

Project: Within EEZ movements of southern bluefin tuna

Project Code: STN2003/01

Start Date: 1 October 2003

Completion Date: 30 September 2004

Vessel Use: Subject to tender

Overall Objectives:

1. To explore the stock movement patterns of southern bluefin tuna.

Specific Objectives:

1. To determine the movement patterns of southern bluefin tuna captured within the NZ EEZ.

Note:

Australia are spending approximately AU\$2,000,000 annually over the next few years to determine fishing mortality on the sub-adult portion of the southern bluefin tuna stock by conventional tagging of approximately 20,000 fish per year. Japan also has a similar budget for southern bluefin tuna tagging programmes in the next few years. At this time, Japan is being encouraged to use that money to place archival/pop-up satellite tags in adult southern bluefin tuna in the Indian Ocean. The Australian and Japanese quotas for southern bluefin tuna are approximately an order of magnitude larger than the New Zealand quota.

Rationale:

General

What are the movements of STN in the New Zealand region, where do STN coming into the zone arrive from, and, where do they go after the STN 'season'? A variety of tagging methods could be employed to determine STN movements successfully.

Fisheries for southern bluefin tuna have operated in the EEZ since the 1960s, firstly by Japanese longline vessels and more recently by New Zealand domestic and chartered vessels. Over this time the parental stock, which initially accounted for much of the catch in New Zealand waters has declined to 5 to 11% of biomass at the start of the fishery.

Information on the movement of STN has been highlighted by the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) as a research priority. Australia and Japan are undertaking a large proportion of the CCSBT recommended research programme, and New Zealand as a member of CCSBT is expected to also undertake a proportion of the required research.

Because New Zealand's quota is small and the domestic longline fishery has dramatically expanded in recent years the national allocation has tended to be taken increasingly quickly, especially once southern bluefin tuna become locally abundant in late spring.

The local abundance of STN in late spring/early winter should allow an opportunity for tagging studies to be conducted in cooperation with tuna fishers, possibly at either end of the STN season.

STN catches are significant to the New Zealand fishery and better information on the part of the stock captured by New Zealand fishers will be useful in the management for this species. STN are recognised as a highly migratory species. Within this context, this research project is considered a high priority.

Objective 1

To determine adult fishing mortality using conventional tagging is unlikely to be feasible for reasons of low return rate, poor reporting of tags from some fleets and prohibitive cost (the actual tagging of fish, and, release in sufficient quantities of large high value fish).

However, better understanding of adult southern bluefin tuna movements are required for further development of the management strategy for the stock, and in particular for the further design of the stock rebuilding strategy.

This programme would see archival and/or pop-up satellite tags placed in fish caught incidentally within the New Zealand zone when targeting other tunas, or by way of targeted research fishing after the southern bluefin tuna fishery has closed. This should give maximum information on movements after the fish leave New Zealand waters (movements within the zone during the season are at least partially understood). There may also be significant benefit in placing pop-up satellite tags in a few southern bluefin tuna at the very start of the season to further explore within EEZ and within season movements.

This is likely to be a multi-year programme. Mortality of large STN is expected to be about 50%. There is potential for these fish to be used to offset the costs of this research. This mortality would be counted against a 'Research Mortality Allowance' approved by the CCSBT and would not count against the New Zealand catch limit.

Strategic Relevance

This project forms a part of the programme to provide the information on sustainable yields and stock status required for the sustainable utilisation of New Zealand's fisheries resources, a part of the southern bluefin tuna medium-term research plan and a part of the pelagic fisheries medium term research plan. This project is consistent with the *Fisheries Resources* section of the *Ministry of Fisheries Strategic Research Directions* document.

Cost Recovery Allocation

Costs will be apportioned using the Fisheries (Cost Recovery) Rules 2001 to the following Fishstocks:

- all STN landings (this stock is not in the QMS).