

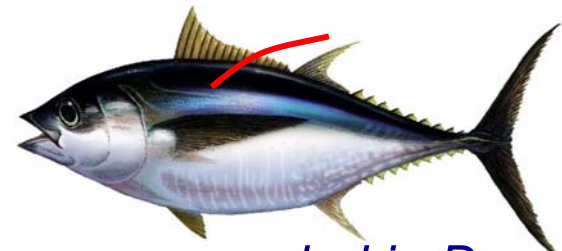
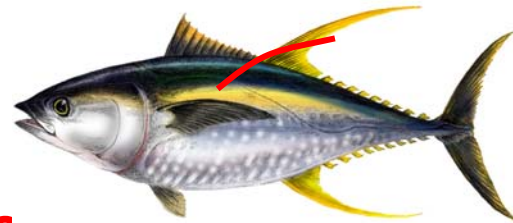
Proposal for an Indian Ocean Tropical Tuna Tagging Programme (IOTTP)

Presentation based on the report by the IOTC Working Party on Tagging,
Seychelles September 2000



Presentation for an Indian Ocean Tropical Tuna Tagging Programme

- I. **Why** is an Indian Ocean tagging programme needed?
- II. Which major **scientific and management questions** can be addressed by the tagging programme?
- III. **How** will the tagging be done?
- IV. **Recommended tagging programme**



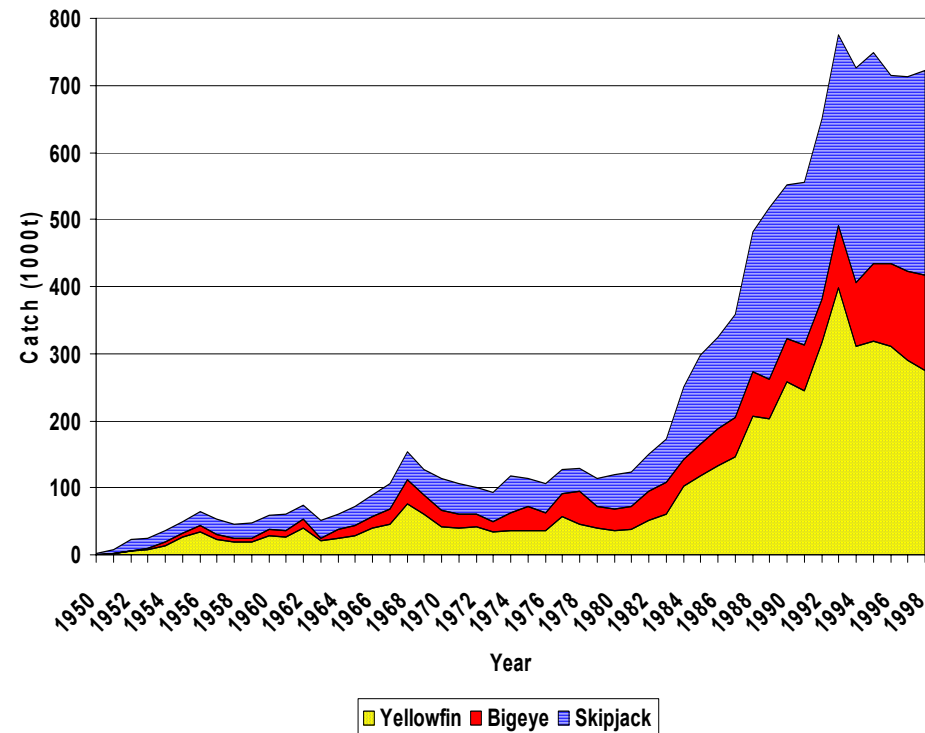
NB: this project was approved and highly recommended in December 2000 by the IOTC scientific Committee

I-Why an Indian Ocean tagging programme is needed?



Why a large scale tagging programme of tunas in the Indian Ocean?

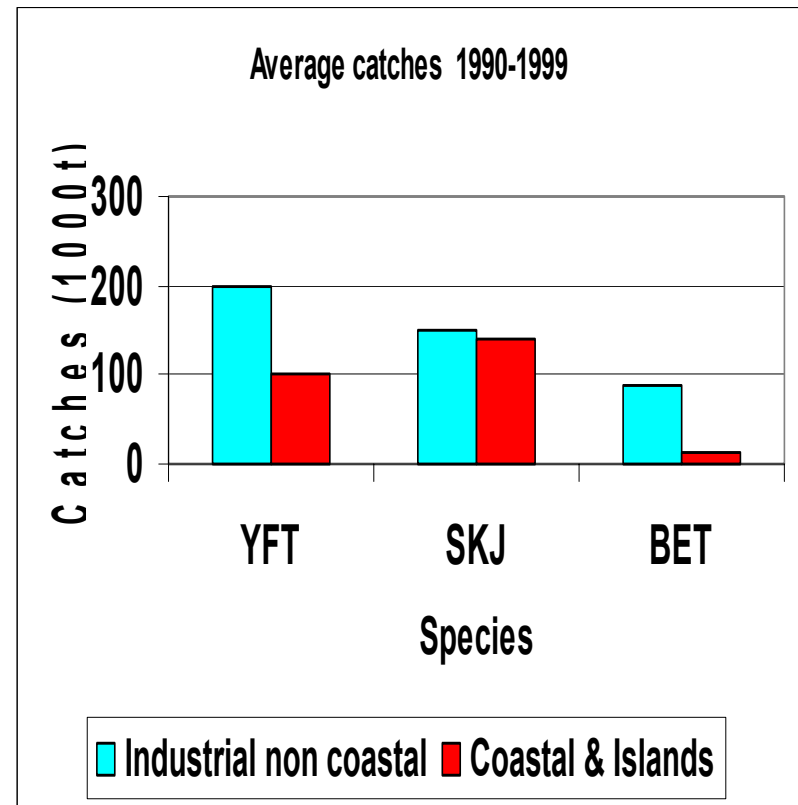
- Indian Ocean: a rapid **increase** of tropical tuna **catches**: yellowfin, skipjack and bigeye
- A need to ensure **sustainable exploitation** of tuna resource: responsible fisheries
- **No rigorous assessment done**, primarily because of insufficient biological data



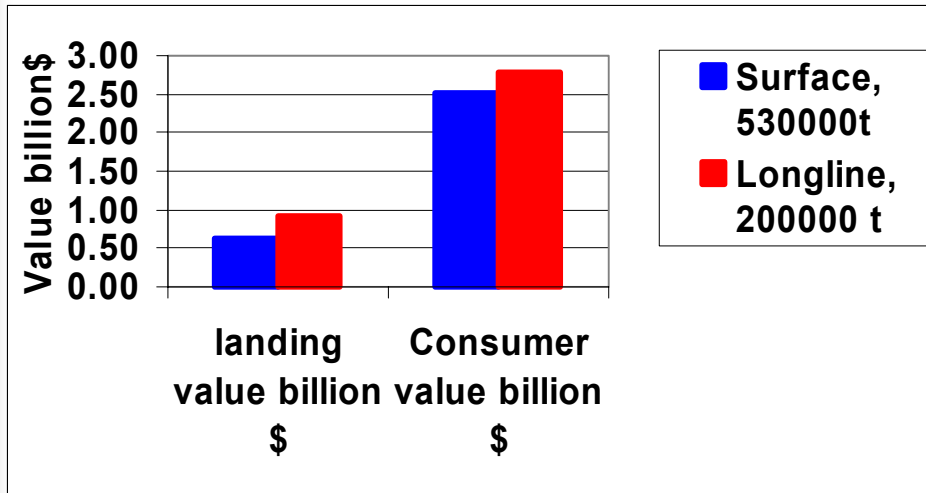
IOTTP:

A shared interest between coastal & non coastal countries

- Three species with a total yearly catch of **800.000 tonnes** (e.g. 60% of total tuna catches)
- **Industrialized countries** are dominant in this fishery, mainly for yellowfin and bigeye.
- But tunas are also of prime importance for various Indian Ocean **coastal and island countries**



Indian Ocean tuna fisheries: a considerable economic value



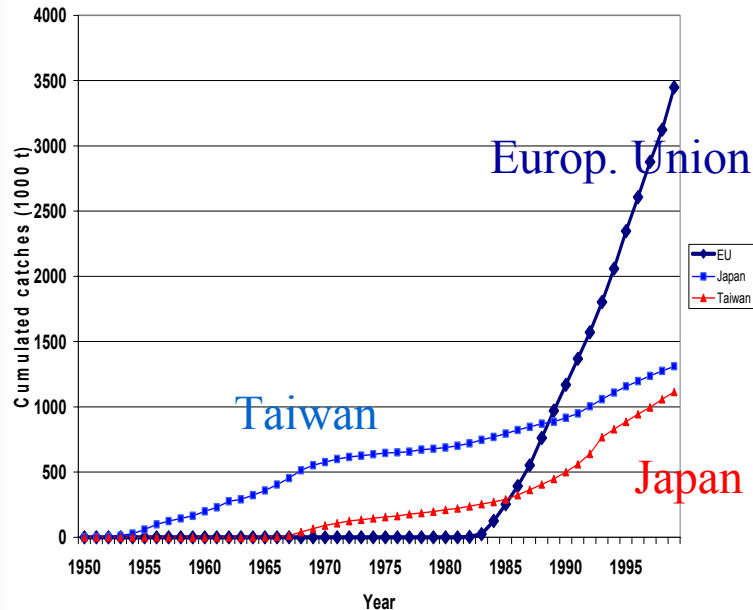
Canned tunas:
large quantities,
but lower values



Sashimi:
lower quantities
but higher
values

- Landed values close to **2 billion US \$ yearly**:
- Yearly landed values are over 0.6 billion US \$ for surface and close to 1 billion for longline catches
- Consumer values of tuna catches are much higher for both fisheries
- Value of artisanal catches are not known, but they are high in various countries

Three industrialized countries have taken large catches of tunas in the Indian Ocean since the 50s



Cumulative catches of yellowfin, skipjack and bigeye by EU, Japan & Taiwan in the Indian Ocean during the period 1950-1999

- Three major industrialized entities fishing in the area, the **European Union, Japan & Taiwan**, have accumulated considerable tuna catches during this period:
 - EU caught more than **3.5 million t** (canneries), Japan & Taiwan **1.0 & 1.4 million t** (mainly for the sashimi market)
- **Considerable economical benefits** have been generated by these very large accumulated catches
- Each of these countries is **accountable** to participate in the recommended tagging programme because of these large catches

Purse seine fisheries, **60 vessels** amounting a total net investment of nearly **1 billion US dollars** (widely subsidized by governments)



Nearly 500 large longliners and more than 1000 small longliners are active in the Indian Ocean





Indian Ocean tunas:

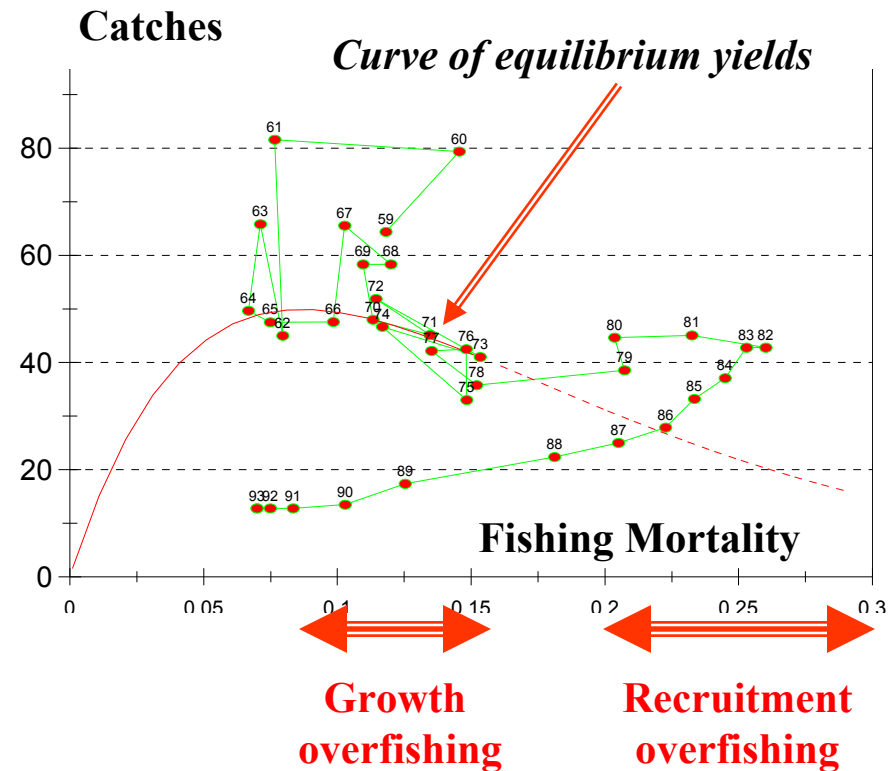
Still a critical lack of stock assessment

- **Stock assessments** of the three main species remain inadequate and **unreliable**.
- **Key** biological and population dynamics **parameters**, essential for building stock assessment models, **remain unknown**
- There is presently an unknown, but clearly **increasing, risk of overfishing**, due to the constant increase of fishing effort
- For **bigeye: a risk** of recruitment overfishing, a dangerous prospect.

What are the risks from overfishing for tropical tuna stocks?

- Tropical tunas are quite **robust stocks**
- But they can also suffer **localized and growth overfishing**, producing low catch rates and smaller sizes taken
- **Recruitment overfishing** may occur if spawning stock is too low to allow a full recruitment: this risk may be real for bigeye stock

Southern bluefin example:

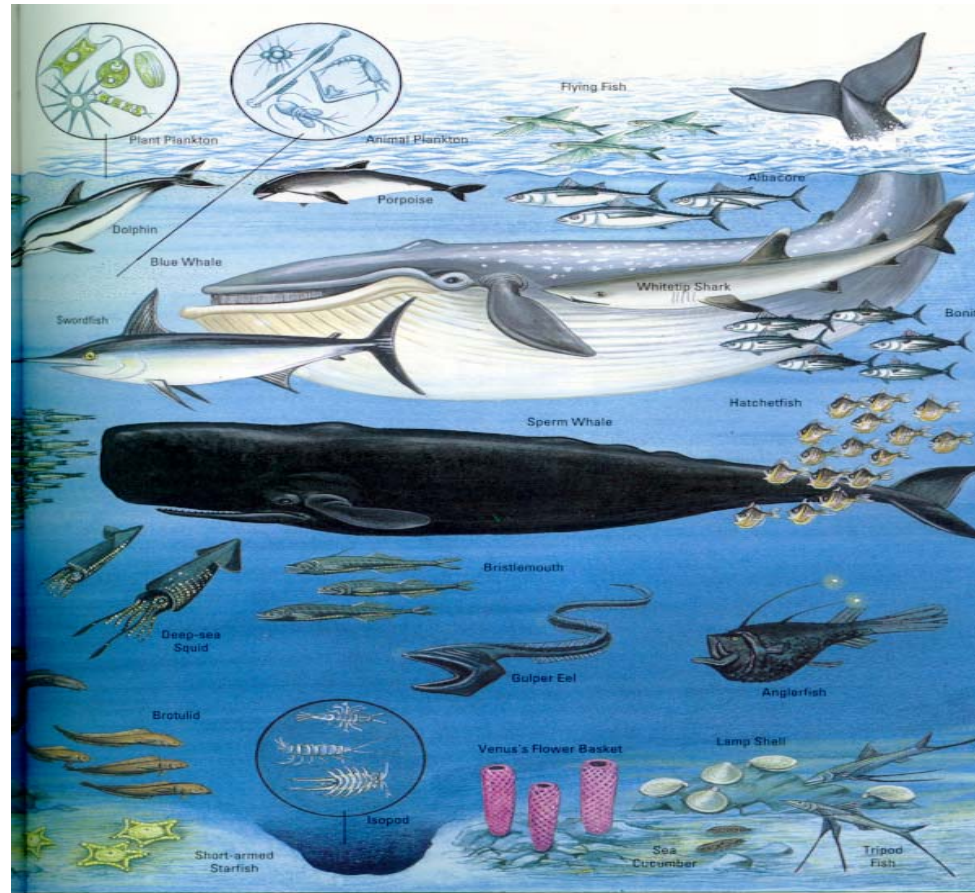




Precautionary approach and tuna management

- Fisheries management should ensure that the **risk** of exceeding limit reference points is **very low** (UN texts)
- Unless reliable stock assessment can be done, the **precautionary approach** dictates that a **more cautious attitude** to management is required
- If the IOTC tagging programme is not realized soon, this would necessarily imply that **restrictive management measures** be taken now or soon in order to avoid irreversible tuna stocks damages

Tunas and pelagic ecosystems



Tunas are active predators with large biomass: there is a fundamental environmental need to conserve their biomass at reasonable levels, as they are probably playing a major role in the functioning of pelagic ecosystems



Various key management issues

- Reliable stock assessments are now urgently needed to avoid the **overexploitation** of tuna stocks
- The high catches of small yellowfin and bigeye around FADs in the Indian Ocean, 80% of purse seine catches, is increasingly raising the question of whether such **FAD fishing** is leading to **unsustainable catches**
- A related concern is the **interaction** between fisheries: purse seine vs. longline and industrial vs. artisanal.