

REFERENCES CITED

12-Month Finding for Purple Lilliput; Threatened Species Status with Section 4(d) Rule for Longsolid and Round Hickorynut and Designation of Critical Habitat

- Ahlstedt, S.A., and J.D. Tuberville. 1997. Quantitative reassessment of the freshwater mussel fauna in the Clinch and Powell Rivers, Tennessee and Virginia. Pp. 72–97 in: K.S. Cummings, A.C. Buchanan, C.A. Mayer, and T.J. Naimo, eds. Conservation and management of freshwater mussels II: initiatives for the future. Proceedings of a UMRCC symposium, October 1995, St. Louis, Missouri. Upper Mississippi River Conservation Committee, Rock Island, Illinois.
- Ahlstedt, S.A., M.T. Fagg, R.S. Butler, J.F. Connell, and J.W. Jones. 2016. Quantitative Monitoring of Freshwater Mussel Populations from 1979-2004 in the Clinch and Powell Rivers of Tennessee and Virginia, with Miscellaneous Notes on the Fauna. *Freshwater Mollusk Biology and Conservation* 19:1–18.
- Aldridge, D.W., Payne, B.S., and Miller, A.C. 1987. The effects of intermittent exposure to suspended solids and turbulence on three species of freshwater mussels. *Environmental Pollution* 45(1):17–28.
- Allan, J.D. 1995. *Stream Ecology: Structure and Function of Running Waters*. Chapman and Hall. New York.
- Anderson, R.M., J.B. Layzer, and M.E. Gordon. 1991. Recent catastrophic decline of mussels (Bivalvia: Unionidae) in the Little South Fork Cumberland River, Kentucky. *Brimleyana* 17:1–8.
- Anderson, R.M., and D.A. Kreeger. 2010. Potential for impairment of freshwater mussel populations in Delaware River Basin Commission special protection waters as a consequence of natural gas exploratory well development. 14 pp.
- Angelo, R.T., M.S. Cringan, E. Hays, C.A. Goodrich, E.J. Miller, M.A. VanScoyoc, and B.R. Simmons. 2009. Historical changes in the occurrence and distribution of freshwater mussels in Kansas. *Great Plains Research* 19:89–126.
- Augspurger, T., A.E. Keller, M.C. Black, W.G. Cope, and F.J. Dwyer. 2003. Water quality guidance for protection of freshwater mussels (Unionidae) from ammonia exposure. *Environmental Toxicology and Chemistry* 22(11):2,569–2,575.
- Augspurger, T., F.J. Dwyer, C.G. Ingersoll, and C.M. Kane. 2007. Advances and opportunities in assessing contaminant sensitivity of freshwater mussel (Unionidae) early life stages. *Environmental Toxicology and Chemistry* 26:2,025–2,028.
- Aust, W.M., Carroll, M.B., Bolding, M.C., and C.A. Dolloff. 2011. Operational forest stream crossings effects on water quality in the Virginia Piedmont. *Southern Journal of Applied Forestry* 35:123–130.
- Bartsch, M.R., T.J. Newton, J.W. Allran, J.A. O'Donnell, and W.B. Richardson. 2003. Effects of pore-water ammonia on situ survival and growth of juvenile mussels (*Lampsilis cardium*) in the St. Croix riverway, Wisconsin, USA. *Environmental Toxicology and Chemistry* 22(11):2,561–2,568.

- Bay, R.T., and D.B. Winford. 1984. The mussel fauna of the proposed Yatesville Reservoir project area, Johnson and Lawrence Counties, Kentucky. U.S. Army Corps of Engineers, Huntington District, Huntington, West Virginia. 53 pp.
- Berg, D.J., T.D. Levine, J.A. Stoeckel, and B.K. Lang. 2008. A conceptual model linking demography and population genetics of freshwater mussels. *Journal of the North American Benthological Society* 27(2):395–408.
- Bringolf, R.B., W.G. Cope, C.B. Eads, P.R. Lazaro, M.C. Barnhart, and D. Shea. 2007. Acute and chronic toxicity of technical-grade pesticides to glochidia and juveniles of freshwater mussels (Unionidae). *Environmental Toxicology and Chemistry* 26(10):2,086–2,093.
- Bringolf, R.B., R.M. Heltsley, T.J. Newton, C.B. Eads, S.J. Fraley, D. Shea, and W.G. Cope. 2010. Environmental occurrence and reproductive effect of the pharmaceutical fluoxetine in native freshwater mussels. *Environmental Toxicology and Chemistry* 29(6):1,311–1,318.
- Broadmeadow, S. and T.R. Nisbet. 2004. The effects of riparian forest management on the freshwater environment: a literature review of best management practices. *Hydrology and Earth System Sciences* 8(3):286–305.
- Brown, M.E., M. Kowalewski, R.J. Neves, D.S. Cherry, and M.E. Schreiber. 2005. Freshwater mussel shells as environmental chronicles: Geochemical and taphonomic signatures of mercury-related extirpations in the North Fork Holston River, Virginia. *Environmental Science and Technology* 39(2005):1,455–1,462.
- Butler, R.S. 2007. Status Assessment Report for the Snuffbox, *Epioblasma triquetra*, a freshwater mussel occurring in the Mississippi River and Great Lakes Basins. Report Prepared by the Ohio River Valley Ecosystem Team Mollusk Subgroup. 212 pp.
- Caldwell, P. C. Segura, S.G. Laird, G. Sun, S.G. McNulty, M. Sandercock, J. Boggs, and J.M. Vose. 2014. Short-term stream water temperature observations permit rapid assessment of potential climate change impacts. *Hydrological Processes* 29(9):2,196–2,211.
- Chen, L.Y., A.G. Heath, and R.J. Neves. 2001. Comparison of oxygen consumption of freshwater mussels (Unionidae) from different habitats during declining dissolved oxygen concentration. *Hydrobiologia* 450:209–215.
- Clayton, J.L. 2018. Email communications in 2018, between Andrew Henderson, U.S. Fish and Wildlife Service and Janet Clayton, West Virginia Division of Natural Resources (WVDNR).
- Colle, D.E., J.V. Shireman, W.T. Haller, J.C. Joyce, and D.E. Canfield. 1987. Influence of *Hydrilla* on harvestable sport-fish populations, angler use, and angler expenditures at Orange Lake, Florida. *North American Journal of Fisheries Management* 7:410–417.
- Committee on the Status of Species at Risk in Ontario. 2013. Candidate Species at Risk Evaluation for Round Hickorynut, *Obovaria subrotunda*. 14 pp.

- Couceiro, S., Hamada, N., Luz, S., Forsberg, B., and Pimentel, T. 2007. Deforestation and sewage effects on aquatic macroinvertebrates in urban streams in Manaus, Amazonas, Brazil. *Hydrobiologia* 575:271–284.
- Dimock, R.V. and A.H. Wright. 1993. Sensitivity of Juvenile Freshwater Mussels to hypoxic, thermal and acid stress. *The Journal of the Elisha Mitchell Scientific Society* 109(4):183–192.
- Ebert, D.J. 1993. Dredging. Pp. 157–164 *in*: C.F. Bryan, and D.A. Rutherford (eds.). *Impacts on warm water streams: Guidelines for evaluation*. Southern Division, American Fisheries Society, Little Rock, Arkansas.
- Ehlo, C.A., and J.B. Layzer. 2014. Population Demographics and Life History of the Round Hickorynut (*Obovaria subrotunda*) in the Duck River, Tennessee. *American Midland Naturalist* 171:1–15.
- Eissa, A.E. and M.M. Zaki. 2011. The impact of global climatic changes on the aquatic environment. *Procedia Environmental Sciences* 4:251–259.
- Ellis, M.M. 1936. Erosion silt as a factor in aquatic environments. *Ecology* 17:29–42.
- Evans, R. 2010. Freshwater mollusk monitoring in the South Fork Kentucky River system. Final report to the Kentucky Department of Fish and Wildlife Resources, State and Tribal Wildlife Grants Program. Kentucky State Nature Preserves Commission, Frankfort, Kentucky. 152 pp.
- Fagan, W.F. 2002. Connectivity, fragmentation, and extinction risk in dendritic metapopulations. *Ecology* 83(12):3,243–3,249.
- Fahrig, L. 2003. Effects of habitat fragmentation on biodiversity. *Annual Reviews of Ecology, Evolution, and Systematics* 34(2003):487–515.
- Fisher, B.E. 2019. Email communication between Brant Fisher, Indiana Department of Natural Resources (IDNR), and Andrew Henderson, Service, on February 19, 2011, regarding water withdrawals for irrigation for agricultural use, and status of Round Hickorynut populations in Indiana.
- Frankham, R. 1996. Relationship of genetic variation to population size in wildlife. *Conservation Biology* 10(6):1,500–1,508.
- Fuller, S.L.H. 1974. Clams and mussels (Mollusca: Bivalvia). Pp. 215–273 *in*: C.W. Hart, Jr., and S.L.H. Fuller (eds.). *Pollution ecology of freshwater invertebrates*. Academic Press, New York.
- Gatenby, C.M., R.J. Neves, and B.C. Parker. 1996. Influence of sediment and algal food on cultured juvenile freshwater mussels. *Journal of the North American Benthological Society* 15(4):597–609.
- Geist, J. 2010. Strategies for the conservation of endangered freshwater pearl mussels (*Margaritifera margaritifera* L.): A synthesis of conservation genetics and ecology. *Hydrobiologia* 644:69–88.

- Giddings, E.M.P., A.H. Bell, K.M. Beaulieu, T.F. Cuffney, J.F. Coles, L.R. Brown, F.A. Fitzpatrick, J. Falcone, L.A. Sprague, W.L. Bryant, M.C. Pepler, C. Stephens, and G. McMahon. 2009. Selected physical, chemical, and biological data used to study urbanizing streams in nine metropolitan areas of the United States, 1999–2004: U.S. Geological Survey Data Series 423. 11 pp. + data tables.
- Gordon, M.E., and J.B. Layzer. 1989. Mussels (Bivalvia: Unionidea) of the Cumberland River: Review of life histories and ecological relationships. U.S. Fish and Wildlife Service Biological Report 89(15). 99 pp.
- Goudreau, S., R.J. Neves, and R.J. Sheehan. 1993. Effects of wastewater treatment plant effluents on freshwater mollusks in the upper Clinch River, Virginia, USA. *Hydrobiologia* 252(3):211–230.
- Haag, W.R. 2009. Past and future patterns of freshwater mussel extinctions in North America during the Holocene. *Holocene extinctions* (2009):107–128.
- Haag, W.R. 2012. *North American Freshwater Mussels: Natural History, Ecology, and Conservation*. Cambridge University Press, Cambridge, New York.
- Haag, W.R. 2019. Reassessing enigmatic mussel declines in the United States. *Freshwater Mollusk Biology and Conservation* 22:1–18.
- Haag, W.R., and J.L. Staton. 2003. Variation in fecundity and other reproductive traits in freshwater mussels. *Freshwater Biology* 48:2,118–2,130.
- Haag W.R. and A.L. Rypel. 2011. Growth and longevity in freshwater mussels: evolutionary and conservation implications. *Biological Reviews* 86(1):225–247.
- Haag, W.R., and R.R. Cicerello. 2016. *A distributional atlas of the freshwater mussels of Kentucky*. Scientific and Technical Series Number 8. Kentucky State Nature Preserves Commission, Frankfort, Kentucky. 299 pp.
- Hanlon, S.D. and J.F. Levine. 2004. Notes on the life history and demographics of the Savannah Lilliput (*Toxolasma pullus*) (Bivalvia: Unionidae) in University Lake, North Carolina. *Southeastern Naturalist* 3(2):289–296.
- Hardison, B.S., and J.B. Layzer. 2001. Relations between complex hydraulics and the localized distribution of mussels in three regulated rivers. *Regulated Rivers: Research and Management* 17:77–84.
- Hartfield, P.W. 1993. Headcuts and their effect on freshwater mussels. Pp. 131–141 *in*: K.S. Cummings, A.C. Buchanan, and L.M. Koch (eds.). *Conservation and management of freshwater mussels*. Proceedings of a UMRCC symposium, October 1992, St. Louis, Missouri. Upper Mississippi River Conservation Committee, Rock Island, Illinois.
- Havlik, M.E., and L.L. Marking. 1987. Effects of contaminants on naiad mollusks (Unionidae): a review. Unpublished report, U.S. Fish and Wildlife Service Resource Publication 164. 20 pp.

- Hill, D.M. 1986. Cumberlandian mollusk conservation program, activity 3: Identification of fish hosts. Tennessee Valley Authority, Office of Natural Resources and Economic Development, Knoxville, Tennessee. 55 pp.
- Hoggarth, M.A. 1995–96. The Unionidae (Mollusca: Bivalvia) of the Wauhatchie River, Coshocton County, Ohio, including the federally endangered catspaw (*Epioblasma obliquata obliquata*), fanshell (*Cyprogenia stegaria*), and clubshell (*Pleurobema clava*) mussels. *Walkerana* 8(20):149–176.
- Hubbs, D.W. 2012. Orangefoot Pimpleback and Catspaw survey, Tennessee and Cumberland Rivers, Tennessee. Report prepared for Kentucky Waterways by Tennessee Wildlife Resources Agency, Project 7367. 52 pp.
- Hubbs, D.W., D. McKinney, D. Sims, S. Lanier, and P. Black. 2006. Aggregate extraction impacts on unionid mussel species richness and density. *Proceedings of the Annual Conference of the Southeastern Association of Fish and Wildlife Agencies* (2006):169–173.
- Industrial Economics, Inc. 2020. Screening Analysis of the Likely Economic Impacts of Critical Habitat Designation for the Longsolid and Round Hickorynut Mussels. Memorandum to the U.S. Fish and Wildlife Service, dated March 19, 2020. 23 pp. + Appendix.
- Jackson, L.J., L. Corbett, and G. Scrimgeour. 2016. Environmental constraints on *Didymosphenia geminata* occurrence and bloom formation in Canadian Rocky Mountain lotic systems. *Canadian Journal of Fisheries and Aquatic Sciences* 73:964–972.
- Jacobson, P.J., R.J. Neves, D.S. Cherry, and J.L. Farris. 1997. Sensitivity of glochidial stages of freshwater mussels (Bivalvia: Unionidae) to copper. *Environmental Toxicology and Chemistry* 16:2,384–2,392.
- Jones, J.R.E. 1962. *Fish and river pollution*. Elsevier. 212 pp.
- Jones, J.W., R.J. Neves, M.A. Patterson, C.R. Good, and A. DiVittorio. 2001. A status survey of freshwater mussel populations in the upper Clinch River, Tazewell County, Virginia. *Banisteria* 17:20–30.
- Jones III, E.B.D., G.S. Helfman, J.O. Harper, and P.V. Bolstad. 1999. Effects of Riparian Forest Removal on Fish Assemblages in Southern Appalachian Streams. *Conservation Biology* 13(6):1,454–1,465.
- Keller, A.E., and M. Lydy. 1997. Biomonitoring and the hazards of contaminants to freshwater mollusks. Unpublished report in: *Freshwater mollusks as indicators of water quality: a workshop*. U.S. Geological Survey Biological Resources Division and National Water Quality Assessment Program.
- Kentucky Department for Environmental Protection. 2014. *Integrated Report to Congress on the condition of water resources in Kentucky, 2014, volume 1*. Division of Water, Frankfort, Kentucky, 104 pp. + appendices.

- Kishi, D., M. Murakami, S. Nakano, and Y. Taniguchi. 2004. Effects of forestry on the thermal habitat of Dolly Varden (*Salvelinus malma*). *Ecological Research* 19:283–290.
- Layzer, J.B., and R.M. Anderson. 1992. Impacts of the coal industry on rare and endangered aquatic organisms of the upper Cumberland River basin. Kentucky Department of Fish and Wildlife Resources, Frankfort, and Tennessee Wildlife Resources Agency, Nashville. 118 pp.
- Layzer, J.B., M.E. Gordon, and R.M. Anderson. 1993. Mussels: the forgotten fauna of regulated rivers. A case study of the Caney Fork River. *Regulated Rivers: Research and Management* 8:63–71.
- MacIsaac, H.G. 1996. Potential abiotic and biotic impacts of Zebra mussels on the inland waters of North America. *American Zoologist* 36:287–299.
- Mellinger, P.J. 1972. The comparative metabolism of cadmium, mercury, and zinc as environmental contaminants in the freshwater mussel, *Margaritifera margaritifera*. Ph.D dissertation, Oregon State University, Corvallis. 129 pp.
- Miller, A.C., B.S. Payne, and C.M. Way. 1989. “Phase I Studies: Impacts of Commercial Navigation Traffic on Freshwater Mussels--A Review,” Miscellaneous Paper EL-89-11, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.
- Morris, Todd. 2018. Fisheries and Oceans Canada. Personal communication with Andrew Henderson, U.S. Fish and Wildlife Service on April 11, 2018, regarding Round Hickorynut population in Canada.
- Morris, J.S., and R.W. Taylor. 1978. A survey of the freshwater mussels (Bivalvia: Unionidae) of the Kanawha River of West Virginia. *The Nautilus* 92(4):153–155.
- Naimo, T.J. 1995. A review of the effects of heavy metals on freshwater mussels. *Ecotoxicology* 4:341–362.
- Neel, J.K., and W.R. Allen. 1964. The mussel fauna of the upper Cumberland basin before its impoundment. *Malacologia* 1(3):427–459.
- Neves, R.J. 1987. Recent die-offs of freshwater mussels in the United States: an overview. Pp. 7–18 *in*: R.J. Neves (ed.). Proceedings of the workshop on die-offs of freshwater mussels in the United States, June 1986, Davenport, Iowa. Virginia Polytechnic Institute and State University, Blacksburg.
- Neves, R. J., and P. L. Angermeier. 1990. Habitat alteration and its effects on native fishes in the upper Tennessee River system, east-central USA. *Journal of Fish Biology* 37:45–52.
- Neves, R.J., A.E. Bogan, J.D. Williams, S.A. Ahlstedt, and P.W. Hartfield. 1997. Status of Aquatic Mollusks in the Southeastern United States: A Downward Spiral of Diversity; Chapter 3 (Pp. 44–86) *in*: Aquatic Fauna in Peril: The Southeastern Perspective, edited by G.W. Benz and D.E. Collins (1997), Special Publication 1. Southeast Aquatic Research Institute. Lenz Design and Communications, Decatur, Georgia. 554 pp.

- Newton, T.J., J.W. Allran, J.A. O'Donnell, M.R. Bartsch, and W.B. Richardson. 2003. Effects of ammonia on juvenile unionid mussels (*Lampsilis cardium*) in laboratory sediment toxicity tests. *Environmental Toxicology and Chemistry* 22:2,554–2,560.
- Newton, T.J. and W.G. Cope. 2007. Biomarker responses of unionid mussels to environmental contaminants. Pp. 257-284 *in*: J.L. Farris and J.H. Van Hassel (eds.). *Freshwater Bivalve Ecotoxicology*. CRC Press, Boca Raton, Florida.
- Nichols, S.J., and D. Garling. 2000. Food-web dynamics and trophic-level interactions in a multispecies community of freshwater unionids. *Canadian Journal of Zoology* 78:871–882.
- Nico, L.G., J.D. Williams, and H.L. Jelks. 2005. Black carp: biological synopsis and risk assessment of an introduced fish. *American Fisheries Society Special Publication* No. 32. 337 pp.
- National Invasive Species Council Management Plan. 2018.
<https://www.doi.gov/sites/doi.gov/files/uploads/2016-2018-nisc-management-plan.pdf>
- Nobles, T., and Y. Zhang. 2011. Biodiversity Loss in Freshwater Mussels: Importance, Threats, and Solutions. Chapter 6 (pp. 137–162) *in*: *Biodiversity Loss in a Changing Planet* (O. Grillo and G. Venora (eds.)). InTech, Rijeka, Croatia. 328 pp.
- Obermeyer, B.K., D.R. Edds, C.W. Prophet, and E.J. Miller. 1997. Freshwater mussels (Bivalvia: Unionidae) in the Verdigris, Neosho, and Spring River basins of Kansas and Missouri, with emphasis on species of concern. *American Malacological Bulletin* 14(1):41–55.
- Ohio Department of the Environmental Protection Agency. 2004. *Darby at the crossroads: A summary of Ohio EPA's work and collaboration to protect and restore an important water resource*. 16 pp.
- Ohio Department of the Environmental Protection Agency. 2011. *Biological and water quality study of the Killbuck Creek Watershed, 2009*. 108 pp.
- Ortmann, A.E. 1913. The Alleghenian Divide, and its influence upon the freshwater fauna. *Proceedings of the American Philosophical Society* 52(210):287–390.
- Ortmann, A.E. 1920. Correlation of shape and station in freshwater mussels. *Proceedings of the American Philosophical Society* 59(4):268–312.
- Parmalee, P.W. 1967. *The freshwater mussels of Illinois*. Illinois State Museum Popular Science Series Vol. VIII. 136 pp.
- Parmalee, P.W., and A.E. Bogan. 1998. *The freshwater mussels of Tennessee*. The University of Tennessee Press, Knoxville, Tennessee. 328 pp.
- Parmalee, P.W., and R.R. Polhemus. 2004. Prehistoric and pre-impoundment populations of freshwater mussels (Bivalvia: Unionidae) in the South Fork Holston River, Tennessee. *Southeastern Naturalist* 3(2):231–240.

- Patnode, K.A., R.M. Anderson, L. Zimmermann, E. Hittle, and J.W. Fulton. 2015. Effects of high salinity wastewater discharges on unionid mussels in the Allegheny River, Pennsylvania. *Journal of Fish and Wildlife Management* 6(1):55–70.
- Peacock, E., and T.R. James. 2002. A prehistoric Unionid assemblage from the Big Black River drainage in Hinds County, Mississippi. *Journal of the Mississippi Academy of Sciences*. 47(2):121–125.
- Peacock, E., W.R. Haag, and M.L. Warren, Jr. 2005. Prehistoric decline in freshwater mussels coincident with the advent of maize agriculture. *Conservation Biology* 19(2):547–551.
- Price, J.E., C.E. Zipper, J.W. Jones, and C.T. Franck. 2014. Water and Sediment Quality in the Clinch River, Virginia and Tennessee, USA, over Nearly Five Decades. *Journal of the American Water Resources Association* 50(4):837–858.
- Reed, M.P. 2014. Freshwater mussels (Bivalvia: Margaritiferidae and Unionidae) of the Buffalo River drainage, Tennessee. University of Tennessee, unpublished Master's Thesis. 98 pp.
- Ren, W., Y. Zhong, J. Meligrana, B. Anderson, W.E. Watt, J. Chen, H. Leung. 2003. Urbanization, land use, and water quality in Shanghai: 1947–1996. *Environment International* 29(5):649–659.
- Roe, K.J. 2002. Conservation assessment for the Purple Lilliput (*Toxolasma lividus*) Rafinesque, 1831. USDA Forest Service, Eastern Region. 11 pp.
- Sams, J.I., and K.M. Beer. 2000. Effects of coal-mine drainage on stream water quality in the Allegheny and Monongahela river basins – sulfate transport and trends. Water-Resources Investigations Report 99-4208. U.S. Geological Survey, National Water-Quality Assessment Program, Lemoyne, Pennsylvania. 17 pp.
- Scheller, J.L. 1997. The effects of dieoffs of Asian Clams (*Corbicula fluminea*) on Native Freshwater Mussels (Unionidae). M.S. thesis. Virginia Polytechnic Institute and State University. 100 pp.
- Schmerfeld, J. 2006. Reversing a textbook tragedy. *Endangered Species Bulletin* 31(1):12–13.
- Seaber, P.R., F.P. Kapinos, G.L. Knapp. 1987. Hydrologic Unit Map, U.S. Geological Survey Water-Supply Paper 2294. 63 pp.
- [Service] U.S. Fish and Wildlife Service. 2017. Species Status Assessment Report for the Atlantic Pigtoe (*Fusconaia masoni*), Version 1.2. March 2017. Atlanta, Georgia.
- [Service] U.S. Fish and Wildlife Service. 2018. Species Status Assessment Report for the Longsolid Mussel (*Fusconaia subrotunda*), Version 1.0. Asheville Ecological Services Field Office, Asheville, North Carolina.
- [Service] U.S. Fish and Wildlife Service. 2019. Species Status Assessment Report for the Round Hickorynut Mussel (*Obovaria subrotunda*), Version 1.0, dated October 2019. Asheville Ecological Services Field Office, Asheville, North Carolina.

- [Service] U.S. Fish and Wildlife Service. 2020a. Species Status Assessment Report for the Purple Lilliput Mussel (*Toxolasma lividum*), Version 1.0. Asheville Ecological Services Field Office, Asheville, North Carolina.
- [Service] U.S. Fish and Wildlife Service. 2020b. Unpublished data prepared and analyzed for management units and populations of the purple lilliput, longsolid, and round hickorynut mussels. Asheville Field Office, Asheville, North Carolina.
- [Service] U.S. Fish and Wildlife Service. 2020c. Incremental effects memorandum for the economic analysis for the proposed rule to designate critical habitat for the longsolid and round hickorynut mussels. Memorandum from Janet Mizzi, Field Supervisor, Asheville Ecological Services Field Office to Assistant Director, Ecological Services, Atlanta, Georgia.
- Shaffer, M.L., and M.A. Stein. 2000. Safeguarding our precious heritage. *In*: Stein, B.A., L.S. Kutner, J.S. Adams (eds). Precious heritage: the status of biodiversity in the United States. New York: Oxford University Press. Pp. 301–321.
- Shepard, A.C. 2006. Identification of suitable host fishes for the Round Hickorynut mussel (*Obovaria subrotunda*) from Kentucky. Eastern Kentucky University Master's Thesis. 33 pp.
- Sickel, J.B., and M.D. Burnett. 2005. Historical mussel and aquatic snail database for the Tennessee River between Kentucky lock and dam on the Ohio River. Report to the U.S. Army Corps of Engineers, Nashville District. 45 pp.
- Smith, T.A., and E.S. Meyer. 2010. Freshwater mussel (Bivalvia: Unionidae) distributions of the Habitat Relationships in the navigational pools of the Allegheny River, Pennsylvania. *Northeastern Naturalist* 17(4):541–564.
- Sparks, B.L., and D.L. Strayer. 1998. Effects of low dissolved oxygen on juvenile *Elliptio complanata* (Bivalvia: Unionidae). *Journal of the North American Benthological Society* 17(1):129–134.
- Sparks, D., C. Chaffee, and S. Sobiech. 1999. Fish Creek preservation and restoration. *Endangered Species Bulletin* 24(1):13–14.
- Spooner, D. and C.C. Vaughn. 2008. A trait-based approach to species' roles in stream ecosystems: climate change, community structure, and material cycling. *Oecologia* 158:307–317.
- Stein, C.B. 1963. The Unionidae (Mollusca: Pelecypoda) of the Olentangy River in central Ohio. Ohio State University, unpublished Master's Thesis. 157 pp.
- Strayer, D.L. 1999. Effects of alien species on freshwater mollusks in North America. *Journal of the North American Benthological Society* 18(1):74–98.
- Strayer, D.L. 2008. Freshwater mussel ecology: a multifactor approach to distribution and abundance. Vol. 1. University of California Press. 216 pp.
- Strayer, D.L., and H.M. Malcom. 2012. Causes of recruitment failure in freshwater mussel

- populations in southeastern New York. *Ecological Applications* 22:1,780–1,790.
- Strayer, D.L., J.A. Downing, W.R. Haag, T.L. King, J.B. Layzer, T.J. Newton, and S.J. Nichols. 2004. Changing perspectives on pearly mussels, North America's most imperiled animals. *BioScience* 54(5):429–439.
- Swart, L.H. 1940. An ecological survey of the mollusks of the west branch of the Mahoning River. Kent State University thesis. 71 pp.
- Taylor, R.W. 1983a. The freshwater naiad (mussel) fauna of the Nolin River in the Green River drainage of central Kentucky (Mollusca: Bivalvia). *The Nautilus* 97(3):109–112.
- Taylor, R.W. 1983b. A survey of the freshwater mussels of the Kanawha River from river head (Gauley Bridge, WV) to river mouth (Point Pleasant, WV). U.S. Army Corps of Engineers, Huntington District. 62 pp.
- Taylor, S.E., R. Rummer, K.H. Yoo, R.A. Welch, and J.D. Thompson. 1999. What we know and don't know about water quality at stream crossings. *Journal of Forestry* 97(8):12–17.
- [TDEC] Tennessee Department of Environment and Conservation. 2014. 2014 305(b) report: the status of water quality in Tennessee. Division of Water Pollution Control, Nashville, Tennessee. 114 pp.
- Tolin, W.A. 1987. A survey of freshwater mussel fauna, Unionidae, in the mainstem of the upper Ohio River, the lower Monongahela River, and the Allegheny River, Pennsylvania. U.S. Fish and Wildlife Service, State College, Pennsylvania, and U.S. Army Corps of Engineers, Pittsburgh, Pennsylvania. 13 pp.
- Trombulak, S.C. and C.A. Frissell. 2000. Review of Ecological Effects of Roads on Terrestrial and Aquatic Communities. *Conservation Biology* 14(1):18–33.
- [TVA] Tennessee Valley Authority. 2006. A survey of fish, mussels, and other benthic invertebrates in parts of the Nolichucky River in east Tennessee. Appendix B *in*: Nolichucky Reservoir Flood Remediation Project: Final Environmental Impact Statement. 337 pp. + appendices.
- U.S. Department of Agriculture. 2010. Final Environmental Assessment for dam modifications on the West Fork River, Harrison County, West Virginia. Report prepared by U.S. Department of Agriculture, Natural Resources Conservation Service in cooperation with U.S. Fish and Wildlife Service for the City of Clarksburg, West Virginia Water Board. 174 pp.
- [USGS] U.S. Geological Survey. 2018. <https://water.usgs.gov/GIS/huc.html>. Accessed: October 1, 2018.
- [USGCRP] U.S. Global Climate Change Research Program. 2017. Climate Science Special Report: Fourth National Climate Assessment, Volume I [Wuebbles, D.J., D.W. Fahey, K.A. Hibbard, D.J. Dokken, B.C. Stewart, and T.K. Maycock (eds.)]. U.S. Global Change Research Program, Washington, DC. 470 pp.
- Valenti, T.W., D.S. Cherry, R.J. Neves, and J. Schmerfeld. 2005. Acute and chronic toxicity of mercury to early life stages of the rainbow mussel, *Villosa iris* (Bivalvia: Unionidae).

- Environmental Toxicology and Chemistry 24(5):1,242–1,246.
- Van Hees, E.H.P., E.I.B. Chopin, T.M. Sebastian, G.D. Washington, L.M. Germer, P. Domanski, D. Martz, L. Schweitzer. 2010. Distribution, sources, and behavior of trace elements in the Clinton River watershed Michigan. *Journal of Great Lakes Research* 36(4):606–617.
- Vaughn, C.C. 2012. Life history traits and abundance can predict local colonization and extinction rates of freshwater mussels. *Freshwater Biology* 57(5):982–992.
- Vidic, R.D., S.L. Brantley, J.M. Vandenbossche, D. Yoxtheimer, and J.D. Abad. 2013. Impact of shale gas development on regional water quality. *Science* 340(1235009):1–9.
- Warren, M.L., Jr., and W.R. Haag. 2005. Spatio-temporal patterns of the decline of freshwater mussels in the Little South Fork Cumberland River, USA. *Biodiversity and Conservation* 14:1,383–1,400.
- Warrington, B.M., W.M. Aust, S.M. Barrett, W.M. Ford, C.A. Dolloff, E.B. Schilling, T.B. Wigley, and M.C. Bolding. 2017. Forestry best management practices relationships with aquatic and riparian fauna: A review. *Forests* 8(331):1–16.
- Watters, G.T. 2000. Freshwater mollusks and water quality: effects of hydrologic and instream habitat alterations. Pp. 261–274 *in*: P.D. Johnson and R.S. Butler (eds.). *Freshwater Mollusk Symposium Proceedings—Part II: musseling in on...biodiversity*. Proceedings of the 1st symposium of the Freshwater Mollusk Conservation Society, March 1999, Chattanooga, Tennessee. Ohio Biological Survey, Columbus.
- Watters, G.T., and H.L. Dunn. 1993–94. The Unionidae of the lower Muskingum River (River Mile 34.1-0), Ohio, USA. *Walkerana* 7(17/18):225–263.
- Watters, G.T., and C.J.M. Flaute. 2010. Dams, zebras, and settlements: The historical loss of freshwater mussels in the Ohio River mainstem. *American Malacological Bulletin* 28:1–12.
- Watters, G.T., M.A. Hoggarth, and D.H. Stansbery. 2009. *The Freshwater Mussels of Ohio*. The Ohio State University Press, Columbus, Ohio. 421 pp.
- Webster, J.R., S.W. Golladay, E.F. Benfield, J.L. Meyer, W.T. Swank, and J.B. Wallace. 1992. Catchment disturbance and stream response: An overview of stream research at Coweeta Hydrologic Laboratory. *In*: *River conservation and management*, P.J. Boon, P. Calow and G.E. Petts (eds.). Pp. 231–253. Chichester, England: John Wiley and Sons Ltd.
- Wenger, S. 1999. *A Review of the Scientific Literature on Riparian Buffer Width, Extent, and Vegetation*. University of Georgia, Institute of Ecology, Athens, Georgia. 59 pp.
- Williams, J.D., A.E. Bogan, and J.T. Garner. 2008. *Freshwater mussels of Alabama and the Mobile Basin of Georgia, Mississippi, and Tennessee*. University of Alabama Press, Tuscaloosa.
- Wilson, C.O. 2015. Land use/land cover water quality nexus: quantifying anthropogenic influences on surface water quality. *Environmental Monitoring and Assessment* 187(7):424.

- Woodside, M.D., Hoos, A.B., Kingsbury, J.A., Powell, J.R., Knight, R.R., Garrett, J.W., Mitchell, III, Reavis L., and Robinson, J.A. 2004. Water quality in the Lower Tennessee River basin, Tennessee, Alabama, Kentucky, Mississippi, and Georgia, 1999–2001: Reston, Virginia, U.S. Geological Survey Circular 1233. 38 pp.
- Yeager, M.M., D.S. Cherry, and R.J. Neves. 1994. Feeding and burrowing behaviors of juvenile rainbow mussels, *Villosa iris* (Bivalvia: Unionidae). *Journal of the North American Benthological Society* 13(2):217–222.
- Zipper, C.E., B. Beaty, G.C. Johnson, J.W. Jones, J.L. Krstolic, B.J.K. Ostby, W.J. Wolfe, and P. Donovan. 2014. Freshwater mussel population status and habitat quality in the Clinch River, Virginia and Tennessee, USA: A featured collection. *Journal of the American Water Resources Association* 50(4):807–819.

Federal Register Documents and Other Federal Orders:

- Executive Order 12630. Governmental Actions and Interference With Constitutionally Protected Property Rights. October 9, 2003.
- Executive Order 12866. Presidential Document, Regulatory Planning and Review. September 30, 1993 (re: plain language)
- Executive Order 12988. Presidential Document, Civil Justice Reform. February 5, 1996.
- Executive Order 13175. Federalism. August 4, 1999.
- Executive Order 13175. Presidential Document, Consultation and Coordination with Indian Tribal Governments. November 6, 2000.
- Executive Order 13563. Improving Regulation and Regulatory Review. January 18, 2011.
- Executive Order 13771. Reducing Regulation and Controlling Regulatory Costs. January 30, 2017.
- Presidential Memorandum, Plain Language in Government Writing. June 1, 1998.
- Secretarial Order 3206. American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act. June 5, 1997.
- 42 FR 45526. Department of Commerce; National Oceanic and Atmospheric Administration; Fishery Conservation and Management. September 9, 1977.
- 42 FR 47840. Endangered and Threatened Wildlife and Plants; Final Correction and Augmentation of Critical Habitat Reorganization (slender chub and yellowfin madtom). September 22, 1977.
- 48 FR 49244. Endangered and Threatened Wildlife and Plants; Preparation of Environmental Assessments for Listing Actions under the Endangered Species Act. October 25, 1983.
- 59 FR 22951. President's Memorandum on Government-to-Government Relations With Native American Tribal Governments. April 29, 1994.

- 59 FR 34270. Endangered and Threatened Wildlife and Plants; Notice of Interagency Cooperative Policy for Peer Review in Endangered Species Act Activities. July 1, 1994
- 59 FR 34271. Endangered and Threatened Wildlife and Plants; Notice of Interagency Cooperative Policy on Information Standards Under the Endangered Species Act. July 1, 1994.
- 59 FR 34272. Endangered and Threatened Wildlife and Plants; Notice of Interagency Cooperative Policy for Endangered Species Act Section 9 Prohibitions. July 1, 1994.
- 69 FR 53136. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Five Endangered Mussels in the Tennessee and Cumberland Basins. September 26, 2013.
- 76 FR 59836. Endangered and Threatened Wildlife and Plants; Partial 90-Day Finding on a Petition To List 404 Species in the Southeastern United States as Endangered or Threatened With Critical Habitat; Proposed Rule. September 27, 2011.
- 78 FR 52364. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Diamond Darter (*Crystallaria cincotta*). August 22, 2013.
- 78 FR 57076. Endangered and Threatened Wildlife and Plants; Endangered Status for the Neosho Mucket and Threatened Status for the Rabbitsfoot. September 17, 2013.
- 78 FR 59556. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the fluted kidneyshell and slabside pearlymussel. September 26, 2013.
- 79 FR 50990. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for *Physaria globosa* (Short's bladderpod), *Helianthus verticillatus* (whorled sunflower), and *Leavenworthia crassa* (fleshy-fruit glaucous). August 26, 2014.