

## Notice of Proposed Rulemaking

### COMMONWEALTH OF PENNSYLVANIA PENNSYLVANIA FISH AND BOAT COMMISSION

#### Title 58. Recreation Part II. Fish and Boat Commission Chapter 75 Fishing

## Preamble

The Fish and Boat Commission (Commission) proposes to amend 58 Pa. Code Chapter 75 (relating to endangered species). The Commission is publishing this proposed rulemaking under the authority of 30 Pa. C.S. (relating to the Fish and Boat Code) (code). The proposed amendments add the salamander mussel, the rabbitsfoot mussel and the snuffbox mussel to the list of endangered species and add the sheepnose mussel and the rayed bean mussel to the list of threatened species.

#### A. *Effective Date*

The proposed rulemaking, if approved on final-form, will go into effect immediately upon publication of an order in the *Pennsylvania Bulletin*.

#### B. *Contact Person*

For further information on the proposed rulemaking, contact Jason E. Oyler, Esq., P.O. Box 67000, Harrisburg, PA 17106-7000, (717) 705-7810. This proposal is available electronically through the Commission's website at [www.fish.state.pa.us](http://www.fish.state.pa.us).

#### C. *Statutory Authority*

The proposed amendments to §§75.1 and 75.2 (relating to endangered species; and threatened species) are published under the statutory authority of section 2305 of the code (relating to threatened and endangered species).

D. *Purpose and Background*

The proposed rulemaking is designed to update, modify and improve the Commission's regulations pertaining to endangered and threatened species. The specific purpose of the proposed amendments is described in more detail under the summary of proposal.

E. *Summary of Proposal*

(1) Salamander mussel (*Simpsonaias ambigua*). Salamander mussels occur in sand or silt under large, flat stones in swift current in streams and rivers. Unlike other mussel species in this Commonwealth, it is the only species whose glochidia (mussel larvae) host is not a fish, but the mudpuppy (*Necturus maculosus*), which typically occupies similar rock shelter habitat.

Historically, salamander mussels occurred in the Great Lakes Basin and throughout most of the Mississippi River system. The salamander mussel was known from 90 streams/lakes in 15 states and Canada. The salamander historically occurred within the lakes, streams and rivers of the following states and provinces: Pennsylvania, Minnesota, Wisconsin, Michigan, Tennessee, Ohio, Missouri, Kentucky, Indiana, Illinois, Iowa, Arkansas, New York, West Virginia, and Ontario, Canada. Recent occurrences have been reported from only 53 of these streams/lakes in the following 11 states: Pennsylvania, Ohio, West Virginia, New York, Kentucky, Tennessee, Michigan, Illinois, Indiana, Iowa, and Missouri. Multiple streams may comprise single salamander mussel population segments, essentially decreasing the number of extant populations. Existing populations are generally separated and genetically isolated from each other by barriers such as impoundments or riverine reaches of unsuitable or otherwise unoccupied habitat.

Only three waterbodies in this Commonwealth have records of the salamander mussel. Research suggests that live salamander mussels are not easily detected; the oldest historic record (collected by Stansbery 1970 (Clarke 1985)) indicates the presence of salamander mussels in Navigational Pool 5 of the Allegheny River. Presently the salamander mussel is considered to exist only in Navigational Pool 5 and 6 of the Allegheny River (Smith 2005, 2007). Shells were found in 1985 and 1995 (T. Smith, personal communication), but no live individuals were detected. Surveys of French Creek and its tributaries did not detect the presence of the salamander mussel (Smith and Crabtree 2005, Smith and Crabtree, *in review*).

Salamander mussel was evaluated by staff using the Commission's mussel species documentation and listing/de-listing criteria. The species review showed that a population reduction is projected to be greater than 80% in the next ten years, the extent of stream/river occupancy is projected to be less than 10 miles, the species exists at less than 6 sites, and a continued, documented decline has occurred, all of which satisfies endangered status.

These mussels face direct and indirect threats to their habitat from a number of industrial activities. The potential also exists for a single catastrophic event (*e.g.*, sodium hydroxide spill) to compromise the Allegheny River/French Creek/Dunkard Creek populations or their host species.

The Bivalve Technical Committee of the Pennsylvania Biological Survey (PABS) reviewed the Heritage rank of the salamander mussel and recommended that it be designated for "critically imperiled" (S1) status. Critically imperiled is defined as extremely rare or having factors making it especially vulnerable to extirpation from the state, *i.e.*, five or fewer occurrences or very few remaining individuals or acres (State Rank Definitions 1996). The PABS committee additionally recommended endangered listing status based on the aforementioned data and potential endangerment of the species in this Commonwealth.

Sufficient information has been collected from streams and rivers within the Commonwealth to warrant the species to be elevated from rare (non-listed) to endangered status. Therefore, the

Commission proposes that the salamander mussel be added to the Pennsylvania list of endangered species.

(2) Rabbitsfoot mussel (*Quadrula cylindrica cylindrica*). The rabbitsfoot mussel is a freshwater mussel that inhabits small to medium-sized streams and some larger rivers. It usually occurs in shallow areas along the bank and adjacent runs and shoals where the water velocity is reduced. Specimens may also occupy deep-water runs and have been reported in 9-12 feet of water. Bottom substrates generally include sand and gravel. This species seldom burrows but lies on its side on the stream bottom (Ecological Specialists, Inc.1993, Parmalee and Bogan 1998, Watters 1988).

The rabbitsfoot historically occurred in Alabama, Arkansas, Georgia, Illinois, Indiana, Kansas, Kentucky, Louisiana, Mississippi, Missouri, Ohio, Oklahoma, Pennsylvania, Tennessee, and West Virginia. The rabbitsfoot was previously known from 138 streams in 15 states. Rabbitsfoot populations are considered to still exist in only 49 streams in 13 states, which represents a 65% decline (USFWS 2008). Furthermore, in the streams where it does exist, populations with few exceptions are highly fragmented and restricted to short reaches. The rabbitsfoot mussel is designated federally as a candidate species to be listed as threatened or endangered.

In this Commonwealth, rabbitsfoot populations are known to currently occur in the Allegheny River, French Creek, Muddy Creek, LeBoeuf Creek, and Conneautee Creek. Current threats to the rabbitsfoot in the Allegheny River include channel maintenance activities, sedimentation, bridge replacement projects, agricultural activities, silvicultural activities, and rapid expansion of the oil and gas industry. There is always potential for a single, catastrophic event (*e.g.*, sodium hydroxide spill) to impact the French Creek or Allegheny River subpopulations. Other threats to the rabbitsfoot in French Creek include nutrients from agriculture, aging septic systems (R.R. Evans, WPC, pers. comm., 2003), sedimentation, and municipal runoff and effluents. As with the Allegheny River, the rapid expansion of oil and gas development in northwestern Pennsylvania is a concern within the French Creek watershed. LeBoeuf and Conneautee Creeks are both tributaries

to French Creek and face similar threats. Portions of Muddy Creek occur on the Erie National Wildlife refuge, which affords these portions protection. However, Muddy Creek is still threatened by sedimentation, agricultural runoff, expanding development in non-refuge lands, and the rapid expansion of oil and gas development.

Rabbitsfoot was evaluated by staff using the Commission's mussel species documentation and listing/de-listing criteria. The species review showed that a population reduction of greater than 80% is projected in the next ten years.

The Bivalve Technical Committee of PABS reviewed the Heritage rank of the rabbitsfoot and recommended that it be designated for "critically imperiled" (S1) status. Critically imperiled is defined as extremely rare or having factors making it especially vulnerable to extirpation from the state, *i.e.*, five or fewer occurrences or very few remaining individuals or acres (State Rank Definitions 1996). The PABS committee additionally recommended endangered listing status based on the aforementioned data and potential endangerment of the species in Pennsylvania. Enough information has been collected from streams and rivers within this Commonwealth to warrant the rabbitsfoot to be elevated from rare (non-listed) to endangered status. Therefore, the Commission proposes that rabbitsfoot mussel be added to the Pennsylvania list of endangered species.

(3) Snuffbox mussel (*Epioblasma triquetra*). The snuffbox mussel is found in small to medium-sized creeks to larger rivers and lakes. It occurs in swift currents of riffles, shoals and wave-washed lakeshores over gravel and sand with occasional cobble and boulders, and generally burrows deep into the substrate except when spawning or attracting a host (Parmalee and Bogan 1998).

Historically, the snuffbox mussel occurred in portions of the Great Lakes basin and throughout most of the Mississippi River system. The snuffbox was historically known from 208 streams/lakes in the following 18 states and Canada: Alabama, Arkansas, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Mississippi, Missouri, New York, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, Wisconsin, and in Ontario, Canada. Existing populations are

known from 73 streams and lakes in 14 states and Canada. However, it is probable that the species persists in some of the 135 streams/lakes where it is considered extirpated and it may occur in some other streams. Multiple streams may comprise single snuffbox populations, essentially decreasing the number of existing populations. Current populations are generally separated and genetically isolated from each other by barriers such as impoundments or riverine reaches of unsuitable and otherwise unoccupied habitat (Butler 2007).

Historical literature suggests that at one time the snuffbox mussel was relatively abundant in certain Pennsylvanian streams such as the upper Ohio River and Beaver River (Rhoads 1899) and Allegheny River (Ortmann 1909). The Lake Erie population is considered extirpated. Besides these waters, snuffbox have been reported from French Creek, West Branch French Creek, LeBoeuf Creek, Muddy Creek, Conneaut Outlet, Woodcock Creek, Little Mahoning Creek, Dunkard Creek, Shenango River, and Little Shenango River.

Snuffbox collections occurred sporadically since 1898 (Rhoads 1899). Populations were documented in the Allegheny River from Forest County downstream to Armstrong County. The construction of nine locks and dams on 72 miles of the Allegheny River between Armstrong County and Pittsburgh and other activities disrupted historical mussel habitat and snuffbox populations. Completion of the Kinzua Dam on the upper Allegheny River main stem in 1965 destroyed potential snuffbox habitat.

Muddy Creek contains snuffbox mussels that are considered part of the more extensive French Creek population (Mohler et al. 2006). Smith and Crabtree (2005) reported abundance estimates from quantitative samples in French Creek which suggest that although present in most locations, snuffbox occur at relatively low mean densities. No snuffbox were found in Little Mahoning Creek during 15 timed-area surveys (T.A. Smith, personal communication). Snuffbox habitat in the Shenango River has been destroyed by two reservoirs (Pymatuning Lake and Shenango River Lake). These impoundments eliminated snuffbox habitat in about 50% of the 75-mile river.

Snuffbox are currently present in the upper reaches of the Shenango River basin (Butler 2007). The Little Shenango River has a population reported from the lower portion of the river basin. The remaining habitat is separated by dams and reservoirs.

No snuffbox were found during recent mussel surveys of New York's tributaries to the Allegheny River (Smith and Horn 2006, Smith 2007, Smith and Meyer 2008b), and no snuffbox were found in the pooled portions of the Allegheny River (Smith and Meyer 2008c). Only French Creek is considered a stronghold for the species in this Commonwealth. Presently, snuffbox mussels can be collected throughout French Creek but usually at relatively low numbers. Snuffbox are also sporadically collected from the Allegheny River from Forest to Armstrong County.

The snuffbox population is declining nationwide and within the Commonwealth. The snuffbox is proposed as a candidate at the federal level. The proportion of watersheds occupied by the Commonwealth's snuffbox population declined by approximately 23%, *i.e.*, from 22 watersheds to 17 watersheds within the past 25 years. Several streams with snuffbox populations may occur within the same watershed in some cases. Of 107 individual streams with historic snuffbox populations, only 40 streams remain, which represents a 37% reduction (Butler 2007).

The construction of the navigational lock and dam system in the Allegheny River in the 1920's and 1930's invariably changed the character of the river habitat. The locks and dams were built along a 72 mile section of the river. The construction of the Kinzua Dam for flood control has altered the natural flow regime and habitat of the upper Allegheny River. These mussels face direct and indirect threats to their habitat from a number of industrial activities. Formerly, a stronghold for the Commonwealth's rich mussel fauna, the river bottom habitat in the Allegheny River, which is important for the survival of this mussel species, is rapidly being depleted by these practices. Other direct and indirect threats to the Allegheny River include sedimentation and pollution from oil and gas development, bridge replacement projects, and silvicultural activities. Coal mining activities in southwestern Pennsylvania have contributed to the degradation of the Monongahela River and its

tributaries, which may have provided suitable habitat to the snuffbox at one time. Threats to French Creek include sedimentation, municipal runoff and industrial and municipal waste water treatment plant discharges. Aquatic invasives, such as zebra mussels, have been observed in the upper Allegheny River watershed (*e.g.*, Edinboro Lake) and within French Creek. A single catastrophic event (*e.g.*, sodium hydroxide spill) could impact the French Creek population or their host fish species.

The snuffbox mussel was evaluated by staff using the Commission's mussel species documentation and listing/de-listing criteria. The species review showed that a population reduction of greater than 80% is projected in the next ten years. A continued decline of this species has been documented. These factors support endangered status.

The Bivalve Technical Committee of the PABS reviewed the Heritage rank of the snuffbox and recommended it be designated as "critically imperiled" (S1) status. Critically imperiled is defined as extremely rare or having factors making it especially vulnerable to extirpation from the state, *i.e.*, five or fewer occurrences or very few remaining individuals or acres (State Rank Definitions 1996). The PABS committee additionally recommended endangered listing status based on the aforementioned data and apparent endangerment of the species in this Commonwealth.

Enough information has been collected from streams and rivers within the Commonwealth to justify that the snuffbox be elevated from rare (non-listed) to endangered status. Therefore, the Commission proposes that the snuffbox mussel be added to the Pennsylvania list of endangered species.

(4) Sheepnose mussel (*Plethobasus cyphus*). The sheepnose mussel is primarily a larger-stream species. It occurs primarily in shallow shoal habitats with moderate to swift currents over coarse sand and gravel. Habitats with sheepnose mussels may also have mud, cobble and boulders. Specimens in larger rivers may occur in deep runs (Butler 2002, Oesch 1984, Parmalee and Bogan 1998).

Historically, the sheepnose occurred throughout much of the Mississippi River system with the exception of the upper Missouri River system and most lowland tributaries in the lower Mississippi River system. This species is known from the Mississippi, Ohio, Cumberland, Tennessee, and Ohio Rivers, and scores of tributary streams rangewide. The sheepnose was historically known from 77 streams in 15 states: Alabama, Arkansas, Illinois, Indiana, Iowa, Kentucky, Minnesota, Mississippi, Missouri, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and Wisconsin (Butler 2002). According to Parmalee and Bogan (1998) and Neves (1991), the sheepnose has been extirpated throughout much of its former range or reduced to isolated populations. The only records known from some streams are archeological specimens (Butler 2002).

The sheepnose mussel has been eliminated from 51 of the 77 streams from which it was historically known, which represents a decline of 66% (Butler 2002). This species has also been eliminated from long reaches of former habitat in hundreds of miles of the Illinois, Cumberland, and other rivers, and from several reaches of the Mississippi and Tennessee Rivers. In addition, the species is no longer present in the state of Arkansas (Butler 2002). Sheepnose are designated federally as a candidate species.

Historically, Ortmann (1909) considered the sheepnose mussel to occur “more abundantly” in the Allegheny in Armstrong County than it did in the Ohio in the Commonwealth, where he sampled it “sparingly.” Records indicate that sheepnose were collected within the Monongahela River near Monessen, Ohio River near Shippingport (New Cumberland Pool, Dashiels Pool), Beaver River near Wampum, and Allegheny River Pools 5 and 8.

Populations of the sheepnose mussel in this Commonwealth were generally considered to exist if live or fresh dead specimens had been collected after 1982 (~25 years ago). Currently, populations of the sheepnose are only known from the Allegheny River in Forest and Venango Counties. Zimmerman (2002) reported several live and fresh dead specimens, including juveniles, near Oil City. This evidence suggests the presence of a viable population of the sheepnose in the

upper Allegheny River (Butler 2002). The proportion of watersheds occupied by the Commonwealth's sheepnose population has declined from seven to two, or 71%, within the past 25 years. Several streams may occupy the same watershed.

Threats to sheepnose include direct and indirect threats to their habitat from a number of industrial activities, sedimentation and pollution. There is potential for a single, catastrophic event (*e.g.*, sodium hydroxide spill) to impact the Allegheny River population.

The majority of the remaining sheepnose populations appear to be small and geographically isolated. The one factor that most noticeably results in population isolation is impoundment of rivers as well as stream reaches heavily impacted by toxic effluents and contaminated sediments. The patchy distributional pattern of populations in short river reaches makes them much more susceptible to extirpation due to the lack of recolonization from other populations. A single catastrophic event, such as a toxic chemical spill, could cause the extirpation of small, isolated sheepnose occurrences. High levels of isolation make natural repopulation of any extirpated population impossible without human intervention. Population isolation also prohibits the natural interchange of genetic material between populations (USFWS 2008).

The likelihood is high that some or all of the Commonwealth's sheepnose mussel populations are below the effective population size (EPS) required to maintain long-term genetic and population viability. Recruitment reduction or failure is a potential problem for many small mussel populations rangewide, a potential condition exacerbated by reduced range sizes and increasingly isolated populations. If these trends continue, further significant declines in total sheepnose population size and consequent reduction in long-term viability may soon become apparent. Its present distribution and status may be indicative of the detrimental bottleneck effect resulting when the EPS is not attained (USFWS 2008).

Staff evaluated the sheepnose using the Commission's mussel species documentation and

listing/de-listing criteria. A 50% reduction in the next ten years is projected for this species, which satisfies threatened status.

The Bivalve Technical Committee of PABS reviewed the Heritage rank of the sheepsnose and recommended it be designated as “critically imperiled” (S1) status. However, recent survey information (R. Villella pers. comm.) from the upper Allegheny suggests that the PABS committee will be changing the status from S1 to S2 status (imperiled) - in the state because of rarity or because of some factors making it very vulnerable to extirpation from the state. Typically six to 20 occurrences or few remaining individuals or acres qualify a species for an S2 rank (State Rank Definitions 1996). The PABS committee additionally recommended threatened listing status, *i.e.*, species that may become endangered within the foreseeable future throughout their range in this Commonwealth unless the causal factors affecting the organism are abated.

Enough information has been collected from streams and rivers within the Commonwealth to warrant the sheepsnose be elevated from rare to threatened status. Therefore, the Commission proposes that the sheepsnose mussel be added to the Pennsylvania list of threatened species.

(5) Rayed bean mussel (*Villosa fabalis*). The rayed bean mussel is known from smaller headwater creeks, but records exist in larger rivers. They are usually found in or near riffle areas, and in the shallow, wave-washed areas of glacial lakes, including Lake Erie. In Lake Erie, it is generally associated with islands in the western portion of the lake. Substrates typically include gravel and sand. It is sometimes associated with vegetation (*e.g.*, water willow; *Justicia americana*, or water milfoil; *Myriophyllum* sp.) in and adjacent to riffles and shoals. Specimens are typically buried among the roots of the vegetation (Butler 2002).

Historically, the rayed bean occurred in parts of the upper (*i.e.*, Lake Michigan drainage) and lower Great Lakes systems, and throughout most of the Ohio and Tennessee River systems. The rayed bean was historically known from 106 streams, lakes, and some man-made canals in 10 states. The rayed bean mussel historically occurred in Illinois, Indiana, Kentucky, Michigan, New York,

Ohio, Pennsylvania, Tennessee, Virginia, and West Virginia. Existing populations are known from 22 streams and one lake in five states. The rayed bean mussel has disappeared from 78% of the total number of streams and other waterbodies from which it was historically known. (23 current waterbodies compared to 106 historic waterbodies.) The rayed bean has been eliminated from long stretches of former habitat in hundreds of miles of the Maumee, Ohio, Wabash, and Tennessee Rivers and from numerous stream reaches in their tributaries. In addition, the species is no longer known from the states of Illinois, Kentucky, Tennessee, Virginia, and West Virginia, representing half the states from which it was formerly known (Butler 2002).

Ortmann (1909) documented low numbers of rayed beans from the Allegheny River system. Presently, the Allegheny River population is one of the largest known, rangewide. The population extends from Cataraugus County, New York, to Armstrong County, Pennsylvania. It is currently found live in the Allegheny River (Pools 6, 8 and 9), French Creek and LeBoeuf Creek (Smith and Meyer 2008a; 2008 b). Rayed bean shell material has been found in Allegheny River Pool 7 (Smith and Meyer 2008a; 2008b). Populations of rayed bean also occur in French Creek and Cussewago Creek (Smith and Crabtree 2005).

Rayed bean mussels are currently distributed within the upper Allegheny River watershed (Cussewago Creek, tributary to Conewango Creek and French Creek; LeBoeuf Creek) and within the middle Allegheny River and from Navigational Pools 6, 8 and 9. The Allegheny River population is one of the largest, rangewide (Butler 2002). However, the rayed bean is declining nationwide and within this Commonwealth. Nationally, of 106 individual streams/waterbodies with historic rayed bean populations, only 23 streams remain (a 78% stream reduction) (Butler 2002). The rayed bean is currently designated as a federal candidate and is under review to be listed as an endangered species.

The greatest threats to the French Creek population include sedimentation, municipal runoff and effluents. The rapid expansion of oil and gas exploration and development threatens existing populations (*e.g.*, brines, organics) and stream sedimentation loading from the increasing number of

dirt and gravel roads and well sites. Aquatic invasives, such as zebra mussels have been observed in the upper Allegheny River watershed (*e.g.*, Edinboro Lake) and within French Creek.

These mussels face direct and indirect threats to their habitat from a number of industrial activities. There is potential for a single, catastrophic event (*e.g.*, sodium hydroxide spill) to impact this population.

The majority of the remaining rayed bean mussel populations appears to be small and geographically isolated. The factor that most noticeably results in population isolation is impounding of rivers but another factor is stream reaches that are heavily impacted by toxic effluents and contaminated sediments. The patchy distributional pattern of populations in short river reaches makes them much more susceptible to extirpation due to the lack of recolonization from other populations. A single catastrophic event, such as toxic chemical spills, could cause the extirpation of small, isolated rayed bean occurrences. High levels of isolation make natural repopulation of any extirpated population impossible without human intervention. Population isolation also prohibits the natural interchange of genetic material between populations (USFWS 2008).

The likelihood is high that some or all of the Commonwealth's rayed bean mussel populations are below the effective population size (EPS) required to maintain long-term genetic and population viability. Recruitment reduction or failure is a potential problem for many small mussel populations rangewide, a potential condition exacerbated by reduced range sizes and increasingly isolated populations. If these trends continue, further significant declines in total rayed bean population size and consequent reduction in long-term viability may soon become apparent. Its present distribution and status may be indicative of the detrimental bottleneck effect resulting when the EPS is not attained (USFWS 2008).

Staff evaluated this species using the Commission's mussel species documentation and listing/de-listing criteria. The population is projected to be reduced by greater than 50% in next ten years, which satisfies a threatened status listing.

The Bivalve Technical Committee of PABS reviewed the Heritage rank of the sheepnose and recommended it be designated as “critically imperiled/imperiled” (S1S2) status. This combined status, on the border of critically imperiled and imperiled status, is due to the species’ extreme rarity or because of some factors making it especially vulnerable to extirpation from the state. “Critically imperiled” factors include the existence of five or fewer occurrences or very few remaining individuals or acres. “Imperiled status” can be due to rarity or because of some factor(s) making it very vulnerable to extirpation from the state, *i.e.*, typically six to 20 occurrences or few remaining individuals or acres (State Rank Definitions 1996). The PABS committee additionally recommended a threatened listing status (Pennsylvania Biological Survey Suggested Status Definitions 2005) based on the aforementioned data and apparent endangerment of the species in this Commonwealth.

Enough information has been collected from streams and rivers within the Commonwealth to warrant the rayed bean to be elevated from rare to threatened status. Therefore, the Commission proposes that the rayed bean mussel be added to the Pennsylvania list of threatened species.

The Commission proposes that §§75.1 and 75.2 be amended to read as set forth in Annex A.

F. *Paperwork*

The proposed rulemaking will not increase paperwork and will create no new paperwork requirements.

G. *Fiscal Impact*

The proposed rulemaking will have no adverse fiscal impact on the Commonwealth or its political subdivisions. The proposed rulemaking will impose no new costs on the private sector or the general public.

H. *Public Comments*

Interested persons are invited to submit written comments, objections or suggestions about the proposed rulemaking to the Executive Director, Pennsylvania Fish and Boat Commission, P.O. Box 67000, Harrisburg, PA 17106-7000, within 30 days after publication of this notice in the *Pennsylvania Bulletin*. Comments submitted by facsimile will not be accepted.

Comments also may be submitted electronically by completing the form at [www.fishandboat.com/regcomments](http://www.fishandboat.com/regcomments). If an acknowledgment of electronic comments is not received by the sender within 2 working days, the comments should be retransmitted to ensure receipt. Electronic comments submitted in any other manner will not be accepted.

For the Pennsylvania Fish and Boat Commission

Douglas J. Austen, Ph.D  
Executive Director

**Annex A**

**Regulation No. 48A-208**

**Title 58. Recreation**

**Part II. Fish and Boat Commission**

***Subpart B. Fishing***

**CHAPTER 75. ENDANGERED SPECIES**

§ 75.1. Endangered species.

\* \* \*

(b) *Fish*. The following species are endangered:

\* \* \*

[(29) Northern riffleshell mussel, *Epioblasma torulosa rangiana*.

(30) Clubshell mussel, *Pleurobema clava*.

(31) Dwarf wedgemussel, *Alasmidonta heterodon*.

(32) Eastern pearlshell mussel, *Margaritifera margaritifera*.]

\* \* \*

**(d) Invertebrates. The following species are endangered:**

**(1) Northern riffleshell mussel, *Epioblasma torulosa rangiana*.**

**(2) Clubshell mussel, *Pleurobema clava*.**

**(3) Dwarf wedgemussel, *Alasmidonta heterodon*.**

**(4) Eastern pearlshell mussel, *Margaritifera margaritifera*.**

**(5) Salamander mussel, *Simpsonaias ambigua*.**

**(6) Rabbitsfoot mussel, *Quadrula cylindrica cylindrica*.**

**(7) Snuffbox mussel, *Epioblasma triquetra*.**

§ 75.2. Threatened species.

\* \* \*

**(d) Invertebrates. The following species are threatened:**

**(1) Sheepnose mussel, *Plethobasus cyphus*.**

**(2) Rayed bean mussel, *Villosa fabalis*.**