

Status of Mercury Human Health Criteria

Surface Water Quality Standards Advisory Workgroup, March 28, 2012
Texas Commission on Environmental Quality Water Quality Standards (WQS)

On June 30, 2010, the Commission adopted revisions to the Texas Surface Water Quality Standards that included a new mercury criterion of 0.7 milligrams per kilogram in edible fish tissue.

- The Texas Department of State Health Services (TDSHS) uses 0.7 milligrams per kilogram for issuing fish consumption advisories to protect public health. The TDSHS has extensive experience with fish tissue contamination as it relates to human health.
- The 0.7 milligrams per kilogram criterion is supported by a TDSHS independent study of mercury exposure in the Caddo Lake area in 2004. Caddo Lake has been under a mercury advisory since 1995, and the Caddo Lake study showed that while participants were consuming fish with mercury concentrations of 0.7 milligrams per kilogram and greater, participants had blood level concentrations of mercury at levels below where adverse effects would be expected.

Since 2001, the EPA has recommended a slightly lower value of 0.3 milligrams per kilogram as the national criterion for the protection of human health. This value is based on similar but different studies of mercury exposure in humans. The EPA also assumes that people are exposed to additional mercury from eating seafood from other sources.

TCEQ toxicologists have evaluated the studies used by the Agency for Toxic Substances and Disease Registry, the EPA, and the Caddo Lake study, and conclude the basis for the TDSHS fish tissue advisory level is scientifically sound. Therefore, the Commission adopted a mercury criterion of 0.7 milligrams per kilogram as being protective of human health and scientifically defensible. This position and supporting evidence were explained in a letter to the EPA dated April 23, 2008.

On July 11, 2008, the EPA responded to TCEQ with a letter continuing to express concerns over the draft mercury criterion of 0.7 milligrams per kilogram. Once the criterion was adopted by the Commission in 2010, the EPA disapproved the 0.7 milligrams per kilogram fish-tissue criterion in their action letter dated June 29, 2011.

- EPA indicated that if Texas does not adopt a revised human health criterion for mercury within three years, EPA may promulgate the Agency's §304(a) criterion recommendation of 0.3 milligrams per kilogram.
- EPA requested a timeline for action within six months (by December 29, 2011) to detail how this will be resolved within three years.
- TCEQ responded to EPA in a letter dated November 11, 2011, which stated the issue would be discussed with the Texas WQS Advisory Workgroup and other interested parties.
- The previously adopted water-column based criteria for mercury remain in effect (2000 WQS). The basis for these criteria is the Food and Drug Administration's action level in fish tissue of 1 milligram per kilogram. These criteria do not appear to be out of line with other states, most of whom also have EPA approved water column-based criteria.
 - 0.0122 microgram per liter for freshwater
 - 0.0250 microgram per liter for saltwater