

## Indicator Assessment

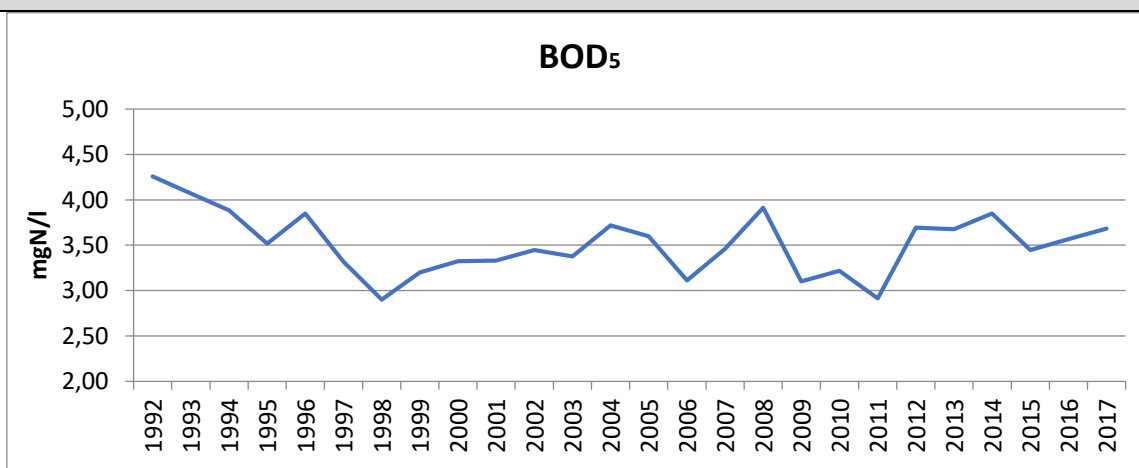
<b>Indicator Set</b> UNECE regional environmental indicators- C10 and European Environment Agency Core Set of Indicators – CSI 019	<b>Date: 4.9.2018</b> <b>Authors:</b>
<b>Indicator Title</b> C10- BOD and concentration of ammonium in rivers	

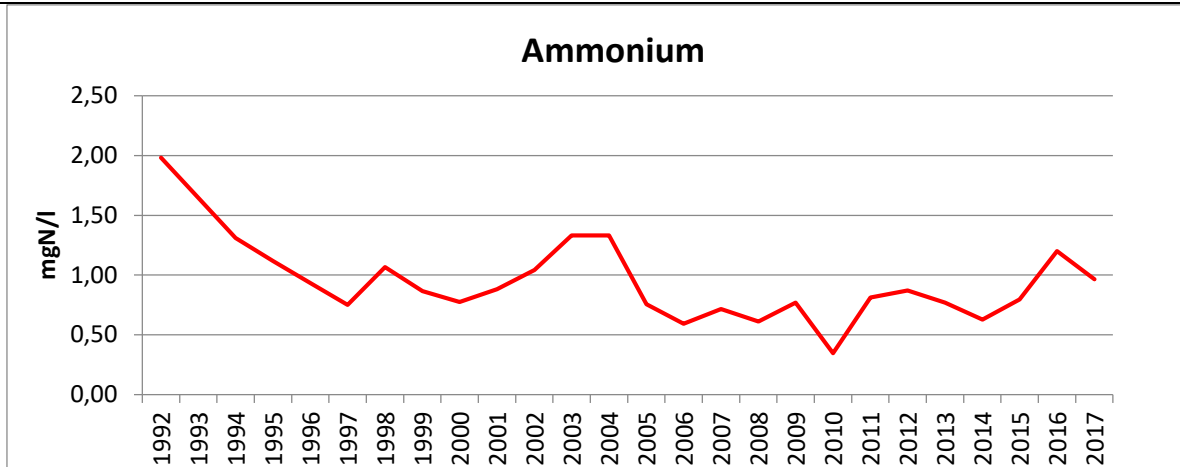
**Key policy question:** Is organic matter and ammonium pollution in rivers in Moldova decreasing?

### Key message

- There was a tendency of decreasing river ammonium and BOD concentration between 1992 and 2000. Afterwards, the concentration values dropped and rose.
- The average ammonium concentration lately varies around 1 mg N/l. The average concentration of BOD varies around 3.5 mg O<sub>2</sub>/l.

### Key figure:





The data series are calculated as the average of annual mean concentrations of BOD5 (mg O<sub>2</sub>/l), and ammonium (mg NH<sub>4</sub>-N/l) for five rivers in Moldova for the period 1992-2017. The total number of river sites is xx.

### Key assessment text

Higher values of BOD<sub>5</sub> denotes the presence of biodegradable organic substances, which contributes to reducing the concentration of dissolved oxygen in the water with negative effects on aquatic ecosystems.

Ammonium results in water from incomplete degradation of organic substances that contain nitrogen or can also come from the soil. This is the first stage of decomposition of nitrogen-containing organic substances and therefore indicates pollution. Although widely used in our society, ammonium in large quantities may be dangerous to the environment and the health of the population. One source of pollution of surface water with ammonia is mineral fertilizers applied in agricultural areas.

Strong organic pollution can lead to a rapid deoxidation of river water due to the disappearance of aquatic organisms. The variation in the content of organic pollutants from one year to another depends on several natural factors - rainfall, temperature, river overflows, etc., as well as anthropogenic factors. The most significant sources of organic matter (microbes and organic

waste) are household waste water, industries such as paper or food processing, fodder and household waste.

The increase in industrial and agricultural production in most European countries since the 1940s, associated with a larger proportion of the population connected to sewerage systems, has initially led to an increase in the discharge of organic waste into surface waters. Over the past 25 years, the biological treatment (secondary treatment) of waste water has increased and the organic spills have decreased, they have resulted in an insignificant decrease of the surface water pollution in the Republic of Moldova.

#### **References in key assessment text**

The database of the Environment Quality Monitoring Division within the State Hydrometeorological Service.

Annual report "Surface water quality status according to hydrochemical indices on the territory of the Republic of Moldova in 2016"

**Specific policy question:** What is the current state of organic matter and ammonium pollution of main rivers in Moldova?

#### **Specific assessment text**

#### **Figures:**

#### **References in specific assessment text**