

## HISTORY OF GUIDELINE DEVELOPMENT

### Cyanobacterial toxins: Anatoxin-a and analogues (ATXs)

Cyanobacterial toxins were not evaluated in the 1958, 1963 and 1971 WHO *International Standards for Drinking-water* or in the first two editions of the *Guidelines for Drinking-water Quality*, published in 1984 and 1993. In the addendum to the second edition of the Guidelines, published in 1998, it was concluded that there were insufficient data to allow a guideline value to be derived for any cyanobacterial toxins other than microcystin-LR. The assessment was brought forward to the third edition of the Guidelines, published in 2004, and the fourth edition of the Guidelines, published in 2011.

ATXs were re-evaluated in 2020, as a background document to the *Guidelines for Drinking-water Quality* and *Guidelines for Safe Recreational Water Environments*, in which it was re-confirmed that the data were insufficient to derive a health-based guideline value. However, for drinking-water, a “bounding value” or provisional reference value for acute or short-term exposure of 0.03 mg/L for total ATXs (sum of all congeners, free plus cell-bound) was proposed, to provide guidance to Member States in the event of need. Although the reference value is based on toxicological data for ATX-a, the value is for total ATXs since ATXs may occur as mixtures and further, the limited evidence suggests that other ATX congeners have similar oral toxicity. It was further recommended that alternative safe water sources, should be provided for bottle-fed infants and small children when total ATX concentrations are greater than 6 µg/L even for short periods, as a precautionary measure. The reference value and associated guidance were incorporated in the fourth edition of the Guidelines incorporating the first and second addenda, published in March 2022.

The background document, which established a provisional recreational water reference value of 0.06 mg/L, informed the update of the WHO *Guidelines for Safe Recreational Water Environments*, published in 2021 as *Guidelines on Recreational Water Quality*.