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MSC Assessment Report for

NEW ZEALAND ALBACORE TUNA TROLL FISHERY

Client: Tuna Management Association of New Zealand

Final Report v4

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1. SUMMARY

This report sets out the results of the MSC assessment of the New Zealand albacore (*Thunnus alalunga*) troll fishery against the Marine Stewardship Council (MSC) Principles and Criteria for Sustainable Fishing. The fishery operates in the New Zealand EEZ and targets albacore. The fishery has passed the MSC assessment.

1.1 The fishery proposed for certification

The MSC Guidelines to Certifiers specify that the unit of certification is "The fishery or fish stock (=biologically distinct unit) combined with the fishing method/gear and practice (=vessel(s) pursuing the fish of that stock)."

The fishery proposed for certification is therefore defined as:

Species: Albacore tuna *Thunnus alalunga*
Geographical Area: ALB 1. NZ EEZ.
Method of Capture: Troll
Management System: Ministry of Fisheries, New Zealand
Client Group: Tuna Management Association

1.2 The Assessment team

Expert advisor P1: Dr Paul Medley: Paul is an independent fisheries consultant, based in the UK. His expertise includes mathematical modeling of fisheries and ecological systems, techniques for multispecies stock assessment and external review of stock assessment methodologies. He has been an invited expert for a number of stock assessment working group meetings. He has a wide practical experience in marine biology, including design and implementation of surveys and fisheries experiments. This includes addressing wider environmental issues of ecological management, including maintenance of marine biodiversity. He has also taken part in several MSC assessments including the initial South Georgia Patagonian Toothfish fishery and has worked with MSC on developments of a new methodology.

Expert advisor P2: Geoff Tingley: Geoff Tingley is a British fisheries scientist with twenty years' experience working in stock assessment and management of marine and freshwater fisheries with seven years working at CEFAS in a number of fisheries, managerial and business development roles. His experience includes the scientific, management, licensing and policy issues of the fisheries around the Falkland Islands, seven years as the Team Leader of the group providing scientific and management advice to the Director of Fisheries and the Falkland Islands Government including the management of a trawl fishery for hake. He was a member of the UK Delegation on the South Atlantic Fisheries Commission (and its predecessors) from its inception in 1989 to 1996, including membership of the scientific sub-committee. During this time Dr. Tingley worked on two species of hake, *Merluccius australis* (*polylepis*) and *M. hubbsi* that occur in the South West Atlantic and are exploited around the Falkland Islands, off Argentina, and a number of other countries. Considerable scientific effort was expended to manage the fisheries for these species around the Falkland Islands. Dr. Tingley was first author of the chapter on biology and fisheries of the Falkland hake in Alheit & Pitcher's edited book on Hake: Fisheries, ecology and markets (1995). Dr. Tingley has worked in South Africa briefly as part of a World Bank Project on fisheries policy development for Angola in the mid-1990's and was invited to attend the 2000 BENEFIT meeting in Namibia

Expert advisor P3: Jo Akroyd. Jo is Director and Principal Consultant of Jo Akroyd Ltd, an International consultancy company specialising in marine fisheries policy and marine ecosystem and

community based management. She has also provided services in quality system implementation and training in project management and negotiation skills. Prior to a career in consultancy, she was manager of International Projects at the Auckland University of Technology and Director of Quality and Strategic Management and Assistant Director of Marine Research at the Ministry of Agriculture & Fisheries, Wellington, NZ. Her specific experience includes acting as a team member on the assessment of the NZ hoki fishery, providing specialist inputs on Principle 3 (Fisheries management), the Ross Sea Toothfish fishery assessment and the Tosakatsuo Suisan Skipjack tuna assessment.

Project Coordinator: S. Davies

Lead Assessor: A. Hough,

1.3 The Assessment schedule

Date	Action
8 May 2009	Notification of confirmation of assessment
2 June 2009	Notification of Assessment Team nominees
23 June 2009	Confirmation of Assessment Team
17 June 2009	Consultation on draft Performance Indicators and Scoring Guideposts
23 June 2009	Notification of assessment visit and call for meeting requests
20 -24 July 2009	Assessment visit
28 May 2010	Notification of Proposed Peer Reviewers
22 November 2010	Notification of Draft Report for stakeholders
23 December 2010	Response from stakeholders
3 February 2011	Final Report

1.4 Strengths and Weaknesses

Principle 1

No assessment is possible for albacore within New Zealand fisheries waters as the proportion of the greater stock found within New Zealand fisheries waters is unknown and likely varies from year to year. With the establishment of WCPFC in 2004, stock assessments of the South Pacific Ocean (SPO) stock of albacore tuna are now undertaken by the Oceanic Fisheries Programme (OFP) of Secretariat of the Pacific Community (SPC) under contract to WCPFC.

The most recent assessment was undertaken in 2009 using MULTIFAN-CL (Hoyle and Davies 2009). The WCPFC, note that current catch levels from the South Pacific albacore stock, appear to be sustainable.

The data used in the South Pacific albacore assessment consist of fishery-specific catch, effort and length-frequency data and tag release-recapture data. These data are available from the New Zealand troll fishery.

Two areas of concern were raised by the MSC assessment team and these concerned 1) target and limit reference points that need to be agreed by management, consistent with the management objectives and scientific stock assessment and 2) A well-defined harvest control rule needs to be proposed, tested and established by the working group and management authority

Principle 2

Although no specific fishery interactions have been observed or reported for the troll fishery in New Zealand fishery waters, anecdotal reports and expert opinion consider that some albatross species may be at risk of capture from this method. Seabird bycatch mitigation measures are required in the New Zealand EEZ and through the WCPFC Conservation and Management Measure (CMM2007-04).

Although there is a high degree of certainty that retained species are within biologically based limits, there is a strategy in place for managing them and there does not appear to be major bycatch issues, as

there is limited observer coverage, the MSC assessment team identified that it will be important to 1) define by-catch levels so as to enable the prevention of overexploitation of by-catch species, especially for those species most at risk; and to 2) provide information to fully understand interactions with all ETP species

Principle 3

Albacore is not managed as a QMS species in New Zealand. Therefore, no total allowable catch (TAC) applies in New Zealand fisheries waters or on the high seas. However, conservation and management measures set by WCPFC do place binding effort controls on the albacore fishery in New Zealand fisheries waters.

MFish carries out monitoring and surveillance across the fishing sectors to ensure people operate in accordance with the legislative requirements. Compliance with these requirements ultimately allows New Zealand to meet its international obligations for the management and conservation of HMS. Regular monitoring and surveillance also provide a form of passive deterrence for potential offenders. The MSC assessment team identified that short and long term objectives for the NZ albacore fishery, relating to the stock and all the relevant ecosystem components, need to be agreed by stakeholders. The fisheries plan should be finalized and evidence of implementation provided.

1.5 Scores for each Principle

MSC Principle	Fishery Performance
Principle 1: Sustainability of Exploited Stock	Overall: 81.9 PASS
Principle 2: Maintenance of Ecosystem	Overall: 88.3 PASS
Principle 3: Effective Management System	Overall: 84.8 PASS

1.6 Conditions, timescales and recommendations

Three conditions have been raised in the assessment. Further details of the conditions including the performance indicators that scored less than 80, thus triggering the condition, the rationale and timescales for the conditions are given in Section 14:

Condition 1: PI 1.1.2

Target and limit reference points need to be agreed by WCPFC, consistent with the management objectives and scientific stock assessment.

Condition 2: PI 1.2.2

A well-defined harvest control rule needs to be proposed, tested and established by the scientific working group and management authority (primarily WCPFC).

Condition 3: PI 3.2.1

Short and long term objectives for the NZ albacore fishery, relating to the stock and all the relevant ecosystem components, need to be agreed by stakeholders. The fisheries plan should be finalized and evidence of implementation provided.

Three recommendations are made in this assessment:

Recommendation 1: PI 2.1.1

To collect sufficient data to adequately differentiate the Ray's bream catches in this (and other fisheries) into their component species within the fishery.

Recommendation 2: PIs 2.1.3; 2.2.3 and 2.3.3

Evaluate the need and utility of increased observer coverage to meet management goals in this fleet and then to ensure delivery of that resource. These should include, but not be limited to, ensuring that the observer coverage of the albacore tuna troll fishery is maintained at a level that is adequate to:

- define by-catch levels so as to enable the prevention of overexploitation of by-catch species, especially for those species most at risk;
- provide information to fully understand interactions with all ETP species

Recommendation 3: PI 2.2.1

Implement shark action plan recommendations as required within the fishery.

2. INTRODUCTION

This report sets out the results of the assessment of the Albacore Tuna Troll Fishery (New Zealand) against the Marine Stewardship Council (MSC) Principles and Criteria for Sustainable Fishing.

2.1 The fishery proposed for certification

The MSC Guidelines to Certifiers specify that the unit of certification is "The fishery or fish stock (=biologically distinct unit) combined with the fishing method/gear and practice (=vessel(s) pursuing the fish of that stock)." The fishery proposed for certification is therefore defined as:

Species:	Albacore Tuna
Geographical Area:	ALB1 (see Figure 1) – New Zealand EEZ
Method of Capture:	Troll
Management System:	MFish
Client Group:	Tuna Management Association

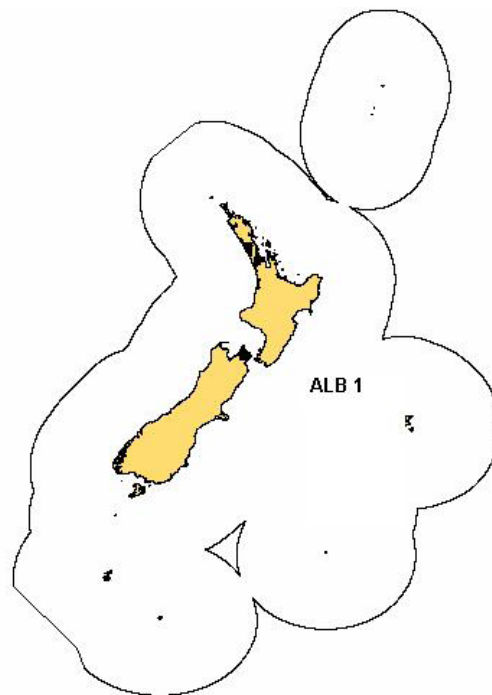


Figure 1: Map of the ALB1 (certification area). Source: Ministry of Fisheries, New Zealand

2.2 Report Structure and Assessment Process

The aims of the assessment are to determine the degree of compliance of the fishery with the MSC Principles and Criteria for Sustainable Fishing, as set out in Section 8.

This report sets out:

- the background to the fishery under assessment and the context within which it operates in relation to the other areas where Albacore Tuna are fished
- the qualifications and experience of the team undertaking the assessment
- the standard used (MSC Principles and Criteria)
- stakeholder consultation carried out. Stakeholders include all those parties with an interest in the management of the fishery and include fishers, management bodies, scientists and environmental Non-Governmental Organisations (ENGO's)
- the methodology used to assess ('score') the fishery against the MSC Standard.
- a scoring table with the Scoring Indicators adopted by the assessment team and Scoring Guidelines which aid the assessment team in allocating scores to the fishery. The commentary in this table then sets out the position of the fishery in relation to these Scoring Indicators.

The intention of the earlier sections of the report is to provide the reader with background information to interpret the scoring commentary in context.

Finally, as a result of the scoring, the Certification Recommendation of the assessment team is presented, together with any conditions attached to certification.

In draft form, this report is subject to critical review by appropriate, independent, scientists ('peer review'). The comments of these scientists are appended to this report. Responses are given in the peer review texts and, where amendments are made to the report on the basis of peer review comments; these are also noted in the peer review text. Following peer review, the report is then released for public scrutiny on the MSC website.

The report, containing the recommendation of the assessment team, any further stakeholder comments and the peer review comments is then considered by the Moody Marine Governing Board (a body independent of the assessment team). The Governing Board then make the final certification determination on behalf of Moody Marine Ltd.

It should be noted that, in response to comments by peer reviewers, stakeholders and the Moody Marine Governing Board, some points of clarification may be added to the final report.

Finally, the complete report, containing the Moody Marine Ltd Determination and all amendments, will be released for further stakeholder scrutiny.

2.3 Stakeholder meetings attended

Information used in the main assessment has been obtained from interviews and correspondence with stakeholders in the fishery, notably (further information on personnel and meetings is to be found within Section 10.3 of this report):

- Talley's Group Limited
- Ministry of Fisheries
- Department of Conservation
- NIWA
- Dragonfly
- NZ Seafood Industry Council

- Royal Forest and Bird
- ECO
- Greenpeace
- WWF

2.4 Other information sources

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3 GLOSSARY OF ACRONYMS USED IN THE REPORT

ALB	Albacore Tuna
CPUE	Catch per Unit Effort
DoC	Department of Conservation
EEZ	Exclusive Economic Zone
ETP	Endangered, Threatened and Protected Species
FL	Fork Length
HMS	Highly Migratory Species
IUU	Illegal, unreported and unregulated
KAH	Kahawai
LFR	Licensed Fish Receiver
MARPOL	International Convention for the Prevention of Pollution from Ships
MFCL	MULTIFAN-CL stock assessment software
MFish	Ministry of Fisheries, New Zealand
MHR	Monthly Harvest Return
MSC	Marine Stewardship Council
NPOA	National Plan of Action
NZ	New Zealand
PSA	Productivity Sensitivity Analysis
QMS	Quota Management System
RBM	Ray's Bream
RFMO	Regional Fisheries Management Organisations
SPC	Secretariat of the Pacific Community
SPO	South Pacific Ocean
SST	Sea Surface Temperature
STCZ	Sub-Tropical Convergence Zone
TAC	Total Allowable Catch
TACC	Total Allowable Commercial Catch
VMS	Vessel Monitoring System
WCPFC	Western and Central Pacific Fishery Commission
WCPO	Western and Central Pacific Ocean

4 BACKGROUND TO THE FISHERY

4.1 Introduction

Albacore tuna is a highly-migratory pelagic fish species found throughout the world's tropical and sub-tropical oceans. Griggs (2008) and Hoyle (2008) provide a brief summary of the biology of albacore tuna found in the South Pacific and the New Zealand fishery. The most recent stock assessment (Hoyle and Davies 2009) also provides background and references to the stock biology.

Mature albacore spawn in tropical and sub-tropical waters between about 10°S and 25°S during the austral summer. Juveniles recruit to surface fisheries in New Zealand coastal waters and in the vicinity of the sub-tropical convergence zone (STCZ – around 40°S) in the central Pacific at 1 year of age, from where they appear to gradually disperse to the north. Subsequently, there are regular migrations between tropical and subtropical waters. Albacore migrate south during early summer and north during winter coinciding with the seasonal oscillation of the location of the 23–28° C isotherm of sea surface temperature.

No maturity ogive has been estimated for South Pacific albacore. South Pacific albacore males larger than 71 cm and females larger than 82 cm fork length represent the minimum size at maturity. Sex ratios in catches (males:females) appear to vary with fishery from 1:1 in the New Zealand troll and longline fishery and, 2:1 to 3:1 in the Tonga–New Caledonia longline fishery.

Growth rates and natural mortality are estimated within the MULTIFAN-CL stock assessment model. Growth estimates using vertebral rings to age fish suggest a similar growth rate and asymptotic size as the model. Daily otolith growth increments indicate that initial growth is rapid, achieving a length of 45–50 cm fork length (FL) in the first year. Subsequent growth is slower, at approximately 10 cm per year from age 2 to 4 following the standard von Bertalanffy growth model. Maximum recorded length is about 120 cm FL.

The natural mortality rate is believed to be in the region of 0.2–0.5 year⁻¹, with significant numbers of fish reaching an age of 10 years or more. A natural mortality rate of 0.34 year⁻¹ has been estimated in the assessment, constant over all age classes.

The estimated impact of fishing is almost negligible for juveniles while that for adults it is currently around 15%. Juveniles were subjected to higher fishing mortality briefly while the large-scale driftnet fishery was in operation in the late 1980s.

4.2 History of the Fishery

Albacore are first caught in New Zealand waters using troll when sub-adult and adult. They then appear to gradually disperse north where they are caught as adults mainly by longline fleets from Japan, Korea, and Chinese Taipei, and more recently through development and expansion of domestic fleets of several Pacific Island countries. Driftnet vessels from Japan and Chinese Taipei targeted albacore in the central Tasman Sea and in the central Pacific near the STCZ during the 1980s and early 1990s, but this fishery no longer operates.

There has been a troll fishery for juvenile albacore in New Zealand coastal waters since the 1960s and in the central region of the STCZ since the mid 1980s. Troll vessels from the United States have fished for albacore in the South Pacific since 1986, in the STCZ, approximately 39–41°S, 1,000 nautical miles east of New Zealand to waters off South America. Catches from within New Zealand fisheries waters are about 10% (average for 2000 through 2004) of those from the greater stock inhabiting the South Pacific Ocean (Table 1).

In New Zealand, albacore form the basis of a summer troll fishery, primarily on the west coasts of the North and South Islands, with Onehunga (Auckland), New Plymouth, Westport, and Greymouth being major landing ports. This fishery accounts for a large proportion of the albacore landings. Albacore are also caught throughout the year by longline (1000–2500 t per year). Total annual landings over the past 10 fishing years have averaged 4521 t. High seas troll catches have been infrequent and a minor component of the New Zealand fishery.

The earliest known commercial catch of tuna (species unknown but probably skipjack tuna) was by trolling and was landed in Auckland in 1943. Regular commercial catches of tuna, however, were not reported until 1961. The species were also unknown, but were most probably primarily albacore and skipjack with some southern bluefin and yellowfin tuna. Prior to 1973, the albacore troll fishery was centred off the North Island (Bay of Plenty to Napier and New Plymouth) with the first commercial catches off Greymouth and Westport (54% of the total catch) in 1973. The expansion of albacore trolling to the west coast of the South Island immediately followed experimental fishing, which showed substantial quantities of albacore. Tuna longlining, the subject of early trials in 1964, was not established as a fishing method in the domestic industry until the early 1990s.

Albacore caught incidentally during longline sets for bigeye and southern bluefin tuna has become increasingly important and since 1999 represents 30–50% of New Zealand domestic albacore landings by calendar year. In addition to trolling and longline, some albacore are reported caught by pole-and-line and hand line.

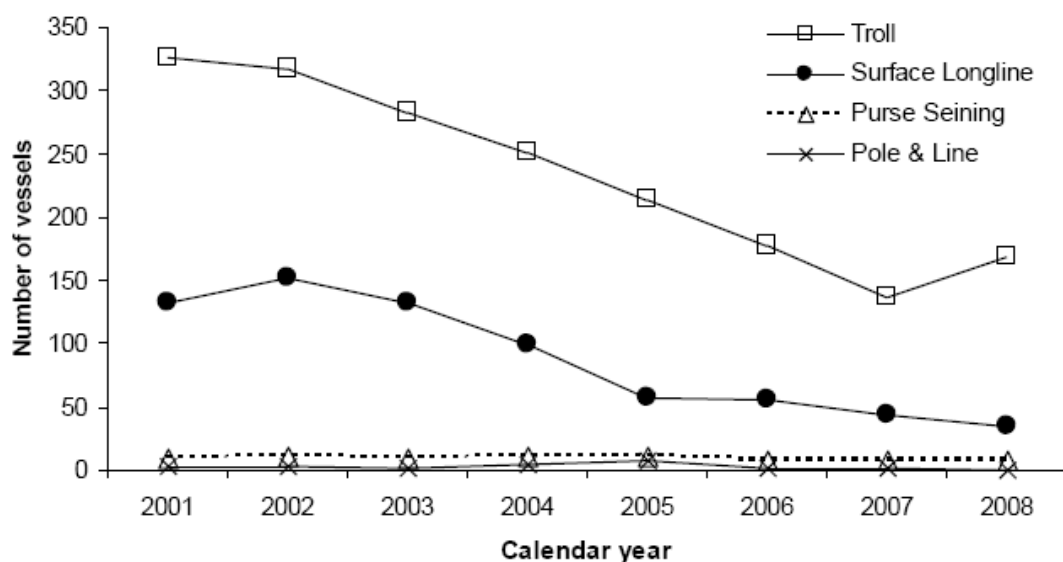
The New Zealand albacore fishery, especially the troll fishery has been characterised by periodic poor years that have been linked to poor weather or colder than average summer seasons. Despite this variability, albacore landings steadily increased from the start of commercial fishing in the 1960s but have showed some reduction in the most recent years (Table 1), while the number of vessels involved in the fishery have also declined in recent years (Figure 2).

Estimates of the recreational catch for 1993 and 1996 indicated that recreational albacore catches are made primarily in summer by a mixture of trolling and to a lesser extent lining from boats. The total estimated recreational catch for 1993 and 1996 were 245 and 260 t respectively, and current catches are probably similar.

An estimate of the current customary catch is not available. It is uncertain whether albacore were caught by early Maori, although it is clear that they trolled lures that are very similar to those still used by Tahitian fishermen for various small tunas. Strickland notes the unexpected absence of a Maori name for albacore while giving names for a number of other oceanic pelagic species. However, given the number of other oceanic species known to Maori, and the early missionary reports of Maori regularly fishing several miles from shore, albacore were probably part of the catch of early Maori.

Table 1 Reported total New Zealand landings (t) and landings (t) from the South Pacific Ocean (SPO) of albacore tuna from 1972 to 2007 (from 2008 Plenary Report).

Year	NZ fisheries waters	SPO	Year	NZ fisheries waters	SPO	Year	NZ fisheries waters	SPO
1972	240	39 521	1987	1236	25 043	2002	5566	65 334
1973	432	47 330	1988	672	37 863	2003	6744	60 378
1974	898	34 049	1989	4884	48 562	2004	4455	65 348
1975	646	23 600	1990	3011	34 126	2005	3446	60 327
1976	25	29 082	1991	2450	32 693	2006	2542	69 202
1977	621	38 740	1992	3481	37 246	2007	2251	59 131
1978	1686	34 676	1993	3327	34 670			
1979	814	27 076	1994	5255	41 439			
1980	1468	32 541	1995	6159	37 300			
1981	2085	34 784	1996	6320	31 382			
1982	2434	30 788	1997	3628	31 937			
1983	720	25 092	1998	6525	44 198			
1984	2534	24 704	1999	3903	35 541			
1985	2941	32 328	2000	4428	40 478			
1986	2044	36 590	2001	5349	54 016			

**Figure 2 Historical annual vessel numbers for the New Zealand longline, purse seine, troll and pole and line fleets by gear for the WCPFC Convention area. Vessels switch gear seasonally and may be included in more than one category (from WCPFC-SC 2009b).**

4.3 Fleet and Gear Description

Trolling refers to the towing of artificial lures or natural baits near the surface from a moving boat. Most areas of the Pacific have a relatively large number of small recreational and commercial trolling vessels, and trolling from chartered boats is popular in some areas. In addition, a fleet of high seas albacore trollers is also active throughout the Pacific.

Commercial albacore trollers in New Zealand tow 12-18 lines simultaneously from the vessel's stern and from long outrigger poles mounted amidships. The line lengths or depths are adjusted to permit hauling of any one line without tangling or interfering with the others. The lines are either braided polypropylene, dacron or monofilament nylon and are hauled in by hand or by hydraulic haulers. Lures have metal heads and feather or plastic skirts, and are rigged with barbless double hooks. Troll vessels never stop when fishing during the day, but may slow and make tight circles or short, straight runs when fishing on an albacore school. Fish are hauled directly to the stern of the vessel where they are quickly taken from the water and unhooked before being stored whole in ice.

Albacore vessels usually drift at night or steam toward promising fishing grounds as determined by recent fishing activity, sea surface temperatures, or observations of baitfish and albacore on sonar or depth sounding equipment. The use of cooperative, or "code", groups also increases efficiency of the fleet. At dawn, the jigs are deployed and the rest of the day is a continuous cycle of pulling fish, changing lures, storing the catch, and searching for birds, water temperature fronts or other vessels that might indicate productive fishing areas. At dusk, the jigs are retrieved and stored for the next day of fishing.

Being seasonal, albacore usually forms only one of several fishing activities for the vessels involved. Vessels in the fishery are typically 12-24 m in length, operating with crews of 2-5, with a holding capacity range of 3 tonnes to 20 tonnes (all on ice).

5. STOCK ASSESSMENT

5.1 Management Unit

Albacore tuna (*Thunnus alalunga*) caught in the New Zealand EEZ are part of a single South Pacific Ocean stock. Two albacore stocks (North and South Pacific) are recognized in the Pacific Ocean based on location and seasons of spawning, low longline catch rates in equatorial waters and tag recovery information. The South Pacific albacore stock is distributed from the coast of Australia and archipelagic waters of Papua New Guinea eastward to the coast of South America, and south of the equator to at least 49°S. However, although there is some suggestion of gene flow between the North and South Pacific stocks based on an analysis of genetic population structure, migration between stocks is not thought significant enough to affect management.

The management unit of albacore covers the entire South Pacific and New Zealand is only one of the countries involved in management of the stock through the WCPFC (Williams and Terawasi, 2008). Most catches occur in longline fisheries in the EEZs of other South Pacific states and territories and in high seas areas throughout the geographical range of the stock.

5.2 Assessments and Information

Overview

The South Pacific albacore fishery is a large fishery with many components and sources of data. Vessels are registered in the regional registry, which also records vessels suspected of IUU fishing. WCPFC have recently completed a redevelopment of the database to manage the Record of Fishing Vessels (CMM 2004-01). Information on vessels operating within New Zealand waters is complete. All countries operating fleets in the region report catches, effort and size frequency data if sampled. In addition, considerable data are available on various oceanographic features of the fishery area and considerable research has been undertaken on the tuna habitat (e.g. Briand *et al.*, 2005), which provides background for the assessment and understanding the population dynamics, even though not all this information is used in the stock assessment.

The most recent South Pacific albacore stock assessments are fully described in Hoyle *et al.* (2008) and Hoyle and Davies (2009). The assessment uses the stock assessment model and computer software known as MULTIFAN-CL (or MFCL), which was developed originally to deal with length-frequency rather than age data (Fournier *et al.* 1998, Hoyle *et al.* 2009). However, it is now similar to other software modelling age structured populations.

The data used in the South Pacific albacore assessment consist of fishery-specific catch, effort and length-frequency data and tag release-recapture data. These data are available from the New Zealand troll fishery. Although New Zealand has an observer programme, it has had very limited coverage of the troll fishery, focussing on purse seine and longline activities for tuna.

The model includes 20 annual age classes, including a group age 20+ years old. Growth forms part of the MFCL model, as does fishing and natural mortality. The main complexity comes from the detailed breakdown of the fishing fleets, since each fleet has different selectivity and catchability parameters. However, selectivity is assumed to be time-invariant, and length-based to the extent that ages with similar lengths must have similar selectivity at age.

The statistical structure of MFCL is standard, with various data components contributing to a log-likelihood and various additional options for weights and penalties to allow the model to adapt to the data and fishery. The observed total catch data for each fishery are assumed to be unbiased and relatively precise. Input to the MFCL model requires total catch and effort data, which was obtained using standardised CPUE to standardised effort rather than use the CPUE itself. With log-normal errors this should make no difference to treating CPUE as an index. The probability distributions for the length-frequency proportions are assumed to be approximated by normal distributions, with the

variance determined by the effective sample size and the observed length-frequency proportion. Adjustments are applied to down-weight this source of information from the raw estimated sample variance which is the normal procedure. Finally, there is a log-likelihood component for the tag release and return data. Age data are not routinely available.

The assessment model's underlying structural assumptions are regularly reviewed, with a focus on providing reliable estimates of population dynamics. Improvements include a more precautionary stock-recruitment relationship adopted as the default and various changes to the catch and effort time series and their treatment in the model. The authors believe that the changes have resulted in a more realistic and credible model which fits the data better than previously. Various problems with bias in the CPUE series that result from switches in targeting identified in 2008 appear to have been largely resolved. The conflict between information in the CPUE and the longline length frequency data remains, but its effects have been reduced. The new growth estimates fit the troll fishery length frequency data well and are close to estimates derived from ageing.

Sensitivity analyses were conducted covering a set of uncertainties identified by the stock assessment scientists and at a pre-stock assessment workshop. These included models that permitted catchability and selectivity to vary through time, weighted sources of information differently and used alternative values for parameters that could not be estimated, which in this case was the stock recruitment relationship "steepness". As structural errors tend to dominate uncertainty, the stock assessment included an uncertainty analysis which considered all combinations of possible configurations in determining ranges of fishery performance indicators.

The stock assessment has a number of uncertainties. There is some conflict between the length frequency data and the other sources of information in the model, which may be biasing abundance estimates. Some CPUE and selectivity data need to be improved, particularly from the distant water fishing nations to allow better standardisation and stratification. Being single sex, the model does not account directly for different sex ratios in the catches. Further research has also been suggested on various areas relevant to developing the model structure, including growth and movement information. Although there are problems with not all data being provided (Jones and Shallard, 2009), data were considered adequate for the assessment.

Catch

Catches are reported to WCPFC by vessel flag states who are responsible for the vessels fishing this stock. The catch data are thought to be reasonably accurate for the period of the assessment.

The New Zealand commercial catch reporting is complete since 1976. In addition, there is a relatively small recreation catch (around 250 t) and Maori customary catch which are not reported. Discarding of albacore has not been reported in the albacore troll fishery (based on limited observer coverage in the 1980s). Low discard rates (average 3.3%) have been observed in the longline fishery over the period 1991/92 to 1996/97. There is no known illegal catch of albacore in the EEZ or high seas adjacent to New Zealand and other sources of mortality are assumed to be negligible.

Abundance Indices

The regional stock assessment model for albacore uses standardised CPUE time series as abundance indices. There are no fishery-independent indices of abundance for the South Pacific stock. Returns from tagging programmes provide information on rates of fishing mortality, however, the return rates were very low and therefore lead to highly uncertain estimates of absolute abundance.

MFCL requires the definition of "fisheries" that consist of relatively homogeneous fishing units. For each fishery, selectivity and catchability are estimated and remain constant over time. For most pelagic fisheries assessments, fisheries can be defined according to gear type, fishing method and region. However, for the South Pacific albacore fishery, not all longliners of a particular type or nationality target albacore and some fleets have changed their targeting practices over time.

Therefore, some additional stratification of longliners into national fleets was deemed necessary to capture the variability in fishing operations with respect to albacore.

A total of 30 fisheries were initially defined for the assessment, including 26 separate longline fisheries, two driftnet fisheries, and two troll fisheries. The longline fisheries were comprised of Japanese, Korean and Chinese Taipei longline fisheries in each of the four western and central regions, and the domestic fleets of Pacific nations. Separate troll and driftnet fisheries were defined for the south-western and south central regions of the assessment area. Additional artificial “fisheries” were defined for some model configurations to allow catchability and selectivity changes to be included by splitting longline into various seasonal and temporal components.

Longline CPUE is particularly useful as it covers the entire range of the stock, and is likely to vary with stock density. Standardisation attempts to account for changes in CPUE which cannot be attributed to changes in stock size. Variables that might affect catchability include sea surface temperature and target species among others. For example, there was a dramatic decline in the longline albacore CPUE time series from 1998 to 2000 that corresponds closely to a large increase in swordfish catch from 1600 t swordfish in 1997 to over 12 000 in 2001 (Figure 3). This shift in fishing practice towards targeting swordfish is likely to have altered the catchability for albacore through a physical change in the configuration of the fishing gear. Unfortunately, such changes may be confounded with underlying changes in abundance, which could also encourage such a switch in target species.

For New Zealand, a total of 51 004 longline data records from 1993-2004 were available with detailed effort information for individual fishing operations. Valid catch and effort information from the troll fishery from 1993 to 2004 comprised 49 622 records. These data have been linked to a range of environmental variables including remotely sensed observations for sea surface temperature (SST) and ocean colour (chlorophyll) at a spatial resolution corresponding closely with each individual fishing operation, location in relation to oceanic fronts, climatology and oceanographic indices, moon brightness (phase), day length, fraction of longline set during night hours, depth and depth variation. These additional data are used to explain variation not thought to be linked to abundance. Troll records which could not be linked to these covariates (47%) were excluded from the analysis.

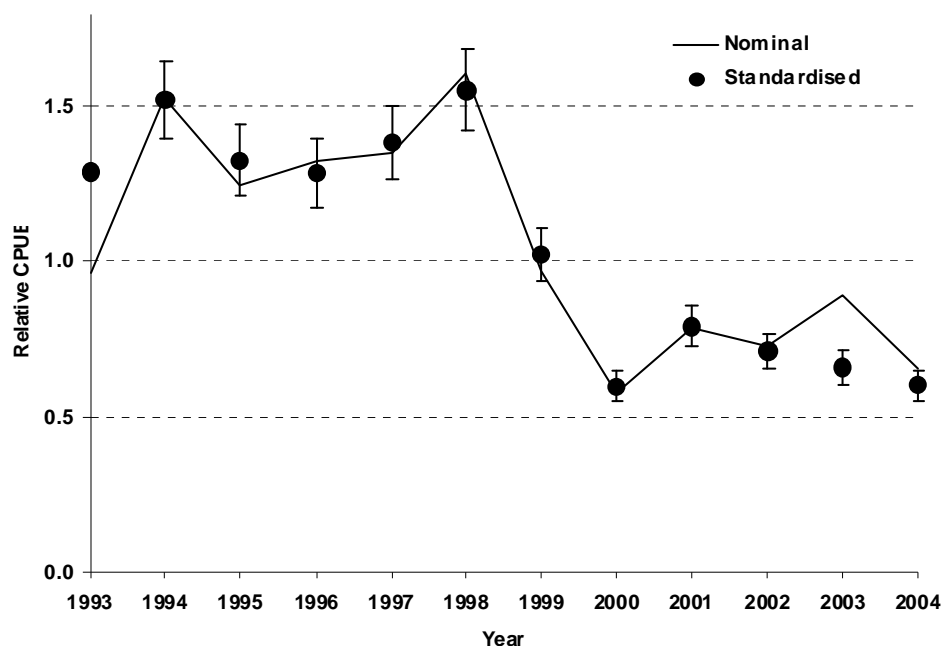


Figure 3 Nominal and standardised annual CPUE indices (normalised about the geometric mean for each time series) for the longline fishery, 1993-2004. Vertical bars indicate two standard errors.

Length Frequency

Length frequency data form a significant part of the information available to the assessment, and the only information on the age and size structure of the stock and hence selectivity of the different fleets. The New Zealand troll fishery tends to catch smaller albacore than those caught by troll vessels from the U.S. fishing in the subtropical convergence zone (STCZ) in the eastern Pacific. Longline fleets typically catch much larger albacore over a broader size range (56-105 cm FL) with variation occurring as a function of latitude and season, with the mean length of longline-caught albacore from 1987 to 2007 in New Zealand being 80.4 cm FL.

The New Zealand troll fishery landings, sampled mainly from the ports of Auckland and Greymouth, consist of juvenile albacore typically 5 to 8 kg in size with the mean fork length for 1996–97 to 2006–07 being 63.5 cm (Figure 4). The length data typically show multiple modes representing different age classes. For example, in 2006–07 three modes with median lengths of 51, 61, and 72 cm were visible, that correspond to the 1, 2, and 3 year old age classes.

Including the standardized New Zealand troll effort series (Unwin *et al.* 2005) had a considerable effect on biomass and recruitment trends. By providing information between 1993 and 2004, the effect was to counteract the declining trend in estimated recruitment, and make long-term recruitment more stable. The main qualification would be if the New Zealand troll catch rates did not reflect changes in abundance (e.g. in a search fishery where communication is important, like the New Zealand troll fishery, CPUE may not decline linearly with abundance), although the standardization attempts to account for this.

Tagging

A limited amount of tagging data were available, consisting of tag releases and returns from the albacore tagging programme conducted during the austral summers of 1990–1992 and from an earlier programme in the 1980s. The majority of tag releases were made by scientific observers on board New Zealand and U.S. troll vessels fishing in New Zealand waters and in the central South Pacific

STCZ region. There were a total of 9 691 releases and 138 tag returns, each with size, fishery and time period recorded.

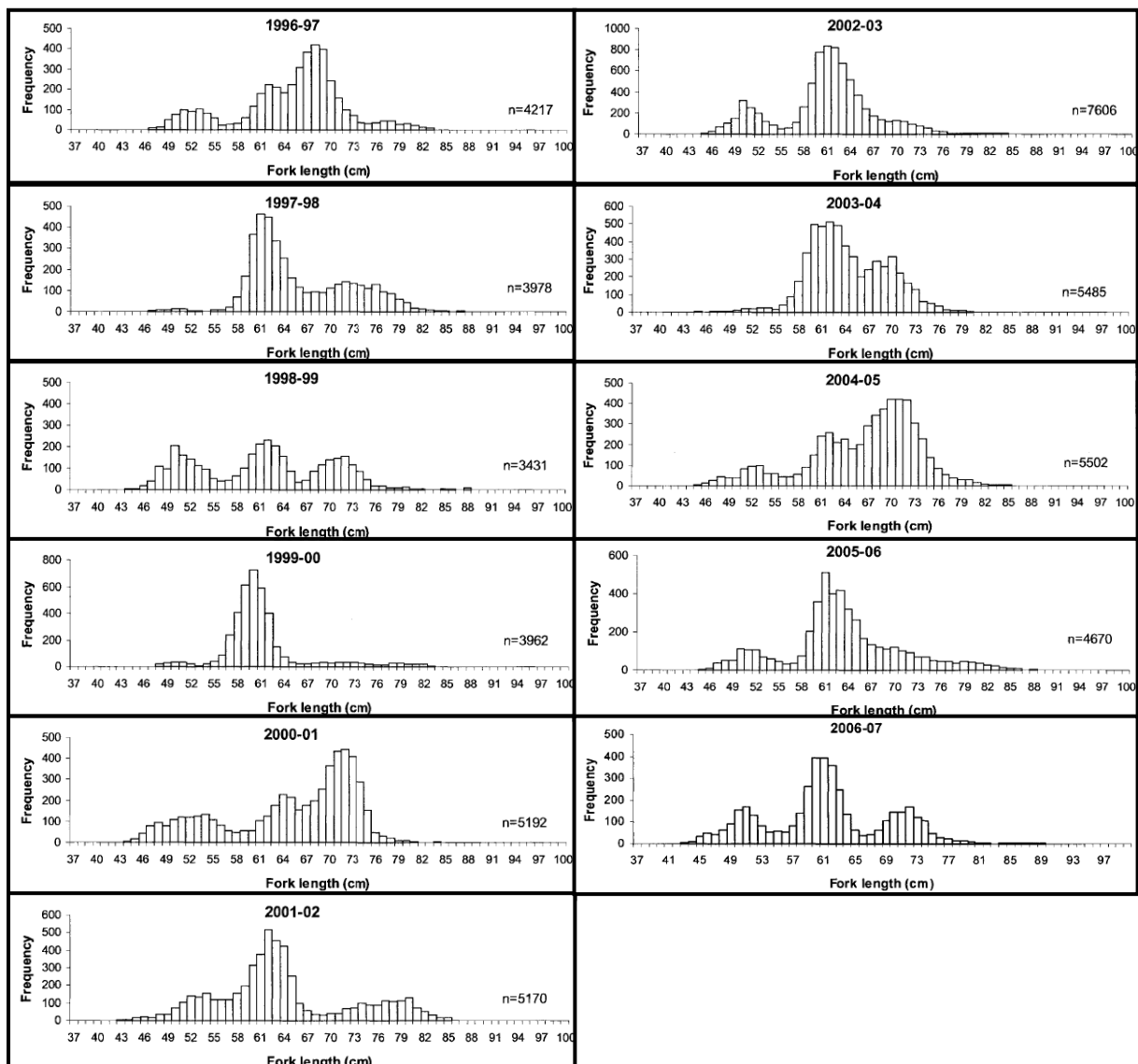


Figure 4 Size composition of albacore taken in the New Zealand commercial troll fishery for 1996-97 to 2006-07 showing the clear modes representing year classes being recruited to the fishery (from Albacore Plenary Report 2009).

4.3 Management advice

The New Zealand albacore fishery is managed under the NZ Fisheries Act but does not fall under the Quota Management System. The albacore found in NZ waters are part of a single South Pacific stock. The New Zealand catches represent only 10% of the total South Pacific catch.

The fifth regular meeting of the WCPFC Scientific Committee (WCPFC-SC, 2009a) adopted the stock status of South Pacific albacore as estimated by the 2009 assessment (Hoyle and Davies 2009). These stock assessment results produced realistic levels of stock size and yield based on a credible model. Estimates indicate that overfishing is not occurring and that the stock is not in an overfished state (Figure 5; Table 2). There is no indication that current levels of catch are unsustainable with

regard to recruitment overfishing. However, current levels of fishing mortality may be affecting longline catch rates on adult albacore.

There is considerable uncertainty about the early biomass trend, but this has negligible effect on the advice to managers regarding the status of the stock. Models that down-weight the length frequency data (in order to rely on the index of abundance from the CPUE data), tend to give lower biomass relative to B_{MSY} , and higher fishing mortality relative to F_{MSY} , throughout the time series. In recent years (particularly in 2003), declines in CPUE were observed in some Pacific island fisheries. Investigations have shown that these declines appear to be a consequence of changed oceanographic conditions, though high levels of localised effort may also be reducing CPUE in these fisheries.

The only current consistent control on the overall fishery in New Zealand is to limit the number of fishing vessels. The WCPFC, while noting that current catch levels from the South Pacific albacore stock appear to be sustainable, applied a capacity limit because of the uncertainty in the assessment and potential economic effects of a declining CPUE. The Conservation and Management Measure for South Pacific Albacore (Conservation and Management Measure-2005-02) adopted, in accordance with the Article 10 of the WCPFC Convention, that: “Commission Members, Cooperating Non-Members, and participating Territories (CCMs) shall not increase the number of their fishing vessels actively fishing for South Pacific albacore in the Convention Area south of 20°S above current (2005) levels or recent historical (2000-2004) levels.” Overall catches in 2007 were the same as those in 2005. However, the measure also protects the legitimate rights and obligations of South Pacific states who may wish to pursue a responsible level of development of their fisheries for South Pacific albacore. As well as overall control, the many countries have varying local fisheries management plans.

No other controls are considered necessary at this stage, although provision exists, and there is a clear intention, to limit fishing activity as required in the WCPFC Convention, including applying the precautionary approach. However, albacore does not currently require controls to reduce catches, in contrast to bigeye tuna where such controls are being implemented. In the case of bigeye, controls on exploitation have not been as effective as hoped (Hampton and Harley, 2009) due to a number of causes, many of which may not apply to albacore. Nevertheless, the effectiveness of controls to reduce fishing mortality on South Pacific albacore remains uncertain.

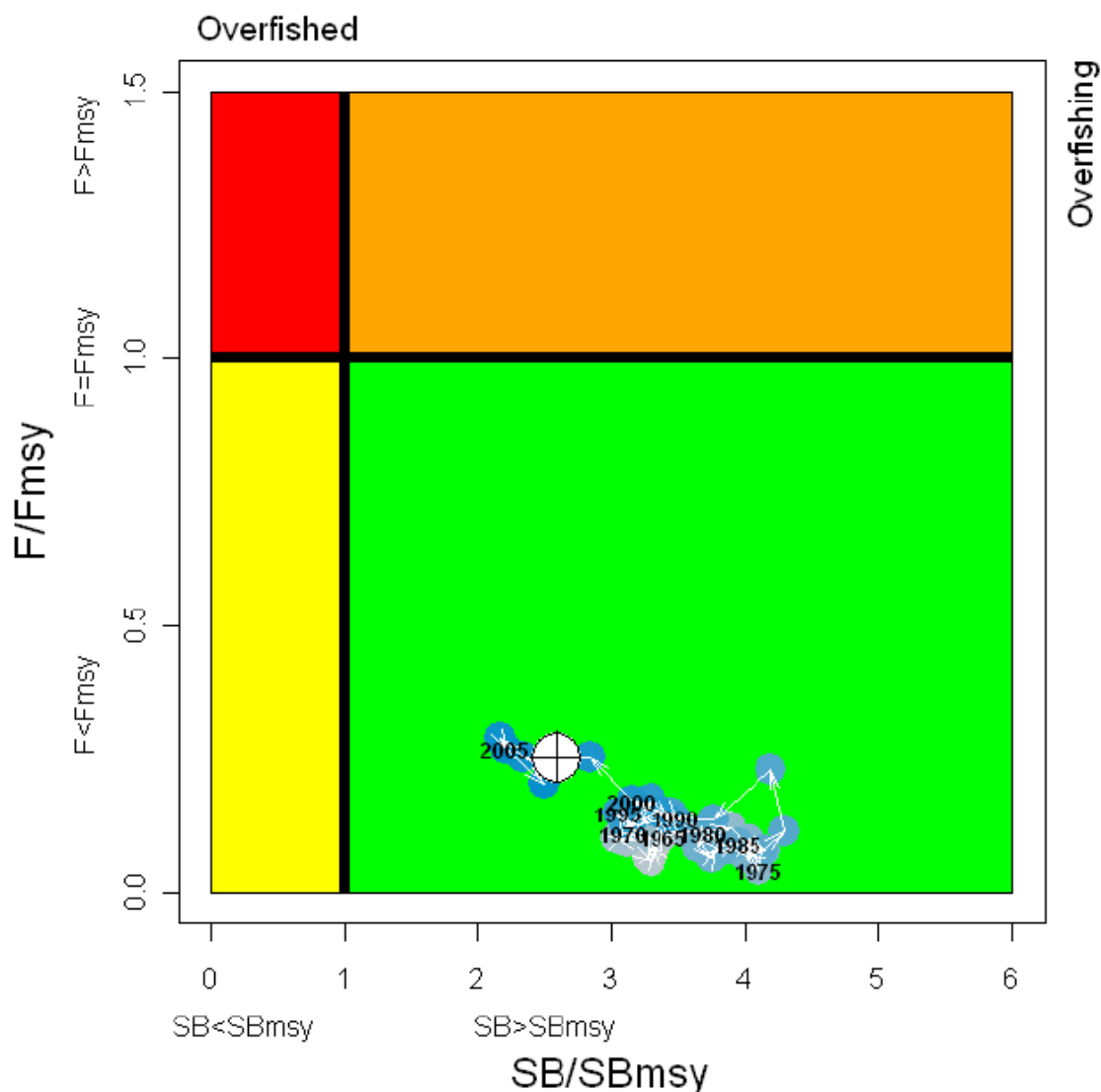


Figure 5 Temporal trend in annual stock status, relative to SB_{MSY} (x-axis) and F_{MSY} (y-axis) reference points, for the model period (starting in 1960). The colour of the points is graduated from pale blue (1960) to blue (2007), and points are labelled at five-year intervals. The last year of the model (2008) is excluded because it is highly uncertain (from WCPFC-SC, 2009a).

Table 2 Estimates of reference points from the 2009 South Pacific albacore tuna stock assessments (WCPFC and IATTC RFMO regions). The median and ranges in the table provide the median, minimum and maximum values of each indicator across the range of combinations of sensitivity scenarios considered (from WCPFC-SC, 2009a).

Most Recent Catch (t; 2008)	51 967		
Indicator (cur = 2005-7 mean)	Median	Base Case	Range
MSY (t)	65 801	64 000	64 000 ~ 75 000
F_{cur}/F_{MSY}	0.29	0.44	0.25 ~ 0.44
B_{cu}/B_{MSY}	1.53	1.26	1.26 ~ 1.50
SB_{cur}/SB_{MSY}	2.44	2.21	2.21 ~ 2.90
Y_{Fcur}/MSY	0.72	0.86	0.72 ~ 0.86
$B_{cur}/B_{cu}, F=0$	0.74	0.70	0.70 ~ 0.77

6 FISHERY MANAGEMENT FRAMEWORK

The New Zealand albacore tuna fishery under MSC assessment is currently managed under the Western and Central Pacific Fishery Commission (WCPFC). Under this international convention, New Zealand is responsible for managing the fishery within New Zealand waters but must ensure that the management is compatible with agreements under the Commission and vice versa.

Albacore is not currently under the NZ Quota Management System (QMS). Therefore no total allowable catch (TAC) applies in New Zealand waters. However Conservation and Management measures set by WCPFC place binding controls on the albacore fishery in NZ waters that limit the number of fishing boats that can take part.

Vessel Registration

Section 103 of the Fisheries Act 1996 requires vessels to be registered in the Fishing Vessel Register in order to take fish, aquatic life, or seaweed for sale, in New Zealand fisheries waters.

Permitting of Commercial Fishers

Any person who wishes to take fish for the purpose of sale can only do so under the authority of a commercial fishing permit issued under the Fisheries Act 1996 (the Act). Commercial fishers are obliged to:

- Fish from a registered fishing vessel.
- Keep records of catch, effort and landings.
- Report regularly to the Ministry their effort and landings.
- Not 'dump' their fish (with limited exceptions).
- Land catch to approved licensed fish receivers (LFR) (with limited exceptions).
- Furnish Monthly Harvest Returns (MHRs) detailing all the catches made for that month by the permit holder.

6.1 Fishing locations

The albacore troll fishery under assessment is that caught by troll in ALB 1 which includes all the waters inside the NZ EEZ. This is primarily a summer fishery that mostly takes place on the west coasts of the North and South Islands

6.2 Administrative Arrangements and Boundaries

Management of albacore throughout the Western Central Pacific Ocean (WCPO) is the responsibility of the Western and Central Pacific Fisheries Commission (WCPFC). The WCPFC is one of the few Regional Fisheries Management Organisations (RFMO) to have been established following the finalisation of the United Nations Fish Stocks Agreement. The WCPFC Convention was finalised in 2000 and the Commission established in 2004.

The management interface for New Zealand with respect to WCPFC is both reactive and proactive in nature. As a member, New Zealand is responsible for ensuring management measures applied within New Zealand fisheries waters are compatible with those of the WCPFC, and fishing by New Zealand flagged vessels both within and beyond the New Zealand EEZ is carried out in accordance with any measures put in place by WCPFC.

The Ministry of Fisheries (MFish) role is to act as the Government's principal advisor on NZ fisheries management and the impact of fishing on the aquatic environment including issues that may impact on the continued availability of fisheries resources, and their interaction with the use of other marine

resources.

MFish is the Government agency responsible for the conservation and management of fisheries. It is charged with consistently monitoring the fisheries resource and making timely and appropriate policy advice on all aspects of fisheries management to the Government. The Ministry is also responsible for carrying out the Government's policies to manage and conserve fisheries. The Department of Conservation is responsible for the conservation of marine mammals, seabirds and some fish (e.g. basking shark) within the EEZ

6.3 Legislation and Regulation

The NZ Fisheries Act 1996 provides the legislative framework for fisheries management, within NZ fisheries waters and for NZ flagged vessels and nationals on the high seas. The purpose of the Fisheries Act is to provide for utilisation of fisheries resources while ensuring sustainability. In giving effect to the purpose of the Act, decision makers are required to take into account environmental and information principles, and to act consistently with the Treaty of Waitangi (Fisheries claims) Settlement Act 1992 and international obligations.

Among other things, the Fisheries Act sets out NZ's fisheries management regime; provisions relating to access to fisheries, including foreign licensed access; a high seas fishing regime; record keeping, reporting and disposal of fish provisions; and a system of offences and penalties

The Fisheries Act 1996 (the Act) has been drafted to be consistent with New Zealand's international obligations. Section 5(a) of the Act implements these obligations by specifying that all functions, duties or powers under the Act must be exercised in a manner consistent with New Zealand's international obligations relating to fishing.

The New Zealand Government has obligations under the Fisheries Act 1996 to avoid, remedy or mitigate any adverse effects of fishing on the aquatic environment. Sections 8, 9, and 11 of the Fisheries Act apply to most aquatic environment issues, along with some additional legislation or specific clauses relevant to particular topics. For instance, the Marine Mammals Protection Act 1978 and the Wildlife Act 1953 apply to protected species. New Zealand is also signatory to a number of international agreements that create additional requirements for monitoring of the effects of fishing on the aquatic environment and on associated or dependent species.

The main regulations that apply to the NZ albacore fishery are:

- Fisheries (Commercial Fishing) Regulations 2001 and regional commercial fishing regulations;
- Fisheries (Western and Central Pacific Ocean Highly Migratory Fish Stocks) Regulations 2003.

Through the Fisheries Act and associated regulations stringent controls are imposed on fishing activities within NZ fisheries waters and on NZ flagged vessels and nationals operating on the high seas. All NZ vessels are required to be registered. All fishers operating within NZ waters, must be authorised by a fishing permit

6.4 Harvest controls

Management of albacore tuna throughout the WCPO is the responsibility of the WCPFC. Under this regional convention, New Zealand is responsible for ensuring the management measures applied within New Zealand fisheries waters are compatible with those of the Commission. Equally, the Commission must ensure its measures are compatible with those of coastal states.

Albacore is not managed as a QMS species in New Zealand. Therefore, no total allowable catch (TAC) applies in New Zealand fisheries waters or on the high seas. However, conservation and management measures set by WCPFC do place binding effort controls on the albacore fishery in New Zealand fisheries waters.

One such measure is that Commission members, cooperating non-members and participating territories of the WCPFC “shall not increase the number of their fishing vessels actively fishing for South Pacific albacore in the Convention Area south of 20°S above current (2005) levels or recent historical (2000-2004) levels.” For NZ, this equates to 445 vessels based on the number of vessels reporting albacore tuna landings in 2001.

This conservation and management measure for albacore in the South Pacific mirrors a similar measure in place for northern albacore within the WCPFC area, and was partly established to ensure there was no displacement of effort from the northern fishery into the southern fishery.

A variety of information is used to help determine the appropriate level at which fisheries can be harvested. For highly migratory species (HMS), the international context to these discussions is particularly important. Relevant information includes:

- Current status of the stock;
- Productivity of the stock; and
- The quality of information and research available

6.5 Monitoring, Control and Surveillance

NZ endeavours to deter fisheries related offending through successful prosecution and deterrent penalties. Penalties for fisheries related offences include fines, forfeiture of fish, vessels, other property and quota, and imprisonment.

Utilisation of highly migratory species (HMS) fisheries is subject to rules of sustainability, access, and allocation. Achieving New Zealand’s fisheries management objectives depends upon high levels of compliance with these rules and with other conservation and sustainable management measures adopted by RFMOs and other international arrangements to which New Zealand is a party.

In the international context, New Zealand operates within compliance committees with the aim of developing and implementing a consistent and harmonised package of compliance measures across international arrangements.

MFish carries out monitoring and surveillance across the fishing sectors to ensure people operate in accordance with the legislative requirements. Compliance with these requirements ultimately allows New Zealand to meet its international obligations for the management and conservation of HMS. Regular monitoring and surveillance also provide a form of passive deterrence for potential offenders.

A number of monitoring, control and surveillance (MCS) tools are used to control the activities of vessels fishing within NZ fisheries waters including:

- Fishing permit requirements
- Requirement to hold annual catch entitlement to cover all target and bycatch species caught, or alternatively, to pay deemed values
- Fishing permit and fishing vessel registers
- Vessel Monitoring System (VMS) requirements
- Vessel and gear marking requirements
- Fishing gear and method restrictions

- Observer Programme
- Reporting (including catch and effort reporting) requirements
- Vessel inspections
- Control of landings (e.g. requirement to land only to licensed fish receivers)
- Record keeping requirements
- Auditing of licensed fish receivers
- Control of transshipment
- Monitored unloads of fish
- Information management and intelligence analysis
- Analysis of catch and effort reporting and comparison with VMS, observer, landing and trade data to confirm accuracy
- Boarding and inspection by fishery officers at sea
- Aerial and surface surveillance, and
- Any other measures agreed by Regional Fisheries Management Organisations (RFMOs)

Reporting

New Zealand's fisheries management regime is supported by a comprehensive set of reporting regulations and recordkeeping regulations. When fish is taken by a permit holder they must ensure that the appropriate reporting requirements are met.

- Catch effort returns must be completed, signed and supplied to the Ministry of Fisheries (MFish) within the timeframes set in regulations.
- Landing information is required from each registered fishing vessel once all fish and fish product has been landed to a licensed fish receiver (LFR) following each fishing trip.
- All permit holders are also required to supply a Monthly Harvest Return (MHR) by the 15th of the month following the month the catch was taken. The MHR lists by, fish stock, all fish taken in the month reported.
- LFRs must report monthly to MFish all the fish species received during that month from each fisher (LFRR). This is an independent check on all fish landed from all vessels by commercial fishers. The information from these reports is used by the Ministry to cross-check the information provided by permit holders.
- All returns are required to be furnished in specific timeframes. If permit or license holders do not furnish the necessary returns within the required timeframe an infringement penalty charge may be charged.

The Fisheries Act 1996 puts a strict liability offence on any person who buys, sells or possesses fish, other aquatic life or seaweed, taken in contravention of the Act. Significant penalties are imposed on persons fishing commercially without a fishing permit. These include fines of up to \$250,000, imprisonment up to 5 years and/or forfeiture of gear, vessels, or vehicles used in the commission of the offence.

6.6 Consultation

The consultative process for South Pacific Albacore is extensive at both the scientific and management levels. Management measures arising from WCPFC are communicated to stakeholders in a number of ways, including the following:

- Consultation meetings are held to brief stakeholders on upcoming RFMO meetings, and to report back on recent meetings;
- WCPFC meeting reports are widely distributed;
- Industry members may participate in New Zealand delegations;

- Workshops may be held to address specific topics, e.g. seabird mitigation.

From a proactive point of view, as an active participant, New Zealand is able to have its say and influence the manner in which highly migratory species (HMS) are managed regionally. In addition, where New Zealand takes proactive measures to manage HMS within the New Zealand EEZ that are consistent with broader international obligations, there is arguably an onus on the WCPFC to ensure any specific measures it applies are compatible with those national measures.

In NZ, the Ministry of Fisheries currently consults with representative groups (including iwi, recreational groups, commercial stakeholder organisations, and environmental groups) on an annual basis for various management measures. Engagement with stakeholders also occurs at working groups that consider research priorities and review research findings. Various forums have been created as an additional means of engaging with stakeholders, in particular customary and recreational fishers.

Existing networks of contacts with stakeholders have been used to establish advisory groups that have worked with the Ministry of Fisheries to develop a HMS (fisheries) management plan. Other stakeholders have been kept informed about progress on the plan, and will have opportunities to comment, including through informal and formal consultation processes. Information is also available on the Ministry of Fisheries website.

6.7 Dispute Resolution

WCPFC operates under charters specifying voting rules and procedures. However, usually decisions are made by consensus of the member states.

The WCPFC has a dispute resolution mechanism. Additionally dispute resolution through litigation and the courts is available. Any such disputes are to be well documented and readily available to appropriate parties.

In New Zealand, there are procedures and processes under Part 7 of the Fisheries Act for dispute resolution. However it does not seem to be widely used. Rather the consultation process is an attempt to avoid unresolved dispute. Dispute resolution through litigation and the courts is available and has been well tested. Any such disputes are well documented. However there has been no such dispute concerning the albacore troll fishery.

7 ECOSYSTEM CHARACTERISTICS

This section provides background on the ecosystem components considered under Principle 2. It provides a general overview of the characteristics of the ecosystem within the New Zealand EEZ specifically (rather than the complete geographic range of albacore in the Pacific), and the information, studies and management that is being carried out. It should be noted that more detailed examinations of information are presented within the Scoring Guidepost table (Appendix A).

7.1 Retained species

The definition of by-catch used in this report follows that defined in the MSC Guidance documentation, where non-target species that are kept for commercial purposes are termed retained species and other non-target species that are not kept (i.e. discarded) are by-catch. The MSC terminology defines by-catch as “organisms that have been taken incidentally and are not retained (usually because they have no commercial value”.

Retained species are, by regulation, those species within the Quota Management System (QMS), as well as key other tuna species that are enumerated and retained on board. QMS are generally the subject of analytical stock assessments and active management that is based upon formalised, biologically-based limits. For the remaining QMS species, the TACC system, which aims to limit the overall catch of stocks/species, combined with the ‘deemed value’ process, represents the management strategy for these species. Highly Migratory Species (HMS) management is based upon internationally agreed stock status assessments and agreed approaches to management.

Data on catch rates and the relative abundance of non-target catch species in the fishery are available from two main sources:

- The logbooks, which provide catch details on a fishing-event basis.
- Limited Ministry of Fisheries observer data, which provides catch weight for all HMS, QMS and non-QMS species caught, on an observed fishing event basis. This provides accurate and verifiable information, if on variable and patchy coverage, although it is noted that increased effort is being directed at this fishery.

Catch composition data from recent projects for the fishing seasons 2005/06-2007/08 indicate the albacore troll fishery is relatively species specific, with few other retained species: up to 99% of fish are albacore (by weight) with QMS species representing ~0.3%, and the remainder being specific tuna species and non-QMS species. There are, therefore, no ‘main’ retained species under the MSC definition (>5% of the total reported catch).

Not all of the retained species are the subject of detailed assessment and management plans, but are the subject of TACC limits, against which catches are monitored on an on-going basis. This strategy applies to a very small proportion of the overall catch.

The Ray’s bream stock (RBM 1), one of the more common retained species, has not been the subject of analytical stock assessment to underpin TACC levels. This species has medium to high productivity, and hence should be reasonably robust to the moderate levels of exploitation that the troll fishery results in. Recent catches from the troll fishery represent <1% of the Ray’s bream TACC level. It is noted that Ray’s bream may represent a combination of three different species, and the accuracy of the species split in the fishery reporting has not been investigated.

Kahawai, the second most common non-tuna QMS species, represents <0.1% of the reported catch weight. Assessed in 2009, this stock in management area KAH 1 was above the MSY target. Status of other stocks is unknown, however. The low overall take in the troll fishery (<2 t/yr) relative to the

overall TACC level (2,728 tonnes) implies troll fishery impacts are minor.

Key tuna species are bigeye, skipjack and yellowfin. Bigeye and skipjack are managed as highly migratory species. The bigeye assessment in 2006 indicated that the stock was subject to overfishing, but not yet overfished. The take within the troll fishery is low (between 1 and 31 fish/yr), but the potential status of this stock is noted. Skipjack stocks were assessed in 2005 to be around MSY levels. Yellowfin is managed as both a HMS and a QMS species. The 2006 yellowfin assessment indicated that the stock was subject to overfishing, but not yet overfished. Between 6 and 73 fish are caught per year in the troll fishery, and 8% of the TACC was caught across all fisheries in 2007/08. Thus, there is some concern about the stock status of yellowfin tuna but catches are very low and well below the TACC.

7.2 By-catch and discard species

Bycatch species are generally non-QMS species. For these species, stock assessments are not performed, and assessments of the potential impact of the fishery on population levels are uncommon. These species are not managed under the TACC process, although the increasing number of species within the QMS system demonstrates that substantial catches of a non-QMS species tends to lead to the establishment of their QMS status, and hence become subject to more regular, rigorous and formalised monitoring and must be retained on board vessels. The processes, data requirements and procedures for moving a non-QMS species into the QMS framework is not formalised, neither are the approaches to monitor 'minor' QMS species status and trends, given the information collected. This could be prioritised based upon identification of key low-productivity species through a formalised Productivity-Sensitivity Analysis. However, the clean nature (i.e. very low level of bycatch) of the fishery is noted (see below).

Catches of non-target species occur (as noted in section 7.1) at low levels, and hence there are no 'main' bycatch species based upon the MSC's catch level definition. The most common potentially vulnerable non-QMS species are mako and blue sharks (the latter being a QMS species since 2004/05, but its stock status is unknown). Many sharks are considered vulnerable due to some of their biological characteristics and reproduction potential, although the blue shark is possibly less vulnerable than other shark species in this respect. Information on blue shark catch levels within the troll fishery (30 to 133 kg/yr; TACC = 1,860 tonnes) suggests the troll fishery has been exerting no significant impacts on the blue shark population in New Zealand waters. Mako shark catches (66 to 285 kg/yr) are also low and unlikely to lead to significant impacts. Implementation of the shark plan of action would assist in this regard.

In October 2008 the New Zealand Government published a National Plan of Action for the Conservation and Management of Sharks in an attempt to rationalize shark management issues within all NZ fisheries. This should be applied coherently by all fisheries that impact sharks, including the albacore troll fishery.

7.3 ETP species

The Wildlife Act 1953 gives absolute protection to wildlife throughout New Zealand and its surrounding marine Exclusive Economic Zone (EEZ). All marine mammals (including all seal, dolphin and whale species) are fully protected throughout New Zealand and its EEZ under the Marine Mammals Protection Act 1978. The result of this is that almost all native birds, all marine mammals and marine reptiles (including turtles and sea snakes) are fully protected in New Zealand (under one of the two Acts). The exceptions are a small number of native birds managed as game birds, and a few other native birds that are partially protected. Just one native bird, the black-backed gull, is currently unprotected.

The national requirements for ETP protection in New Zealand law notes that while interactions are

not forbidden (i.e. not zero), the law requires interactions to be reported to DOC, and the long-term aim is to minimise mortalities where possible. This provides good information on the potential effects of the fishery on ETP species.

There is no evidence of interactions between the tuna troll fishery and ETP species within New Zealand waters. This is likely due to the fishing methodology.

The troll gear used in this fishery, towed, un-baited artificial lures, are seldom lost during fishing and are likely to have very limited impacts in post-loss (ghost) fishing.

There have been anecdotal historic reports of the use of explosives to frighten seals (so called use of 'seal bombs') and also anecdotal reports of fishers shooting seals within the fishery. Neither of these practices could be substantiated. If common or widespread, these activities would be expected to be more reported more frequently and be easier to substantiate, suggesting that any such activity is infrequent, but would remain a concern with regard to the legal status of these protected animals and the certification process. The limited MFish observer coverage may be relevant in this regard, as there is a possibility that low-level interactions between the fishery and ETP species may have gone unreported or undetected.

7.4 Habitats

The albacore troll fishery is pelagic (near surface) in nature, and hence habitat interactions are largely concentrated on the pelagic environment. Impacts are expected to be transient and negligible, in particular given the gear type. The oceanography and primary productivity within the New Zealand EEZ has been well studied through historical and current research projects and remote sensing studies.

Benthic habitat impact from lost gear, as noted above, will be minimal due to the infrequency of lost gear and the nature of the gear.

MARPOL, the International Convention for the Prevention of Pollution from Ships (1973) covers pollution by oil, chemicals, and harmful substances in packaged form, sewage and garbage. New Zealand is a signatory of this Convention, and thus the albacore troll fishery falls within the agreements on prevention of disposal of harmful waste and fishing gear while at sea.

7.5 Ecosystem impacts

Albacore is a top predator within the ecosystem. This ecosystem role is not explicitly considered within management decisions, but the overarching goal of managing to MSY levels (or above) implicitly takes this into account (see below). In turn, consideration of the wider fishery implications, through the basis of management on the outcomes of the Western and Central Pacific Fisheries Commission (WCPFC) assessments, supports the management strategy.

The diet of albacore is well understood across its main life history stages, while the predators of juvenile stages are also reasonably well known. Information has been gathered in both the Pacific Ocean and New Zealand waters, particularly from observations on catches within the longline fishery. While this has been sufficient to understand ecosystem interactions and fishery impacts (see below), the recent albacore initial position paper Anon. (2007) noted "understanding of albacore-related food web relationships is still at an early stage, and more information is needed".

The key interactions between tuna species has been used to model the interactions between fishing on species and the subsequent predator-prey relationships in the Pacific Ocean (Cox *et al.*, 2002). Decreases in top predators such as adult yellowfin have been modelled and suggest resultant increases in smaller and juvenile tunas, including the target of the New Zealand albacore troll fishery. Total removals of albacore by the troll fishery are a small proportion of total albacore removals, and as albacore stocks in the region are estimated to be above B_{MSY} , their ecosystem role is expected to be

maintained. Given the relatively clean nature of the fishery (see above), related food web impacts are also expected to be minimal. Furthermore, the most recent albacore Initial Position Paper states “If clear evidence emerges that albacore harvesting is having effects on biodiversity, MFish considers that it will be possible to apply appropriate management measures to avoid any adverse impacts.”

8 OTHER FISHERIES AFFECTING TARGET STOCK

The South Pacific Albacore stock is distributed from the coast of Australia and archipelagic waters of Papua New Guinea eastwards to the coast of South America, south of the equator to at least 49°S. Most catches occur in longline fisheries in the EEZs of other South Pacific states and territories and in high seas area throughout the geographical range of the stock.

All South Pacific albacore fisheries are identified and monitored and include longline fisheries conducted by China, Japan, USA, Korea, Fiji, French Polynesia, Western Samoa and Vanuatu. Other troll fisheries are identified in French Polynesia and pole and line fisheries undertaken in Japan and Indonesia. Information regarding the annual landing weights of albacore from these fisheries is available from WCPO and this data is used within the South Pacific albacore stock assessments. Total South Pacific albacore catches have fluctuated between 25 and 65,000 t since 1960. The average catch between 1990 and 2005 was about 44,000 t. Catches from within New Zealand fisheries waters account for about 10% of that on average (MFish <http://fs.fish.govt.nz>).

Several other fisheries that target the same stock have been assessed including e.g. the American Albacore Fishing Association (AAFA) South Pacific albacore pole and line and jig/troll fishery which was certified in August 2007. However, it is only the New Zealand fleet, members of the Tuna Management Association of New Zealand, who would be eligible to join this Unit of Certification.

The AAFA South Pacific Albacore fishery applied a different scoring table and MSC Fisheries Assessment Methodology to that used for the New Zealand Troll Fishery. As far as possible, this assessment was harmonised with the AAFA fishery, however the following differences were identified.

Under PI 1.1.2 and the old PI 1.1.3.1, the target reference point was defined at B_{MSY} , which was considered acceptable by the AAFA assessment team. This appears to have been estimated at around 20% B_0 , which under the new scoring guidance would be considered low, but this was not considered to be so by the assessment team. No specific limit reference point was identified but this was not required under the older FAM. Under FAM v2 used for this assessment, a limit reference point is required for certification, and therefore a condition has been placed on the fishery.

In the older scoring table, decision rules were spread across a number of performance indicators (PI 1.1.3.6-8). In general, it was found that decision rules were not clear or fully documented and measures to limit exploitation were not fully tested or were incomplete. This led to a condition on harvest control rules, similar but less demanding than the one imposed on the New Zealand fishery. Meeting the Condition 2 on this fishery should also meet the requirements for Condition 1 on the AAFA fishery.

9 STANDARD USED

The MSC Principles and Criteria for Sustainable Fisheries form the standard against which the fishery is assessed and are organised in terms of three principles. Principle 1 addresses the need to maintain the target stock at a sustainable level; Principle 2 addresses the need to maintain the ecosystem in which the target stock exists, and Principle 3 addresses the need for an effective fishery management system to fulfil Principles 1 and 2 and ensure compliance with national and international regulations. The Principles and their supporting Criteria are presented below.

Principle 1

A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery.¹:

The intent of this principle is to ensure that the productive capacities of resources are maintained at high levels and are not sacrificed in favour of short term interests. Thus, exploited populations would be maintained at high levels of abundance designed to retain their productivity, provide margins of safety for error and uncertainty, and restore and retain their capacities for yields over the long term.

Criteria:

1. The fishery shall be conducted at catch levels that continually maintain the high productivity of the target population(s) and associated ecological community relative to its potential productivity.
2. Where the exploited populations are depleted, the fishery will be executed such that recovery and rebuilding is allowed to occur to a specified level consistent with the precautionary approach and the ability of the populations to produce long-term potential yields within a specified time frame.
3. Fishing is conducted in a manner that does not alter the age or genetic structure or sex composition to a degree that impairs reproductive capacity.

Principle 2

Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.

The intent of this principle is to encourage the management of fisheries from an ecosystem perspective under a system designed to assess and restrain the impacts of the fishery on the ecosystem.

Criteria:

1. The fishery is conducted in a way that maintains natural functional relationships among species and should not lead to trophic cascades or ecosystem state changes.
2. The fishery is conducted in a manner that does not threaten biological diversity at the genetic, species or population levels and avoids or minimises mortality of, or injuries to endangered, threatened or protected species.
3. Where exploited populations are depleted, the fishery will be executed such that recovery and rebuilding is allowed to occur to a specified level within specified time frames, consistent with the precautionary approach and considering the ability of the population to produce long-term potential yields.

Principle 3

The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.

The intent of this principle is to ensure that there is an institutional and operational framework for implementing Principles 1 and 2, appropriate to the size and scale of the fishery.

¹ The sequence in which the Principles and Criteria appear does not represent a ranking of their significance, but is rather intended to provide a logical guide to certifiers when assessing a fishery. The criteria by which the MSC Principles will be implemented will be reviewed and revised as appropriate in light of relevant new information, technologies and additional consultations

A. Management System Criteria:

1. The fishery shall not be conducted under a controversial unilateral exemption to an international agreement.

The management system shall:

2. Demonstrate clear long-term objectives consistent with MSC Principles and Criteria and contain a consultative process that is transparent and involves all interested and affected parties so as to consider all relevant information, including local knowledge. The impact of fishery management decisions on all those who depend on the fishery for their livelihoods, including, but not confined to subsistence, artisanal, and fishing-dependent communities shall be addressed as part of this process.
3. Be appropriate to the cultural context, scale and intensity of the fishery – reflecting specific objectives, incorporating operational criteria, containing procedures for implementation and a process for monitoring and evaluating performance and acting on findings.
4. Observe the legal and customary rights and long term interests of people dependent on fishing for food and livelihood, in a manner consistent with ecological sustainability.
5. Incorporates an appropriate mechanism for the resolution of disputes arising within the system².
6. Provide economic and social incentives that contribute to sustainable fishing and shall not operate with subsidies that contribute to unsustainable fishing.
7. Act in a timely and adaptive fashion on the basis of the best available information using a precautionary approach particularly when dealing with scientific uncertainty.
8. Incorporate a research plan – appropriate to the scale and intensity of the fishery – that addresses the information needs of management and provides for the dissemination of research results to all interested parties in a timely fashion.
9. Require that assessments of the biological status of the resource and impacts of the fishery have been and are periodically conducted.
10. Specify measures and strategies that demonstrably control the degree of exploitation of the resource, including, but not limited to:
 - a) setting catch levels that will maintain the target population and ecological community's high productivity relative to its potential productivity, and account for the non-target species (or size, age, sex) captured and landed in association with, or as a consequence of, fishing for target species;
 - b) identifying appropriate fishing methods that minimise adverse impacts on habitat, especially in critical or sensitive zones such as spawning and nursery areas;
 - c) providing for the recovery and rebuilding of depleted fish populations to specified levels within specified time frames;
 - d) mechanisms in place to limit or close fisheries when designated catch limits are reached;
 - e) establishing no-take zones where appropriate.

² Outstanding disputes of substantial magnitude involving a significant number of interests will normally disqualify a fishery from certification.

11. Contains appropriate procedures for effective compliance, monitoring, control, surveillance and enforcement which ensure that established limits to exploitation are not exceeded and specifies corrective actions to be taken in the event that they are.

B. Operational Criteria

Fishing operation shall:

12. Make use of fishing gear and practices designed to avoid the capture of non-target species (and non-target size, age, and/or sex of the target species); minimise mortality of this catch where it cannot be avoided, and reduce discards of what cannot be released alive.
13. Implement appropriate fishing methods designed to minimise adverse impacts on habitat, especially in critical or sensitive zones such as spawning and nursery areas.
14. Not use destructive fishing practices such as fishing with poisons or explosives;
15. Minimise operational waste such as lost fishing gear, oil spills, on-board spoilage of catch etc.
16. Be conducted in compliance with the fishery management system and all legal and administrative requirements.
17. Assist and co-operate with management authorities in the collection of catch, discard, and other information of importance to effective management of the resources and the fishery.

10 BACKGROUND TO THE EVALUATION

10.1 Evaluation Team

Lead Assessor: Andrew Hough: Moody Marine Limited. Dr Hough has a PhD in marine ecology from the University of Wales, Bangor and fourteen years post-doctoral experience in commercial marine and coastal environmental management projects. He is manager of Moody Marine operations within Moody International Certification with particular responsibility for the implementation of MSC Certification procedures and development of MSC methodologies. Dr. Hough has acted as lead assessor on the majority of Moody Marine MSC pre assessments and main assessments.

Project Coordinator: Seran Davies: Moody Marine Limited. Seran is a qualified marine biologist with eight years direct experience of marine environmental management and assessment, including fishery evaluations and EIA of developments in marine and freshwater environments.

Expert advisor: Paul Medley. Paul is an independent fisheries consultant, based in the UK. His expertise includes mathematical modelling of fisheries and ecological systems, techniques for multispecies stock assessment and external review of stock assessment methodologies. He has been an invited expert for a number of stock assessment working group meetings. He has a wide practical experience in marine biology, including design and implementation of surveys and fisheries experiments. This includes addressing wider environmental issues of ecological management, including maintenance of marine biodiversity. He has also taken part in the MSC assessment of the South Georgia Patagonian Toothfish fishery and has worked with MSC on new methodology developments.

Expert Advisor: Geoff Tingley: Geoff Tingley is a British fisheries scientist with twenty years' experience working in stock assessment and management of marine and freshwater fisheries with thirteen years working at Cefas in a number of fisheries, managerial and business development roles.

His experience includes the scientific, management, licensing and policy issues of the fisheries around the Falkland Islands, seven years as the Team Leader of the group providing scientific and management advice to the Director of Fisheries and the Falkland Islands Government including the management of a trawl fishery for hake. He was a member of the UK Delegation on the South Atlantic Fisheries Commission (and its predecessors) from its inception in 1989 to 1996, including membership of the scientific sub-committee. During this time Dr. Tingley worked on two species of hake, *Merluccius australis (polylepis)* and *M. hubbsi* that occur in the South West Atlantic and are exploited around the Falkland Islands, off Argentina, and a number of other countries. Considerable scientific effort was expended to manage the fisheries for these species around the Falkland Islands. Dr. Tingley was first author of the chapter on biology and fisheries of the Falkland hake in Alheit & Pitcher's edited book on Hake: Fisheries, ecology and markets (1995). Dr. Tingley has worked in Southern Africa briefly as part of a World Bank Project on fisheries policy development for Angola in the mid-1990's and was invited to attend the 2000 BENEFIT meeting in Namibia. He has experience of MSC accreditation and surveillance of a number of fisheries, usually focussing on

Expert advisor: Jo Akroyd. Jo is Director and Principal Consultant of Jo Akroyd Ltd, an International consultancy company specialising in marine fisheries policy and marine ecosystem and community based management. She has also provided services in quality system implementation and training in project management and negotiation skills. Prior to a career in consultancy, she was manager of International Projects at the Auckland University of Technology and Director of Quality and Strategic Management and Assistant Director of Marine Research at the Ministry of Agriculture & Fisheries, Wellington, NZ. Her specific experience includes acting as a team member on the assessment of the NZ hoki fishery, providing specialist inputs on Principle 3 (Fisheries management), the Ross Sea Toothfish fishery assessment and the Tosakatsuo Suisan Skipjack tuna assessment.

10.2 Previous certification evaluations

The fishery has not been previously assessed against the MSC standard.

10.3 Inspections of the Fishery

Inspection of the fishery focused on the practicalities of fishing operations, the mechanisms and effectiveness of management agencies and the scientific assessment of the fisheries.

Meetings were held as follows (some of the key issues discussed have been identified for each meeting):

Name	Affiliation	Date	Key Issues
Stephen Broungr	MFish	14/07/09	Fishing operations and management
Nathan Walker (Senior Scientist) Johanna Pierre (Manager- Marine Conservation Services) Stephanie Rowe (Scientific Officer)	MFish DOC DOC	16/07/09	Ecosystem interactions
Peter Horn (Hake and Ling Stock Assessor) David Middleton (Chief Scientist) Rosemary Hirst (Scientist) Pamela Mace (Chief Scientist)	NIWA NZ Seafood Industry Council NIWA MFish	14/07/09	Stock assessments
Pamela Mace (Chief Scientist) Martin Cryer (Science Manager) Mary Livingston (Principle scientist) Ed Abraham (Consultant) Cathryn Bridge (Senior Policy Manager) Nathan Walker (Senior Scientist) Stephanie Rowe (Scientific Officer)	MFish MFish MFish Dragonfly MFish MFish DOC	15/07/09	Ecosystem interactions and management effectiveness
Alan Martin (Operation Manager- Observer Services)	MFish	16/07/09	Observer programme and data
Geoff Clarke Andrew Colnwood (Compliance) Dean Major (Surveillance)	MFish MFish MFish	14/07/09	Compliance and enforcement
Paul Crosswell Geoff Rowling	MFish NZRFC & local recreational fishermen	20/07/09	Fishing operations Management Ecosystem interactions
Ted Coppins Wayne Robertson Phil Trewavas Grant Odr Darren Guard Stephanie Hill	Talley's Fisheries Albacore troll fisherman Albacore troll fisherman Albacore troll fisherman Albacore troll fisherman MFish	21/07/09	Ecosystem interactions Stock assessments Fishing operations Management
Kevin Hackwell Kirstie Knowles	Royal Forest & Bird	23/07/09	Ecosystem interactions and management effectiveness
Catherine Wallace (Co-Chairman) Barry Weeber (Co-Chairman) Karli Thomas (Oceans Campaigner) Geoff Keey (Political Advisor)	ECO ECO Greenpeace Greenpeace	23/07/09	Ecosystem interactions and management effectiveness
Peter Trott (Fisheries Program Manager) Rebecca Bird (Marine Programme Manager)	WWF Australia WWF New Zealand	24/07/09	Ecosystem interactions and management effectiveness

11 STAKEHOLDER CONSULTATION

11.1 Stakeholder Consultation

A total of 13 stakeholders were identified and consulted specifically by Moody Marine. Information was also made publicly available at the following stages of the assessment:

Date	Purpose	Media
19/05/09	Announcement of assessment	Direct E-mail/letter Notification on MSC website Advertisement in press
02/06/09	Notification of Assessment Team nominees	Direct E-mail Notification on MSC website
17/06/09	Notification of intent to use MSC FAM Standard Assessment Tree	Direct E-mail Notification on MSC website
23/06/09	Notification of assessment visit and call for meeting requests	Direct E-mail Notification on MSC website
21-24/07/09	Assessment visit	Meetings
13/05/10	Notification of Proposed Peer Reviewers	Direct E-mail Notification on MSC website
22/10/10	Notification of Public Draft Report	Direct E-mail Notification on MSC website
05/02.11	Notification of Final Report	Direct E-mail Notification on MSC website

11.2 Stakeholder Issues

A record of verbal submissions by stakeholders is provided in Appendix D. Also included within this appendix are any written submissions received by stakeholders during the process thus far.

A summary of the key issues raised is provided below. These issues have all been considered by the assessment team and are commented on within the appropriate sections of the report and the corresponding scoring tables within Appendix A.

Principle 1: Stock

- Species not within the NZ QMS or ITQs
- No reference points for the fishery
- No robust info (fishery specific) data
- IUU (internationally throughout stock range)

Principle 2: Environment

- Alleged use of seal bombs and/or shooting of fur seals to keep them away from tuna lines
- Loss of gear (and lack of information concerning this)
- Bycatch
- Trophic structure interactions and effects

Principle 3: Management

- New Zealand's approach to managing the stock
- Western Central Pacific has poor management structure

12 OBSERVATIONS AND SCORING

12.1 Introduction to scoring methodology

The MSC Principles and Criteria set out the requirements of certified fishery. These Principles and Criteria have been developed into a standard (Fishery Assessment Methodology) assessment tree - Performance Indicators and Scoring Guideposts - by the MSC, which is used in this assessment.

The Performance Indicators (PIs) have been released on the MSC website. In order to make the assessment process as clear and transparent as possible, each PI has three associated Scoring Guideposts (SGs) which identify the level of performance necessary to achieve 100, 80 (a pass score), and 60 scores for each Performance Indicator; 100 represents a theoretically ideal level of performance and 60 a measurable shortfall.

For each Performance Indicators, the performance of the fishery is assessed as a 'score'. In order for the fishery to achieve certification, an overall weighted average score of 80 is necessary for each of the three Principles and no Indicator should score less than 60. As it is not considered possible to allocate precise scores, a scoring interval of five is used in evaluations.

Weights and scores for the fishery are presented in the scoring table (Appendix A).

13 LIMIT OF IDENTIFICATION OF LANDINGS FROM THE FISHERY

Traceability of product from the sea to the consumer is vital to ensure that the MSC standard is maintained. There are several aspects to traceability that the MSC require to be evaluated: Traceability within the fishery; at-sea processing; at the point of landing; and subsequently the eligibility of product to enter the chain of custody. These requirements are assessed here.

13.1 Traceability within the fishery

The traceability within the fishery is deemed to be very good with all catches having documentation supplied upon landing which contains information on catch area, species, amount of catch and vessel. This documentation is passed along with the fish to the point of sale. The client for this assessment (Tuna Management Association of NZ) is to make access to the certificate open to all NZ vessels permitted by the Ministry of Fisheries to fish for albacore in the NZ waters using troll gear.

13.2 At-sea processing

No at sea processing occurs within this fishery.

13.3 Points of landing

The points of landing for this fishery are only New Zealand ports where appropriate inspection and recording take place.

13.4 Eligibility to enter chains of custody

The scope of this certification ends at the points of landing which are described above. Downstream certification of the product would require appropriate certification of storage and handling facilities at these locations.

13.5 Target Eligibility date

The target eligibility date will be six months prior to date of Public Certification Draft Report. The public draft report was released on 23rd November 2010. The Actual Eligibility date is 23rd May 2010.

14 ASSESSMENT RESULTS

The Performance of the Fishery in relation to MSC Principles 1, 2 and 3 is summarised below:

MSC Principle	Fishery Performance
Principle 1: Sustainability of Exploited Stock	Overall : 81.9 PASS
Principle 2: Maintenance of Ecosystem	Overall : 88.339 PASS
Principle 3: Effective Management System	Overall : 84.8 PASS

The fishery attained a score of 80 or more against each of the MSC Principles and did not score less than 60 against any Indicators. It is therefore recommended that the New Zealand Albacore Tuna Troll Fishery be certified according to the Marine Stewardship Council Principles and Criteria for Sustainable Fisheries.

14.1 Conditions

As a standard requirement of the MSC certification methodology, the fishery shall be subject to (as a minimum) annual surveillance audits. These audits shall be publicised and reports made publicly available.

The fishery attained a score of below 80 against 3 Performance Indicators. The assessment team has therefore set conditions for continuing certification that the client for certification is required to address. The conditions are applied to improve performance to at least the 80 level within a period set by the certification body but no longer than the term of the certification.

As a standard condition of certification, the client shall develop an 'Action Plan' for Meeting the Conditions for Continued Certification', to be approved by Moody Marine.

The conditions are associated with three key areas of performance of the fishery. The Conditions, associated timescales and relevant Scoring Indicator are set out below.

Condition 1: Reference Points

Reference Points	1.1.2
PI	Reference Points: Limit and target reference points are appropriate for the stock.
SG 60	<u>Generic</u> limit and target reference points are based on justifiable and reasonable practice appropriate for the species category.
SG 80	Reference points are appropriate for the stock and can be estimated. The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity. The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome. For low trophic level species, the target reference point takes into account the ecological role of the stock.

SG 100	<p>Reference points are appropriate for the stock and can be estimated.</p> <p>The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity following consideration of relevant <u>precautionary issues</u>.</p> <p>The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome, <u>or a higher level</u>, and takes into account relevant precautionary issues such as the ecological role of the stock with a high degree of certainty.</p>
Scoring	75
Rationale	<p>Although management advice is given in relation to MSY reference points, there is no explicit limit or target points or regions defined. Explicit target and limit reference points (or regions) need to be defined meeting the MSC Principles and Criteria. In particular, a limit reference point is required which is set above the level at which there is an appreciable risk of impairing reproductive capacity.</p> <p>This will need to be achieved for the overall stock through the regional fisheries management organisation.</p>
Condition	Within four years of certification target and limit reference points need to be agreed by WCPFC, consistent with the management objectives and scientific stock assessment
Client Action Plan	<ol style="list-style-type: none"> 1. The adoption of the Fishery Plan for albacore tuna and endorsement by the client. 2. Consultation between the client and Ministry of Fisheries HMS staff and NZ delegates to WCPFC to establish an agreed position on reference points for the stock. This may include contributing to the drafting of a statement to be tabled at WCPFC meeting in December 2011. This could potentially occur at the 2010 WCPFC commission meeting to enable the work required to progress the development of albacore reference points to be included in the WCPFC work plan for 2011. 3. Encourage the NZ delegation to submit a paper to WCPFC Science Committee to stimulate debate regarding reference points for WCPFC tuna stocks and albacore in particular (August 2011). 4. Encourage NZ delegates to WCPFC to reiterate position on reference points for albacore at subsequent meetings of WCPFC (and encourage other PI countries to support NZ position).
Consultation on condition	The Ministry of Fisheries government officials are committed to assisting the fishery in meeting this condition.

Condition 2: Harvest Control Rules

Harvest Control Rules	1.2.2
PI	Harvest control rules and tools: There are well defined and effective harvest control rules in place
SG 60	<p><u>Generally understood</u> harvest control rules are in place that are consistent with the harvest strategy and which act to reduce the exploitation rate as limit reference points are approached.</p> <p>There is <u>some evidence</u> that tools used to implement harvest control rules are appropriate and effective in controlling exploitation.</p>

SG 80	<p><u>Well defined</u> harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.</p> <p>The <u>selection</u> of the harvest control rules takes into account the <u>main</u> uncertainties.</p> <p><u>Available evidence indicates</u> that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules.</p>
SG 100	<p><u>Well defined</u> harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.</p> <p>The <u>design</u> of the harvest control rules take into account a <u>wide</u> range of uncertainties.</p> <p><u>Evidence clearly shows</u> that the tools in use are effective in achieving the exploitation levels required under the harvest control rules.</p>
Scoring	60
Rationale	A well-defined harvest control rule needs to be adopted that is consistent with the harvest strategy and ensures that the exploitation rate is reduced as relevant reference points are approached (at present, management focuses on Bmsy – the target reference point, but as Condition 1 requires a Limit Reference Point, this would also be included in harvest control rules). Although this is implied within the harvest strategy, it is not clear how, in practice, the fishery will achieve the target point (or region) within which management wishes to maintain the stock or that rebuilding will be achieved with the current tools. This will need to be achieved for the overall stock through the regional fisheries management organisation.
Condition	Within four years of certification a well-defined harvest control rule needs to be proposed, tested and established by the scientific working group and management authority (primarily WCPFC).
Client Action Plan	<ol style="list-style-type: none"> 1. Adoption of the Fishery Plan for albacore tuna and endorsement by the client. 2. Consultation between the client and Ministry of Fisheries HMS staff and WCPFC delegates regarding an agreed position on harvest control rules for the stock. 3. Promote the adoption of formal harvest control rules at WCPFC. This should be undertaken in conjunction with any deliberations on appropriate reference points. It may require additional analyses this should be included within the work plan of the WCPFC.
Consultation on condition	Ministry of Fisheries, New Zealand

Condition 3: Fishery Specific management system

Fishery Specific management system	3.2.1
PI 3.2.1	<p>Fishery- specific objectives</p> <p>The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2.</p>
SG 60	<u>Objectives</u> , which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are <u>implicit</u> within the fishery's management

	system.
SG 80	<u>Short and long term objectives</u> , which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are <u>explicit</u> within the fishery's management system.
SG 100	<u>Well defined and measurable short and long term objectives</u> , which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are <u>explicit</u> within the fishery's management system.
Scoring	70
Rationale	<p>The NZ albacore fishery has <u>objectives</u>, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are <u>implicit</u> within the fishery's management system.</p> <p>When the Highly Migratory Fisheries Plan which includes albacore tuna is implemented then <u>Short and long term objectives</u>, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, will be <u>explicit</u> within the fishery's management system.</p>
Condition	Within two years of certification, short and long term objectives for the NZ albacore fishery, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2 relating to the stock and all the relevant ecosystem components, need to be agreed by stakeholders. The fisheries plan should be finalized and evidence of implementation provided.
Client Action Plan	<ol style="list-style-type: none"> 1. Endorsement of the Fishery Plan for albacore tuna and by the client. 2. Participation in the implementation of the Fishery Plan.
Consultation on condition	NZ Ministry of Fisheries.

14.2 Recommendations

In addition to the above conditions, the assessment team have also recommended the following for the New Zealand Albacore Tuna Fishery:

- **Recommendation 1: PI 2.1.1**

To collect sufficient data to adequately assess the Ray's bream catches in this fishery.

- **Recommendation 2: PIs 2.1.3; 2.2.3 and 2.3.3**

Evaluate the need for increased observer coverage to meet management goals in the NZ albacore tuna troll fishery and seek support from the Ministry of Fisheries for the delivery of the required observer coverage. The information to be collected should include, but not be limited to, that required to:

Define by-catch levels so as to enable the assessment of whether any of by-catch species are at risk of over-exploitation by the NZ albacore tuna troll fishery

Record information to assess interactions with all ETP species

- **Recommendation 3: PI 2.2.1**

Implement shark action plan recommendations as required within the fishery.

APPENDICES

Appendix A: Scoring Table

SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
Principle 1	A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery.			
1.1	Management Outcomes:			
1.1.1	Stock Status: The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing	It is <u>likely</u> that the stock is above the point where recruitment would be impaired.	It is <u>highly likely</u> that the stock is above the point where recruitment would be impaired. The stock is at or fluctuating around its target reference point.	There is a <u>high degree of certainty</u> that the stock is above the point where recruitment would be impaired. There is a <u>high degree of certainty</u> that the stock has been fluctuating around its target reference point, or has been above its target reference point, <u>over recent years</u> .
Scoring Comments				
<p><i>There is a high degree of certainty that the stock is above the point where recruitment would be impaired.</i></p> <p>The most recent assessment determined that overfishing is not occurring and the stock is not in an overfished state. Estimates of mean (2005-2007) SSB/SSB_{MSY} (from 1.7 to 4.9) are quite variable between model configurations, but all indicate that the stock is well above the MSY reference point. There is no indication that current levels of catch are not sustainable or that recruitment is threatened.</p> <p><i>There is a high degree of certainty that the stock has been fluctuating around its target reference point, or has been above its target reference point, over recent years.</i></p> <p>The credible range of the current exploitation rate (mean 2005-2007 F/FMSY estimates vary from 0.1 to 0.5) is well below the MSY level, and the biomass has been well above the MSY level over recent years. The Scientific Committee (SC) of the WCPFC has indicated that there was still uncertainty regarding the sustainability of the south Pacific albacore stock and the SC recommended in 2008 that catches of south Pacific albacore remain at current levels. While their language is precautionary, it appears that this stock has never been reduced to B_{MSY} and remains well above the level the target level.</p>				
Score: 100				
The relatively high state of the stock and low catches indicate that the fishery clearly meets the 100 scoring guideposts.				
Audit Trace References				
Hoyle, S., Langley, A. and Hampton, J. (2008) Stock Assessment of Albacore Tuna in the South Pacific Ocean. Scientific Committee Fourth Regular Session, 11-22 August 2008, Port Moresby, Papua New Guinea, WCPFC-SC4-2008/SA-WP-8. Hoyle, S. and Davies, N. (2009) Stock Assessment of Albacore Tuna in the South Pacific Ocean. Scientific Committee Fifth Regular Session, Port Vila, Vanuatu, 10-21 August 2009. WCPFC-SC5-2009/SA-WP-6.				

SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
1.1.2	Reference Points: Limit and target reference points are appropriate for the stock.	<p><u>Generic</u> limit and target reference points are based on justifiable and reasonable practice appropriate for the species category.</p>	<p>Reference points are appropriate for the stock and can be estimated.</p> <p>The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity.</p> <p>The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome.</p> <p>For low trophic level species, the target reference point takes into account the ecological role of the stock.</p>	<p>Reference points are appropriate for the stock and can be estimated.</p> <p>The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity following consideration of relevant <u>precautionary issues</u>.</p> <p>The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome, <u>or a higher level</u>, and takes into account relevant precautionary issues such as the ecological role of the stock with a high degree of certainty.</p>

Scoring Comments

Generic limit and target reference points are based on justifiable and reasonable practice appropriate for the species category.

Bmsy and F msy have been identified for this fishery, Identification of limit reference points based on this is therefore also possible, but management focuses on maintaining the stock at or above MSY. The 60 SG requirement is therefore met.

Reference points are appropriate for the stock and can be estimated.

There are two central reference points B_{MSY} and F_{MSY} which are estimated within the stock assessment. The assessment uses the dimensionless B_{cur}/B_{MSY} and F_{cur}/F_{MSY} to determine status. The MSY levels, on which management reference points are implicitly defined, take account of the knowledge of the biology of the stock. Where uncertainty exists (such as with the stock recruitment relationship steepness), precautionary values have been used. The reference points are adequate for evaluating the stock status

*There is **no** specific limit reference point set above the level at which there is an appreciable risk of impairing reproductive capacity.*

Although implied by MSY estimates and stock evaluation, without a formally defined limit reference point the risks of impairing reproductive capacity have not been adequately recognised by the management authority (primarily WCPFC). B_{MSY} is defined and this therefore defines a limit region which management has the objective of avoiding. Using an implicit reference point, it is possible to assess whether recruitment is put at risk and therefore define the region within which this point would be defined (i.e. less than or equal to SB_{MSY}). However, there is insufficient evidence that any limit reference point, implicitly or explicitly, has been adequately recognised by the

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>management authority (primarily WCPFC).</p> <p>The Scientific Committee is conducting research and a review, which is aimed at establishing limit reference points for tuna stocks in the future. Funds were allocated in 2008 with high priority to run a technical workshop to consider suitability of MSY-based reference points as default limit reference points and how they may be implemented (Project 57). The lack of reference points has been noted by WCPFC and reference points were reviewed as part of the Scientific Committee meeting in 2009. Therefore, the management authority appears to have recognised this short-coming. This SG80 Scoring Issue is therefore not met.</p> <p><i>The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome.</i></p> <p>The target reference region is to maintain biomass at, or above, that required for MSY. This is consistent with the MSC requirement, but without a clearer definition of how much higher than MSY and without explicitly taking into account uncertainty, the higher guidepost cannot be met.</p> <p>This is not considered a low trophic level species</p>			
Score: 75			
<p>The reference points for the stock are generally consistent with those used in well-managed fisheries. However, although implied, there is no explicit limit reference point making status designation incomplete and more vague than best practice requires for the 80 score. The fishery therefore meets the SG 60 Scoring Guidepost and most SG80 scoring issues, leading to a score of 75.</p>			
Condition 1 has been generated for this PI.			
Audit Trace References			
<p>Hoyle, S., Langley, A. and Hampton, J. (2008) Stock Assessment of Albacore Tuna in the South Pacific Ocean. Scientific Committee Fourth Regular Session, 11-22 August 2008, Port Moresby, Papua New Guinea, WCPFC-SC4-2008/SA-WP-8.</p> <p>Hoyle, S. and Davies, N. (2009) Stock Assessment of Albacore Tuna in the South Pacific Ocean. Scientific Committee Fifth Regular Session, Port Vila, Vanuatu, 10-21 August 2009. WCPFC-SC5-2009/SA-WP-6.</p> <p>WCPFC (2008a). Approaches for identification of appropriate reference points and implementation of MSE within the WCPO: an overview and response to issues from SC 4. WCPFC5-2008/12. Fifth Regular Session of the WCPFC. 8-12 December 2008. Busan, Republic of Korea. (http://wcpfc.org).</p> <p>WCPFC (2008b). Summary Report. The Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. Scientific Committee. Fourth Regular Session, 11-22 August 2008, Port Moresby, Papua New Guinea.</p> <p>Campbell, R. (2009) The use of Reference Points in Fisheries Management: A short review. Scientific Committee Fifth Regular Session, 10-21 August 2009 Port Vila, Vanuatu. WCPFC-SC5-2009/ME-IP-01</p> <p>Harley, S.J., Hoyle, S.D., Hampton, J., Kleiber, P. (2009) Characteristics of Potential Reference Points for Use in WCPFC Tuna Stock Assessments WCPFC-SC5-2009/ME-WP-02.</p>			

SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
1.1.3	Stock Rebuilding: Where the stock is depleted, there is evidence of stock rebuilding.	<p>Where stocks are depleted rebuilding strategies which have a <u>reasonable expectation</u> of success are in place.</p> <p>Monitoring is in place to determine whether they are effective in rebuilding the stock within a <u>specified</u> timeframe.</p>	<p>Where stocks are depleted rebuilding strategies are in place.</p> <p>There is <u>evidence</u> that they are rebuilding stocks, or it is highly likely based on simulation modelling or previous performance that they will be able to rebuild the stock within a <u>specified</u> timeframe.</p>	<p>Where stocks are depleted, strategies are <u>demonstrated</u> to be rebuilding stocks continuously and there is strong evidence that rebuilding will be complete within the <u>shortest practicable</u> timeframe.</p>

Scoring Comments
The stock is above the target reference point and therefore does not require rebuilding.
Score: N/A
Audit Trace References

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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1.2	Harvest Strategy (management)		
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1.2.1	Harvest Strategy: There is a robust and precautionary harvest strategy in place	<p>The harvest strategy is <u>expected</u> to achieve stock management objectives reflected in the target and limit reference points.</p> <p>The harvest strategy is <u>likely</u> to work based on prior experience or plausible argument.</p> <p><u>Monitoring</u> is in place that is expected to determine whether the harvest strategy is working.</p>	<p>The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy <u>work together</u> towards achieving management objectives reflected in the target and limit reference points.</p> <p>The harvest strategy may not have been fully tested but monitoring is in place and <u>evidence</u> exists that it is achieving its objectives.</p>	<p>The harvest strategy is responsive to the state of the stock and is <u>designed</u> to achieve stock management objectives reflected in the target and limit reference points.</p> <p>The performance of the harvest strategy has been <u>fully evaluated</u> and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.</p> <p>The harvest strategy is <u>periodically reviewed and improved</u> as necessary.</p>
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Scoring Comments			
<p><i>The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.</i></p> <p>Management of the albacore stock throughout the South Pacific is the responsibility of the Western and Central Pacific Fisheries Commission (WCPFC). Under this regional convention New Zealand is responsible for ensuring that the management measures applied within New Zealand fisheries waters are compatible with those of the Commission. There is a clear intent that fisheries on South Pacific albacore should cooperate to ensure the long-term sustainability and economic viability of the fishery for South Pacific albacore, including cooperation and collaboration on research to reduce uncertainty with regard to the status of this stock. Management of tuna through such regional organisations is appropriate, given the range and distribution of the stock.</p> <p>Stock assessments are carried out on a biannual or annual basis, which is relatively frequent given the longevity of the species and current level of exploitation. A stock assessment has been repeated annually over the last few years, and the assessment has shown significant changes as it has been developed and improved. The countries responsible submit data for inclusion in the stock assessment, and compliance with this data provision is good, although uncertainties remain due to a lack of additional information required to interpret the basic data. The stock assessment is completed after a pre-assessment workshop which reviews the assessment and guides development. The results from the assessment are reported to the annual Scientific Committee meeting which makes subsequent recommendations to the Commission. This in turn leads to appropriate conservation measures, which may be evaluated if required. The scientific advice produced from recent assessments has remained broadly the same. Countries undertake to control catches mainly through effort limits and limits on capacity (i.e. number of vessels targeting albacore). Attempts are being made to estimate biomass which could lead to a national quota system based on catch or effort, or similar procedures. However, the current system is a long way from this, and management is</p>			

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>currently conducted through a relatively crude control. Given the state of the stock, this is currently adequate.</p> <p>At its second annual meeting the WCPFC passed a Conservation and Management Measure (this is a binding measure that all parties must abide by) stating that Commission Members, Cooperating Non-Members, and participating Territories (CCMs) shall not increase the number of their fishing vessels actively fishing for South Pacific albacore in the Convention Area south of 20°S above 2000-2005 levels. However, the measure specifically allows Pacific Islands to pursue a responsible level of development of their domestic albacore fisheries.</p> <p>An external review of the management process has been undertaken, which found the WCPFC management system was sound, but with a number of shortcomings which the authors addressed through recommendations.</p> <p>New Zealand is developing a management plan for highly migratory species within its EEZ, which will specifically address management of albacore. Albacore is currently not managed in New Zealand under the Quota Management System (i.e. by catch quota), but the number of New Zealand vessels fishing albacore has decreased over recent years, which is consistent with the WCPFC CCM.</p> <p><i>The harvest strategy may not have been fully tested but monitoring is in place and <u>evidence</u> exists that it is achieving its objectives.</i></p> <p>The stock assessment provides an independent assessment of the effectiveness of management in controlling spawning stock biomass and limiting the exploitation rate. No management strategy evaluations have been conducted, and although uncertainty has been reported as part of the stock assessment, it is not clear how this is being incorporated into the decision-making process.</p> <p>Management measures are being put in place to curb expansion of the fishery. These will vary across the range of the fishery. This, while being an imprecise tool, taking into account the current status of the stock (well above the target), is adequate. While only limited conservation measures have been required for albacore, catches in 2007 and 2008 fell below the 2005 level in line with the conservation measure, although all the causes for this are uncertain. A required reduction in fishing mortality of bigeye tuna, which is more under threat, has not been fully effective. Controls on exploitation of albacore have therefore not been fully tested.</p>			
Score: 80			
While the fishery meets the 80 guideposts, lack of clear design and strong evidence that objectives will be met prevents a higher score.			
Audit Trace References			
WCPFC (2005) Conservation and Management Measure For South Pacific Albacore. Conservation and Management Measure-2005-02 Ministry of Fisheries Draft fisheries plan for Highly Migratory Species June 2009 MRAG (2009) Final Report on Independent Review of the Commission's Transitional Science Structure and Functions. WCPFC-SC5-2009/GN-WP-7 WCPFC-SC (2009a) Summary Report (Draft). Commission for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean Scientific Committee. Fifth Regular Session. Port Vila, Vanuatu. 10–21 August 2009. WCPFC-SC (2009b) New Zealand. Annual Report to the Commission. Part 1: Information on Fisheries, Research, and Statistics. WCPFC-SC5-AR/CCM-15 Hampton, J. and Harley, S. (2009) Assessment of the potential implications of application of CMM-2008-01 for bigeye and yellowfin tuna. WCPFC-SC5-2009/GN-WP-17 Campbell, R. (2009) The use of Reference Points in Fisheries Management: A short review. Scientific Committee Fifth Regular Session, 10-21 August 2009 Port Vila, Vanuatu. WCPFC-SC5-2009/ME-IP-01			

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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<p>Preece, A., Kolody, D., Davies, C. and Hartog, J. (2009) Management strategy evaluation for Australia's east coast tuna and billfish fishery: progress update. WCPFC-SC5-2009/SA- WP-8</p> <p>Harley, S.J., Davies, N, Hoyle, S. D. (2009) Report from the SPC pre-assessment workshop, Noumea, April 2009. Scientific Committee Fifth Regular Session, 10-21 August 2009, Port Vila, Vanuatu. WCPFC-SC5-2009/SA- IP-1</p>			
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SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
1.2.2	<p>Harvest control rules and tools: There are well defined and effective harvest control rules in place</p>	<p><u>Generally understood</u> harvest control rules are in place that are consistent with the harvest strategy and which act to reduce the exploitation rate as limit reference points are approached.</p> <p>There is <u>some evidence</u> that tools used to implement harvest control rules are appropriate and effective in controlling exploitation.</p>	<p><u>Well defined</u> harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.</p> <p>The <u>selection</u> of the harvest control rules takes into account the <u>main</u> uncertainties.</p> <p><u>Available evidence indicates</u> that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules</p>

Scoring Comments
<p><i>Generally understood harvest control rules are in place that are consistent with the harvest strategy and which act to reduce the exploitation rate as limit reference points are approached.</i></p> <p>The harvest control rule is generally understood as reducing harvest when the stock approaches or falls below the MSY point. However, the precise point when action will be taken and exactly what action will be taken is not defined, but would be proposed by the Commission based on the advice of the Scientific Committee at the time. This would likely be similar to the advice currently given, which is based around controlling fishing effort and capacity. An example of this approach is provided for big-eye tuna which is more heavily exploited.</p> <p>The scientific basis for decision making is well established and documented. The harvest control rules are currently based on B/B_{MSY} and F/F_{MSY} benchmarks. The overarching harvest control rule to maintain stocks at or above MSY has been established and codified by the Commissions. Thus, this harvest control rule is generally consistent with reference points from the assessment and the limitations of data that are inputs to the assessment.</p> <p><i>There is some evidence that tools used to implement harvest control rules are appropriate and effective in controlling exploitation.</i></p> <p>Tools, should they be needed, can be initiated through the IATTC and WCPFC. Currently, measures are in place in the Commissions to prevent increases of fishing effort on albacore. This is exemplified by the Conservation and Management Measure WCPFC-CMM-03 which went into place on Feb 16, 2006. Comparable actions have been taken by IATTC and WCPFC for other species (such as yellowfin and bigeye tunas), and evidence exists that some control is being exerted over the exploitation of these stocks. Catches in 2007 and 2008 were below the 2005 levels.</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>Albacore catch is sustainable and the current advice is to maintain the harvest at that level appears to have been successful, although it is not clear that there is any pressure to increase catches. However, in the case of bigeye tuna, where fishing mortality is considered to be above the MSY level, fishing mortality is being reduced at best only slowly and the lack of a well-defined harvest control rule is apparent. The 2007 bigeye catch for the Pacific Ocean (225 006 t) is slightly less than the average level for the past ten years.</p>			
Score: 60			
<p>The harvest control is consistent with the aims of the harvest strategy standard and indicates that the exploitation rate will be reduced once the stock approaches B_{MSY}. However, the lack of a well-defined harvest control rule prevents assessment of how precautionary it is or whether current tools are adequate in applying the rule, so the performance indicator is unable to meet the 80 guidepost requirements.</p>			
Condition 2 has been generated for this PI			
Audit Trace References			
<p>Hoyle, S., Langley, A. and Hampton, J. (2008) Stock Assessment of Albacore Tuna in the South Pacific Ocean. Scientific Committee Fourth Regular Session, 11-22 August 2008, Port Moresby, Papua New Guinea, WCPFC-SC4-2008/SA-WP-8.</p> <p>WCPFC (2008b) Approaches for identification of appropriate reference points and implementation of MSE within the WCPO: an overview and response to issues from SC 4. WCPFC5-2008/12. Fifth Regular Session of the WCPFC. 8-12 December 2008. Busan, Republic of Korea. (http://wcpfc.org).</p> <p>Campbell, R. (2009) The use of Reference Points in Fisheries Management: A short review. Scientific Committee Fifth Regular Session, 10-21 August 2009 Port Vila, Vanuatu. WCPFC-SC5-2009/ME-IP-01</p> <p>Preece, A., Kolody, D., Davies, C. and Hartog, J. (2009) Management strategy evaluation for Australia's east coast tuna and billfish fishery: progress update. WCPFC-SC5-2009/SA- WP-8</p>			

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
1.2.3	<p>Information / monitoring: Relevant information is collected to support the harvest strategy</p>	<p><u>Some</u> relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.</p> <p>Stock abundance and fishery removals are monitored and at least one indicator is available and monitored with sufficient frequency to support the harvest control rule.</p> <p>Stock abundance and fishery removals are <u>regularly monitored at a level of accuracy and coverage consistent with the harvest control rule</u>, and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule.</p> <p>There is good information on all other fishery removals from the stock.</p>	<p>A <u>comprehensive range</u> of information (on stock structure, stock productivity, fleet composition, stock abundance, fishery removals and other information such as environmental information), including some that may not be directly relevant to the current harvest strategy, is available.</p> <p><u>All information</u> required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of the inherent <u>uncertainties</u> in the information [data] and the robustness of assessment and management to this uncertainty.</p>

Scoring Comments
<p><i>Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy.</i></p> <p>There is a regional register of all vessels actively fishing in the region as well as domestic records of fishing vessels with EEZs held locally. Information, while largely complete, is not comprehensive across all vessels, but adequate to allow stratification of vessels into fleets with similar operational characteristics. A total of 30 “fleets” were defined for the assessment based on nationality, spatial location and time, with additional groupings based on temporal changes. Catch, effort and size composition data are complete for the fleets in the assessment. A limited amount of tag data were also available, but there are insufficient data to support the explicit spatial modelling available in MFCL. While there are data gaps, these do not relate to primary forms of catch and effort data used in the assessment, but to operational details of vessels. New Zealand data on catch, effort, size composition, vessel operations and oceanographic and other fishery related information are relatively comprehensive. Operational catch and standardised effort data for the period 1993-2006 were available as annual values together length/size composition data. The New Zealand data are an important source of information on recruitment to the fishery.</p> <p><i>Stock abundance and fishery removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule, and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule.</i></p> <p>Catches from all fleets is relatively complete and sufficient for the stock assessment. The abundance indices are primarily obtained from catch and effort data, particularly from the many longline fleets operating across the region, giving relatively long time series of information. Length composition data from these fleets provides information on</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>mortality rates, selectivity and stock structure. New Zealand collects catch and size frequency information from the troll fishery appropriate for use in the stock assessment model. Clear length modes associated with cohorts recruiting the troll fishery are evident in catch length distributions making the data very informative on recruitment to the fishery.</p> <p><i>There is good information on all other fishery removals from the stock.</i></p> <p>Catches appear to be reported at an acceptable level of accuracy for the stock assessment. Data have been identified as missing, but these are generally related to operational data (fishing gear, target species and fishing activity) rather than catch. The New Zealand catches represent only 10% of the total catch from the south Pacific stock. Discards, incidental mortality and recreational catch are not generally reported. As long as these sources of mortality remain constant and/or negligible, this lack of recording should not present a problem to the stock assessment.</p>			
Score: 80			
Data collection is adequate to support the stock assessment and harvest strategy, meeting all 80 guideposts. Information is not comprehensive, however, preventing a higher score under this performance indicator.			
Audit Trace References			
<p>Griggs, L.H. (2008) Monitoring the length structure of commercial landings of albacore (<i>Thunnus alalunga</i>) during the 2006-07 fishing year. New Zealand Fisheries Assessment Report 2008/50. 23 p.</p> <p>Hoyle, S., Langley, A. and Hampton, J. (2008) Stock Assessment of Albacore Tuna in the South Pacific Ocean. Scientific Committee Fourth Regular Session, 11-22 August 2008, Port Moresby, Papua New Guinea, WCPFC-SC4-2008/SA-WP-8.</p> <p>Hoyle, S. and Davies, N. (2009) Stock Assessment of Albacore Tuna in the South Pacific Ocean. Scientific Committee Fifth Regular Session, Port Vila, Vanuatu, 10-21 August 2009. WCPFC-SC5-2009/SA-WP-6.</p> <p>Bigelow, K. A. and Hoyle, S. D. (2008). Standardized CPUE for distant-water fleets targeting south Pacific albacore. No. WCPFC SC4 ME-WP-3.</p> <p>Hoyle, S. D. (2008). Adjusted biological parameters and spawning biomass calculations for south Pacific albacore tuna, and their implications for stock assessments. WCPFC SC4 ME-WP-2.</p> <p>Langley, A. D. and Hoyle, S. D. (2008). Report from the stock assessment preparatory workshop, Noumea, February 2008. No. WCPFC SC4 SA-IP-5 (SPC: Nouméa, New Caledonia.)</p> <p>Williams, P. and Terawasi, P. (2009) Overview of Tuna Fisheries in the Western and Central Pacific Ocean, Including Economic Conditions – 2008. WCPFC-SC5-2009/GN WP-1</p> <p>MRAG (2009) Final Report on Independent Review of the Commission's Transitional Science Structure and Functions. WCPFC-SC5-2009/GN-WP-7</p> <p>Jones M. and Shallard, B. (2009) Final Report on Causes of Data Gaps. 29 October 2008. FINNZ. WCPFC-SC5-2005/ST-WP-02</p> <p>Unwin, M., Richardson, K., Uddstrom, M., Griggs, L., Davies, N., Wei, F. (2005) Standardised CPUE indices for longline- and troll-caught albacore tuna in the New Zealand EEZ, 1993-2004. WCPFC-SC-2005: SA WP-5</p>			

SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
1.2.4	Assessment of stock status: There is an adequate assessment of the stock status	<p>The assessment estimates stock status relative to reference points.</p> <p>The major sources of uncertainty are identified.</p>	<p>The assessment is appropriate for the stock and for the harvest control rule, and is evaluating stock status relative to reference points.</p> <p>The assessment takes uncertainty into account.</p> <p>The stock assessment is subject to peer review.</p>	<p>The assessment is appropriate for the stock and for the harvest control rule and takes into account the major features relevant to the biology of the species and the nature of the fishery.</p> <p>The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way.</p> <p>The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.</p> <p>The assessment has been <u>internally and externally</u> peer reviewed.</p>

Scoring Comments

The assessment is appropriate for the stock and for the harvest control rule, and is evaluating stock status relative to reference points.

The methodology used for the assessment is based on the software MULTIFAN-CL (MFCL), which is software that implements a size-based, age- and spatially-structured population model. Parameters of the model are estimated by maximizing an objective function consisting of likelihood (data) and “prior” information. MFCL was specifically developed to take advantage of the tuna fishery data available from the region. The assessment method should be able to support all appropriate reference points and harvest control rules (see PI 1.1.2 and 1.2.2). While the assessment method was derived in a different way to other methods fitting age structured models (it was derived from ideas in modal progression in length frequency data), the model and software produce equivalent results to other age structured stock assessment methods (such as CASAL). The assessment has shown significant improvements over the last 3 years and many problems identified previously have been solved through an improved model and treatment of the data.

The model structure does not fully account for all features of the fishery. A limited ability to model how catchability and selectivity change over time and a single sex, single stock model do not quite fit the population dynamics. Changing selectivity through time has been suggested as a reason for increasing mean length of fish observed in longline fisheries, but MFCL does not have the facility to model this. The differences between the sexes and changes in sex ratios are not modelled directly. A stock-recruitment relationship has not been estimated. The assessment assumes a Beverton and Holt model and a relatively precautionary steepness of 0.75. In all cases, “work-arounds” have been found to allow MFCL to account for these differences in a precautionary way without modelling them directly.

The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way.

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>The software fits the population model to the data using likelihood. While not claiming to be fully Bayesian (probabilistic), it does include “priors” and penalties to improve estimation and produce likelihood profiles for estimate values of interest, which are used as a measure of uncertainty. However, the assessment recognises structural errors as the largest source of uncertainty, and therefore produces ranges from sensitivity analyses as a better indicator of uncertainty.</p> <p>A relatively large number of sensitivity analyses have been conducted on the stock assessments for this species, as recommended by the stock assessment preparatory meeting as well as identified by the assessment scientists. An “uncertainty analysis”, which tried all combinations of sensitivity analyses, was used to consider both individual uncertainties and their interactions. This allows a broad assessment of structural uncertainty, although it still relies on expert judgement and model diagnostics to identify the set of sensitivity analyse to include.</p> <p><i>The assessment has been tested, but not yet shown to be robust. Alternative hypotheses and assessment approaches have been explored.</i></p> <p>Many of the underlying structural assumptions of the model have been reviewed and the assessment model and/or data have been adjusted to match research findings and changes in expert opinion and judgement. This constant review and adjustment is good practice and should reduce structural errors in the model. The open documentation and model review process increases confidence in the robustness of the assessment. The cumulative effect of the most recent changes was to reduce the biomass estimates and raise the fishing mortality estimates compared to previous assessments. Model diagnostics indicate that some sources of bias have been removed, but that some problems remain.</p> <p>Although alternative approaches to assessment have been explored, this has not been rigorous. For example, the assessment has not been tested through management strategy evaluation or developing an operational model of the stock to simulate data to test alternative approaches and configurations of the assessment. However, research is being used to improve understanding of the stock ecology and different approaches to modelling the stock have been developed which could form the basis for testing hypotheses and providing a more rigorous approach to testing robustness of the assessment and management advice in future.</p> <p>Projections are not reported for this model and retrospective analysis has not been conducted. Projections have been carried out for bigeye, suggesting they would be for albacore too, should alternative management controls need to be considered. While the stock status is estimated so high, high assessment accuracy is probably not required. However, while considerable work has been conducted, it is not sufficient yet to meet this indicator.</p> <p><i>The stock assessment is subject to peer review.</i></p> <p>The stock assessment has been developed and continues to be used by the SPC. The method has been well-documented and published in peer-review journals. The assessment is conducted by several scientists at the SPC and then presented to and reviewed by a pre-assessment workshop, the WCPFC Scientific Committee. The WCPFC is considering independent external review, but the approach will depend on costs.</p>			
Score: 85			
The stock assessment method is appropriate for the stock biology and data, and is peer reviewed, meeting the 80 guideposts. In addition, it has handled uncertainty well meeting one of the 100 guidepost requirements.			
Audit Trace References			
Griggs, L.H. (2008) Monitoring the length structure of commercial landings of albacore (<i>Thunnus alalunga</i>) during the 2006-07 fishing year. New Zealand Fisheries Assessment Report 2008/50. 23 p.			
Hoyle, S., Langley, A. and Hampton, J. (2008) Stock Assessment of Albacore Tuna in the South Pacific Ocean. Scientific Committee Fourth Regular Session, 11-22 August			

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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2008, Port Moresby, Papua New Guinea, WCPFC-SC4-2008/SA-WP-8.

Hoyle, S. and Davies, N. (2009) Stock Assessment of Albacore Tuna in the South Pacific Ocean. Scientific Committee Fifth Regular Session, Port Vila, Vanuatu, 10-21 August 2009. WCPFC-SC5-2009/SA-WP-6.

Fournier, D.A., Hampton, J. and Sibert, J.R. (1998) MULTIFAN-CL: a length-based, age-structured model for fisheries stock assessment, with application to South Pacific albacore, *Thunnus alalunga*. Can. J. Fish. Aquat. Sci. 55: 2105- 2116.

Hoyle, S., Fournier, D., Kleiber, P., Hampton, J., Bouyé, F., Davies, N., and Harley, S. (2009) Update of Recent Developments in MULTIFAN-CL and Related Software for Stock Assessment. WCPFC-SC5-2009/SA- IP-07.

Harley, S.J., Davies, N, Hoyle, S. D. (2009) Report from the SPC pre-assessment workshop, Noumea, April 2009. Scientific Committee Fifth Regular Session, 10-21 August 2009, Port Vila, Vanuatu. WCPFC-SC5-2009/SA- IP-1

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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Principle 2	Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends		
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2.1	Retained non-target species		
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2.1.1	<p>Status: The fishery does not pose a risk of serious or irreversible harm to the retained species and does not hinder recovery of depleted retained species.</p>	<p>Main retained species are <u>likely</u> to be within biologically based limits or if outside the limits there are <u>measures</u> in place that are <u>expected</u> to ensure that the fishery does not hinder recovery and rebuilding of the depleted species.</p> <p>If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the retained species to be outside biologically based limits or hindering recovery.</p>	<p>Main retained species are <u>highly likely</u> to be within biologically based limits, or if outside the limits there is a <u>partial strategy</u> of <u>demonstrably effective</u> management measures in place such that the fishery does not hinder recovery and rebuilding.</p>	<p>There is a <u>high degree of certainty</u> that retained species are within biologically based limits.</p> <p>Target reference points are defined and retained species are at or fluctuating around their target reference points.</p>
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Scoring Comments	
<p>There is a high degree of certainty that retained species are within biologically based limits.</p> <p>Retained species are, by regulation, the Quota Management System (QMS) species, as well as key other tuna species that are retained on board. QMS species are generally the subject of analytical stock assessments and active management that is based upon biologically based limits. Studies on catch composition data from recent projects for the fishing seasons 2005/06 – 2007/08 show that the albacore troll fishery is relatively species specific, with few retained species; up to 99% of fish taken by trolling are ALB with the remaining QMS species being <0.3% of the total catch weight (non-QMS species and specific tuna species being the remainder). The main component of this retained species (QMS) catch was Ray's bream, 2-6 tonnes per annum, with very low numbers of other QMS species, including tunas (yellowfin, skipjack and bigeye). These data therefore indicate that there are no main retained species >5% of the total reported catch, or species of significant value or species for which this fishery could hinder recovery and rebuilding) within the albacore troll fishery. The very small amount of retained species has no significant value nor is it considered to affect the vulnerability of any species.</p> <p>The Ray's bream stock (RBM 1) has not been the subject of an analytical stock assessment to inform stock status and TACC level. Ray's bream has a medium to high productivity and is therefore reasonably robust to moderate levels of exploitation. The TACC in 2008/09 was 980 tonnes, and hence reported recent catches in the albacore troll fishery represent <1% of this TACC, while the total catch in all fisheries in 2007/08 was ~16% of the TACC. As Ray's bream caught in the fishery is sold, these values appear likely to reflect true catch levels.</p> <p>It is noted that there are three similar species of Ray's bream and the accuracy of the species split in the by-catch reporting does not appear to have been investigated. Given the low catch levels the impact of this is unlikely to significantly increase the risk to these species.</p>	

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>Kahawai, the second most common non-tuna QMS species, represents <0.1% of the reported catch weight. This species was assessed in 2009 in area KAH 1. This assessment indicated that the stock was likely above the MSY target. Status of the other stocks was unknown. The low overall take of this species (<2 tonnes per annum, relative to a TACC of 2,728 tonnes) in the troll fishery is noted. The QMS status of this species means discarding is not permitted and given its value is discarding is unlikely to occur.</p> <p>Key other retained species are tuna species: bigeye, skipjack and yellowfin.</p> <p>Bigeye and skipjack tuna are managed as highly migratory species. Bigeye tuna assessments performed within WCPFC suggest that overfishing is occurring on this stock, although the 2006 assessment results indicated the stock was not yet overfished, but was likely to become so. As noted in the 2007 stock summary, ‘New Zealand domestic catches represent 0.2% of the total removals from the stock. The stock is presently above the level necessary to produce the maximum sustainable yield. Current catches from the stock are not sustainable and will move the stock towards and then below a size that will support the maximum sustainable yield.’ While the take in the troll fishery in recent years has been very low (between 1 and 31 fish) the status of this stock is noted. Skipjack tuna assessments performed within WCPFC in 2005 suggested overall exploitation was sustainable and around MSY.</p> <p>Yellowfin tuna is managed within the QMS, and as a highly migratory species. The last assessment performed within WCPFC in 2006 indicated that overfishing was occurring on the stock, although the 2006 assessment results indicated the stock was not yet overfished. TACCs have not been adjusted since 2004/05, being 263 tonnes. However, only between 6 and 73 fish were caught each year between 2005/06 and 2007/08 in the troll fishery, and 8% of the TACC was caught across all fisheries in 2007/08. Whilst noting the stock status, the take in the troll fishery in recent years has been very low.</p> <p>Target reference points are defined and retained species are at or fluctuating around their target reference points.</p> <p>Target reference points are defined for the main retained species, although this is not the case for all QMS species. Stock assessment data for these species described above indicate that skipjack and kahawai (KAH 1) stocks are around the target reference point, although assessment uncertainties are noted. The status of the small proportion of other retained QMS species and stocks is more uncertain.</p>			
Score: 90			
<p>There is evidence that the fishery is highly species specific, and many – but not all – of the other retained species are highly likely to be within biologically based limits, and fluctuating around the target reference point (e.g. skipjack, by weight the second most common species). However, while takes of other tuna species are very low, the potential overfishing of those stocks <i>as a whole</i> is noted. In turn, issues with the use of reported catch data is noted, although this is particularly for non-QMS species.</p> <p>Recommendation: to collect sufficient data to adequately differentiate the Ray’s bream catches in this (and other fisheries) into their component catches.</p>			
Audit Trace References			
<p>MFish New Zealand Albacore Tuna leaflet. Draft National Plan Highly Migratory Species, Appendix 4 Supporting Information (albacore) July 2009. HMS Medium term research plan HMS Fisheries Chapter 3: albacore troll fishery. MFish (in draft) 17pp.</p>			

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
Ministry of Fisheries Initial Position Paper 2007 Albacore Tuna (ALB) MFish (2009). Kahawai stock assessment summary MFish (2007). Bigeye stock assessment summary MFish (2006). Skipjack stock assessment summary MFish (2007). Yellowfin stock assessment summary Kendrick & Bentley (2009). Data on bycatch species caught in New Zealand albacore troll fisheries. ALB2008-02: Relative abundance of troll caught albacore. Research Progress Report for Objective 1. Trophia Ltd. HMS-WG-2008-19. Hill ,Stephanie (MFish, Auckland) (<i>pers com.</i>) 2009.			

SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
2.1.2	Management strategy: There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species.	<p>There are <u>measures</u> in place, if necessary, that are expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.</p> <p>The measures are considered <u>likely</u> to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).</p>	<p>There is a <u>partial strategy</u> in place, if necessary that is expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.</p> <p>There is some <u>objective basis for confidence</u> that the partial strategy will work, based on some information directly about the fishery and/or species involved.</p> <p>There is <u>some evidence</u> that the partial strategy is being <u>implemented successfully</u>.</p>	<p>There is a <u>strategy</u> in place for managing retained species.</p> <p>The strategy is mainly based on information directly about the fishery and/or species involved, and <u>testing</u> supports <u>high confidence</u> that the strategy will work.</p> <p>There is <u>clear evidence</u> that the strategy is being <u>implemented successfully</u>, and intended changes are occurring.</p> <p>There is some evidence that the strategy is <u>achieving its overall objective</u>.</p>

Scoring Comments
<p>There is a strategy in place for managing retained species. The main strategy for managing retained species is an operational one – the near-clean nature of the fishing method. Of the small proportion of retained species in the reported catch (<1% by weight), the majority are the subject of analytical stock assessments performed within New Zealand or at the WPCFC, management advice is based upon biological reference points and management plans are under development. The HMS management is based on internationally agreed stock status assessments and agreed approaches to management. However, not all retained species are subject to such detailed plans, but are the subject of TACC limits against which catches are monitored on an on-going basis. This strategy applies to a very small proportion of the overall catch. However, the implementation of management plans for all QMS species is a strategy that would further increase the score.</p> <p>The strategy is mainly based on information directly about the fishery and/or species involved, and testing supports high confidence that the strategy will work. Evidence is available through data collection and monitoring through the catch data and research programmes, directly from the fishery. These data demonstrate the relatively low catch weight of non-target species. Practical testing of the strategy for the main species has demonstrated confidence that the strategy works. However, while data are collected for the other QMS species, there is limited evidence that the strategy for these species is effective.</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>There is clear evidence that the strategy is being implemented successfully, and intended changes are occurring. There is clear evidence that the operational methodology is being implemented successfully from the catch data and research programmes. For the relatively small quantities of key retained QMS species caught, further evidence comes from variations in the TACC, based upon stock assessment and observer/fishery monitoring data. However, it is noted that this does not apply to all QMS species caught.</p> <p>There is some evidence that the strategy is achieving its overall objective. There is some evidence that the operational methodology and management approach is achieving its overall objectives for the key QMS species through the stock assessment process and TACC management system.</p>			
Score: 95			
There are operational strategies and management procedures in place for maintaining retained species, and evidence shows that they are effective. However, it is noted that strategies are less effective for other species, although TACC set limits are in place. While the very low proportion of these other species in the catch is noted, the lack of a full strategy for these species reduces the score from 100.			
Audit Trace References			
Clement <i>et al.</i> (2008) Interview with MFish (2009) Kendrick & Bentley (2009). Data on bycatch species caught in New Zealand albacore troll fisheries. ALB2008-02: Relative abundance of troll caught albacore. Research Progress Report for Objective 1. Trophia Ltd. HMS-WG-2008-19. Hill, Stephanie (MFish, Auckland) (<i>pers com.</i>) 2009.			

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
2.1.3	<p>Information / monitoring: Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species.</p>	<p><u>Qualitative information</u> is available on the amount of main retained species taken by the fishery.</p> <p>Information is <u>adequate</u> to <u>qualitatively</u> assess outcome status with respect to biologically based limits.</p> <p>Information is adequate to support <u>measures</u> to manage <u>main</u> retained species.</p>	<p><u>Qualitative information</u> and some quantitative information are available on the amount of main retained species taken by the fishery.</p> <p>Information is <u>sufficient</u> to estimate outcome status with respect to biologically based limits.</p> <p>Information is adequate to support a <u>partial strategy</u> to manage <u>main</u> retained species.</p> <p>Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy).</p> <p>Accurate and verifiable information is available on the catch of all retained species and the consequences for the status of affected populations.</p> <p>Information is <u>sufficient</u> to <u>quantitatively</u> estimate outcome status with a <u>high degree of certainty</u>.</p> <p>Information is adequate to support a <u>comprehensive strategy</u> to manage retained species, and evaluate with a <u>high degree of certainty</u> whether the strategy is achieving its objective.</p> <p>Monitoring of retained species is conducted in sufficient detail to assess ongoing mortalities to all retained species.</p>

Scoring Comments
<p>Qualitative information and some quantitative information are available on the amount of main retained species taken by the fishery. Data on catch rates and the relative abundance of non-target catch species in the fishery are available from three main sources:</p> <ul style="list-style-type: none"> Logbooks, which provide green weight catch totals on a fishing-event basis, and hence a daily summary of, at least, QMS species caught. Limited Ministry of Fisheries observer data, which provides catch weight for all HMS, QMS and non-QMS species caught, on an observed fishing event basis. This provides accurate and verifiable information, if on variable and patchy coverage, although it is noted that increasing effort is being directed at this fishery. <p>However information on the consequences for the status of affected populations is not always available for <i>all</i> QMS stocks encountered (as noted in 2.1.1), although these form a very small proportion of the overall catch.</p> <p>Information is sufficient to estimate outcome status with respect to biologically based limits. Information is sufficient to quantitatively estimate outcome status with a high degree of certainty for some HMS and QMS species caught. However, information for other QMS species is more limited and quantitative estimates have not yet been developed, although qualitative assessments could be performed and these species represent a very small proportion of the overall catch (see 2.1.1).</p> <p>Information is adequate to support a partial strategy to manage main retained species.</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>Information gathered for the key HMS and QMS species underpins stock assessments for these species, upon which TACC changes are based. This represents a comprehensive strategy, and evidence shows that the TACCs can be adjusted where necessary. The information for minor QMS species is sufficient to support the strategy that is in place, given that they are a very small proportion of the overall catch.</p> <p>Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy).</p> <p>The limited but increasing observer coverage of the fishery, and requirement to record the catches of HMS and QMS species through logbooks, provides sufficient, detailed information to assess the ongoing mortalities of the main species in particular, and the majority of the minor QMS species. For others, sufficient data continue to be collected to detect any increase in risk level. However, it is noted that the catch of one of a key (but not ‘main’) retained species – Ray’s bream – cannot be broken down by species, and hence is currently managed as a species complex.</p>			
Score: 85			
<p>There is a range of information collected through different methods to support the management of the HMS and QMS species, although the limited observer coverage – which is key to identifying all retained (and bycatch) species – is limited but expanding. In turn, data collection issues with some species (specifically Ray’s bream) are noted. Information for the minor QMS retained species is sufficient to support the strategy, although qualitative assessments are not performed for these species and data collection is less complete. Information for these species is sufficient to detect any increase in risk level.</p>			
Audit Trace References			
<p>MFish (2009). Kahawai stock assessment summary MFish (2007). Bigeye stock assessment summary MFish (2006). Skipjack stock assessment summary MFish (2007). Yellowfin stock assessment summary Kendrick & Bentley (2009). Data on bycatch species caught in New Zealand albacore troll fisheries. ALB2008-02: Relative abundance of troll caught albacore. Research Progress Report for Objective 1. Trophia Ltd. HMS-WG-2008-19. Interview with MFish (2009) Hill ,Stephanie (MFish, Auckland) (<i>pers com.</i>) 2009.</p>			

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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2.2	Discarded species (also known as “bycatch” or “discards”)		
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2.2.1	<p>Status The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups.</p>	<p>Main bycatch species are <u>likely</u> to be within biologically based limits, or if outside such limits there are mitigation <u>measures</u> in place that are <u>expected</u> to ensure that the fishery does not hinder recovery and rebuilding.</p> <p>If the status is poorly known there are measures or practices in place that are expected result in the fishery not causing the bycatch species to be biologically based limits or hindering recovery.</p>	<p>Main bycatch species are <u>highly likely</u> to be within biologically based limits or if outside such limits there is a <u>partial strategy</u> of <u>demonstrably effective</u> mitigation measures in place such that the fishery does not hinder recovery and rebuilding.</p>	<p>There is a <u>high degree of certainty</u> that bycatch species are within biologically based limits.</p>
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Scoring Comments
<p>Due to the lack of information on status of discarded species, but in light of the available information on reported catch levels, we have taken the following approach. The main bycatch species are defined by the MSC as ‘those considered to represent >5% of the catch, or as being particularly vulnerable’ (e.g. non-QMS elasmobranch species). For the purposes of this assessment, we have therefore assumed that a species may be at risk where they represent >5% of the total catch, or are caught at levels greater than 10 tonnes per year where this species is considered of low productivity. We recognise that a species may have low abundance and high catchability, which may lead to incorrect estimation of status using these criteria. This is covered under PIs 2.2.2 and 2.2.3. This approach is comparable to that taken under Principle 1, in separating the determination of outcome from the management and information.</p> <p>Main bycatch species are highly likely to be within biologically based limits or if outside such limits there is a partial strategy of demonstrably effective mitigation measures in place such that the fishery does not hinder recovery and rebuilding.</p> <p>As noted, catches of non-target species are at low levels (<1% of the total catch weight) and hence there are no main bycatch species. The most ‘common’ potentially vulnerable non-QMS species identified in available catch data are the mako sharks and blue shark (while the latter is a QMS species as of 2004/05, its status is unknown). Sharks in general are considered vulnerable, although due to its biological characteristics, the blue shark is possibly less vulnerable to overexploitation than mako or porbeagle sharks. Given the low catch levels of blue shark (30 to 133 kg/yr against a TACC of 1,860 tonnes); this catch appears highly unlikely to lead to significant impacts on the blue shark population in New Zealand waters. For mako shark, a rapid productivity sensitivity analysis (PSA) suggests the species is of low productivity and potentially susceptible to this fishing gear, and hence of some concern. The encounter rate (reported catches being 66 to 285 kg/yr) is low. In our considered opinion, takes of this magnitude are unlikely to lead to significant impacts on the populations of these species in New Zealand waters. However, issues related to management and the reliability of the biological basis behind this issue are addressed in PIs 2.2.2 and 2.2.3.</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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Score: 85
No main bycatch species are present in the catch. While the low catch levels of vulnerable species indicates that the impact of this fishery on these species is likely also low, there remains some concern over specific shark species. A higher score would be warranted following effective implementation of the shark action plan.
The current fishing practices would comprise a ‘partial strategy’ that would not hinder recovery or rebuilding of populations
Recommendation: implement shark action plan recommendations as required within the fishery.
Audit Trace References
Kendrick & Bentley (2009). Data on bycatch species caught in New Zealand albacore troll fisheries. ALB2008-02: Relative abundance of troll caught albacore. Research Progress Report for Objective 1. Trophia Ltd. HMS-WG-2008-19.
Interview with MFish (2009)
MFish (2007). Blue shark stock assessment summary
FishBase www.fishbase.org
Hill, Stephanie (MFish, Auckland) (<i>pers com.</i>) 2009.

SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
2.2.2	<p>Management strategy: There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations.</p>	<p>There are <u>measures</u> in place, if necessary, which are expected to maintain main bycatch species at levels which are highly likely to be within biologically based limits or to ensure that the fishery does not hinder their recovery.</p> <p>The measures are considered <u>likely</u> to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/species).</p>	<p>There is a <u>partial strategy</u> in place, if necessary, for managing bycatch that is expected to maintain main bycatch species at levels which are highly likely to be within biologically based limits or to ensure that the fishery does not hinder their recovery.</p> <p>There is <u>some objective basis for confidence</u> that the partial strategy will work, based on some information directly about the fishery and/or the species involved.</p> <p>There is <u>some evidence</u> that the partial strategy is being implemented successfully.</p>	<p>There is a <u>strategy</u> in place for managing and minimising bycatch.</p> <p>The strategy is mainly based on information directly about the fishery and/or species involved, and testing supports <u>high confidence</u> that the strategy will work.</p> <p>There is <u>clear evidence</u> that the strategy is being implemented successfully, and intended changes are occurring. There is some evidence that the strategy is achieving its objective.</p>

Scoring Comments
<p>There is a partial strategy in place, if necessary, for managing bycatch that is expected to maintain main bycatch species at levels which are highly likely to be within biologically based limits or to ensure that the fishery does not hinder their recovery.</p> <p>Species outside the QMS are considered to have a low risk of being overfished. As a result, substantial catches of non-QMS species has usually resulted in a change to QMS status. This represents a partial strategy, since if bycatch species consistently reached ‘main’ levels (>5% of the catch), it would likely (but not always) be moved into the QMS. Furthermore, the framework of continual monitoring of bycatch through the (limited) observer programme, and the noting of species catches within vessel logbooks if they represent the top five species caught in a fishing event, provides a basis for simple assessments of the impact of the fishery on these species or species groups. Issues with recording small proportions of bycatch species within logbooks have been noted. On the other hand, the lack of an apparent formalised strategy for assessing status of potentially vulnerable non-QMS species, or those species that represent notable proportions of the catch, e.g. albacore itself, is a concern.</p>
<p>There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or the species involved.</p> <p>As species have moved from bycatch to QMS status within the fishery, they have been subject to more formalised monitoring and must be retained on board vessels or weights estimated. TACCs for main species are adjusted based upon analytical stock assessments. However, there is no objective basis for confidence that the TACCs for all species are set within biologically-based limits.</p>
<p>There is some evidence that the partial strategy is being implemented successfully.</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
Over time, an increasing number of species have been added to the QMS and more species have become the subject of analytical assessments. Furthermore, TACCs have clearly been used to limit the catches of some species – mainly major commercial species – demonstrating that they can be effective.			
Score: 80			
While a partial strategy is considered to be in place, there is no formalised framework within which the status of non-QMS species can be evaluated, nor obvious formalised arrangement defined for the movement of species into the QMS – although it is noted that increasing numbers of species have been moved into the QMS framework in recent years. However, bycatch levels within the albacore troll fishery are very low, and for this reason a score of 80 is given. Further implementation of actions arising from the NPOA and ERA processes would increase the score.			
Audit Trace References			
Interview with MFish (2009) Interview with DOC (2009) Interviews with eNGO (2009) Hill, Stephanie (MFish, Auckland) (<i>pers com.</i>) 2009.			

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>2.2.3</p>	<p>Information / monitoring Information on the nature and amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch.</p>	<p><u>Qualitative information</u> is available on the amount of main bycatch species affected by the fishery.</p> <p>Information is <u>adequate</u> to <u>broadly understand</u> outcome status with respect to biologically based limits.</p> <p>Information is adequate to support <u>measures</u> to manage bycatch.</p>	<p><u>Qualitative information and some quantitative information</u> are available on the amount of main bycatch species affected by the fishery.</p> <p>Information is sufficient to estimate outcome status with respect to biologically based limits.</p> <p>Information is adequate to support a <u>partial strategy</u> to manage main bycatch species.</p> <p>Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy).</p> <p><u>Accurate and verifiable information</u> is available on the amount of all bycatch and the consequences for the status of affected populations.</p> <p>Information is <u>sufficient</u> to quantitatively estimate outcome status with respect to biologically based limits with a <u>high degree of certainty</u>.</p> <p>Information is adequate to support a <u>comprehensive strategy</u> to manage bycatch, and evaluate with a high degree of certainty whether a strategy is achieving its objective.</p> <p>Monitoring of bycatch data is conducted in sufficient detail to assess ongoing mortalities to all bycatch species.</p>

Scoring Comments
<p>Qualitative information and some quantitative information are available on the amount of main bycatch species affected by the fishery. Accurate and verifiable information is available on the amount of bycatch for a proportion of the fleet through the observer programme. While the coverage of the fleet has been historically rather limited, this coverage is increasing. If non-QMS species were represented in the top 5 species in the commercial catch, they would be noted in vessel logbooks. However, catch data for non-QMS species reported within the fishery may be biased due to permitted unrecorded discarding of these species.</p> <p>Information is sufficient to estimate outcome status with respect to biologically based limits. Information from the observer programme appears sufficient to examine outcome status if biologically based limits were generated for the majority of species, although the limited coverage of observers is noted. For occasional bycatch species, the variance in information may reduce the ability to estimate outcome status. Therefore there is a need to examine the existing information to verify its adequacy for this purpose.</p> <p>Information is adequate to support a partial strategy to manage main bycatch species.</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>The partial strategy to manage the main bycatch species is adequately supported through the observer and commercial catch data available. Further work on the partial strategy could be (but is yet to be) performed using the available data. In turn, the operational methodology that results in a low level of bycatch species within the fishery continues to be effective.</p> <p>Monitoring of bycatch data is conducted in sufficient detail to assess ongoing mortalities to all bycatch species</p> <p>Monitoring of bycatch data is through logbooks and the observer programme and is of sufficient detail to assess ongoing mortalities. The increasing fleet coverage of the observers is noted. However, these data are not sufficient to detect ongoing mortalities for <i>all</i> bycatch species.</p> <p>Whilst it is recognised that bycatch in this fishery occurs at a low level, data are required to enable outcomes for bycatch species. If too little data are available to enable this (the current situation), assessing the potential impact of the fishery on some bycatch species remains effectively impossible.</p>			
Score: 80			
<p>Given the low level of bycatch within the albacore troll fishery, the observer coverage provides a basis to evaluate the level of risk posed by the fishery, although as noted in 2.2.2 this has not been routinely performed, and 2.2.2 was scored down as a result. In turn, information may not be sufficient to evaluate risk for <i>all</i> bycatch species, reducing the score here, although the relatively clean nature of the fishery is acknowledged. Issues could be relatively easily addressed by improving observer coverage in this fishery on a regular basis.</p> <p>Recommendation: ensure that ongoing observer coverage of the albacore tuna troll fleet maintained at a level that is adequate to define by-catch.</p>			
Audit Trace References			
<p>Clement <i>et al.</i> (2008)</p> <p>Kendrick & Bentley (2009). Data on bycatch species caught in New Zealand albacore troll fisheries. ALB2008-02: Relative abundance of troll caught albacore. Research Progress Report for Objective 1. Trophia Ltd. HMS-WG-2008-19.</p> <p>Interview with MFish (2009).</p> <p>Hill ,Stephanie (MFish, Auckland) (<i>pers com.</i>) 2009.</p>			

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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2.3	Endangered, Threatened and Protected (ETP) species		
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2.3.1	<p>Status: The fishery meets national and international requirements for protection of ETP species.</p> <p>The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species.</p>	<p>Known effects of the fishery are <u>likely</u> to be within limits of national and international requirements for protection of ETP species.</p> <p>Known direct effects are <u>unlikely</u> to create <u>unacceptable impacts</u> to ETP species.</p>	<p>The effects of the fishery are known and are <u>highly likely</u> to be within limits of national and international requirements for protection of ETP species.</p> <p>Direct effects are <u>highly unlikely</u> to create <u>unacceptable impacts</u> to ETP species.</p> <p>Indirect effects have been considered and are thought to be unlikely to create unacceptable impacts.</p>	<p>There is a <u>high degree of certainty</u> that the effects of the fishery are within limits of national and international requirements for protection of ETP species.</p> <p>There is a <u>high degree of confidence</u> that there are <u>no significant detrimental effects (direct and indirect)</u> of the fishery on ETP species.</p>
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Scoring Comments
<p>The effects of the fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species.</p> <p>Protected species within New Zealand law include all marine mammals, all native birds (excluding those managed as game birds, and the black-backed gull), basking sharks, whale sharks, great white sharks, spotted black groper, the cold water ‘black’ corals (Order Antipatharia) and the red corals of the genus <i>Errina</i> (specifically <i>Errina novaezelandiae</i>).</p> <p>The national requirements for ETP protection in New Zealand law notes that while interactions are not forbidden (i.e. zero), the law requires interactions to be reported to DOC, and the long-term aim is to minimise mortalities where possible. This approach provides good information on the potential effects of the fishery on ETP species. No specific limits on interactions have been set, but activities aimed at minimising interactions are underway, and for the tuna troll fishery these are largely operational.</p> <p>Direct effects are highly unlikely to create unacceptable impacts to ETP species.</p> <p>There are no records or other evidence of direct interactions between the tuna troll fishery and endangered or threatened species in New Zealand waters. There is a low level interaction with some seabirds but there is no suggestion or evidence that this occurs at a level that would be harmful at a population level to any species.</p> <p>There have been anecdotal historic reports of the use of explosives to frighten seals (so called use of ‘seal bombs’) and also anecdotal reports of fishers shooting seals within the fishery. Neither of these practices could be substantiated. If common or widespread, these activities would be expected to be more reported more frequently and be easier to substantiate, suggesting that any such activity is infrequent, but would remain a concern with regard to the legal status of these protected animals and the certification process. The limited MFish observer coverage may be relevant in this regard, as there is a possibility that low-level interactions between the fishery and some ETP species may have</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
gone unreported or undetected.			
Indirect effects have been considered and are thought to be unlikely to create unacceptable impacts.			
There is no evidence of unacceptable impacts on ETP species through the capture of tuna (ecosystem issues being considered in 2.5). Loss of gear is very rare, and hence there is no evidence of subsequent interactions with ETP species. Gear type also suggests that any ghost fishing will be of no significance.			
Score: 80			
Direct interactions between the albacore tuna troll fishery and ETP species in NZ waters appear to be rare and restricted to occasional interactions with some protected species but at levels that are well below that required to raise any concern at the population level. However, the relatively low observer coverage (see 2.3.3) does give rise to uncertainty and increased observer coverage with a focus on such interactions would reduce the level of concern expressed by some stakeholders.			
Audit Trace References			
Interview with MFish (2009). Ministry of Fisheries Initial Position Paper 2007 Albacore Tuna (ALB) Draft National Plan Highly Migratory Species, Appendix 4 Supporting Information (albacore) July 2009.			

SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
2.3.2	<p>Management strategy</p> <p>The fishery has in place precautionary management strategies designed to:</p> <ul style="list-style-type: none"> - meet national and international requirements; - ensure the fishery does not pose a risk of serious or irreversible harm to ETP species; - ensure the fishery does not hinder recovery of ETP species; and - minimise mortality of ETP species. 	<p>There are <u>measures</u> in place that minimise mortality, and are expected to be highly likely to achieve national and international requirements for the protection of ETP species.</p> <p>The measures are <u>considered likely</u> to work, based on <u>plausible argument</u> (eg general experience, theory or comparison with similar fisheries/species).</p>	<p>There is a <u>strategy</u> in place for managing the fishery's impact on ETP species, including measures to minimise mortality, that is designed to be highly likely to achieve national and international requirements for the protection of ETP species.</p> <p>There is an <u>objective basis for confidence</u> that the strategy will work, based on <u>some information</u> directly about the fishery and/or the species involved.</p> <p>There is <u>evidence</u> that the strategy is being implemented successfully.</p>	<p>There is a <u>comprehensive strategy</u> in place for managing the fishery's impact on ETP species, including measures to minimise mortality, that is designed to achieve <u>above</u> national and international requirements for the protection of ETP species.</p> <p>The strategy is mainly based on information directly about the fishery and/or species involved, and a <u>quantitative analysis</u> supports <u>high confidence</u> that the strategy will work.</p> <p>There is <u>clear evidence</u> that the strategy is being implemented successfully, and intended changes are occurring. There is evidence that the strategy is achieving its objective.</p>

Scoring Comments
<p>There is a comprehensive strategy in place for managing the fishery's impact on ETP species, including measures to minimise mortality, that is designed to achieve above national and international requirements for the protection of ETP species.</p> <p>Key legislation for ETP species includes the Fisheries Act (1996), Wildlife Act (1953), Marine Mammals Protection Act (1978), and specific regulations for birds (relating to bycatch mitigation approaches). Combined with the requirement to report injury or mortality of protected species to the Department of Conservation (without offence), and the observer programme,, these provide a strategy to monitor and hence implement the legislation. National Plans of Action have been developed (but not yet implemented) for birds and sharks. An environmental risk assessment process is being performed, which aims to support the revision of New Zealand's National Plan of Action – Seabirds by identifying those species most at risk from fisheries from additional mortality above natural levels.</p> <p>The main strategy, however, is operational. The trolling approach does not attract birds or other ETP species to the gear, hence appearing to eliminate interactions.</p> <p>The strategy is mainly based on information directly about the fishery and/or species involved, and a quantitative analysis supports high confidence that the strategy will work.</p> <p>Information from the observer programme (as well as the fishery itself) shows that the legislation and in particular operational methodologies have been successful in minimising interactions with ETP species. However, the limited observer coverage does create uncertainty (see 2.3.3).</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>There is clear evidence that the strategy is being implemented successfully, and intended changes are occurring. There is evidence that the strategy is achieving its objective.</p> <p>For birds and marine mammals, observer monitoring of the implementation of approaches on vessels, and the enforcement of regulations, provides evidence that the strategy is being implemented successfully.</p>			
<p>Score: 95</p> <p>The legislation, but mainly the operational methodology of the troll fishing method, appears appropriate to eliminate ETP interactions. The relatively low observer coverage leaves some doubt, however, reducing the score to 95.</p>			
<p>Audit Trace References</p> <p>Interview with MFish (2009). Ministry of Fisheries Initial Position Paper 2007 Albacore Tuna (ALB) Fisheries Act (1996) Wildlife Act (1953) Marine Mammals Protection Act (1978) NPOA Sharks NPOA Seabirds Rowe (2009).Level 1 risk assessment for incidental seabird mortality associated with New Zealand fisheries in the NZ- EEZ, (Draft) Dept of Conservation. 87pp. Hill, Stephanie (MFish, Auckland) (<i>pers com.</i>) 2009.</p>			

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
2.3.3	<p>Information / monitoring Relevant information is collected to support the management of fishery impacts on ETP species, including:</p> <ul style="list-style-type: none"> - information for the development of the management strategy; - information to assess the effectiveness of the management strategy; and - information to determine the outcome status of ETP species. 	<p>Information is <u>adequate</u> to <u>broadly understand</u> the impact of the fishery on ETP species.</p> <p>Information is adequate to support <u>measures</u> to manage the impacts on ETP species</p> <p><u>Information</u> is sufficient to <u>qualitatively</u> estimate the fishery related mortality of ETP species.</p>	<p>Information is <u>sufficient</u> to determine whether the fishery may be a threat to protection and recovery of the ETP species, and if so, to measure trends and support a <u>full strategy</u> to manage impacts.</p> <p><u>Sufficient data</u> are available to allow fishery related mortality and the impact of fishing to be <u>quantitatively</u> estimated for ETP species.</p> <p>Information is <u>sufficient</u> to <u>quantitatively</u> estimate outcome status with a high degree of certainty.</p> <p>Information is adequate to support a <u>comprehensive strategy</u> to manage impacts, minimize mortality and injury of ETP species, and evaluate with a high degree of certainty whether a strategy is achieving its objectives.</p> <p><u>Accurate and verifiable information</u> is available on the magnitude of all impacts, mortalities and injuries and the consequences for the status of ETP species</p>

Scoring Comments
<p>Information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species, and if so, to measure trends and support a full strategy to manage impacts.</p> <p>The Marine Conservation Services programme aims to monitor the effects of commercial fishing on protected species. Monitoring for interactions is part of the role of the observer on board vessels. The coverage of observers in this fishery has been historically limited, although this coverage is increasing. However, there is a possibility that low level interactions between the fishery and ETP species have gone undetected.</p> <p>Sufficient data are available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.</p> <p>As noted, information from the observer programme is likely adequate to support the operational methodology of ETP avoidance. However, while the levels of observer coverage have been increased, these are still at low levels and may still miss low level ETP interactions.</p>
Score: 80
<p>While expert opinion suggests the fishing strategy is adequate to minimise ETP interactions, the observer coverage of this fishery has historically been very low. Therefore there is a possibility that low level interactions between the fishery and ETP species have gone undetected. Levels of observer coverage have been increased but these are still at low levels.</p> <p>Recommendation: increase the level of observer coverage to levels that will provide better statistical estimates that the likelihood of ETP interactions do not exceed levels that would cause serious or irreversible harm or hinder recovery.</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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Audit Trace References
<p>Interview with MFish (2009).</p> <p>Ministry of Fisheries Initial Position Paper 2007 Albacore Tuna (ALB)</p> <p>Francis & Smith (2009a) Estimation of basking shark (<i>Cetorhinus maxmius</i>) bycatch in New Zealand trawl fisheries. 13pp</p> <p>Francis & Smith (2009b) Basking shark (<i>Cetorhinus maxmius</i>) bycatch in New Zealand fisheries, 1994-95 to 2007-08. Draft New Zealand Aquatic Environment and Biodiversity report 60pp.</p> <p>Rowe (2009).Level 1 risk assessment for incidental seabird mortality associated with New Zealand fisheries in the NZ- EEZ, (Draft) Dept of Conservation. 87pp.</p> <p>Abraham, E. R. and Thompson, F. N. (2008).</p> <p>Hill, Stephanie (MFish, Auckland) (<i>pers com.</i>) 2009.</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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2.4	Habitat		
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2.4.1	<p><i>Status</i> The fishery does not cause serious or irreversible harm to habitat structure, considered on a regional or bioregional basis, and function.</p>	<p>The fishery is <u>unlikely</u> to reduce habitat structure and function to a point where there would be serious or irreversible harm.</p>	<p>The fishery is <u>highly unlikely</u> to reduce habitat structure and function to a point where there would be serious or irreversible harm.</p>	<p>There is <u>evidence</u> that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.</p>
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Scoring Comments				
<p>There is evidence that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.</p> <p>The benthic habitat will not be impacted by the pelagic (near surface) and open-ocean nature of the albacore troll fishery and the very light gear type used. Impacts will, therefore, be limited to the pelagic habitat, and are expected to be both transient and negligible. As a result, the fishery is highly unlikely to reduce any habitat structure and function to a point where there would be serious or irreversible harm.</p>				
Score: 100				
<p>This gear type poses no risk to the open ocean marine habitat in which it is used.</p> <p>Evidence for this includes lack of bottom contact and very low by-catch.</p>				
Audit Trace References				
Interviews and discussions with the wider group of stakeholders including MFish, client fishery, fishermen, eNGOs.				

SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
2.4.2	Management strategy There is a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types.	There are <u>measures</u> in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance. The measures are considered <u>likely</u> to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/habitats).	There is a <u>partial strategy</u> in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above. There is some <u>objective basis for confidence</u> that the partial strategy will work, based on some information directly about the fishery and/or habitats involved. There is <u>some evidence</u> that the partial strategy is being implemented successfully.	There is a <u>strategy</u> in place for managing the impact of the fishery on habitat types. The strategy is mainly based on information directly about the fishery and/or habitats involved, and testing supports high confidence that the strategy will work. There is <u>clear evidence</u> that the strategy is being implemented successfully, and intended changes are occurring. There is some evidence that the strategy is achieving its objective.

Scoring Comments <p>There is a strategy in place for managing the impact of the fishery on habitat types. The strategy in place for managing impacts on habitat is operational – the pelagic nature and low cross-sectional nature of the gear. There are strategic elements aimed at discouraging potentially damaging activities such as discarding gear at sea (e.g. MARPOL). This would be supported by the (limited) observer coverage.</p> <p>The strategy is mainly based on information directly about the fishery and/or habitats involved, and testing supports high confidence that the strategy will work. This strategy is specific to the fishery, while MARPOL covers all vessels.</p> <p>There is clear evidence that the strategy is being implemented successfully, and intended changes are occurring. There is some evidence that the strategy is achieving its objective. Evidence from the limited observer coverage demonstrates the effectiveness of the strategy.</p>
Score: 100 The habitat is open ocean and given the lack of risk to habitat from this gear type, the strategy is operational and is appropriate.
Audit Trace References Interviews and discussions with the wider group of stakeholders including MFish, client fishery, fishermen and eNGOs. MARPOL convention (http://www.imo.org/Conventions/contents.asp?doc_id=678&topic_id=258) Ministry of Fisheries Initial Position Paper 2007 Albacore Tuna (ALB)

SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
2.4.3	Information / monitoring Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types.	<p>There is a basic understanding of the types and distribution of main habitats in the area of the fishery.</p> <p>Information is adequate to broadly understand the main impacts of gear use on the main habitats, including spatial extent of interaction.</p>	<p>The nature, distribution and vulnerability of all main habitat types in the fishery area are known at a level of detail relevant to the scale and intensity of the fishery.</p> <p>Sufficient data are available to allow the nature of the impacts of the fishery on habitat types to be identified and there is reliable information on the spatial extent, timing and location of use of the fishing gear.</p> <p>Sufficient data continue to be collected to detect any increase in risk to habitat (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).</p>	<p>The distribution of habitat types is known over their range, with particular attention to the occurrence of vulnerable habitat types.</p> <p>Changes in habitat distributions over time are measured.</p> <p>The physical impacts of the gear on the habitat types have been quantified fully.</p>

Scoring Comments
<p>The distribution of habitat types is known over their range, with particular attention to the occurrence of vulnerable habitat types. The habitat of concern is that of the pelagic open ocean, specifically associated with oceanographic boundaries which vary seasonally and between years. Oceanography and primary productivity around New Zealand has been well studied through historical and current projects, and remote sensing studies. This has allowed the distribution of habitat to be adequately described, and key areas identified.</p> <p>Changes in habitat distributions over time are measured. These studies are ongoing, and include information collected from research surveys, satellite imagery, fishery distribution and other techniques. This allows changes in oceanography to be identified.</p> <p>The physical impacts of the gear on the habitat types have been quantified fully. The gear type (pelagic, low cross-section and highly selective nature) allows expert judgement on the physical impacts of the gear being transient and negligible.</p>
Score: 100 Oceanographic data have been collected to enable the distribution of habit to be adequately described. These data are continuing to be collected and will enable any habit changes to be monitored over time. In turn, the minimal impact on the relatively high energy open ocean habitat can be deduced from the available information.

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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Audit Trace References
<p>Anon. (2009). Project ENV2007/04 Climate and oceanographic trends relevant to New Zealand fisheries http://www.niwa.co.nz/our-science/oceans/research-projects/all/remote-sensing-of-phytoplankton-biomass-and-productivity Interview with NIWA (2009).</p>

2.5	Ecosystem
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2.5.1	<p>Status The fishery does not cause serious or irreversible harm to the key elements of ecosystem structure and function.</p>	<p>The fishery is <u>unlikely</u> to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.</p>	<p>The fishery is <u>highly unlikely</u> to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.</p>	<p>There is <u>evidence</u> that the fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.</p>
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Scoring Comments
<p>There is evidence that the fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.</p> <p>Albacore is an ‘apex’ or ‘top’ predator. Their diet is well understood across their life history stages, while their predators when in their juvenile stages are also reasonably well known. Apex predators play a crucial role in maintaining the health of an ecosystem, exerting substantial control over the population sizes of many species at lower levels of the food web. Consequently, they may contribute to the stability of marine ecosystems, and maintain biodiversity.</p> <p>Studies have examined the impact of recent historical tuna population changes in the (central) Pacific, showing that changes generally represent decreases in top predators and increases in small tunas (such as juvenile Albacore), which make up their prey. However, the impact of specific fisheries extractions on the ecosystem does not appear to have been studied in detail. The fishery under certification principally takes juvenile albacore. Total removals of albacore by the troll fishery are a very small proportion of total albacore removals and ecosystem impacts will therefore be relatively low. By-catch levels are also low, which will also minimise impacts on the ecosystem.</p> <p>Studies undertaken under the auspices of the SPC are specifically examining the ecosystem effects of pelagic fishing, with preliminary results suggesting that the lower trophic levels (nutrients and plankton) are more important in determining ecosystem status than the top predators (see for example http://www.spc.int/oceanfish/html/teb/Env&Mod/OFCCP.htm).</p> <p>Fisheries have substantial impacts of the target top predators but only minor impacts on the ecosystem (Sibert, J., Hampton, J., Kleiber, P. and Maunder, M. (2006). Biomass, size and trophic status of top predators in the Pacific Ocean. Science 314, 1773-1776.).</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>Albacore stocks in the region appear to be above B_{MSY}. At these levels, there would be a sizeable proportion of biomass remaining in the ecosystem, and removals at this level are unlikely to lead to serious harm.</p>			
<p>Score: 95</p>			
<p>The role of albacore within the ecosystem of the western central Pacific is understood. The status of juvenile and adult albacore populations suggests their ecosystem role is being maintained, and hence impacts of the fishery on the ecosystem will be minor. Direct studies of current fishery removal impacts at the ecosystem level would improve the score further.</p>			
<p>Audit Trace References</p>			
<p>Ministry of Fisheries Initial Position Paper 2007 Albacore Tuna (ALB) Cox <i>et al.</i> (2002). [Cox, S.P., Martell, S.J.D., Walters, C.J., Essington, T.E., Kitchell, J. F., Boggs, C. and Kaplan, I. (2002). Reconstructing ecosystem dynamics in the central Pacific Ocean, 1952–1998. I. Estimating population biomass and recruitment of tunas and billfishes. Can. J. Fish. Aquat. Sci. 59(11): 1724–1735.] MFish (2009). Appendix D: Supporting information (albacore) DRAFT</p>			
<p>2.5.2</p>	<p>Management strategy There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function.</p>	<p>There are <u>measures</u> in place, if necessary, that take into account potential impacts of the fishery on key elements of the ecosystem.</p> <p>The measures are considered likely to work, based on <u>plausible argument</u> (eg, general experience, theory or comparison with similar fisheries/ ecosystems).</p>	<p>There is a <u>partial strategy</u> in place, if necessary, that takes into account available information and is expected to restrain impacts of the fishery on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.</p> <p>The partial strategy is considered likely to work, based on <u>plausible argument</u> (eg, general experience, theory or comparison with similar fisheries/ ecosystems).</p> <p>There is <u>some evidence</u> that the measures comprising the partial strategy are being implemented successfully.</p> <p>There is a <u>strategy</u> that consists of a <u>plan</u>, containing measures to address all main impacts of the fishery on the ecosystem, and at least some of these measures are in place. The plan and measures are based on well-understood functional relationships between the fishery and the Components and elements of the ecosystem.</p> <p>This plan provides for development of a full strategy that restrains impacts on the ecosystem to ensure the fishery does not cause serious or irreversible harm.</p> <p>The measures are considered likely to work based on <u>prior experience</u>, plausible argument or <u>information</u> directly from the fishery/ecosystems involved.</p> <p>There is <u>evidence</u> that the measures are being implemented successfully.</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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<p>Scoring Comments</p> <p>There is a partial strategy in place, if necessary, that takes into account available information and is expected to restrain impacts of the fishery on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.</p> <p>The ecosystem role of albacore as an apex predator is not explicitly considered within management, although the overarching goal of management to MSY levels (or above) is considered likely to maintain this role. The partial strategy in place is therefore represented by the direct management of the albacore stock arising from the Western and Central Pacific Fisheries Commission (WCPFC). The stock assessment and scientific advice performed under the auspices of the Commission leads to appropriate conservation measures (see 2.1.1), and New Zealand is responsible for ensuring that applied management measures within New Zealand fisheries waters are compatible with those of the Commission. The partial strategy to control is mainly through effort limits and limits on capacity (i.e. number of vessels targeting albacore) to 2000-2005 levels.</p> <p>New Zealand is developing a management plan for highly migratory species within its EEZ, which will specifically address management of albacore. Albacore is currently not managed in New Zealand under the Quota Management System (i.e. by catch quota), but the number of New Zealand fishing albacore have decreased over recent years, which is consistent with the WCPFC CCM.</p> <p>The clean nature of the fishery will also reduce ecosystem effects. Combined, these factors are expected to restrain impacts of the fishery on the ecosystem. As the most recent Initial Position Paper on albacore notes, “If clear evidence emerges that albacore harvesting is having effects on biodiversity, MFish considers that it will be possible to apply appropriate management measures to avoid any adverse impacts.”</p> <p>The partial strategy is considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/ ecosystems).</p> <p>The clean nature of the fishery, as noted through the observer programme data, reduces the ecosystem impacts of albacore extractions. This stock is considered to currently be above B_{MSY} levels. Plausible argument therefore suggests that the requirements of this PI are being met through the current partial strategy.</p> <p>There is some evidence that the measures comprising the partial strategy are being implemented successfully.</p> <p>Frequent stock assessments have shown that the partial strategy represented by the albacore management approach is successful in maintaining population sizes, and hence ecosystem role. The clean nature of the fishery will also limit ecosystem effects. The ecosystem modelling that has occurred indicates that the abundance of albacore resulting from the current management is sufficient, and hence the partial strategy is being implemented successfully. It is noted however, that a similar approach for bigeye tuna implemented by the WCPFC has had only moderate success in restraining catches (see PI 1.2.2).</p> <p>Score: 80</p> <p>The partial strategy is represented by the WCPFC (and hence New Zealand national) management of this species that has maintained populations above B_{MSY}. Given the relatively clean nature of the fishery, this contributes to a partial plan for ecosystem maintenance, and evidence is available directly from the fishery through the fisheries management and monitoring process.</p> <p>A higher score is achievable given an improved strategy, including, for example, by defining and monitoring key ecosystem health indicator species, and defining possible approaches should for different concerns about ecosystem impacts.</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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Audit Trace References
<p>Hoyle, S., Langley, A. and Hampton, J. (2008) Stock Assessment of Albacore Tuna in the South Pacific Ocean. Scientific Committee Fourth Regular Session, 11-22 August 2008, Port Moresby, Papua New Guinea, WCPFC-SC4-2008/SA-WP-8.</p> <p>Kendrick & Bentley (2009). Data on bycatch species caught in New Zealand albacore troll fisheries. ALB2008-02: Relative abundance of troll caught albacore. Research Progress Report for Objective 1. Trophia Ltd. HMS-WG-2008-19.</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100	
2.5.3	<p>Information / monitoring There is adequate knowledge of the impacts of the fishery on the ecosystem.</p>	<p>Information is adequate to <u>identify</u> the key elements of the ecosystem (e.g. trophic structure and function, community composition, productivity pattern and biodiversity).</p> <p>Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, but <u>have not been investigated in detail</u>.</p>	<p>Information is adequate to <u>broadly understand the functions</u> of the key elements of the ecosystem.</p> <p>Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, but <u>may not have been investigated in detail</u>.</p> <p>The main functions of the Components (i.e. target, Bycatch, Retained and ETP species and Habitats) in the ecosystem are <u>known</u>.</p> <p>Sufficient information is available on the impacts of the fishery on these Components to allow some of the main consequences for the ecosystem to be inferred.</p> <p>Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).</p>	<p>Information is adequate to <u>broadly understand the key elements</u> of the ecosystem.</p> <p>Main <u>interactions</u> between the fishery and these ecosystem elements can be inferred from existing information, and <u>have been investigated</u>.</p> <p>The impacts of the fishery on target, Bycatch, Retained and ETP species and Habitats are identified and the main functions of these Components in the ecosystem are <u>understood</u>.</p> <p>Sufficient information is available on the impacts of the fishery on the Components <u>and elements</u> to allow the main consequences for the ecosystem to be inferred.</p> <p>Information is sufficient to support the development of strategies to manage ecosystem impacts.</p>

Scoring Comments

Information is adequate to broadly understand the functions of the key elements of the ecosystem

Information on the feeding and predators of albacore is relatively well developed for all stages of the life history in the Pacific Ocean and in New Zealand waters (particularly from observations on catches within the longline fishery). This information has underpinned the modelling of the impact of tuna species population changes in the (central) Pacific, and hence is adequate to broadly understand the functions of the key elements of the ecosystem. However, as the most recent Initial Position Paper for albacore noted “understanding of albacore-related food web relationships is still at an early stage and more information is needed”.

Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, but may not have been investigated in detail.

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>The main impacts of the fishery on the ecosystem elements (albacore, its prey and predators) can be inferred from the stock assessments (both at WCPFC and within New Zealand waters for key species), trends in catches, and surveys which cover related species, and most levels of the ecosystem. Existing models and approaches have not been used to investigate impacts of the fishery on the ecosystem or feed into the fishery management process, and hence the main interactions have not been fully investigated.</p> <p>The main functions of the Components (i.e. target, Bycatch, Retained and ETP species and Habitats) in the ecosystem are known.</p> <p>The main functions of the components of the ecosystem have been identified through stomach analyses of a range of species, which underpin the historical tuna-related population model. Knowledge covers both the prey and predators of albacore.</p> <p>Sufficient information is available on the impacts of the fishery on these Components to allow some of the main consequences for the ecosystem to be inferred.</p> <p>Information from the observer programme and the logbooks allow the major consequences for the ecosystem to be inferred. The model developed for tuna populations within the Pacific has also indicated the changes that may have occurred as a result of population trends in different tuna species and their inter-relationships, which allows the impacts of the fishery on components to be examined, although this analysis has not yet been specifically performed.</p> <p>Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).</p> <p>The observer programme, relevant fishery-independent surveys, and logbook data continue to be collected and performed, which allow the ecosystem to be monitored for changes. The ERA process that is underway should cover those species of particular importance to the ecosystem. These allow changes in risk levels to be identified.</p>			
Score: 80			
Audit Trace References			
Ministry of Fisheries Initial Position Paper 2007 Albacore Tuna (ALB) FishBase www.fishbase.org Cox <i>et al.</i> (2002). Draft National Plan Highly Migratory Species, Appendix 4 Supporting Information (albacore) July 2009.			

SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
Principle 3	The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable			
3.1	Governance and Policy			
3.1.1	<p>Legal and/or customary framework</p> <p>The management system exists within an appropriate and effective legal and/or customary framework which ensures that it:</p> <ul style="list-style-type: none"> - Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; - Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and - Incorporates an appropriate dispute resolution framework. 	<p>The management system is generally consistent with local, national or international laws or standards that are aimed at achieving sustainable fisheries in accordance with MSC Principles 1 and 2.</p> <p>The management system incorporates or is subject by law to a <u>mechanism</u> for the resolution of legal disputes arising within the system.</p> <p>Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery.</p> <p>The management system has a mechanism to <u>generally respect</u> the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.</p>	<p>The management system is generally consistent with local, national or international laws or standards that are aimed at achieving sustainable fisheries in accordance with MSC Principles 1 and 2.</p> <p>The management system incorporates or is subject by law to a <u>transparent mechanism</u> for the resolution of legal disputes which is considered to be effective in dealing with most issues and that is appropriate to the context of the fishery.</p> <p>The management system or fishery is attempting to comply in a timely fashion with binding judicial decisions arising from any legal challenges.</p> <p>The management system has a mechanism to <u>observe</u> the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.</p>	<p>The management system is generally consistent with local, national or international laws or standards that are aimed at achieving sustainable fisheries in accordance with MSC Principles 1 and 2.</p> <p>The management system incorporates or is subject by law to a <u>transparent mechanism</u> for the resolution of legal disputes that is appropriate to the context of the fishery and has been <u>tested and proven to be effective</u>.</p> <p>The management system or fishery acts proactively to avoid legal disputes or rapidly implements binding judicial decisions arising from legal challenges.</p> <p>The management system has a mechanism to <u>formally commit</u> to the legal rights created explicitly or established by custom on people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.</p>
Scoring Comments				
WCPFC Framework:				

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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- The international management agency responsible for albacore in the South Pacific Ocean is the Western and Central Pacific Fisheries Commission (WCPFC). Regulations are generally based on recommendations by the commission staff or scientific committees, and implemented by member and cooperating countries. The WCPFC came into force on June 2004, and regulates and manages all highly migratory species (HMS) in the western and central Pacific.
- The WCPFC has a governance and policy structure which includes several committees (including the Scientific and Technical & Compliance Committees) and groups that member states (including New Zealand) participate.
- New Zealand is a fully cooperating member of the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean.
- A three-tier dispute resolution framework for the Commission is laid out in the “*Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels*”
- Resolutions with measures to mitigate and prevent by-catch of non-target fish seabirds, turtles and sharks exist.
- The convention has specified 10 activities or items that indicates a vessel has carried out IUU fishing, and all patrol and enforcement vessels monitor these activities.

NZ framework

- The management system is consistent with appropriate local, national and international legislation that are aimed at achieving sustainable fisheries in accordance with Principles 1 and 2.
- New Zealand is signatory to several international agreements that apply to this fishery (Convention on Biodiversity, UNCLOS, MARPOL, CITES etc.) These agreements are implemented in the management of the New Zealand fisheries, and are complied with.
- The Ministry of Fisheries operates within the framework of a range of laws, most notably the Fisheries Act 1996. The purpose of this Act is to provide for utilization of fisheries resources, while ensuring sustainability.
- The Ministry is also responsible for the administration of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992, which implements the 1992 Fisheries Deed of Settlement under which all historic Treaty of Waitangi claims relating to commercial fisheries have been fully and finally settled and the Maori Fisheries Act 2004, which provides that the Crown allocates to the Treaty Of Waitangi Fisheries commission 20% of quota for any new quota management stocks brought into the QMS.
- The management system has a mechanism for the timely resolution of disputes that is open to all stakeholders. There are procedures and processes under Part 7 of the Fisheries Act that apply to disputes about the effects of fishing on the fishing activities of any person that has a current fishing interest provided for under the Act. It provides opportunities to negotiate and resolve disputes. The Minister may appoint a Dispute’s Commissioner and the Minister makes the final determination. However it does not seem to be widely used. Rather the consultation process is an attempt to avoid unresolved dispute by ensuring all interested parties have an opportunity to participate and have an input into decisions.

Score: 95

All elements meet SG80; most achieve higher performance, at SG100; only a few fail to achieve SG100.

The management system is generally consistent with local, national or international laws or standards that are aimed at achieving sustainable fisheries in accordance with MSC Principles 1 and 2. The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes that is appropriate to the context of the fishery and has been tested and proven to be effective. The management system or fishery is attempting to comply in a timely fashion with binding judicial decisions arising

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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from any legal challenges.

The management system has a mechanism to formally commit to the legal rights created explicitly or established by custom on people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.

All elements meet 80 and most achieve a higher level of 100, giving it a score of 95

Audit Trace References

Western and Central Pacific Fisheries Commission website <http://www.wcpfc.int/>

Western and Central Pacific Fisheries Commission (WCPFC). 2006. Annual Report - Part II, management and compliance. Available at:

[http://www.wcpfc.int/pdf/Annual%20Report%20-%20Part%202%20\[Management%20and%20Compliance\].pdf](http://www.wcpfc.int/pdf/Annual%20Report%20-%20Part%202%20[Management%20and%20Compliance].pdf)

Fisheries Act 1996 and various regulations

International Conventions and Agreements that NZ is a signatory to- including binding agreements, environmental agreements, regional agreements and non binding agreements

1992 Fisheries Deed of Settlement

Maori Fisheries Act 2004

The Ministry of Fisheries Research Planning and Implementation Cycle

SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
3.1.2	<p>Consultation, roles and responsibilities The management system has effective consultation processes that are open to interested and affected parties.</p> <p>The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties.</p>	<p>Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are <u>generally understood</u>.</p> <p>The management system includes consultation processes that <u>obtain relevant information</u> from the main affected parties, including local knowledge, to inform the management system.</p>	<p>Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are <u>explicitly defined and well understood for key areas</u> of responsibility and interaction.</p> <p>The management system includes consultation processes that <u>regularly seek and accept</u> relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.</p> <p>The consultation process <u>provides opportunity</u> for all interested and affected parties to be involved.</p>	<p>Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are <u>explicitly defined and well understood for all areas</u> of responsibility and interaction.</p> <p>The management system includes consultation processes that <u>regularly seek and accept</u> relevant information, including local knowledge. The management system demonstrates consideration of the information and <u>explains how it is used or not used</u>.</p> <p>The consultation process <u>provides opportunity and encouragement</u> for all interested and affected parties to be involved, and <u>facilitates</u> their effective engagement.</p>

Scoring Comments
<p>WCPFC framework</p> <ul style="list-style-type: none"> Organisations and individuals involved in the management process have been identified. Roles and responsibilities are defined and well understood for key areas of responsibility and interaction WCPFC has input from members to make decisions, has members on advisory bodies, allows participation by non-members, and allows observers The Commission considers input and opinions from all cooperating members before implementing new guidelines and regulations, and the roles and responsibilities of each member party are clearly described. <p>NZ framework</p> <ul style="list-style-type: none"> Section 12 of the 1996 Act includes a range of specific consultation requirements. The Minister of Fisheries is required to consult with those classes of persons having an interest (including, but not limited to, Maori, environmental, commercial and recreational interests) in the stock or the effects of fishing on the aquatic environment in the area concerned; Section 12 only relates to certain sections of the 1996 Act. However there are other sections of the 1996 Act that require the Minister or MFish Chief Executive to consult with stakeholders before making a decision. The Ministry of Fisheries has a well defined process for stakeholder consultation

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<ul style="list-style-type: none"> The consultation process sets out best practice process for how MFish will meet its obligations under s 12 of the Fisheries Act 1996 and for other decisions requiring consultation with fisheries stakeholders; <ul style="list-style-type: none"> helps to ensure a consistent approach across all MFish business groups when consulting with fisheries stakeholders; and sets out minimum performance measures where appropriate, e.g., a minimum period for stakeholder consultation. <p>The consultation process standard includes the following –</p> <ul style="list-style-type: none"> Identification of stakeholders “having an “interest” for consultation purposes, Time frame for consultation Notification of decision to stakeholders Monitoring, review and oversight <ul style="list-style-type: none"> As part of the consultation process, stakeholders are given the opportunity to provide feedback on the delivery of the process itself. The feedback is evaluated and used to fine tune future consultation processes. 			
Score: 95			
All elements meet SG80; most achieve higher performance, at SG100; only a few fail to achieve SG100.			
Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are <u>explicitly defined and well understood</u> for almost <u>all areas</u> of responsibility and interaction. The management system includes consultation processes that <u>regularly seek and accept</u> relevant information, including local knowledge. The management system demonstrates consideration of the information and <u>explains how it is used or not used</u> .			
Audit Trace References			
Western and Central Pacific Fisheries Commission website http://www.wcpfc.int/ Western Pacific Fisheries Management Council. 2006. Annual Report, Pelagic Fisheries of the Western Pacific Region. (SAFE Report). Western and Central Pacific Fisheries Commission (WCPFC). 2007. Technical and Compliance committee Third Regular Session - Summary Report. Available at: http://www.wcpfc.int/tcc3/pdf/TCC3%20Summary%20Report%20and%20Attachments.pdf Ministry of Fisheries Stakeholder consultation process Standard – executive summary www.fish.govt.nz MFish Sustainability and Regulation Advice process Initial Position Papers- MFish Final Advice Papers - MFish			

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
3.1.3	Long term objectives The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Principles and Criteria, and incorporates the precautionary approach.	Long-term objectives to guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are <u>implicit</u> within management policy.	<u>Clear</u> long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are <u>explicit</u> within <u>and required by</u> management policy.

Scoring Comments
<p>WCPFC Framework</p> <ul style="list-style-type: none"> Members of the Commission agree to apply the precautionary approach in accordance with this Convention and all relevant internationally agreed standards and recommended practices and procedures. New Zealand has signed the Convention on the Conservation and Management of Highly Migratory Fish Stock in the Western and Central Pacific Ocean. The objective of this Convention is to ensure, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks in the western and central Pacific Ocean in accordance with the 1982 Convention and the Agreement. There are currently no TACs, trip limits or size limits for albacore tuna in the WCPO, but as adequate research and monitoring plans are in place, it is assumed that they will be implemented at the first indication they are required. Commission members, cooperating non-members and participating territories of the WCPFC “shall not increase the number of their fishing vessels actively fishing for South Pacific albacore in the Convention Area south of 20°S above current (2005) levels or recent historical (2000-2004) levels.” <p>NZ framework</p> <p>Significant long term fishery and environmental objectives are included within both NZ fisheries and environmental legislation and these guide decision making.</p> <p>S 10 of the Fisheries Act Information principles says</p> <ul style="list-style-type: none"> All persons exercising or performing functions, duties, or powers under this Act, in relation to the utilisation of fisheries resources or ensuring sustainability, shall take into account the following information principles: <ul style="list-style-type: none"> (a) Decisions should be based on the best available information: (b) Decision makers should consider any uncertainty in the information available in any case: (c) Decision makers should be cautious when information is uncertain, unreliable, or inadequate: (d) The absence of, or any uncertainty in, any information should not be used as a reason for postponing or failing to take any measure to achieve the purpose of this Act.

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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Score: 80
SG 80 is met <u>Clear</u> long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are <u>explicit</u> within management policy.
Audit Trace References
Western and Central Pacific Fisheries Commission website http://www.wcpfc.int/ Western Pacific Fisheries Management Council. 2006. Annual Report, Pelagic Fisheries of the Western Pacific Region. (SAFE Report). Western and Central Pacific Fisheries Commission (WCPFC). 2006. Strategic Research Plan 2007-2011. Available at: http://www.wcpfc.int/pdf/Research_Plan_2007_2011.pdf NZ Fisheries Act 1996 Draft National Plan Highly Migratory Species, Appendix 4 Supporting Information (albacore) Priority Setting standards for 2009/10 Ministry of Fisheries Initial Position Paper 2007 Albacore Tuna (ALB)

SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
3.1.4	Incentives for sustainable fishing The management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing.	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2.	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and seeks to ensure that negative incentives do not arise.	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and <u>explicitly considers</u> incentives in a <u>regular review</u> of management policy or procedures to ensure that they do not contribute to unsustainable fishing practices.
Scoring Comments WCPFC Framework <ul style="list-style-type: none"> There are both formal (and informal linkages between groups of fishers which promote sustainable and ethical fishing practices NZ Framework <ul style="list-style-type: none"> There are permit, reporting and training requirements which are designed to maintain the fishery within sustainability goals. Although opportunities for management incentives have been limited, speciality product and labelling incentives are expected to contribute to rewarding of sustainable practices Customary and legal rights are taken into account in the management system. There is recognition of treaty partnership between Maori and the NZ government for the protection of customary harvest rights in fisheries. There are mechanisms in place and opportunities for stakeholders are actively involved in the management of fisheries There are no direct subsidies which could contribute to unsustainable fishing 				
Score: 80 SG 80 is met The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and seeks to ensure that negative incentives do not arise.				
Audit Trace References Fisheries Act 1996 Treaty of Waitangi (Fisheries claims) Settlement Act 1992				

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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3.2	Fishery- specific management system		
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3.2.1	Fishery-specific objectives The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2.	Objectives, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are <u>implicit</u> within the fishery's management system.	Short and long term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are <u>explicit</u> within the fishery's management system.	Well defined and measurable short and long term objectives, which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are <u>explicit</u> within the fishery's management system.
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Scoring Comments				
<p>WCPFC Framework</p> <ul style="list-style-type: none"> WCPFC has clear short and long term objectives for the WCPO. New Zealand has signed the Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean. The objective of this Convention is to ensure, through effective management, the long-term conservation and sustainable use of highly migratory fish stocks in the western and central Pacific Ocean in accordance with the 1982 Convention and the Agreement. The Convention agreement includes measures to protect stock status, trophic relationships and habitat. Resolutions to mitigate and prevent bycatch of non target fish, seabirds, turtles and sharks exists NZ vessels must also follow a law relating to the prevention of marine pollution and maritime disaster, which addresses some of the outcomes of P2. Resolutions with measures to mitigate and prevent bycatch of non-target fish, seabirds, turtles and sharks exist. <p>NZ Framework</p> <p>The Ministry of Fisheries is working with all fisheries stakeholders to develop the Highly Migratory Fisheries Plan. They are intended to allow MFish to improve the way it prioritises use of Ministry resources and provide a clearer basis for monitoring performance or each fishery.</p> <p>The NZ albacore fishery is not in the QMS. MFish has consulted stakeholders on two occasions about introducing albacore to the QMS. On both occasions, the decision was made not to introduce albacore at that time. MFish's preferred option was to introduce albacore into the QMS. In 2005, the Minister noted he considered at that time the current open access management arrangement for albacore was able to provide for the utilisation of the species in New Zealand waters. However in 2007 MFish was directed to engage and consult with stakeholders on several issues including, the development of management objectives to guide the setting of a TAC for albacore if it were introduced to the QMS in future.</p> <p>It is highly recommended that albacore becomes part of the QMS and that the Highly Migratory Plan is completed with stakeholder participating in the process.</p> <p>This PI does not meet 80 SG in the NZ framework as the short and long term objectives which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are <u>explicit</u> within the fishery's management system.</p>				

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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<p>Score: 70</p> <p>The NZ albacore fishery has <u>objectives</u>, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are <u>implicit</u> within the fishery's management system.</p> <p>When the Highly Migratory Fisheries Plan which includes albacore tuna is implemented then <u>Short and long term objectives</u>, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, will be <u>explicit</u> within the fishery's management system.</p> <p>All elements meet SG60; most achieve higher performance, at SG80; only a few fail to achieve SG80</p> <p>Condition 3 has been generated for this PI</p> <p>Audit Trace References</p> <p>Western and Central Pacific Fisheries Commission website http://www.wcpfc.int/</p> <p>Western Pacific Fisheries Management Council. 1990. Fishery Management Plan for Pelagic Fishes of the Western Pacific Region, with amendments.</p> <p>Western Pacific Fisheries Management Council. 2007. Annual Report, Pelagic Fisheries of the Western Pacific Region. (SAFE Report).</p> <p>Western and Central Pacific Fisheries Commission (WCPFC). 2006. Strategic Research Plan 2007-2011. Available at: http://www.wcpfc.int/pdf/Research_Plan_2007_2011.pdf</p> <p>NZ Fisheries Act 1996</p> <p>HMS Fisheries Plan. Draft Information Summary v1 29/10/2007</p>
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SCORING CRITERIA		SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
3.2.2	Decision-making processes The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives.	<p>There are <u>informal</u> decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.</p> <p>Decision-making processes respond to <u>serious issues</u> identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take <u>some</u> account of the wider implications of decisions.</p>	<p>There are <u>established</u> decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.</p> <p>Decision-making processes respond to <u>serious and other important issues</u> identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.</p> <p>Decision-making processes use the precautionary approach and are based on best available information.</p> <p><u>Explanations</u> are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.</p>	<p>There are <u>established</u> decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.</p> <p>Decision-making processes respond to <u>all issues</u> identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.</p> <p>Decision-making processes use the precautionary approach and are based on best available information.</p> <p><u>Formal reporting</u> to all interested stakeholders describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.</p>

Scoring Comments
<p>WCPFC Framework</p> <p>The Convention includes an article on decision making that requires decision making to be by consensus with few exceptions, which are well defined and explained. The Convention includes an article on decision making that requires decision-making in the Commission to be by consensus, with few exceptions, which are well defined and explained</p> <p>NZ framework</p> <p>Management decision making processes are clearly outlined in the Fisheries Act 1996 and in various Ministry Papers including the Initial Position Papers and Final Advice Papers.. The Minister of Fisheries is the final decision maker. The Ministry has the responsibility to ensure that he is provided with carefully analysed alternatives for consideration before making any decisions. The Review of Sustainability Measures and Other Management Controls for each fishing year are provided to the Minister. Information and input from stakeholders is included in this document. There is evidence that decisions have been based on a precautionary approach.</p> <p>The Ministry has a planning process in place to establish future directions and priorities for fisheries research. This planning process involves consultation, planning and project</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>development.</p> <p>Effective management of New Zealand's fisheries is underpinned by the purchasing of research that produces the high quality information required to ensure the sustainable utilisation of these resources. The management of fisheries to achieve these goals is based upon the scientific evaluation of:</p> <ul style="list-style-type: none"> • sustainable yield from fisheries resources; • the effects of fishing on the aquatic environment, including on the viability of associated or dependent species and on biological diversity; • alternative strategies for achieving the desired level of yield while avoiding, remedying, or mitigating adverse effects of fishing on the aquatic environment; • analysis of relevant cultural, economic, and social factors that may need to be included in the management decision process; and • specific measures needed to implement the preferred strategy. <p>The Ministry produces a Statement of Intent every year. This publication looks out over the next five years and sets out the Ministry of Fisheries' core role and how it will work with a wide range of parties who participate in government planning and decision-making in fisheries management.</p>			
Score: 90			
<p>All elements meet SG80; some achieve higher performance at SG100 but some do not</p> <p>There are <u>established</u> decision-making processes that result in measures and strategies to achieve the fishery-specific objectives. Decision-making processes respond to <u>serious and other important issues</u> identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.</p> <p>Decision-making processes use the precautionary approach and are based on best available information. <u>Formal reporting</u> to all interested stakeholders describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.</p>			
Audit Trace References			
<p>Western and Central Pacific Fisheries Commission website http://www.wcpfc.int/</p> <p>Western Pacific Fisheries Management Council. 1990. Fishery Management Plan for Pelagic Fishes of the Western Pacific Region, with amendments.</p> <p>Western Pacific Fisheries Management Council. 2007. Annual Report, Pelagic Fisheries of the Western Pacific Region. (SAFE Report).</p> <p>Western and Central Pacific Fisheries Commission (WCPFC). 2006. Strategic Research Plan 2007-2011. Available at: http://www.wcpfc.int/pdf/Research_Plan_2007_2011.pdf</p> <p>Fisheries Act 1996</p> <p>Ministry of Fisheries Statement of Intent 2009 www.fish.govt.nz</p> <p>Ministry of Fisheries Initial Position Paper</p> <p>Ministry of Fisheries Final Advice Paper</p> <p>MFish Review of Sustainability Measures and Other Management Controls</p> <p>Ministry of Fisheries Research Planning and Implementation Cycle</p> <p>Ministry of Fisheries Priority setting Standards for 2009/10</p>			

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
3.2.3	<p>Compliance and enforcement</p> <p>Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with.</p>	<p>Monitoring, control and surveillance <u>mechanisms</u> exist, are implemented in the fishery under assessment and there is a reasonable expectation that they are effective.</p> <p>Sanctions to deal with non-compliance exist and there is some evidence that they are applied.</p> <p>Fishers are <u>generally thought</u> to comply with the management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery.</p>	<p>A monitoring, control and surveillance <u>system</u> has been implemented in the fishery under assessment and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.</p> <p>Sanctions to deal with non-compliance exist, <u>are consistently applied</u> and thought to provide effective deterrence.</p> <p><u>Some evidence exists</u> to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery.</p> <p>There is no evidence of systematic non-compliance.</p>

Scoring Comments
<p>WCPFC Framework</p> <ul style="list-style-type: none"> The following monitoring, enforcement and compliance measures -VMS, transhipments, transhipment activities, at-sea inspections, port inspections, observer monitoring, monitoring of trade and domestic distribution of HMFS, seagoing patrols, aerial surveillance and inspections of domestic only vessels -are listed as activities for the Commission. However, the geographical area is huge and no levels of compliance or frequency of patrols are listed. Members of the WCPFC shall not grant a vessel authorization to fish if it is on the Convention's IUU vessel list. <p>NZ Framework</p> <p>NZ endeavours to deter fisheries related offending through successful prosecution and deterrent penalties. Penalties for fisheries related offences include fines, forfeiture of fish, vessels, other property and quota, and imprisonment.</p> <p>A number of monitoring, control and surveillance tools are used to control the activities of vessels fishing within NZ fisheries waters including:</p> <ul style="list-style-type: none"> Fishing permit requirements Requirement to hold annual catch entitlement to cover all target and bycatch species caught, or alternatively, to pay deemed values Fishing permit and fishing vessel registers Vessel Monitoring System (VMS) requirements

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<ul style="list-style-type: none"> • Vessel and gear marking requirements • Fishing gear and method restrictions • Observer Programme • Reporting (including catch and effort reporting) requirements • Vessel inspections • Control of landings (e.g. requirement to land only to licensed fish receivers) • Record keeping requirements • Auditing of licensed fish receivers • Control of transshipment • Monitored unloads of fish • Information management and intelligence analysis • Analysis of catch and effort reporting and comparison with VMS, observer, landing and trade data to confirm accuracy • Boarding and inspection by fishery officers at sea • Aerial and surface surveillance, and • Any other measures agreed by Regional Fisheries Management Organisations (RFMOs) <p>The observer coverage of NZ vessels has recently been increased to 76 days. Although this is an improvement it is still not a very high percentage for the fishery. It is highly recommended that consideration be given to increasing the number of observer days on NZ vessels fishing albacore.</p>			
Score: 90			
<p>All elements meet SG80; some achieve higher performance at SG100 but some do not</p> <p>A monitoring, control and surveillance <u>system</u> has been implemented in the fishery under assessment and has demonstrated an ability to enforce relevant management measures, strategies and/or rules. Sanctions to deal with non-compliance exist, <u>are consistently applied</u> and thought to provide effective deterrence. There is a <u>high degree of confidence</u> that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery. There is no evidence of systematic non-compliance.</p>			
Audit Trace References			
<p>Western and Central Pacific Fisheries Commission (WCPFC). 2007. Technical and Compliance committee Third Regular Session - Summary Report. Available at: http://www.wcpfc.int/tcc3/pdf/TCC3%20Summary%20Report%20and%20Attachments.pdf</p> <p>Western and Central Pacific Fisheries Commission (WCPFC). 2006. Commission Vessel Monitoring System. Available at: http://www.wcpfc.int/pdf/Conservation%20and%20Management%20Measure-2006-06%20%5BCommission%20VMS%5D.pdf</p> <p>Ministry of Fisheries Observer Seadays Plan for 2009 – 2010(final)</p>			

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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Ministry of Fisheries Observers report MFish Compliance – Fisheries Service Delivery Model Fisheries Act 1996

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
3.2.4	Research plan The fishery has a research plan that addresses the information needs of management.	<u>Research</u> is undertaken, as required, to achieve the objectives consistent with MSC's Principles 1 and 2. Research results are <u>available</u> to interested parties.	A <u>research plan</u> provides the management system with a strategic approach to research and <u>reliable and timely information</u> sufficient to achieve the objectives consistent with MSC's Principles 1 and 2. Research results are <u>disseminated</u> to all interested parties in a <u>timely</u> fashion. A <u>comprehensive research plan</u> provides the management system with a coherent and strategic approach to research across P1, P2 and P3, and <u>reliable and timely information</u> sufficient to achieve the objectives consistent with MSC's Principles 1 and 2. Research <u>plan</u> and results are <u>disseminated</u> to all interested parties in a <u>timely</u> fashion and are <u>widely and publicly available</u> .

Scoring Comments
<p>WCPFC Framework</p> <ul style="list-style-type: none"> • The commission has a strategic Research Plan 2007-2011 which includes overall research and data collection priorities. • This plan is periodically reviewed to ensure it remains responsive to the Commission's needs. • The Commission obtains data from members and oversees research through various committees. They have a Strategic Research Plan, observer data collection priorities, and several resolutions which encourage research and experimentation. • Members are required to report estimates of annual catches, number of active vessels, operational level catch and effort data (including activity, date, noon position and weight of fish caught per day), catch and effort data aggregated by time period and geographic area (if the coverage rate of the operational level catch and effort data that are provided to the Commission is less than 100%), and size composition data. • The Strategic Research Plan (2007-2011) is intended to serve an initial period of five years from 2007. As there will be an ongoing need for an adaptive research plan to support the Scientific Committee's objective of providing the best available scientific advice, the Plan will be periodically reviewed <p>NZ Framework</p> <p>The Ministry has a planning process in place to establish future directions and priorities for fisheries research. This planning process involves consultation, planning and project development. The Research Co-ordinating Committee meets annually with fisheries stakeholders to discuss, evaluate, and make recommendations on the direction of research. The recommendations come from Research Planning Groups who contribute to the process in regards to specific research areas</p> <p>Although there is no specific "research plan" for the NZ albacore fishery the criterion for this PI states that the management system shall incorporate a research plan, appropriate to the scale and intensity of the fishery, which addresses the information needs of management and provides for dissemination of research results to all interested parties in a timely fashion.</p> <p>There is a strategic approach to research for NZ albacore which is pro-active, anticipatory and identifies gaps in knowledge in advance driven by management needs. This is considered appropriate for the size and scale of this fishery.</p> <p>There does appear to be effective coordination among research providers, there is accessibility of research information and results and the quality of the research is high.</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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The MFish Research planning process ensures that result are disseminated to all interested parties in a timely fashion

Score: 80

There is clear evidence of research taking place to achieve the objectives of P1 and P2. Research is also carried out in response to fishery. There does appear to be effective coordination among research providers, there is accessibility of research information and results and the quality of the research is high.

Audit Trace References

Western and Central Pacific Fisheries Commission (WCPFC). 2006. Strategic Research Plan 2007-2011. Available at:
http://www.wcpfc.int/pdf/Research_Plan_2007_2011.pdf
 The Ministry of Fisheries Research Planning and Implementation Cycle
 Priority Setting Standards for 2009/10
 NZ Fisheries required services 2008

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
<p>3.2.5 Monitoring and management performance evaluation</p> <p>There is a system for monitoring and evaluating the performance of the fishery-specific management system against its objectives.</p> <p>There is effective and timely review of the fishery-specific management system.</p>	<p>The fishery has in place mechanisms to evaluate <u>some</u> parts of the management system and is subject to <u>occasional internal</u> review.</p>	<p>The fishery has in place mechanisms to evaluate <u>key</u> parts of the management system and is subject to <u>regular internal</u> and <u>occasional external</u> review.</p>	<p>The fishery has in place mechanisms to evaluate <u>all</u> parts of the management system and is subject to <u>regular internal</u> and <u>external</u> review.</p>

Scoring Comments
<p>WCPFC Framework</p> <ul style="list-style-type: none"> • The scientific system supporting the management is subject to numerous internal and external reviews (through eg SPC) and the Interim Scientific Committee • Progress with implementation of conservation management measures (CMMs) is monitored through the reporting provisions within the CMMs themselves or the Annual Reports by CCMs to the Commission. • The Technical and Compliance Committee (TCC) provide the Commission with information, technical advice and recommendations relating to the implementation of, and compliance with, CMMs (Convention Article 14). • Each member shall transmit to the Commission an annual statement of compliance measures, including imposition of sanctions for any violations, it has taken. • The Technical and Compliance Committee of the Convention has regular sessions which include a review of members’ implementation of and compliance with conservation and management measures. • The Commission may make appropriate arrangements for periodic peer review of scientific information and advice provided to the Commission by the scientific experts. • The Scientific Committee reviews the stock assessments, status of target, non-target and associated or dependent stocks and provides information, advice and comments as necessary, <p>NZ framework</p> <p>The management system has internal processes to evaluate management performance. These include for the policy, research, operations, compliance and enforcement. Also refer MFish Statement of Intent. The Ministry is currently undergoing a major review of its structure and functions.</p> <p>The stock assessment process is rigorously reviewed both internally and externally</p>

SCORING CRITERIA	SCORING GUIDEPOST 60	SCORING GUIDEPOST 80	SCORING GUIDEPOST 100
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Score: 80
The fishery has in place mechanisms to evaluate <u>key</u> parts of the management system and is subject to <u>regular internal</u> and <u>occasional external</u> review.
Audit Trace References
Ministry of Fisheries Statement of Intent

Appendix B: Peer Review Reports

1. Peer Reviewer Biographies
2. Peer Review Report A
3. Peer Review Report B

Peer Reviewer Bibliographers

1. **Robert GILLETT.** Robert Gillett has been involved in tuna fisheries and their development/management over the last 30 years. This has included three years aboard a pole-and-line vessel, over 100 reports and publications on tuna fisheries, and work in New Caledonia, Papua New Guinea, Solomon Islands, Vanuatu, Fiji, Tonga, Wallis-Futuna, Kiribati, Marshall Islands, Federated States of Micronesia, Northern Marianas, Guam, Tokelau, Cook Islands, French Polynesia, New Zealand, Australia, Nauru, Samoa, American Samoa, Pitcairn, Niue, Philippines, Indonesia, Pakistan, Seychelles and Maldives. Gillett's clients for the tuna work have included the United Nations Development Programme, Secretariat of the Pacific Community, Forum Fisheries Agency, Food and Agriculture Organization of the United Nations, the World Bank, International Finance Corporation, the Australian Agency for International Development, the Nature Conservancy, Pacific Islands Forum Secretariat, the Asian Development Bank, University of Hawaii, U.S. National Oceanic and Atmospheric Administration, European Union, Commonwealth Secretariat, the Western and Central Pacific Fisheries Commission, the Worldwide Fund for Nature, the International Sustainable Seafood Foundation, and the Indian Ocean Tuna Commission.

Some of his recent report/publications on tuna fisheries include:

- Gillett, R and M. Herrera (2009). Estimating the Capacity of the Tuna Fleets in the Indian Ocean. Indian Ocean Tuna Commission, Victoria.
- Gillett, R. (2009). Replacing Purse Seining with Pole-and-Line Fishing in the Western Pacific: Some Aspects of the Baitfish Requirements. International Sustainable Seafood Foundation.
- Gillett, R. (2009). Tuna Management Plans in the Pacific Ocean - Lessons Learned in Plan Formulation and Implementation. Forum Fisheries Agency, Honiara.
- Gillett, R. and D. Bromhead (2008). Tuna for Tomorrow ? - Some of the Science Behind an Important Fishery in the Pacific Islands. Asian Development Bank and Secretariat of the Pacific Community, Manila, ISBN 978-971-561-651-5.
- Gillett, R. (2008). A Study of Tuna Industry Development Aspirations of FFA Member Countries. Forum Fisheries Agency, Honiara, 70 pages.
- Gillett, R., G. Preston, and H. Walton (2008). Development of Tuna Fisheries in the Pacific ACP Countries (DevFish) - Mid Term Review. European Union, 59 pages.
- Gillett, R. (2007). Some Considerations on Monitoring, Control, and Surveillance and on International Relations in the Fisheries Sector of the Maldives. World Bank/FAO Long Term Fisheries Development and Management for the Maldives. Food and Agriculture Organization of the United Nations and the World Bank, 40 pages.
- Gillett, R. and M. McCoy (2006). Report of a Survey to Establish the Capacity of Longline and Pole-and-Line Fleets in the Western and Central Pacific Ocean. Gillett, Preston and Associates Inc. for the Pacific Island Regional Office, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Administrative Report AR-PIR-07-01, 62 pages.
- Gillett, R. (2006). Report of Visit to Indonesia: Information on Longline and Pole/Line Vessels in the Pacific Area. US National Marine Fisheries Service.
- Gillett, R. (2006). Report of the Mission of a Tuna Specialist to Pakistan Food and Agriculture Organization of the United Nations, Rome, 7 pages.
- McCoy, M. and R. Gillett (2005). Tuna Longlining by China in the Pacific Islands: A Description and Considerations for Increasing Benefits to FFA Member Countries. Gillett, Preston and Associates, for the Forum Fisheries Agency, 85 pages.
- Gillett, R. (2005). Global Study of Non-Industrial Tuna Fisheries. Pages 177-232, In: W. H. Bayliff, J. I. de Leiva Moreno & J. Majkowski (eds.) Proceedings of the Second Meeting of the Technical Advisory Committee of the FAO Project "Management of tuna fishing capacity: conservation and socio-economics" Madrid (Spain), 15-18 March. Fisheries Proceedings No.2, Food and Agriculture Organization of the United Nations, Rome, 55 pages.
- Gillett, R. (2004). Aspects of Fisheries Management in the Maldives. FAO FishCode Review No.2, ISSN:1728-4392, Food and Agriculture Organization of the United Nations, Rome, 54 pages

2. Kevin MCLOUGHLIN. Kevin McLoughlin is a specialist fisheries consultant who previously worked with the Bureau of Rural Sciences as a Senior Fisheries Scientist engaged in a wide range of international and domestic fisheries issues with close links to Government policy. Responsibilities included production of BRS Fishery Status Reports—these have had a major influence on the direction of Australia’s fisheries management and policy. Responsibilities have required a high level of interaction with policy and industry clients, and with international organisations. An important aspect of his work has been to be able to translate complex fisheries information to a range of audiences. Examples of recent roles include:

- Leader of Australia’s 2006 delegation during 2 weeks of scientific meetings of the Commission for the Conservation of Southern Bluefin Tuna in Tokyo.
- Member of Australian Fishery Management Authority fishery assessment and management advisory groups, including as Chair of the Western Tuna and Billfish Resource Assessment Group and scientific member of the Western Tuna and Billfish Management Advisory Committee from 2005 to 2008.
- Member of DAFF’s Shark Implementation Group for implementation of the National Plan of Action for Sharks.
- Chair of the National Shark Recovery Group from 2005 to 2008.
- Australian representative on scientific issues at the Indian Ocean Tuna Commission (IOTC) for 4 years; Chair of the IOTC Working Party on Ecosystems and Bycatch for its first 3 annual meetings; Chair of the IOTC Working Party on Billfish in 2006.
- Participation in Australian delegation at 2008 meeting to progress the *Regional Plan of Action to Promote Responsible Fishing Practices including Combating IUU Fishing* in Bangkok.

He has also represented BRS on many committees and groups such as AFMA’s fishery assessment groups (including southern shark, scallop, northern prawn, western tuna), DAFF’s Shark Implementation Group for the National Plan of Action for Sharks, the Basslink Environmental Review Committee and others. From 2005 to 2008 I was Chair of the Department of Environment and Heritage National Shark Recovery Group. I represented Australia on scientific issues at the Indian Ocean Tuna Commission and as Chair of their Working Party on Bycatch. I led Australia’s delegation to 2006 scientific meetings of the Commission for the Conservation of Southern Bluefin Tuna.

Peer Reviewer A: New Zealand Albacore Tuna Troll Fishery

I could not find any major deficiencies in the MSC Assessment Report for the New Zealand Albacore Tuna Troll Fishery. In my comments below I make some suggestions for additional items to be included, but I consider the report as it is to realistically reflect the fishery and the strong/weak points of its management. The conditions attached are suitable, but consideration should be given to clarifying the agencies involved. Nevertheless, the information presented in the report justifies certification of the fishery.

I have made some suggestions for improving the well-crafted document – but many of them, as you will see, are not commenting on or correcting inaccuracies, but rather proposing modifications that may make the report easier to read and/or more understandable to people who are not intimately familiar with the New Zealand albacore tuna troll fishery and/or MSC procedures.

In the sections below, the following points are covered:

- Improving the report: (a) some general points and (b) some minor points that may or may not require changes.
- Some comments on whether the information in the Assessment Report has been applied appropriately
- The suitability of the conditions attached to certification

Improving the Report: Some General Points

“Observer” is mentioned 55 times in the document. There is considerable mention of:

- The limited coverage of the NZ albacore troll fishery
- The importance of observers as an MCS tool
- The usefulness of observer data for determining bycatch quantities/composition
- An evaluation the need for increased observer coverage
- The low level of observer coverage negatively affecting the scoring

One of the recommendations concerns increasing observer coverage. Considering the importance of fishery observers in the assessment, it would seem that more information should be given on this subject. The only text I could find on observer coverage is: “The observer coverage of NZ vessels has recently been increased to 76 days”. I would find it useful to know the total number of vessel days (i.e. to be able to get the ratio of observer days to total days) and the evolution of this coverage since the beginning of the fishery. Otherwise, I find it difficult to judge the significance of the “limited” observer coverage, and the relative importance of the recent increases in coverage.

Moody Marine comment: Additional information has been incorporated into the report. There was no historic observer coverage in this fishery. Exploratory observer coverage on one vessel occurred in 2006/07 fishing year and it has recently been increased to 76 days for the 2008/2009 fishing year. There are ~ 200 boats fishing seasonally.

I recently completed a global study for FAO on bycatch in certain types of fisheries³. One of the findings of that study was the huge diversity of definitions for the term “bycatch”. I wrote:

“The various uses of the term “bycatch” cause considerable confusion, especially for a global study that encompasses several areas that use the term differently. Many fisheries specialists in the various regions of the world feel their definitions of bycatch are universal (or at least should be).”

I assume the audience for the MSC assessment report is broader than just stakeholders in New Zealand (where there may be a consensus on the term “bycatch”). Accordingly, I suggest that term “bycatch” be carefully defined in the MSC assessment report.

Moody Marine comment: The following text has been put into the report at 7.1 (Retained species).

The definition of by-catch used in this report follows that defined in the MSC Guidance documentation, where non-target species that are kept for commercial purposes are termed retained species and other non-target species that are not kept (i.e. discarded) are by-catch. The MSC terminology defines by-catch as “organisms that have been taken

³ Gillett, R. (2010). A Global Study of Bycatch in Small-Scale Tuna Fisheries. Food and Agriculture Organization of the United Nations, Rome, 81 pages.

incidentally and are not retained (usually because they have no commercial value”.

The MSC Guidance document - Anon. (2008a) Fisheries Assessment Methodology and Guidance to Certification Bodies. Default Assessment Tree, Performance Indicators and Scoring Guideposts. Version 1, 21st July 2008. 77pp- has been added to the reference list at section 2.4

Shark management:

- The report states: (a) “Implement shark action plan recommendations as required within the fishery”, and (b) “Implementation of the shark plan of action would assist in this regard”. I could find no background information on these plans in the report. Considering its importance (the issue is elevated to Recommendation 3), I think more background on this is required.

Moody Marine comment: Text to narrative has been added in section 7.2 (By-catch).

In October 2008 the New Zealand Government published a National Plan of Action for the Conservation and Management of Sharks in an attempt to rationalize shark management issues within all NZ fisheries. This should be applied coherently by all fisheries that impact sharks, including the albacore troll fishery.

The following reference has been added to the reference list.

Anon. (2008b). National Plan of Action for the Conservation and Management of Sharks. 90pp

- I question the need for a shark management plan if the fishery takes something like 250 kg of sharks per year. Is this going a bit overboard? Seems like the money would be much better spent on items like an observer program.

Moody Marine comment: While catches appear to be low, there is uncertainty and concern about some sharks so better information is required. This can be achieved through a number of routes including increased observer coverage and/or better catch recording by the industry (which would be a key part of any shark management plan). Even with the proposed increases in observer coverage, this would not necessarily give adequate coverage to understand the full impact on the various species of shark, so the shark management plan was an additional approach to address this. Also, for the NPOA to be implemented, a shark management plan needs to be defined for this fishery.

Improving the Report: Some Minor Points

Does the statement on page 2 “Management System: MFish” conflict with a statement on page 16: “The South Pacific albacore fishery is not managed by New Zealand” ?

Moody Marine comment: It is agreed this was confusing in the report and wording has been revised accordingly. Management of the albacore throughout the Western and Central Pacific Ocean (WCPO) is the responsibility of the Western and Central Pacific Fisheries Commission (WCPFC. Under this regional convention New Zealand is responsible for ensuring management applies within the NZ fisheries waters are comparable with those of coastal states. The NZ albacore fishery is managed under the NZ Fisheries Act.

It is unclear whether the “regional registry” (page 12) is the “FFA Vessel Register” or the WCPFC “Record of Fishing Vessels”. If it is the former, the text of the report needs to be modified to reflect the fact that it is a list of vessels “in good standing”.

Moody Marine comment: This has been clarified in the text.

When I read the paragraph on page 13 that starts with “Sensitivity analysis...” I was a bit confused. Because of the terms “assessment scientists” and especially “pre-assessment” are similar to some MSC terms, I was wondering whether the paragraph was about the albacore stock assessment or if it was some kind of MSC-related committee examining the validity of the stock assessments. Perhaps a sentence or two of clarification could be added.

Moody Marine comment: The MSC assessment has not carried out any analyses and references are all made to the

stock assessment, not the MSC assessment. This has been clarified.

On page 17 there is a statement “The only current control on the fishery is to limit the number of fishing vessels.” If this is meant to apply to all fishing on the stock (as the following sentence implies), this is not strictly true. All South Pacific countries that fish for albacore have formulated fishery management plans – each of which specifies a number of controls. Tonga, for example, has a TAC for its longline fishery.

Moody Marine comment: This is meant to read ... current control in New Zealand fisheries waters. The text in report has been corrected.

On page 23 there is a statement: “The WCPFC has a dispute resolution mechanism. Additionally dispute resolution through litigation and the courts is available and has been well tested”. If this refers to disputes at the level of WCPFC parties (as the previous sentence implies), I am not aware of the litigation that has occurred.

Moody Marine comment: The text has been altered to reflect this.

Page 31 contains the statement: “The Wildlife Act 1953 gives absolute protection to wildlife throughout New Zealand and its surrounding marine Exclusive Economic Zone.” Unless there is some definition which restricts what is considered “wildlife”, then this statement appears a bit over-stretched.

Moody Marine comment : The Act defines what is covered as wildlife

On page 78 there is a discussion on whether the fishery may disrupt the key elements of the underlying ecosystem. In support of your argument, perhaps you could point out that SPC scientists are actively considering the issue of the ecosystem effects of pelagic fishing. Their findings suggests a more “bottom-up” than “top-down” influence; that is, that the amount of nutrients and small food organisms in the ocean have a much more dominant role in structuring the pelagic ecosystem than the upper-level predators.

Moody marine Comment: Fisheries have substantial impacts of the target top predators but only minor impacts on the ecosystem (Sibert, J., Hampton, J., Kleiber, P. and Maunder, M. (2006). Biomass, size and trophic status of top predators in the Pacific Ocean. Science 314, 1773-1776.).

<http://www.spc.int/oceanfish/html/teb/Env&Mod/OFCCP.htm>

On page 80 there is something missing: “A higher score is achievable given an improved strategy, including, for example,.....”

Moody Marine Comment: This should read 2.5.2 A higher score is achievable given an improved strategy, including, for example, by defining and monitoring key ecosystem health indicator species, and defining possible approaches should for different concerns about ecosystem impacts. This has been added to the report.

I counted a dozen or so abbreviations that are not included in the glossary on page 7 (e.g. SPC, PSA, SPO, NPOA, etc.)

Moody Marine comment: Additional abbreviations have now been included in the glossary on page 7 South Pacific Commission, productivity sensitivity analysis, South Pacific Ocean, National Plan of Action

Application of Information to the Scoring Indicators

Stock status: I am not an expert on tuna stock assessment, but I could see no inappropriate application of the report’s stock assessment information to the scoring indicators. The information presented is consistent with what I have seen come out of the meetings of the WCPFC Scientific Committee.

In several places, the report mentions “operational strategy”. For example:

- The operational strategy of the troll fishing method, appears appropriate to eliminate ETP interactions

- The main strategy, however, is operational. The trolling approach does not attract birds or other ETP species to the gear, hence appearing to eliminate interactions.
- The strategy in place for managing impacts on habitat is operational.

This seems a bit too contrived: trying to create the appearance that there is a strategy (i.e. approach/tactic) to address a non-existent issue. I think it would be better and more accurate to simply state that, because the problem is not significant, there is no need for a strategy.

Moody Marine Comment: Operation strategy has been reworded to operational methodology in report.

On page 95 there is the statement: “The following monitoring, enforcement and compliance measures -VMS, transshipments, transshipment activities, at-sea inspections, port inspections, observer monitoring, monitoring of trade and domestic distribution of HMFS, seagoing patrols, aerial surveillance and inspections of domestic only vessels -are listed as activities for the Commission. However no levels of compliance or frequency of patrols are listed”. This implies that it could be possible to determine the level of compliance. Given the huge geographic area involved, there is some doubt that this would ever be possible.

Moody marine comment: The text has been modified to reflect this.

On page 46 there is the statement: “The stock assessment provides an independent assessment of the effectiveness of management in controlling spawning stock biomass and the exploitation rate”. I think it is more accurate to state that changes detected by this stock assessment “....may be related to the effectiveness of management”.

Moody Marine comment: The statement has been adjusted indicating the assessment of management against its objectives.

The increasing observer programme coverage is used in several places to justify a high score. Without knowing the evolution of this coverage (as mentioned above) it is not possible to comment on the validity of this assertion.

With respect to scoring:

- 2.2.1: Despite the absence of a shark action plan, it seems that a catch of 250 kg of sharks per year does not justify downgrading to a score of 85.

Moody Marine Comment: While there is a recommendation to implement the NPOA for sharks, the key issue here is lack of information relating to sharks. Specifically, for the troll fishery is the lack of detailed information about the catches (which could be filled from increased observer coverage), addressing such things as numbers, age, and sex of the by-catch. At a more basic level, the population status of many of these potentially vulnerable species, remain unknown despite some of them being within the NZ QMS. This lack of information about the species and the potential impact that this fishery could be having was the justification for the score given. Had the levels of by-catch been greater these uncertainties would have attracted a lower score and possible a condition.

- 3.1.3: From the information presented, it seems like a much higher score is deserved.

Moody Marine comment:

- 3.1.4: From the information presented, it seems like a higher score is deserved.

Moody Marine comment:

- 3.2.4: From the information presented, it seems like a much higher score is deserved.

Moody Marine comment: In each of the cases above the SG 80 was met but none of the SG 100 requirements. The scores have not been altered.

The Suitability of the Conditions Attached to Certification

The general conditions attached to certification seem reasonable. Some details, however, need to be clarified to eliminate uncertainty.

On page 16 there is the statement: “The South Pacific albacore fishery is not managed by New Zealand”. On page 23 there is the statement: “Existing networks of contacts with stakeholders have been used to establish advisory groups that have worked with the Ministry of Fisheries to develop a HMS (fisheries) management plan.” The first indicates management by WCPFC; the latter may indicate some aspects of the NZ albacore troll fishery will be managed by New Zealand.

Moody Marine comment: P16 has been corrected to say that the NZ albacore fishery is managed under the NZ Fisheries Act.

The conditions contain the following:

- Target and limit reference points need to be agreed by management
- A well-defined harvest control rule needs to be proposed, tested and established by the working group and management authority.
- Short and long term objectives for the NZ albacore fishery, relating to the stock and all the relevant ecosystem components, need to be agreed by stakeholders.

Considering the statements on pages 16 and 23, it is unclear to me who is the (a) management, (b) management authority and (c) stakeholders. Are these agencies those of New Zealand or of the wider WCPFC? Perhaps a sentence or two of clarification could be added.

Moody Marine comment: Management of the albacore throughout the Western and Central Pacific Ocean (WCPO) is the responsibility of the Western and Central Pacific Fisheries Commission (WCPFC). Under this regional convention New Zealand is responsible for ensuring management applies within the NZ fisheries waters are comparable with those of coastal states. The NZ albacore fishery is managed under the NZ Fisheries Act.

Under principle 1, the entire fishery needs to be considered. Therefore, the agreement for reference points and harvest control rule will have to be carried out through the WCPFC. Text has been added making this clear

Peer Reviewer B : New Zealand Albacore Tuna Troll Fishery

This review examines the certification report and the numeric scoring for Principal 1, Principal 2 and Principal 3. Comments on each of these are provided below.

Overview

The certification report and scoring appendices provide a detailed and thorough review of the New Zealand Albacore Troll Fishery, with information on the basic biology of the target species and covering all the main features of the fishery with regard to the MSC Principles and Criteria for Sustainable Fishing. The evaluators provide clear and concise information to support the assessment of each feature of the fishery against the three MSC Principles and there are few suggestions for changes to the report. Some minor typographical errors are present and additional minor editorial work, such as removal of multiple definitions of acronyms, could be undertaken.

The certification report

Some documents referred to in the report are not present in the “Other information sources”. There may be others, but those noticed include Hoyle and Davies (2009), Fournier *et al.* (1998), Anon. (2007) and Strickland.

Moody Marine comment: Albacore IPP has been added as a reference Anon (2007).

There are statements in the report that should be supported with references. For example, on page 8 of the report it is stated that “...natural mortality of 0.34 year⁻¹ has been estimated. It is not clear which assessment this estimate has come from and a reference should be provided (it does not appear to be from Hoyle and Davies (2009)). The “Catch” section on page 15 states that “catch data are thought to be reasonably accurate for the period of assessment”. Again, a reference should be provided. A reference should also be given to support the statement on page 24 referring to Ray’s breem having medium to high productivity.

Moody Marine comment: Reference has been added.

Similarly, page 25 refers to interaction with ETP species being unlikely due to this fishing methodology but no evidence is provided.

Moody Marine comment: Text has been reworded and further justification added.

Also, there is no supporting information for the statement on page 26 that the diet of albacore is well understood across its main life history stages. In the assessment section a reference should be given to the relevant CPUE standardisation paper.

Moody Marine comment: references have been added.

Table 1 presents landings information from the South Pacific Ocean as well as New Zealand landings. It would also be useful to see the New Zealand troll fishery landings.

The stock assessment information is generally well presented. The 1st paragraph on page 17 comments that there is considerable uncertainty about the early biomass trend. Is there an implication that recent biomass trends are well estimated?

Section 7.1 describes retained species as “those species within the Quota Management System” but this is somewhat confusing in relation to the MSC use of the term.

Moody Marine comment: This has been reworded to make clearer to the reader.

Section 7.2 on page mentions that implementation of the shark plan of action would assist in relation to shark bycatch. There is no context given for a possible timetable for this implementation. This section also mentions the bycatch of mako shark but does not indicate which species of mako shark (likely to be shortfin mako). Longfin mako and shortfin mako were listed on Appendix II of the Convention on Migratory Species. Does this have implications under New Zealand environmental legislation?

Moody Marine comment: The timescale for implementation of the National Plan of Action (NPOA) for sharks within New Zealand fisheries as a whole is not clear, and is beyond the scope of this certification process. However, the intent of addressing this issue in the report was to direct the industry to effectively implement the NPOA so as to meet the requirements irrespective of the overall progress of implementation within New Zealand. Given the very small scale of catches of shark in this fishery compared to the rest of the catches by both NZ fisheries and regional fisheries, this was made as recommendation.

The species of mako shark taken in the albacore troll fishery is the shortfin mako (*Isurus oxyrinchus*). This has been clarified in the report.

Whilst New Zealand is a party to the Convention of Migratory species, the recent MoU relating to shark conservation listing the shortfin mako is not-legally binding and there are no legislative implications at the present time.

Scoring

The observations presented in the scoring table to support the scoring against each principle adequately explain the rationale for the score. I will only refer to specific items on which I have a comment.

Indicator 1.1.1: The score of 100 is generally justified by the assessment, though I might have been inclined to give a score slightly less than this given uncertainty in the assessment (e.g. comments in Hoyle and Davies (2009, p36) re lack of information on steepness which results in MSY-based reference points being uninformative).

Moody Marine comment: PI 1.1.1 covers the state of the stock relative to the reference points being used, therefore this score is appropriate. The issue over steepness are best covered under PI 1.1.2, PI 1.2.3 and PI 1.2.4. We agree that steepness would, ideally, be better estimated. However, estimating this parameter is a widespread problem in fisheries which is not the fault of management or scientists. The scores have been awarded taking into account the limits on current science and technology and the response to uncertainty, which has been precautionary.

Indicator 1.2.1: I have some doubts that the harvest strategy meets the 80 guideposts (noting that a score of 60 is given for indicator 1.2.2). The stock is currently not overfished or subject to overfishing, hence the need for controls is less pressing. However, the effectiveness of the current limitation on expansion of effort is not clear, nor is the ability of WCPFC to implement further controls if required.

Moody Marine comment: We agree with this point, but felt it was adequately covered under 1.2.2, which includes reference to the implementation of the rule. We wish to avoid double-scoring. The harvest strategy covers the general round of assessment and decision-making and control which has all the attributes we might expect for this fishery. We believe that the state of the stock may produce excessive complacency, but this should be rectified if the fishery implements a harvest control rule that has a clear way to limit and/or reduce fishing effort and catch as appropriate.

Indicator 2.1.1: The lack of information on the species composition and status of Ray's bream hinders the giving of a score greater than 80, however, I don't disagree with the overall score of 90 given the low catch of this species. I agree with the recommendation that sufficient data needs to be collected to differentiate Ray's bream catches.

Moody Marine comment: No response needed.

Indicator 2.2.1: Inclusion of mako sharks on Appendix II of Convention on Migratory Species suggests consideration of this bycatch should also be given under 2.3. Implementation of the shark action plan is mentioned. There is little said about the plan of action in the report; what is its status and is there a timetable for its implementation (noting that it is a recommendation)?

Moody Marine comment: The species concerned has been clarified. The timescale of the implementation of the NPOA is not specifically material as there is a recommendation for this fishery to do so irrespective of what the rest of the industry and government do. The programme of annual surveillance will, no doubt, consider on-going issues of shark by-catch and management within this fishery should it be

Indicator 2.2.3: I would have scored this less than 80 given the acknowledged limited observer coverage of the fishery. I don't see evidence that the statement in the scoring comments "Information from the observer programme appears sufficient to examine the outcome status...." is supported in the report.

Moody Marine comment: Changes to and additional text in the report have been made to address this comment.

Indicator 2.3.1: Mako sharks have been listed on Appendix II of the Convention on Migratory Species. What is the implication of this under New Zealand environmental legislation?

Moody Marine comment: Changes to and additional text in the report have been made to address this comment.

Indicator 2.3.2: Interaction with mako sharks may suggest a reduced score despite its likely low catch.

Moody Marine comment: IUCN list the shortfin mako as vulnerable rather than threatened or endangered. Coupled with the very low reported catches (66kg – 285kg per year) and considerably higher catches in other fisheries, the score for the strategy is defensible. The poor corroborating data to support the reported catches of shortfin mako sharks (and other ETP species in general) is being scored elsewhere (under PIs 2.1.3, 2.2.3 and 2.3.3 and specifically addressed through Recommendation 2. The text in the report has been amended with references to better reflect the position described.

Indicator 3.1.4: whilst there may be appropriate structures and legal frameworks etc in place, this does not guarantee outcomes and there are questions over the ability of WCPFC to put in place effective measures to deliver sustainable fisheries in the long term, largely as a result of consensus decision making. A score of 95 is overly generous.

Indicator 3.1.4: there is little justification given in this item that the WCPFC management system provides positive incentives for sustainable fishing. Consideration of the potential impact of fishers across the South Pacific using a range of methods and targeting different age groups may be required.

Moody Marine comment: The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and seeks to ensure that negative incentives do not arise. This meets the SG 80. The score awarded is 80 not 95.

Assessment results

The findings of the certification report are appropriate and the recommendations and conditions are in accordance with material presented in the report and its Appendices.

Appendix C: Client Action Plan

Action Plan for Meeting the Conditions for Certification of the New Zealand Albacore Tuna Troll Fishery

The Tuna Management Association provides this Action Plan to address the three Conditions of Certification a set out in Moody Marine Ltd's Peer Review Report V2 May 2010 for the MSC Assessment of the New Zealand Albacore Tuna Troll Fishery.

CONDITIONS

Condition 1: Reference Points:

Although management advice is given in relation to MSY reference points, there is no explicit limit reference point defined. Explicit target and limit reference points (or regions) need to be recognised by management, which meet the MSC Principles and Criteria. In particular, a limit reference point is required which is set above the level at which there is an appreciable risk of impairing reproductive capacity.

Action required: Target and limit reference points need to be agreed by WCPFC, consistent with the management objectives and scientific stock assessment.

Timescale: Within four years of certification with progress identified each year.

The NZ troll fishery harvests a relatively small component of the stock and, hence, it is not appropriate to derive reference points that are specific to the NZ fishery. The determination of appropriate stock-wide reference points is the responsibility of the WCPFC. To date, there have been limited discussions at WCPFC regarding appropriate reference points for any of the tuna stocks and currently stock status is reported relative to MSY-based reference points.

By default, in the absence of direction from WCPFC, the MSY-based reference points have been applied as reference points for the tuna stock (following UNCLOS). However, UNCLOS is open to interpretation regarding the definition of target and limit reference points as there are some contradictory sections of the instrument. On the one hand, it is reasonable to interpret B_{MSY} (or above) as the target reference point (or region) (Section 61(3)), while F_{MSY} is considered to represent a **limit** reference point for fishing mortality (Annex II). UNCLOS also provides a minimum standard for limit reference points based on the likelihood of extinction: $B_{EXTINCT}$ (the minimum viable biomass before extinction) or $F_{EXTINCT}$ (the maximum fishing mortality before extinction).

There remains a lack of clarity on what constitutes the current target and limit reference point(s) for the WCPFC tuna stocks. There have been some discussions of these issues although progress has been slow and there is no indication that reference points for albacore tuna will be formally adopted by WCPFC in the short term.

The only reasonable action the client can take is to encourage WCPFC, through the New Zealand delegation, to promote further work in the area to lead towards the development and adoption of reference points for the stock.

Proposed actions:

5. The adoption of the Fishery Plan for albacore tuna and endorsement by the client.
6. Consultation between the client and Ministry of Fisheries HMS staff and NZ delegates to WCPFC to establish an agreed position on reference points for the stock. This may include contributing to the drafting of a statement to be tabled at WCPFC meeting in December 2011. This could potentially occur at the 2010 WCPFC commission meeting to enable the work required to progress the development of albacore reference points to be included in the WCPFC work plan for 2011.
7. Encourage the NZ delegation to submit a paper to WCPFC Science Committee to stimulate debate regarding reference points for WCPFC tuna stocks and albacore in particular (August 2011).
8. Encourage NZ delegates to WCPFC to reiterate position on reference points for albacore at subsequent meetings of WCPFC (and encourage other PI countries to support NZ position).

Condition 2: Harvest Control Rules:

A well-defined harvest control rule needs to be adopted that is consistent with the harvest strategy and ensures that the exploitation rate is reduced as limit reference points are approached. Although this is implied within the harvest strategy, it is not clear how, in practice, the fishery will achieve the target point (or region) within which management wishes to maintain the stock or that rebuilding will be achieved with the current tools.

Action required: A well-defined harvest control rule needs to be proposed, tested and established by the scientific working group and management authority (primarily WCPFC).

Timescale: Within four years of certification.

The harvest control rules need to be formulated in conjunction with the agreed (or default) reference points for the stock. The WCPFC has already adopted a measure to constrain fishing mortality and maintain the stock above the B_{MSY} level, thereby, maintaining the stock at or above the default target biomass level. This measure satisfies some of the requirements of a harvest control rule as it minimizes the risk of the stock declining below the target level and the lower limit reference point. However, there are no explicit management actions proposed (let alone adopted) for the fishery if the stock biomass approaches or declines below the (undefined) biomass limit reference points.

Any harvest control rules would need to be applied to the entire stock and, therefore, need to be formulated by WCPFC. It is not appropriate to develop specific HCRs for the NZ albacore tuna troll fishery in absence of HCRs for the entire stock. The only reasonable action the client can take is to encourage WCPFC, through the New Zealand delegation, to promote further work in formulating appropriate HCRs for the stock.

Proposed actions:

4. Adoption of the Fishery Plan for albacore tuna and endorsement by the client.
5. Consultation between the client and Ministry of Fisheries HMS staff and WCPFC delegates regarding an agreed position on harvest control rules for the stock.
6. Promote the adoption of formal harvest control rules at WCPFC. This should be undertaken in conjunction with any deliberations on appropriate reference points. It may require additional analyses this should be included within the work plan of the WCPFC.

Condition 3: Fishery Specific Management System

Short and long term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system.

Action required: Short and long term objectives for the NZ albacore fishery, relating to the stock and all the relevant ecosystem components, need to be agreed by stakeholders. The fisheries plan should be finalized and evidence of implementation provided.

Timescale: Within two years of certification

This management response is well covered by the Draft MFish Fishery Plan for Albacore Tuna (July 2010) and the Draft MFish Plan for Large Pelagic Species.

Proposed actions:

3. Endorsement of the Fishery Plan for albacore tuna and by the client.
4. Participation in the implementation of the Fishery Plan.

RECOMMENDATIONS

Recommendation 1: PI 2.1.1

To collect sufficient data to adequately differentiate the Ray's bream catches in this (and other fisheries) into their component species within the fishery.

Proposed actions:

This recommendation has been covered in the latest fisheries plan.

1. Consultation between the client and Ministry of Fisheries HMS staff and WCPFC delegates to ensure Ray's bream catches are monitored to collect sufficient data.
2. Participation in the implementation of the Fishery Plan.

Recommendation 2: PIs 2.1.3; 2.2.3 and 2.3.3

Evaluate the need for observer coverage to meet management goals in this fleet and then to ensure delivery of that resource. These should include, but not be limited to, ensuring that the observer coverage of the albacore tuna troll fishery is maintained at a level that is adequate to:

- Define by-catch levels so as to enable the prevention of overexploitation of by-catch species, especially for those species most at risk
- Provide information to fully understand interactions with all ETP species

Proposed actions:

The level of observer coverage is set to increase under the latest MFish Fishery Plan for Albacore Tuna (July 2010).

1. Endorsement of the Fishery Plan for albacore tuna and by the client.
2. Participation in the implementation of the Fishery Plan.
3. To define bycatch levels so as to enable the prevention of overexploitation of by-catch species, especially for those animals most at risk and
4. Provide information to fully understand interactions of all ETP species

Recommendation 3: PI 2.2.1

Implement shark action plan recommendations as required within the fishery

Proposed actions:

1. Consultation between the client and Ministry of Fisheries HMS staff and WCPFC delegates to implement shark action plan.
2. It is proposed that this is implemented within 3 years of certification.

Appendix D: Stakeholder Comments

International Seafood Sustainability Foundation



Washington, D.C., 13 December, 2010

Drs. Jo Akroyd and Andy Hough (j.akroyd@moodyint.com; a.hough@moodyint.com) Moody Marine Ltd.
Merlin House, Stanier Way Wyvern Business Park Derby DE21 6BF United Kingdom

RE: ISSF Stakeholder Comments on MSC Assessment Report for New Zealand Albacore Troll Fishery (Public Comment Draft Report v3)

Dear Drs. Akroyd and Hough:

The International Seafood Sustainability Foundation (ISSF) is a global partnership among leaders in marine science, the tuna industry and WWF, the world's leading conservation organization. This diverse group of stakeholders shares a common vision to promote the long-term conservation and sustainable use of tuna stocks and the ecosystems upon which they depend.

ISSF welcomes the opportunity to comment as a stakeholder on the MSC assessment for the NZ albacore troll fishery. ISSF is properly classified as a stakeholder under the Marine Stewardship Council usage of that term, as the tuna industry participants of ISSF purchase skipjack tuna caught in the Pacific Ocean and the Board of Directors of ISSF is advised by a scientific committee comprised of preeminent tuna stock assessment scientists and fisheries management experts. These experts include, among others, Dr. Victor R. Restrepo, Dr. Meryl Williams, and Dr. Robin Allen. For more information about ISSF, including a complete list of the ISSF Scientific Advisory Committee members see our website, www.iss-foundation.org.

As you may be aware, we recently became stakeholders in other MSC assessments of tuna fisheries. One of our major concerns is that, because of their highly-migratory nature, management frameworks and effectiveness of management measures need to be evaluated at the regional (RFMO level), in addition to the level of the client's own government. At this time, we are convinced that all tuna RFMOs have weak functionalities at different levels, and these will not be remedied by granting MSC certifications with a set of conditions. Furthermore, we are convinced that the MSC assessments of tuna fisheries made to-date leave much to be desired in terms of consistency. This lack of consistency in assessments needs to be remedied for the benefit of MSC, Certifying Bodies, Clients, and consumers alike.

Below please find comments on several Principle scores and Conditions in the NZ albacore troll fishery report. We have only included those items where we have strongly different opinions from those reached by the assessment team.

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Specific comments on key PI scores

1.2.1 Harvest strategy

Assessment score: 80

The harvest strategy that has been adopted by WCPFC is based upon input controls, i.e. the limitation of the number of vessels through CMM-05-02. However, it is not evident that the number of vessels is formally linked to management actions at the national or regional levels. ISSF believes that the fishery does not meet the 80 guideposts, and the score should thus be lower (~70).

3.1.1 Legal and customary framework

Assessment score: 95

The assessment report indicates that the WCPFC management system incorporates a transparent mechanism for the resolution of legal disputes that has been tested and proven to be effective. ISSF is not aware that WCPFC has actually invoked dispute resolution mechanisms. In addition, there are concerns by some parties for the cost of implementing WCPFC obligations including financial commitments administrative and stewardship obligations and the administrative and legal challenges needed to make the changes. ISSF believes that the overall score should be lower (~80).

3.2.2 Decision-making process

Assessment score: 90

The WCPFC generally makes decisions through consensus, but procedures are available and documented for voting, appealing decisions, conciliation and review should consensus not be reached. The application of the precautionary approach and the use of the best available scientific advice are required by the WCPFC Convention. While these requirements may seem to be unnecessary given the current status of the stocks of S. Pacific albacore tuna, prior decisions by WCPFC have not always been precautionary; for example, CMMs taken to reduce fishing mortality on bigeye tuna have been insufficiently strong and have allowed for continued overfishing. Transparent procedures must be in place to assure that the management system can respond in a timely and appropriate manner if a stock becomes overfished. These procedures must be developed and made available for scrutiny. ISSF believes that the overall score should be lower (~80).

Specific comments on Conditions

Condition 1: Reference Points

ISSF believes that the condition text must be made more explicit in order to match the regional (stock-wide) nature described under Rationale. We suggest the following text: "Within four years of certification target and limit reference points need to be agreed by ~~management~~ WCPFC, consistent with the management objectives and scientific stock assessment."

International Seafood Sustainability Foundation P.O. Box 11110 McLean, VA 22102
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Furthermore, the Client Action Plan is weak, as it is primarily focused on the client encouraging the NZ government to present documents at WCPFC meetings that might, in theory, influence the Commission's decision to adopt formal reference points. ISSF is aware that the same type of Condition has been placed on all MSC assessments of tuna fisheries to-date, with similar Action Plans, and none of them has been effective. ISSF believes that Certifying Bodies and MSC need to identify more aggressive steps that will significantly improve the chances that the Condition will be met. We note that WCPFC will be contracting a consultant to carry out work on appropriate reference points, and a good start would be for the Client to participate in this effort by contributing resources as needed.

Condition 2: Harvest Control Rule

ISSF has similar concerns as stated above for Condition 1: The text of the condition "Within four years of certification a well-defined harvest control rule needs to be proposed, tested and established by the working group and management authority" needs to be made more clear with regards to the WCPFC as the management authority, and about what exactly constitutes "the working group". And, the steps outlined in the Client Action Plan are similarly weak and unlikely to result in the Condition being met.


Condition 3: Fishery-specific management system

ISSF believes that the text of the Condition needs to be made clearer in order to link with the stated rationale, for example as follows: "Within two years of certification, short and long term objectives for the NZ albacore fishery, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2 relating to the stock and all the relevant ecosystem components, need to be agreed by stakeholders. The fisheries plan should be finalized and evidence of implementation provided."

Thank you for the opportunity to comment.

Yours sincerely,

Susan S. Jackson President



Cc: R. Howes
C. Ninnes
V. Restrepo
W. Fox

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Moody Marine's response to : Submission from International Seafood Sustainability Foundation on MSC assessment for NZ Albacore Troll fishery

General comments:

One of their major concerns is that, because of their highly-migratory nature, management frameworks and effectiveness of management measures need to be evaluated at the regional (RFMO level), in addition to the level of the client's own government. At this time, we are convinced that all tuna RFMOs have weak functionalities at different levels, and these will not be remedied by granting MSC certifications with a set of conditions. Furthermore, we are convinced that the MSC assessments of tuna fisheries made to date leave much to be desired in terms of consistency. This lack of consistency in assessments needs to be remedied for the benefit of MSC, Certifying Bodies, Clients, and consumers alike.

Moody Marine comment: We agree that management frameworks need to be evaluated at both regional and national level and consider that this has been done for the management for the NZ troll caught albacore. We also agree that there needs to be consistency in assessments and we will endeavour to ensure this.

Specific comments:

1.2.1 Harvest strategy

Assessment score: 80

The harvest strategy that has been adopted by WCPFC is based upon input controls, i.e. the limitation of the number of vessels through CMM-05-02. However, it is not evident that the number of vessels is formally linked to management actions at the national or regional levels.

ISSF believes that the fishery does not meet the 80 guideposts, and the score should thus be lower (~70).

Moody Marine comment: The harvest strategy does have short-comings as noted by the comment. However, this is specifically addressed in the harvest control rule which should explicitly link the control to the stock status, and for which a condition has been raised. Our impression was that the overall harvest strategy, excluding the specific issues regarding harvest control rule (PI 1.2.2), data (PI 1.2.3) and stock assessment (PI 1.2.4) was adequate. There was a well-defined process in place which would detect problems in the fishery and provide for appropriate management response. The approach to the fishery management and development appeared well-designed and sustainable taking into account the best practice in tuna management, albeit there were weak points in the HCR. Overall, we believe the MSC assessment has captured the ISSF concern over management control in the appropriate indicator.

Recommendation – no change in score

3.1.1 Legal and customary framework

Assessment score: 95

The assessment report indicates that the WCPFC management system incorporates a transparent mechanism for the resolution of legal disputes that has been tested and proven to be effective. ISSF is not aware that WCPFC has actually invoked dispute resolution mechanisms. In addition, there are concerns by some parties for the cost of implementing WCPFC obligations including financial commitments administrative and stewardship obligations and the administrative and legal challenges needed to make the changes. ISSF believes that the overall score should be lower (~80).

Moody Marine comment:

A three-tier dispute resolution framework for the WCPFC is laid out in the “Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels

However what is important is that the NZ albacore caught in NZ EEZ by the NZ albacore troll fishery is subject to NZ law and the NZ management system has a mechanism for the timely resolution of disputes that is open to all stakeholders. There are procedures and processes under Part 7 of the Fisheries Act that apply to disputes about the effects of fishing on the fishing activities of any person that has a current fishing interest provided for under the Act. It provides opportunities to negotiate and resolve disputes.

The concern about WCPFC including financial commitments is not one should address in this report

Recommendation – no change in score

3.2.2 Decision-making process

Assessment score: 90

The WCPFC generally makes decisions through consensus, but procedures are available and documented for voting, appealing decisions, conciliation and review should consensus not be reached. The application of the precautionary approach and the use of the best available scientific advice are required by the WCPFC Convention. While these requirements may seem to be unnecessary given the current status of the stocks of S. Pacific albacore tuna, prior decisions by WCPFC have not always been precautionary; for example, CMMs taken to reduce fishing mortality on bigeye tuna have been insufficiently strong and have allowed for continued overfishing. Transparent procedures must be in place to assure that the management system can respond in a timely and appropriate manner if a stock becomes overfished. These procedures must be developed and made available for scrutiny. ISSF believes that the overall score should be lower (~80).

Moody Marine comment: As ISSF states there are procedures in place. The concern about the situation with big eye may well not to be so much to do with a lack of precautionary approach but more to do with enforcement. There is a process in place, how it is applied may have differing consequences, however. Nevertheless, we consider there is a transparent process in place.

Recommendation – no change in score

Specific comments on Conditions

Condition 1: Reference Points

ISSF believes that the condition text must be made more explicit in order to match the regional (stock-wide) nature described under Rationale. We suggest the following text: "Within four years of certification target and limit reference points need to be agreed by WCPFC, consistent with the management objectives and scientific stock assessment."

Furthermore, the Client Action Plan is weak, as it is primarily focused on the client encouraging the NZ government to present documents at WCPFC meetings that might, in theory, influence the Commission's decision to adopt formal reference points. ISSF is aware that the same type of Condition has been placed on all MSC assessments of tuna fisheries to-date, with similar Action Plans, and none of them has been effective. ISSF believes that Certifying Bodies and MSC need to identify more aggressive steps that will significantly improve the chances that the Condition will be met. We note that WCPFC will be contracting a consultant to carry out work on appropriate reference points, and a good start would be for the Client to participate in this effort by contributing resources as needed.

Moody Marine comment: We accept the recommended wording change and have made it to the condition text. In general, action plans for shared stocks are weakened due to the limitations on who the condition can be applied to compared to who carries out the required actions. Any strengthening of the actions that can be applied are welcomed. We note however that various reference points have been reviewed and estimated for this stock, and there appears already adequate information to adopt appropriate reference points and harvest control rule. The constraint on accepting reference points is probably because the relevant WCPFC committees have been unable to reach any consensus decision. In this context, employing a consultant to work on reference points may be seen as prevarication. That being said, if such work does help remove the constraint, we have no problem recommending it.

Condition 2: Harvest Control Rule

ISSF has similar concerns as stated above for Condition 1: The text of the condition "Within four years of certification a well-defined harvest control rule needs to be proposed, tested and established by the working group and management authority" needs to be made more clear with regards to the WCPFC as the management authority, and about what exactly constitutes "the working group". And, the steps outlined in the Client Action Plan are similarly weak and unlikely to result in the Condition being met.

Moody Marine comment: The condition has been altered to be in line with the changes suggested above. Also, see comments on Condition 1.

Condition 3: Fishery-specific management system

ISSF believes that the text of the Condition needs to be made clearer in order to link with the stated rationale, for example as follows: "Within two years of certification, short and long term objectives for the NZ albacore fishery, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2 relating to the stock and all the relevant ecosystem components, need to be agreed by stakeholders. The fisheries plan should be finalized and evidence of implementation provided.

Moody Marine comment:

We agree with this and have changed the text of the condition accordingly.

Moody Marine thanks the ISSF for its comments and suggestions.



22 December 2010

Sent via eCert

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SUBJECT: MSC Review and Report on Compliance with the scheme requirements

Dear Andy Hough,

Please find a below the results of our partial review of compliance with scheme requirements.

CB	Moody Marine Ltd
Lead Auditor	Andy Hough
Fishery	New Zealand albacore tuna troll
Fishery Assessment Product Type	Public Comment Draft Report Posted
Type of Review	Desk Study

No.	Type of Finding	Scheme Requirement	Requirement Description	Report Reference	Description and Evidence of non-conformity
1	Major	FCMv6 Appendix 1: 5.2	The report shall set out the scope of the fishery assessment in the context of the assurances the certification body can make about the point to which products from the fishery can be traced		The report shall set the precise list of landing ports.

2	Major	TAB	D-021: 4	The target eligibility date, rationale and assessment shall be included	Section 13.5 page 40	The report shall state the exact date.
3	Major	TAB	D-015 v2: 2.4	The assessment team shall base their assessment on the rationale and scores detailed for the previously scored fishery. Any difference in the scores shall be clearly detailed and justified in the scoring rationale for all relevant performance indicators.	n/a	Harmonization with the MSC certified AAFA South Pacific albacore fisheries must be considered. The text given in Section 8 is insufficient to explain whether this assessment complies with TAB D-015v2, Section 2.4. Particularly where differences occur in conditions assigned to these fisheries, justification must be provided in scoring rationales.
4	Major	PA	18 v1: 4	The requirements in the scoring guideposts shall be regarded as 'cumulative'... In order to achieve an 80 score, all of the 60 issues and all of the 80 issues shall be met and each scoring issue specifically justified by supporting rationale.	p. 48	PI 1.2.2: The rationale does not justify the score for this PI, and this is further confounded by the wording of Condition 2 (see finding 5). It is not clear which scoring issues (SIs) are met and how this results in the score of 75.

5	Major	FAMv2	6.2.21	It is assumed that all management systems will have reference points. Even if these are not stated explicitly they should be implicit within the decision rules or management procedures, and the fishery should be assessed on these implicit reference points. For example, an explicit use of only a target reference point should include some implicit consideration of a limit reference point, and likewise a management system that uses only a limit reference point will have some implicit acknowledgement of targets.	p. 42 & 48	<p>Condition 1 & PI 1.2.2: SG80 SI1 should address both limit and target reference points, and whether they are appropriate for stock and can be estimated.</p> <p>SG80 SI3 is unclear as to whether the target reference point is explicit or implicit. It is clear that there is no explicit limit reference points for the fishery. Condition 1 also suggests that neither the limit reference point nor the target reference point are explicit. Further clarification is required.</p>
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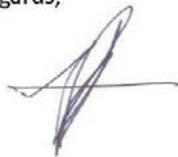
6	Major	FCMv6	3.4.2	The condition(s) shall improve performance to at least the 80 level within a period set by the certification body but no longer than the term of the certification, subject to Sections 3.4.2.1. and 3.4.2.2.	p. 42	Condition 2: Clarification is required on whether the 'management authority' referred to is the WCPFC or the New Zealand Ministry of Fisheries.
7	Major	FCMv6	3.4.8	The certification body shall consult with all relevant entities when setting conditions, if those conditions are likely to require investment of time or money by these entities, or changes to management arrangements or regulations, or re-arrangement of research priorities by these entities, in order to satisfy the certification body that the conditions are both achievable by the certification client and realistic in the time frame specified.	p. 42-44	<p>Conditions 2 & 3: Further information required on what consultation has occurred with the New Zealand Ministry of Fisheries in order to satisfy the CB that the conditions are achievable and realistic.</p> <p>Please see PA 17 for further detail on condition setting.</p>

8	Major	PA	18 v1: 3d	To contribute to the scoring of a PI, each scoring issue shall be fully and unambiguously met and rationale presented to support the assessment team's conclusion. This rationale shall make direct reference to each scoring issue and whether it is or is not fully met.	p. 58	PI 1.2.4: Reference is made in the scoring rationale to 'partially meeting some 100 SG requirements'. This is not in conformance with PA18, so scoring for this and all other PIs where this approach was taken should be revised.
9	Major	FCMv6	Appendix 1: 5.2	In accordance with Section 3.5 of this methodology the report shall describe the system of tracking and tracing of fish and fish products in the fishery.	Section 13.1, page 39	The report does not describe the system of tracking and tracing of fish and fish products in the fishery.
10	Major	FAMv2	7.2.2	Main' in this context is intended to allow consideration of the weight, value or vulnerability of species caught.	p. 61	PI 2.1.1: The value and/or vulnerability of retained species must also be considered in determining which species qualify as 'main retained species'. The rationale only provides justification in terms of volume.

11	Guidance	FCMv6	Appendix 1: 5.2	The report shall set out the scope of the fishery assessment in the context of the assurances the certification body can make about the point to which products from the fishery can be traced	Section 13.1, page 39	The report does not provide a way to find the list of all NZ vessels permitted by the Ministry.
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This report is provided for action by the Certification Body and ASI in order to improve consistency with the MSC scheme requirements; MSC does not review all Certification Bodies work products and this review should not be considered a checking service. If any clarification is required, please contact Maylynn Nunn on +44 (0)20 7811 3338 for more information.

Regards,



Daniel Suddaby

Senior Fishery Certification Manager
Standards and Licensing Department

cc: Accreditation Services International

Moody Marine response: MSC review and report on compliance with scheme requirements.

Moody Marine's response to MSC comments on the NZ Albacore troll fishery Public Comment report is set out below. For clarity, Moody's response is in tabular format with comments addressing those raised by MSC according to the original number prescribed by MSC.

As a result of these comments, further text has been added to the Final report v4, where this is the case this has been indicated in the associated comment box.

No.	Moody Marine Response to MSC comments
1	<p>MSC: The report shall set the precise list of landing points</p> <p>Moody comment: A fisher permitted to catch fish in NZ waters may land at a number of landing sites. All landing sites around NZ are monitored, landing reported by commercial fishers and Licenced fish receivers. Most of the albacore caught is landed on the west coast of both the north and south islands. Fishers must record where they land but there is no restriction on this as all landing sites are well monitored by NZ Fisheries officers and the Ministry of Fishers systems for compliance</p>
2	<p>MSC: The report shall state the target eligibility date.</p> <p>Moody comment. The public draft report was released on 23rd November 2010. The eligibility date is the 23rd May 2010 and this has been included in the report.</p>
3	<p>MSC: Harmonization with the MSC certified AAFA South Pacific albacore fisheries must be considered. The text given in Section 8 is insufficient to explain whether this assessment complies with TAB D-015v2, Section 2.4. Particularly where differences occur in conditions assigned to these fisheries, justification must be provided in scoring rationales.</p> <p>Moody comment: The AAFA South Pacific Albacore tuna fishery scoring was considered, and this is now explicit in the report. It is only directly relevant to Principle 1, but it was also considered under the other Principles. Direct harmonization was not possible because the scoring table was different and used a different FAM. However, the results from each assessment were broadly the same. FAM v2 makes more specific requirements on fisheries, which leads to certain differences in the conditions. The differences are now identified in text added to the report under Section 8.</p> <p>Note that where such harmonization issues arise, the newer assessment depends upon clear justification of the score given in the older assessment. Where such justification is not provided, the newer assessment team will have to go for the score which they can justify.</p>
4	<p>MSC: PI 1.2.2: The rationale does not justify the score for this PI, and this is further confounded by the wording of Condition 2 (see finding 5). It is not clear which scoring issues (SIs) are met and how this results in the score of 75.</p> <p>Moody comment: The score that was allocated was 60, not 75. This comment remains unclear on why the rationale does not justify this score for this PI. We presume therefore that this point refers to PI 1.1.2 and Condition 1.</p> <p>The problem is that while the limit reference point is implicitly defined for the scientific evaluation of stock status, there is inadequate evidence that such a reference point is recognized by the management authority and therefore we have indicated it does not meet SG80 SI 2.</p>

5	<p>MSC: Condition 1 & PI 1.2.2: SG80 SI1 should address both limit and target reference points, and whether they are appropriate for stock and can be estimated. SG80 SI3 is unclear as to whether the target reference point is explicit or implicit. It is clear that there is no explicit limit reference points for the fishery. Condition 1 also suggests that neither the limit reference point nor the target reference point are explicit. Further clarification is required.</p> <p>Moody comment: We presume this point applies to PI 1.1.2, not 1.2.2. The text relevant to SI1 does make clear that the reference points are estimated and appropriate. If B_{MSY} is estimated for a particular stock using a scientifically valid procedure, as in this case, SI1 is clearly met. This is stated and justified in the scoring text.</p> <p>As in most fisheries, the management recognises a target region or range rather than a point. A target point is only really relevant in the context of a harvest control rule. The range is explicit, but there is room for improvement in the way the target is used in management decision-making. The condition needs to develop compatible reference points and evaluate the stock status consistently, so both target and limit reference points will need to be considered. The text has been corrected and clarified as appropriate in the scoring table and in the condition.</p>
6	<p>MSC:</p> <p>Condition 2: Clarification is required on whether the ‘management authority’ referred to is the WCPFC or the New Zealand Ministry of Fisheries.</p> <p>Moody response: The use of the term management authority is deliberate as the responsibilities for management are usually distributed between a number of international and national institutions. This term is used in the FAO Code of Conduct, for example. The term avoids prescribing which institution carries out which task, but focuses on the outcome which must be achieved. We have indicated that we would expect this responsibility for a HCR would primarily reside with WCPFC.</p>
7	<p>MSC:</p> <p>Conditions 2 & 3: Further information required on what consultation has occurred with the New Zealand Ministry of Fisheries in order to satisfy the CB that the conditions are achievable and realistic. Please see PA 17 for further detail on condition setting.</p> <p>Moody comment: The Ministry of Fisheries government officials are committed to assisting the fishery in meeting this condition. The Fishery plan is being developed by MFish in consultation with the client group and stakeholders. There are regular meetings chaired by MFish. This has been added to the report.</p>
8	<p>MSC:</p> <p>PI 1.2.4: Reference is made in the scoring rationale to 'partially meeting some 100 SG requirements'. This is not in conformance with PA18, so scoring for this and all other PIs where this approach was taken should be revised.</p> <p>Moody comment: The scoring rationale has been corrected. However, this decision by the TAB prevents any credit being awarded for a fishery's partial achievements, undermining the incentive to conduct any activity which does not fully meet an SI. It may also require the assessment to define too precisely what their expectation is of each SI, which is likely to lead to higher variability among scores from different assessment teams rather than the reverse.</p>

9	<p>MSC: The report does not describe the system of tracking and tracing of fish and fish products in the fishery/</p> <p>Moody comment: This system has been better described and is now included in Section 13.1. The Ministry of Fisheries in NZ has a very stringent process for tracking and tracing of fish and fish products as set out in the Fisheries record keeping regulations. Compliance and enforcement is rigorous and penalties severe.</p>
10	<p>MSC: PI 2.1.1: The value and/or vulnerability of retained species must also be considered in determining which species qualify as 'main retained species'. The rationale only provides justification in terms of volume.</p> <p>Moody comment: The value and vulnerability of the retained species has been taken into account and the report now includes this.</p>
11	<p>MSC: The report does not provide a way to find the list of all NZ vessels permitted by the Ministry.</p> <p>All NZ vessels fishing in NZ waters must be registered by law and only those holding a current Fishing permit may fish. The record of licenced vessels and permit holders for each species is held by Commercial Fisheries Services Ltd (FishServe). Their website is www.fishserve.co.nz. This information has been incorporated into the report</p>

Moody Marine appreciates the input from the MSC and has taken advice and suggestions provided to review and improve the report.



Stakeholder Interview Record

MML Attendees

Lead Auditor/Coordinator: Seran Davies

Team Members:

Paul Medley (Lead Principle 1), Geoff Tingley (Lead Principle 2) and Jo Akroyd (Lead Principle 3)

Stakeholders:

Affiliation

Royal Forest & Bird

Representatives

Kevin Hackwell (Advocacy Manager) and Kirstie Knowles
(Marine Conservation Advocate)

Location: Ministry of Fisheries, Wellington, New Zealand.

Date: 23rd July 2009

2. Status

What is the nature of the organisations interest in the fishery (e.g. client / science / management / industry / eNGO etc)

eNGO

3. Stakeholder Key Issues

What, if any, specific substantive issues or concerns are identified regarding the fishery? (P1 – P2 – P3)

What information is available to allow us to determine the status of the fishery in relation to each issue?

Overall the tuna trolling fishery has a good environmental record, however, there are concerns:

P1: largely unlimited fishery, no reference points and a low level of scientific information. Not on QMS and there are no ITQ's.

P2: Gear loss (no information), effects on trophic structure. Concerned about key bycatch species e.g. elasmobranchs.

P3: Concerns about the management structure and New Zealand's approach to managing the Tuna stock. Not on QMS and there are no ITQ's. Western Central Pacific has a poor management structure for the stock.

4. Other issues

(e.g. any other stakeholders we should contact, any written submissions to follow?)

Hugh Best (Marine conservationist) has 16 years worth of fur seal data.
Barry Weeber (ECO): key person to be contacted on fisheries stock assessments.



Seran Davies
MML Project Coordinator

MSC Interview Record

MML Attendees

Lead Auditor/Coordinator: Seran Davies

Team Members:

Paul Medley (Lead Principle 1), Geoff Tingley (Lead Principle 2) and Jo Akroyd (Lead Principle 3)

Stakeholders:

Affiliation

Greenpeace

ECO

Representatives

Karli Thomas (Oceans Campaigner)

Geoff Keey (Political Advisor)

Barry Weeber (Co-Chair and Main Fisheries Specialist)

Cath Wallace (Co-Chair and Economist)

Location: Ministry of Fisheries, Wellington, New Zealand.

Date: 23rd July 2009

2. Status

What is the nature of the organisations interest in the fishery (e.g. client / science / management / industry / eNGO etc)

eNGO's

3. Stakeholder Key Issues

What, if any, specific substantive issues or concerns are identified regarding the fishery? (P1 – P2 – P3)

What information is available to allow us to determine the status of the fishery in relation to each issue?

P2: Fur seals being shot in the troll fishery. Tuna bombs are also used to scare seals away from troll lines. Concerns with Elasmobranch bycatch. No obligation to land elasmobranchs.

4. Other issues

(e.g. any other stakeholders we should contact, any written submissions to follow?)

None specific to the tuna troll fishery.



Seran Davies
MML Project Coordinator

MSC Interview Record

MML Attendees

Lead Auditor/Coordinator: Seran Davies

Team Members:

Paul Medley (Lead Principle 1), Geoff Tingley (Lead Principle 2) and Jo Akroyd (Lead Principle 3)

Stakeholders:

Affiliation

WWF

Representatives

Peter Trott (WWF-Australia. Fisheries Programme Manager)

Rebecca Bird (WWF- New Zealand. Marine Programme Manager)

Location: Talley's Seafood, Nelson, New Zealand.

Date: 24th July 2009

2. Status

What is the nature of the organisations interest in the fishery (e.g. client / science / management / industry / eNGO etc)

eNGO

3. Stakeholder Key Issues

What, if any, specific substantive issues or concerns are identified regarding the fishery? (P1 – P2 – P3)

What information is available to allow us to determine the status of the fishery in relation to each issue?

P1: Stock status uncertainty at an international level due to the highly migratory behavior of species. No robust fisheries specific data. IUU fishing occurring internationally throughout the stocks range as more pressure is turned to albacore stocks as a result of very high pressure on other tuna species such as Blue fin.

P2: Fur seals being shot in the troll fishery.

P3: Not a QMS species and there are management implications of this.

4. Other issues

(e.g. any other stakeholders we should contact, any written submissions to follow?)

None specific to the tuna troll fishery.

A handwritten signature in blue ink, appearing to read 'S. Davies'.

Seran Davies
MML Project Coordinator

Appendix E: Registered companies / vessels within Unit of Certification: eligible to sell MSC certified product

The client for this assessment (Tuna Management Association of NZ) is to make access to the certificate open to all NZ vessels permitted by the Ministry of Fisheries to fish for albacore in the NZ waters using troll gear.