



Species of Special Concern Lists

The Pennsylvania Natural Heritage Program (PNHP) inventories and maintains a list of ecologically significant species and communities. This list represents the most up-to-date, accurate scientific information available and reflects current nomenclature. The decisions regarding rank and status are made by a state-recognized panel of experts of the PA Biological Society. The PNHP list of species is the basis for Environmental Review, or the Pennsylvania Natural Diversity Inventory (PNDI).

Search:





By County Or By HUC 8 Watershed

Montour

Upper Susquehanna-Lackawanna





A county natural heritage inventory report for Northumberland County is available to download here.

Fact Sheets (The following links may be available for each species.)

-  [PGC Factsheet \(pdf\)](#)
-  [PNHP Factsheet \(pdf\)](#)
-  [NatureServe Explorer](#)
-  [USFWS Species Profile](#)

Displaying Mussels and Snails in Northumberland County

Definitions of the status and rank codes can be found here.

Scientific Name	Common Name	Federal Status	Status	PBS Status	G Rank	S Rank	Factsheets
<i>Alasmidonta marginata</i>	Elktoe			N	G4	S4	
<i>Alasmidonta undulata</i>	Triangle Floater			N	G4	S3S4	
<i>Lampsilis cariosa</i>	Yellow Lampmussel			CU	G3G4	S3S4	
<i>Lasmigona subviridis</i>	Green Floater			CU	G3	S2	



PNHP is a partnership between The Department of Conservation and Natural Resources, the Western Pennsylvania Conservancy, the Pennsylvania Game Commission, and the Pennsylvania Fish and Boat Commission.

[PNHP Home](#) | [Resources](#) | [Projects](#) | [News](#) | [About Us](#) | [Links](#) | [PNDI ER Tool](#)
[Contact Us](#) | [Site Map](#)

Triangle Floater (*Alasmidonta undulata*)

Freshwater Mussel Species of Concern

State Rank: S3S4 (vulnerable/apparently secure), Global Rank: G4 (apparently secure)

Identification

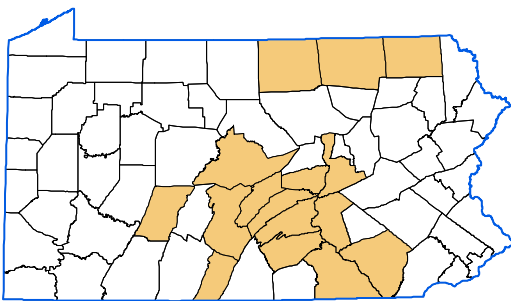
The triangle floater (*Alasmidonta undulata*) is a small mussel, usually less than 60 mm in length, with a somewhat triangular appearance. The shell is subtriangular to subovate and inflated, giving the mussel a swollen appearance. The anterior end is thicker and rounded, with a rounded ventral margin. The beaks are prominent and rise above the hinge line (Bogan 2002; Connecticut DEP 2003; Nedeau 2000; Strayer and Jirka 1997). The posterior ridge is poorly defined and rounded with a compressed posterior slope. The periostracum (outer covering) is smooth and coloration can vary from yellowish-green (juveniles) to nearly black (adults). Rays are typically dark green and radiate from the beaks but can be obscured in older, darker adult shells. Lateral teeth are vestigial, appearing only as indistinct bumps parallel to the hinge line (Bogan 2002; Nedeau 2000; Strayer and Jirka 1997; NatureServe 2005).



Photo:

http://www.eman-rese.ca/eman/reports/newsletters/monitor/vol_3_num_1/page2.html

Pennsylvania Distribution by County



Pennsylvania Natural Heritage Program data 2007

Habitat

The triangle floater is frequently found in streams and rivers in sand and gravel substrates. It is the only *Alasmidonta* species that can tolerate standing water typical of ponds, lakes, and canals (Bogan 2002; Connecticut DEP 2003; Nedeau 2000).

Host Fish

Confirmed host fishes for the triangle floater include the blacknose dace, common shiner, fallfish, largemouth bass, longnose dace, pumpkinseed, slimy sculpin, white sucker, central stoneroller, fantail darter, northern hogsucker, and rosyface shiner (Corderio, Bogan 2002; Nedeau 2000; Strayer and Jirka 1997).

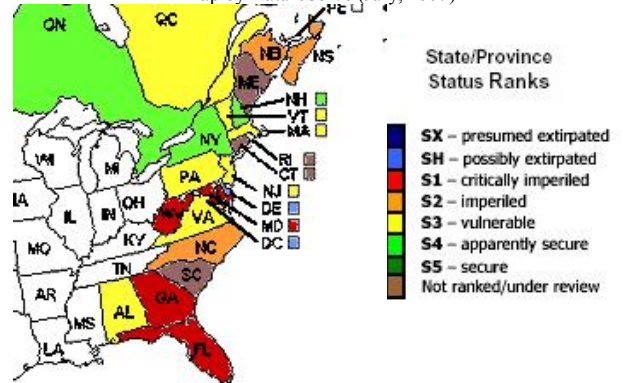
Status

Alasmidonta undulata is found from Nova Scotia west to the St. Lawrence River drainage, and south to Florida. It has a more widespread distribution than other *Alasmidonta* species (Bogan 2002). The triangle floater is found in the Susquehanna drainage in Pennsylvania. The state status of the triangle floater is vulnerable/secure (S3S4) (PNHP), indicating that the species is secure at some sites within Pennsylvania boundaries. However, more surveys are required to determine the status of this species in order to assign it to a single category.

Alasmidonta undulata may be experiencing population declines throughout the southern portion of its range, where states are reviewing protection measures. More populations exist in New England than anywhere else throughout its known range along the Atlantic coast. The triangle floater seems to be affected less by habitat degradation than some other mussel species, and it is thought to use a greater diversity of fish hosts than most other mussels found in similar ecosystems (Connecticut DEP 2003; Nedeau 2000).

North American State/Province Conservation Status

Map by NatureServe (July, 2007)



References

- Bogan, A.E. 2002. Workbook and Key to the Freshwater Bivalves of North Carolina. North Carolina Freshwater Mussel Conservation Partnership, Raleigh, NC. 101 pp and plates.
- Connecticut DEP. 2003. A Field Guide to the Freshwater Mussels of Connecticut. Hartford, CT Nedeau, E.J., M.A. McCollough, and B.I. Swartz. 2000. The Freshwater Mussels of Maine. Maine Dept. of Inland Fisheries and Wildlife, Augusta, ME.
- Cordeiro, J. New York Metropolitan Region and New Jersey Freshwater Mussel Identification Handbook. Website: research.amnh.org/biodiversity/mussel/lampsilistgenustext.html
- NatureServe Explorer: An online encyclopedia of life [web application]. 2005. Version 4.5. Arlington, VA. Website: www.natureserve.org/explorer.
- North Carolina Mussel Atlas, Species Information and Status. Website: www.ncwildlife.org/pg07_WildlifeSpeciesCon/pg7b1a1_1.htm
- Pennsylvania Natural Heritage Program. Biota of Concern In Pennsylvania (BOCIP) Lists. Website: www.naturalheritage.state.pa.us/invertebrates.aspx
- Strayer, D.L. and K.J. Jirka. 1997. The Pearly Mussels of New York State. The New York State Education Dept., Albany, N.Y. 113 pp and plates.



Green Floater (*Lasmigona subviridis*)

Freshwater Mussel Species of Concern

State Rank: S2 (imperiled), Global Rank: G3 (vulnerable)

Identification

The green floater (*Lasmigona subviridis*) is a small mussel, usually less than 55 mm in length. The shell is thin and the mussel has a subovate or trapezoidal shape. The color varies from a dull yellow to green with many dark green rays visible, especially in young individuals. This species may be confused with the creek heelsplitter (*Lasmigona compressa*) (NatureServe 2005; Strayer and Jirka 1997). The creek heelsplitter is larger, thicker shelled, and less ovate. Also, the creek heelsplitter has only been found in the Ohio River Drainage in Pennsylvania while the green floater is also present in the Susquehanna and Delaware River Drainages.



photo source: PNHP

Habitat

The green floater is often found in small creeks and large rivers and sometimes canals. This species is intolerant of strong currents and occurs in pools and other calm water areas (NatureServe 2005, North Carolina Mussel Atlas, Strayer and Jirka 1997). Preferred substrate is gravel and sand in water depths of one to four feet. This species is more likely to be found in hydrologically stable streams, not those prone to flooding and drying. Good water quality is also important for this mussel species (North Carolina Mussel Atlas).

Host Fish

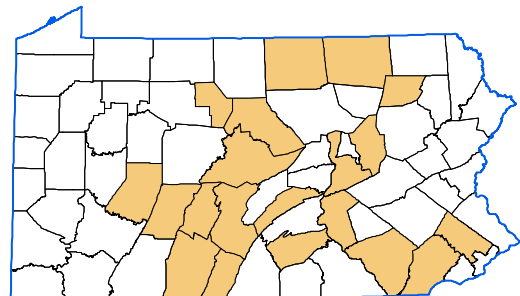
Glochidial (larval) hosts for the green floater are not known (NatureServe 2005, Strayer and Jirka 1997).

Status

From New York south to Georgia and west to Tennessee the green floater is found. This species is not very common in Pennsylvania, but has been found in the Susquehanna, Delaware, and Ohio River Drainages (NatureServe 2005). The state status of the green floater is imperiled (S2), as it is not frequently encountered within its expected range (www.naturalheritage.state.pa.us/invertebrates.aspx). The small size of this species may make it difficult to locate live animals during surveys. Shells of dead green floaters tend to get buried in the surrounding habitat. More extensive surveys are necessary to determine the current status of this species in Pennsylvania and the United States.

The green floater was listed as threatened in an assessment of the conservation status of the freshwater mussels of the United States by the American Fisheries Society (Williams et al. 1993). The green floater has been historically widespread in the Susquehanna River drainage in New York; however, populations have declined since the early 1990s, probably due to pollution (Strayer and Jirka 1997). Decline in the abundance of this species in other places could be due to stream transport of their preferred habitat, as well as increases in pollutants. The introductions of zebra mussels and Asian clams have also negatively impacted abundance of this species in surveys. However, since this mussel species is hermaphroditic, small populations might survive slightly better than other mussel species in less than ideal conditions (NatureServe 2005).

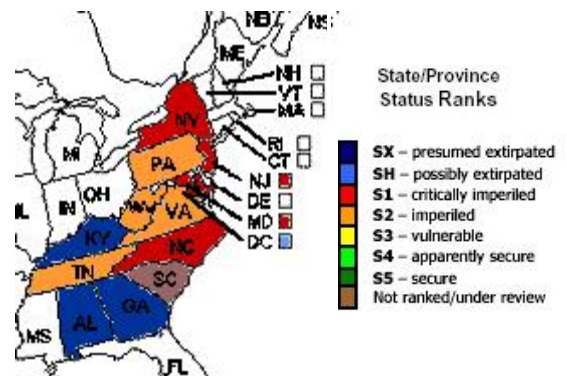
Pennsylvania Distribution by County



Pennsylvania Natural Heritage Program data 2007

North American State/Province Conservation Status

Map by NatureServe (2007)



References

- NatureServe. 2007. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.2. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: September 4, 2007).
- North Carolina Mussel Atlas, Species Information and Status. Website: www.ncwildlife.org/pg07_WildlifeSpeciesCon/pg7b1a1_9.htm
- Pennsylvania Natural Heritage Program. Biota of Concern In Pennsylvania (BOCIP) Lists. Website: www.naturalheritage.state.pa.us/invertebrates.aspx
- Strayer, D.L. and K.J. Jirka. 1997. The Pearly Mussels of New York State. The New York State Education Dept., Albany, NY 113pp and plates.
- Williams, J.D., M.L. Warren, K.S. Cummins, J.L. Harris, and R.J. Neves. 1993. Conservation Status of Freshwater Mussels. Fisheries 18(9): 6-22.



Elktoe (*Alasmidonta marginata*)

Freshwater Mussel Species of Concern

State Rank: S4 (apparently secure), Global Rank: G4 (apparently secure)

Identification

The Elktoe (*Alasmidonta marginata*) is a moderately sized mussel, commonly reaching 75 mm in length. The shell is trapezoidal or rhomboid shaped, inflated, and thin (Parmalee 1998, Strayer and Jirka 1997). The anterior margin is rounded, with a somewhat straight ventral margin. The ventral and posterior margins meet in a blunt, squared point (Parmalee 1998). The posterior ridge is the focal point of the shell and is sharply angled. The posterior slope is flattened with fine, well-developed ridges crossing the growth lines. The beaks are high, inflated, and are comprised of three to four heavy double-looped ridges. The periostracum (outer covering) is usually yellowish or greenish, with green rays and darker spots that may appear connected to the rays (rays may appear interrupted). Lateral teeth are vestigial and appear as nothing more than indistinct bumps along the hinge line. The nacre (inner iridescent coloring) is usually bluish-white (Parmalee 1998; Sietman 2003; Strayer and Jirka 1997).



Photo:
http://www.lwatrous.com/missouri_mollusks/mussels/images/a_marginata.jpg

Habitat

The Elktoe can be found in medium to large size streams, but is most common in smaller streams. This species is present in greatest abundance in small shallow rivers with a moderately fast current and riffles. The preferred substrate is fine gravel mixed with sand (Parmalee 1998; Sietman 2003; Strayer and Jirka 1997; NatureServe 2005).

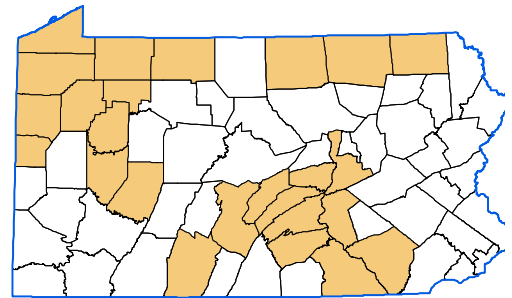
Host Fish

Hosts for Elktoe glochidia include the white sucker, northern hogsucker, shorthead redhorse, rockbass, and warmouth (Parmalee 1998; Strayer and Jirka 1997).

Status

Populations of *Alasmidonta marginata* can be found from Ontario, Canada to Alabama. Its eastern boundary ranges along the east coast from New York to Virginia and the western boundary ranges from North Dakota to Oklahoma. Most populations are located in Ohio, Indiana, and Illinois. This mussel is thought to have been extirpated from Alabama since it has not been reported during surveys for several decades (NatureServe 2005; Parmalee 1998; Strayer and Jirka 1997). This species is not common in Pennsylvania but has been found in the Susquehanna River and Ohio drainages. The proposed state status of the Elktoe is not ranked (N), meaning there is insufficient data available to provide an adequate basis for assignment to specific categories concerning the security of known populations (PNHP). The state rank of this species suggests it is secure at some sites within Pennsylvania state boundaries. However, more surveys are required to determine the status of this species and other freshwater mussels in Pennsylvania.

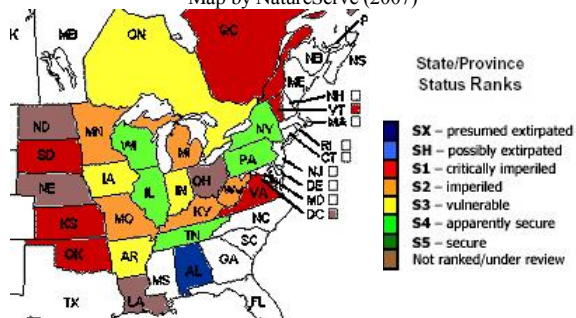
Pennsylvania Distribution by County



Pennsylvania Natural Heritage Program data 2007

North American State/Province Conservation Status

Map by NatureServe (2007)



References

- NatureServe. 2007. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.2. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: September 4, 2007).
- Parmalee, P.W. and Bogan, A.E. 1998. The Freshwater Mussels of Tennessee. The University of Tennessee, Knoxville, TN 328 pp.
- Pennsylvania Natural Heritage Program. Biota of Concern In Pennsylvania (BOCIP) Lists. Website: www.naturalheritage.state.pa.us/invertebrates.aspx
- Sietman, B.E. 2003. Field Guide to the Freshwater Mussels of Minnesota. Minnesota Department of Natural Resources, St. Paul, MN 140 pp.
- Strayer, D.L. and K.J. Jirka. 1997. The Pearly Mussels of New York State. The New York State Education Dept., Albany, N.Y. 113 pp and plate



Yellow Lampmussel (*Lampsilis cariosa*)

Freshwater Mussel Species of Concern

State Rank: S2 (imperiled), Global Rank: G5 (secure)

Identification

The yellow lampmussel (*Lampsilis cariosa*) is a bright yellow, medium-size freshwater mussel that can reach lengths of up to five inches. The mussel has an ovate to elliptical shell and the valves appear inflated in cross section. The shell is thick and strong (Connecticut DEP 2003; Nedeau 2000). The yellow coloration makes it fairly easy to distinguish from other freshwater mussels in Pennsylvania, but it may be confused with the tidewater mucket (*Leptodea ochracea*) and other *Lampsilis* species. The presence of fine green rays on the outer shell of the tidewater mucket is usually a key to distinguishing it from the yellow lampmussel. The yellow lampmussel is also more ovate and is more inflated in cross section than the tidewater mucket (Strayer and Jirka 1997).



Habitat

The yellow lampmussel inhabits medium to large rivers throughout most of its range, but is known from lakes and ponds in the north. In Pennsylvania, the yellow lampmussel is found within the Susquehanna and Delaware River drainages. This species occurs in a variety of substrate types including sand, silt, cobble, and gravel (Parmalee 1998; Strayer and Jirka 1997; NatureServe 2005).

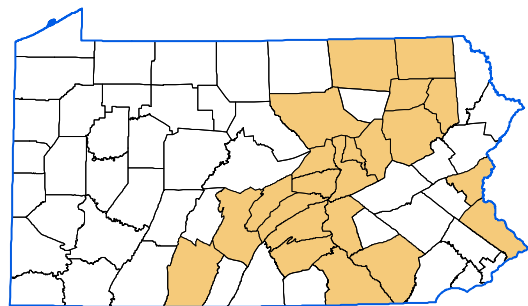
Host Fish

The only known larval hosts are the white perch and yellow perch (Wick and Huryn 2002).

Status

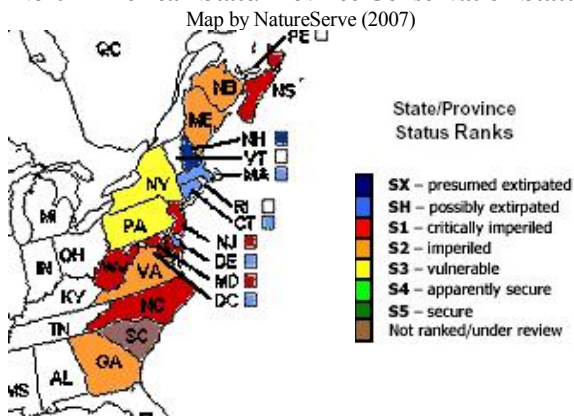
The Yellow Lampmussel ranges from Nova Scotia south to Georgia and west to West Virginia. The state status of the Yellow Lampmussel is vulnerable to apparently stable (S3S4) (NatureServe 2005). Though it appears to be relatively abundant in the Susquehanna River, it is less common in tributaries and other river systems in the state. More surveys are required to determine the status of this species and other freshwater mussels in Pennsylvania.

Pennsylvania Distribution by County



Pennsylvania Natural Heritage Program data 2007

North American State/Province Conservation Status



Eastern Lampmussel (*Lampsilis radiata*)

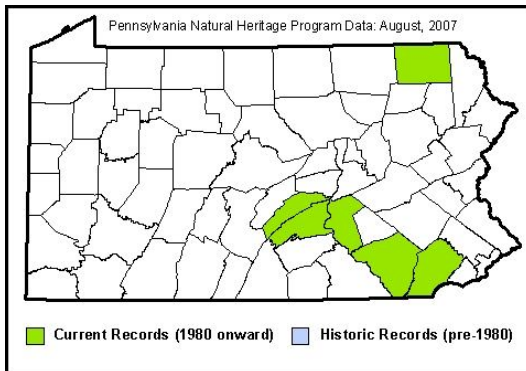
Freshwater Mussel Species of Concern
State Rank: S2 (imperiled), Global Rank: G5 (secure)

Identification

The eastern lampmussel (*Lampsilis radiata*) is a medium-sized to large mussel, usually up to 100 mm in length. The shell is usually subovate to subelliptical in shape, and the valves are moderately inflated in cross section. The posterior ventral margin of the shell is usually more rounded in mature females (Connecticut DEP 2003, Nedeau 2000, Strayer and Jirka 1997, Cordeiro). The posterior ridge is not well-defined and the posterior slope is arched (Bogan 2002). The periostracum (outer covering) ranges from yellowish-green (juveniles) to greenish-brown (adults) with dark green rays covering the entire surface of the shell. The nacre (iridescent inner shell) is usually white, bluish-white, pink or salmon. Hinge teeth are well developed – the left valve has two pseudocardinal teeth and two lateral teeth, the right valve has two pseudocardinal teeth and one lateral tooth (Bogan 2002, Connecticut DEP 2003, Nedeau 2000, Strayer and Jirka 1997).



photo source: <http://research.amnh.org/biodiversity/mussel/lampsilistgenustext.html>



Habitat

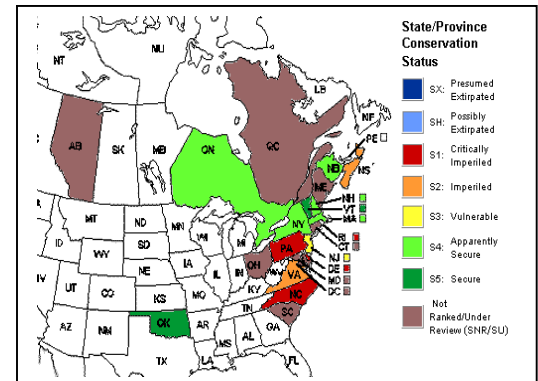
The eastern lampmussel inhabits a wide variety of habitats including small streams, large rivers, ponds, and lakes. It seems to prefer sand or gravel substrates but can be found on many different types of substrate (Connecticut DEP 2003, Nedeau 2000, Strayer and Jirka 1997).

Host Fish

The eastern lampmussel is thought to use a variety of fish hosts for reproduction, including rockbass, pumpkinseed, bluegill, smallmouth bass, longear sunfish, largemouth bass, white perch, sand shiner, yellow perch, bluntnose minnow, and black crappie (Cordeiro; Nedeau 2000).

Status

Ranging widely, the eastern lampmussel occurs along the Atlantic coastline from Nova Scotia, Canada to South Carolina, as well as throughout the Great Lakes region from Lake Ontario to Lake Superior (NatureServe 2005, Nedeau 2000, Strayer and Jirka 1997). This species is usually one of the more common ones found during mussel surveys. In an assessment of the conservation status of the freshwater mussels of the United States by the American Fisheries Society (Williams et al. 1993), the eastern lampmussel was listed as currently stable. The state status of the eastern lampmussel is imperiled (S2) (PNHP) due to infrequent occurrences of this species within suitable habitat. More surveys are required to determine the status of this species and other freshwater mussels in Pennsylvania.



The eastern lampmussel is a very stable species throughout its range. This could be due to its ability to survive in many types of habitats and/or wide variety of fish hosts used as prey for larval development. This mussel species will likely continue to play a key ecological role in aquatic ecosystems (Connecticut DEP 2003, Nedeau 2000).

References

- Bogan, A.E. 2002. Workbook and Key to the Freshwater Bivalves of North Carolina. North Carolina Museum of Natural Sciences. Raleigh, NC. 101 pp.
- Connecticut DEP. 2003. A Field Guide to the Freshwater Mussels of Connecticut. Hartford, CT 31 pp.
- Cordeiro, J. New York Metropolitan Region and New Jersey Freshwater Mussel Identification Handbook. Website: research.amnh.org/biodiversity/mussel/lampsilistgenustext.html
- NatureServe. 2007. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.2. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: September 4, 2007).
- Nedeau, E.J., M.A. McCollough, and B.I. Swartz. 2000. The Freshwater Mussels of Maine. Maine Dept. of Inland Fisheries and Wildlife, Augusta, ME.
- Pennsylvania Natural Heritage Program (PNHP). Biota of Concern In Pennsylvania (BOCIP) Lists. Website: www.naturalheritage.state.pa.us/invertebrates.aspx
- Strayer, D.L. and K.J. Jirka. 1997. The Pearly Mussels of New York State. The New York State Education Dept., Albany, NY 113 pp and plates.
- Williams, J.D., M.L. Warren, K.S. Cummins, J.L. Harris, and R.J. Neves. 1993. Conservation Status of Freshwater Mussels. *Fisheries* 18(9): 6-22

