

Operation Hippocamp

Briefing Paper

Introduction

Since the inception of the Quota Management System in the mid 80's MAF has received information about the at-sea dumping and high-grading of quota species fish by commercial fishers. The problem with dumping and high-grading is that they are difficult issues to detect or deal with from land. Operation Hippocamp is a series of coordinated at-sea and on-land inspections to provide evidence and information on dumping and high-grading quota species fish in the South-eastern trawl and setnet fishery.

The operation name "Hippocamp" is taken directly from Greek mythology. A Hippocamp was a "water-horse" with the forequarters of a horse and the tail of a sea creature. The aim for Operation Hippocamp is to ride the water-horse out to sea to achieve our otherwise difficult objective. This briefing paper introduces the issue of dumping and high-grading in the inshore fishery before discussing the specific objectives of Operation Hippocamp.

QMS and Dumping

New Zealand's commercial fishery is largely managed under a quota management system (QMS) which is heralded as one of the world's best fisheries management systems. The basic principles of the QMS are that:

- Access rights (quota) are allocated to fishers for most valuable fish species.
- Quota holding promulgates "Annual Catch Entitlement" (ACE) that may be traded between fishers.
- Fishers must generally land all quota species caught.
- Fishers must report their catch accurately to MAF using prescribed returns.
- If fishers land more fish than they have access to ACE for, in a given fishing year, they must pay an overfishing penalty.

There are some species specific exceptions to the anti-dumping provision under the Fisheries Act 1996 for undersize fish. Some other species that are likely to survive return to the sea and Spiny Dogfish which has a low value are allowed to be returned legally. These are exceptions, however, and most quota species taken must be landed.

Observer information shows that when a MAF observer is onboard a commercial vessel it tends to report much more small fish and by-catch as taken in its returns. Observed vessels also tend to report much higher levels of non-fish by-catch than vessels without observers onboard. Direct evidence from crew onboard vessels suggests that when observers are on duty, unwanted and low value by-catch is retained and reported. They say this type of catch is often routinely dumped and not reported when there is no observer onboard. There has

been limited observer coverage in the inshore fishery but when there has been it has confirmed dumping as an issue in this fishery.

Dumping and high-grading of quota species generally occurs when there are economic incentives to dispose of fish species with a low value compared with other catch. The value of a species can be affected by quality, size, market or association with overfishing penalty. If a fisher has limited ACE for a species then small or damaged fish that fetches a low price may be dumped in favour of higher value fish of that species. If ACE has been exhausted and an over fishing penalty will be incurred then a species may be dumped in favour of another species.

Dumping and high-grading can be exacerbated when fishers obtain insufficient ACE to cover likely by-catch. It may also be triggered by a target species having a high catch limit but low abundance in comparison to the by-catch species. The relative abundance of the by-catch means the available ACE is exhausted long before that of the target species. The South - eastern flatfish (FLA) trawl fishery is a good example of this. The FLA catch limit is high with low catch per unit of effort while red gurnard (GUR) and elephant fish (ELE) by-catch ACE available is readily caught.

Aim

The aim of Operation Hippocamp is to gather information on catch mix and fish size to determine the extent of dumping and high-grading in the South-eastern trawl and setnet fishery. Information on catch mix and fish size will be determined onboard inshore vessels at the time catch is brought onboard the vessel. This will be contrasted with landed catch both at the wharf and in the Licensed Fish Receiver premises. The difference between catch composition and fish size found prior to fish sorting and that found at landing and/or the LFR will provide an indicator for the extent of the problem. In recent years ELE and GUR have been identified as key species for size high-grading in this fishery.

Execution

Operation Hippocamp will be executed in three phases as follows:

1. At-sea data collection of catch mix and fish size information.
2. Wharf-side and LFR inspections of focusing on catch mix and fish size. Supporting information on size specific payment systems will also be gathered.
3. Data analysis and follow-up inquiries where necessary.

The area of interest for the at sea inspections for Operation Hippocamp is from the Waiau River, North Canterbury to the western end of the Southland Coast. This area covers the coastal waters of much of FMA 3 and the southern portion of FMA5. The relevant fisheries statistical areas are 020, 022, 024, 026, 025 and 030.

Tasks

Sea-going Inspection

Fishery Officers will carry out catch composition assessment onboard commercial vessels will need to be flexible to deal with the various environment encountered. Suggested quantitative assessment methods include:

- Binning up a sample of fish by species.
- Counting individual fish from a sample and multiplying by a sample weight.
- Comparing portion of by-catch species to main catch as percentage.

Photos are useful for qualitative assessment of catch mix and should be taken in addition to a quantitative assessment.

Observer “Length Frequency” forms will be used for recording fish lengths in an unbiased sample. GUR and ELE will be the priority for length assessment although other species may be chosen if these are not available (GSH, SPO). Length will be measured using flexible measuring boards supplied.

On-shore Inspection

Fishery Officers will also carry out on-shore catch composition assessments similar to those conducted at-sea. Vessels are likely to have species estimates available on landing. Assessment of fish size is essential at these inspections. Fish is likely to be sorted by size prior to landing, so obtaining descriptions of these size grades and non biased size assessment of fish for each of these grades is essential. These assessments may be conducted either on the vessel, during unloading or at the LFR. Length of ELE and GUR should be strait forward as most are landed with the head on. GSH and other species may be processed to a head-off state which will make length assessment more difficult. Photos and descriptions of processed states would be helpful in this situation.

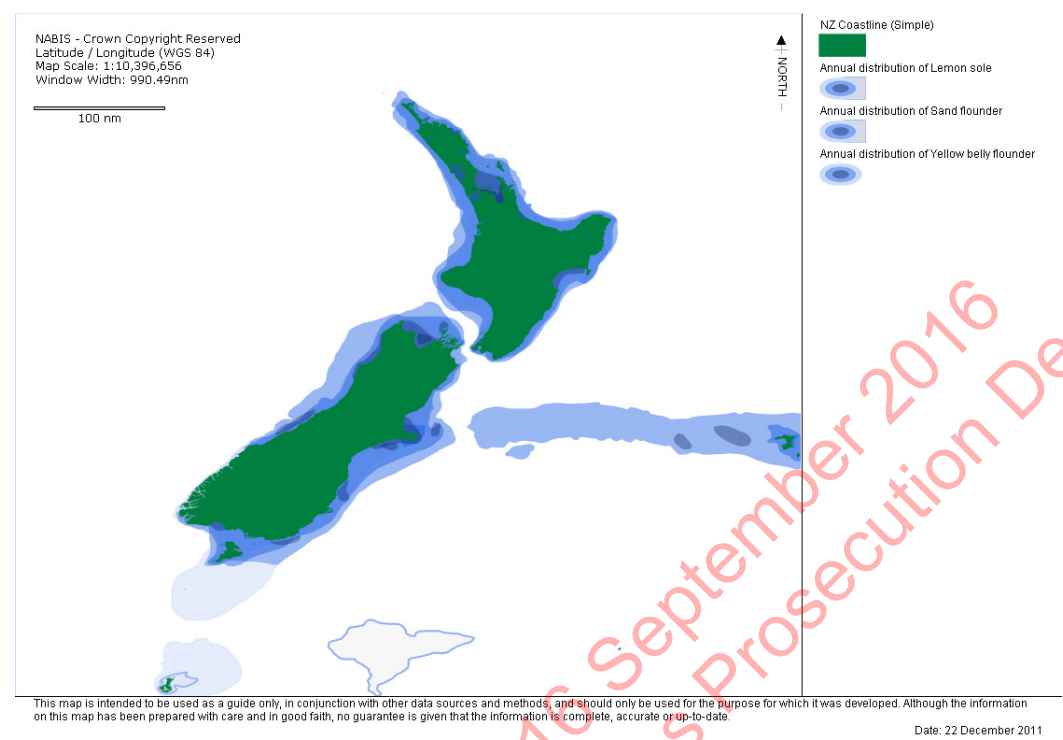
Analysis and Investigation

Comparison of inspected catch at sea with landed catch will be conducted once all information is gathered. Obvious contradictions between the two sets of information and/or any other offences detected will be investigated accordingly with the relevant district office.

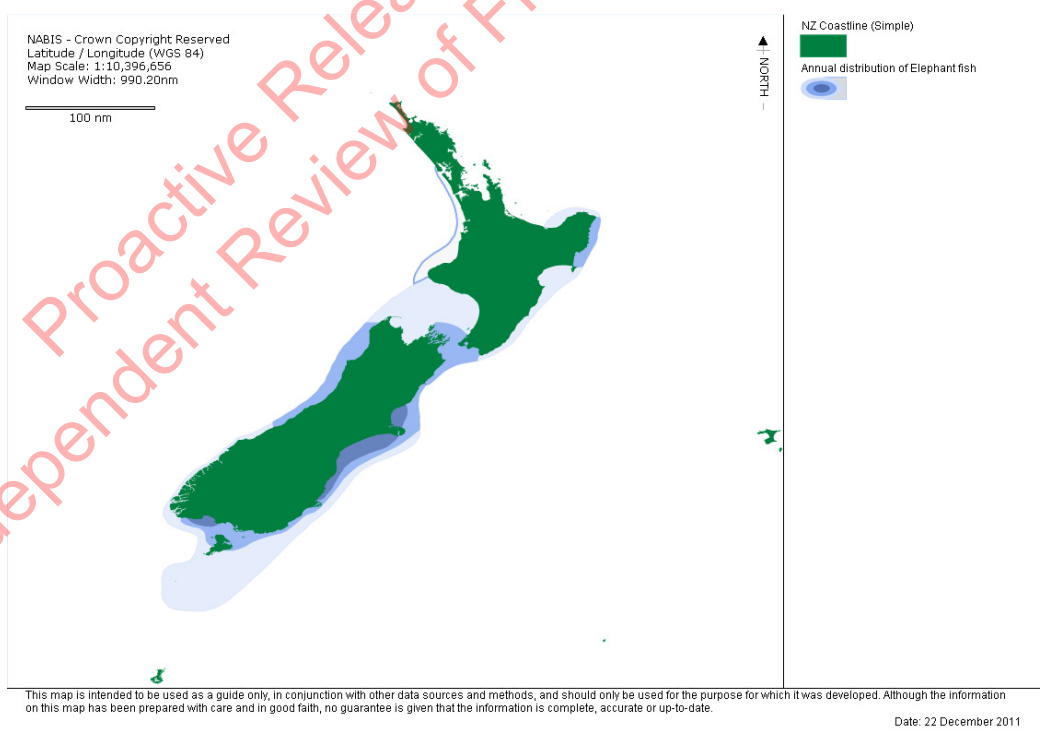
Additional Material

Additional material including annual fish distribution, trawl and set net effort and map of statistical areas are included below.

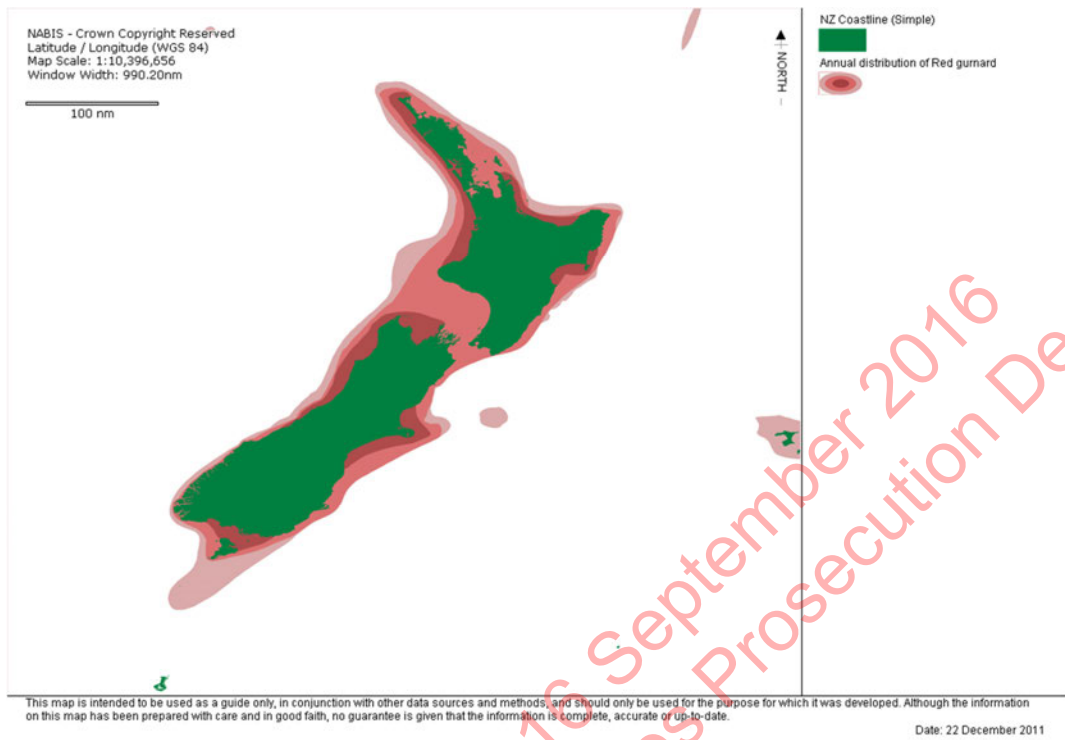
Annual Flatfish Distribution



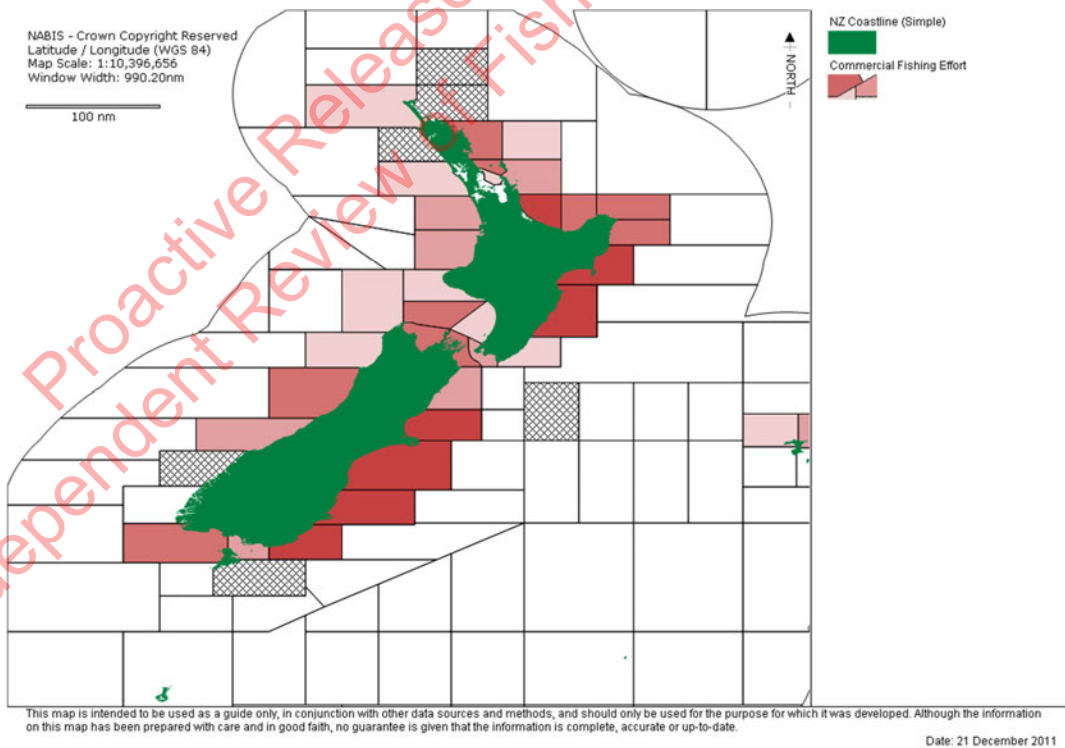
Annual Elephantfish Distribution



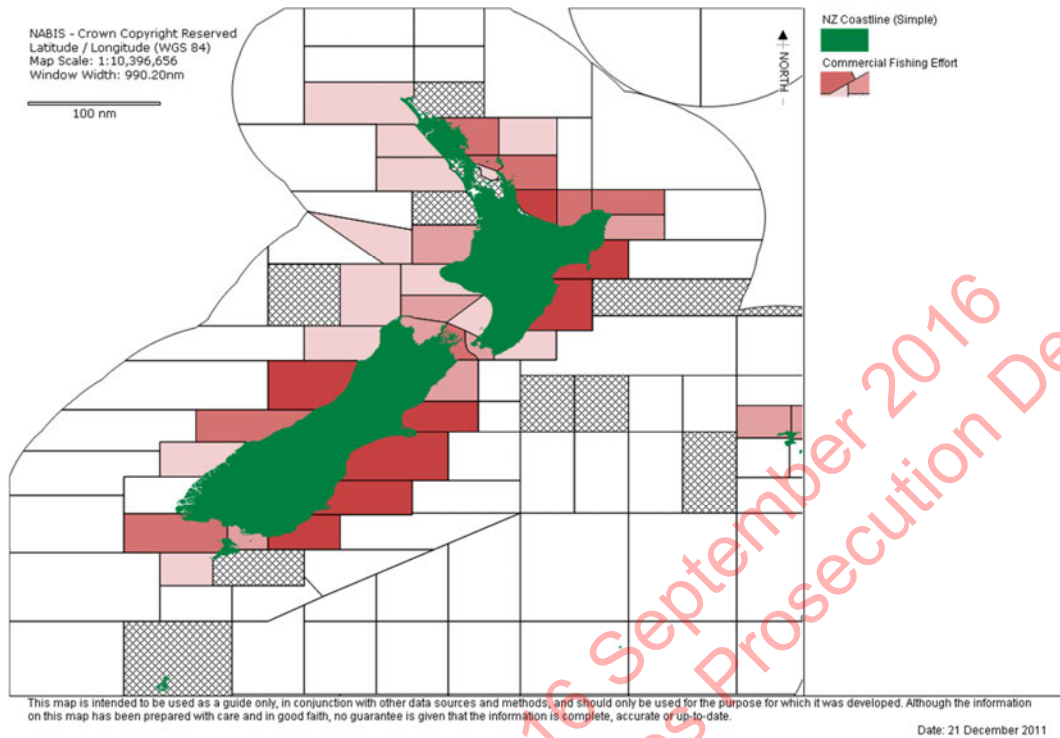
Annual Gurnard Distribution



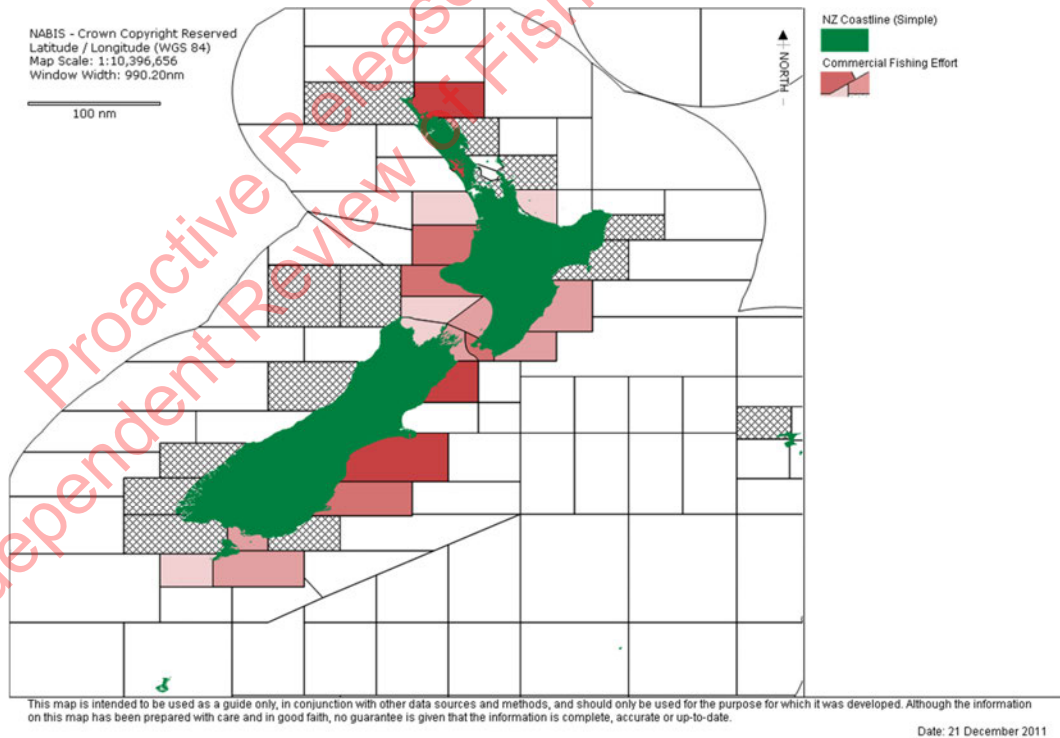
Feb 2011 Small Bottom Trawler Effort



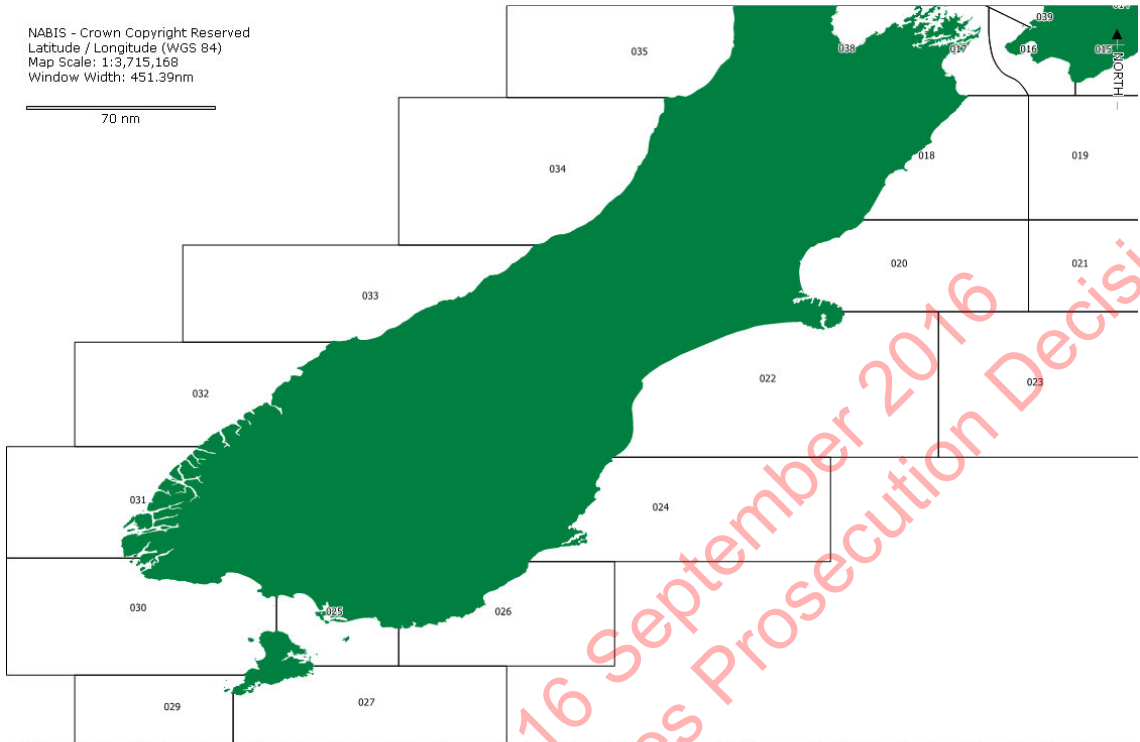
Mar 2011 Small Bottom Trawler Effort



Mar 2011 Setnet Effort



Fisheries Statistical Areas (Inshore South)



This map is intended to be used as a guide only, in conjunction with other data sources and methods, and should only be used for the purpose for which it was developed. Although the information on this map has been prepared with care and in good faith, no guarantee is given that the information is complete, accurate or up-to-date.

Date: 1 February 2012