Department of Conservation
Te Papa Atawhai

Meeting: Conservation Services Programme Technical Working Group

Date: 6th July 2023
Time: 10:00 am – 12.00 pm
Place: Microsoft Teams Meeting
Chair: Katie Clemens-Seely (Acting Manager, Marine Bycatch and Threats team)

Attendance: Karen Middlemiss, Lyndsey Holland, Katie Clemens-Seely, Mike Ogle (DOC), Sadie Mills, Amelia Connell, Jennifer Beaumont, Jaret Bilewitch, Jason Hamill (NIWA), Karen Lisa-Tunley, Andrew Biggerstaff, Campbell Murray, Greg Lydon, Alexander Hann, William Gibson, Olivia Hamilton (FNZ), Aaron Irving, Ben Steele-Mortimer (SNZ Deepwater Council), Chelsea McGaw (Forest and Bird), Edward Abraham, Yvan Richard (Dragonfly), Simon Childerhouse (ELI), Jack Fenaughty (SRL for Sanford).

Presentations:

10.00 am	INT2019-04 Identification and storage of cold-water coral bycatch specimens (1 July 2021 – 30 June 2022)	NIWA
10:50 am	INT2022-06 Distribution and abundance of marine mammals observed around fishing vessels: proposed approach	Dragonfly
11:35 am	POP2022-03 Deep-sea protected coral reproduction study	NIWA

1. INT2019-04 Identification and storage of cold-water coral bycatch specimens (NIWA)

Amelia Connell and Sadie Mills presented the draft and final report for INT2019-04. This project uses shore-based experts to identify and confirm identifications by fisheries observers of protected coral images and specimens. 48 observer samples were collected (physical specimens) – a large proportion of which were gorgonians. 273 images were processed, of which 170 were determined to be protected taxa. Only 88 of the 273 images were labelled and georeferencing was needed for the remaining images. Updates of physical specimens are added to COD, but at this stage images cannot be updated due to ongoing data-formatting issues – these issues are being resolved with FNZ. A new project continuing this work begins in July 2023.

Discussion:

BSM Comment: It would be interesting to investigate AI technology to assist with identification of benthic catch. With the high turnover of observers and less in person training these days, it may be worth the investment.

> **KM** Might be a good project idea to put forward for next year's CSP AP.
>
> **JB** We'd also need more/better species-level information for gorgonian corals before we could train AI identifiers.

CM Observer workshops – when you store a specimen in ethanol does it change what it looks like vs. when it is freshly caught?

> **SM** In the workshops we have a mixture of preserved specimens (which are frozen, dried, or in EtOH) and the skeleton doesn't change colour when preserved, and it's the hard skeleton used for ID. So, it's not an issue but they do examine a mixture of material in any case.

2. INT2022-06 Distribution and abundance of marine mammals observed around fishing vessels: proposed approach (Dragonfly)

This talk was presented by Ed Abraham. The goal of this project is to add observer sightings of marine mammals to the Marine Mammal Database (MMDB) held at DOC, and the presentation relates to proposed methods. A caveat of the MMDB - the structure does not support zero counts and there is no standardisation (e.g. using fishing effort data), and it's useful to examine where mms have *not* been seen. The project includes examination of data from Nomad devices, sightings from CSP protected species abundance forms, and bycatch data in the Protected Species Captures Database – all of which differ in time periods reported and fields of data collected. A total of over 30,000 records are to be added to the Marine Mammal Database.

Discussion:

SC Slide 3 - any plans by DOC or FNZ to work up the associated effort data to these new data?

> **EA** these data are used in abundance estimates and can be linked to observer data, but the abundance data does not go into COD – good to know these data exist.

WG My question is similar - are there any unique identifiers remaining in the data that would allow for linking to observer records? (e.g. observer event ID and trip ID).

> **EA** It would be good to look at that and if there is a field that can be used as a key to link them. It's important that this field stays stable over time - we could do this. The abundance data is carried out during a haul and is recoverable but not always, and the Nomad data is not linked with fishing events. It needs formatting to be loaded.

SC It would be important to be able to link sighting records to other data (like effort) so it can be used for other questions in future.

SC I think that the mm database normally records pod sizes of min, max and best or something like that. It would be useful to keep consistent with that if possible.

SC Agree with treating parent and child pods as single sighting. if anyone is interested, they can look at those records individually but it sensible to keep them together in the main database.

SC Some sightings (maybe not from marine fisheries observers perhaps) of fur seals and sea lions could be reasonably inland as they can be found in random inland places.

SC This can be data from sources other than observer data, but people will be interested in whether the mammals were alive / dead etc – can that information be recorded?

> **EA** That is recorded in the database (it's just not listed on the slide).

SC External observer ID – which can be linked to the source – is not having a time an issue? Can DOC add that as a field to the database?

> **EA** Agreed, this would be a good idea, and it can also be recoded in the comments but might be better as a separate field.
>
> **MO** The field "Observation type' captures live/entanglement etc. And the time would be an easy add to the DOC MMDB.

WG Any idea of changes to observer protocol - currently they are supposed to do the CSP observation on the first haul of the day to keep in consistent (but some of the records are quite late in the day).

> **EA** Agreed, there is the protocol as described and as implemented (as some observers are particularly enthusiastic).

GL At some point observers had to stay on the bridge and weren't allowed on the deck for H&S reasons, and they record weather variation etc, so factoring these into the analysis is also important.

> **EA** Another challenge is that many observers only do a few trips, so there are sometimes more inexperienced observers doing the recording which can be an issue for consistency.

WG The current data displayed will be heavily biased towards Hector's due to the marine mammal observer inshore trips where all they did was look for Hector's dolphins and weren't trained in any other observer tasks - I think it was aimed mainly at university students (this was when Pod fields were introduced).

SC I wonder about the utility of the < or > 100m assessment as individuals could still be influenced by a vessel even if > 100m away. It's probably useful to keep it in as some measure but I think it would be hard to figure out what it actually means e.g. accuracy of estimating pod size decreases with distance from the observer (i.e. the vessel).

> **EA** Agreed, it would be good to keep the information, and downstream for somebody analysing the information to figure out how to use it.
>
> **JF** Visibility is a good factor in determining distance from vessel, do the observers record this? Also, conditions at sea (sea state) – rough conditions harder to see etc.
>
> **EA** Absolutely, this will probably need to be recorded in the comments, we'll go back and look at the Nomad data.

JF Moving forward, this would be a good idea for observers to record this.
SC Yes completely agree Jack. Lots of factors, plus I suspect not many people can reliably estimate 100m at sea - most people won't be able to.

3. POP2022-03 Deep-sea protected coral reproduction study (NIWA)

Jennifer Beaumont presented this project, the objectives of which are to address coral reproduction knowledge gaps and to use life history data to inform productivity / vulnerability parameters for future research. This research follows on from a previous DOC project, BCBC2020-01, which reviewed current knowledge (and also showed that NZ branching stony corals were not all seasonal gonochoric broadcast spawners as previously thought and demonstrated a need for seasonal examinations of reproductive behavior rather than single timepoint assessment). This project will examine physical specimens of preserved corals for morphometrics and histology of varied coral taxa (e.g., stony, black, gorgonian and stylasterid corals). Hydrocorals have proven the most unreliable to obtain good histological sections, but the other taxa are promising – so other histology trials will be attempted on them.

Discussion: no comments / questions.

Any additional comments should be provided to csp@doc.govt.nz by 5pm, 20th July 2023.

Close of Meeting @ 11:55 am