

American Malacological Society (AMS) Conservation Committee Imperiled Species News End of Year Report 2020*

***(A modified copy of this report was first presented at the American Malacological Society Executive Council Board Meeting in July 2020)**

Conservation Activities for U.S. Mollusks

It is unfortunate that the AMS meeting in the Florida Keys in 2020 was cancelled this year. Fortunately, however a remote meeting was held July 10 online. The AMS Conservation Committee Report was delivered remotely at that time and a summary of that report follows. This year saw a surprising (or not surprising depending on to whom you ask...) number of proposed removals of animal and plant species (all taxa) from listing under the U.S. Endangered Species Act. At the time of the meeting, six animal and plant species were removed from listing and seven were proposed for removal. Reasons for removal include recovery and availability of new information (twelve) and revised taxonomy (one). At the time of the AMS meeting, activity involving ESA rulings for mollusks was minimal. Since then, however, several proposals and rulings have been announced. They are summarized here for those of you not regularly reading the U.S. Federal Register reports on the train on your way to work (like I do...).

The Morro shoulderband snail (*Helminthoglypta walkeriana*) was proposed for reclassification from Endangered to Threatened on July 24th. Justification for the proposal is based on taxonomic revision the result of which indicates the species is more secure in parts of its range than once believed. Surveys conducted since the time of listing indicate that numbers now occur in the thousands rather than the hundreds. Good news for this quarter-sized California endemic.

The longsolid (*Fusconaia subrotunda*) and round hickorynut (*Obovaria subrotunda*) mussels were each proposed as Threatened under the ESA on September 29th; however listing of the purple lilliput (*Toxolasma lividum*) was not warranted. Some 1115 river miles of Critical Habitat in Pennsylvania, Kentucky, West Virginia, Virginia, Tennessee and Alabama were designated for the longsolid. Another 92 river miles were designated in Pennsylvania, Ohio, Indiana, Kentucky, West Virginia, Tennessee, Alabama and Mississippi for the round hickorynut. So why did the longsolid and round hickorynut make the cut while the purple lilliput did not? Good question, I'm glad I asked. Although all three species have experienced range reductions, the decline of the purple lilliput has not been as steep as the other two. The longsolid has lost 63% of its populations, the round hickorynut has lost 78%, while the purple lilliput has lost 47%. In addition, the purple lilliput is still found in in all six major river basins where it was known to occur. Comment period for this proposal is open until December 28th. Text for the proposal and information about commenting are available online: <https://www.govinfo.gov/content/pkg/FR-2020-09-29/pdf/2020-17015.pdf>. PLEASE SUBMIT YOUR COMMENTS BEFORE THEN.



Photo credit round hickorynut: Kendall Moles, USFWS

Five-year reviews were initiated for several mollusk species, including the Virginia fringed mountainsnail (*Polygyris virginiensis*), James spiny mussel (*Pleurobema collina*) (October 13th); Curtis pearly mussel (*Epioblasma florentina curtisii*), scaleshell mussel (*Leptodea leptodon*), and white cat's paw pearly mussel (*Epioblasma obliquata perobliqua*) (August 31st). Comment period has closed but the agency will accept new information anytime <https://www.govinfo.gov/content/pkg/FR-2020-08-31/pdf/2020-19083.pdf>.



Photo credit James spiny mussel: USFWS

The canoe creek clubshell (*Pleurobema athearni*) was proposed as Endangered on November 3rd and 36.3 river miles in St. Clair and Etowah Counties, AL, designated as Critical Habitat for the species. Fortunately, some of the above species' current distribution overlaps with other listed aquatic species that share some of the same habitat requirements. This includes the Atlantic pigtoe, James spiny mussel, Tar River spiny mussel, dwarf wedgemussel, yellow lance mussel, Roanoke logperch, shortnose sturgeon, and the Atlantic sturgeon. Approved listing protection, therefore, can be extended to more than one species in the same location. Comment period for this proposal are open until January 4th, 2021. Text for the proposal and information about commenting are online <https://www.govinfo.gov/content/pkg/FR-2020-11-03/pdf/2020-22007.pdf> . PLEASE SUBMIT YOUR COMMENTS BEFORE THEN.



Photo credit Atlantic pigtoe: USFWS

One of the species removed from the list was a mollusk, the Kanab ambersnail (*Oxyloma haydeni kanabensis*), known only from three populations in Utah and Arizona. In 1992 the Kanab ambersnail was listed as Endangered under the ESA. Critical habitat was not designated due to a danger of over-collection or molestation ("please do not molest the snails"). A formal Recovery Plan was drafted in 1995. A five year review published in 2011 maintained its Endangered status under the ESA. Proposed removal from listing in was prompted by a study by Miller et al. (2000) indicating one of the three populations was potentially part of a different species or subspecies taxonomically. The publication of a larger more comprehensive study of the genetics of the species prompted the proposed listing which contends the taxon is not a valid species or subspecies.



Photo credit Kanab ambersnail (and Eisenhower dime): AZ Game and Fish

On August 12, 2019, the U.S. Fish and Wildlife Service (USFWS), re-organized under the Donald Trump administration and under acting direction Margaret Everson, announced drastic changes to regulations set forth in the U.S. Endangered Species Act (ESA (50 CVF Part 24 Endangered and Threatened Wildlife and Plants; Revision of the Regulations for Listing Species and Designating Critical Habitat). “The best way to uphold the Endangered Species Act is to do everything we can to ensure it remains effective in achieving its ultimate goal—recovery of our rarest species. The Act’s effectiveness rests on clear, consistent and efficient implementation,” said Secretary David Bernhardt. “An effectively administered Act ensures more resources can go where they will do the most good: on-the-ground conservation.”

“The revisions finalized with this rulemaking fit squarely within the President’s mandate of easing the regulatory burden on the American public, without sacrificing our species’ protection and recovery goals,” said U.S. Secretary of Commerce Wilbur Ross. “These changes were subject to a robust, transparent public process, during which we received significant public input that helped us finalize these rules.”

Major changes were already underway for the Environmental Protection Agency; the agency that oversees the U.S. Fish and Wildlife Service. As of 2020, the agency cut 19% of workforce (3,200 employees), through staff buyouts and layoffs. The mission of wildlife conservation was refocused on clean water, air, clean water and other responsibilities. Enforcement of illicit wildlife activities and ESA violations was delegated to states, while decreasing money was given to states by 30%. As of the start of 2020, republicans introduced 80 bills and Executive Orders by the President to skirt, hamper, or undermine endangered species protections. Updates enacted were designed to ease the burden of regulations and increase transparency into decisions on whether a species warrants protections.

Changes, however, were drastic and far-reaching. Major revisions include:

- (1) Put economic costs on saving species (adding or removing); removal of “best available science without reference to possible economic or other impacts of such determination”
- (2) Consideration of Critical Habitat for listing ONLY for *currently occupied* habitat (can still *designate* unoccupied Critical Habitat)
- (3) Removal of blanket protection of Threatened species (formerly same as Endangered Species) such that species assessed on an individual basis
- (4) Removal of threat in “foreseeable future” when assessing Threatened species (e.g. climate change)

(5) Removal of ability to take climate change into consideration when making listing assessments

On this last point, climate change was removed from listing consideration of the aforementioned Kanab ambersnail or stated to not impact the species negatively. An extensive section of a few paragraphs of the review proposal was included warranting the exclusion of climate change in the listing process; and hence removal of the Kanab ambersnail from the U.S. Endangered Species list.

Critical habitat was designated back on June 4, 2019, for snuffbox (*Epioblasma triquetra*), spectaclecase (*Cumberlandia monodonta*), sheepnose (*Plethobasus cyphus*) and rayed bean (*Villosa fabalis*) freshwater mussels — ranging from Wisconsin and New York to Alabama and from Kansas to Virginia. The USFWS designated 190 miles of Critical Habitat on November 26 2019, for the believed extinct but recently rediscovered Suwannee moccasinshell (*Medionidus walkeri*), in Florida. Critical habitat includes portions of the Suwannee River, Upper Santa Fe River and Withlacoochee River. Similarly, Critical Habitat was designated. Following 10 years of advocacy and litigation by the Center for Biological Diversity, the U.S. Fish and Wildlife Service proposed on February 5, 2020, to protect 319 river miles of critical habitat for the threatened yellow lance (*Elliptio lanceolata*) freshwater mussel in North Carolina, Virginia and Maryland.



Photo credit: USFWS

Designation of critical habitat allows for protection of specific geographic areas that contain features essential to the conservation of an endangered or threatened species and that may require special management and protection. It is a key to survival of endangered species. Contrary to popular opinion, designating an area as critical habitat does not preclude that area from development. Critical habitat designation affects only actions on behalf of Federal agencies and such actions can be circumvented for federally funded activities or activities by acquiring a federal permit. Revisions (1) and (2) above now make it much easier to avoid critical habitat violation penalties or circumvent designation altogether. One such example is the approval of incidental take of endangered mussels false spike (*Fusconaia mitchelli*) and Texas fawnsfoot (*Truncilla macrodon*) during a development project by the Brazos River Authority in Texas. The USFWS approved exclusion of ESA act penalties on October 6th of 2020 (<https://www.govinfo.gov/content/pkg/FR-2020-10-06/pdf/2020-22063.pdf>).

Other Conservation Actions:

Canada completed its assessment of terrestrial gastropods in their Committee on the Status of Endangered Wildlife in Canada (COSEWIC), Canada's equivalent of the U.S. Fish and Wildlife Service, in 2019. Two snails, toothed globe (*Mesodon zaletus*) and shagreen (*Inflectarius inflectus*), were assessed as Endangered with Carolina mantleslug (*Philomycus carolinianus*) assessed as Threatened. If you live in the U.S. anywhere from eastern Oklahoma and northeast Texas into neighboring Arkansas and Missouri, as well as east to Alabama and up the Appalachian Trail into New York across Lake Ontario and Erie to southern Michigan, finding a toothed globe, with some persistence, is difficult but not impossible. The global range is very wide; area of occupied habitat over 1 million square miles. Number of occurrences and actual extent of occurrences is only a fraction of this. If that isn't alarming, this species' Canadian buddies are in real trouble. The low elevation forest snail is extirpated from six of its nine known occurrences in Canada and its presence in the remaining three could not be recently confirmed. The species has not been seen alive in Canada since 1994 despite extensive searches over the last 20 years (COSEWIC, 2019 *Mesodon zaletus*)! Lastly, if you, like me, are wondering what the heck a "shagreen" is, you can find out all kinds of useful tidbits of knowledge to use during bar trivia here:

<https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/cosewic-assessments-status-reports/shagreen-2019.html>.



Photo credit: COSEWIC, 2019 C. Goodrich and M. L. Winslow in 1890 in Leamington, University of Michigan Museum of Zoology, Bryant Walker collection, UMMZ 105034 (see: COSEWIC. 2019. COSEWIC assessment and status report on the Toothed Globe Mesodon zaletus in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 38 pp.)

U.S. House Bill and Other Legislation:

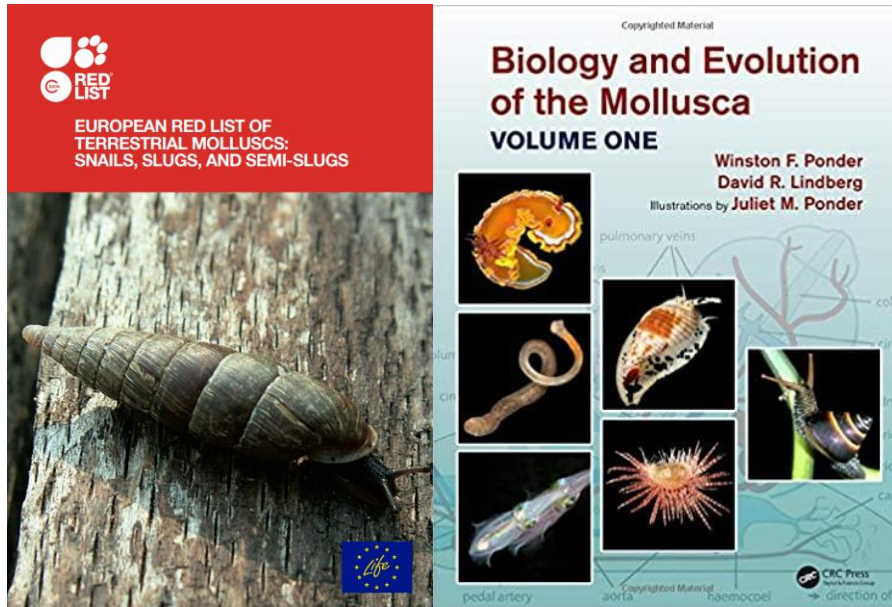
Following up on last year's President Trump Administration's changes in Endangered Species protection, the Center for Biological Diversity in Portland, Oregon, in November 2019 filed formal notice of their intent to sue the Trump administration for blocking the determination of the federal status of 274 species of animals and plants across the U.S.. At the time, there was over a 500 species backlog that should have been considered by the U.S. Fish & Wildlife Service (USFWS) developed in a 2016 plan. Some 21 unionid bivalves and 39 gastropods are included in this list.

President Trump signed Executive Order 13927 to provide federal agencies the foundation to speed up environmental permitting despite existing environmental regulations. Justification for the order was that the COVID-19 outbreak constitutes a national emergency posing a threat to U.S. national security. The Executive Order specifically addresses the following activities: transportation infrastructure projects; civil works projects within the jurisdiction of the U.S. Army Corps of Engineers (Corps); delivery of infrastructure and other projects on federal lands; National Environmental Policy Act emergency regulations and procedures; Endangered Species Act emergency consultation procedures; emergency regulations and nationwide permits under the Clean Water Act (CWA), Rivers and Harbors Act, and Marine Protection Research and Sanctuaries Act; and other authorities providing for emergency or expedited treatment of infrastructure improvements.

In response, the Center for Biological Diversity filed a notice of its intent on June 9 to sue the Trump Administration over the executive order directing all federal agencies to exploit the Endangered Species Act's emergency provisions to rubber-stamp the approval of fossil fuel pipelines, oil and gas drilling and other routine infrastructure projects. This would mark the first time Trump has been sued for violating the Endangered Species Act, under which it's illegal for any person to solicit — that is, cause another person to commit — an act that harms protected wildlife or plants.

Major Conservation-Related Books and Monographs:

- Archambault, J.M., W.G. Cope, and T.J. Kwak. 2018. Chasing a changing climate: Reproductive and dispersal traits predict how sessile species respond to global warming. *Diversity and Distribution* 24(7): 880-891.
- Blevin, E., L. McMullen, S. Jepsen, M. Blackburn, A. Code, and S.H. Black. 2019. Mussel Friendly Restoration: A Guide to the Essential Steps for Protecting Freshwater Mussels in Aquatic and Riparian Restoration, Construction, and Land Management Projects and Activities. Xerces Society, Portland, OR
- Böhm, M., N.I. Dewhurst-Richman, M. Seddon, S.E.H. Ledger, C. Albrecht, D. Allen, A.E. Bogan, J. Cordeiro, K.S. Cummings, A. Cuttelod, G. Darrigran, W. Darwall, Z. Fehér, C. Gibson, D.L. Graf, F. Köhler, M. Lopes-Lima, G. Pastorino, K.E. Perez, K. Smith, D. van Damme, M.V. Vinarski, T. von Proschwitz, T. von Rintelen, D.C. Aldridge, N.A. Aravind, P.B. Budha, C. Clavijo, D.V. Tu, O. Gargominy, M. Ghamizi, M. Haase, C. Hilton-Taylor, P.D. Johnson, Ü. Kebapci, J. Lajtner, C.N. Lange, D.A.W. Lepitzki, A. Martínez-Orti, E.A. Moorkens, E. Neubert, C.M. Pollock, V. Prié, C. Radea, R. Ramirez, M.A. Ramos, S.B. Santos, R. Slapnik, M.O. Son, A.-S. Stensgaard, and B. Collen. 2020. The conservation status of the world's freshwater molluscs. *Hydrobiologia*, DOI 10.1007/s10750-020-04385-w
- Haag, W.R. 2019. Reassessing enigmatic mussel declines in the United States. *Freshwater Mollusk Biology and Conservation* 22: 43-60
- Neubert, E., Seddon, M.B., Allen, D.J., Arrébola, J., Backeljau, T., Balashov, I., Bank, R., Cameron, R., de Frias Martins, A.M., De Mattia, W., Dedov, I., Duda, M., Falkner, G., Falkner, M., Fehér, Z., Gargominy, O., Georgiev, D., Giusti, F., Gómez Moliner, B.J., Groh, K., Ibáñez, M., Kappes, H., Manganelli, G., MartínezOrtí, A., Nardi, G., Neiber, M.T., Páll-Gergely, B., Parmakelis, A., Prié, V., Reischütz, A., Reischütz, P.L., Rowson, B., Rüetschi, J., Slapnik, R., Son, M., Štamol, V., Teixeira, D., Triantis, K., Vardinoyannis, K., von Proschwitz, T. and Walther, F. (2019). *European Red List of Terrestrial Molluscs*. IUCN: Cambridge, UK and Brussels, Belgium.
- Ponder, W.F., D.R. Lindberg, and J.M. Ponder eds. 2019. *Biology and Evolution of the Mollusca Volume One*. CRC Press. 924 pp.
- Ponder, W.F., D.R. Lindberg, and J.M. Ponder eds. 2019. *Biology and Evolution of the Mollusca Volume Two*. CRC Press. 890 pp.



Shameless plugs...

Future of the Committee:

I am still looking for new members to join the Conservation Committee to provide updates or stories on regional fauna to include in both the annual committee report and the Conservation Newsletter Report (please make members aware of this report and its availability on the AMS web page and Facebook page). Our By-Laws state that “the Conservation Committee shall consist of a chair appointed by the President and at least two additional members appointed by the chair. It is charged with promoting the conservation of molluscan biodiversity and coordinating AMS conservation efforts with any other groups or organizations sharing similar goals. We continue to have a committee of one and I wish to continue to support the committee to the best of my ability but at this time would like to solicit inclusion of new Committee members. I ask that Conservation Committee news continue to be reported on the AMS Imperiled Species Newsletter (<http://www.malacological.org/conservation.html>) and I welcome contributions from all AMS members. I will continue to provide updates to Federal legislation with respect to marine, freshwater and terrestrial mollusks as they occur via email to members for discussion. Please contact me directly if you wish to contribute to reports and activities of the Conservation Committee (jay.cordeiro@umb.edu).

Jay Cordeiro
 Wildlife Biologist
 Massachusetts Audubon Society
 345 Bone Hill Road
 Cummaquid, MA 02637

and

Department of Biological Sciences
 Bridgewater State University
 131 Summer Street
 Bridgewater, MA 02324
 Jay.cordeiro@umb.edu

