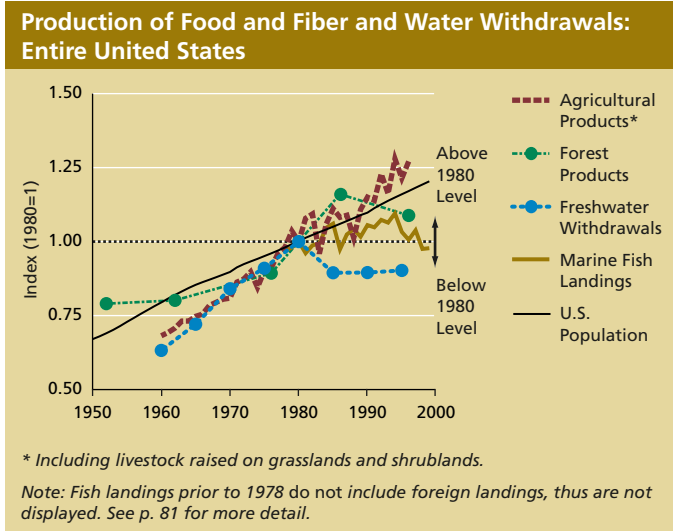




SYSTEM DIMENSIONS	CHEMICAL AND PHYSICAL	BIOLOGICAL COMPONENTS	HUMAN USES
Extent Pattern	Nutrients, Carbon, Oxygen Contaminants Physical	Plants and Animals Communities Ecological Productivity	Food, Fiber, and Water Recreation and Other Services

## ● Production of Food and Fiber and Water Withdrawals



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

This indicator reports the production of food and fiber and the withdrawals of water, using an index with 1980 as the base year. Values above 1.0 indicate that production or withdrawals were greater than in 1980; values below 1.0 indicate that production or withdrawals were lower than in 1980.

Products from U.S. ecosystems meet much of the nation’s food, fiber, and water needs. Changes in the quantities of these goods signal fundamental changes in the direct benefits we receive from ecosystems.

**What Do the Data Show?** Over the past half-century or so, agricultural and forest production and freshwater withdrawals have all increased. But the rates of increase—and in some cases, periods of decline—vary

from system to system. Agricultural production has grown the fastest. Except for a few periodic downturns, growth in agricultural production has generally been faster than the growth in U.S. population. Forest production has generally grown more slowly than population growth, except for a decade of more rapid growth during the late 1970s to 1980s. Forest production has declined since the mid-1980s. Freshwater use increased faster than population through 1980, declined by about 10% by the mid-1980s, and has grown slowly since then. Marine fish landings grew slowly from the late 1970s, when reliable statistics became available, through the mid-1990s, but have declined recently.

Most of the regional patterns of food and fiber production and water withdrawals match the national patterns above, with a few notable exceptions:

- Regional agricultural production generally follows the national growth trends (regardless of regional population growth).
- The recent modest decline in forest production nationally is the result of large declines in the Pacific Coast and Rocky Mountain regions being partially offset by increases in forest production in the Southeast.
- While freshwater withdrawals declined relative to population growth in most regions, withdrawals increased at about the same rate as population in the Southwest.
- Since the late 1970s, increased marine fish landings in the Pacific Coast region have offset declines in the Northeast/Mid-Atlantic and Southeast regions.

**Discussion** This indicator allows comparison between the amounts of a single good produced in two time periods. So, for example, an index value for agricultural products that is greater in 1994 than in any other year means that the nationwide harvest in 1994 was greater than at any other time in this 50-year series. The index value for 1994 is approximately 1.25, which means that the harvest in 1994 was about 25% greater than the 1980 harvest.

The index also allows comparison of the rate of growth or decline in production of two different goods. This can be seen, for example, by comparing agricultural production to marine fish landings since 1980. A steadily increasing line, such as in agricultural products, indicates that the amount of products we obtain from that ecosystem continues to grow. In contrast, marine fish landings grew until the mid-1990s, but have since declined to about 1980 levels.

The technical note for this indicator is on page 217.



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● Production of Food and Fiber and Water Withdrawals (continued)

