Department of Conservation
Te Papa Atawhai

Meeting: Conservation Services Programme Research Advisory Group

Date: 28th February 2023
Time: 9:30 am – 12:30 pm
Place: Microsoft Teams Meeting
Chair: Kris Ramm (kramm@doc.govt.nz)

Attendance:
Kris Ramm, Igor Debski, Lyndsey Holland, Karen Middlemiss, Hendrik Schultz, Clinton Duffy, Tiffany Plencner, Graeme Taylor, Johannes Fischer, Kat Manno, Samhita Bose, Katie Clemens-Seely, Hollie McGovern, Claudia Mischler, Chris Hankin, (DOC), Rob Gear, Charity Puloka, Campbell Murray, Alexander Hann. Olivia Hamilton, Andy Biggerstaff, Johan Gouws, Karen Tunley, William Gibson, Philip Heath, James Andrew (FNZ), Peter Frost (Science Support Service), Trudi Webster (YEPT), Matt Pinkerton, Britt Finucci, Di Tracey, David Thompson, Richard O'Driscoll, Emma Jones, Savannah Goode, Jennifer Beaumont, Jim Roberts (NIWA), Chelsea McGaw (Forest & Bird), Chris Gaskin (Northern NZ Seabird Trust), Ben Steele Mortimer (Seafood NZ, Deepwater Council), Elizabeth Bell (WMIL), Steve Coles (Sanford), Darryl Mackenzie (Proteus), Janice Molloy (Southern Seabirds), Graham Parker (Parker Conservation), Jack Fenaughty (Silverfish)

Apologies:
Denham Cook (Pelco NZ Ltd), Rosa Edwards (FINZ), Jaret Bilewitch (NIWA)

Introduction

Welcome
Overview of CSP - scope, research planning, timelines, and research prioritisation. Key stages of the CSP research planning timeline are as follows:

15 March 2023	End of RAG submission period
Early April 2023	Release of draft Annual Plan for public consultation
Mid May 2023	Public consultation period closes
Late May 2023	Summary of public submissions and response to comments completed
Early June 2023	Revised plan progressed to DG/Minister of Conservation
Late June 2023	Annual Plan approved
1 July 2023	Implementation of Annual Plan 2023/24

Discussion and scoring of projects

CSP RAG Proposal		Comments
INT 7	Species identification of camera-detected protected species captures in New Zealand fisheries	**BSM** Supportive of this project, however would have thought that this should have been incorporated into the initial budgeting for the camera roll out **TP** FNZ cameras team confirmed that funding doesn't cover this project, it will run parallel to the observer protected species ID projects. **KR** Given it has been established that this project would not sit in the camera programme, and would leave a big data gap by not including it. **RG** Could this project be included in the FNZ EM Innovation Fund? **ID** This project is using human experts to look at images to improve levels of identification which is outside of the innovation fund scope, however there was another long-list proposal involving AI that was parked for this year as it was relevant to the fund.
INT 11	Characterising surface longline fishing fleet behaviour for sea turtle bycatch	No comments.
INT 2	Identification of marine mammals, turtles and protected fish captured in New Zealand fisheries	No comments.
INT 10	High-resolution estimation of species diversity for a protected coral family commonly occurring as trawl bycatch	No comments.
INT 12	Investigating the impact of fisheries on endangered hoiho diet, microbiome, and disease susceptibility	No comments.
INT 8	Relationship between surface foraging seabirds in the Hauraki Gulf and fish school workups	**CG** Would like to see these indirect projects (including INT-4) score higher. Previous work has been done in this area; sample size was criticised, however budget increases to support increased sample size is never possible. **ID** Numeric scoring is not the only thig we consider when considering priority of projects and having a good range of work across areas is useful **KM** Agree Chris, given the latest AEBR301 report on trophic levels in the Gulf and our commitments under SeaChange.
INT 9	Expert identifications of protected corals	**BSM** Could we draw on cost saving synergies with INT-9 and INT-5? A lot of coral rubble

		is being drawn from COD, we are keen to understand the nature and extent of coral rubble reports. Looking at cost effectiveness, for INT5 $10k is not that much?
		ID Cost effectiveness doesn't have a very high weighting in the numerical scoring hence not being listed higher, but we can take this into consideration in developing the Annual Plan.
		LH INT9 is quite different to INT5 – INT9 would involve international experts coming to New Zealand to work on the coral material that is currently held at the NIWA Invertebrate Collection, whereas INT-5 is a scoping exercise to gauge what extent coral rubble is being used. The cost for INT5 is based on preliminary quotes from scoping the project last year, and could be increased if needed.
		DT Certainly international experts under INT-9 could help with supporting the observer reporting of rubble by providing guidance.
INT 3	Sub-antarctic albatross diet: composition of natural prey versus fisheries bait/waste	BSM Unsure how useful outputs of this project will be for understanding what measures can be taken to reduce risk in those areas, in regard to albatross eating fish waste and fish prey?
		KM Noting your written comments received prior to this meeting regarding this project. This is a new bit of work and there is little understood about the composition of natural prey and fisheries bait waste. Would hope that in terms of fisheries management, the outputs of this project would feed into the mitigation side of things (bait/offal waste management).
INT 5	Understanding the extent and usage of coral rubble reporting codes by fisheries observers	BSM Is 10k high enough to do this project?
		KR These are indicative budgets; if the project progresses then alternative/more cost-effective methods of delivering the work can be investigated further.
		See discussion under INT 9 comments.
INT 4	Impact of fisheries extractions on pelagic foraging seabird populations in the wider Hauraki Gulf area	No comments.
INT 6	Understanding coral bycatch – assessing large catches	No comments.
POP	Ongoing Population Projects from previous CSP Annual Plans	GT Regarding the POP2021-04 (Flesh-footed shearwater population monitoring) and POP2022-01 (Black petrel monitoring), bad weather delayed field work, and impacted amount and quality of data.
		PF Are you planning to assess the impacts of the bad weather on flesh-footed

		shearwaters and black petrels? As events like this could impact future prospects for these populations. In terms of completion dates, is there a plan to try transition this monitoring to some other funding model to allow continual monitoring, as we have invested so much effort and time already? **KM** The completion date indicates when the contract is completed and could be considered for renewal. **GT** There are plans to return during chick rearing to assess how many chicks survived. The Ohinau census was really impacted by the weather, so we will return in May to carry on with the census. **ID** The CSP Seabird Medium Term Research Plan captures how plan for types of monitoring required for different species. The Seabird MTRP will be updated following publication of new seabird risk assessment results, so that would be a good process to engage with. **WG** Does POP2022-08 include a census for white-capped albatross? **ID** No but we could look to include as a future add on (see POP 13). **BSM** I'm interested in details of the coral reproduction project POP2022-03, but will talk to DOC outside of this meeting.
POP 11	Aerial survey of leatherback turtles off Northeast North Island	**CM** Supportive of this work, as a lot of the information we currently have depends on fishery interactions, so will be good to have fishery independent information on leatherbacks. There has been some work on environmental variables but no work on how it correlates with distribution, would be good to include information on that in this project. **CD** Hasn't been considered but could look into how we could do that. **CM** When doing the aerial surveys you would be collecting time and location info, so could use satellite derived data e.g. sea temperature, which would be useful. **BF** Coming off previous projects to characterise captures of turtles, what we are seeing is that the increase of captures is not determined by environmental factors, but directly attributable to fishing, which is why we proposed INT- 11 Characterising surface longline fishing fleet behaviour for sea turtle bycatch, and excluded env variable modelling. If we wanted to look into how turtles are using these environments then would need to look into a tagging project. **CM** Agree, it would be good to eventually tag turtles. Pleased to see this project so high on the list to assess the overlap of turtles and fisheries.

POP 6	Snares Buller's albatross: modelling of return and recruitment rates	**WG** Supportive of the Buller's and Foveaux shag projects, as there are still knowledge gaps. **BSM** Supportive of the Buller's projects as a high priority.
POP 4	Snares: Southern Buller's population study	See above.
POP 5	Seabird breeding biology: Southern Buller's and Foveaux/Otago shag	No comments.

POP 10	Updated population estimate and marine habitat utilisation of yellow-eyed penguins/hoiho breeding on Campbell Island	**WG** In terms of habitat utilisation, will this be done through distribution modelling using some kind of environmental covariates, and if so do we have additional tracking data to warrant that?
		    HS We would be collecting tracking data as there is no published info on that, existing distribution modelling doesn't include Campbell Island.
		    JR Predicting using info from tracking data on mainland and Stewart Island.

POP 17	Deep-sea protected coral reproduction – next steps: Specimen collection and method development	No comments.
POP 7	Salvin's albatross population study at Bounty Islands	No comments.
POP 8	Westland petrel annual movements and colony activity patterns	No comments.

POP 9	Campbell Island seabird research	**JM** This project is ranked quite low, but should be higher in light of the latest southern royal survey, which indicates a significant reduction in population. This project is important to determine whether it's a real decline?
		    JF We share these concerns, as the initial results from Operation Endurance point towards ongoing decline of royals.
		JM A lot of these birds are getting caught outside of the EEZ, so it comes down to how it's funded.
		    ID Scoring for risk uses domestic fisheries risk hence the relatively low ranking of this project; it's likely a considerable part of the risk is coming from outside NZ. However, we will give consideration to the growing conservation concern for

		southern royal albatross in developing the Annual Plan.

POP 1	Auckland Islands New Zealand sea lions	**BSM** Given the recent low pup counts on Auckland Islands, would consider this to be a high priority.
		    KR We will not be taking the scoring as gospel, and also see this as high priority.
		BSM Industry has funded 90% previously, we would like to see that become a bit more balanced with government funding, considering squid fisheries were a larger threat in past, but are less of threat now, and climate and ocean changes may be more of a risk to those pup counts now.
		    KR We will investigate where climate fits in terms of impact on the population and in return what bearing that has on cost recovery rules, as well as looking at other potential causes for what we have seen this season.
		    JR There's the question around breeding and what the demographic drivers are, but we can only get information on adult and pup survivorship from mark recaptures, which is becoming potentially a high priority.

POP 16	Comprehensive aerial survey for SI Hector's - population estimates NCSI	**PH** Initial feedback from FNZ identified a knowledge gap around Hector's populations in the NCSI. **KR** Work needs to be done around methodology to bring costs down, **JR** Hard to get a cost-effective solution but there are alternative approaches to consider such as drones.
POP 14	Inshore seabird colony mapping, populations, behaviour	**WG** See this as a knowledge gap, so it would be good to coordinate a research programme with FNZ to ensure it's covered. **JR** Unsure what this project entails? **WG** This project is about collating inshore seabird information, as it is currently held in isolation. Initial discussions around what species would be useful to inform future risk assessments. **PF** Supportive of more work being done in this area. We ought to consider how to connect with people who go out to look at birds e.g. BirdsNZ, to try and bring info into the project, rather than having 1-2 staff members going round the country trying to map colonies. In relation, there are increasing discussions of offshore windfarms e.g. South Taranaki Bight, where inshore seabirds will likely be affected. We have an opportunity to contribute to that discussion and find connection to organisations that are promoting it and may have to do risk assessments themselves. **CG** This project reads like it is for northern New Zealand. There are a number of species

		listed that are further afield around the country, with some species ranging quite widely. There has been tracking work in northern NZ e.g. Hauraki Gulf, that could feed into this work. Should be looking at diet as well, as a lot of diet work being done particularly with gannets, shearwaters and prions.
POP 2	Spotted shag: South Island population review	No comments.
POP 3	Otago and Foveaux shag: foraging distribution and fisheries overlap	No comments.

POP 13	White-capped albatross population estimate	**WG** White-capped are coming out high in risk population, so this project should a higher priority - would be good to look at this in the next couple of years. Don't think that MPI have capacity to lead subantartic fieldwork.
		BSM We support white-capped albatross pop estimates to be higher priority but to draw on cost saving synergies where possible.
		    JF We too are keen to get a pop estimate for Whitecaps off the ground. We did manage to get some drone flights done this season so perhaps that is a better avenue. Costs of the vessel (and thus staying on Disappointment) remain a constraining factor though.
		    PF Looking at drone-based surveys now and unsure whether they could do the whole island.
		    JF We have been investigating drone options for the whole island, looking into how to get a full population survey off the ground. It's a challenging island, helicopter surveys appear less feasible due to H&S, and time on Disappointment continues to remain a constraining factor. Keen to progress this further though.
		PF It may be worth looking at a programme that involves periodic (say every 5 years) monitoring of Disappointment Island by air (whether by helicopter or more advanced drones), interspersed with annual or biennial monitoring of the Castaways Bay sub-site (which was more-or-less consistently distinguished during previous whole-island surveys), to provide closer real-time tracking of population change.

POP 15	Fur seal population estimate	**BSM** FUR population estimate should be prioritised above any FUR mitigation but should be crown funded. **JR** Unsure why this project is such a low priority, given there is poor information regarding spatial distribution, and the population is in decline in South Island, and the recent Proteus risk assessment indicates a high risk for this species.

		ID The numerical score is based on the threat status rather than the marine mammal risk assessment. We can reconsider this, as it may have a higher score based on risk assessment. **JR** Wonder whether proposed methodology might be reassessed to bring down costs. Some of the best information comes from fisheries so there could be potential to double dip, and there could be other data sets that we could look at to reduce costs. **WG** Looking at cost savings, could it be possible to leverage off WCSI whitebait survey, and just look at the WCSI population? **KR** Potentially possible but some investigation would be required.
POP 12	Grey petrel Campbell Island survey	No comments.
MIT 1	Understanding the relationship between fish hook size and bait type with seabird and turtle captures	**CM** Wondering whether this project requires INT 11 to be finished first, as characterisation of longline fishing fleets could feed in this. **KM** This project looks at hook sizes across other fisheries as well, and will come up with standardised messaging around mitigation. **WG** There may be some data limitations for this project, given that bait type was only added to the schema in 2020, and hook type only become a mandatory field in 2018. **KM** Data limitations are known. This is just a one year pilot project.
MIT 6	Understanding and mitigating seabird and turtle bycatch during the pelagic longline soak period	No comments.
MIT 7	Describing the marine habitat utilisation and diet of hoiho to analyse the effectiveness of mitigation tools at a major breeding colony on Rakiura/Stewart Island	No comments.
MIT 3	Synthetic trawl warps to mitigate seabird warp strikes	**WG** Will this project involve purchasing synthetic warps, or is it a literature review? **KM** This project will build on existing findings, we are not proposing to buy warps. **BSM** None of the deepwater vessels use Dyneema warps at this stage, but would be interesting to see how applicable they would be to use in deepwater fleet. **ID** Some inshore vessels are using Dyneema warps. The idea is to get in depth data collection on those vessels to understand whether they are influencing bird behaviour or activity. Recommendations arising from the project could have wider scope, but the proposal is for a small, constrained project in itself. **GP** When identifying vessels, try to get a broad range of colours to use. Colour of

		warps is the most significant variable. Lighter warps are not as conspicuous and so strikes are more likely.

MIT 4	Enabling uptake of best practice seabird bycatch mitigation in the surface longline fishery	**JM** Keen to provide advice on project content offline. Additionally, will the SLL and Procella hook be considered as a project?
		    TP We are trying to progress it, but work is required on hook design and quality, considering feedback from fishers. We don't believe that uptake would be very high using the hooks in their current state.
		    JM This would require funding anyway so probably wouldn't go anywhere.

MIT 2	Underwater line setting devices for bottom longline vessels	No comments.

MIT 5	Novel seabird bycatch mitigation for floated demersal longline fisheries	**BSM** Does this include ling longline?
		    ID Our initial thinking is it may be more relevant for bluenose, mostly where floating is a really serious issue in sinking gear. At this stage it hasn't been refined by target but rather the nature of the problem.
		BSM Whether bluenose or ling, this project should be high priority. These are two fisheries where we don't have the best idea around mitigation for floated demersal longline, and it's a challenge for our operators.
		    ID We recognise that there is a bit of a gap and standard measures which are hard to apply to these fisheries, and we need to do some new thinking.

Overview of FNZ Research Planning 2023/24

Discussion around current FNZ shortlist
KM Was there any need for further discussion regarding the feedback that DOC has submitted on the shortlist?
    PH There will be another opportunity to comment when the formal document comes out at the end of the month/early next month.
CD How much data will be available for the post release survivability study for sea turtles project?
    PH We will be using overseas data in a desktop study.
    CM The idea of this project is to look at existing data that we do have on capturing turtles and the nature of the capture, and to identify gaps or indicate where we need to collect further data. Obviously there are limitations with observer coverage, in particular in the SLL fisheries. We will make recommendations on how best to go forward if we don't have enough information, but need to see what we can do with what we've got.
GT Regarding Southern royal tracking project, are you planning to do satellite tracking similar to what was done for the Antipodean albatross i.e. getting higher quality tracking to see interactions around fisheries?

WG We will be happy to liaise with DOC to see what assets are available and how that can feed into conservation goals. We want to assist with getting high quality information before it becomes and issue like the Antipodean albatross.

JF Supportive of this work; it would be good to have high quality detail tracking of Southern royals.

GP Fine scale tracking during non-breeding season, particularly along the Patagonian shelf is hugely important for interactions with a large range of vessels and intentional capture.

WG Is there still an issue with getting data from the Russian space station?

ID This is still an ongoing issue, we are having discussions with alternative collaborators e.g. NZ space station, to find other options that are available.

HS Is FNZ still planning to do the project using LED lights in set—nets to assess the effect on target fish species catchability at some stage?

WG This project was considered to be very high in the prioritisation process however there were some budget constraints which meant this project could not be progressed this year. If we do not proceed with the aerial survey project we may be able to bring it back in.

HS Can you provide more information on the Ecosystem Based Management case study project?

PH Will come back to you on that one.

PF Ecosystem Based Management is an important area to start looking at. There is potential for both synergies with existing work in individual species studies and collaboration with researchers in those areas. Critical to look at from ecosystem perspective rather than species or group of species perspectives.

LH DOC supported a few of the benthic projects proposed on your longlist, including a revised gear characterisation, but only one has gone through – is it likely these will be prioritised next year?

PH There are a few benthic projects on the list to go forward another year but just not high enough prioritisation to go forward this year.

KT Definitely on the list for future years, it's just a case of prioritisation and funding.

Further feedback

The Chair called for any additional feedback, in writing to be emailed through to csp@doc.govt.nz, by **5pm on 15 March 2023**.