

Topic Page: [Aquaculture](#)

Definition: **aquaculture or aquiculture** from *Collins English Dictionary*

n

1 the cultivation of freshwater and marine resources, both plant and animal, for human consumption or use



Image from: [A manager at a catfish farm in Columbus,...](#) in *Green Food: An A-to-Z Guide*

Summary Article: **aquaculture**

From *The Columbia Encyclopedia*

the raising and harvesting of fresh- and saltwater plants and animals. The most economically important form of aquaculture is fish farming, an industry that accounts for an ever increasing share of world fisheries production. Formerly a business for small farms, it is now also pursued by large agribusinesses, and by the mid-2010s it had become as significant a source of fish as the as wild fisheries.

Successful aquaculture takes into consideration the biology of the aquatic species (feeding, water flow and temperature needs, disease prevention) and engineering design (water source and water quality study, pond and tank containment systems, water filtration and aeration) as well as issues pertinent to any business. Common products of aquaculture are catfish, tilapia (St. Peter's fish), trout, crawfish, oysters, shrimp, and salmon, and tropical fish for aquariums. Caviar from farm-raised sturgeon is one of the more expensive and exotic aquacultural products. Some are raised in huge freshwater tanks or ponds; others require the running water of rivers or streams. Saltwater species are often raised in saltwater ponds, in enclosed bays, or in pens placed in coastal or deeper sea waters.

There are potential environmental problems associated with aquaculture. Most of the fish that are raised are genetically altered or hybridized for quick growth. If they escape into the wild, they compete against and can crowd out smaller or less voracious native fish. Confined fish can become a breeding ground for diseases or pests, which can be transmitted in some cases to wild fish; confinement also makes the fish more susceptible to attacks by some naturally occurring pests, such as some species of jellyfish, that would be less likely to trouble dispersed wild fish. In addition, the large amounts of water that are used in aquaculture become laden with fish feces and unconsumed food that, if not removed through treatment or used as agricultural fertilizer, can add injurious amounts of nitrogen and phosphorus to a river or stream when the water is returned to it. Development of improved recirculating-tank technologies, however, may lead to a reduction in such pollution threats, as well as the spread of aquaculture to areas where large volumes of water are not available in the environment (see also aquaponics).

The practice of aquaculture dates back to 1000 B.C. in China. It is growing worldwide, in part in response to overfishing and the deterioration of the world's fisheries and concerns about the effects of pollution on seafood. In the United States, aquaculture is also a response to the increased demand for fish and shellfish as a result of changes in the nation's eating habits.

See Landau, M. , *Introduction to Aquaculture* (1992).

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