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**New Zealand's SPRFMO Observer Implementation Report
Ministry for Primary Industries**



New Zealand SPRFMO Observer Implementation Report for fishing during 2015

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Requests for further copies should be directed to:

Publications Logistics Officer
Ministry for Primary Industries
PO Box 2526
WELLINGTON 6140

Email: brand@mpi.govt.nz
Telephone: 0800 00 83 33
Facsimile: 04-894 0300

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New Zealand SPRFMO Observer Implementation Report for fishing during 2015

Ministry for Primary Industries, New Zealand

This report constitutes New Zealand's Annual Observer Implementation Report for the year 2015 (January – December), pursuant to paragraph 2(d) of the SPRFMO Standards for the collection, reporting, verification and exchange of data.

New Zealand has had an observer programme in place since 1986, operating as a unit within the New Zealand Ministry for Primary Industries (MPI). It delivers coverage days for a number of clients, who are provided with some or all of the information collected. These clients are: The Ministry for Primary Industries (Science, Field Operations, Fisheries Management groups), The Department of Conservation through the Conservation Services Levy, The National History Unit of the Museum of New Zealand, the New Zealand Fishing Industry, the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) and the Conversion Factors Working Group, which is a joint MPI and industry working group.

The independence and credibility of the data collected by the NZ observer programme is subjected to critical review by our clients, who have established feedback mechanisms to inform and correct any deficiencies in our processes. When the negotiations to establish a SPRFMO adopted data standard and observer coverage levels in 2007, New Zealand was in a position to meet the requirements through this established observer programme.

Observer Training

MPI recruitment requires all our permanent observers to successfully complete a three week training course before they are accepted into the programme. The course outline is as follows. Sessions preceded with a number are unit standards registered on the New Zealand Qualifications Framework:

- Observer Programme overview, Trip Planning.
- Catch effort logbooks (CELB)
- Catch effort logbook exercises
- Overview of the Observer manual
- 12306 – Identify common parts, fittings and equipment on a vessel
- 12310 – Prevent, extinguish and limit the spread of fire on a vessel
- 497 – Protect health & safety in the workplace
- 6213 – Use safe working practices in the seafood industry
- 12309 – Demonstrate knowledge of abandon ship procedures and demonstrate sea survival skills
- 15679 – Demonstrate a basic knowledge of commercial fishing methods
- Volumetric measurement
- Density factors
- Time Sampling
- Catch Assessment
- Mixed tows
- 19847 – Describe the reduction of marine mammal and turtle incidental capture during commercial fishing, including assessment

- 5332 – Maintain personal hygiene and use hygienic work practices working with seafood
- 19877 – Demonstrate knowledge of protection of the marine environment during seafood vessel operations
- Department of Conservation – Marine mammals and seabirds, mitigation devices
- Non-fish bycatch forms
- Benthic form
- Personal clothing and stores
- Communications / Key vessel personnel / Emergency Evacuation codes
- The psychology of deployment – Observer health and safety issues
- Code of conduct / complaint procedure
- QMS overview
- Scales
- Net bursts / discards / Schedule 6 releases
- Product states
- 19846 – Describe the reduction of seabird incidental capture during commercial fishing including assessment
- 23030 – Use basic knife skills as a fisheries observer
- 23027 - Demonstrate knowledge of information displays aboard seafood harvesting vessels
- The Compliance Business and Observer Compliance Contribution
- 20168 – Work on a commercial fishing vessel
- Briefing / Debriefing / General paperwork
- Performance Assessment System
- Conversion factors / practical exercise
- Fish ID book
- Fish ID practical
- Otoliths/Staging
- Biological sampling forms practical
- Biological Manual
- First Aid kits
- Tablets and at-sea data entry
- Observer Powers
- Compliance Investigation Services - Role, Use of Observer data, Profiling, Forensics.
- Employment Agreement
- MPI Science use of observer data
- Examination

Successful recruits are accepted into MPI Observer Services and then deployed with an observer trainer for one to two trips of an average duration of 30 day per trip.

Programme Design and Coverage

The MPI observer programme made provision in its annual plan to meet the observer coverage levels set out in SPRFMO CMM4.03 (Conservation and Management Measure for the Management of Bottom Fishing in the SPRFMO Area):

- i. for vessels using trawl gear in the Convention Area, ensure 100 percent observer coverage for vessels flying their flag for the duration of the trip.
- ii. for each other bottom fishing gear type, ensure that there is at least a 10 percent level of observer coverage each fishing year.

New Zealand conducted no pelagic fishing for *Trachurus* species in the SPRFMO Area during 2015. New Zealand flagged vessels did fish in bottom fisheries in the SPRFMO Area using either bottom trawling or bottom lining fishing methods.

Table 1. Monthly fishing effort by New Zealand vessels fishing in the SPRFMO Area during 2015.

Month & year	Trawl: N vessels	Trawl: N days	Bottom line: N vessels	Bottom line: N days	Dahn line: N vessels	Dahn line: N days	Hand line: N vessels	Hand line: N days
Jan-15	0	0	1	7	1	6	1	4
Feb-15	0	0	0	0	0	0	1	7
Mar-15	1	4	0	0	0	0	1	7
Apr-15	1	16	0	0	0	0	0	0
May-15	1	22	0	0	0	0	0	0
Jun-15	4	64	0	0	0	0	0	0
Jul-15	4	37	0	0	0	0	0	0
Aug-15	2	18	0	0	0	0	0	0
Sep-15	1	20	0	0	0	0	0	0
Oct-15	2	44	2	9	0	0	0	0
Nov-15	2	29	3	31	0	0	0	0
Dec-15	4	48	2	21	0	0	2	11
Total	22	302	8	68	1	6	5	29

Table 2. Observer coverage achieved in the New Zealand bottom trawl and bottom line fisheries in the SPRFMO Area during 2015.

Month & year	Trawl: N vessels	Trawl: N days	Bottom line: N vessels	Bottom line: N days	Dahn line: N vessels	Dahn line: N days	Hand line: N vessels	Hand line: N days
Jan-15	0	0	1	2	1	3	1	4
Feb-15	0	0	0	0	0	0	0	0
Mar-15	1	6	0	0	0	0	0	0
Apr-15	1	15	0	0	0	0	0	0
May-15	1	23	0	0	0	0	0	0
Jun-15	4	62	0	0	0	0	0	0
Jul-15	4	37	0	0	0	0	0	0
Aug-15	2	19	0	0	0	0	0	0
Sep-15	1	21	0	0	0	0	0	0
Oct-15	2	44	2	6	0	0	0	0
Nov-15	2	27	3	0	0	0	0	0
Dec-15	4	48	2	0	0	0	0	0
Total	22	302	8	8	1	3	1	4

Overall, the following levels of coverage were attained:

- Bottom-impacting trawl: 100% (302 days)
- Bottom line: 11.8% (8 observer days out of 68 commercial days)
- Dahn line: 50% (3 days observed out of 6 commercial days)
- Hand line: 13.8% (4 observer days out of 29 commercial days)

The costs of this observer coverage were fully-recovered directly from vessel operators.

¹ Includes bottom trawl and midwater trawl.

New Zealand's implementation of the SPRFMO interim measures, including the move on rule, is described in detail in its bottom fishery impact assessment². In summary, the move on rule is applied in open 'moderately trawled' areas, where vessels that encounter evidence of a VME when bottom trawling are required to move on 5 nautical miles from the position that hauling of the gear commences, and may not return to that area for the duration of the trip.

Evidence of a VME is determined through the applications of the VME Evidence Process set out in each fisher's High Seas fishing permit and reproduced in Appendix 1. This process is completed by the observer, and a completed copy of the form given to the master in a timely manner. If a move on is triggered, it is the master's responsibility to notify MPI and to ensure that the vessel does not fish within 5 nautical miles of this position for the remainder of the trip.

Data collection and Reporting

Observers on vessels fishing in the SPRFMO Convention Area were tasked to:

- Complete the VME Evidence process for all bottom trawl tows in areas where the move on rule applied;
- Complete MPI benthic material forms for all tows in all areas;
- Determine and record catch effort and catch information on each fishing tow in all areas independent of vessel reporting; and
- Obtain biological data and samples on target and other species. This includes measuring and sexing fish and collecting otoliths.

The observer reporting forms are detailed in Appendix 1.

Observers deployed on SPRFMO trips were all experienced observers and were briefed prior to each trip on the benthos identification as it related to the VME evidence process. Observer data for 2015 were reported to the SPRFMO interim Secretariat as required by the data standards.

Problems Encountered

Implementing the SPRFMO observer requirements does not present difficult problems for New Zealand. Most of the required processes were already in place when the SPRFMO data standards and coverage levels were agreed.

One or two observers are required on each bottom trawl vessel to achieve 100% observer coverage of all bottom trawling activities. The number is reviewed on a case by case basis, and includes consideration of the working hours of the observers, and the fishing capacity of each vessel. In all of the 2015 bottom trawl trips only one observer was requested per trip. The onus was placed on the vessel operators via the high seas permitting process to keep their fishing effort within the hours achievable with the level of coverage they have requested. Sometimes fishing effort can exceed the daily hours safely manageable by a solo observer but this did not happen in 2015.

² Bottom Fishery Impact Assessment. Bottom Fishing Activities by New Zealand Vessels Fishing in the High Seas in the SPRFMO Area during 2008 and 2009.

Appendix 1. Observer data collection forms used to monitor New Zealand high seas fisheries

- **Observer Trawl catch Effort Logbook**

[illegible]

- **Observer Benthic Materials Form**

Observer Benthic Materials Form

(Version 1 - October 2007)

1. Benthic Material includes all **Non-targeted** marine invertebrates, marine plants and/or structures that are connected with the seafloor.
You should complete a **separate row** for each individual identifiable item.

2. Write the trip number [] [] [] [] and Observer code/s (*first letter of first name then first three letters of surname*) [] [] [] [] . [] [] [] [] and [] [] [] [] . [] [] [] []

Sample number	Tow/Set number	MFish code	End Type	Weight (kg)	Method of analysis	Life status	Links	Quantity (code)	Number (optional)	Comments
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	
B [] [] []	[] [] []	[] [] []	[] [] []	[] [] [] .	[] [] []	[] [] []	[] [] []	[] [] []	[] [] []	

3. This form is page number [] [] [] [] for this trip. Is this form the last page for this trip? → Yes ☐ No ☒

Bottom Longline Catch Effort Data

Trip Number	Method	Target Species	FMA	Vessel	Observer					
Set No.	Date of Set Day Month Year	Time NZST	Latitude. DEG MIN S	Longitude. DEG MIN E/W	Bottom Depth (m)	Topography	Number of Hooks Set	Bait 1	Bait 2	% Hooks Baited
Start of Set										
End of Set	Latitude. DEG MIN S	Longitude. DEG MIN E/W	Bottom Depth (m)	Start of Haul	Date of Haul Day Month Year	Time NZST	Number of Hooks Lost	LF Y / N	Catch Assessment.	

Catch Details

[illegible]

Comments:

- **VME Identification Form and associated VME Species Identification Guide implemented on New Zealand high seas bottom trawlers**

Vulnerable Marine Ecosystem Evidence Process (Version 1.0 - Apr 08)

1. Trip, tow, and vessel information

Trip number	Tow number	Observer/s	Name of vessel master
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

2. Date, time, and position that hauling of the gear commenced

Date dd/mm/yy	Time 24-hr clock	Latitude Degrees Minutes	Longitude Degrees Minutes E/W
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

3. Instructions

Assess the total weights of all organisms whether dead or alive in each of the relevant taxonomic groups and record in Section 4. If the Observed Weight of a taxonomic group is **greater than** (not equal to) the Threshold Weight, write the VME Indicator Score for that group in the "Score" Column.

If a taxonomic group is present, but the Observed Weight is **not** greater than the Threshold Weight, tick in the "Tick" column.

Sum the scores and count the ticks. Record these totals at the bottom of the columns. Add the Sum of scores to the Count of ticks and record it as the Total VME Indicator Score.

If the Total VME Indicator Score is 3 or greater, the area is considered to have Evidence of a Vulnerable Marine Ecosystem.

The taxonomic groups recorded on this form may not be a complete record of all benthic material present in the tow.

4. Relevant taxonomic groups, weights, and scores

Taxonomic Group	Code	Method of Weighting	Observed Weight (kg)	Threshold Weight (kg)	VME Indicator Score	Score if Threshold Weight exceeded	Tick if not scored but present
PORIFERA	ONG	<input type="checkbox"/>	<input type="text"/>	50	3	<input type="checkbox"/>	<input type="checkbox"/>
CNIDARIA							
Anthozoa (class)							
Actinaria (order)	ATR	<input type="checkbox"/>	<input type="text"/>	0	1	<input type="checkbox"/>	<input type="checkbox"/>
Scleractinia (order)	SIA	<input type="checkbox"/>	<input type="text"/>	30	3	<input type="checkbox"/>	<input type="checkbox"/>
Antipatharia (order)	COB	<input type="checkbox"/>	<input type="text"/>	1	3	<input type="checkbox"/>	<input type="checkbox"/>
Alcyonacea (order)	SOC	<input type="checkbox"/>	<input type="text"/>	1	3	<input type="checkbox"/>	<input type="checkbox"/>
Gorgonacea (order)	GOC	<input type="checkbox"/>	<input type="text"/>	1	3	<input type="checkbox"/>	<input type="checkbox"/>
Pennatulacea (order)	PTU	<input type="checkbox"/>	<input type="text"/>	0	1	<input type="checkbox"/>	<input type="checkbox"/>
Hydrozoa (class)	HDR	<input type="checkbox"/>	<input type="text"/>	6	3	<input type="checkbox"/>	<input type="checkbox"/>
Unidentified Coral	COU	<input type="checkbox"/>	<input type="text"/>	0	1	<input type="checkbox"/>	<input type="checkbox"/>
ECHINODERMATA							
Crinoidea (class)	CRI	<input type="checkbox"/>	<input type="text"/>	0	1	<input type="checkbox"/>	<input type="checkbox"/>
Brisingida (order)	BRG	<input type="checkbox"/>	<input type="text"/>	0	1	<input type="checkbox"/>	<input type="checkbox"/>
Sum these scores						<input type="text"/>	<input type="text"/>
Count these ticks						<input type="text"/>	<input type="text"/>
Total VME Indicator Score → Sum of scores + count of ticks =						<input type="text"/>	<input type="text"/>

5. Vessel notification




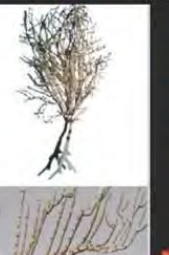


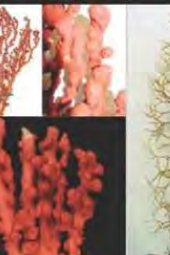







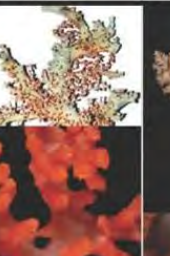















As soon as the form is completed for any tow provide a copy to the person in charge of the vessel.

Name (if not vessel master)	Received by person in charge (signature)	Date received (dd/mm/yy)	Time received (24-hr clock)
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

DRAFT version 1.0
Note these are MFish codes

Classification guide for potentially vulnerable invertebrate taxa in the SPRFMO Area

Thes. groups are not included
Bryozoan, Snails, Sea Stars, Clams, Urchins, Worms, Crabs

	SIA p71-79	COB p 57-58	SOC pg 55-56	GOC p 59-65					COR p 9; 66-68	HYF p 9
Code	Scleractinia (Order)	Antipatharia (Order)	Alcyonacea (Order)	Gorgonacea (Order)					Anthothecata (Family)	Hydroida (Order)
Level	Stony corals	Black corals	Soft corals	Isididae (Bamboo)	Coralliidae (Red / Precious)	Primnoidae (Bottle brush, Sea fans)	Paragorgiidae (Bubblegum)	Chrysogorgiidae (Golden)	Stylasterids (Hydrocorals)	Hydroids
Taxon										
Form, Size	Branching: Can form large matrices, often forms thickets Cups: usually small (<20cm), solitary or in small clusters	Semi-rigid, woody, not very dense, dark brown or black skeleton, can be large (>2m). Branch tips can look like hydroids or small gorgonian	Can be mushroom shaped. Floppy or soft, leather-like surface texture. Usually multiple large polyps, body not symmetrical, no foot or stalk	Solid calcified trunk with brown joints (nodes), rings in x-section, branching 2D or 3D, fine tips, tree like branch tips	Calcified skeleton, no spines. Thick, stubby stems with fine side branches	Dark or metallic tree-like branches, flexible	Large (up to 2m), red, thick stems, breaks when flexed	Gold, black or green metallic lustre. Semi-rigid single, main axis with semi-soft tissue cortex. Small specimens can be feathery like hydroids or bushy like black coral	Calcified, no rings in X-section, often pink or white. Often uniplanar, side branches lattice from obviously thicker main stems	Entire organism small, <30cm, flexible and plant-like, often feathery, no soft tissue covering
Detail (Texture, colour, polyps)	 Calcified, very hard or brittle Branching: Often smooth stems Cups: Can be ridged Polyp calyces well formed with ridged edges, large, hard polyps	 Slimy flesh on branches. Surface with minute spines, may appear smooth. 3D, fine or bushy tips	 Similar polyps to seapens, but soft corals are not stalked	 Can scrape off surface tissue, skeleton surface smooth between nodes	 Can scrape surface tissue off. Smooth (not sandpaper) with knobby ends. No pores on skeleton	 Usually no spines, some metallic lustre on skeleton, 3D Bushy branches, obvious polyps	 Chalky material, not hard. No spines, can scrape off surface. Bulbous ends with polyps	 Can be non-branching and whip-like. Usually no spines, metallic lustre. Fine or sparse 3D branching	 Coarse sandpaper texture, can't scrape off surface tissue. Has minute pores	 Indistinct polyps, feathery tips
Commonly mistaken for:	 Branching form can look like hard sponges but sponges are light with spicules	 Hydroid if small, or small pieces of dead Gorgonacea	 Small pieces of Coralliidae. Can also resemble Demosponges, which have no polyps	 Other gorgonians if in small pieces, but won't break easily	 Soft corals, which always have soft stems	 Hydroids - small pieces of	 Small pieces of Gorgonacea	 Antipatharia, but tips are not slimy	 Small, hard Bryozoans or pieces of Coralliidae	 Small specimens of Gorgonacea or Antipatharia

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Developed by: D Tracey, S Parker, E Mackay, O Anderson, C. Ram, (2008)

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Q1-1

W



	ONG p 30-45		ATR p 51-54	PTU p 69-70	CRI p 230-232	BRG p 207
Co de	Porifera (Phylum)		Actiniaria (Order)	Pennatulacea (Order)	Crinoidea (Class)	Brisingida (Order)
Level			Anemones	Sea pens	Crinoids	Armless stars
Taxon						
Form, Size						
Detail (Texture, colour, polyps)						
Commonly mistaken for:						