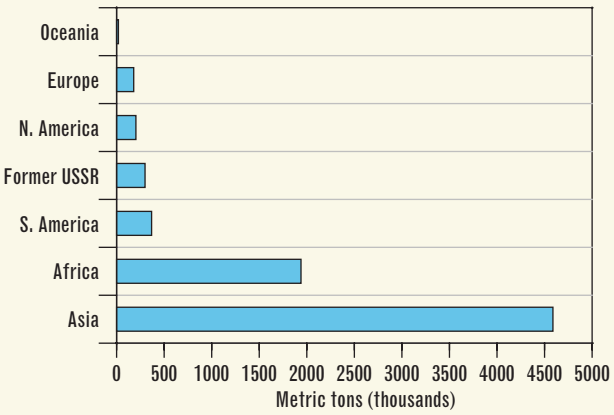
Box 2.27 Changes in Inland Fisheries

Catches from inland fisheries account for nearly 12 percent of the total fish consumed by humans (FAO 1999a). In many landlocked countries, such as Malawi, freshwater fish make up a high proportion of total protein intake, particularly among the poor (FAO 1999b).

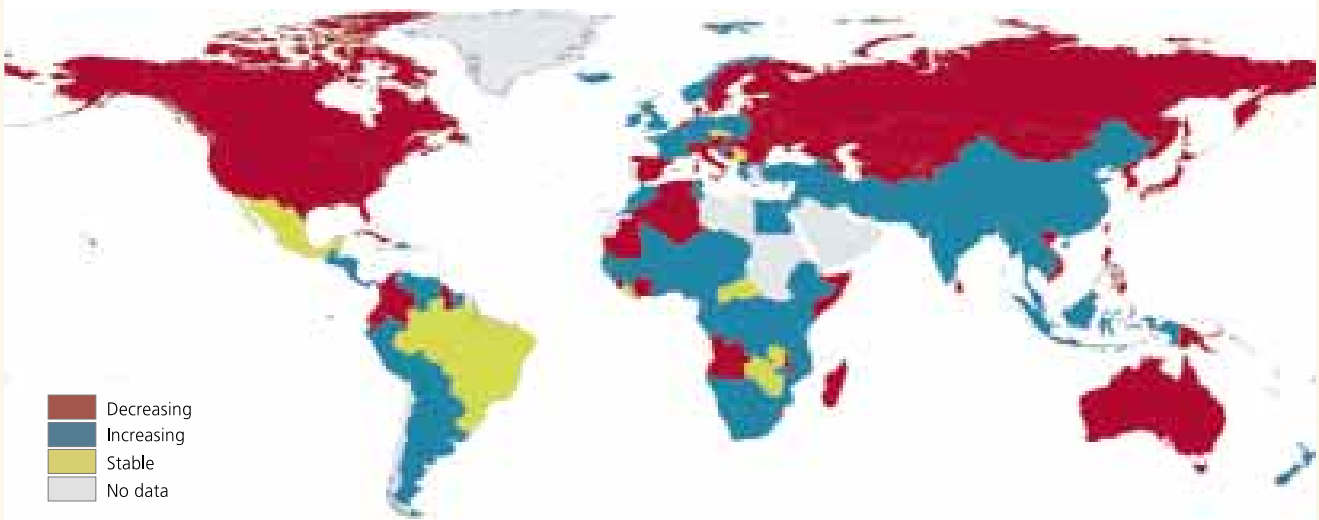
Globally, landings from inland capture fisheries (wildfish caught by line, net, or trap) have increased by an average of 2 percent per year from 1984 to 1996. Regional trends, however have diverged widely, with declines in Australia, North America, and the former Soviet Union and increases in much of Africa and Asia. Since 1987, aquaculture has outstripped capture fisheries as the major source of freshwater fish, with production dominated by Asian countries (FAO 1999a).

According to FAO, most inland capture fisheries are being exploited at above-sustainable levels. The effects of overharvesting are exacerbated by the loss or degradation of freshwater habitat caused by factors like dam building and pollution. The growth in total catch has been achieved only through reliance on restocking and the introduction of more productive species in major producing countries such as China.

Inland Capture Fisheries Landings, 1997



Inland Capture Fisheries Trends, 1984–97



Source: FAO, 1999.

Sources: Revenga et al. [PAGE] 2000. The map is based on (FAO 1999b). The figure is based on FAO (1998). Table is derived from Carlson and Muth (1989), Bacalbasa-Dobrovici (1989), Postel (1995), Abramovitz (1996, citing Missouri River Coalition 1995), Hughes and Noss (1992), Sparks (1992), Kauffman (1992), and Liao et al. (1989).

Changes in Fish Species Composition and Fisheries for Selected Rivers

River	Change in Fish Species and Fishery	Major Causes of Decline	Main Goods and Services Lost
Colorado River, USA	Historically native fish included 36 species, 20 genera, and 9 families; 64 percent of these were endemic. Current status of species under the Endangered Species Act: 2 extinct, 15 threatened or endangered, 18 proposed for listing or under review	Dams, river diversions, canals, and loss of riparian habitat.	Loss of fisheries and biodiversity.
Danube River	Since the early 1900s, Danube sturgeon fishery has almost disappeared. Current fisheries are maintained through aquaculture and introduction of nonnative species.	Dams, creation of channels, pollution, loss of floodplain areas, water pumping, sand and gravel extraction, and nonnative species introductions.	Loss of fisheries, loss of biodiversity, and change in species composition.
Aral Sea	Of 24 fish species, 20 have disappeared. The commercial fishery that used to have a catch of 40,000 tons and support 60,000 jobs is now gone.	Water diversion for irrigation, pollution from fertilizers and pesticides.	Loss of important fishery and biodiversity. Associated health effects caused by toxic salts from the exposed lakebed.
Rhine River	Forty-four species became rare or disappeared between 1890 and 1975. Salmon and sturgeon fisheries are gone, and yields from eel fisheries have declined even though it is maintained by stocking.	Dams, creation of channels, heavy pollution, and nonnative species introductions.	Loss of important fishery, loss of biodiversity.
Missouri River	Commercial fisheries declined by 83 percent since 1947.	Dams, creation of channels and pollution from agriculture runoff.	Loss of fishery and biodiversity.
Great Lakes	Change in species composition, loss of native salmonid fishery. Four of the native fish have become extinct and seven others are threatened.	Pollution from agriculture and industry, non-native species introductions.	Loss of fishery, biodiversity, and recreation.
Illinois River	Commercial fisheries decreased by 98 percent in the 1950s.	Siltation from soil erosion, pollution, and eutriphication.	Loss of fishery and biodiversity.
Lake Victoria	Mass extinction of native cichlid fishes. Changes in species composition and disappearance of the small-scale subsistence fishery that many local communities depended on.	Eutrophication, siltation from deforestation, overfishing, and introduction of nonnative species.	Loss of biodiversity and local artisanal fishery.
Pearl River (Xi Jiang)	In the 1980s, yield levels in commercial fisheries dropped to 37 percent of 1950s levels.	Overfishing, destructive fishing practices, pollution, and dams.	Loss of fishery.