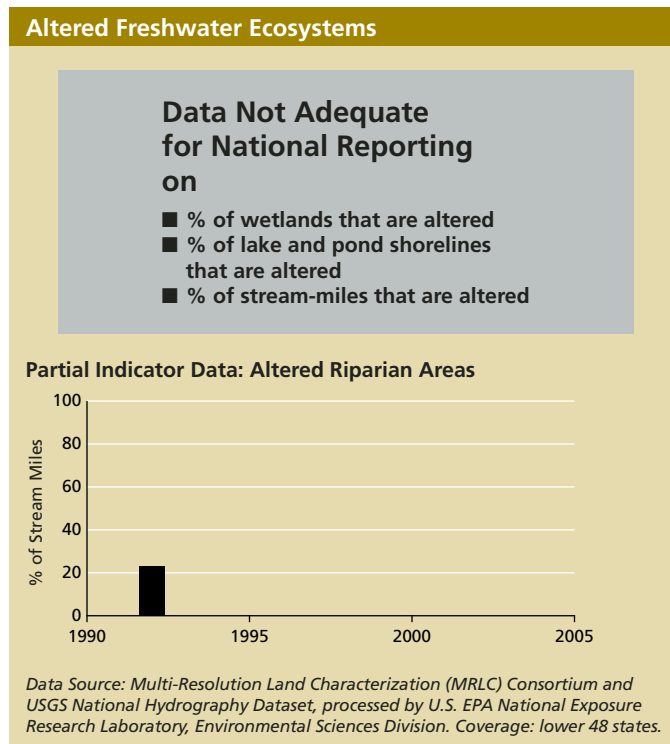




SYSTEM DIMENSIONS	CHEMICAL AND PHYSICAL	BIOLOGICAL COMPONENTS	HUMAN USES
Extent Pattern	Nutrients, Carbon, Oxygen Contaminants Physical	Plants and Animals Communities Ecological Productivity	Food, Fiber, and Water Recreation and Other Services

## Altered Freshwater Ecosystems



### What Is This Indicator, and Why Is It Important?

This indicator of alteration reports the percentage of

- **Stream and river** miles that have been leveed, channelized, or impounded behind a dam
- **Ponds and lake** shoreline-miles that have agricultural or urban/suburban land cover within about 100 feet of the water’s edge (reservoirs and constructed lakes are excluded)
- **Riparian zone** miles (the habitat at the edge of streams and rivers) that have agricultural or urban/suburban land cover within about 100 feet of the water’s edge
- **Wetland** acres that have been excavated, impounded, diked, partially drained, or farmed

Physically altering a body of fresh water can affect the plants and animals that depend on it, as well as the goods and services people receive from it. Such areas are usually altered to achieve some benefit: flood control or easier navigation, erosion control to protect property, more land for farming or development, or supply of

municipal, industrial, and irrigation water. However, these alterations can reduce fish and wildlife habitat, disrupt patterns and timing of water flows, serve as barriers to animal movement, and reduce or eliminate the natural filtering of sediment and pollutants.

**Why Can’t This Entire Indicator Be Reported at This Time?** Data on the degree to which streams and rivers are channelized, leveed, or impounded behind dams are not available, nor are data on the extent of wetland alteration. In addition, available data on lake and pond shoreline alteration does not distinguish between natural and constructed bodies of water.

This indicator describes a few key types of alterations. As monitoring and reporting techniques improve, reporting on other alterations may be possible. Stream Habitat Quality (p. 149) and Changing Stream Flows (p. 142) also report on stream condition.

**What Do the Data Show?** About 23% of riparian areas have either farmlands or urban development in the narrow area (100-foot strip) immediately adjacent to the water’s edge.

The technical note for this indicator is on page 247.