

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

Non-native Species

What Is This Indicator, and Why Is It Important? This indicator reports the percentage of watersheds with different numbers of non-native species with established breeding populations. The number of such species is also shown for each watershed. “Non-native” includes species not native to North America and those that are native to this continent but are now found outside their historic range.

Non-native species are also called nonindigenous, exotic, or introduced; those that spread aggressively are termed invasive. They may act as predators or parasites of native species, cause diseases, compete for food or habitat, and alter essential habitat. They also may threaten human health and economic well-being—for example, the zebra mussel has damaged power plants, water treatment facilities, and other structures and significantly changed freshwater ecosystems. Watersheds with more non-natives are likely to experience greater ecological and economic disruption. In addition, non-native species may become established more easily in watersheds with other types of disturbance (such as degraded water quality, altered temperatures, and alterations to habitat or flows).

Some non-natives are introduced intentionally, for their desired characteristics. For example, brown trout are native to Europe, and rainbow trout to western North America; both are popular and widely stocked game fish throughout the nation.

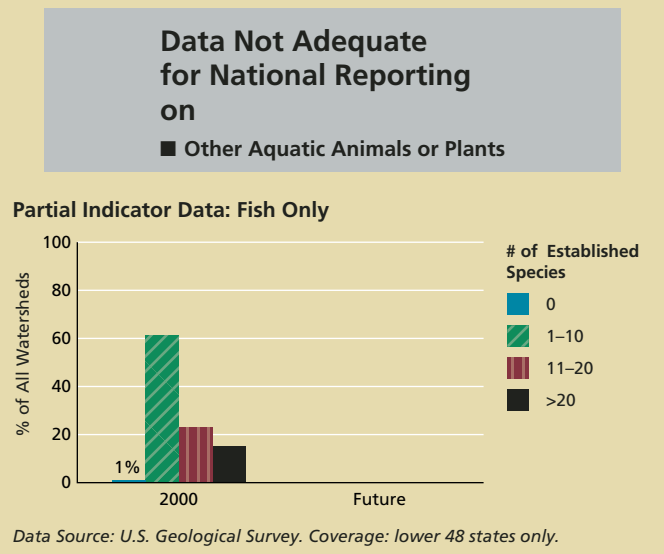
Why Can’t This Entire Indicator Be Reported at This Time? Data on non-native fish are more widely available and of higher quality than data on other animal species like mollusks and amphibians, or on plants. When data become available, future reports will include these other species.

What Do the Data Show? Of 350 watersheds, only five have no established non-native fish. Sixty percent (213) have 1–10 non-native species, and two watersheds have 41–50 such species. Watersheds in the central United States—including those on the Gulf Coast—generally have the fewest non-natives.

Discussion Examples of native North American species found outside their historic range include bullfrogs and warmouth sunfish, both eastern natives now found in the West. Bullfrogs are associated with declines in native fish, bird, and amphibian populations in western lakes, and the warmouth has apparently contributed to the decline of some native frogs and salamanders.

The technical note for this indicator is on page 251.

Established Non-Native Species



Established Non-native Fish Species, 2000

