



**Report of the Fourth Session of the IOTC Working Party
on
Tagging**

Shanghai, People's Republic of China June 3-11, 2002

TABLE OF CONTENTS

TABLE OF CONTENTS	0
1. OPENING OF THE MEETING	1
2. FUNDING	1
IPTP.....	1
EU DG-DEV	1
OTHER EUROPEAN COMMISSION FUNDING (DG-DEV AND DG-FISH)	1
OTHER OFFERS.....	2
3. OTHER TAGGING PROJECTS IN THE INDIAN OCEAN	2
4. INDIAN OCEAN TUNA TAGGING PROGRAMME	3
PROGRESS SINCE THE LAST MEETING	3
REVISED ORGANISATION AND GOALS.....	3
SPECIFIC ISSUES RELATED TO CURRENT ACTIVITIES.....	4
PILOT PROJECTS.....	6
SMALL AND LARGE-SCALE PROJECTS.....	7
5. FUTURE OF THE IOTTP	8
6. CLOSE OF THE MEETING	9
APPENDIX I – LIST OF PARTICIPANTS	12
APPENDIX II – AGENDA	16
APPENDIX III – RECENTLY COMPLETED PILOT STUDY IN MAYOTTE	17
PILOT PROGRAMME FOR TEST FISHING IN SEYCHELLES	18
PROPOSAL FOR SMALL-SCALE TAGGING IN MAYOTTE	19
PROPOSAL FOR SMALL-SCALE TAGGING IN INDIA	20
APPENDIX IV: LIST OF PROPOSED NATIONAL LIAISON OFFICERS	21

1. OPENING OF THE MEETING

The 4th meeting of the WPT was held in association with the 4th session of the Working Party on Tropical Tunas in Shanghai, China, between 3 and 11 June 2002. The meeting was convened by the chairman, Alain Fonteneau from IRD, France. The List of Participants is included as Appendix I and the Agenda of the meeting is included as Appendix II. David Agnew was nominated as rapporteur of the meeting.

2. FUNDING

In 2000 the WPT identified that the cost of a full tagging programme would be US\$16M. In 2001 the WPT revised this to a requirement for US\$12M based on the fact that a revised small scale tagging program was proposed by the EC. The WPT now recognises that such funding is unlikely to be provided in a single amount, and that the tagging programme strategy requires re-formulation to take account of this. This is considered further in Section 4.2. The following funding is currently available, or likely to be available in the near future:

IPTP

The IOTC is now in receipt of US\$184 000 of IPTP funds. These have been allocated to pilot projects at Mayotte and Seychelles. The Mayotte pilot project is reported on below, and plans for the pilot project at the Seychelles are discussed in detail in section 4.

EU DG-Dev

As discussed at previous meetings, €4.5M may be available through the EC Directorate General for Development (DG-Dev). The project will be funded on the request of two countries from the western Indian Ocean area, and Seychelles and Mauritius have made the appropriate bid.

There is a good chance of being able to obtain this funding, which will probably be available from 2004. The first part of the procurement process is underway, with a detailed feasibility study due to be undertaken in the second half of 2002. This study will be undertaken by a consultant to DG-Dev (to be chosen in June 2002), will have a budget of up to €175,000, and will identify a detailed proposal, work plan and budget for the main tagging project.

The consultants will use the reports of WPT and WPTT, as well as discussions with the Mauritius and Seychelles Governments and the IOTC Secretariat to develop a detailed project plan. In this regard, it was noted that the original plan included funding to cover both pilot studies and at least part of the main IOTTP. Since the funds are unlikely to be available until at least the end of 2003, most of the pilot projects are likely to have been completed.

Other European Commission funding (DG-Dev and DG-Fish)

The EC DG FISH has offered a yearly budget of €200,000 (about US\$180 000) for the IOTC tagging program. This funding would be available in 2002 and the IOTC Secretariat will propose tagging plans corresponding to this budget. Any project for which this funding is requested must have clearly identified objectives. This funding is apparently linked to funding that should be given by other industrialized fishing nations.

A project over-run of up to 20% is apparently allowed on the current DG-Dev project, but will not be in the plan. There is also the possibility of obtaining extension funding from DG-Dev, under the *Commission de l'Océan Indien* (COI) framework, if the initial project is successful. Therefore, there may be potentially about €5M additional DG-Dev funds available from COI in the medium term.

New funding arrangements from DG-Fish may also allow the contribution of up to €1M of EC money per year for up to three years for tuna tagging requested by Regional Fisheries Organizations to which EU Member States are parties. The IOTC tagging programme might indirectly qualify for such assistance. These funds would be given to EU states which are fishing tunas and billfish in the Indian Ocean. These countries should elaborate their national tagging programmes in full coordination with the IOTC and its WPT

Other offers

Japan may provide US\$80,000 per year for five years for the tagging project but has not yet given any firm commitment. It was also suggested that Japan might supply vessels for use in the tagging programme. This would constitute a considerable “in kind” contribution, but there is still no firm commitment. Such in kind contribution would be highly valuable for the program if such tagging vessel could be provided for long duration.

Various EU tuna associations have offered their full support the IOTC tagging program, but this support is not yet fully identified in practical terms.

Some EC companies have also suggested that vessels currently tied up in the capacity reduction programme might be used as “in kind” contributions if the EC agreed to use the compensation funds for this purpose. This question is being discussed by the EC.

The Mayotte and La Réunion authorities have also expressed their willingness to provide “in kind” support for tagging studies conducted in their waters, taking into account their interest to maintain sustainable tuna fisheries in their waters. Practical plans would need to be developed. All such offers are gratefully received.

The WPT recommended that the Commission request that the offers by Japan and EC be confirmed and fully integrated in the IOTC tagging program.

Despite continued representation, no response has been forthcoming from the World Bank Global Environment Facility (GEF) in respect of funding for the tagging project under its “Large Marine Ecosystems” programme.

3. OTHER TAGGING PROJECTS IN THE INDIAN OCEAN

Japan has been tagging some tropical tunas on an opportunistic basis as part of its southern bluefin tuna tagging programme, although no bigeye tuna has been tagged to date.

The WPT recalled the decision that the IOTC should be the repository of all tuna tagging data from the Indian Ocean. To that end, it urged all parties and cooperating RFMOs to send all their tagging and recovery data to the IOTC Secretariat, which is developing a tag database for integration into WinTuna.

4. INDIAN OCEAN TUNA TAGGING PROGRAMME

Progress since the last meeting

As requested at the last meeting of the WPT (2001) the Secretariat has purchased a number of Hallprint tags and a video camera. Some tags and the camera were used in the Mayotte pilot study (see below) and tags have been supplied to IFREMER in La Réunion for use on an opportunistic basis in their dolphinfish tagging programme. A quotation has been requested for the supply of materials for FADs, and it is understood that floats and possibly chains will be provided by a company in Seychelles free of charge.

A pilot study on tagging from a small longliner and the fisheries office launch was carried out at Mayotte in 2002. The project involved meetings with the public, fishermen, managers to publicise the project, development of a tagging cradle, one long-line tagging set, three handline tagging days on free school tuna or on anchored FADs and meetings with the aquaculture professionals about the possibilities of *Chanos chanos* production. The stern of the 8m vessel was level with the sea surface, making it easy to bring fish aboard and tag them on a purpose-built, adjustable table. 15 fish were tagged, 9 on the longline set and 6 on the handline tagging days, taking fish caught by local handliners by transferring the line to the tagging vessel. The experience showed that tagging from longliners and using handliners was feasible in Mayotte. The handline method requires good weather, but one tagging boat can be supplied with good condition tuna from 5 – 15 cooperating handline vessels. Good cooperation with the fishing community is essential for this project, but initial indications are that fishermen are keen to cooperate on the project.

Revised organisation and goals

It was recognised that while the full requirement of US\$12M for the IOTTP might eventually be reached, it was most unlikely to be available as a single sum. It is more likely to be available as a series of separate funds provided by a variety of funding sources with significant contributions from IOTC Members and industry “in kind”. The value of such “in kind” contributions can be high, but requires considerably more effort to coordinate with other activities of the programme than simple financial contributions. In the light of this situation, it was agreed that a more detailed sequential plan needs to be developed to realise the aims of both small-scale and large-scale projects.

It was nevertheless agreed that the original goals of the programme should be retained, and that it continue to be composed of pilot, small-scale and large-scale projects.

The aim of pilot studies (pilot projects) would be to investigate the feasibility tagging using non conventional tagging vessels and gears, or solving the problems of live bait. Thus, different pilot studies may be required for different areas, tagging methods and species. Pilot studies may be necessary precursors to both small-scale and large-scale projects.

The aim of small-scale projects will be to answer specific scientific questions targeting management problems. Their goals and objectives would be specific and limited. For instance, to investigate tuna movements and growth at given sizes and in specific areas of interest (such as Mozambique Channel or Seychelles Islands).

The aim of large-scale projects would be to answer a wide range of questions about tuna movements, growth, natural mortality etc (Table 1 from the 1st Session of the Working Party on Tagging, Seychelles, 2000) over the whole Indian Ocean and to provide all the results which are necessary to do a consistent stock assessment of Indian Ocean tropical tuna stocks.

Specific issues related to current activities

The problem of live bait

The WPT has proposed large-scale pole-and-line tagging operations which will require a supply of live bait in various areas. As live bait has been seldom used by pole and line vessels in the Indian Ocean, there is a need to study this problem. The Seychelles is proposed as the most appropriate place to undertake the baitfish pilot project, due to its ideal location as a potential tagging location. This derives from its position, located centrally in the western Indian Ocean fishing zones and close to the Somalia FAD fishery, and the availability of support from the staff of the IOTC Secretariat, IRD and the Seychelles Fisheries Authority. A pilot project on live bait acquisition will involve the identification of suitable baitfish and identification of methods to capture such fish around the Seychelles.

The WPT discussed the availability of two sources for baitfish. Around the Seychelles horse mackerel *Decapterus* spp. are likely to prove hardier when maintained as live baitfish than *Sardinella*. Capture methods would probably be beach seines or small ringnets, but it was noted that there may be considerable difficulty in successfully locating and capturing the fish. For instance the Spanish pole-and-line fishery (1983-84) successfully caught baitfish but had to operate at night with no lights.

An alternative could be to use commercially available milkfish (*Chanos chanos*). Milkfish, which must then be air freighted from Taiwan, cost \$20,000 for 100,000 fry. An additional factor is that the fry must be grown to 10—12g in size to be useful for tagging, so that 1t of bait would cost \$20,000 plus the cost of feed, even in the absence of significant mortality. Baitboats would usually take 1t of bait at a time for tagging purposes, so the cost of using milkfish would be high. It was noted that baitfish may also be available from other areas in the western Indian Ocean, for instance Réunion, but it would be preferable to capture them close to the area in which tagging is to be undertaken.

There is a research group working on small pelagics at La Réunion. This group captures fish using ringnets and keeps them alive in basins. Other experiments keeping fish in cages are underway. The WPT agreed to approach this group to investigate the type of cages used, their cost and supply and whether they could be used for the baitfish pilot project in the Seychelles and at what cost.

It was reported that there are two companies based on Mayotte which could assist with the production of milkfish, grown from imported fry. It may be possible to grow them on early in the season (by March) to be used in tagging, and to keep them at the optimum 8-15cm during the whole tagging period through feed control. It was also reported that similar plans to develop farming of milkfish are presently studied in Seychelles.

The WPT agreed that a baitfish project should be undertaken in the Seychelles in 2003 to investigate the feasibility of locating and capturing baitfish. Detailed planning for the project should take into account the above discussion on baitfish capture and storage. A consultant master fisherman will need to be appointed to the IOTC Secretariat. The availability of the SFA research vessel, *l'Amitié* should be ensured and the necessary fishing gear ordered. Possible sheltered locations for the cages should be established in the planning phase. A detailed budget will need to be developed by the IOTC secretariat and SFA.

Tagging by sport fisheries

Last year WPT recommended that IOTC Secretariat should undertake a study to identify all areas where sport fishing takes tuna around the Indian Ocean. There are rather few areas where there are significant sports fishing activities (South Africa, Mauritius, Réunion, Seychelles, Malindi (Kenya), Phuket, Australia). In most of these areas it is perceived that it would be difficult to encourage sports fishermen to

tag and release tuna although there is active billfish tagging in several locations. In many, revenue from tuna sales is used to subsidise charter boat incomes. It was suggested that the recapture reward system could be modified to provide a reward to both the tagger and the tag finder, but this would be difficult to administer. The IOTTP budget would not allow any routine payment for tagged fish to sports fishermen. Furthermore, there would be difficulties in ensuring that fish are tagged correctly and have a high subsequent survival. East coast USA tagging schemes target a well trained subset of sports fishing boats, a method that would be difficult and expensive to implement in the Indian Ocean.

For the moment, WPT agreed that tagging by sports fisheries should receive a low priority within the IOTTP. However, it would be useful to evaluate better their potential use and to already contact some specific clubs (for example in Réunion, Seychelles, Mayotte and Mauritius) and commission a short paper from Julian Pepperel to identify potential clubs. It may be more useful, for instance, to use selected sport clubs as specific vehicles for small scale studies using archival or pop-up tags.

Publicity and rewards

The WPT recognises that publicity is expensive but is an integral part of tagging programmes. For the main programme (short and long-term projects) publicity will need to be targeted at fishermen and major landing points, such as purse seiners, bngline associations, main transshipment ports and canneries. This publicity must ensure that fishers and processors are fully aware of all the relevant data that is required from tagged fish. There is some doubt, however, whether artisanal fisheries can be targeted effectively by publicity campaigns because of the administrative difficulties involved in such “diffuse” situations. This publicity must ensure that fishers and processors are fully aware of all the relevant data that is required from tagged fish. Studies may need to be undertaken, for instance seeding canneries with tagged fish, to test the effectiveness of publicity campaigns. Finally, significant resources must be provided for the Secretariat to administer the scheme.

Rewards need to take account of the motivation of different fishing sectors and countries. There should be a double reward system, consisting of an immediate reward (a cap, T-Shirt or \$5) as well as information on the tagged fish, and an annual prize draw, for example for \$1 000. There will need to be a system for the rapid provision of rewards to tag finders, which will necessitate having local representatives in the various areas where tagged tuna will be recovered. There may need to be some consideration of the minimum tag/fish information that is required for a finder to be included in either the immediate reward or the prize draw.

Even though the pilot projects under the IOTTP are expected to tag rather few fish, it may be worth considering limited publicity campaigns targeted at major landing points. Publicity can be organised at western Indian Ocean canneries and IOTC sampling schemes as soon as a tagging operation will start. Such campaigns should aim to be inexpensive (consisting of posters and small monetary rewards only) and simple to administer. Each pilot project should make specific provision for any limited publicity campaigns within its budget. It should also be borne in mind that too much publicity in situations where fishers or processors are very unlikely to encounter a tagged fish may act negatively on the effectiveness of publicity for the main programme.

A more extensive campaign of publicity should be developed by the IOTC as soon as the first small scale tagging will be carried out. This publicity will be limited to the main landing ports where scientists are already sampling the tuna landings and where tags can be easily identified and rewards easily paid.

It would be useful to have higher levels of reward for small-scale tagging projects that will be using expensive tags, such as internal archival tags. With a tag costing \$3 000 an immediate reward of \$1 000 may be appropriate in order to encourage a full identification of all these valuable fished tags. These

tagging programmes will need specialised publicity allowing efficient and safe recuperation by scientists of these electronic tags.

Other publicity

A slide show explaining the need for an Indian Ocean tagging program and the methods and goals of the IOTC tagging program itself, has been prepared on CD-ROM. This CD-ROM is available under request at the IOTC Secretariat (in French and in English). The use by scientists of this IOTTP slide show should be encouraged in order to facilitate better communication with administrations and fishermen. This poster should also be placed on line in the IOTC web site.

The Seychelles Fisheries Authority has produced a poster on the prospects and interest of tuna tagging in the Indian Ocean (in French and in English), which includes information tagging, which is also useful publicity. The WPT recommends that the IOTC should make copies of these posters in order to disseminate them to all interested parties.

Pilot projects

The WPT recalled that the Mayotte project was the only pilot project that has been undertaken to date. The project was successful in demonstrating the feasibility of tagging YFT around Mayotte. The study has reinforced the need to conduct pilot studies of tagging from sampans, and the use of dead bait as a substitute for live bait, in accordance with the advice of WPT-2 (2001). It was agreed that tagging at Mayotte should now enter the next phase of the IOTTP small-scale projects.

Considerable information still needs to be gathered on sources of bait and mechanisms of maintaining bait alive before a pilot project can be defined (see section 4.3.1). Scientists on Seychelles, Mayotte and Réunion were encouraged to undertake such investigations and develop a pilot project proposal.

A possible pilot project to tag YFT and BET from longliners at Réunion has encountered some problems in defining sufficient incentive for commercial participation, even on the boats chartered by IFREMER. Scientists from Réunion were encouraged to try to solve these and come forward with a proposal for a pilot project.

The WPT endorsed a proposal for a pilot project to be undertaken in 2002 in the Seychelles, included in Appendix III. This will take place in September 2002 using anchored FADs to facilitate tagging by a small longliner and *l'Amitié*. The objective is to investigate the best way to tag large numbers of YFT and BET, and will include a component of training for local personnel.

The WPT received a proposal for a pilot project for tuna tagging in Indian waters and Lakshadweep Islands (Appendix III). In scope, and bearing in mind previous successful experience in the adjacent Maldives, this proposal would be better classified as a small-scale project. However, there were some aspects which could benefit from a smaller pilot project, such as the plan to use longlining from a survey vessel. However, it was considered that the two planned activities should run simultaneously. The Working Party on Tagging recommended that funding for this project should be sought through the DG-FISH funds (identified in paragraph 7), preferably for the current year.

The Secretariat reported that, on a recent visit to Oman, the authorities had expressed enthusiasm for undertaking a 2-week pilot tagging project. This would be targeted at YFT, tagging from small vessels between September and February, with the objective of investigating the feasibility of tagging large numbers of medium sized YFT and training local personnel to do this.

It was emphasised that there are few reliable sources to tag medium-sized YFT which are rare in the central and southern Indian Ocean. WPT strongly encouraged the development of a proposal for a pilot project in Oman waters.

Similarly, a proposal for a pilot project investigating the feasibility of tagging tuna from handlines in Iranian waters should be developed. This area is also important in understanding the still unknown and probably complex migration route of medium-sized YFT.

Small and large-scale projects

The WPT agreed that practical implementation of the IOTTP has now started. A number of pilot projects have been initiated, or are planned for the near future, and two small-scale projects are planned (Table 1). Finally, the DG-Dev programme will be developed over the next year for its likely implementation in early 2004.

The only proposal for a small-scale project other than that from India was for a small-scale tagging project received by WPT was that from Mayotte. This is proposed for early 2003, medium scale tagging of 800 to 1 000 YFT, and some trial tagging of BET (Annex 4). The Working Party on Tagging recommended that funding for this project should be sought through the DG-FISH funds (identified in paragraph 7), preferably for the current year.

Australia has investigated the potential feasibility of doing a pilot or small-scale project jointly with Indonesia, tagging tuna off Indonesia. There is good potential for such a project, but the two countries are awaiting the formulation of an overall plan for tagging within the Indian Ocean (see paragraphs 56-57) before proceeding with development of a formal proposal. WPT encouraged such development by Australia and Indonesia, which would be able to tag tuna in an important part of the Indian Ocean using the wide tagging expertise of Australian scientists. It was recommended to plan to start this tagging operation in 2004 in order to obtain simultaneous tagging with the EU western Indian Ocean tagging. A full coordination between these two potential tagging plans should be organized.

It was agreed that projects using archival tags would necessarily involve the use of outside experts in these tagging techniques. Therefore they would probably be classified as small-scale rather than pilot projects. Amongst the IOTC member countries Australia is the only country with a large and positive experience in this type of tagging.

It was agreed that the DG-Dev large-scale project would most useful if it had as its main objectives the determination of growth and migration of fish tagged throughout the whole of the western Indian Ocean. This should include areas in the southwest (Mauritius, Réunion, northern Madagascar waters) and the northwest (Seychelles, Somali and Gulf of Oman). It was thought unlikely that the DG-Dev project would be able to answer questions about natural mortality or population size.

One very specific small-scale project that could be initiated would be to look at the influence of drifting FADs on the behaviour and changes of catchability of the various sizes of YFT and BET which have been increasingly taken under FADs. This could probably best be undertaken by EU scientists who would have the best access to the purse seine fleet, using electronic tags such as pingers, and might be a candidate project for the DG-Fish funding described in section 2.3. WPT urged EU scientists to develop a proposal for such a FAD tagging project.

5. FUTURE OF THE IOTTP

At its conception in 2000, the IOTTP was envisaged as a large scale programme answering questions of growth, migration, behaviour, mortality and population size. In particular, the estimation of mortality and population size was considered to need at least 2 years of intensive tagging over the whole Indian Ocean. It is recognised that the current funding structure will probably not allow such an intensive large-scale project to be developed, at least in the short term, but the WPT agreed that such a project should remain a goal of the programme.

It was also recognised that although tagging will provide essential information for stock assessment, there will remain some essential data that can not be derived from tagging, such as historical and current catch, effort and biological data. In this regard, it was recognised that at the moment Japan is investing considerable effort in improving Indian Ocean fisheries statistics under the OFCF programme, rather than directing large funding at the IOTTP. Reliable statistics can be considered an essential prerequisite for full use of much tagging data.

The WPT strongly encouraged all interested parties to make proposals for small-scale tagging projects in relation with their fisheries and is ready to give support (technical and in identifying funding) to such programmes that met the main objectives of the IOTTP.

The WPT emphasised that it was essential for the comprehensive development of the IOTTP that plans should be developed in a coordinated way over the whole of the Indian Ocean. Unnecessary duplication (or omission) of tagging effort directed at the various objectives identified in the WPT report of 2000 should be avoided.

The WPT agreed that, in order to assist in coordination of the IOTTP and to help scientists plan their tagging projects in the context of the overall programme,

1. All proposals for tagging should be available from the IOTC Web site;
2. The WPT should, as a rule, be given the opportunity to comment on proposals. An exception to this rule could be where the project must take place at short notice, before the next meeting of the WPT; and
3. When a proposal is provided to the WPT for comment, a single page summary should be prepared for inclusion in the WPT report. The format for such a summary is given in Appendix III.

Some simulations have already been conducted to identify the numbers of different sized tuna that should be tagged in each area of the Indian Ocean and software has been developed for conducting such simulations. However, in order to assist the development of small-scale and large-scale projects within the IOTTP the WPT recommended that the Secretariat commission an expert study to identify, for each of the specific objectives, the numbers of different sized tuna that should be tagged in each area of the Indian Ocean. This study should be based on simulations and on real results obtained by tagging programs in other oceans. This study should be completed before or during the time that the DG-Dev consultants are defining the objectives plan for the DG-Dev project. Further simulations might be needed as the small-scale tagging experiments proceed.

WPT urged all fishing Members to become involved in the tagging programme. Members should nominate liaison contacts, who will be essential for coordination of the programme, but it was recognised that, until the programme is fully operational, it may be difficult to get all Members to nominate official

liaison officers. It was suggested that, in the interim, one scientist of each country member of WPT should act as temporary liaison officers (proposed list given as Appendix IV).

All data reported to the Secretariat as part of the IOTTP will be archived in the IOTC Secretariat's tagging database which will be integrated as part of WinTuna. Such data will be protected in the normal way by the IOTC rules on confidentiality and access to data. However, given ocean-wide nature of the tagging programme, it would be preferable, if data owners agreed, that their tagging data should be available in the public domain. To make sure that as much of the tagging data are in the public domain as possible, issues of access to data should be established at the start of all new projects. The EC scientists undertook to supply data from the *Mascarei* tagging to the Secretariat on request and that these data would be in the public domain. Similarly, the Japanese scientists undertook to request permission from their administration to provide historical data from the JAMARC tagging.

6. CLOSE OF THE MEETING

The report of the meeting was adopted on June 11th 2002.

Table 1. Status of tagging projects: completed, proposed and potential

Project	Type	Date	Status	Target Species	Target Size	Platform	Support	Feasibility tested	Tag type	Release numbers	Cost	Comments
Mayotte	Pilot	May 2002	Completed	YFT	Med, large	6-7 m HL, 8 m LL	DAF/SPEM	>Tagging of medium size YFT from artisanal HL and small LL. >Testing frozen squid bait. >Introduction of publicity and reward system.	Conv, archival tested	Low	Low	Completed successfully, requires follow-up (below, proposed small-scale).
Mayotte	Small-scale	2003	Proposed	YFT, BET	Med, large	6-7 m HL, 8 m LL	DAF/SPEM	>Tagging of medium size YFT from artisanal HL and small LL. >Introduction of publicity and reward system.	Conv, archival	Low	Low	
Seychelles	Pilot	Oct 2002	Planned	YFT, BET, SKJ	Small, med, large	Gov't and commercial LL	SFA, IRD, IOTC	>Tagging with mono LL gear and HL gear. >Test tagging sampan with LL. >Trial experimental HL and LL fishing techniques. >Investigate tagging on anchored FADs and seamounts >Test effectiveness of frozen baitfish species.	Conv, archival	Med	Med	Work proposed. Contractor identified.
Seychelles	Pilot		To be proposed (para. 28)			Gov't and commercial	SFA, IRD, IOTC	Bait survey and fishing		None	Med	
Oman	Pilot	2003	To be proposed	YFT	Medium	8-10 m HL	Oman MSFC	>Tagging of medium sized YFT from small-scale HL and troll vessels. >Tagging of troll caught	Conv	Med	Low	Tagging consultancy completed (Lewis, 1995). Oman govt interested in developing small

Project	Type	Date	Status	Target Species	Target Size	Platform	Support	Feasibility tested	Tag type	Release numbers	Cost	Comments
								YFT from sport fleet. >Investigate local baitfish abundance.				scale project targeting Nov to Feb peak yellowfin season.
Iran	Pilot	*peak YFT period	To be proposed	YFT	Medium	Artisanal craft	Iranian govt	Tagging of medium sized YFT from locally available vessels.	Conv	Med	Med	Proposal to conduct tagging work to be prepared and submitted to IOTC for consideration.
India	Pilot/ Small-scale	2002 – 2003	Proposed	SKJ, YFT	Small, med	Small-scale PL, HL, TR, govt LL survey vessel	Govt FSI, tagging experience from Maldives, survey	>Test cost effectiveness of tagging from artisanal pole and line, troll/handline and survey longline vessels. >Train local personnel in tagging operations and mark and recapture studies.	Conv	Med, high	Med	Proposal prepared by FSI. Strong government support for project. Proposal prepared by FSI soliciting IOTC funding.
Regional	Pilot	Aug/ Sept	Proposed				IOTC, IRD	>Estimation of tag recovery numbers needed to answer various questions		None	Low	
Regional	Pilot	Aug/Sept	Proposed				IOTC, IRD	Desk study of bait resources (paragraph 39)		None	Low	
Réunion	Pilot/S mall-scale		To be proposed	YFT/ BET			IFREMER / IRD	>Tagging with longlines	Conv?	Low	Low	

HL=handline, LL=longline, TR=troll, PL=pole and line

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APPENDIX II – AGENDA

1. *Opening of the Meeting*
2. *Present and foreseeable funding*
3. *Review of the progress on and prospects for the European Union DG DEV tagging programme.*
4. *Review of other tagging projects under way in the Indian Ocean*
5. *Actions carried out since the previous WPT meeting*
6. *Revised organization for the future tagging programme*
 - 6.1. *Pilot tagging studies (already discussed in 2000 and 2001)*
 - 6.2. *Small scale tagging with a limited scope which would be carried out in 2002-2003 using the European Union and Japanese funding.*
 - 6.3. *Full scale tagging programme covering several years and the entire ocean using live-bait baitboats*
7. *Pilot tagging*
 - 7.1. *Recommended actions*
 - 7.1.1. *Review of the live bait problems, tests of catch and storage of the live bait; prospects of the use of Milkfish*
 - 7.1.2. *Fishing and tagging tests using LL*
 - 7.1.3. *Pilot tagging programme and sport fishing*
 - 7.1.4. *Publicity of the IOTC tagging: design of IOTC tagging posters.*
 - 7.1.5. *Distribution and use of the slide show “IOTC tagging programme”, created in 2001*
 - 7.1.6. *Other items*
 - 7.2. *Discussion of the pilot tagging operations*
 - 7.2.1. *Proposed pilot tagging operations.*
 - 7.2.2. *Priorities, possibly including pilot tagging programme in other countries.*
 - 7.2.3. *List of materials required.*
8. *Limited tagging programmes recommended for 2002-2003*
9. *Future full-scale IOTC tagging programme*
 - 9.1. *Financial prospects, IOTC and national*
 - 9.2. *Global prospects for the full scale tagging programme, which had been recommended in 2000 and later approved in its principle by the IOTC Commission in December 2001.*
 - 9.3. *Integration of the DG DEV tagging programme into the full scale IOTC programme*
 - 9.4. *What tagging and what research concerning DCP associated tunas?*
 - 9.5. *What tagging for swordfish?*
 - 9.6. *Identification and responsibilities for the tagging liaison officers*
 - 9.7. *Other items*
10. *Other matters*

APPENDIX III – RECENTLY COMPLETED PILOT STUDY IN MAYOTTE

COUNTRY	Mayotte, FRANCE
ORGANIZATION	DAF-SPEM
TYPE OF PROJECT	Pilot project
DATE AND DURATION	21 to 29 may 2002 / 9 full days
IOTTP FUNDING	(amount not for inclusion on Web page)
COUNTERPART FUNDING/SOURCE	IRD, DAF-SPEM (amount not for inclusion on Web page)
STAFFING	J-P. HALLIER, B. WENDLING, M. DUCROCQ
CONTACT	M. DUCROCQ Fisheries office : daf.spem.mayotte@wanadoo.fr

PUBLICITY :

- meeting in the coastal villages with the chief, fishermen cooperative managers and fishermen
- 100 posters distributed in all fishermen's locations translated in local language
- media conference with TV and newspaper reporters
- media communiqué on local radio
- information by mail to the fisheries offices of the 3 Comores islands

TAG TYPE	Conventional and archival tags
SPECIES TARGETED	YFT/BET
SIZE OF FISH	Medium
NUMBER TARGETED	600-1 000
FISHING METHODS	Small size longline / handline
TAGGING PLATFORM	Chartered small size longliner / fisheries office boat

OBJECTIVES : EVALUATION OF THE POTENTIAL FOR SMALL-SCALE TAGGING

- Identify the most interesting fisheries for conducting tagging operations (small LL, handliners)
- Evaluate capture rates for three species : YFT, BET, SKJ
- Evaluate possibilities of cooperation with local government, administration, professionals, medias, fisheries
- Evaluate the possibilities of milkfish production, investigate baitfish abundance
- Train the future local tagging counterpart on tagging techniques and requirements

PILOT PROGRAMME FOR TEST FISHING IN SEYCHELLES

COUNTRY	Seychelles
ORGANIZATION	SFA
TYPE OF PROJECT	Pilot project
DATE AND DURATION	01 August to 15 November, 2002
IOTTP FUNDING	(amount not for inclusion on Web page)
COUNTERPART FUNDING/SOURCE	IRD, IOTC (amount not for inclusion on Web page)/ Residual IPTP funds
STAFFING	D. ITANO, B. WENDLING, P. DEWALS, SFA staff
CONTACT	D. ARDILL, IOTC/ A. FONTENEAU, IRD Seychelles

PUBLICITY :

- Contacts with cannery management in Seychelles, Mauritius and Madagascar
- Contacts with fishery associations of major longline and purse seine fishing parties
- Briefing of IOTC sampling scheme staff
- Posters distributed to purse seine fleet, canneries and sampling schemes

TAG TYPE	Conventional
SPECIES TARGETED	YFT/BET
SIZE OF FISH	Medium
NUMBER TARGETED	
FISHING LOCATION	FADs to be set near Seychelles and seamounts
METHODS	Small size longline, vertical longline, handline, troll
TAGGING PLATFORM	SFA boats, chartered small size longliner

OBJECTIVES : EVALUATION OF THE POTENTIAL FOR MEDIUM-SCALE TAGGING

- Identify the fishing methods and locations for conducting tagging operations
- Evaluate capture rates for two species : YFT, BET
- Train the future local tagging counterparts on tagging techniques and requirements

PROPOSAL FOR SMALL-SCALE TAGGING IN MAYOTTE

COUNTRY	Mayotte, FRANCE
ORGANIZATION	DAF-SPEM
TYPE OF PROJECT	Small scale project
DATE AND DURATION	2003 during the 2 YFT peak (February to may and September to November)
IOTTP FUNDING	Residual IPTP funds (amount not for inclusion on Web page)
COUNTERPART FUNDING/SOURCE	DAF-SPEM (amount not for inclusion on Web page)/
STAFFING	IOTC technical staff and M DUCROCQ
CONTACT	M DUCROCQ Fishing office : daf.spem.mayotte@wanadoo.fr

METHODOLOGY :

- Real time refinement of information net about place, period and concentration of tuna
- Coordination of the local taggers and liaison officer by the IOTC methods for tags deployment and recovers
- Tagging on anchored FADs and free school tuna
- Tagging on small size long-liner at the maximal tuna capture rate period

PUBLICITY :

- meeting in the coasted villages with the chief, fishermen cooperative managers and fishermen
- Posters distributed in all of the fishermen place traduced in local language
- media conference with TV and news paper reporters
- media communicate on local radio
- Meetings with the local fisheries authorities in the Comoros islands for an efficient recover rate

TAG TYPE	Conventional, archival tags
SPECIES TARGETED	YFT/BET
SIZE OF FISHES	Medium
NUMBER TARGETED	600-1000
TYPE OF FISHING METHODS	Handline / small size long line
TAGGING PLATFORM	Fishing office boat / small size long-liner

OBJECTIVES

- Interaction between the industrial and the coastal fisheries in the Mozambique channel
- Evaluate YFT migration in the Mozambique channel
- Introducing of publicity and rewards system
- Investigate baitfish abundance and survey

PROPOSAL FOR SMALL-SCALE TAGGING IN INDIA

COUNTRY	India
ORGANIZATION	FSI
TYPE OF PROJECT	Small scale project
DATE AND DURATION	2003-2004
IOTTP FUNDING	EC DG-FISH funds (amount not for inclusion on Web page)
COUNTERPART FUNDING/SOURCE	FSI (amount not for inclusion on Web page)
STAFFING	Consultants and FSI staff
CONTACT	V. Somvanshi, FSI

METHODOLOGY :

- Provision of tags, data recording equipment
- Tagging with pole-and-line and handlines from small craft
- Tagging from longline on FSI survey vessel
- Provision of funds for payment of fish released
- Provision of funds for rewards for recoveries
- Provision of funds for incentives
- Training of local taggers

PUBLICITY :

- Posters for fishermen, fish merchants and processors
- Newspaper advertisements
- TV coverage

TAG TYPE	Conventional tags
SPECIES TARGETED	YFT/BET/SKJ
SIZE OF FISHES	Small/medium
NUMBER TARGETED	2 000-4 000
TYPE OF FISHING METHODS	Handline, pole-and-line / short monofilament longline
TAGGING PLATFORM	Artisanal craft, FSI survey vessel
LOCATION	Lakshadweep Islands

OBJECTIVES

- Interaction between the industrial and the coastal fisheries in the Lakshadweep/Maldives area
- Evaluate YFT migration in the Arabian Sea
- Investigate baitfish abundance and survey

APPENDIX IV: LIST OF PROPOSED NATIONAL LIAISON OFFICERS

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COMORES	Ahmed Said Soilihi
FRANCE	Alain Fonteneau
FRANCE	Michel Goujon
INDIA	V.S.Somvanshi
INDONESIA	Retno Andamari
IRAN	Farhad Kaymaram
IRD SEYCHELLES	Patrice Dewals
JAPAN	Tsutomu (Tom) Nishida
KENYA	
KOREA	Dae-Yeon Moon
MADAGASCAR	Edaly
MALAYSIA	Abu Talid Bin Ahmad
MALDIVES	Ali Waheed
MAURITIUS	Devanand Norungee
MAYOTTE(FRANCE)	Manuel Ducrocq
OEP SEYCHELLES	Juan José Areso
OMAN	Lubna Hamoud Said Al-Kharusi
La REUNION(FRANCE)	Marc Taquet
SEYCHELLES	Vincent Lucas
SOUTH AFRICA	
SPAIN	Alicia Delgado de Molina
SPAIN	Julio Morón
SRI LANKA	Champa Amarasiri
TAIWAN, CHINA	Shui-Kai Chang
THAILAND	Praulai Nootmorn
UK	Neil Ansell

