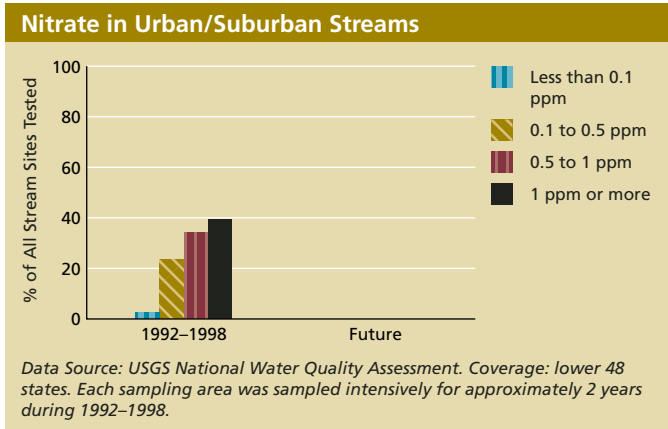




SYSTEM DIMENSIONS	CHEMICAL AND PHYSICAL	BIOLOGICAL COMPONENTS	HUMAN USES
Extent Pattern	Nutrients, Carbon, Oxygen Contaminants Physical	Plants and Animals Communities Ecological Productivity	Food, Fiber, and Water Recreation and Other Services

● Nitrate in Urban and Suburban Streams

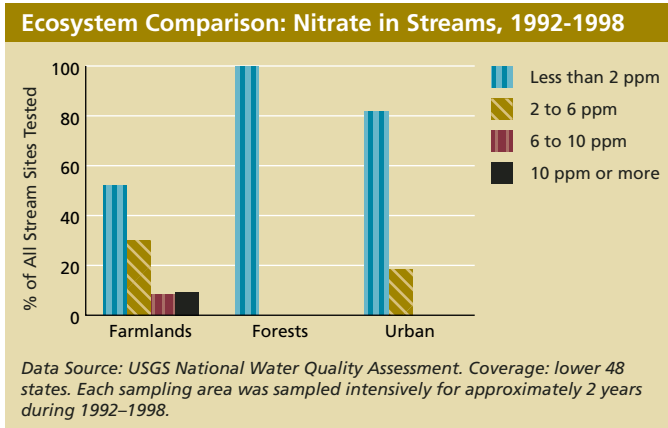


What Is This Indicator, and Why Is It Important?

This indicator reports the concentration of nitrate in streams in representative urban areas. Specifically, the indicator reports the percentage of streams with average nitrate concentrations in one of four ranges, for streams draining watersheds that are primarily urban.

Nitrate is a naturally occurring form of nitrogen and an important plant nutrient; it is often the most abundant of the forms of nitrogen that are readily usable by plants, including algae. Increased nitrate in streams that ultimately empty into coastal waters can lead to algal blooms in those waters; these blooms decrease recreational and aesthetic values and help deplete oxygen needed by fish and other animals (see the national nitrogen indicator and the hypoxia indicator, pp. 46 and 71). Nitrate in drinking water is also a health threat for young children, and it must be removed at significant cost by municipalities that rely on river water.

Sources of nitrogen in urban streams include effluent from sewage treatment plants, animal wastes, and fertilizers used on lawns, gardens, golf courses, and agricultural fields.



What Do the Data Show? About 60% of the stream sites in areas dominated by urban and suburban land use had concentrations of nitrate below 1 part per

million, about 25% had concentrations below 0.5 part per million (ppm), and about 3% had concentrations that were less than 0.1 ppm. The federal drinking water standard for the protection of human health is 10 ppm of nitrate, which is exceeded in streams only in agricultural areas.

Concentrations in streams in areas dominated by urban land use are lower than those from agricultural areas but higher than those from forests (see pp. 95 and 122). There is also a core national indicator for nitrogen (p. 46).

The technical note for this indicator is on page 267.