

Central Texas Mussels Final Listing, Final Critical Habitat, and 4(d) Rule

- Andreadis, K.M. and D.P. Lettenmaier. 2006. Trends in 20th century drought over the continental United States. *Geophysical Research Letters* 33:1-4.
- 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* 26:2025–2028.
- 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* 22:2569–2575.
- Banner, J.L., C.S. Jackson, Z. Yang, K. Hayhoe, C. Woodhouse, L. Gulden, K. Jacobs, G. North, R. Leung, W. Washington, X. Jiang, and R. Casteel. 2010. Climate change impacts on Texas water: a white paper assessment of the past, present, and future and recommendations for action. *Texas Water Journal* 1:1–19.
- Barnhart, M.C., W.R. Haag, and W.N. Roston. 2008. Adaptations to host infection and larval parasitism in Unionida. *Journal of the North American Benthological Society* 27:370–394.
- Bay Basin and Bay Expert Science Team (BBEST). 2009. Trinity and San Jacinto and Galveston Bay Basin and Bay Expert Science Team. Environmental Flows Recommendations Report. Final Submission to the Trinity and San Jacinto Rivers and Galveston Bay Basin and Bay Area Stakeholder Committee, Environmental Flows Advisory Group, and Texas Commission on Environmental Quality. November 30, 2009. 671 pp.
- BBEST. 2011. Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays Basin and Bay Expert Science Team. Environmental Flows Recommendations Report. Final Submission to the Guadalupe, San Antonio, Mission, and Aransas Rivers and Mission, Copano, Aransas, and San Antonio Bays Basin and Bay Area Stakeholder Committee, Environmental Flows Advisory Group, and Texas Commission on Environmental Quality. March 1, 2011. 427 pp.
- BBEST. 2012. Brazos River Basin and Bay Expert Science Team. Environmental Flow Regime Recommendations Report. Final Submission to the Brazos River Basin and Bay Area Stakeholder Committee, Environmental Flows Advisory Group, and the Texas Commission on Environmental Quality. March 1, 2012. 198 pp.
- Bean, M.J. 2002. Overcoming unintended consequences of endangered species legislation. *Idaho Law Review* 38:409–420.
- 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* 27:395–408.
- BIO-WEST, Inc. 2008. Lower Colorado River, Texas instream flow guidelines. Colorado River flow relationships to aquatic habitat and state threatened species: Blue Sucker. A report prepared for Lower Colorado River Authority and San Antonio Water System, March 31, 2008. 183 pp.
- BIO-WEST, Inc. 2018. Llano Lake Aquatic Resource Relocation Report, Llano, Texas. January 4, 2018. 4 pp.
- Blakeslee, C.J., H.S. Galbraith, L.S. Robertson, and B.S.J. White. 2013. The effects of salinity exposure on multiple life stages of a common freshwater mussel, *Elliptio complanata*. *Environmental Toxicology and Chemistry* 32:2849–2854.
- Bonner, T.H., E.L. Oborny, B.M. Littrell, J.A. Stoeckel, B.S. Helms, K.G. Ostrand, P.L. Duncan, and J. Conway. 2018. Multiple freshwater mussel species of the Brazos River, Colorado River, and Guadalupe River basins. CMD 1-6233CS. Final Report to Texas Comptroller of Public Accounts. February 28, 2018. 306 pp.
- Brazos River Authority (BRA). 2018a. Brazos River Authority. Allens Creek Reservoir. Available at: <https://www.brazos.org/AllensCreek>. Accessed 2/15/2018.
- BRA. 2018b. Brazos River Authority. Suggestions for revisions to draft SSA report. Received May 11, 2018.
- BRA. 2021. Candidate Conservation Agreement with Assurances for the Balcones Spike and Texas Fawnsfoot in the Brazos River Basin. 76 pp. (and appendices).

- Brim Box, J. and J. Mossa. 1999. Sediment, land use, and freshwater mussels: prospects and problems. *Journal of the North American Benthological Society* 18:99–117.
- Bringolf, R.B., W.G. Cope, S. Mosher, M.C. Barnhart, and D. Shea. 2007a. Acute and chronic toxicity of glyphosate compounds to glochidia and juveniles of *Lampsilis siliquoidea* (Unionidae). *Environmental Toxicology and Chemistry: An International Journal* 26(10):2094-2100.
- Bringolf, R.B., W.G. Cope, M.C. Barnhart, S. Mosher, P.R. Lazaro, and D. Shea. 2007b. Acute and chronic toxicity of pesticide formulations (atrazine, chlorpyrifos, and permethrin) to glochidia and juveniles of *Lampsilis siliquoidea*. *Environmental Toxicology and Chemistry: An International Journal* 26(10):2101-2107.
- Bringolf, R.B., W.G. Cope, C.B. Eads, P.R. Lazaro, M.C. Barnhart, and D. Shea. 2007c. Acute and chronic toxicity of technical-grade pesticides to glochidia and juveniles of freshwater mussels (Unionidae). *Environmental Toxicology and Chemistry: An International Journal* 26(10):2086-2093.
- Burlakova, L., A. Karatayev, E. Froufe, A.E. Bogan, and M. Lopes-Lima. 2018. A new freshwater bivalve species of the genus *Cyclonaias* from Texas (Unionidae: Ambleminae: Quadrulini). *The Nautilus* 132(2):45–50.
- Burlakova, L.E., A.Y. Karatayev, V.A. Karatayev, M.E. May, D.L. Bennett, and M.J. Cook. 2011a. Endemic species: contribution to community uniqueness, effect of habitat alteration, and conservation priorities. *Biological Conservation* 14:155–165.
- Burlakova, L.E., A.Y. Karatayev, V.A. Karatayev, M.E. May, D. L. Bennett, and M. J. Cook. 2011b. Biogeography and conservation of freshwater mussels (Bivalvia: Unionidae) in Texas: patterns of diversity and threats. *Diversity and Distributions* 17:393–407.
- Carollo Engineers, Inc. 2015. Hydrologic analysis of the San Saba River near Menard. Report to the Friends of the San Saba, Inc. 21 pp.
- Chmist, J., K. Szoszkiewicz, and D. Drożdżyński. 2019. Behavioural responses of *Unio tumidus* freshwater mussels to pesticide contamination. *Archives of environmental contamination and toxicology* 77:432-442.
- City of Austin. 2018. Water Forward. Available at: <http://austintexas.gov/waterforward>. Accessed: 4/10/2018. 1 p.
- Conrad, T.A. 1855. Descriptions of three new species of *Unio*. *Proceedings of the Academy of Natural Sciences of Philadelphia* 7:256.
- Cope, W.G, R.B. Bringolf, D.B. Buchwalter, T.J. Newton, C.G. Ingersoll, N. Wang, T. Augspurger, F.J. Dwyer, M.C. Barnhart, R.J. Neves, and E. Hammer. 2008. Differential exposure, duration, and sensitivity of unionoidean bivalve life stages to environmental contaminants. *Journal of the North American Benthological Society* 27:451–462.
- Dall, W.H. 1896. Diagnosis of new mollusks from the survey of the Mexican boundary. *Proceedings of the United States National Museum* 18:1–6.
- Diffenbaugh, N.S., F. Giorgi, and J.S. Pal. 2008. Climate change hotspots in the United States. *Geophysical Research Letters* 35:L16709. 5 pp.
- Douda, K., P. Horky, and M. Bily. 2012. Host limitation of the thick-shelled river mussel: identifying the threats to declining affiliate species. *Animal Conservation* 15:536–544.
- Dowell, C.L. 1964. Dams and reservoirs in Texas: historical and descriptive information. *Texas Water Commission Bulletin* 6408. 249pp.
- Dudding, J., M. Hart, J. Khan, C. Robertson, R. Lopez, and C. Randklev. 2019. Host fish association for two highly imperiled mussel species from the southwestern United States: *Cyclonaias necki* (Guadalupe Orb) and *Fusconaia mitchelli* (false spike). *Freshwater Mollusk Biology and Conservation* 22:12–19.
- Duncan, A. and T. Nobles. 2012. Effects of municipal wastewater effluent on freshwater mussel growth and survival. *City of Austin Watershed Protection*. SR–13–02. 24 pp.
- Environmental Protection Agency (EPA). 2018. TSCA Chemical Substance Inventory. Unpaginated.
- Ford, D.F. and A.M. Oliver. 2015. The known and potential hosts of Texas mussels: Implications for future research and conservation efforts. *Freshwater Mollusk Conservation Society* 18:1–14.
- Friedrich, K., R.L. Grossman, J. Huntington, P.D. Blanken, J. Lenters, K.D. Holman, D. Gochis, B. Livneh, Ja. Prairie, E. Skeie, N.C. Healey, K. Dahm, C. Pearson, T. Finnessey, S.J. Hook, and T. Kowalski. 2018.

- Reservoir evaporation in the western United States. *Bulletin of the American Meteorological Society* January 2018:167–187.
- Ganser, A.M., T.J. Newton, and R.J. Haro. 2015. Effects of elevated water temperature on physiological responses in adult freshwater mussels. *Freshwater Biology* 60(I):1705-1716.
- Giardino, J.R. and T. Rowley. 2016. Evaluating channel migration of the lower Guadalupe River: Seguin, TX, to the San Antonio River confluence. Final Report to the Texas Water Development Board. 118 pp.
- Gillis, P.L., R. McInnis, J. Salerno, S.R. de Solla, M.R. Servos, and E.M. Leonard. 2017. Municipal wastewater treatment effluent–induced effects on freshwater mussel populations and the role of mussel refugia in recolonizing an extirpated reach. *Environmental Pollution* 225:460–4688.
- Goudreau, S.E., 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* 252:211–230.
- Gould, A.A. 1855. *Proceedings of the Boston Society of Natural History* 5:228–9.
- Graf, D.L. and K.S. Cummings. 2007. Review of the systematics and global diversity of freshwater mussel species (Bivalvia: Unionoida). *Journal of Molluscan Studies* 73(4):291-314.
- Haag, W.R. 2012. *North American freshwater mussels: natural history, ecology, and conservation*. Cambridge University Press. New York. 505 pp.
- Haag, W.R. 2019. Reassessing enigmatic mussel declines in the United States. *Freshwater Mollusk Biology and Conservation* 22(2):43-60.
- Haag, W.R. and A.L. Rypel. 2010. Growth and longevity in freshwater mussels: evolutionary and conservation implications. *Biological Reviews* 86:225–247.
- Horne, R.H. and S. McIntosh. 1979. Factors influencing distribution of mussels in the Blanco River of Central Texas. *The Nautilus* 94:119–133.
- Howells, R.G. 1997. New fish host for nine freshwater mussels (Bivalvia: Unionidae) in Texas. *The Texas Journal of Science* 49(3):255–258.
- Howells, R.G. 2010. False spike (*Quadrula mitchelli*): Summary of selected biological and ecological data for Texas. *BioStudies*, Kerrville, Texas. 16 pp.
- Howells, R.G. 2014. *Field guide to Texas freshwater mussels*, 2nd edition. *BioStudies*, Kerrville, Texas. 141 pp.
- Howells, R. G., C. Randklev, and M.S. Johnson. 2011. Mantle flap variation in Texas Fatmucket (*Lampsilis bracteata*). *Ellipsaria* 13:14–16.
- Howells, R.G., R.W. Neck, and H.D. Murray. 1996. *Freshwater mussels of Texas*. Texas Parks and Wildlife Department Inland Fisheries Division. Austin, Texas. 281 pp.
- Industrial Economics, Incorporated (IEc). 2019. Screening analysis of the likely economic impacts of critical habitat designation for six species of Central Texas mussels [Memorandum]. Prepared for U.S. Fish and Wildlife Service, September 1, 2021. 22 pp.
- Inoue, K., A.M. Pieri, and C.R. Randklev. 2018. Summary of preliminary genetic results of *Lampsilis bracteata* (Texas fatmucket), *Truncilla cognata* (Mexican fawnsfoot), *Truncilla macrodon* (Texas fawnsfoot), *Potamilus amphichaenus* (Texas heelsplitter), and *Potamilus metnecktayi* (Salina mucket) in Texas. Progress Report for U.S. Fish and Wildlife Service, Austin, TX. 13 pp.
- Inoue, K., J.L. Harris, C.R. Robertson, N.A. Johnson, and C.R. Randklev. 2020. A comprehensive approach uncovers hidden diversity in freshwater mussels (Bivalvia: Unionidae) with the description of a novel species. *Cladistics* 36:88-113.
- Intergovernmental Panel on Climate Change (IPCC). 2013. Summary for policymakers. In *Climate change 2013: The physical science basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Stocker, T.F., D. Qin, G.K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex, and P.M. Midgley (eds.). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- Jiang, X. and Z. Yang. 2012. Projected changes of temperature and precipitation in Texas from downscaled global climate models. *Climate Research* 53:229–244.

- Johnson, M.S., P.D. Caccavale, C.R. Randklev, and J.R. Gibson. 2012a. New and confirmed fish host for the threatened freshwater mussel *Lampsilis bracteata* (Gould 1855), the Texas Fatmucket (Bivalvia: Unionidae). *The Nautilus* 126:148–149.
- Johnson, M., W. Henley, R. Neves, J. Jones, R. Butler, and S. Hanlon. 2012b. Freshwater mussels of the Powell River, Virginia and Tennessee: Abundance and distribution in a biodiversity hotspot. *Walkerana: Freshwater Mollusk Conservation Society* 15:83–98.
- Johnson, N.A., C.H. Smith, J.M. Pfeiffer, C.R. Randklev, J.D. Williams, and J.D. Austin. 2018. Integrative taxonomy resolves taxonomic uncertainty for freshwater mussels being considered for protection under the U.S. Endangered Species Act. *Scientific Reports* 8:15892. 16 pp.
- Jones, J., E.M. Hallerman, and R.J. Neves. 2006. Genetic management guidelines for captive propagation of freshwater mussels (unionoidea). *Journal of Shellfish Research* 25(2):527-535.
- Khan, J.M., M. Hart, J. Dudding, C.R. Robertson, R. Lopez, and C.R., Randklev. 2019. Evaluating the upper thermal limits of glochidia for selected freshwater mussel species (Bivalvia: Unionidae) in central and east Texas, and the implications for their conservation. *Aquatic Conservation: Marine and Freshwater Ecosystems* 29:1202-1215.
- Kinniburgh, F., M.G. Simonton, and C. Allouch. 2015. Come heat and high water: climate risk in the southeastern U.S. and Texas. A product of the risky business project. 114 pp.
- Kondolf, G.M. 1997. Hungry water: Effects of dams and gravel mining on river channels. *Environmental Management* 21:533–551.
- LBG –Guyton, 2002. Analysis of stream gain–loss data for portions of the San Saba River in Menard, Mason and McCulloch Counties, Texas. Prepared for the Menard County Water Control and Improvement District No 1. 15 pp.
- Lower Colorado River Authority (LCRA). 2017. Lower Colorado River Authority. 2017 Basin summary report: A summary of water quality activities in the Colorado River Basin (2012–2016). 122 pp.
- LCRA. 2018. New water projects. 2 pp.
- LCRA. 2020. Lakes Buchanan and Travis water management plan and drought contingency plan. Submitted to and approved by Texas Commission on Environmental Quality. Austin, Texas. 67 pp.
- LCRA. 2023. Candidate Conservation Agreement with Assurances for the Texas Pimpleback (*Cyclonaias petrina*), Texas Fawnsfoot (*Truncilla macrodon*), Texas Fatmucket (*Lampsilis bracteata*) and Balcones Spike (*Fusconaia iheringi*) in the Lower Colorado River Basin below O.H. Ivie Reservoir. 152 pp. (and appendices).
- Lea, I. 1859. Descriptions of seven new species of Uniones from South Carolina, Florida, Alabama, and Texas. *Proceedings of the Academy of Natural Sciences of Philadelphia* 11:154–155.
- Llano River Watershed Alliance (LWRA). 2019. Floods on the Llano River, Texas, Fall 2018. 31 pp.
- Loáiciga, H.A., D.A. Maidment, and J.B. Valdes. 2000. Climate–change impacts in a regional karst aquifer, Texas, U.S.A. *Journal of Hydrology* 227:173–194.
- Loeffler, C. 2015. A brief history of environmental flows in Texas. Pages 2350-2359 in Karvazy, P.E. and V.L. Webster (editors). *Proceedings of the world environmental and water resources congress 2015: Floods, droughts, and ecosystems*. American Society of Civil Engineers.
- Mace, R.E., and S.C. Wade. 2008. In hot water? How climate change may (or may not) affect groundwater resources of Texas. *Gulf Coast Association of Geological Societies Transaction* 58:655–668.
- Main, M.B., F.M. Roka, and R.F. Noss. 1999. Evaluating costs of conservation. *Conservation Biology* 13:1262–1272.
- Maloney, E.D., S.J. Camargo, E. Chang, B. Colle, R. Fu, K.L. Geil, Q. Hu, X. Jiang, N. Johnson, K.B. Karnauskas, J. Kinter, B. Kirtman, S. Kumar, B. Langenbrunner, K. Lombardo, L.N. Long, A. Mariotti, J. E. Meyerson, K.C. Mo, J.D. Neelin, Z. Pan, R. Seager, Y. Serra, A. Seth, J. Sheffield, J. Stroeve, J. Thibeault, S. Xie, C. Wang, B. Wyman, and M. Zhao. 2014. North American climate in CMIP5 experiments: Part III: Assessment of twenty-first-century projections. *Journal of Climate* 27: 2230–2269.
- Matter, S.F., F. Borrero, and C. Fleece. 2013. Modeling the survival and population growth of the freshwater mussel, *Lampsilis radiate luteola*. *American Midland Naturalist* 169:122–136.

- Milam, C.D., J.L. Farris, F.J. Dwyer, and D.K. Hardesty. 2005. Acute toxicity of six freshwater mussel species (glochidia) to six chemicals: Implications for daphnids and *Utterbackia imbecillis* as surrogates for protection of freshwater mussels (Unionidae). *Archives of Environmental Contamination and Toxicology* 48:166-173.
- Morrill, J.C., R.C. Bales, and M.H. Conklin. 2005. Estimating stream temperature from air temperature: implications for future water quality. *Journal of Environmental Engineering* 131:139-146.
- Mullens, E.D. and R.A. McPherson. 2017. Texas: A weather and climate trends roadmap. South Central Climate Science Center, Norman, OK, 37 pp.
- Naimo, T.J. 1995. A review of the effects of heavy metals on freshwater mussels. *Ecotoxicology* 4:341–362.
- Nobles, T. and Y. Zhang. 2015. Survival, growth and condition of freshwater mussels: effects of municipal wastewater effluent. *PLoS One* 10:1:19.
- Natural Resources Conservation Service (NRCS). No date. Colorado River Mussels Project. NRCS Texas. Available at: <https://www.nrcs.usda.gov/colorado-river-mussels>. Accessed on 12/29/2022.
- Opdyke, D.R., E.L. Oborny, S.K. Vaugh, and K.B. Mayes. 2014. Texas environmental flow standards and the hydrology-based environmental flow regime methodology. *Hydrological Sciences Journal* 59(3-4):820-830.
- Perkin, J.S. and T.H. Bonner. 2016. Historical changes in fish assemblage composition following water quality improvement in the mainstem Trinity River of Texas. *River Research and Applications* 32:85–99.
- Pfeiffer, J.M., N.A. Johnson, C.R. Randklev, R.G. Howells, and J.D. Williams. 2016. Genetic reclassification and species boundaries in the rediscovered freshwater mussel '*Quadrula mitchelli*' (Simpson in Dall, 1896). *Conservation Genetics* 17:279-292.
- Poff, N.L., D. Allan, M.B. Bain, J.R. Karr, K.L. Prestegard, B.D. Richter, R.E. Sparks, and J.C. Stromberg. 1997. The natural flow regime: A paradigm for river conservation and restoration. *BioScience* 4:769–784.
- Popejoy, T., C.R. Randklev, S. Wolverton, and L. Nagaoka. 2016. Conservation implications of the late Holocene freshwater mussel remains of the Leon River in central Texas. *Hydrobiologia* 810:477–487.
- Randklev, C.R., M.S. Johnson, E.T. Tsakiris, J. Groce, and N. Wilkins. 2013. Status of the freshwater mussel (Unionidae) communities of the mainstem of the Leon River, Texas. *Aquatic Conservation: Marine and Freshwater Ecosystems* 23:390–404.
- Randklev, C.R., M.S. Johnson, E.T. Tsakiris, S.R. Oetker, K.J. Roe, S. McMurray, C.R. Robertson, J. Groce, and N. Wilkins. 2011. First account of a living population of False Spike, *Quadrula mitchelli* (Bivalvia: Unionidae), in the Guadalupe River, Texas. *Ellipsaria* 13(4):17-19.
- Randklev, C.R., M. Hart, J. Morton, J. Dudding, and K. Inoue. 2017a. Freshwater mussel (Family: Unionidae) data collection in the middle Trinity River. Final Report to Texas Parks and Wildlife Department. 22 pp.
- Randklev, C.R., K. Inoue, M. Hart, and A. Pieri. 2017b. Assessing the Conservation Status of Native Freshwater Mussels (Family: Unionidae) in the Trinity River basin. Final Report to Texas Parks and Wildlife Department. Grant number TX E-164-R. 55pp.
- Randklev, C.R., N.A. Johnson, T. Miller, J.M. Morton, J. Dudding, K. Skow, B. Boseman, M. Hart, E.T. Tsakiris, K. Inoue, and R.R. Lopez. 2017c. Freshwater Mussels (Unionidae): Central and West Texas Final Report. Texas A&M Institute of Renewable Natural Resources, College Station, Texas. 321 pp.
- Randklev, C.R., E.T. Tsakris, M.S. Johnson, T. Popejoy, M.A. Hart, J. Khan, D. Geeslin, and C.R. Robertson. 2018. The effect of dewatering on freshwater mussel (Unionidae) community structure and the implications for conservation and water policy: A case study from a spring-fed stream in the southwestern United States. *Global Ecology and Conservation*. 16:e00456. 15pp.
- Robertson, C. 2023. Personal communication. Email dated 03.31.2023, regarding mussels in Llano and San Saba rivers.
- Schwalb, A.N., T.J. Morris, N.E. Mandrak, and K. Cottenie. 2013. Distribution of unionid freshwater mussels depends on the regional distribution of host fishes on a regional scale. *Diversity and Distributions* 19:446–454.
- Shaffer, M.L. and B.A. Stein. 2000. Safeguarding our precious heritage. Pages 301-321 in Stein, B.A., Kutner, L.S., and Adams, J.S., eds. *Precious heritage: the status of biodiversity in the United States*. New York: Oxford University Press.

- Smith, C.H., N.A. Johnson, K. Havlik, R.D. Doyle, and C.R. Randklev. 2020. Resolving species boundaries in the critically imperiled freshwater mussel species, *Fusconaia mitchelli* (Bivalvia: Unionidae). *Journal of Zoological Systematics and Evolutionary Research* 59(1):60-77.
- Smith, D.G. 1985. Recent range expansion of the freshwater mussel *Anodonta implicata* and its relationship to clupeid fish restoration in the Connecticut River system. *Freshwater Invertebrate Biology* 4:105–108.
- Smith, D. R., N. L. Allan, C. P. McGowan, J. A. Szymanski, S. R. Oetker, and H. M. Bell. 2018. Development of a Species Status Assessment Process for Decisions under the U.S. Endangered Species Act. *Journal of Fish and Wildlife Management* 9(1):302–320.
- 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* 17:129–134.
- 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.
- Strayer, D.L. 1999. Use of flow refuges by unionid mussels in rivers. *Journal of the North American Benthological Society* 18:468–476.
- Strayer, D.L. and D.R. Smith. 2003. A guide to sampling freshwater mussel populations. American Fisheries Society, Monograph 8. 101 pp.
- Strayer, D.L. and H.M. Malcom. 2012. Causes of recruitment failure in freshwater mussel populations in southeastern New York. *Ecological Applications* 22:1780–1790.
- Strecker, J.K. 1931. Naiades or pearly fresh-water mussels of Texas. *Baylor University Museum Special Bulletin Number Two*. 71 pp.
- Taylor, R. G., B. Scanlon, P. Doll, M. Rodell, R. van Beek, Y. Wada, L. Longuevergne, M. Leblanc, J.S. Famiglietti, M. Edmunds, L. Konikow, T.R. Green, J. Chen, M. Taniguchi, M. Bierkens, A. MacDonald, Y. Fan, R.M. Maxwell, Y. Yecheili, J. Gurdak, D.M. Allen, M. Shamsudduha, K. Hiscock, P. Yeh, and H. Treidel. 2013. Groundwater and climate change. Review article: *Nature Climate Change* 3:322–329.
- Texas Commission on Environmental Quality (TCEQ). 2013. Executive Summary. Docket No. 2013-1762-WR. San Saba River Suspension Order. McCulloch, Menard and Schleicher Counties. October 9, 2013.
- TCEQ. 2018. Water Datasets. Industrial and Municipal Wastewater Outfalls (Outfalls). Unpaginated.
- TCEQ. 2020. 2020 Texas integrated report of surface water quality for Clean Water Act Sections 305(b) and 303(d). Available at: <https://www.tceq.texas.gov/waterquality/assessment/20twqi>. Accessed 2/1/2023.
- TCEQ. 2022. 2022 Texas integrated report of surface water quality for Clean Water Act Sections 305(b) and 303(d). Available at: <https://www.tceq.texas.gov/waterquality/assessment/22twqi/22txir>. Accessed 7/26/2023.
- Texas Parks and Wildlife Department (TPWD). 2007. Survival of rainbow trout fingerlings stocked into the special regulation zone of the Canyon Reservoir tailrace. Management Data Series No. 247. 32 pp.
- TPWD. 2015. Site visit observations of the San Saba River in Menard and McCulloch Counties, Texas. October 2015. 12 pp.
- Texas Water Development Board (TWDB). 2017. Water for Texas. 2017 State Water Plan. 150 pp.
- TWDB. 2018. Colorado River basin reservoirs. Water Data for Texas. Available at: <https://waterdatafortexas.org/reservoirs/basin/colorado>.
- The Nature Conservancy (TNC). 2009. Indicators of hydrologic alteration version 7.1 User's Manual. 81pp. Available at: <https://www.conservationgateway.org/Files/Pages/indicators-hydrologic-altaspx47.aspx>. Accessed 4/10/2018.
- Tidwell, T. 2017. Field notes on mussel survey and relocation at Brazos River FM413. Received via email on September 13, 2017. 2 pp.
- TRA. 2023. Candidate Conservation Agreement with Assurances for Six Species in the Trinity River Basin. 2024. 91 pp. (with appendices).
- Turgeon, D.D., J.F. Quinn, Jr., A.E. Bogan, E.V. Coan, F.G. Hochberg, W.G. Lyons, P.M. Mikkelsen, R.J. Neves, C.F.E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F.G. Thompson, M. Vecchione, and J.D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: mollusks, 2nd edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 277 pp.

- U. S. Fish and Wildlife Service (USFWS or Service). 2018. Biologists field notes from mussel surveys in upper Guadalupe River basin, Texas. 4 pp.
- USFWS. 2019a. Biologist field notes from mussel surveys in the upper Colorado River and Upper Guadalupe River basins, Texas. 3 pp.
- USFWS. 2019b. Species status assessment report for the Central Texas mussels, Version 1.5. December 2019. Albuquerque, NM.
- USFWS. 2022. Species status assessment report for the Central Texas mussels, Version 2.1. September 2022. Albuquerque, NM.
- U. S. Geological Survey (USGS). 2008. Summary of annual mean and annual harmonic mean statistics of daily mean streamflow at 620 U.S. Geological Survey streamflow–gaging stations in Texas through water year 2007. 1287 pp. Downloaded from <https://waterdata.usgs.gov/nwis> on June 25, 2018. 270 pp.
- USGS. 2018. Water data reports 2011 and 2015 for multiple gages, Texas. Downloaded from <https://waterdata.usgs.gov/nwis> on June 25, 2018. 270 pp.
- USGS. 2019. Water Data Report 2018 for multiple gages, Texas. Downloaded from <https://waterdata.usgs.gov/nwis> on April 17, 2019, and April 24, 2019. 153 pp.
- U. S. Global Change Research Program (USGCRP). 2017. Climate Science Special Report: Fourth National Climate Assessment, Volume I. U.S. Global Change Research Program, Washington, DC, USA, 470 pp.
- Vaughn, C.C. 2012. Life history traits and abundance can predict local colonisation and extinction rates of freshwater mussels. *Freshwater Biology* 57:982–992.
- Wang, N., C.G. Ingersoll, I.E. Greer, D.K. Hardesty, C.D. Ivey, J. Kunz, W.G. Brumbaugh, F.J. Dwyer, A. Roberts, T. Augspurger, C.J. Kane, R.J. Neves, and M.C. Barnhart. 2007. Chronic toxicity of copper and ammonia to juvenile freshwater mussels (Unionidae). *Environmental Toxicology and Chemistry* 26:2048–2056.
- Wang, N., C.D. Ivey, C.G. Ingersoll, W.G. Brumbaugh, D. Alvarez, E.J. Hammer, C.R. Bauer, T. Augspurger, S. Raimondo, and M.C. Barnhart. 2017. Acute sensitivity of a broad range of freshwater mussels to chemicals with different modes of toxic action. *Environmental Toxicology and Chemistry* 36:786–796.
- Wang, N., C.D. Ivey, R.A. Dorman, C.G. Ingersoll, J. Steevens, E.J. Hammer, C.R. Bauer, and D.R. Mount. 2018. Acute toxicity of sodium chloride and potassium chloride to a unionid mussel (*Lampsilis siliquoidea*) in water exposures. *Environmental Toxicology and Chemistry* 37:3041–3049.
- Watters, G. T. 2000. Freshwater mussels and water quality: a review of the effects of hydrologic and instream habitat alterations. *Proceedings of the First Freshwater Mollusk Conservation Society Symposium* 1999:261–274.
- Wilcove, D.S., M.J. Bean, R. Bonnie, and M. McMillan. 1996. Rebuilding the ark: Toward a more effective Endangered Species Act for private land. *Environmental Defense Fund Report*. 17 pp.
- Williams, J.D., A.E. Bogan, R.S. Butler, K.S. Cummings, J.T. Garner, J.L. Harris, N.A. Johnson, and G.T. Watters. 2017. A revised list of the freshwater mussels (Mollusca: Bivalvia: Unionida) of the United States and Canada. *Freshwater Mollusk Biology and Conservation* 20:33–58.
- Wohl, E. 2015. Legacy effects on sediments in river corridors. *Earth–Science Reviews* 2015:30–53.
- Wuebbles, D., G. Meehl, K. Hayhoe, T.R. Karl, K. Kunkel, B. Santer, M. Wehner, B. Colle, E.M. Fischer, R. Fu, A. Goodman, E. Janssen, V. Khari, H. Lee, W. Li, L.N. Long, S.C. Olsen, Z. Pan, A. Seth, J. Sheffield, and L. Sun. 2013. CMIP5 climate 1 model analyses: Climate extremes in the United States. *Bulletin of the American Meteorological Society* 95:571–583.