

Sport and recreational fishing are permitted in some MPAs in the WIO. Sport fishing clubs sometimes want to establish themselves near MPAs to benefit from the associated tourism and perceived better fish catches. This sheet provides MPA staff with background information on the impact and potential benefits of these activities and some guidelines on appropriate policies.

Recreational fishing (or angling) refers to fishing, for food or to release, as a leisure activity or hobby. Sport fishing is carried out, often on a competitive basis, with the main aim of breaking size records, the skill lying in landing the largest possible fish on the lightest fishing tackle (rod and line). Both therefore differ from commercial or artisanal fishing which is the mainstay of the fishers concerned. Sport fishing clubs and services exist in all WIO countries, most notably in Kenya, Mauritius, South Africa and the Seychelles. They often keep good catch records and may have valuable data going back decades.

FISHING METHODS

These depend on the environment and species sought. The main gears used are described below.

- **Trolling** - Mainly carried out offshore, this is the term used for dragging either a lure (often fish or squid-shaped), or live or dead bait through the water, usually on a monofilament nylon line a few metres below the surface. This gear probably accounts for most sport fishing in the region, the most sought after species being the larger pelagics such as marlin, sailfish, tunas, mackerels, jacks and sharks.
- **Fly-fishing** - This mostly takes place in shallow waters, commonly for jacks (trevallies) and the highly sought after elusive bonefish. It may also be practised in open water (as done in Kenya for sailfish), with the fish attracted to the boat with lures before the fly is cast.
- **Bottom fishing** - Conducted mostly in waters 5-50m deep using baited hooks to catch groupers, snappers, emperors, sharks and other bottom-feeding fish. It may be conducted from shore (with a long, flexible casting rod), or from a boat, using a short boat-rod.



Sportfishing, as here in the Seychelles, is a popular activity in the WIO and MPAs may be able to collaborate with fishing clubs.

- **Drift fishing** - Uses hooks (sometime using squid bait and light sticks) set at depths of over 50m specifically to attract swordfish (also known as broadbill).
- **Spearfishing** - Involves spearing a fish with a harpoon, usually fired from an elastic or rubber propelled spear gun. Larger reef fishes, such as groupers, are the main target species, but oceanic species such as billfish and tunas may also be speared.

IMPACTS

If managed well, recreational and sport fishing can bring economic benefits through employment and revenue from businesses. It brings people together who have a common interest in protecting the environment in which they fish, and, through their clubs and associations, are in a good position to participate in environmental issues and contribute to improving the local situation. Sport and recreational fishers can act as “watch dogs” and report incidents such as oil spills or illegal fishing. For example, the presence of illegal long-liners off Mombasa and Dar es Salaam has been reported to the national authorities by sport fishing boats.

However, the impact of sport and recreational fishing depends on the gear, the frequency, the location and the species. In some places, recreational fishing is now so intense that it is having a negative impact. Several gamefish species are on the *IUCN Red List of Threatened Species* (see sheet H3) as they are also targeted by commercial fisheries (e.g. Swordfish); others are considered to be at risk as they are caught in by-catch (e.g. marlin) or are over-fished for a variety of reasons (e.g. groupers on reefs). Other potential negative impacts include anchor damage by boats. Conflicts have arisen in some places (e.g. Mafia Island Marine Park in Tanzania) between the tourism industry (particularly SCUBA divers) and sport fishing enterprises; equally there may be conflict between commercial and recreational fishers if both target the same species.

MANAGEMENT

Given the decline of many popular gamefish species, fishing clubs in many countries have switched to partial or total catch and release programmes, particularly for large pelagic fish species. The fish are usually also tagged, training is provided for fishers on how to handle the fish, and the results of analyses of the tag returns are published in sport fishing magazines. South Africa has one of the largest programmes with 3,500 recreational fishers involved and over 120,000 fish tagged to date. In Kenya and Mauritius hundreds of sailfish and other species have been tagged by sport fishers over the last ten years. The tag shaft holds

the address details to which the tag should be sent. The tags are generally made of a barbed nylon point which is embedded in the flesh or under the dorsal fin, although older tags were made of steel. Attachment of a tag generally does not harm the fish; there are instances where tagged fish have been re-caught, even on the same day there were tagged, indicating that they were fit enough to attack the bait. New aids, such as the Aquatic Release Conservation (ARC) de-hooker, also help to reduce mortality of released fish. The results of tagging programmes have contributed to knowledge about growth and mortality rates, and movements of these fish.

MPAs can potentially play an important role in the management of sport and recreational fishing. Those that are no-take areas (e.g. Marine Parks in Kenya and Seychelles) by definition prohibit such fishing, but in others, it may be allowed in certain zones under permit and in payment of a fee. A checklist of good practices in recreational and sport fishing is being produced by a consortium of conservation and tourism organisations and provides useful guidance for MPAs (www.celb.org/marine).

KEY POINTS FOR THE MPA

- If sport and recreational fishing is allowed within the MPA, restrict this to the catch-and-release method; ensure that it is well supervised, with guides who know the correct way to release fish without damaging them.
- Make sure that regulations (e.g. size limits, closed seasons) are clearly understood and are posted for visitors.
- Monofilament line and other gear should never be discarded over board.
- Cooperate with local fishing clubs where appropriate, in order to share information about fish behaviour and movement from tagging programmes, and to obtain help with surveillance in areas not covered by MPA patrol boats.
- Any landings from sport or recreational fishing within an MPA should be recorded as part of the MPA fishery monitoring programme.

Sources of further information

African Billfish Foundation - newsletter: available from Tina Harris, PO Box 342, Watamu, Kenya, Tel: 254 42 20394/31387, Fax: 254 42 31288; e-mail: albatros@swiftmalindi.com

American Sportfishing Association 2002. *Sportfishing in America: values of our traditional pastime.*

www.asafishing.org/images/fish_eco_impact.pdf

Aquatic Release Conservation (ARC). *Guide to Handling and Releasing Fish, Sea Turtles, Marine Mammals and Seabirds.*

www.dehooker4arc.com/release_guide.htm

CELB/CORAL/IHEI/TOI 2004. *Developing a Supply Chain Management Tool: working with marine recreation providers to adopt environmental and social good practices.* www.celb.org/marine.

Great Barrier Reef Marine Park Authority. Best Environmental Practices - Fishing.

www.gbrmpa.gov.au/corp_site/key_issues/tourism/fishing.html

Halpenny, E. 2002. *Marine Ecotourism: International Guidelines and Best Practice Case Studies.* www.ecotourism.org

International Game Fishing Association (IGFA) – www.igfa.org - an international body working for the interests of sport fishers, including habitat protection.

National Coalition for Marine Conservation - www.savethefish.org

CASE STUDY

Sport and recreational fishing in South Africa and Mozambique

South Africa may have one of the biggest recreational fisheries in the world, with an estimated 750,000 recreational anglers. There are several types of recreational fishing: shore angling (known as 'rock-and-surf') which is the most accessible and therefore most popular; fishing from small boats in estuaries; sport fishing for game fish offshore (with boats known locally as skiboats); fishing for rock lobsters and abalone; and spear fishing. Most recreational fishers agree that catches are getting smaller and more difficult to catch, and scientific studies have confirmed a decline in abundance of species caught by shore anglers, with the endemic species now considered over-exploited. There are comprehensive management measures: a recreational fishing permit is required; there are minimum sizes, a bag limit for all species, and closed seasons for some species; and certain zones within each MPA prohibit recreational fishing, affording protection to breeding stocks of resident species.

In Mozambique, the Banco São Lazaro which is part of the Quirimbas National Park is being zoned as a Specific Use Zone specifically for sport fishing. The coral bank, which lies over 40 km offshore, is already a popular sport fishing area. The zone will comprise all the bank within the 100m depth contour, and only sport fishing and SCUBA diving will be allowed. There will be little conflict with artisanal fishers since they do not go out so far to sea. The sportfishing boats will play an important role in monitoring illegal long-line fishing boats and the fees that they pay (a surcharge will have to be paid for fishing here) will provide revenue for the Park. Elsewhere in the Park, sportfishing is prohibited in the Total Protection Zones but permitted in the Community Use and Development Zones provided it is done in accordance with the Mozambican sportfishing regulations (Regulamento da Pesca Desportiva).



Beach angling is popular in St. Lucia MPA, South Africa.

S. Wells