

Reef Fisheries in KwaZulu-Natal 2C

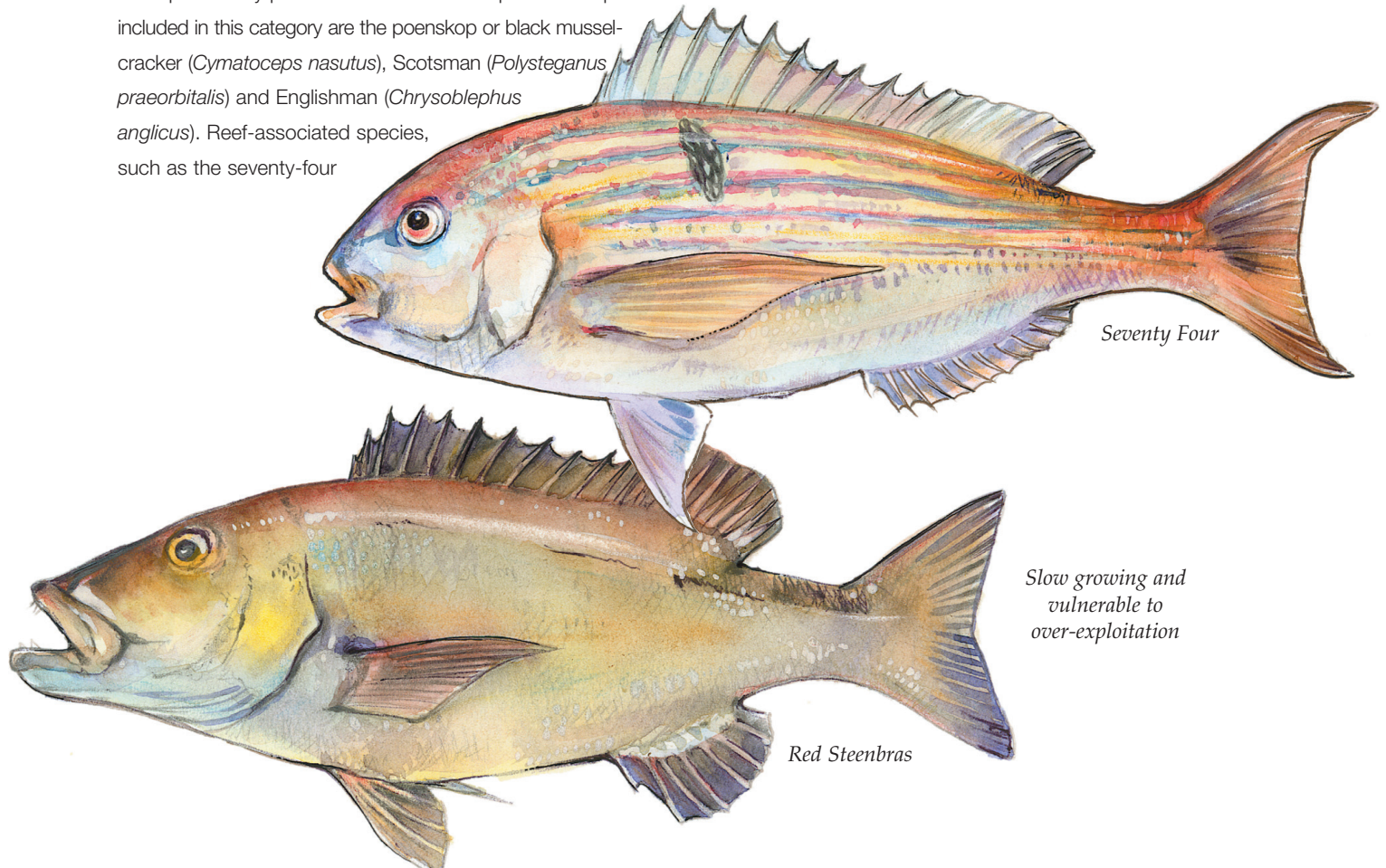
The reef fishery off KwaZulu-Natal (KZN) has been active since the early 1900s, with hundreds of fishers using hook and line to harvest demersal or 'bottom dwelling' fish from the network of reef systems that occur along the coast. Today this fishery accounts for approximately 35% of the total landed value of all fisheries in the province. It has a commercial component, with approximately 175 licensed boats, and a recreational component with an estimated 2 900 boats. The high number of people who participate in this fishery make it important both economically and sociologically. However, concern has been expressed about the sustainability of the fish resources when targeted by so many reef fishers.

Approximately 60 important fish species are caught in KZN. About 35 of these species are reef fish, some of which are endemic – only found off the southeast coast of South Africa. Many of these reef fish are fairly resident with limited geographic ranges and complex life-history characteristics, such as sex-change, late maturity and slow growth, which make them particularly prone to localised over-exploitation. Species included in this category are the poenskop or black mussel-cracker (*Cymatoceps nasutus*), Scotsman (*Polysteganus praeorbitalis*) and Englishman (*Chrysoblephus anglicus*). Reef-associated species, such as the seventy-four

(*Polysteganus undulosus*) and red steenbras (*Petrus rupestris*), are also particularly vulnerable to over-exploitation as they undertake a seasonal spawning migration and aggregate in large shoals that can be heavily fished. Between 1923 and 1995 catches of large, slow growing species such as the seventy-four and the red steenbras have declined dramatically, and have been replaced by fish such as slinger (*Chrysoblephus puniceus*), soldier (*Cheimerius nufar*) and kob (*Argyrosomus japonicus*).

Catch trends

The total mass of fish caught each year has been sustained through a variety of factors. There has been a considerable increase in offshore linefishing effort over the past century. This increase in effort has been both nominal, through dramatic increases in the number of vessels and fishers, and effective, through vastly improved technology. In the early years the only boats in the fishery were the large steam-powered lineboats which operated from Durban harbour. The advent of the skiboat in 1945 and, more recently, inflatable and semi-rigid craft ('rubber ducks'), has contributed to a widening of the spread of effort. These boats can be launched through the surf almost anywhere along the coast and there are now few areas that are inaccessible to fishers. This has meant that areas that previously served as refuges for the fish are now almost all exploited. The use of



echosounders and global positioning systems has enabled fishers to locate reefs with great accuracy, and improved technology has also facilitated night fishing. As the large, more desirable species (seventy-four and red steenbras) decreased in abundance, fishers started to exploit other, more accessible species, such as slinger, kob and geelbek (*Atractoscion aequidens*).

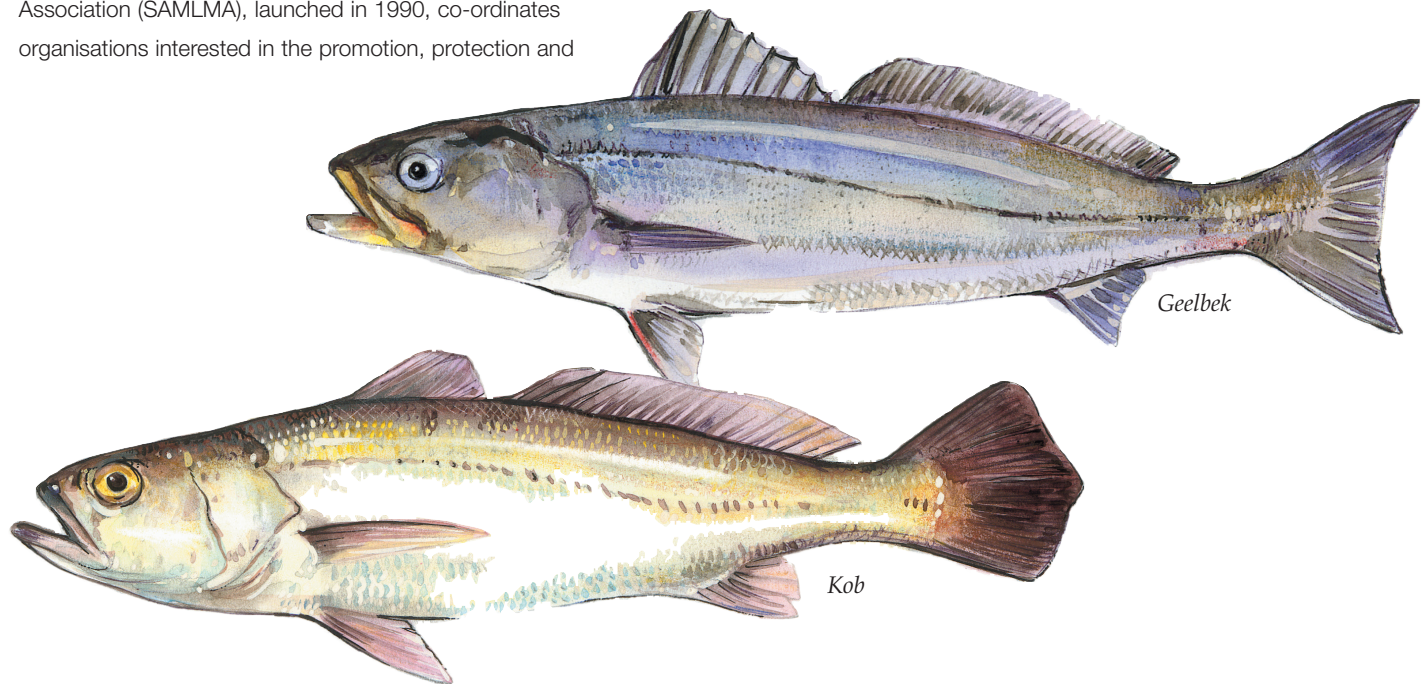
Although signs of overexploitation were first noticed in the fishery during the 1960s, the government was slow to react and the first management proposals for the reef fishery were only promulgated in 1985. Although the regulations resulted in considerable controversy, because of the disparity between the controls placed on commercial and recreational fishers, they were an important step towards improved management of the fishery. Management of the linefishery is under the control of the Department of Environmental Affairs and Tourism, through the Chief Directorate: Marine and Coastal Management. In KZN, responsibility for implementation of the fishery regulations has been delegated to the KwaZulu-Natal Wildlife. The South African Marine Linefish Management Association (SAMLMA), launched in 1990, co-ordinates organisations interested in the promotion, protection and

utilisation of marine linefish. Recommendations, based on scientific research, concerning changes to current legislation are discussed by SAMLMA and are made to the Chief Directorate: Marine and Coastal Management. Final decisions are taken by the Minister of Environmental Affairs and Tourism.

The solution

A number of strategies for the improved management of the reef fishery are under discussion. These include the implementation of stock rebuilding strategies, improvement of the current network of marine protected areas and better law enforcement of species-specific regulations. A revised management plan has recently been developed for the reef fishery. This management plan is based on a defined set of procedures that can assist managers in determining the optimal level of exploitation to ensure sustained use. In order to succeed, this management plan will require the support of all those involved in the fishery – from the fishers themselves through to the consumers.

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FURTHER INFORMATION:

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- KwaZulu-Natal Wildlife (formerly KwaZulu-Natal Nature Conservation Service), P.O. Box 13053, Cascades, Pietermaritzburg 3200. Tel: (0331) 8451999
 - Oceanographic Research Institute, P.O. Box 10712, Marine Parade 4056. Tel: (031) 3373536, Fax: (031) 3372132
- Payne, A.I.L., Crawford, R.J.M. & Van Dalsen, A.P. 1989. *Oceans of Life off Southern Africa*. Vlaeberg Publishers, Cape Town.
 - Payne, A.I.L., Crawford, R.J.M. & Van Dalsen, A.P. 1992. *Secrets of the Sea*. Vlaeberg Publishers, Cape Town.
- van der Elst, R.P. 1988. *A Guide to the Common Sea Fishes of Southern Africa* (2nd ed). Struik Publishers, Cape Town.

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