

# **Northern Snapper Longline Fishery Advisory Officer Report**

**1 April 2003 to 31 March 2005**

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## **1. Executive Summary**

To help increase awareness of protected species issues in fisheries, the Conservation Services Programme (CSP) embarked on advisory officer projects. An advisory officer was contracted to work with fishermen in the Snapper 1 longline fishery (SNA 1) with the aims of providing advice on best practice and mitigation techniques to fishermen, working with fishermen to implement mitigation methods, and better characterising the interaction of protected species within the SNA 1 fishery. This report provides a summary of work carried out by the Advisory Officer between 1st April 2003 and 31 March 2005.

An information package containing an outline of seabird ecology and an explanation of possible mitigation methods was assembled and provided to fishermen. In addition, over 80 tori lines were constructed and these were also provided to fishermen who required them. Sixty snapper longline fishermen working in SNA 1 were regularly contacted to discuss information about mitigation and mitigation measures. Regular meetings were held with each of the companies and industry groups were supported in making links with key Government and industry agencies (e.g. Conservation Services Programme, Southern Seabird Solutions, Seafood Industry Council). The Advisory Officer also provided advice to Sanford Ltd and to the Leigh Fishermen's Association on the development of codes of practice for seabird bycatch mitigation. Overall, the project was well received and was very successful in generating a dialogue between CSP and SNA 1 fisherman about protected species interactions and effective mitigation methods.

## **2. Purpose**

This report summarises the activities and key findings of the Snapper Advisory Officer for the period 1 April 2003 to 31 March 2005. It does not attempt to provide a quantitative analysis of practices in this fishery or to evaluate the effectiveness of this project – a review of the role of advisory officers will be carried out in 2005/06.

## **3. Introduction**

### **3.1 Background**

Knowledge of the potential impacts of fishing on non-target species including seabirds, marine mammals and marine reptiles has continued to increase since the 1980s. Awareness and understanding by fishermen of the nature of these impacts and ways to mitigate them are crucial, as fishermen are in the best position to reduce them. To help increase awareness of protected species issues in fisheries, the Conservation Services Programme (CSP) developed projects (see the CSP Annual Plan 2002/03) to contract advisory officers to provide advice on best practice and mitigation techniques to fishermen in various fisheries. In addition, advisory officers worked with fishermen to implement mitigation methods. The advisory officer role also had the advantage of providing the Department with a better understanding of the fishery and the particular issues confronted by operators.

Advisory Officer objectives were to work with fishermen to reduce seabird bycatch through:

- Developing appropriate bycatch mitigation measures;
- Encouraging the installation of mitigation devices on fishing vessels and advising vessel operators of best practice;
- Responding to requests for advice from fishermen; and,
- Identifying specific problem areas as they arise.

In March 2002 an Advisory Officer (Protected Species) was appointed for the longline fleet in part of the northern snapper fishery encompassing fish stock SNA 1 (e.g. the area from North Cape across to the eastern Bay of Plenty).

### 3.2 The SNA 1 fishery

There is an extensive longline fishery in SNA 1 (noting that snapper are also caught by trawling and Danish seining) operated from vessels ranging in size from 6 to 17 metres (average about 12 metres). Vessels usually have a two person crew and trips average two to three days in duration. During good fishing times, the larger vessels in the fleet have a skipper and up to three crew members. A typical longline configuration is a mono-filament nylon mainline up to 3 km long with between 350 to 2000 hooks on it. Weights, usually 2 to 4 kilograms, are secured to the mainline at intervals so that it stays down at the desired fishing depth. This depth is from 30 to 50 metres in the Hauraki Gulf, however snapper are targeted in deeper water during the winter months. In the northern area lines tend to be set at much shallower depths – from 7 to 12 metres over a 20 metre bottom.

The New Zealand snapper longline fleet comprises approximately 90 vessels that spend significant time targeting snapper but also fish for other species. In the SNA 1 area there are approximately 75 vessels, of which about 65 actively target snapper for most of the year. Most of the snapper longlining takes place north of Tauranga, with a concentration in the Hauraki Gulf.

With the exception of the Sanford's longliners, most of the snapper fishing is carried out by owner-operators, in that the skipper is generally both the owner of the vessel and personally does the fishing. Generally there are few new entrants as skippers involved in this fishery have been longlining for snapper for a long period.

## 4. Approach

The approach adopted by the advisory officer was to:

- Ascertain the extent of the fishery and understand the nature of the fishing operations and the distribution of the fleet, and become acquainted with the people involved;
- Develop a package that could be given to fishermen, detailing mitigation techniques, best practice, etc.;
- Contact key people in the companies that operate in the fishery;
- Identify key fishermen active in each company/area and develop a relationship with them; and,

- Follow up with responses on how the package was received, and provide information as required.

#### 4.1 Development of the information and mitigation package

The package that was put together for the fishermen consisted of:

- A seabird identification manual - B. Parkinson, *Field Guide to New Zealand Seabirds*. This book was selected because of its good illustrations and also because it is the most relevant publication for the seabirds present in the northern waters of the North Island;
- A set of laminated sheets identifying the different 'mutton duck' (e.g. petrel) species most likely to be encountered by the fishermen, together with general information on mitigation techniques and some text on the importance of protection for seabirds. These sheets were designed to be hung on the bulkhead of a small wheelhouse and to be waterproof;
- A tori line for every vessel. This tori line (based on the Graham Hill design that was developed by Dave Kellian for the tuna fleet) was selected as it has been proven to be effective on small vessels and offers plenty of scope for being modified. The tori line was assembled by the advisory officer;
- A question and answer sheet used to profile the fleet and record the visits of the advisory officer; and,
- The videotape, *Fishing the Seabird Smart Way: the New Zealand Experience*, produced by Southern Seabird Solutions.

#### 4.2 Keeping companies informed

Most vessels are associated with one of four companies: Sanford, Moana, Leigh Fisheries, or OPC. After commencing the project it became apparent that it was essential for the advisory officer to liaise with these companies on the role of advisory officers and keep each informed of progress. Key people involved with snapper longliners were approached, the advisory officer role was explained and they were supplied with the information package that was being distributed to the fishers. All companies involved in the snapper longline fleet provided a great deal of support and assistance in contacting fishermen. Also critical to the success of the project have been the Pagrus Auratus Company and the Leigh Fishermen's Association, both key stakeholders that have given a great deal of assistance and encouragement. The support provided by each company and the other industry stakeholders has been crucial to the achievements of the advisory officer to date, and remains vital for the future of the role.

## 5. Results and observations

### 5.1 Overview

- The information package was put together and over 80 tori lines assembled.
- 60 snapper longline fishermen were contacted in SNA 1. These skippers represented the majority of those fishing. Follow up visits were made to most of these fishermen and contact was made on a regular basis to keep them informed of developments.

- Copies of the Seabird National Plan of Action were distributed among the companies and snapper fleet, to keep people aware of the latest government initiative in the conservation of seabird species.
- Assistance was given to Ministry of Fisheries observers in the SNA 1 fishery.
- Regular meetings were held with each of the companies and industry groups were helped to make links with key Government and industry agencies such as the Conservation Services Programme of the Department of Conservation; Southern Seabird Solutions and the Seafood Industry Council.
- Sanford and Leigh Fishermen's Association were advised on the development of codes of practice for seabird bycatch mitigation.
- Continuing liaison with fishers was established such that information on the state of the fishery and the concerns of fishers was brought to government and vice versa.

## 5.2 Views of the fishermen

All fishermen met with were found to have a very positive attitude to the marine environment and a sound appreciation of the place of seabirds in that environment. There was a genuine desire to look after the sea, which is seen as the fisherman's workplace. For the snapper fisherman, in addition to the environmental impact of killing seabirds, there is also a strong economic incentive to reduce the numbers of seabirds captured. The net effect of seabirds taking baits behind the vessel is that a large number of hooks are not fishing. As all hooks are hand-baited and bait is expensive, this can result in significant wasted labour and expense. Also if a seabird is captured it causes the line to float, thus moving hooks away from the sea floor, this could result in hooks on either side of the bird not catching fish. This knowledge of the potential loss of fish caused by catching seabirds has, in itself, driven much of the seabird awareness in the fleet. Awareness has in turn led to a good understanding of how to avoid seabirds, as well as the development of mitigation practices that are applicable to particular operations. Both Sanford and the Leigh Commercial Fishermen's Association have taken the lead in the industry by developing Codes of Practice for 'seabird-safe' fishing exemplifying the positive attitudes in the fishery.

## 5.3 Mitigation

A good example of the snapper longline fleet's innovation and willingness to tackle the problem of seabird captures has been the use of fish oil as a mitigation technique. In the past fishermen found that a surface film of oil deterred shearwaters from diving astern of the fishing vessel. Baits soaked in kerosene were used or a container of waste oil was allowed to drip slowly astern of the vessel. These practices in time were discontinued owing to concerns that the discharge of oil products would have negative effects on the marine environment. Alex Aitkin, a prominent Leigh fisherman, decided that the concept still had merit and worked to develop a solution that worked. His idea was to use natural fish oils and he developed a formula for oil that could be used as part of his operation. This work won an international competition and an 'oil on water' project recently underwent scientific field trials to assess its effectiveness. The Advisory Officer was involved in assisting with the field work for this trial.

Tori lines are not a new concept in this snapper fishery. They have been in use for many years and the usual type has been a float – a 'mid-buoy'- attached to a separate line (i.e. not the mainline) towed about 50 metres astern of the vessel. It was found that this has

been common practice on all vessels operating in the bird 'hot spots' of the northern Hauraki Gulf, particularly in the summer months around the offshore islands which are important breeding sites for many seabirds. As in most longline fisheries the use of tori lines can cause problems. Probably the worst of these is the tendency of the mainline, the mid-buoys and the tori line to become entangled during setting. Most of the vessels in the snapper fleet are quite small and there is seldom a sufficiently high point for attaching the tori line so as to gain maximum aerial coverage.

Investigations made by the Advisory Officer suggest that for some vessels a game fishing outrigger pole may provide the additional height that is needed for the tori pole. In some areas, particularly in the far north and in the southern end of the Gulf there is a reluctance to use a tori line as there are fewer birds present and the dense, aggressive concentrations of shearwaters found elsewhere are far less common. Nevertheless many fishermen in these areas still have a good understanding of a tori line and were willing to accept the one supplied by the advisory officer and give it a trial. Another common reason for not wanting to use a tori line is that most setting is done at night. Many fishermen will only set once each day, choosing to leave port very early in the morning and to set before daylight. Approximately 10 operators always set at night or in the early hours of the morning, and up to 90% of vessels will set during darkness at some stage during the fishing year. There is a very good understanding in the fleet that setting in the dark or in the early morning is a sound measure for minimising seabird captures.

Weighting lines is another mitigation technique that is part of the daily routine for most operators in the fishery, especially where birds have been a problem in the past. Weights are attached to the mainline at intervals to keep it on or near the bottom. These weights have the effect of greatly increasing the speed at which the line sinks out of reach of diving birds. It was noted on several occasions that fishermen have a good understanding of how to use weights to avoid seabird capture, even to the extent of attaching an extra weight to the line if it looks as if a bird is about to dive and attack the bait.

It was also well understood that the type of bait used is an important factor in the whole process of reducing seabird captures. General comments were that squid is far less attractive to seabirds than pilchard or other soft fish baits. In one case it was noted that the squids were even cut up at home to prevent the guts and discarded portions attracting birds while baiting the mainline. As the price of pilchards has increased significantly over the last couple of years, this has resulted in a trend for most fishermen to move to squid, octopus and barracouta as bait.

#### 5.4 Self-reporting

Within the snapper fleet there was some willingness to report seabird captures. However with the perceived high level of reporting required for the Ministry of Fisheries and other industry and government organisations there may be some resistance to completing another form. Any such form needs to be carefully designed and avoid duplicating information already recorded. Guidance in how the forms are to be filled out; an explanation of the use to be made of the information gathered; and timely feed back are vital to gain a high level of cooperation.

## 5.5 Effectiveness of the package

The information package that was distributed by the Advisory Officer has generally been well received. Awareness of the different species of petrels and their particular habits has been exhibited on many occasions, and the improvement in the ability to identify particular species of petrel has been very noticeable.

## 5.6 Seabird NPOA

The introduction of the Seabird National Plan of Action (NPOA) provides several challenges for the snapper fleet. Foremost it is an opportunity for fishermen to display the many good practices they have already adopted and to demonstrate high standards of seabird awareness. However as the fleet is distributed over a relatively large area and is based at a number of ports, and as operational procedures vary from company to company there will be a need for liaison with the fishermen to keep them informed about what is required under the provisions of the NPOA. There is some scope for an Advisory Officer to assist with the development and introduction of codes of practice incorporating the NPOA in 2004/05.

## 5.7 'Spreading the word.'

There has been a lot of good work that has raised awareness of seabird problems among the snapper fishing community undertaken by Northern Inshore, *Pagrus Auratus*, *Seafood* magazine and Southern Seabird Solutions.

The support given by industry organisations has contributed tremendously in helping fishermen to have their voice heard over seabird issues and to be able to understand their legal obligations in respect of protected species. Northern Inshore and *Pagrus Auratus* were instrumental in providing information to fishermen about observer programmes and seabird issues. All of this work markedly raised the profile of protected marine species in the fishery.

## 5.8 Southern Seabird Solutions

Southern Seabird Solutions produced a well received videotape 'Fishing the Seabird Smart Way', incorporating footage taken on board snapper longliners. This was added to the Advisory Officers mitigation package and distributed to most vessels.

A series of workshops was conducted by Southern Seabird Solutions in Houhora, Maunganui and Leigh with good attendances at all locations. The successful formula in these workshops was using industry leaders to talk about their personal experiences as well as explaining why New Zealanders and New Zealand fishermen should be proud of their seabirds and of their fisheries. The advisory officer received much positive feedback about the workshops and it is still common to see fishermen wearing the T-shirt that were given away at these meetings.

## 5.9 Seafood magazine

Seafood, the fishing industry journal, has a large readership among snapper fishermen and has been instrumental in spreading much general and technical information on seabird issues. Almost every edition has an article on seabirds and seabird bycatch



mitigation and these articles were often commented on in discussions with the advisory officer.

#### 5.10 Bluenose Fishery

In the last months of the project, the advisory officer was asked to visit Bluenose/Hapuku fishermen in FMA 1 – Auckland (East). A relatively small number of operators in this FMA target Bluenose/Hapuku. There is one auto line vessel operating in the area and the rest use a manual line system. The nature of these operations means that they are very ‘seabird friendly’ because almost all setting is done during the hours of darkness (usually in the early hours of the morning) to take advantage of the morning bite. Also because the fishermen are operating in deeper waters the fishermen use very heavy weights which accelerate the sink-rate of the mainline. Because the fishermen are attempting to place the lines close to very specific rocks and gutters setting is done at slow speeds. Also most of the catch is landed green so there is limited offal discharged to attract birds. In some instances however there is some heading and gutting of the catch. However usually on these vessels the offal is retained and discharged after hauling is completed. This is done principally to avoid fouling the fishing grounds. Snood lengths are relatively short, in all cases well less than a metre. While some vessels operate from Auckland, Leigh, Tutukaka/Whangarei and Whangaroa, there is a concentration in two ports, Tauranga and Manganui.

#### 5.11 Attitudes of the fishermen.

In this fishery, operators are very concerned that there is a perception that as this is a longline fishery, it has a seabird bycatch problem. This is despite the fact that every fisherman spoken to found it difficult to recall the time when he caught his last bird. Even though the typical practices in this fishery were developed in order to better target fish, the result has been that there are also very strong and proven mitigation practices in place. Despite the low seabird catch rate in this fishery there is a very strong interest shown in participating in the development of codes of practice, as is required under the Seabird National Plan of Action.