



FISHERIES MANAGEMENT

ECOSYSTEM APPROACH TO FISHERIES MANAGEMENT

‘Ecosystem-based management’ is now a recurring priority item in global fisheries agendas. It has gained much attention and influenced management and policy decisions amongst regional fisheries management organisations, fisheries managers and scientists as well funding institutions and external actors.

The Ecosystem Approach to Fisheries Management (EAFM) process is similar to risk management and involves four overall stages: 1) determining the scope of the assessment – develop a clear description of what is to be managed/assessed; 2) given the scope, identifying all the issues that need to be assessed; preferably across the five key areas of EAFM and agreeing on the values wanted to be achieved for each of these; 3) determining, using risk analysis, which of these issues needs to be managed directly; and 4) establishing the levels of performance that are acceptable, the management arrangements that will be used to achieve these levels, and the review processes needed to assess performance for those issues requiring management.

The FFA Pacific Island States have now agreed to apply the ecosystem approach to managing tuna fisheries within their national jurisdictions, however challenges relate to the disparate levels of fisheries management resources and policy instruments available amongst these countries.

FAD MANAGEMENT PLANS

Fish Aggregating Devices (FADs) are renowned for attracting various sizes and different species of fish to aggregate in dense schools. They economize tuna fishing by cutting down the unnecessarily time spent in searching for highly migratory tuna schools.

Fishing around FADs has unfortunately raised three main concerns: resource sustainability, fishing interactions and access to resources. FADs are believed to contribute to the depletion of the bigeye and yellowfin tuna populations given that catches of juvenile bigeye tuna, assessed as subject to overfishing, are higher when purse seine sets are made on schools associated with FADS as opposed to setting on free swimming schools. Longliners fishing in the proximity of FADs risk their gear becoming entangled with the mooring ropes of FADs thereby discouraging longline fishing operators from having access to available resources found in the vicinity of anchored FADs.

In developing FAD Management Plans, consideration is given to limiting the number of deployed and floating FADs used by purse seine fishing vessels, the design, operation and maintenance of FADs, location of FADs and reporting procedures to other tuna resource users including notification of FAD positions and marking and ownership of FADs.



FISHERIES MANAGEMENT

BYCATCH

MITIGATION

Unintended catch of non-target species in fishing gear may be reduced by applying operational and technical mitigation measures. Operational measures include time or area regulation of fishing effort and gear use. Technical mitigation measures consist of modifications to fishing gear and practices. A number of technical bycatch mitigation means have been developed, experimentally tested, and implemented as part of regular fishing practices. However, bycatch mitigation solutions are not universal and differ among gears, fisheries, ocean region, and bycatch species. Therefore, nearly all fisheries have to test mitigation measures experimentally and figure out what works best in their fishing practices.

In the Pacific Islands bycatch of sharks, and to a lesser extent turtles, is of concern. Pacific Islands have the following management arrangements for bycatch mitigation as part of measures adopted at the Western and Central Pacific Fisheries Commission:

Seabirds

A combination of mitigation measures are required for vessels operating in the areas North of 20°N and South of 20°S – each vessel must use one from column A and column B.

Column A	Column B
Side setting with a bird curtain and weighted branch lines	Tori line
Night setting with minimum deck lighting	Weighted branch lines
Tori Line	Blue-dyed bait
Weighted branch lines	Deep setting line shooter
	Underwater setting chute
	Management of offal discharge

Sharks

To prevent shark finning (finning of sharks at sea and the discarding of carcasses) a vessel may not retain greater than 5% of the whole weight of carcasses in shark fins on board the vessel. This arrangement has been implemented to prevent resource wastage, in the form of the dumping of carcasses, and overexploitation of sharks

Turtles

The measure mainly seeks to address turtle mitigation in "shallow-set swordfish fisheries", where it requires that one of the following options be implemented: Large circle hooks; OR Fish bait; OR Another measure, or mitigation Plan that has been demonstrated to achieve a low level turtle interaction; OR Demonstrate that the fishery already has a "minimal" interaction rate with turtles.

All longline fishing vessels must carry and use de-hookers and line cutters and (where appropriate) dip nets to allow the release of turtles as efficiently as possible. Purse seine vessels must take actions to avoid encircling turtles and to release turtles as quickly as possible if they are encircled.