

# MIT2020-01: Hook-shielding use in the surface longline fishery

*2021 Progress update*

May 2021



New Zealand Government





## TRIALED BY FISHERS

- Trials in Australia, Brazil, Japan, New Zealand, South Africa, and Uruguay have shown positive results, reducing seabird bycatch whilst maintaining target catch rates.

*"This device, combined with its fast sink rate, is revolutionary...**Not one single bird has been caught** on the pods so far from the tests we have run... Shooting and hauling is no different to how we do it with the regular gear."*

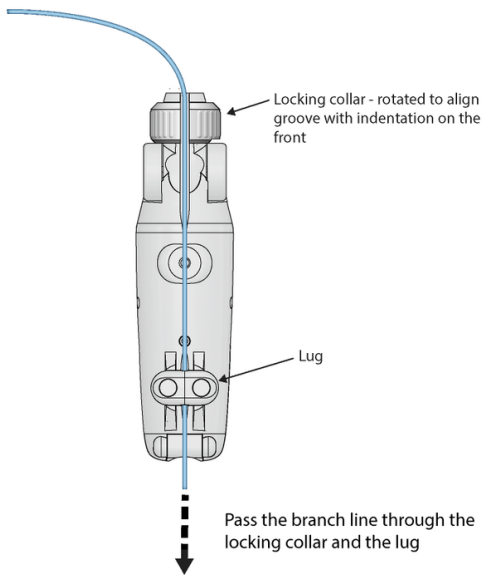
Mike Te Pou  
New Zealand skipper - FV Commission

- Use and trials of the Hookpod have been set against **rigorous independent testing** and reporting.
- Trials have shown a **95% reduction in seabird bycatch**.
- Compared with other mitigation measures, Hookpods are proven to be **as effective, or more effective, than other mitigation measures**.
- Both **catch rates and operations are unaffected** by the use of Hookpods, ensuring the continuation of fishing as usual, whilst reducing environmental impact.

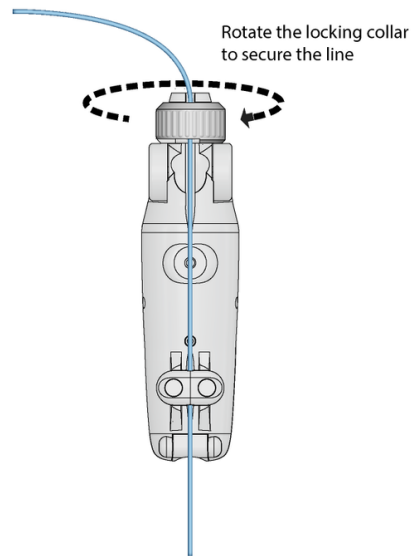


## SUPPORTED BY SCIENCE

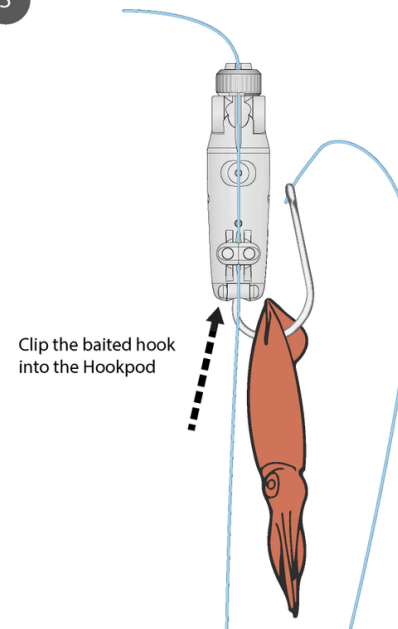
1



2



3



hookpod



# Project Objectives

1. Facilitate ongoing use of hook-shielding devices in the surface longline fishery
2. Assess the operational and bycatch reduction effectiveness of hook-shielding devices used in the surface longline fishery

Requires:

- Fisher-reported data on performance
- Data on uptake and feedback from fishers
- ER data on catch and effort



# 2020 Recap

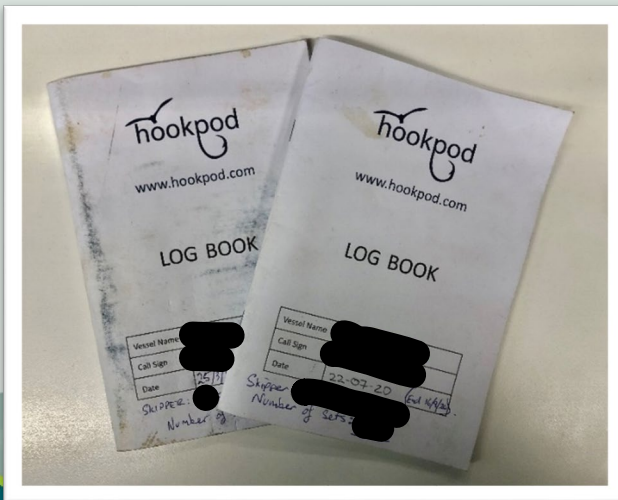
## Uptake

- > **14** Vessels were supplied Hookpods last fishing year (2019-20)
- > **6** Vessels were recorded as having used them
- > **3** Vessels filled out logbooks
- > **3** Vessels were audited by observers while using Hookpods
- > Overall uptake was lower than anticipated

Vessel	Pods given to vessel	Used	Comments
1	1000	2 sets	Not set up correctly, some problems, removed from gear
2	1000	No	
3	600	No	Given to another vessel
4	2000	Yes	No data on use / performance
5	2000	Yes	Logbook received from 23 sets
6	600	Yes	Logbook received from 25 sets, vessel bought some pods too
7	1300	Yes	Using with weighted gear, some not opening, low loss rate, no birds
8	1000	No	Returned Hookpods
9	1000	No	
10	1000	No	Transferred to another vessel
11	1420	?	750 returned - not keen to use them long term
12	1000	?	
13	1000	No	
14	1300	Yes	Logbook from 9 sets with Hookpods in half of gear

# 2020 Recap

## Logbooks



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Vessel	14	5	6
Number sets	9	23	25
Location	SE	SE and NE	NE
Target	STN	STN	STN
Number Hookpod deployments	5480	21850	14800
Number weighted snood deployments	6250	0	4000
Hookpods not open per 1000 deployments	4.38	3.25	11.01
Lost Hookpods per 1000 deployments	1.82	2.61	3.72
Damaged Hookpods per 1000 deployments	1.28	0.55	0.07
Hook still in Hookpod per 1000 deployments	0.73	0.00	0.00
Dead birds per 1000 Hookpods	0.00	0.00	0.00
Dead birds per 1000 weighted snoods	0.16	n/a	0.00
Live birds per 1000 Hookpods	0.00	0.05	0.00
Live birds per 1000 weighted snoods	0.00	n/a	0.00



# 2020 Recap

## Audits

- > **14** Vessels were supplied Hookpods last fishing year (2019-20)
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- **Two** vessels with 100% hook coverage
  - One deck landing from a Buller's/Pacific albatross (XPB)
  - One white-chinned petrel (XWC) captured with it's wing tangled in a snood
- **One** vessel with 50% hook coverage, plus a 'fit and proper' tori line
  - Two seabird captures hooked in the wing

***No vessels with a full set of Hookpods reached any seabird trigger points***

# Challenges

## Usage

- Improper fitting caused tangle issues
- Hookpods not opening when targeting fish at shallower than 20m depths
- Some found Hookpods impractical during high levels of shark bycatch (device recovery)



*Photo: Shooting Hookpods*

## Data

- Skippers not filling out logbooks
- Difficult for Liaison Officers to maintain regular contact amongst other duties

# Improvements

## Usage

- Tangles can be prevented with proper fitting or avoiding the use of swivels
  - We provide laminated A4 instruction sheets with Hookpod shipments
- We have ordered 10m-release Hookpods to encourage uptake in fisheries that target at shallower depths

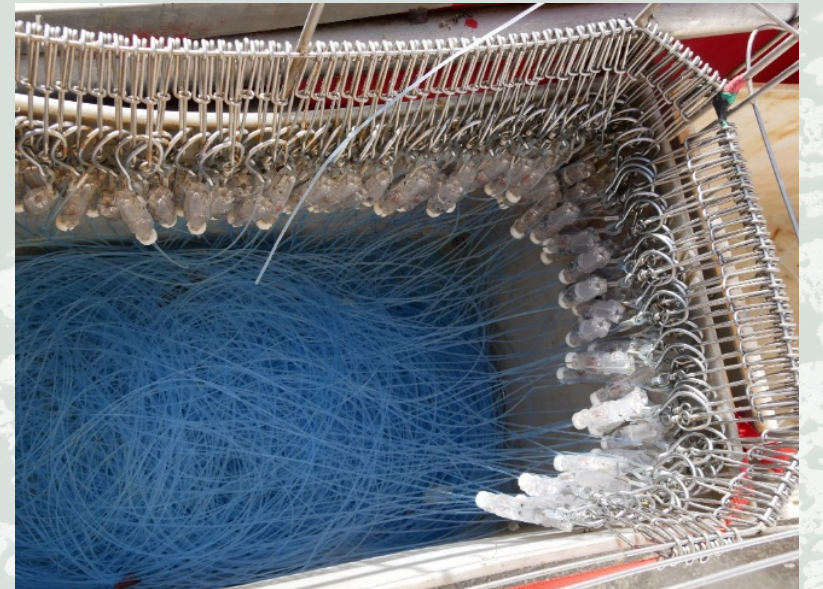




# Improvements

## Messaging

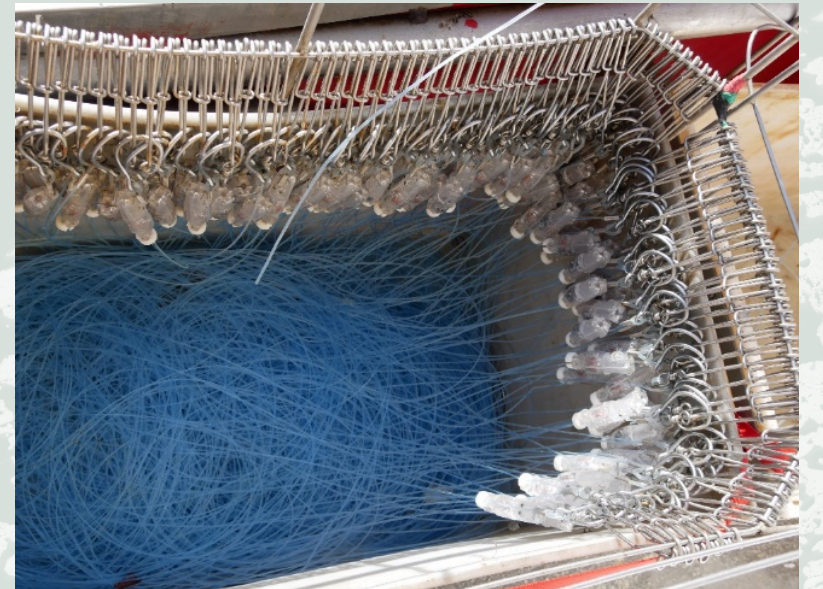
- Letter of Expectations
- FINZ notify operators of Hookpod availability and expectations



# Improvements

## Data

- Skipper logbooks: one page per trip (rather than per set)
- Address performance and safety
- Better tracking and data collection
  - Contact several times per year (Contract to start mid-June)
  - Count pods given to vessels- record those broken or lost
  - Feedback and routine 'questionnaire'





# 2021 Progress

## Uptake

- › **5** Vessels have been supplied Hookpods this fishing year
  - › 2 full sets, 2 top-ups, and 1 small batch to trial
- › Time spent chasing up vessels was a larger constraint than anticipated, and we are now contracting extra capacity to support this workload.
- › No observer audits have been completed on vessels with Hookpods this fishing year



# Data Analysis

## Uptake and Performance

- Count number of Hookpods set
- Count lost/broken Hookpods
- Count those not opening
- Count Flybacks

## Catch and Effort data from ER extracts

- Fish and seabird catch rates
- Comparison between those with Hookpods and those with different mitigation options
- Model effects can include: season, area fished, target species, vessel, use of hookpods, use of tori line, bait type, whether an observer was present, gear setup

## Proposed performance data collection by skippers on a per trip basis.

Date of first set

Date of last set

Number Hookpods set

Number weighted snoods set

Number of unweighted snoods set

Number flybacks over the rail (Hookpods)

Number flybacks over the rail (weighted gear)

Number flybacks over the rail (unweighted gear)

Count of lost Hookpods for trip (total at start of trip minus total at end)

Count of broken Hookpods for trip – add these to labelled container

Count of Hookpods removed due to not opening for trip – add these to labelled container