

eroded material they are carrying, and create shoals wherever water velocity is reduced. More and more, farmers are recognizing the value of proper agricultural practices, which will conserve precipitation for crop-use, lessen soil-losses and preserve stream-quality.

Industrial water use

Industry has an enormous thirst for water. The largest quantity is used for cooling purposes, but considerable amounts are also used directly in many manufacturing processes; another important use is in plant-sanitation. Figures are frequently published to indicate how much water is used in various industries — for example, 10 litres (or gallons) of water to refine a litre (or gallon) of gasoline, 18 litres (or gallons) of water to refine a litre (or gallon) of oil, 250 tonnes (or tons) of water to produce a tonne (or ton) of sulphate wood pulp, 100 litres (or gallons) of water to produce a litre (or gallon) of alcohol. These figures are interesting as a general indication of the need for water, but they may be misleading. They often reflect the fact that water is easily available, inexpensive and therefore tempting to use inefficiently.

For example, the amount of water required to produce a tonne (or ton) of steel is about 270,000 litres (or 60,000 gallons), yet there is a steel-mill in California that, by cooling and recycling its water, uses only about 6,370 litres (1,400 gallons) a tonne (or ton) of steel produced. A wide variation like this is by no means unusual. When water becomes scarce, and therefore valuable, it is used more carefully than when it is plentiful and cheap.

The fact remains, however, that water is an essential material in most industrial operations and increasing industrialization inevitably leads to greater use of water.

Manufacturing

In 1974, primary manufacturing withdrew 25,780 million litres (5,677 million gallons) of water from lakes, rivers and wells — some 44 per cent of the industrial total. Only about 4.2 per cent of the total withdrawn was consumed in the process. Because recirculation allows much of the water to be used more than once, the quantity of water actually used each day during 1974 is reported to have met a requirement for 59,290 million litres (13,052 million gallons) a day.