. Pennsylvania State University. University Park, Pennsylvania.

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PENNSYLVANIA
WILDLIFE ACTION PLAN

Ghost Shiner

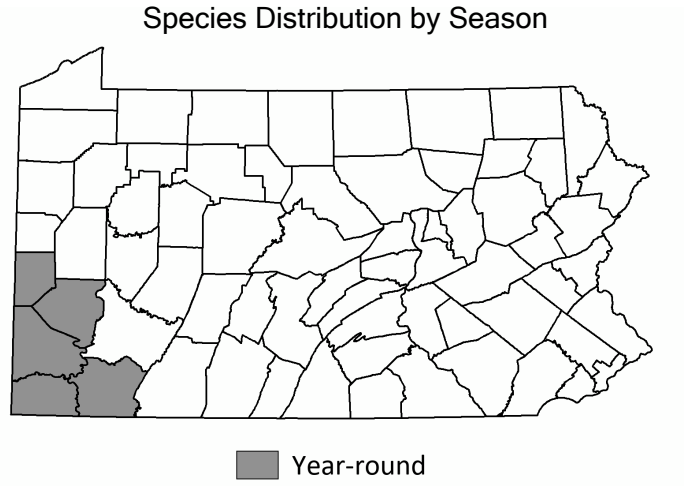
Paranotropis buchanani

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



D. Fischer, Pennsylvania Fish and Boat Commission



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S3

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Unknown

Cumulative Threat Impact: Unknown

Season: Year-round

Specific Habitat Requirements: Low-gradient sections of large streams and rivers, usually in quiet water with sluggish current.

Primary Habitat: Riverine

Primary Habitat Type: Big Rivers

Primary Specific Habitat: Warm, Large River

Season: Year-round

Threat Category: Industrial and Military Effluents

Threat Impact: Unknown

Specific Threat: Water quality degradation is detrimental to fish survival.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High

Action Urgency: Initiate immediately

Measure: Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	What is the current status of the Ghost Shiner in the Ohio and Monongahela Rivers, including abundance and habitat condition?	

Season: Year-round

Priority	Survey	Partners
1	A status survey should be undertaken.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A status survey is necessary before a monitoring plan is designed and implemented.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

PSU (Pennsylvania State University). 2015. Unpublished fisheries data. Ecosystems Science and Management. Pennsylvania State University. University Park, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Ironcolor Shiner

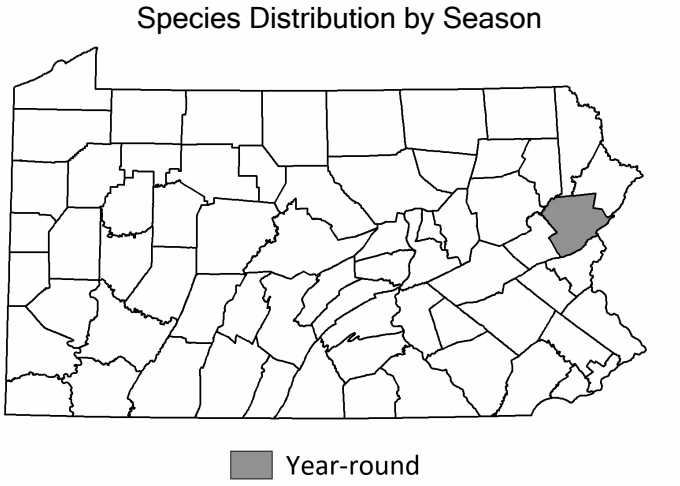
Alburnops chalybaeus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels; continue to protect the ecology and habitats within Marshalls Creek, Monroe County.

NatureServe Global Rank: G4

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Decreasing

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: Very High Concern

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Swamps and sluggish sections of clear, warmwater creeks with abundant coarse woody debris and aquatic vegetation.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Low Gradient, Cool, Headwaters and Creeks

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium

Specific Threat: Impacts to stream habitats from sedimentation associated with land use practices.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Roads and Railroads **Threat Impact:** Medium

Specific Threat: Conversion of habitats associated with development degrades environmental conditions for this species.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	Is it feasible to reintroduce the Ironcolor Shiner elsewhere within historic range? An unsuccessful attempt was made to re-establish the Bridle Shiner in the Brodhead Creek drainage.	

Season: Year-round

Priority	Survey	Partners
1	Monitoring recommended, but no additional surveys. Status fairly well-known.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place; however PSU has monitored this population since the late 1990s until recently. Standardized monitoring protocol at occupied site every 2 years is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Criswell, R. Unpublished fisheries data. Pennsylvania Fish and Boat Commission, Bellefonte, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

PSU (Pennsylvania State University). 2015. Unpublished fisheries data. Ecosystems Science and Management. Pennsylvania State University. University Park, Pennsylvania.

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PENNSYLVANIA
WILDLIFE ACTION PLAN

Bigmouth Shiner

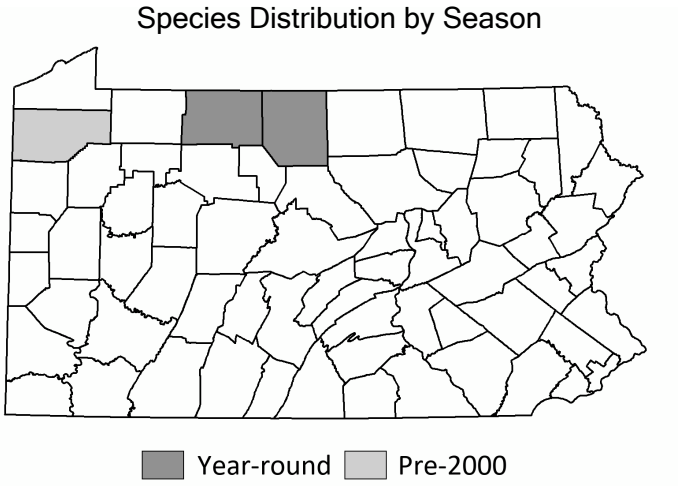
Ericymba dorsalis

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1S2

State Rank Year: 2024

PA Legal Designation: Threatened

PA Abundance: Unknown

PA Short-term Trend (10-year): Decline of >30%

Cumulative Threat Impact: Unknown

Season: Year-round

Specific Habitat Requirements: Small rivers and streams with clear water and moderate gradient; prefers sand and gravel substrates.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium

Specific Threat: Impacts to stream habitats from sedimentation associated with land use practices.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Oil and Gas Drilling **Threat Impact:** Medium

Specific Threat: Risk of an oil or gas spill, or industrial accident.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	None	

Season: Year-round

Priority	Survey	Partners
1	Status and trends for this species uncertain. A comprehensive status survey should be undertaken.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. Standardized monitoring protocol at selected reference sites is recommended. Interval to be determined based on results of status survey.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Criswell, R. Unpublished fisheries data. Pennsylvania Fish and Boat Commission, Bellefonte, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

PSU (Pennsylvania State University). 2015. Unpublished fisheries data. Ecosystems Science and Management. Pennsylvania State University. University Park, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Blackchin Shiner

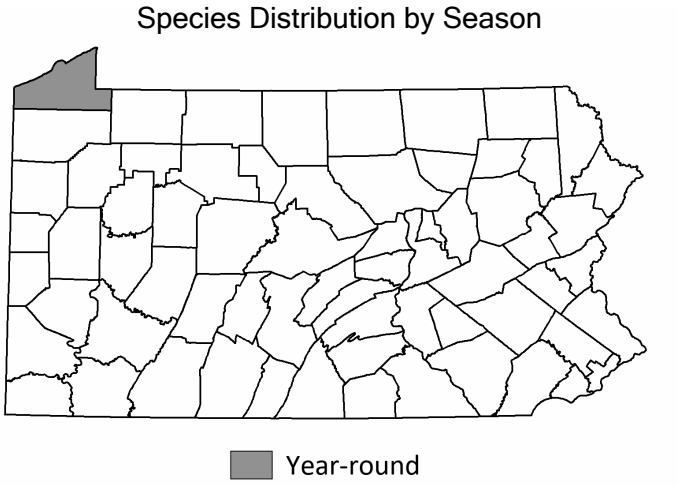
Miniellus heterodon

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal:

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Data Deficient

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Low

Season: Year-round

Specific Habitat Requirements: Shallow sections of glacial lakes with stands of dense aquatic vegetation.

Primary Habitat: Lacustrine

Primary Habitat Type: Lakes & Ponds

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Domestic and Urban Waste Water **Threat Impact:** Medium

Specific Threat: Stormwater runoff and wastewater effluents.

Action Category: Conserve via zoning or informal designations

Specific Action: Minimize potential water quality degradation.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	None	

Season: Year-round

Priority	Survey	Partners
1	No surveys recommended. Range of blackchin shiner in PA is sufficiently well-known.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. Standardized monitoring protocol at occupied site every 5 years is recommended. If gas extraction activities begin to occur in watersheds, accelerate monitoring to every 2 years.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Cooper, E. L. 1983. Fishes of Pennsylvania and the Northeastern United States. Penn State University Press, University Park and London.

Criswell, R. Unpublished fisheries data. Pennsylvania Fish and Boat Commission, Bellefonte, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

PSU (Pennsylvania State University). 2015. Unpublished fisheries data. Ecosystems Science and Management. Pennsylvania State University. University Park, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Blacknose Shiner

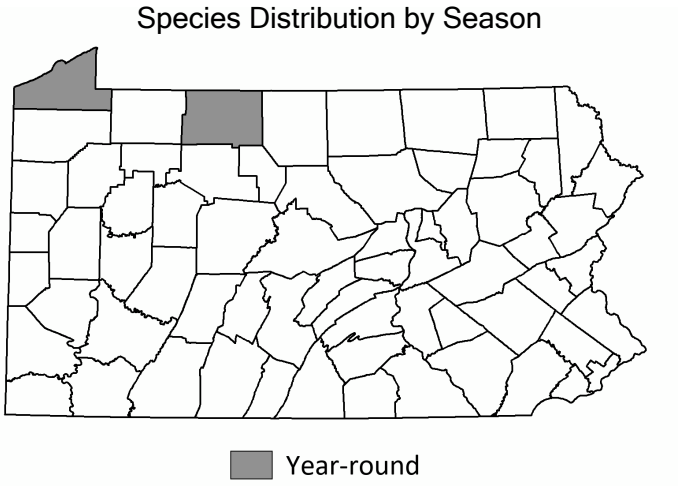
Notropis heterolepis

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal:

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Data Deficient

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Unknown

Cumulative Threat Impact: Unknown

Season: Year-round

Specific Habitat Requirements: Unknown

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Moderate Gradient, Cool, Headwaters and Creeks

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium

Specific Threat: Impacts to stream habitats from sedimentation associated with land use practices.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:**

Measure: Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

No known research needs.

No known survey priorities.

No known monitoring programs.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Swallowtail Shiner

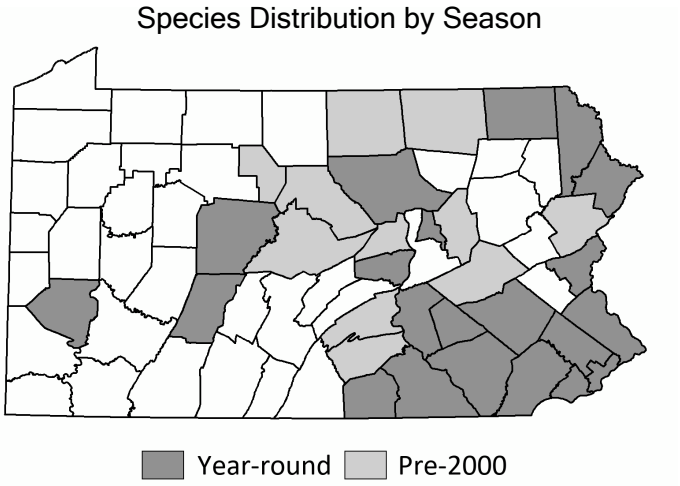
Miniellus procne

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Data Deficient

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S3S4

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year): Unknown

Cumulative Threat Impact: Unknown

Season: Year-round

Specific Habitat Requirements: Runs and pools in creeks to large rivers; hard or sandy substrate.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Invasive Non-native/Alien Species/Diseases **Threat Impact:**

Specific Threat: Replacement by Mimic Shiners

Action Category: Training and individual skill development

Specific Action: Conduct outreach to minimize bait bucket releases of Mimic Shiners or other fishes which may be competitors.

Objective: Eliminate release of non-native bait fishes.

Action Priority: 3-Medium **Action Urgency:** Initiate immediately **Measure:** Number of new streams with Mimic Shiner reports.

Potential Collaborators: Susquehanna River Basin Commission

Locations: HUC4 Watershed: Susquehanna

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	No research currently required. However, pending outcome of recommended surveys, assessing the causative factors of apparent decline of Swallowtail Shiner in the Susquehanna Basin may be required.	

Season: Year-round

Priority	Survey	Partners
1	This species may be declining. Additional river surveys by PFBC, PADEP, and SRBC may determine that a status survey should be undertaken.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A status survey is necessary before a monitoring plan is designed and implemented.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description:

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

PSU (Pennsylvania State University). 2015. Unpublished fisheries data. Ecosystems Science and Management. Pennsylvania State University. University Park, Pennsylvania.

Shank, M. 2014. Personal communication. Susquehanna River Basin Commission. Harrisburg, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Northern Redbelly Dace

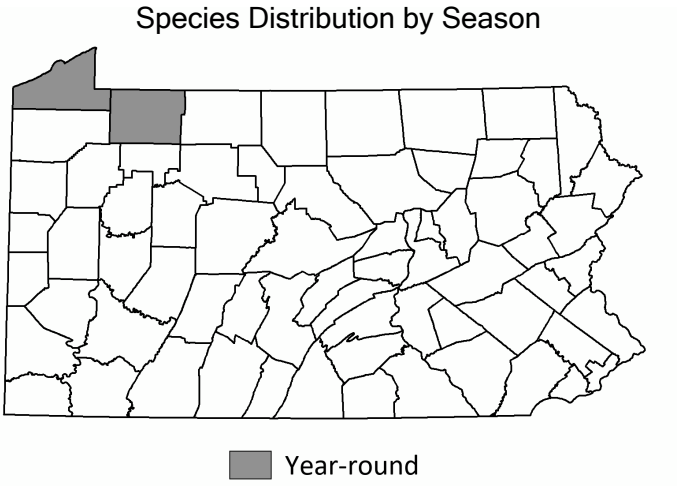
Chrosomus eos

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Unknown

Cumulative Threat Impact:

Season: Year-round

Specific Habitat Requirements: Sluggish current in small springs and streams, headwater wetlands, beaver ponds.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Low Gradient, Cool, Headwaters and Creeks

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium

Specific Threat: Erosion and sedimentation.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Oil and Gas Drilling **Threat Impact:** Medium

Specific Threat: Risk of an oil or gas spill, or industrial accident.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	None	

Season: Year-round

Priority	Survey	Partners
1	Status surveys recently completed.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. Standardized monitoring protocol at all known sites every 2 years is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Criswell, R. Unpublished fisheries data. Pennsylvania Fish and Boat Commission, Bellefonte, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Southern Redbelly Dace

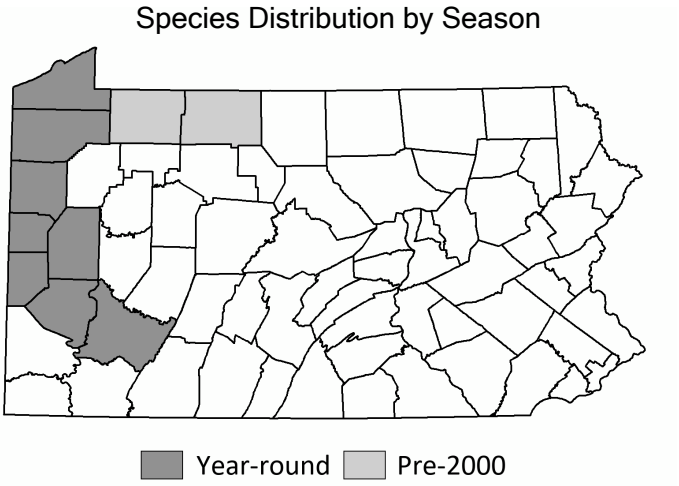
Chrosomus erythrogaster

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S2

State Rank Year: 2024

PA Legal Designation: Threatened

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Low

Season: Year-round

Specific Habitat Requirements: Clear, cool, small-to-medium sized streams with quiet pools and slow runs; spring runs. Occasionally in lakes and swamps in Pennsylvania.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Moderate Gradient, Cool, Headwaters and Creeks

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium

Specific Threat: Erosion and sedimentation.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Oil and Gas Drilling **Threat Impact:** Medium

Specific Threat: Water extraction and associated pollution from oil and gas drilling.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	None	

Season: Year-round

Priority	Survey	Partners
1	Status surveys recently completed.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. Standardized monitoring protocol at 50% of known sites every 2 years is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Criswell, R. Unpublished fisheries data. Pennsylvania Fish and Boat Commission, Bellefonte, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

PSU (Pennsylvania State University). 2015. Unpublished fisheries data. Ecosystems Science and Management. Pennsylvania State University. University Park, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Redfin Shiner

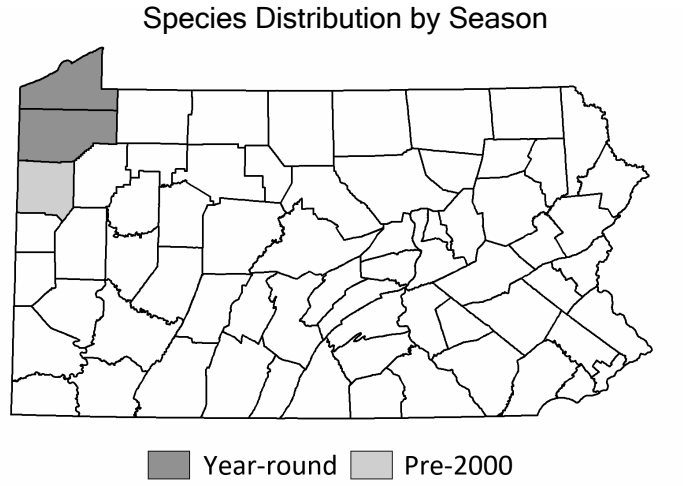
Lythrurus umbratilis

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



D. Fischer, Pennsylvania Fish and Boat Commission



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S2

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Warm-water creeks and small rivers with a mud and sand bottom in quiet water.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Low Gradient, Warm, Headwaters and Creeks

Season: Year-round

Threat Category: Agricultural and Forestry Effluents

Threat Impact: Medium

Specific Threat: Sediment covers spawning habitat and smothers eggs, reducing their viability or contributing to mortality.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High

Action Urgency: Initiate immediately

Measure: Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	None	

Season: Year-round

Priority	Survey	Partners
1	No surveys recommended. Population appears stable.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. Standardized monitoring protocol at selected reference sites every 3 years is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Criswell, R. Unpublished fisheries data. Pennsylvania Fish and Boat Commission, Bellefonte, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

PSU (Pennsylvania State University). 2015. Unpublished fisheries data. Ecosystems Science and Management. Pennsylvania State University. University Park, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Pugnose Minnow

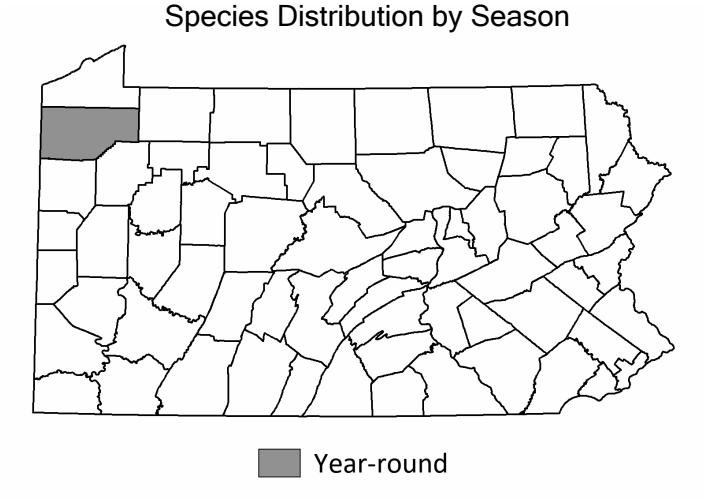
Opsopoeodus emiliae

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



D. Fischer, Pennsylvania Fish and Boat Commission



Conservation Profile

PA 10-Year Conservation Goal:

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Unknown

Cumulative Threat Impact: Unknown

Season: Year-round

Specific Habitat Requirements: Unknown

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Low Gradient, Warm, Small River

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium

Specific Threat: Erosion and sedimentation.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

No known research needs.

No known survey priorities.

No known monitoring programs.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Longnose Sucker

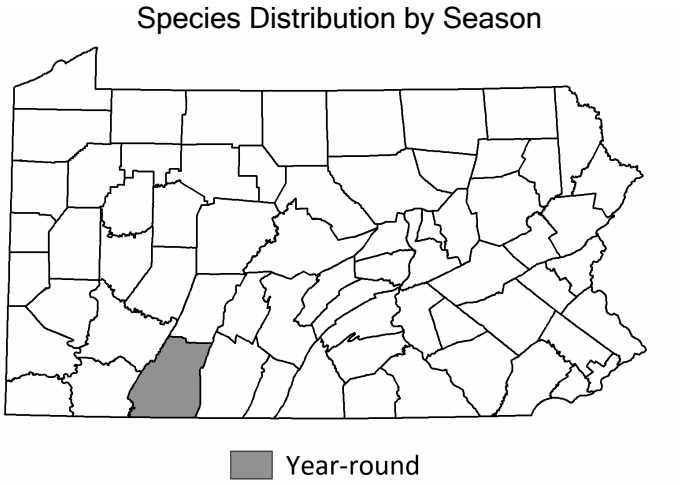
Catostomus catostomus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



D. Fischer, Pennsylvania Fish and Boat Commission



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels by protecting habitat and stream temperatures within the Casselman River basin.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Data Deficient

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Decline of >30%

Cumulative Threat Impact: Very High

Season: Year-round

Specific Habitat Requirements: Casselman River drainage, small-to-medium cool, clear streams; deeper pools with boulder-rubble substrate or significant coarse, woody debris.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: High Gradient, Cold, Headwaters and Creeks

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium

Specific Threat: Erosion and sedimentation.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Invasive Non-native/Alien Species/Diseases **Threat Impact:** High - Medium

Specific Threat: Competition for resources (e.g., non-native species predators; parasites).

Action Category: Complementary or alternative conservation measures

Specific Action: Avoid stocking predators (e.g., trout) into streams with known Longnose Sucker populations.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of known Longnose Sucker streams or populations without introduced predators.

Potential Collaborators: Pennsylvania Fish and Boat Commission, Universities & research institutions

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Roads and Railroads **Threat Impact:** Medium

Specific Threat: Conversion of habitats associated with development and risk of accidents along transportation corridors degrades environmental conditions for this species.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Temperature Extremes **Threat Impact:** High

Specific Threat: Warming water temperatures threaten survival of this coldwater species.

Action Category: Mitigate human environmental impact

Specific Action: Conduct habitat management activities that maintain coldwater habitats.

Objective: Maintain coldwater habitats in streams.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permitted management activities or instream projects focused on Longnose Sucker.

Potential Collaborators: Pennsylvania Fish and Boat Commission, Universities & research institutions

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	What is the specific status of the Monongahela Longnose Sucker population?	
2	Is it feasible to reintroduce the Longnose Sucker into other waters within its historic range?	

Season: Year-round

Priority	Survey	Partners
1	Monitoring recommended, but no additional surveys. Status of longnose sucker is fairly well-known.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. Standardized monitoring protocol at selected reference sites every 5 years is recommended; however, popultions are small enough that collection is considered a threat and mortality from electrofishing would need to

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Criswell, R. W., and D. P. Fischer. 2002. Petition to list the Monongahela River drainage population of the longnose sucker (Catostomus catostomus) (Forster). Unpublished report to U.S. Fish and Wildlife Service. Pennsylvania Fish and Boat Commission, Bureau of Fisheries, Bellefont, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Bigmouth Buffalo

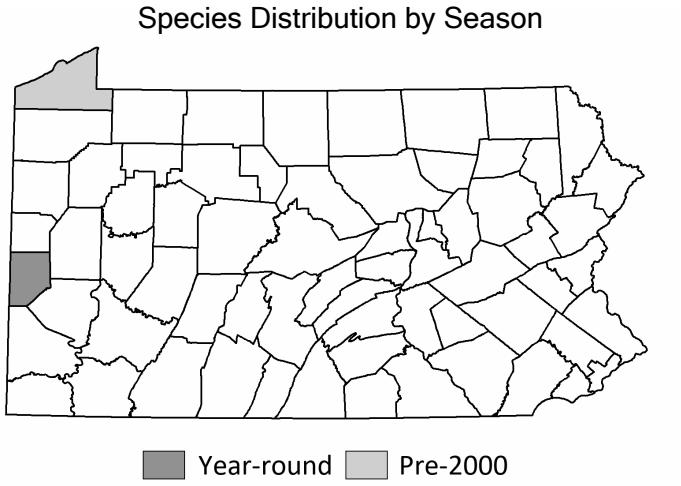
Ictiobus cyprinellus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



D. Fischer, Pennsylvania Fish and Boat Commission



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Data Deficient

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Unknown

Season: Year-round

Specific Habitat Requirements: Rivers, lakes (Erie), reservoirs, oxbows, and bayous with still waters or sluggish current.

Primary Habitat: Riverine

Primary Habitat Type: Big Rivers

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Other Ecosystem Modifications **Threat Impact:** Medium

Specific Threat: Conversion of habitats associated with development degrades environmental conditions for this species.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	None	

Season: Year-round

Priority	Survey	Partners
1	Surveys in the Ohio River are recommended, possibly as part of other initiatives. The population recently documented in the Ohio River is poorly understood. Status otherwise sufficiently well-known.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. Standardized monitoring protocol at selected reference sites every 5 years is recommended. This would include a reference site at the border with OH on the Ohio River.

Lead(s) : Pennsylvania Fish and Boat Commission, ORSANCO

Link: N/A

Description:

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Spotted Sucker

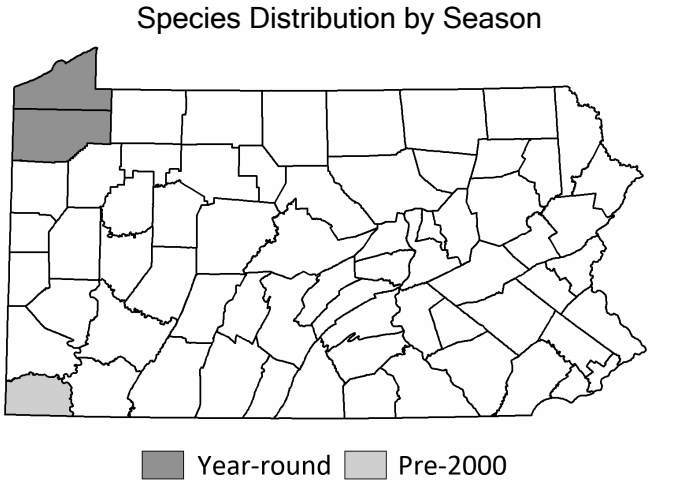
Minytrema melanops

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



F. Johns, Pennsylvania Fish and Boat Commission



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S2

State Rank Year: 2024

PA Legal Designation: Threatened

PA Abundance: Unknown

PA Short-term Trend (10-year): Decline of 10-30%

Cumulative Threat Impact: Unknown

Season: Year-round

Specific Habitat Requirements: Clear-to-slightly turbid waters of streams, rivers, lakes, and reservoirs with submerged aquatic vegetation, soft substrates, and detritus.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Unknown

Season: Year-round

Priority	Need	Partners
1	None	

Season: Year-round

Priority	Survey	Partners
1	No surveys recommended. Status of spotted sucker sufficiently well-known and population appears stable.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. Standardized monitoring protocol at selected reference sites every 5 years is recommended. The Pymatuning and Lake Erie popultions could possibly be integrated into ongoing gamefish monitoring initatives.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Mountain Madtom

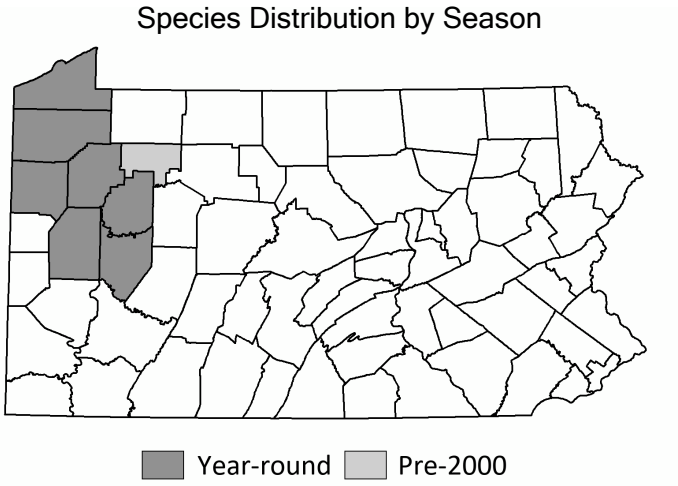
Noturus eleutherus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



D. Fischer, Pennsylvania Fish and Boat Commission



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels; establish new populations above barriers.

NatureServe Global Rank: G4

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S4

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Low

Season: Year-round

Specific Habitat Requirements: Moderately swift rivers, large streams with clear water and substrates of sand, gravel, cobble, and rubble; usually in riffles or rapids.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Warm, Medium River

Season: Year-round

Threat Category: Agricultural and Forestry Effluents

Threat Impact:

Specific Threat: Erosion and sedimentation.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High

Action Urgency: Initiate immediately

Measure: Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Dams and Water Management/Use

Threat Impact: Medium - Low

Specific Threat: Dams exclude expanding populations from suitable upstream habitat

Action Category: Reintroduce or relocate individuals

Specific Action: Reintroduce populations above dams.

Objective: Restore species former range.

Action Priority: 3-Medium

Action Urgency: Initiate within 5 years

Measure: Number of occupied stream miles upstream of fish dispersal barriers.

Potential Collaborators: Pennsylvania Fish and Boat Commission, Universities & research institutions

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	Can populations of Mountain Madtom be established above barriers in recolonized waters?	

Season: Year-round

Priority	Survey	Partners
1	Monitoring recommended, but no additional surveys needed at this time. Status fairly well-known except with regards to the lock and dam section of the Allegheny River. Population appears to be expanding and surveys are recommended within the next ten years.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Lorson, B. D. 2010. Distribution and the putative origin of fishes in the Allegheny River, Pennsylvania. Unpublished M.S. thesis. The Pennsylvania State University, State College, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Tadpole Madtom

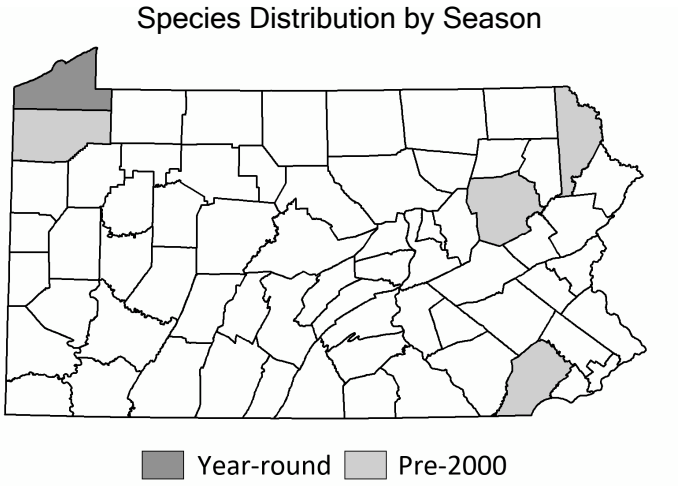
Noturus gyrinus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Backwaters and sluggish current in flowing waters, ponds, lakes, and oxbows with soft, organic substrates and abundant cover, of dense aquatic vegetation or coarse woody debris.

Primary Habitat: Lacustrine

Primary Habitat Type: Lakes & Ponds

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium

Specific Threat: Erosion and sedimentation.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Conservancies & Land Trusts, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Domestic and Urban Waste Water **Threat Impact:** Low

Specific Threat: Water quality degradation is detrimental to fish survival.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Industrial and Military Effluents **Threat Impact:** Medium

Specific Threat: Water quality degradation is detrimental to fish survival.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Invasive Non-native/Alien Species/Diseases **Threat Impact:** Medium

Specific Threat: Competition for resources (e.g., non-native species predators; parasites).

Action Category: Outreach, communication and distribution

Specific Action: Conduct public outreach regarding aquatic invasive species (AIS) prevention and adverse impacts on native fauna and habitats.

Objective: Minimize aquatic invasive species (AIS) introductions into Pennsylvania's waters.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of individuals reached via social media or number of signage placed regarding aquatic invasive species.

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	None	

Season: Year-round

Priority	Survey	Partners
1	Tadpole madtom populations in the Oil Creek drainage need to be surveyed and records for the Atlantic Slope need to be reviewed and possibly surveyed. Status of Presque Isle population sufficiently well-known and appears stable.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Brindled Madtom

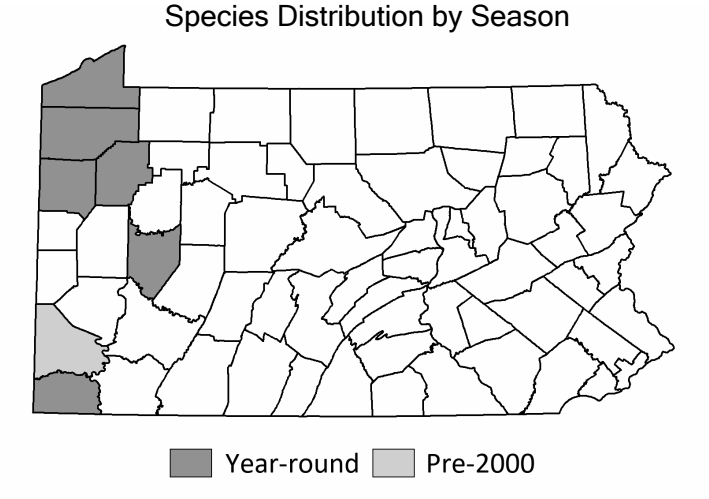
Noturus miurus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



D. Fischer, Pennsylvania Fish and Boat Commission



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S2

State Rank Year: 2024

PA Legal Designation: Threatened

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Low-gradient sections of streams, rivers, lakes, especially areas with little or no current and substrates of sand, silt, mud, and organic debris.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Warm, Medium River

Season: Year-round

Threat Category: Work and Other Activities **Threat Impact:** Medium

Specific Threat: Direct mortality due to piscicide application for Sea Lampreys.

Action Category: Conserve via zoning or informal designations

Specific Action: Minimize mortality via environmental review process.

Objective:

Action Priority: **Action Urgency:** **Measure:**

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium

Specific Threat: Excessive sedimentation and associated habitat degradation contribute to mortality.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Invasive Non-native/Alien Species/Diseases **Threat Impact:** Low

Specific Threat: Competition and predation by Round Goby in Lake Erie and French Creek drainages.

Action Category: Outreach, communication and distribution

Specific Action: Conduct public outreach regarding aquatic invasive species (AIS) prevention via avoiding bait release, and adverse impacts on native fauna and habitats.

Objective: Minimize aquatic invasive species (AIS) introductions into Pennsylvania's waters.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of individuals reached via social media or number of signage placed regarding aquatic invasive species.

Potential Collaborators: Businesses, Conservancies & Land Trusts, Interested Public, Non-governmental organizations, Pennsylvania Fish and Boat Commission, Private Landowners, Universities & research institutions

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	None	

Season: Year-round

Priority	Survey	Partners
1	Monitoring recommended, but no additional surveys needed at this time. Status sufficiently well-known.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Northern Madtom

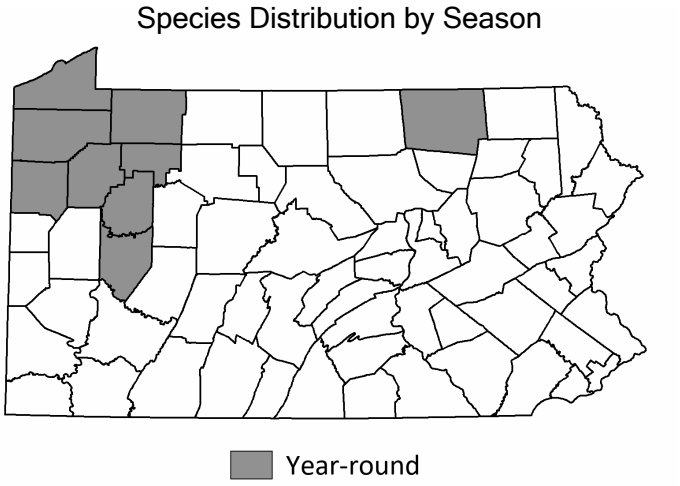
Noturus stigmosus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels; establish new populations above barriers.

NatureServe Global Rank: G3

IUCN Red List Designation: Near Threatened

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN:

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S4

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Low

Season: Year-round

Specific Habitat Requirements: Clear riffles with moderate-to-swift current, and substrate of gravel, cobble, and rubble in French Creek.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Warm, Medium River

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Low

Specific Threat: Erosion and sedimentation.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Dams and Water Management/Use **Threat Impact:** Medium - Low

Specific Threat: Expanding populations excluded from suitable habitat above dams.

Action Category: Reintroduce or relocate individuals

Specific Action: Reintroduce populations above dams.

Objective:

Action Priority: 3-Medium **Action Urgency:** Initiate within 5 years **Measure:**

Potential Collaborators: Pennsylvania Fish and Boat Commission, Universities & research institutions

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	Can populations of Northern Madtom be established above barriers in recolonized waters?	

Season: Year-round

Priority	Survey	Partners
1	Monitoring recommended, but no additional surveys needed at this time. Status fairly well known except with regards to the lock and dam section of the Allegheny River. Population appears to be expanding and surveys are recommended within the next ten years.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Lorson, B. D. 2010. Distribution and the putative origin of fishes in the Allegheny River, Pennsylvania. Unpublished M.S. thesis. The Pennsylvania State University, State College, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

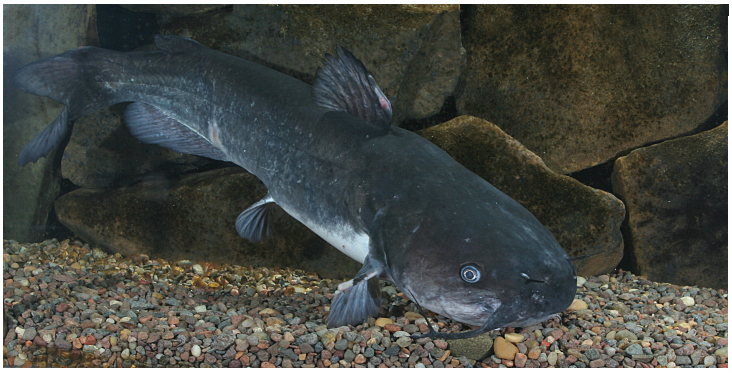
PENNSYLVANIA
WILDLIFE ACTION PLAN

White Catfish

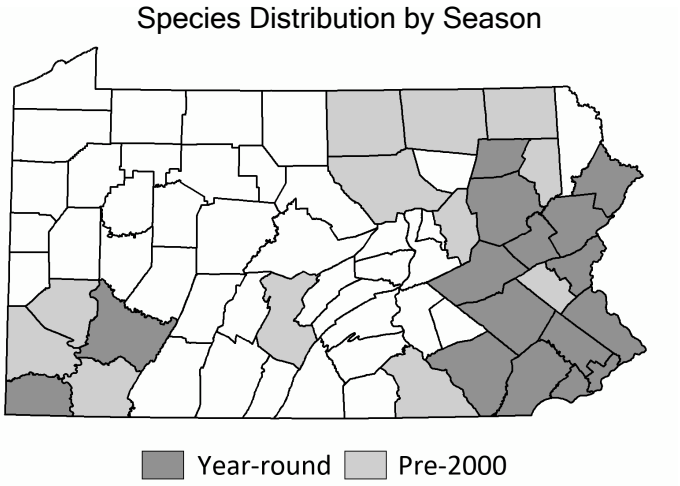
Ameiurus catus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S3

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Unknown

Season: Year-round

Specific Habitat Requirements: Sluggish sections of large streams and rivers, ponds, reservoirs, estuaries, and occasionally smaller streams.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Warm, Medium River

Season: Year-round

Threat Category: Problematic Native Species/Diseases **Threat Impact:** Low

Specific Threat: Competition for resources (e.g., non-native species predators; parasites).

Action Category: Outreach, communication and distribution

Specific Action: Implement aquatic invasive species (AIS) control and prevention practices.

Objective: Minimize aquatic invasive species (AIS) introductions into Pennsylvania's waters.

Action Priority:

Action Urgency:

Measure: Number of individuals reached via social media or number of signage placed regarding aquatic invasive species.

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	What are the effects on White Catfish resulting from introduced populations of Channel and Flathead Catfish?	

Season: Year-round

Priority	Survey	Partners
1	White catfish appear to be declining. Additional surveys by PFBC, PADEP, ANSP, and Philadelphia Water Dept. may determine that a status survey should be undertaken. Currently, gamefish surveys and hoopnet surveys conducted by PFBC appear to be capturing this need and will likely be instructive in the future.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A status survey is necessary before a monitoring plan is designed and implemented.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Horwitz, R. J., N. Gilmore, P. Overbeck, A. Kindt and D. Keller. 2006. Survey of Rare Species of Fishes, Reptiles and Amphibians in Southeastern Pennsylvania. Final report to the Pennsylvania Fish and Boat Commission. Pennsylvania Fish and Boat Commission, Bureau of Fisheries, Bellefonte, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Burbot - Lake Erie population

Lota lota pop. 3

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission

Species Distribution by Season

R. Criswell

Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5TNRQ

IUCN Red List Designation:

IUCN Red List Trend:

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Data Deficient

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S3

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year): Decline of >10%

Cumulative Threat Impact: Unknown

Season: Year-round

Specific Habitat Requirements: Clear, cold creeks of moderate gradient that are well oxygenated and deep cold lakes.

Primary Habitat: Lacustrine

Primary Habitat Type: Great Lakes

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Problematic Native Species/Diseases **Threat Impact:** Medium

Specific Threat: Reduced condition and increased mortality at a population level

Action Category: Basic research and status monitoring

Specific Action: Determine if fungal disease can be managed

Objective: Conduct research on fungal disease affecting lake Burbot populations.

Action Priority: **Action Urgency:** Initiate immediately **Measure:** Management recommendations based upon research.

Potential Collaborators: Other federal agency, Pennsylvania Fish and Boat Commission, U.S. Fish and Wildlife Service, Universities & research institutions

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Temperature Extremes **Threat Impact:** Medium

Specific Threat: Potential increase in water temperatures.

Action Category: Manage non-living habitat components

Specific Action: Conduct habitat management projects that maintain cold/cool water habitats.

Objective: Maintain cold/cool water habitats in Lake Erie.

Action Priority: 3-Medium **Action Urgency:** Initiate within 5 years **Measure:** Number of in-lake habitat projects permitted.

Potential Collaborators: Other federal agency, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Universities & research institutions

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	None	

Season: Year-round

Priority	Survey	Partners
1	None	

Name: Benthic trawl and gill net surveys are conducted annually.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Coldwater Task Group. 2015. Report of the Lake Erie Coldwater Task Group, March 2015. Presented to the Standing Technical Committee, Lake Erie Committee of the Great Lakes Fishery Commission. Ann Arbor, Michigan.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Burbot - Allegheny River population

Lota lota pop. 4

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission

Species Distribution by Season

D. Fischer, Pennsylvania Fish and Boat Commission

Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels by protecting stream temperatures; promote colonization of new habitat by creating preferred habitat when instream work is permitted.

NatureServe Global Rank: G5TNRQ

IUCN Red List Designation:

IUCN Red List Trend:

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Data Deficient

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S3

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Cool-to-cold creeks or small rivers with slow moving pools associated with large substrate, crevices, or large woody debris.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Moderate Gradient, Cool, Small River

Season: Year-round

Threat Category: Temperature Extremes **Threat Impact:** High

Specific Threat: Reduction of wetted habitat or shifting of occupied habitat due to climate change-driven droughts and/or floods paired with increased water temperatures and erosional events.

Action Category: Manage non-living habitat components

Specific Action: Conduct habitat management projects that maintain cold/cool water habitats in streams.

Objective: Maintain cold/cool water habitats in streams.

Action Priority: **Action Urgency:** Initiate immediately **Measure:** Number of instream projects permitted.

Potential Collaborators: Conservancies & Land Trusts, Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, U.S. Department of Agriculture-Natural Resources Conservation Service, U.S. Forest Service, Universities & research institutions

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Low

Specific Threat: Impacts to stream habitats from sedimentation associated with land use practices.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Oil and Gas Drilling **Threat Impact:** Medium

Specific Threat: Risk of an oil or gas spill, or industrial accident.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	Describe the specific status of the Allegheny Burbot.	
2	Describe reproduction and related aspects of the Allegheny Burbot.	

Season: Year-round

Priority	Survey	Partners
1	Monitoring recommended, but no additional surveys. Status assessment completed in 2004 and fairly well understood.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Fischer, D. P. 2008. Life history aspeces of the Burbot (Lota Lota) (Linnaeus) in the upper Allegheny River. Unpublished M.S. thesis. The Pennsylvania State University, State College, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Warmouth

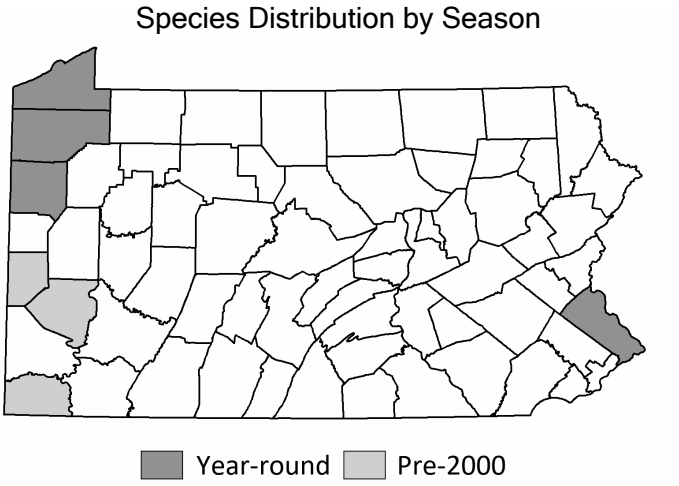
Lepomis gulosus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S4

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Increase of 10-25%

Cumulative Threat Impact: Low

Season: Year-round

Specific Habitat Requirements: Natural lakes, ponds, marshes, impoundments, and sluggish, low-gradient sections of creeks and rivers; prefers substrates of sand, gravel, mud and detritus, dense growths of aquatic vegetation, and relatively clear waters.

Primary Habitat: Lacustrine

Primary Habitat Type: Lakes & Ponds

Primary Specific Habitat: Unclassifiable Lake

Season: Year-round

Threat Category: Other Ecosystem Modifications **Threat Impact:**

Specific Threat: Loss of wetland habitats due to conversion, succession, and fragmentation.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Minimize and avoid development-related impacts to this species.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	None	

Season: Year-round

Priority	Survey	Partners
1	Monitoring recommended, but no additional surveys at this time. Status fairly well-known.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Longear Sunfish

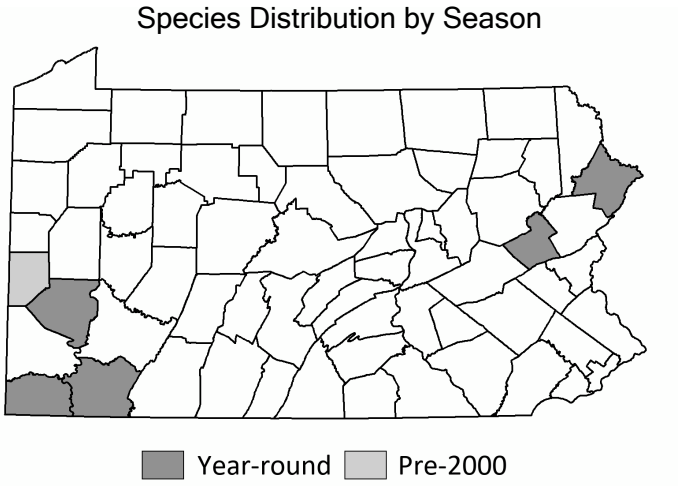
Lepomis megalotis

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Unknown

Cumulative Threat Impact: High

Season: Year-round

Specific Habitat Requirements: Warmwater lakes, ponds, streams, and rivers under a variety of circumstances.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Mining and Quarrying **Threat Impact:** High

Specific Threat: Water quality degradation is detrimental to fish survival.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 3-Medium **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Oil and Gas Drilling **Threat Impact:** High

Specific Threat: Risk of an oil or gas spill, or industrial accident.

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 3-Medium **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	What is the distribution of the Longear Sunfish within the Ohio River and Beaver River drainages?	

Season: Year-round

Priority	Survey	Partners
1	Status survey under way and should be completed in 2015; however, this will not address populations in river environments. Surveys in the Ohio River and Beaver Drainage are recommended even if part of other initiatives.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Eastern Sand Darter

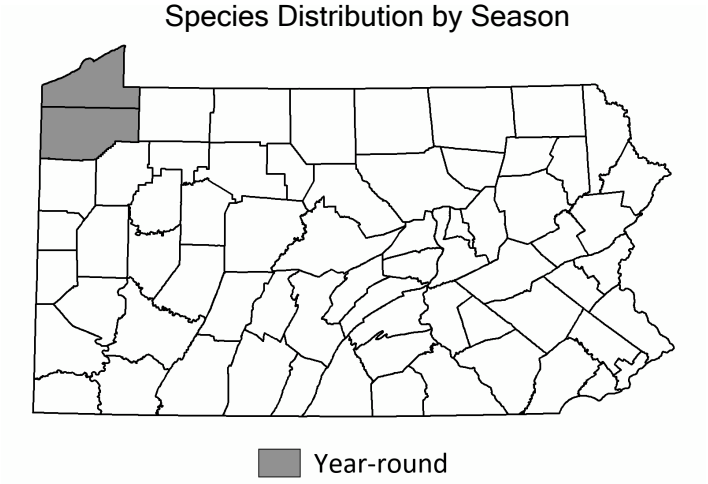
Ammocrypta pellucida

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



M. Patterson, U.S. Fish and Wildlife Service, via Wikimedia Commons



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels.

NatureServe Global Rank: G4

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Stable

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Data Deficient

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1S2

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: High

Season: Year-round

Specific Habitat Requirements: Medium-to-large streams, rivers, lakes, with substrates of 90-95 percent clean sand and fine gravel.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Warm, Medium River

Season: Year-round

Threat Category: Invasive Non-native/Alien Species/Diseases **Threat Impact:** High

Specific Threat: Competition and predation.

Action Category: Outreach, communication and distribution

Specific Action: Conduct public outreach regarding aquatic invasive species (AIS) prevention and adverse impacts on native fauna and habitats.

Objective: Minimize aquatic invasive species (AIS) introductions into Pennsylvania's waters.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of individuals reached via social media or number of signage placed regarding aquatic invasive species.

Potential Collaborators: Conservancies & Land Trusts, Interested Public, Pennsylvania Association of Conservation Districts, Pennsylvania Fish and Boat Commission, Private Landowners, Universities & research institutions

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	None	

Season: Year-round

Priority	Survey	Partners
1	Monitoring recommended, but no additional surveys. Status sufficiently well-known.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Iowa Darter

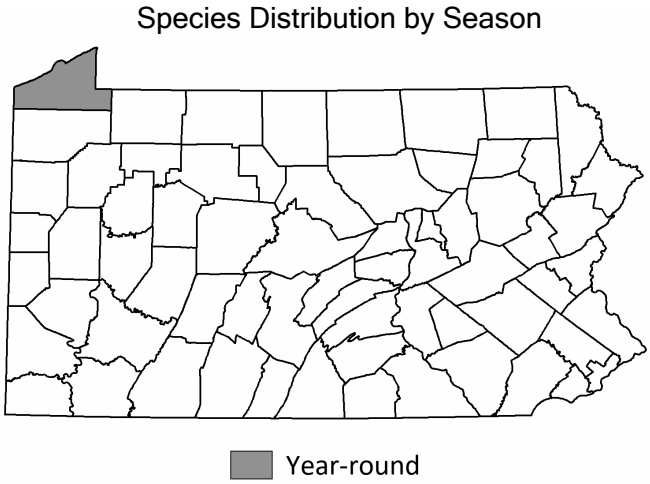
Etheostoma exile

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels; continue to protect the ecology of Lake Pleasant and Presque Isle, the only known extant populations.

NatureServe Global Rank: G5

IUCN Red List Designation: Least Concern

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN: Not RSGCN

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S1

State Rank Year: 2024

PA Legal Designation: Endangered

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Less than 4-foot (1.5-meter) deep areas of natural lakes with substrates of sand, muck, and organic debris with dense aquatic vegetation.

Primary Habitat: Lacustrine

Primary Habitat Type: Lakes & Ponds

Primary Specific Habitat: Unknown

Season: Year-round

Threat Category: Invasive Non-native/Alien Species/Diseases **Threat Impact:** High

Specific Threat: Competition and predation.

Action Category: Outreach, communication and distribution

Specific Action: Conduct public outreach regarding aquatic invasive species (AIS) prevention and adverse impacts on native fauna and habitats.

Objective: Minimize aquatic invasive species (AIS) introductions into Pennsylvania's waters.

Action Priority: 1-Highest **Action Urgency:** Initiate immediately **Measure:** Number of individuals reached via social media or number of signage placed regarding aquatic invasive species.

Potential Collaborators: Conservancies & Land Trusts, Pennsylvania Department of Conservation and Natural Resources, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Universities & research institutions

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	In Lake Erie, what threat do gobies pose to the Iowa Darter?	

Season: Year-round

Priority	Survey	Partners
1	Monitoring recommended, given potential long term impacts from gobies, but no additional surveys. Status sufficiently well-known.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Spotted Darter

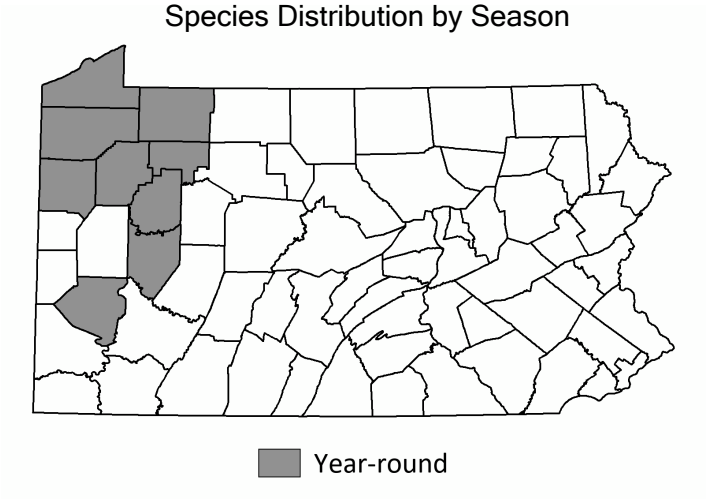
Nothonotus maculatus

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



D. Fischer, Pennsylvania Fish and Boat Commission



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels; establish new populations above barriers.

NatureServe Global Rank: G3

IUCN Red List Designation: Vulnerable

IUCN Red List Trend: Decreasing

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: High Concern

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S4

State Rank Year: 2024

PA Legal Designation: Not Listed (Recovered)

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Low

Season: Year-round

Specific Habitat Requirements: Large streams and rivers; faster, deeper portions of riffles possessing gravel and rubble substrates.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Warm, Medium River

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium - Low

Specific Threat: Erosion and sedimentation

Action Category: Conserve via zoning or informal designations

Specific Action: Consult with developers to protect this species' habitats and incorporate best management practices (BMPs) into development plans.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Local agencies & municipalities, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners, U.S. Army Corps of Engineers

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Commercial and Industrial Areas **Threat Impact:** Medium - Low

Specific Threat: Stormwater runoff and wastewater effluents.

Action Category: Conserve via zoning or informal designations

Specific Action: Minimize potential water quality degradation.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Dams and Water Management/Use **Threat Impact:** Medium

Specific Threat: Dams exclude expanding populations from suitable upstream habitat

Action Category: Reintroduce or relocate individuals

Specific Action: Reintroduce populations above dams.

Objective: Restore species former range.

Action Priority: 2-High **Action Urgency:** Initiate within 5 years **Measure:** Number of occupied stream miles upstream of fish dispersal barriers.

Potential Collaborators: Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, U.S. Army Corps of Engineers, Universities & research institutions

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	Can populations of the Spotted Darter be established above barriers in recolonized waters?	
2	Within its historic range, are suitable waters available for reintroduction of the Spotted Darter?	

Season: Year-round

Priority	Survey	Partners
1	No surveys recommended. Status survey recently completed. Population appears stable to increasing.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Criswell, R.W., D.P. Fischer, S. Li, and J.R. Stauffer, Jr. 2014. The Status of Four Pennsylvania Darters. Unpublished report to the Pennsylvania Fish and Boat Commission. Pennsylvania Fish and Boat Commission, Bureau of Fisheries, Bellefonte, Pennsylvania.

Lorson, B. D. 2010. Distribution and the putative origin of fishes in the Allegheny River, Pennsylvania. Unpublished M.S. thesis. The Pennsylvania State University, State College, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Tippecanoe Darter

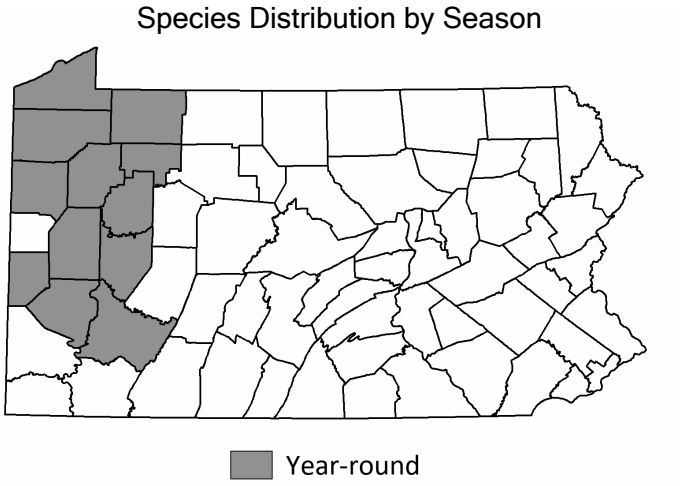
Nothonotus tippecanoe

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in Pennsylvania at current levels; establish new populations above barriers.

NatureServe Global Rank: G3

IUCN Red List Designation: Near Threatened

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: No

Northeast U.S.RSGCN:

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S4

State Rank Year: 2024

PA Legal Designation: Not Listed (Recovered)

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Low

Season: Year-round

Specific Habitat Requirements: Riffles of large creeks and rivers with clean gravel or sand/gravel substrates.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Warm, Medium River

Season: Year-round

Threat Category: Agricultural and Forestry Effluents **Threat Impact:** Medium - Low

Specific Threat: Erosion and sedimentation.

Action Category: Conserve via zoning or informal designations

Specific Action: Minimize potential water quality degradation.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners, U.S. Army Corps of Engineers

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Commercial and Industrial Areas **Threat Impact:** Medium - Low

Specific Threat: Stormwater runoff and wastewater effluents.

Action Category: Complementary or alternative conservation measures

Specific Action: Minimize potential water quality degradation.

Objective: Avoid or minimize harm.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of permits reviewed associated with species conflicts or known locations.

Potential Collaborators: Businesses, Pennsylvania Association of Conservation Districts, Pennsylvania Department of Environmental Protection, Pennsylvania Fish and Boat Commission, Private Landowners, U.S. Army Corps of Engineers

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Dams and Water Management/Use **Threat Impact:** Medium - Low

Specific Threat: Dams exclude populations from expanding upstream into suitable upstream habitat.

Action Category: Reintroduce or relocate individuals

Specific Action: Facilitate movement around or over dams.

Objective: Restore species former range.

Action Priority: 3-Medium **Action Urgency:** Initiate within 5 years **Measure:** Number of occupied stream miles upstream of fish dispersal barriers.

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	Can populations of the Tippecanoe Darter be established above barriers in recolonized waters?	
2	Within its historic range, are suitable waters available for reintroduction of the Tippecane Darter?	

Season: Year-round

Priority	Survey	Partners
1	No surveys recommended. Status survey recently completed. Population appears stable-to-increasing.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Criswell, R.W., D.P. Fischer, S. Li, and J.R. Stauffer, Jr. 2014. The Status of Four Pennsylvania Darters. Unpublished report to the Pennsylvania Fish and Boat Commission. Pennsylvania Fish and Boat Commission, Bureau of Fisheries, Bellefonte, Pennsylvania.

Lorson, B. D. 2010. Distribution and the putative origin of fishes in the Allegheny River, Pennsylvania. Unpublished M.S. thesis. The Pennsylvania State University, State College, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Longhead Darter

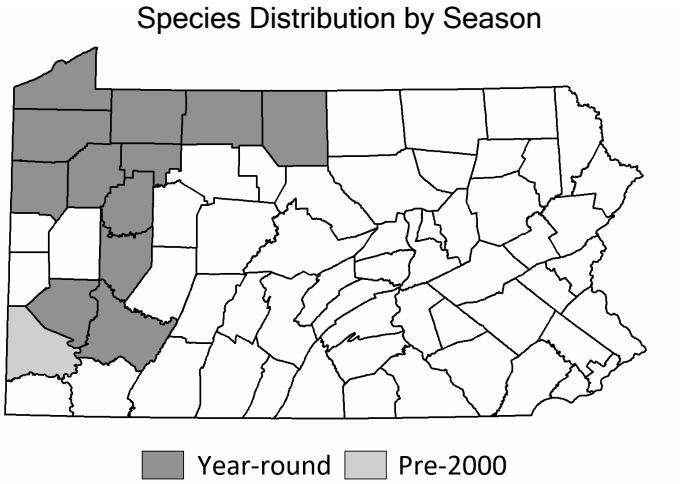
Percina macrocephala

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Maintain species populations in the Allegheny River Basin at current levels and promote recolonization of recovering drainages (Monongahela River Basin and other Ohio River Basin tributaries).

NatureServe Global Rank: G3

IUCN Red List Designation: Data Deficient

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: High Concern

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S5

State Rank Year: 2024

PA Legal Designation: Not Listed

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Low

Season: Year-round

Specific Habitat Requirements: Warm rivers and large streams, occupying a wide array of habitats.

Primary Habitat: Riverine

Primary Habitat Type: Rivers and Streams

Primary Specific Habitat: Warm, Medium River

Season: Year-round

Threat Category: Dams and Water Management/Use **Threat Impact:** Low

Specific Threat: Dams exclude expanding populations from suitable upstream habitat

Action Category: Reintroduce or relocate individuals

Specific Action: Reintroduce populations above dams.

Objective: Restore species former range.

Action Priority: 3-Medium **Action Urgency:** Initiate within 5 years **Measure:** Number of occupied stream miles upstream of fish dispersal barriers.

Potential Collaborators: Pennsylvania Fish and Boat Commission, U.S. Forest Service, Universities & research institutions

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	Can populations of the Longhead Darter be established above barriers in recolonized waters?	
2	Within its historic range, are suitable waters available for reintroduction of the Longhead Darter?	

Season: Year-round

Priority	Survey	Partners
1	No surveys recommended. Status survey recently completed. Population appears stable-to-increasing.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link: N/A

Description:

Lorson, B. D. 2010. Distribution and the putative origin of fishes in the Allegheny River, Pennsylvania. Unpublished M.S. thesis. The Pennsylvania State University, State College, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.

PENNSYLVANIA
WILDLIFE ACTION PLAN

Chesapeake Logperch

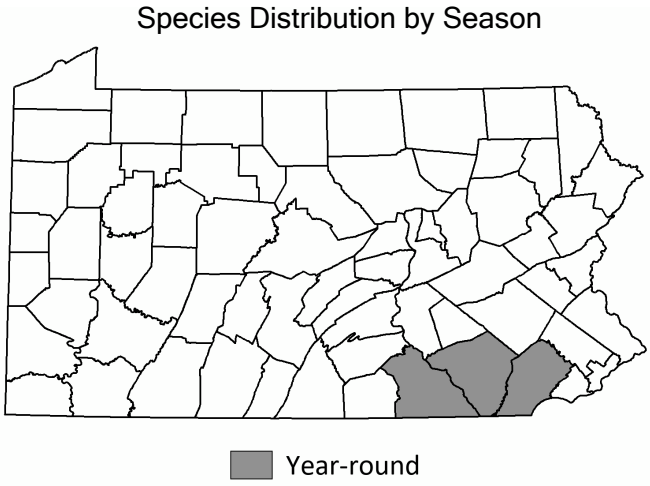
Percina bimaculata

Rob Criswell, Doug Fischer

PA Biological Survey, Pennsylvania Fish and Boat Commission



R. Criswell



Conservation Profile

PA 10-Year Conservation Goal: Promote recolonization of Piedmont waters to include the Susquehanna River and tributaries.

NatureServe Global Rank: G1

IUCN Red List Designation: Vulnerable

IUCN Red List Trend: Unknown

Identified Conservation Priority by Established Groups: Yes

Northeast U.S.RSGCN: High Concern

Federal Listing Status: Not Listed

Feasiblity of Recovering or Sustaining the PA Population:

SGCN Season: Year-round

State Rank (Season): S2

State Rank Year: 2024

PA Legal Designation: Threatened

PA Abundance: Unknown

PA Short-term Trend (10-year): Relatively stable (<=10% change)

Cumulative Threat Impact: Medium

Season: Year-round

Specific Habitat Requirements: Small-to-large streams, rivers, and reservoirs with areas of sand or gravel for spawning.

Primary Habitat: Riverine

Primary Habitat Type: Big Rivers

Primary Specific Habitat: Warm, Large River

Season: Year-round

Threat Category: Invasive Non-native/Alien Species/Diseases **Threat Impact:** Medium

Specific Threat: Competition with and predation by non-native Susquehanna River basin fish species.

Action Category: Prosecution and conviction

Specific Action: Deter the transport and introduction of AIS species to new waters

Objective: Deter the transport and introduction of AIS species to new waters

Action Priority: 2-High **Action Urgency:** **Measure:**

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Threat Category: Invasive Non-native/Alien Species/Diseases **Threat Impact:** Medium

Specific Threat: Competition with and predation by non-native Susquehanna River basin fish species.

Action Category: Outreach, communication and distribution

Specific Action: Minimize and avoid the transport and introduction of aquatic invasive species (AIS) into new waters.

Objective: Minimize aquatic invasive species (AIS) introductions into Pennsylvania's waters.

Action Priority: 2-High **Action Urgency:** Initiate immediately **Measure:** Number of individuals reached via social media or number of signage placed regarding aquatic invasive species.

Potential Collaborators:

Locations:

Other species likely to benefit from this action:

Season: Year-round

Priority	Need	Partners
1	Describe the autecology of the Chesapeake Logperch.	
2	Can populations of the Chesapeake Logperch be established above barriers in recolonized waters?	
3	Within its historic range, are suitable waters available for reintroduction of the Chesapeake Logperch?	

Season: Year-round

Priority	Survey	Partners
1	Monitoring recommended, but no additional surveys. Status survey recently completed and status sufficiently well-known.	

Name: Data are received through the Scientific Collectors Program which allows for annual review survey work completed by entities other than PFBC.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description: Not a formal monitoring initative, but provides the ability to consider available information.

Name: No current monitoring program in place. A five-year standardized monitoring protocol at secure reference sites is recommended.

Lead(s) : Pennsylvania Fish and Boat Commission

Link:

Description:

Hainly, R. A. and C. A. Loper. 1997. Water quality assessment of the lower Susquehanna River Basin, PA and MD: sources, characteristics, analysis, and limitations of nutrient and suspended sediment data, 1975-1990. United States Geological Survey. National Water Quality Assessment Program. Lemoyne, Pennsylvania.

PFBC (Pennsylvania Fish and Boat Commission). 2015. Unpublished fisheries data. Aquatic Resource Database. Pennsylvania Fish and Boat Commission Bureau of Fisheries, Bellefonte, Pennsylvania.

Risser, D. W., and S. F. Siwiec. 1996. Water quality assessment of the Lower Susquehanna River Basin, PA and MD: environmental setting. United States Geological Survey, National Water Quality

Assessment Program, Lemoyne, Pennsylvania.

Stauffer Jr., J. R., R. W. Criswell, and D. P. Fischer. 2016. The fishes of Pennsylvania. Cichlid Press, El Paso, TX. 556 pp.