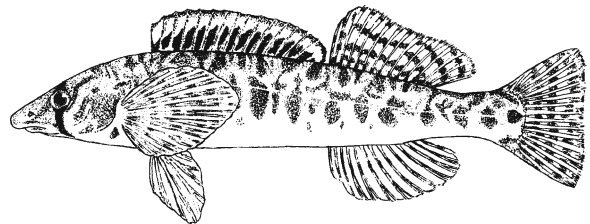


## Threatened fishes of the world: *Percina rex* (Jordan and Evermann 1889) (Percidae)

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**Common name:** Roanoke logperch. **Conservation status:** Endangered (USA Endangered Species Act). **Identification:** Bulbous snout, eight to 11 lateral blotches, dorsal scrawling, orange streak on first dorsal fin especially vivid in mature males (Jenkins and Burkhead 1994). Maximum total length 165 mm (JR, unpublished data). Drawing by Michael J. Pinder. **Distribution:** Primarily Virginia, USA. Larger streams in upper-Roanoke, Smith, Pigg, Otter, and Nottoway river systems and Goose Creek (Lahey and Angermeier 2006; Rosenberger 2007); populations separated by large reservoirs. Single North Carolina specimen from Dan River near Eden (D. Coughlan, Duke Energy, personal communication). **Abundance:** Uncommon to rare; can vary considerably over time and space (Roberts and Angermeier 2007). Effective population sizes largest in upper Roanoke and upper Smith rivers (Roberts et al. 2007). **Habitat and ecology:** Benthic; avoids heavily-silted microhabitats (Jenkins and Burkhead 1994; Rosenberger and Angermeier 2003). Overturns substrate with snout to feed on benthic insects (Burkhead 1983). Adults inhabit swift, gravelly riffles



to slow, sandy pools. Age—0 often in mixed-species schools in shallow, sand–gravel margins (Rosenberger and Angermeier 2003; Roberts and Angermeier 2007). Adults exhibit microhabitat fidelity within riffles, occasionally undertaking reach-scale migrations (>2 km; Burkhead 1983; Roberts et al. 2008). Maximum age 6.5 years (Burkhead 1983). **Reproduction:** Matures at 2–3 years. Spawns April–May in deep runs; eggs (180–640) buried in gravel (Jenkins and Burkhead 1994). **Threats:** Siltation and hydrologic alteration from urbanization (Roanoke, Pigg, and Otter), channelization (upper Roanoke), water withdrawal, siltation from agriculture and forestry (Nottoway), accidental spills, and disrupted gene flow and habitat loss from reservoir construction (all populations; George and Mayden 2003; Roberts et al. 2007; Rosenberger 2007). **Recommendations:** Progress towards recovery plan (Moser 1992) recently reviewed (Rosenberger 2007). Watershed-level, coordinated efforts needed to inventory threats, minimize siltation, prevent spills, and enhance population connectivity. Additional distributional surveys needed in Dan, Meherrin, and middle-Roanoke systems.

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## References

- Burkhead NM (1983) Ecological studies of two potentially threatened fishes (the orangefin madtom, *Noturus gilberti* and the Roanoke logperch, *Percina rex*) endemic to the Roanoke River drainage. Final Report to the U.S. Army Corps of Engineers, Wilmington, NC, pp 115
- George AL, Mayden RL (2003) Conservation genetics of four imperiled fishes of the southeast. Final report to U.S. Forest Service, Asheville, NC, pp 16
- Jenkins RE, Burkhead NM (1994) Freshwater fishes of Virginia. American Fisheries Society, Bethesda, MD, p 1079
- Lahey AM, Angermeier PL (2006) Range-wide assessment of habitat suitability for Roanoke logperch (*Percina rex*). Final Report to Virginia Transportation Research Council, Charlottesville, VA, pp 53
- Moser GA (1992) Roanoke logperch (*Percina rex*) recovery plan. Final report to the U.S. Fish and Wildlife Service, Newton Corner, MA, pp 29
- Roberts JH, Angermeier PL (2007) Assessing impacts of the Roanoke River Flood Reduction Project on the endangered Roanoke logperch. Interim Report to the U.S. Army Corps of Engineers, Wilmington, NC, pp 43
- Roberts JH, Dutton DJ, Angermeier PL, Hallerman EM (2007) Development of microsatellite markers for study of Roanoke logperch (*Percina rex*) population genetic structure and viability. Final Report to Virginia Department of Game and Inland Fisheries, Richmond, VA, pp 20
- Roberts JH, Rosenberger AE, Albanese BW, Angermeier PL (2008) Movement patterns of endangered Roanoke logperch (*Percina rex*). Ecol Freshw Fish. DOI [10.1111/j.1600-0633.2007.00288.x](https://doi.org/10.1111/j.1600-0633.2007.00288.x)
- Rosenberger AE (2007) An update to the Roanoke logperch recovery plan. Final Report to the U.S. Fish and Wildlife Service, Gloucester, VA, pp 51
- Rosenberger AE, Angermeier PL (2003) Ontogenetic shifts in habitat use by the endangered Roanoke logperch (*Percina rex*). Freshwater Biol 48:1563–1577