

A proposal for tagging in the Sultanate of Oman

Background

The traditional yellowfin fisheries of Oman, with the wide size range and ready availability of fish taken in surface fisheries, would seem to potentially offer an opportunity to integrate complementary tagging from the artisanal fishery here into a large scale regional programme. The Oman yellowfin fishery is large by artisanal standards (close to 20,000 t/year), and is well documented and routinely monitored by government officials. The number of landing points in the country is relatively few, and fish are handled on an individual basis.

Tagging yellowfin tuna in the northern Arabian Sea is important in the context of the Indian Ocean Tuna Tagging Programme (IOTTP) to understand the relationship between the various fisheries in the Arabian Sea and other areas of the western Indian Ocean. In particular, tagging from the artisanal vessels in Oman, will also provide valuable information regarding growth as the sizes caught in this fishery are not well represented in other areas.

Oman has an extensive coastline with well-developed fisheries along the whole coast. These fisheries are predominantly artisanal in nature. Among the tuna species caught, yellowfin is an important species during the period October-February. At the beginning of the season the catch is predominantly small and medium size fish (< 30kg) while bigger yellowfin are caught towards the end of the season.

The main challenge is to find a feasible method for tagging involving a suitable gear, given that most of the catch is taken by drift gillnet, a gear totally unsuitable for tagging, as the fish dies rapidly once caught by the gear.

Potential tagging platforms

The fisheries in Oman are dominated by artisanal boats such as the traditional dhow, which is a wooden vessel of 30 to 35 ft. utilising drift gillnets, and the fiberglass boats of 20 to 25 ft. utilising both drift gillnets and handline. Fishing trips are short, with boats usually leaving late in the afternoon to return the following morning at daybreak. Landings take place at special landing piers, next to the auctioning site.





Trolling is not widely practised, but offers fish in good condition, typically in the 2kg to 15 kg size range, especially if short troll lines are used. Based on fishermen's anecdotal information, there would seem to be possibilities to tag and release troll-caught small yellowfin from artisanal vessels, operating on a daily basis, towards the end of the main season (November-February) at most landing sites, but certainly Sur and Sidab (located right next to Muscat).

Fishermen could be encouraged to use barbless hooks, to minimize fish damage. Fish would be landed on a small portable vinyl-covered mattress, tagged whilst the head was covered by a dark cloth to calm the fish, measured against a scale marked on the mattress, and released. Cooperating fishermen would be paid the commercial value of the fish (based on a weight calculated from the recorded length) plus an appropriate bonus. 20 fish per day may be a reasonable average target. Although trolling is not an ideal method, experience in the western Pacific with short troll lines saw return rates equivalent to pole-and-line releases from the same schools achieved.

Deep handline fishing, involving daytime slow trolling of lures at depth, tends to produce larger fish (20 -60 kg). The day's fishing produces few (but large and valuable) fish, and there may be some question marks about their condition after the fight, and the difficulty of handling them inboard, live, in a small vessel. This method is now pursued from most landing points, since with the purchase of the large fish for export, it offers the best return on investment.

Baited handlines of two types are apparently in use. The first, using broadcast live bait initially caught with cast net, in conjunction with live bait on a hook, is typically used for a variety of coastal pelagics, which may sometimes include small yellowfin. This produces fish in very good condition, but would probably yield yellowfin only sporadically. The second type involves casting hooks with dead bait (sardines) into actively feeding schools. Fish of a range of sizes are caught. This may be a useful method at the right season, and requires further investigation.

Coastal **setnets** produce small yellowfin from time to time, and could be a source of fish in quantity at such times. Again, further investigation of this option is required.

There exists a possibility in Oman of tagging of larger fish caught by sport fishermen. The local gamefishermen catch yellowfin surplus to their needs and are keen to cooperate. It is probable that some fish could be tagged and released in good condition, with appropriate instruction. Such efforts should be kept outside the main programme, however, as it would be difficult to maintain a standard approach to tagging amongst cooperating fishermen and

consistent quality of tagged fish could not be assumed.

The commercial longliners are a possible source of medium-sized fish, to 20 kg, these often not being retained or of low value. Given the doubts remaining concerning the condition of longline-caught fish, and the logistical difficulties, this is probably not a viable short term option.

Operational details

A tagging operation in Oman might therefore involve operations from artisanal trolling and handline vessels (and possibly setnet operations) during the main yellowfin season, possibly November to February. Small fish would initially be targeted, but it would be desirable to also release smaller numbers of larger (20kg plus) fish. Tagging operations (planning, implementation) could be initiated by a technical consultant with necessary experience, then continued by staff of the Oman MSFC. Most likely locations for the work would be Sidab in the first instance (nearness to support and MSFC; ease of initial implementation), then extend the work to Sur, the location of a much larger fishery. The cooperating fishermen would be compensated for the released fish, at commercial value plus an agreed raising factor.

Publicity for the tagging project within Oman, in the form of posters, handouts etc in Arabic and English, possible media coverage, and awareness-raising in fishing communities would be vital to the success of the project. A reward system would need to be implemented, either in the form of cash (e.g. RO 4.000 for the return of tag plus recapture information, but not the fish itself), or other reward (project shirt, cap or other attractive item). The support and cooperation of the DG of Fisheries Resources and the various Fisheries offices throughout Oman would be crucial. Region-wide publicity would of course also be needed, ideally in conjunction with the regional project.

An initial target of 1,500 yellowfin during one year, mostly smaller fish, but with some larger fish, might be realistic. This could be more precisely defined once more information was available on the catch by some gears, and experience was gained in working with Omani fishermen. Yellow dart tags would be used, in conjunction with portable graduated vinyl-covered mattresses. Individual fish lengths would be recorded, as well as other release details.