TE PĀTUITANGA AHUMOANA A KIWA

Voluntary HSBI Regional Guides

New Zealand – Logsheet Analysis & Catch Quantification

WCPFC Intersessional Process
March 2025

Justine Duder, Pacific Fisheries Advisor

Ministry for Primary Industries
Manatū Ahu Matua

TE PĀTUITANGA AHUMOANA A KIWA

Overview

- Basis for Catch Assessment
- General Principles
- Considerations for Catch Quantification & Logsheet Analysis
- Catch Quantification Methodology
- NZ MPI Online Training Resources
- HSBI form

Ministry for Primary Industries
Manatū Ahu Matua

Basis for Catch Assessment

TE PĀTUITANGA AHUMOANA A KIWA

Quantification of IUU study in the Pacific Region (2016 & 2021):

Priority CMM inspected during a HSBI

CMM 2022-06

Conservation Management Measure on Daily Catch and Effort Reporting

- Requires full and accurate data from fishing vessels to inform stock assessment and scientific evaluation
- Notes the value of operational level catch and effort data to science
- Includes: Fishing operations | Effort | Catch

General Principles

TE PĀTUITANGA AHUMOANA A KIWA

<u>For a fishing vessel inspected at sea:</u>

- Logsheet catch data should be accurate – fish stored onboard should be accurately captured logsheet data (number of fish, estimated weight).
- At sea catch quantification methods are an **estimate**
- Some estimation methods will be more accurate than others
- An assessment should indicate accuracy of the **reported catch versus actual catch** onboard
- Catch estimation methods used alongside species identification (visual inspection or genetic testing) are essential to verify accuracy of logsheet reporting
- Inaccurate daily reporting, or suspected discrepancies, detected during a HSBI is reported to the flag state for investigation.

Considerations for Catch Quantification:

TE PĀTUITANGA AHUMOANA A KIWA

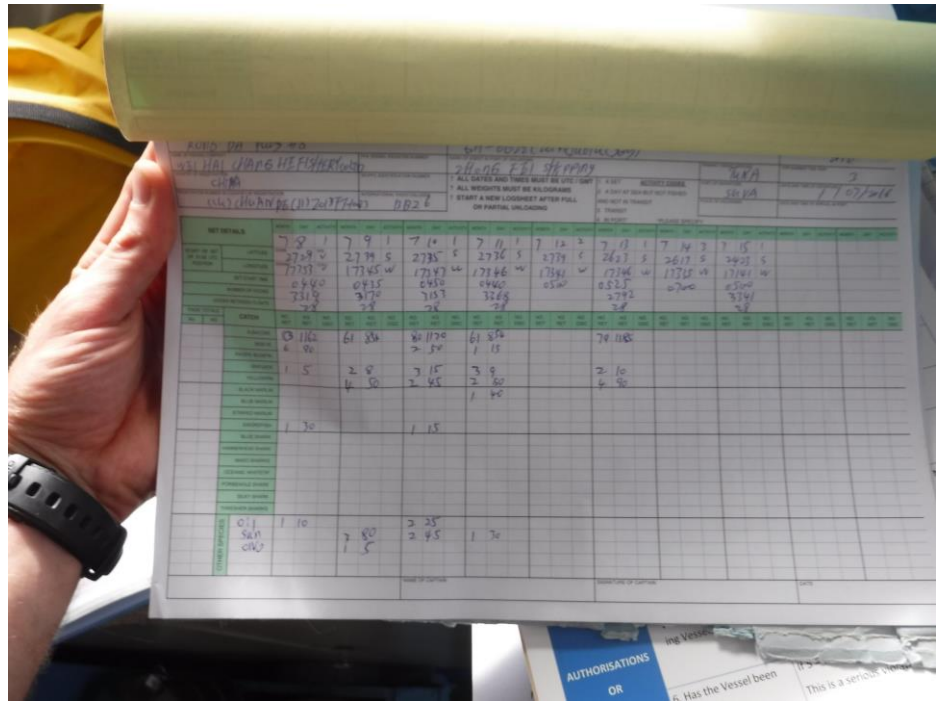
- One (or more) method can be utilised to estimate catch quantities onboard.
- Method(s) chosen may depend on length of time vessel has been at sea, amount of catch, hold capacity and access to fish holds.
- Stowage methods – single species, by-catch etc
- Access to holds and equipment for inspectors
- Use of sources and other resources
  - *information from captain/crew on their estimation/catch quantification process*
  - *source documents (vessel average weights/captains notebook/fish count record)*
  - *obverver records and weights*
  - *vessel schematics*

Ministry for Primary Industries
Manatū Ahu Matua

Considerations for Logsheet Analysis:

TE PĀTUITANGA AHUMOANA A KIWA

- Clear understanding of logsheet data fields and requirements
- Access and accuracy of paper versus electronic reporting – where vessels use both
- Calculation of total quantity onboard by species, including any bycatch
- Assessment of by-catch retained discarded, or released (recorded)
- Comparison of logsheet data using other source documentation and notes (hold plans etc)
- Discussion with vessel captain and crew on their weight assessment process and stowage of catch by species



Catch Quantification methods:

TE PĀTUITANGA AHUMOANA A KIWA

One (or more) method can be utilised to **estimate** catch quantities onboard.

1. **Volumetric** – volumetric calculation based on hold capacity and fish density (*volume x density = weight*)
2. **Subsample** - average weight of a sample of fish
3. **Process unit counts**
   - *I. Full count x weighed in full*
   - *II. Full count x average weight of a sample*
   - *III. Full count x estimated weight*
   - *IV. Rough count x estimated weight (or sample weight)*

Ministry for Primary Industries
Manatū Ahu Matua

MPI Resources:

TE PĀTUITANGA AHUMOANA A KIWA

tiritiri MPI Learning | HOME | BROWSE | DASHBOARDS | MY LEARNING | HELP | 71

Te Pātuitanga Ahumoana a Kiwa Dashboard

Welcome to the Te Pātuitanga Ahumoana a Kiwa Learning Space

Kia ora and welcome to the Te Pātuitanga Ahumoana a Kiwa learning space. Here, you will find modules and sessions that build your knowledge and understanding of the elements essential to managing fisheries across the Pacific.

Managing fisheries can be complex, with many competing approaches and ideas to consider. These interactive sessions will work through the building blocks of a fisheries system, and how these building blocks may be implemented.

Ministry for Primary Industries
Manatū Ahu Matua

MPI Resources: Boarding and Inspection

TE PĀTUITANGA AHUMOANA A KIWA

Jeff Dunlop

Logsheet Analysis & Catch Quantification

Course · 5 Lessons

Updated at Mar 3, 2025

Jeff Dunlop

Basic Boarding & Inspections - Approach & Communication...

Course · 6 Lessons

Updated at Nov 29, 2024

Jeff Dunlop

Gear & Methods

Course · 9 Lessons

Updated at Jun 15, 2023

Jeff Dunlop

Transhipment

Course · 7 Lessons

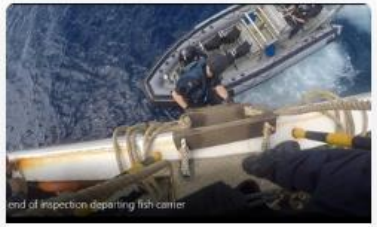
Updated at Apr 6, 2023

Jeff Dunlop

Purpose & Pre-Inspection

Course · 8 Lessons

Updated at Apr 5, 2023



Jeff Dunlop

Health & Safety

Course · 8 Lessons

Updated at Apr 4, 2023

Jeff Dunlop

Western Central Pacific Ocean (WCPO) Fisheries

Ministry for Primary Industries
Manatū Ahu Matua

MPI Resources: HSBI

TE PĀTUITANGA AHUMOANA A KIWA

My Shortcuts > High Seas Boarding and Inspection ...

Shortcuts (6)

Jeff Dunlop

Conservation and Management Measures (CMMs)

Course · 11 Lessons

Updated at Feb 27, 2025

Jeff Dunlop

International Legal Framework

Course · 7 Lessons

Updated at Sep 13, 2024

Jeff Dunlop

Planning and Preparation

Course · 6 Lessons

Updated at Sep 5, 2023

Jeff Dunlop

Principles and Procedures

Course · 8 Lessons

Updated at Aug 7, 2023

Jeff Dunlop

Reporting & Notifications

Jeff Dunlop

Principles and Procedures Quiz

stries Matua

MPI Resources:

TE PĀTUITANGA AHUMOANA A KIWA

- Introduction
- Logsheet Analysis
- Quantifying Catch
- Asking Questions
- Additional Resources

Home

Lesson 1 of 5

Introduction

JD Jeff Dunlop

In this session we will take a detailed look at the information contained in vessel logsheets. Understanding, and being able to analyse, logsheets enables us to accurately verify catch onboard, or catch being unloaded or transhipped from a vessel.

MPI Resources: Online Learning Modules

- Introduction
- Logsheet Analysis
- Quantifying Catch
- Asking Questions
- Additional Resources

The importance of quantifying catch

Catch quantification involves the act of quantifying, or estimating, what is onboard a fishing vessel, both in the freezers and fish holds. Not all inspections will involve a monitored discharge (in-port sampling) where catch is quantified and weighed in full. Having some tools and techniques to estimate the catch on board a vessel can help give us confidence that fish are being reported accurately.

We can use catch quantification techniques when we undertake:

- Boarding and inspections at sea
- Transhipment inspections
- High seas boarding and inspections

The purpose of quantifying catch is to verify what is declared on a logsheet is what is **actually on board** the fishing vessel. It is important that logsheets and

MPI Resources: Online Learning Modules

- Longline vessels
- Interactive
- Quiz & Knowledge Checks
- Scenarios

Step Two

Calculate the volume

Where the volume of the hold is unknown, you will
a tape measure.

To find out the volume of a space, simply multiply t
height. This is the capacity in cubic metres (m^3).

For example, a small but full freezer of albacore.
2m x 2m x 1m = 4 metres³

Knowledge Check

For each of the situations below, which catch quantification method is the most appropriate?

After analysing the logsheets and checking the hold, you find some bigeye that you believe hasn't been reported. All the holds are full and some species are mixed together making it difficult to accurately assess each species. What method would be best to quantify the catch?

Our tuna density is 65% x 1080kg = 702kg/m^3

weight per m^3 , we need
e need to make some
ween the fish.

aps and % of space taken

others.

hold as 35% (the tuna is
kes up 65% of the

is full conta

tres

2

Compare the catch information in the logsheets to your own catch estimates. Consider what species you, or your team, have seen onboard and how you can you best estimate what is onboard the vessel. If there is a discrepancy you will need to find out why.

- Was there anything else that you caught that isn't written in the logbook?
- Why do you have bigeye/swordfish/shark in the hold but not recorded in the log?

1 2 3 4

Add a caption

This
(pro
the
tota

numb
fis

Ministry for Primary Industries
Manatū Ahu Matua

MPI HSBI form

TE PĀTUITANGA AHUMOANA A KIWA

New Zealand
Western and Central Pacific Fisheries Commission
Boarding Report

Inspection and Boarding Details

Date		Start Time (GMT)	
Authorised Inspector Name		Nationality	
Authorised Inspector Name		Nationality	
Authorised Inspector Name		Nationality	
Authorised Inspector Name		Nationality	
Authorised Inspection Vessel	HMNZS Wellington (F55) ZMFS	Flag	New Zealand

Vessel Details

Vessel Name				
IRCS/WIN				
IMO number				
Flag				
Port of Registration				
Type	Purse Seine ☐ Longline ☐ Carrier ☐ Other:			
Length (m)			Tonnage (GRT)	
Colour	Hull:		Superstructure	
	Other:			

Vessel Location/Activity

Latitude			Longitude	
Geographic Location				
Activity at time of detection	Setting ☐ Soaking ☐ Hauling ☐ Transiting ☐ Transhipping ☐ Other:			
Last Port of Call	Port:		Next Port of Call	Port:
	Date:			Date:

Compliance with WCPFC Measures:

Measure No. & Topic	Key vessel checks (but not limited to) *Refer to CMM for details*	Inspectors Comments
CMM 2006-08 - Boarding and Inspection Procedures	☐ Inspectors were given access to relevant equipment, gear, documentation, facilities, catch and areas on board ☐ Master followed requirement of measure including (but not limited to) cooperating, ensuring safety of inspectors, did not interfere and provided reasonable facilities. ☐ *Master offered explanation if boarding was refused*	
CMM 2004-03 - Specifications for the Marking and Identification of Fishing Vessels	☐ Vessel is marked (name, IRCS[1] or WIN[2], Port, Flag, other) ☐ Vessel markings met specifications and are visible Vessel Length: 25m and over — Height of Letters (not less than): 1m 20m – less than 25m: 0.8m 15m less than 20m: 0.6m 12m – less than 15m: 0.4m 5m- less than 12m: 0.3m Under 5m: 0.1m	Picture Ref:
CMM 2006-07 - Regional Observer Programme	• Vessel captain understands observer duties • Observer is an part of the Commission ROP[3] or has been authorised by Secretariat • Observers rights have been met • Rights and responsibilities of the vessel operators and captain have been met • Rights and responsibilities of the vessel crew have been met	Picture Ref:
CMM 2008-04 - Prohibit the use of Large Scale Driftnets on the High Seas	☐ No large-scale driftnets were on board or used; • *If yes – can the vessel demonstrate that the net is authorised under national jurisdiction but not is not readily available to be used*	Picture Ref:
CMM 2008-02 - Application of High Seas FAD Closures and Catch Retention	☐ Complied with FAD[4] closures ☐ Complied with rules for catch retention.[5]	Image of any FADs onboard
CMM 2009-05 - Prohibiting Fishing on Data Buoys - see information package below	☐ No fishing within 1 nautical mile of data buoy ☐ No data buoy on board unless specifically authorised by flag State	

[1] International Telecommunication Union Radio Call Sign
[2] WCPFC Identification Number
[3] Regional Observer Programme
[4] Fish Aggregating Device
[5] FAD Closure – 01 0000 Aug – 30 2400 Sep

Relevant Measures Inspected
CMM 2004-03 - Specifications for the Marking and Identification of Fishing Vessels
CMM 2006-08 - Boarding and Inspection Procedures
CMM 2007-01 - Regional Observer Programme
CMM 2008-04 - Prohibit the use of Large Scale Driftnets on the High Seas
CMM 2009-02 - Application of High Seas FAD Closures and Catch Retention
CMM 2009-05 - Prohibiting Fishing on Data Buoys - see information package below
CMM 2009-06 - Regulation of Transhipment
CMM 2009-09 - Vessels without Nationality
CMM 2011-03 - Impact of Purse Seine Activity on Cetaceans
CMM 2013-04 – Implementation of a Unique Vessel Identifier
CMM 2013-05 - Daily catch and effort reporting
CMM 2014-02 - Commission VMS
CMM 2015-02 – South Pacific Albacore
CMM 2016-02 – Eastern High Seas Pocket Special Management Area
CMM 2017-06 – Seabirds
CMM 2017-05 - WCPFC Record of Fishing Vessels and Authorization to Fish
CMM 2018-04 – Sea Turtle Measures
CMM 2017-03 – Protection of WCPFC Regional Observer Programme Observers
CMM 2019-04 - Sharks
CMM 2019-05 – Mobulid Ray Measures
CMM 2017-07 – Illegal, unreported and unregulated Fishing Register
CMM 2021-01 – Bigeye, yellowfin and skipjack

Ministry for Primary Industries
Manatū Ahu Matua

TE PĀTUITANGA AHUMOANA A KIWA

Voluntary HSBI Regional Guides

New Zealand – Seabird Mitigation and Tori Line Assessments

WCPFC Intersessional Process
March 2025

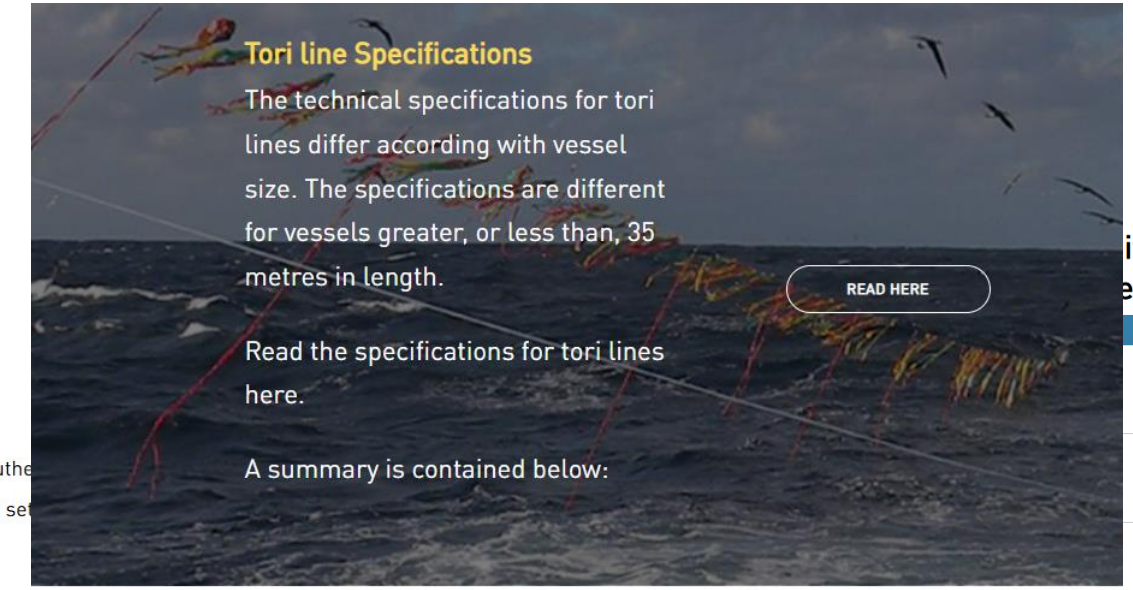
Justine Duder, Pacific Fisheries Advisor

Ministry for Primary Industries
Manatū Ahu Matua

MPI Resources: Online Learning Modules

TE PĀTUITANGA AHUMOANA A KIWA

- Longline vessels
- Interactive
- Quiz & Knowledge Checks
- Scenarios



Reducing the impact of fishing on seabirds

Pelagic fishing, particularly surface longlining, has a significant impact on Southe Ocean seabirds. The main risk time for seabirds is when a fishing line is being set and baited hooks are near the surface.

Many seabirds roam and forage on the high seas away from their 'nests' for long periods of time. Unfortunately many seabirds, accidentally hooked and drowned b longline vessels, are also rare or endangered seabirds. Some seabirds, such as albatrosses and petrels, are threatened with global extinction.

As a result members of WCPFC have agreed on minimum seabird mitigation measures and specifications to attempt to reduce the accidental catch of these ra birds.

VESSELS >=35M | VESSELS

1 tori line minimum (2 if practical one on each side)

Short and long brightly coloured streamers:
-Long streamers attached with swivels at 5 m intervals reaching sea surface.
-Short streamers must be longer than 1m in length, no more than 1 m apart

Aerial extent of >= 100m

Overall minimum length of 200m

itigation measures and how
e capture of seabirds?

+
+
+
+

re apply?

In the Convention area, there are three important zones for the application of the seabird CMM:

1. North of 23°N

Ministry for Primary Industries
Manatū Ahu Matua

MPI Resources:

MPI HSBI form -

Measure No. & Topic	Key vessel checks (but not limited to) *Refer to CMM for details*	Inspectors Comments

CMM 2013-05 - Daily catch and effort reporting	• Written or electronic log have been completed daily meeting minimum requirements, including (but not limited to)
	  • Catch and effort data
	  • Shark species interaction and information
	• Accurate and unaltered originals or copies of required information pertaining to current trip are on board
	• Departure date and port recorded
	
	☐ Does the vessel record interaction with cetaceans, seabirds, sea turtles and other bycatch species
		Picture Ref:_____

CMM 2014-02 - Commission VMS	☐ Vessel Monitoring System (VMS) on board ☐ VMS is operating ☐ Position is accurate ☐ **(Optional)** Manual reporting has been provided when VMS was not operational	Picture Ref:_____
CMM 2015-02 – South Pacific Albacore	☐ **Is the vessel permitted to fish below** 20º S	Picture Ref:_____

CMM 2016-02 – Eastern High Seas Pocket Special Management Area	☐ Has the vessel fished in the E-HSP?
	
	  • Vessels fishing in the E-HSP[12] shall be using at minimum the WCPFC VMS.
	• Transhipment activites in the E-HSP shall be in accordance with applicable CMMs
	  • From 1 Jan 2019, transhipment activities shall be prohibited in the E-HSP	

CMM 2017-04 – Marine Pollution	☐ Does the vessel discharge plastic (violation) ☐ Does the vessel discharge other waste (i.e. oils/fuels, garbages, fishing gear (not retrieved), incenrator ashes, cooking oil, and sewage.	Picture Ref:_____
CMM 2018-03 Mitigate the impact of fishing on Seabirds	**Does the vessel fish below 30º S** Requirement below 30º S (at least 2 of 3 or hook shielding) ☐ Tori Line, ☐ Line Weighting, ☐ Night Setting, OR ☐ **Hook Shielding** **Does the vessel fish (or was inspected between 25º S-30º S.** Requirement between 25º S-30º S (1 of 2 or hook shielding) ☐ Tori Line, ☐ Line Weighting,OR ☐ **Hook Shielding**	**SBM General Comment:** Picture Ref:_____[13]

[12] E-HSP defined as area of the Cook Islands to West, , French Polynesia to the East, Kiribati to the North.
[13] *Photo Consideration: Capture bird activity on approach to vessel.*

Measure No. & Topic	Key vessel checks (but not limited to) *Refer to CMM for details*	Inspectors Comments
	Note nil SBM requirements above 25º S **Tori Line Requirements:** **35m or Greater** **Tori Line** ☐ At least one tori line is sighted/used (select applicable) No._____ ☐ Min required tori line length 200m. Length: _____ (est/act – select applicable) ☐ Min aerial extent ≥ 100m? Length:_____ (est/act – select applicable) **Streamers** ☐ Long and short streamers. ☐ Long streamers are placed at intervals ≤ 5m. Streamer count: _____ (est/act, select applicable) (est/act) ☐ Are long streamers attached by swivels? ☐ Short streamers are placed at intervals ≤1m. Streamer count: _____ (est/act, select applicable) ☐ Does the vessel deploy the tori line windward of sinking baits? ☐ Are streamers **Less than 35m** **Tori Line** ☐ At least one tori line is sighted/used (select applicable) No._____ ☐ Min aerial extent ≥ 75m? Length:_____ (est/act, select applicable) **Streamers** ☐ Long and short streamers, or ☐ Short streamers. ***Note streamers may be modified over the first 15m.*** ☐ Long streamers are placed at intervals no more than 5m for the first 75m. Streamer count: _____ (est/act, select applicable) ☐ Are long streamers attached by swivels? ☐ Short streamers are placed at intervals ≤1m. Streamer count: _____ (est/act, select applicable) ☐ Are streamers	**Tori Line General Comments:**[14] ***i.e. Condition of tori line, placement, and usage.* **Tori Line Picture Ref:**_____ *** capture image of attachment point to vessel.* **Aerial Extent Picture Ref:**_____ ***If deployed.* **Streamers Picture Ref:**_____ **Swivel Picture Ref:**_____ **Tori Pole Picture Ref:**_____

[14] ***Use diagram section at rear to form to illustrate tori line and other vessel SBM.*