

The National Rivers and Streams Assessment 2008/2009

The National Rivers and Streams Assessment (NRSA) is a survey of 1.2 million miles of rivers and streams in the U.S., from the largest “great river” to the smallest headwater stream. It is part of the National Aquatic Resource Surveys, a series of statistically-based assessments designed to provide the public and decision makers with nationally consistent and representative information on the condition of the nation’s waters.

What is the condition of our rivers and streams across the country?

The NRSA report finds that many of our rivers and streams do not support healthy aquatic communities.

46%

Biological condition: 46% of our nation’s rivers and streams are in poor biological condition, with 25% in fair condition and 28% in good condition. Benthic macroinvertebrates – e.g., aquatic insects, crayfish, snails and worms that live in submerged vegetation and in the streambed -- are used to assess biological condition. Poor biological condition can lead to loss of fishing and recreational opportunities.

What are the leading problems in rivers and streams?

Excess nutrients and poor habitat are widespread problems across the country. Rivers and streams with high levels of phosphorus, nitrogen and streambed sediments are about twice as likely to have poor macroinvertebrate communities.

>40%

Nutrient pollution: More than 2 out of 5 river and stream miles have levels of nutrients that are too high. Too much of the nutrients phosphorus or nitrogen can result in algal blooms, low levels of oxygen, and harm to aquatic life.

24%

Riparian vegetation: About 1 in 4 river and stream miles do not have healthy shoreline vegetation. Loss of shoreline vegetation makes rivers and streams more vulnerable to flooding, contributes to erosion and allows more pollutants to flow in.

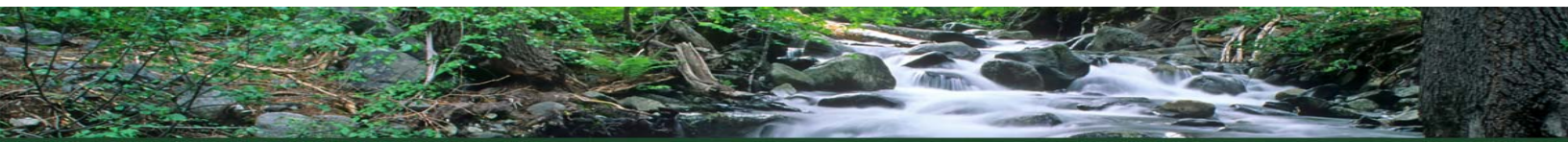
20%

Riparian disturbance: Approximately 1 in 5 river and stream miles has high levels of riparian disturbance. Disturbance such as roads, pastures, buildings, and parking lots near rivers and streams contributes runoff of sediments, nutrients, trash, and more.

15%

Sediments: Approximately 1 in 6 river and stream miles have excess streambed sediments. Excess levels of streambed sediments can smother the habitat where many aquatic organisms live or breed.

* Margin of error for the national survey results range from ±3 to ±5 percentage points



Are conditions getting better or worse?

Compared to the findings of the 2004 *Wadeable Streams Assessment*, the NRSA found some significant changes in stream condition. These changes are for streams only, between two points in time; future surveys and additional data are needed to discern trends.

9% ↓ **Biological condition:** Biological quality declined by 9%; fewer streams miles were rated good.

14% ↓ **Phosphorus pollution:** Phosphorus conditions declined by 14%; fewer stream miles were rated good.

10% ↑ **Riparian vegetation:** Riparian vegetation cover improved by 10%; more stream miles were rated good.

12% ↑ **Riparian disturbance:** Riparian disturbance improved by 12%; more stream miles were rated good.

Are rivers and streams safe for recreation and fish consumption?

NRSA assessed two indicators that provide insight into potential risks to human health: bacteria and mercury in fish tissue.

23%

Bacteria: Enterococci exceed thresholds protective of human health in nearly 1 out of every 4 river and stream miles. Enterococci are indicators of the possible presence of disease-causing bacteria, viruses and protozoa. Exposure to enterococci above protective levels increases the likelihood of gastrointestinal illness.

**13,000
Miles**

Mercury in Fish Tissue: Over 13,000 miles of rivers are found to have mercury in fish tissue at levels that exceed thresholds protective of human health. Most human exposure to mercury is through eating fish. Human health effects related to mercury can include damage to the immune and nervous systems.

What are we doing to address problems?

Our rivers and streams are under stress. The NRSA suggests that reducing nutrient pollution and improving habitat will improve the biological health of rivers and streams. These results challenge us to work together to expand and accelerate work ranging from:

- Completing state nutrient management strategies that include developing numeric nutrient water quality standards
- Adopting stream and shoreline buffers to slow erosion and protect waters from nutrient overload
- Supporting farmers efforts to manage nutrients on farmlands and prevent water pollution
- Improving nutrient removal in wastewater treatment sources such as septic systems, lagoons, and high-tech reclamation facilities

For more information see: <https://www.epa.gov/national-aquatic-resource-surveys/nrsa>

