



Meeting: Conservation Services Programme Technical Working Group

Date: Thursday 9 March 2023

Time: 10:00 am – 12.00 pm

Place: Microsoft Teams Meeting

Chair: Lyndsey Holland (Science Advisor, Marine Bycatch and Threats team)

**Attendance:**

Lyndsey Holland, Hollie McGovern, Igor Debski, Karen Middlemiss (DOC), Kath Large, Edward Abraham (Dragonfly Data Science), Keith Jacob (CSP LO), Chelsea McGaw (Forest & Bird), Ben Steele-Mortimer (SNZ, Deepwater Council), Miriam Pierriotti (VUW), Rachel Hickox, Stefan Meyer (Proteus), David Middleton, Rosa Edwards (SNZ, Inshore Council), Graham Parker (Parker Conservation), Matt Pinkerton, Olivia Hamilton, James Andrew, Alexander Hann, Susannah Lynch, Cambell Murray, David Foster, William Gibson, Philip Heath (FNZ), Dave Goad (Vita Maris)

**Presentations:**

10.00 am	MIT2022-05 Large vessel trawl warp mitigation	Dragonfly
11:00 am	MIT2022-04 Bait retention as a driver to mitigation use in the surface longline fishery	Proteus

**1. MIT2022-05 Large vessel trawl warp mitigation (Dragonfly)**

Kath Large presented the methodology and data exploration results for MIT2022-05.

Questions raised:

**BSM** Today we only have one scampi vessel >28 m in operation.

**GP** Clarification required on the potential changes in capture observations between 1993 and 2020, in terms of where the observer was on the vessel and their ability to observe warp captures. Historically, observers were allowed on stern gantries but now they are in the wheelhouse, so this would change what is observed.

**KL** Don't have that data available but note it is important how observer placement affects the number of captures seen and what can be reported as far as observing deployment of gear and gear configuration. This work is not estimating captures but rather looking at the number of captures and with respect to mitigation use in the raw data.

**DM** Agree with Graham. During that period observers were unable to do warp strike observations due to health and safety reasons, which is different from warp capture observations. There is potential that what observers are recording in the data may be different to what they are actually observing, therefore it is important to differentiate between strikes and captures.

**KL** This data is based on captures only, not warp strikes. There is information from observers available that would be beneficial scrape the data, then characterise and model it, however that is outside of the scope of this project.

**GP** Thanks for your comment David. To be clear I was referring to the change in probability of an observer detecting a seabird corpse retained on the trawl gear, due to the observer's view being distant and obstructed, and the potential for crew to dislodge seabird corpses from trawl doors, for example.

**BSM** Regarding recorded warp mitigation use for trawls, this is vessel reported not observer reports. As of 2021 it became a requirement to report mitigation device use, and therefore the 'None' records were either not recorded or there was not sufficient understanding where to report that information.

**BSM** Fish management waste is a big component to be considered in conjunction with mitigation effectiveness; around 70% of vessels now days have converted from producing large amounts of fish waste out the back of the boat to having a fish meal plant on board.

**ID** Seasonality needs to be considered; some fisheries are already seasonal in their operations, and some seabirds are in and out of zone at different times.

**KL** Seasonality in terms of lifecycle and breeding will affect where the birds are and how they are moving, so the relationship between year and seabird species should be considered.

**ID** In relation to effectiveness of mitigation gear over time and changes to mitigation design, DOC commissioned a project to improve baffle design in 2014-15, interesting to see that as a potential driver for improvement.

**WG** Health and safety practices changed around that time so observers had to stop standing near the stern of the vessel and may be an alternative explanation.

**DG** There could be a few drivers, including the difference in discharge practicing etc.

**DM** Some key things to resolve before headline result is taken as final result of project. You will need to look at whether the result of the effectiveness of bafflers and tori lines together, and bafflers alone, holds true if you only look at the data from 2015 onwards with the apparent increase in effectiveness of bafflers. How influenced is that result of individual vessel trends? Interested to see whether vessel year random effect might help to allow vessels to have their own year effect.

**KL** We did look at the data from 2015 onwards and it did not change things much. Agreed, characterisation of data that exists on mitigation use is required before we can have any headline results.

## 2. MIT2022-04 Bait retention as a driver to mitigation use in the surface longline fishery (Proteus)

Stefan Meyer presented the draft report for MIT2022-04, noting that the draft report had been reviewed by FNZ prior to the TWG.

Questions raised:

**DM** Was surprised by the Gilman et al indirect study, seemed odd to characterise catching of fish as bait loss. Less worried about linking seabird count data to fisheries data, if sensible to use it. Overall conclusion is that it is going to be hard to get data on bait loss that is actually due to seabirds. Before embarking on anything like that it is important to consider the likely value in that data. In regards to the economic analysis, focus on lost catch is spurious. Those analysis seem to claim that all lost bait would have caught a fish, however catch is limited by a number of factors, e.g. fish abundance, catch limits etc. Should be focusing on marginal efficiency of the effort and establishing whether effort could be more effective.

**SM** Good point, we will look into whether we need to quantify the economic deficit, or whether we have enough data to look at changes in catch per unit effort between bycatch mitigation strategies.

**DG** Echoing what David said, economics not so important as the idea of not having all hooks fishing. Conversely, a lot of these studies seem to assume catch is proportional to number of hooks in the water, however studies show this not the case, but rather hook spacing and ground covered that makes the difference. In terms of collecting data on bait loss, its negligent not to get observers to report on bait loss, even just a sample of either getting bait back or fish back, this should be easy to implement into observer protocols. Finally, another option is to count how many baits have successfully been stolen for every dead bird that comes up, especially if you target areas where bycatch is high.

**GT** – In relation to necropsy birds and low quantity of bait in their stomachs, this could be due to their regurgitation response in the water before coming up, and could therefore be the reason why there is low amount of bait in stomach.

Any additional comments should be provided to [csp@doc.govt.nz](mailto:csp@doc.govt.nz) by 5pm, 24 March 2023.

Close of Meeting @ 12:00 pm