



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

## ② Riparian Condition

**Riparian Condition**

Indicator Development Needed

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

This indicator will describe the condition of riparian (streamside) areas. The condition of these areas will be rated using an index that combines key factors such as water flows, streambed physical condition, riparian vegetation composition and structure, and use by various species.

Riparian areas, the usually vegetated areas along streams and rivers, provide habitat for a variety of wildlife. They serve as cover and feeding habitat for a high percentage of the animal species in grasslands and shrublands and provide important services, such as trapping sediment, modifying flood flows, and increasing

groundwater recharge. Changes in riparian condition can enhance or degrade these functions. See related farmland, freshwater, and urban/suburban indicators (pp. 105, 149, and 185)

The condition of riparian areas often reflects influences from outside the immediate area, so they serve to indicate changes throughout a watershed. For example, shifts in vegetation or increased suburban development in a watershed can change the amount and timing of stream flows (see stream flow indicators, pp. 142 and 166), which affects both the streambed and the riparian zone. Other potential influences include the regulation of water flow by dams, bank stabilization, diversions of water for irrigation and other uses, changes in land use in the watershed (such as increases in agriculture or grazing), and changes in vegetation (including the establishment of non-native species) or fire frequency in the watershed.

**Why Can't This Indicator Be Reported at This Time?** There is no adequate and generally accepted single measure of "riparian condition," although researchers have developed several approaches to the design of such an index. As noted above, such a measure should take into account multiple factors, including hydrology (e.g., relationship to natural flow patterns), geomorphology (e.g., stream sediment transport), and biology (e.g., canopy cover) to provide an overall index of condition.

The technical note for this indicator is on page 263.