



Final Rule to Establish Protective Water Quality Standards for Aquatic Life in the Delaware River

September 2025

The United States Environmental Protection Agency finalized revised water quality standards (WQS) to protect aquatic life in certain zones of the Delaware River under the jurisdiction of Delaware, New Jersey, and Pennsylvania. This final rule will improve water quality and support locally and regionally significant fish populations—including Striped Bass, American Shad, and endangered Atlantic Sturgeon and Shortnose Sturgeon—to benefit Americans who commercially or recreationally fish the Delaware River and Delaware Bay. This final rule will help protect sensitive aquatic species in the Delaware River, including the federally endangered Atlantic Sturgeon and Shortnose Sturgeon. EPA has established aquatic life protection and propagation as an achievable “designated use” with corresponding dissolved oxygen water quality criteria to protect this use in the Delaware River.

Specifically, the EPA finalized an additional designated use for the river that includes aquatic life propagation (production, growth, and survival of early life stages resulting in the addition of new individuals to the population), and water quality criteria for dissolved oxygen to protect that use.

Background

[Water quality standards](#) describe the desired condition (i.e., use) of a water body and the means by which that condition will be protected or achieved. Water bodies can be designated for people-centered uses such as fishing, recreation (e.g., swimming and boating) and scenic enjoyment, as well as for aquatic and wildlife uses. Water quality standards provide a regulatory basis for many actions under the Clean Water Act, including the development of water quality-based effluent limits in [National Pollution Discharge Elimination System \(NPDES\)](#) permits for point source dischargers.

On December 21, 2023, the EPA published a proposed rule to revise the aquatic life designated use and dissolved oxygen water quality criteria applicable to Zone 3, Zone 4, and the upper portion of Zone 5 of the mainstem Delaware River (approximately from Philadelphia, PA to Wilmington, DE). In these zones of the Delaware River, there are two oxygen-sensitive fish species – Atlantic Sturgeon and Shortnose Sturgeon – that are federally listed as endangered under the Endangered Species Act. The EPA proposed the rule to ensure that the aquatic life designated uses and dissolved oxygen criteria are set at levels that protect all life stages of oxygen-sensitive species in those zones of the Delaware River, including the two endangered sturgeon species.

Designated use

The EPA finalized a designated use for the specified zones of the Delaware River that includes the protection and propagation of resident and migratory aquatic life. The EPA’s designated use applies in addition to the states’ designated uses that were already applicable for CWA purposes.

Dissolved oxygen criteria

The EPA used site-specific data and information from published scientific literature relevant to the endangered sturgeon species to derive the dissolved oxygen criteria. The EPA’s criteria are based on the latest scientific

knowledge about dissolved oxygen levels that would support propagation designated uses in the specified zones of the Delaware River. The EPA’s dissolved oxygen criteria replace each of the three states’ previously applicable dissolved oxygen criteria for the specified zones of the Delaware River.

The EPA’s dissolved oxygen criteria apply during three seasons based on early life stages of oxygen-sensitive aquatic species (as shown in Table 1):

- 1) *Spawning and Larval Development* (March 1 – June 30);
- 2) *Juvenile Development* (July 1 – October 31); and
- 3) *Overwintering* (November 1 – February 28/29).

The dissolved oxygen criteria for each season consist of three components: magnitude, duration, and exceedance frequency. The magnitude component indicates the required minimum level of dissolved oxygen in the water. The duration component specifies the time period over which dissolved oxygen levels are averaged before comparison with the magnitude. The exceedance frequency component specifies how often each magnitude can be exceeded in each season while still ensuring that the use is protected. For dissolved oxygen, an exceedance occurs when the oxygen level in the water is below the magnitude.

Table 1. The EPA’s Final Dissolved Oxygen Criteria to Support Oxygen-Sensitive Aquatic Species

Season	Magnitude (Percent Oxygen Saturation)	Duration	Exceedance Frequency
Spawning and Larval Development (March 1 – June 30)	66%	Daily Average	12 Days Cumulative (10% of the 123-day season)
Juvenile Development (July 1 – October 31)	66%	Daily Average	12 Days Cumulative (10% of the 123-day season)
	74%	Daily Average	61 Days Cumulative (50% of the 123-day season)
Overwintering (November 1 – February 28/29)	66%	Daily Average	12 Days Cumulative (10% of the 123-day season)

Public hearings and comments on the EPA’s proposed rule

The EPA provided a 60-day public comment period after publishing the proposed rulemaking in the Federal Register on December 21, 2023. In addition, the agency held two online public hearings on February 6 and 7, 2024, to discuss the contents of the proposed rulemaking and accept verbal public comments. The comments received, as well as the EPA’s responses, are available in the docket for this rule at <https://www.regulations.gov/docket/EPA-HQ-OW-2023-0222>.

Where can I find more information?

Contact Hannah Lesch at (202) 566-1224 or Lesch.Hannah@epa.gov, or contact Erica Fleisig at (202) 566-1057 or Fleisig.Erica@epa.gov. To access the rule, Federal Register notice, and supporting documents, visit the EPA’s website at <https://www.epa.gov/wqs-tech/water-quality-standards-delaware-river>.