

Meeting:Conservation Services Programme Research Advisory GroupDate:1st March 2024Time:9:30 am - 1:30 pm

Place:Microsoft Teams MeetingChair:Kris Ramm, Manager Marine Bycatch and Threats team

Attendance: Kris Ramm, Lyndsey Holland, Johannes Fischer, Hollie McGovern, Tiffany Plencner, Anton van Helden, Claudia Mischler, Hendrik Schultz, Igor Debski, Bruce McKinlay (DOC), Kareen Schnabel, Brit Finucci, Jaret Bilewitch, Di Tracey, Richard O'Driscoll, David Thompson, Emma Jones, Jenny Beaumont, Mel Underwood, Ashley Rowden (NIWA), Victoria Warren (JASCO Applied Sciences), Trudi Webster (YEPT), Charles Heaphy (Sealord), Greg Lydon, Campbell Murray, Andy Biggerstaff, Callie Shelley, Olivia Hamilton, Charity Puloka, Philip Heath (FNZ), Dave Goad (Vita Maris), Rosa Edwards (SNZ), Jack Fenaughty (Silverfish Resources Ltd for Sanford Ltd), Gaia Dell'Ariccia (Auckland Council), Jingjing Zhang (Plant & Food), Chris Gaskin (Northern NZ Seabird Trust), Chelsea McGaw (Forest & Bird), Jim Roberts (Independent consultant), Rochelle Constantine (Auckland University), Simon Childerhouse (ELI), Warrick Lyon (Independent), David Middleton (Pisces), Charles Heaphy (Sealord)

Apologies: Ben Steele Mortimer

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 2024	End of RAG submission period	
Mid April 2024	Release of draft Annual Plan for public consultation	
Mid May 2024	Public consultation period closes	
Late May 2024	Summary of public submissions and response to comments completed	
Early June 2024	Revised plan progressed to DG/Minister of Conservation	
Late June 2024	Annual Plan approved	
1 July 2023	Implementation of Annual Plan 2024/25	

The CSP Strategic Statement refresh is underway. Main changes include:

- 1) identification of strategic themes will guide upcoming research
- 2) development of a CSP Forum
- 3) a more science-focused RAG
- 4) wider timeframes for research idea development

RO – What would the membership of the CSP Forum be? As seen in the FNZ process, research providers are not considered as advisors.

KR – That is yet to be decided. CSP will have to seek views; while we don't want to exclude

people, we also want that to be an efficient group. RO – Research providers have valuable input at that stage.

LH – We are also looking into a Science Advisory Group, which would involve science-based discussion around planning, and would definitely involve research providers.

JFen – Regarding the prioritization process, it would be useful to include an indication of success of a project i.e. how feasible it is in terms of available, data, chance of carrying out the project, number of contractors etc. Various sectors of science community have different priorities, and in the planning process it seems the most persuasive people get their projects through.

KR – Point taken, however this is not the forum to review the prioritisaiton process.

Discussion and scoring of projects

CSP RAG Proposal		Comments
POP-04	Desk top review of LBT populations in the Pacific	 KM - So few population projects this year as CSP is constrained by multi-year projects from previous years, so we are not supporting this project going through this year. RE - Suggest leaving projects that aren't going to go forward out of the prioritisation longlist so as to not waste time reviewing.
POP-03	Deep-sea protected coral reproduction – next steps: Specimen collection and method development	No comments.
POP-01	Flesh-footed Shearwater population monitoring	No comments.
POP-02	Opportunistic collection and feasibility study for reproductive observations and experiments on live deep-sea protected stony corals collected in the New Zealand region.	JB – This is a unique opportunity to collect live corals, and we have previous experience holding specimens at sea and back at NIWA. Reproductive work on live animals gives us an opportunity to monitor seasonal changes in reproductive biology and to have workable material /tissue. This project is relatively low cost, as not having to pay for vessels. CH – I am seeing a massive gap between capacity building as proposed in this project and anything that gives conservation benefit for this project. Seems like you will have to start from scratch to learn how to grow live corals. Where's the line between basic research and conservation value on that? JB – Correct, it is partially a feasibility study, however last year we collected some deepwater corals and successfully held them for several months, so we wouldn't be completely starting from scratch. From them we observed larvae that settled very quickly after being released, which really improved our knowledge, and relative to this work, as recovery is less, if larvae can't travel far then they can't disperse far between seamounts. We want to collect different species to look at reproductive changes throughout the year. DM – How is this information expected to feed through to risk assessment? Suggest when projects introduced we need to understand different life histories to understand fisheries risk. I recall not much differentiation between the different coral species in terms of how risk is assessed. Risk assessments and making use of life history information seems distant, given data needs of risk assessment. It will be many years before coral histories are relevant to risk assessment. If we are heading that way, it's important that the MTRP does inventory and lists coral species that we think are affected by fisheries and what we know about them and see gaps, as currently can't see that in the MTRP.

		LH - Good points, there are improvements to be made to MTRP. We do have a risk assessment project underway, with the methods to be presented at CSP TWG on 20 March. There has been discussion between the NIWA team, regarding depletion and recovery rates of 12 different coral taxa that inform dRBS models to assess risk in that assessment, and that are based on current and recent coral CSP reproduction projects; those estimates are refined based on information on life history traits. Assessing vulnerability done by proxy and inferred based on coral life history traits, as we can't see corals spawn in the field. They are relevant parameters, and the only way we can get something similar for vulnerability. RE – Just a general point, what is the management objective and conservation service coming out of projects; it would be helpful if we know how much is proposed to be cost recovered from industry prior to RAG
MIT-03	Protected Species Liaison Programme	RE – Appreciate this project is rolling over, we are having discussions outside of the RAG. Would like to flag this project has been going on long enough that it is probably time to have review of whether it's meeting objectives etc. We are supportive of the project going ahead, but would prefer a significant review in the next six month, of how it looks in the next couple of years. KR – Noted.
MIT-05	Enabling seabird bycatch mitigation in the surface longline fleet	 ID - The main focus is hook-shielding provision, but we need discussions around what the long-term future looks like. JFen - There was a previous presentation about another line setting device designed to do the same sort of thing, could there be integration of these other projects? ID - I spoke to GT on the underwater setting device, around opportunity to use CSP research mechanisms, however they weren't forthcoming on wanting to do this process and wanted to find a direct industry pathway. RE - I am pretty keen to see the procurement of Hookpods remain outside of a CSP project. I see the likes of the adaptive management tool, DDD trial and weighted hooks prioritised over this, and am keen to see independent government funding of Hookpods as it has been to date. Industry would put this lower down the priority list, as a backup like with the underwater bait setter.
MIT-02	Assessment of weighted hooks as a seabird bycatch mitigation option for surface longline fisheries	RE – A weighted swivel attached to the hook has been developed and is being used by some vessels in the SLL fleet, so the scope of this project should be extended so that whatever is preferred by vessels can be tested.
MIT-08	Adaptive management tool for small vessel	RE –Would it be possible to create a tool that can utilise different wet tags and TDRs

	bottom longline	available to fishers? I don't think the proposed budget will be enough so recommend doubling the proposed budget for this project. We would prefer to see it done once and done well given all the work that's gone into it previously.
		DG- Chucking twice as much money at it doesn't make it twice as good. ID – That's a great concept to use a range of tags, we haven't done the investigations to look at cost trade-offs and would need to consider functionality of the different tags. DM –There are some challenges around observer sink rate measurement which need to be
		solved independently from the question about how we get that information back to fishers in real time. Measurement process still has a few challenges that require some further work to decide how to do that on a regular basis.
		DG – Only one that is feasibly useable for fishers and observers; having an output to someone's phone from those tags. We would need a bit of support to get out to the fleet (i.e. LOs)
		 ID – There's still some work to do to flesh things out during project development. DM – It's good that you talk about a tool rather than an app to give this information back to fishers, as there are some challenges around phone use, so it's good to have a process to understand how people would like to receive that information.
		RO – I have been to a couple of talks on using little pearls on gillnets as a deterrent for marine mammals, so wondering if people are working on non-active acoustics on gill nets to reduce marine mammal bycatch.
	Testing the utility of visual deterrent options to mitigate incidental bycatch of protected species in set nets	PH – There is an overlap with a project on the FNZ shortlist.
		HS - We have had discussions with William to ensure that the projects are complimentary
MIT-01		to each other. WL – There has been some work looking into using lights to reduce turtle bycatch in gillnets ¹² , so that could be good to include in this project.
		AvH - There might be scope to expand this project to look at acoustic reflectors as well as the LEDs, so perhaps Passive mitigation, to reduce bycatch (other than pingers that should I think be evaluated independently as it currently is set out).
		JF – We'll have a look if that will be possible, but note that additional mitigation methods included in this project will increase the number of experimental trials on an exponential scale and therefore may not be feasible. In addition, the way the project is set up to record

¹<u>Reducing green turtle bycatch in small-scale fisheries using illuminated gillnets: the cost of saving a sea turtle</u>

² Developing visual deterrents to reduce sea turtle bycatch in gill net fisheries

		 interactions and attraction/avoidance is finetuned to birds, not marine mammals, so it may not be ideal for the inclusion of the acoustic reflectors. Perhaps a stand alone MIT project on acoustic reflectors is more adequate. DM - Ben expressed disappointment that the previous project went ahead without
MIT-06	Efficacy of seabird mitigation in large vessel trawl	adequate data, there needs to be more due diligence around data available for projects before they are being proposed> But also recognising that new approaches required to data collection, so we just need to ensure that there is adequate data to use before supporting a project. CH - Support this project, noting as well as deficiencies in observer data, a programme of work has started tasking deckhands etc. to pay attention to what is happening at the back of the net etc. New data would be fantastic.
MIT-04	Hector's dolphin acoustic deterrence in trawl and set net fisheries	 KR - Noting that there is a lot of project scoping going on behind the scenes. VW - Rather than testing ADDs which have the potential to cause widespread habitat loss, it would be better to look at passive mitigation options such as reflective spheres on set nets³. For trawling, if its decided that ADDs are appropriate, then maybe look at targeted use, as opposed to widespread use which could cause a lot of noise pollution etc. AvH - Agree there are a range of comments that need to be looked at in conjunction. We need some agreed standards around what pingers and ADDs represent. We may need to put permit conditions in place to ensure they aren't stopping animals using their habitat acoustic alert or acoustic deterrent. SC - Disappointed to hear things are going behind the scenes. KR - We can look to send round a revised proposal to the group separately. RE - For the first objective, we have told you what we are using on our set net fleets, if it's about trawl then that is another conversation. Happy to talk about this offline as I don't think it is appropriate to discuss permitting in this forum.
MIT-07	Thermal cameras	 RO - What is the actual proposal for this project, is it about trials to develop a methodology to use the cameras, or to estimate birds behaviour around boats? ID - Currently we've used various protocols in testing mitigation devices, and a starting point is to try and follow those protocols using thermal cameras, then assessing limitations of the camera, and then work up to what a feasible protocol that would be sufficient to collect data in daylight.

³ Angle-dependent acoustic reflectivity of gillnets and their modifications to reduce bycatch of odontocetes using sonar imaging

		 DG - Before finalising budget, you should have a good look what sort of cameras you could use. Hunting scopes can do the job, but the problem is on small boats at sea, they are not stabilised, so something to think about. Other options are more security type cameras, which are cheaper but don't have quite as good definition or resolution. You could also look at cameras that have gyros in them. CH - Can any of this cost be put on the camera manufacturer/seller? JFen - Are these cameras infrared? RO - No as these detect heat rather than infrared. Think this project needs more clarity around what is actually being proposed. ID - The intent of the project was around using a chosen device to then look at how comparably we could collect data on those protocols ie. gopro camera vs person, those are the types of protocols with likelihood for using this type of technology for. All these project ideas require proper scoping. KM - Regarding whether this would be for use at night or day, the intent is for it to be used at night.
INT-07	Understand the effects of fishing depth on turtle bycatch	 CM - Support this project, but think there should be a component on target species and how much of it is being caught. Then if depth effect is found for turtle captures, it will be good to know how gear setting would affect different target species catch rate. BF - Is there any more information on the current projects, or any captures with these data loggers that you are going to use? DG - No not yet, we obviously don't want to get captures but do want them to be able to put loggers on. It's more about understanding the depths of gear fishing, including fish target and non-target landable fish capture. You could probably include seabirds in this project. SC - This is a worthwhile project, how are you proposing to estimate bycatch with no observers on those vessels? Will you use estimates reported from fishers and cameras, and if so could there be potential bias from there? KM - We haven't gone into that level of detail yet, consideration will be applied to methodology in terms of where we get that data. The observer delivered information will be dependent on observer planning. RE- Should other factors other than depth and temperature also be considered? I see the results from this as potential species distribution modelling for captures, so you should

INT-03	Exploring impacts and recovery potential of protected deep-sea stony corals, utilising Remotely Operated Vehicle capability on RV Sonne in the New Zealand region.	make sure it incorporates feedback from student in Florida's work ⁴ . KM - There is opportunity within budget to add in as many different variables as we can. Will also note the other work that is going on and include in the mix. JFen - There does appear to be specific overlap with NIWA turtle project. How much communication and integration will there be between these two projects that have the same objectives? KR - There will be a lot of communication as we don't want to double up. DM - A comment from Ben is that this is an opportunistic project and see the value in taking advantage of research capability in NZ for short time, however it's difficult to comment before the research plan has been fully fleshed out. Ben has some concern around the objective to make assessments of direct impacts of fishing on corals, in terms of how that's done visually with ROV deployments. We clearly need to collect data more extensively to ground truth distribution modelling that's been done, but it's difficult to provide detailed feedback until the actual plan and extent of which what research /can be undertaken is better known. LH - The voyage plan has already been drafted. In terms of direct impacts, the study is modelled on voyages previously undertaken at seamounts, there are specific coordinates and will be a repeat survey of what was last done a few years ago, so it's not completely designed from scratch. DT - This project is not really opportunistic, as it has been in planning for a long time. We have had a big part in research planning. This is the only survey that has a biodiversity component. JB - The ROV gives good opportunity to return to exact spots that were surveyed previously by DTIS tows. WL - This sounds like a great opportunity. Is this vessel more advanced than the Tangaroa i.e. do they have real time camera footage? GPS doesn't work underwater so ROV may not be able to visit exact coordinates. JB - Positioning on seabed can be difficult but it's definitely possible, we've had prev
		success returning to look at specific areas.
INT-13	The influence of commercial fisheries on Southern Buller's albatross foraging during chick rearing	DM – Ben's comments on this were noting that the previous work used exactly the same approaches, however it is not referred to in this project description. It's not clear that this project is specifically looking for changes between that period and now, as well as bird attendance at vessels. Also noting that other data sources available e.g. observer sightings

⁴ Potential of dynamic ocean management strategies for western Pacific leatherback sea turtle bycatch mitigation in New Zealand

		data. The same question could be addressed using existing data sources, so this should be considered as well as new data collection, especially given the small number of birds that can be tagged. Ben's main concern was scepticism around how information from this project could flow through to usefully informing types of waste management procedures that are in place on vessels. You would need to provide a bit more information on how you think that will be useful to refining those procedures. KM – Noted, will flesh that out further.
INT-12	Impact of fishing on the ecosystem services provided by deep-sea corals in the New Zealand region	No comments.
INT-02	Testing bycatch mitigation scenarios for protected corals in New Zealand using best available information	DM – Ben raised concern that a lot of the testing modelling requires better ground truthing before being used for testing management scenarios, and highlighted importance of ground truthing existing distribution maps before its used for purposes that may be somewhat beyond their reliability criteria. LH – Have had a chat to Ben, noting that the project would also incorporate recent cataloguing work so there would be inclusion of updated presence information and not just SDM models.
INT-05	Interaction of spotted shags with northern North Island set net fisheries	RE – I am keen to discuss cost recoverability and proportion of cost recovery of this project. DM – There are a couple of projects, including the Westland petrel project, where you are proposing to generate more analysis of existing data to new spatial layers, noting that the FNZ research plan includes project that is about generating improved spatial layers for future seabird risk assessments. Not clear extent of overlap of species considered. JF – Noted, however this and the Westland project do go beyond spatial and temporal layers, and include a vertical element, it's a bit beyond the Risk Atlas project that FNZ runs.
INT-08	Characterising great white shark interactions with BLL, set net and trawl fisheries	CM - Support this project in general, however looking at last 2-3 years of data, think more emphasis should be put on interviews with vessels looking at how sharks were caught and how they interact with gear. RE – We would prefer to see resources of this project focusing on distribution of sharks and then overlap that with fisheries, as we already have good data on that. Not sure how useful characterising how these sharks are caught. When you are looking to make recommendations for mitigation, you will need to consider that set nets are used to target sharks, so spatial temporal avoidance if the risk is high, would be more useful. WL – Are the white pointers being caught by rec fishers up Northland being addressed somewhere else?

		KR – No that is not being considered at present, it's a resourcing thing but certainly a concern.
		BF – Rec fishing is important to look at but might be a separate project. SLED interactions should also be looked into. From memory regarding a previous project, there is some conflicting information about how SLEDs are impacting white sharks. This would be a good opportunity to get some more information on whether that impacts their survivability.
		DM – To reinforce Rosa's point with Ben's comments, he is sceptical about project objective 2, and whether there is any real information to be offered about avoidance, as it's not viewed as something that can be avoided. There isn't likely to be anything in the existing data about the capture process, so you will need to think about alternative ways of getting that information to what has been outlined. I'm not convinced it will be possible to do much about the SLED issue, as you would need to compare vessels with and without a SLED, which will not be possible as SLEDs are a requirement in those fisheries.
INT-09	Potting gear: seabird, shark, turtle and humpback whale interactions.	KM – Adhoc data suggests protected species interactions with potting gear, and as we don't currently have eyes on this fishery, we want to look at those potential data sources to drag out what's going on there.
INT-04	Distribution of protected corals in southern Fiordland and risk of fisheries interactions	RE – James Robertson will provide written feedback on this project got some feedback to follow up in writing
INT-10	Seabird ID app	RE – This currently sits within resource application of the Liaison Programme, and we are currently reviewing that programme. A key point is getting direct feedback from fishers, how valuable it would be in an app form. Support this in principle, but it's a low priority in terms of other interaction projects. DM – The background information is missing here on what level of ID resolution or accuracy the app will have, how often do fishers get species ID wrong. First you need to characterise fisher reported data looks like at the moment and describe how you would like it to look in future. Echoing Rosa, is this really the right tool? This project seems to have leapt to a solution but think it needs to be more work in terms of specifying what the future would look like with better identification by fishers, then what resources are needed to achieve that outcome. JFen –A recommendation would be that if a phone app is developed, it should not be at highly technical level. Has there been any evaluation of existing apps before going to develop a specific app? KR – The present apps available are aimed at an audience that are super interested in birds,

		so take your point. DG – Agreed, it should be simple and quick for fishers to use, as they have a lot of other work to do. It should also not be restricted to phones, as a lot of fishers use an iPad or PC to enter their data. It could be worth talking to MPI about supporting this project.
INT-14	Collection and curation of tissue samples from protected fishes and turtles	 CM - Supportive of project. Tissue samples are useful, but how feasible it is to get turtle samples, as historically we haven't been able to get many? Maybe in this iteration of the project we should make more of a push for fishers to collect samples. BF - Are observers allowed to collect samples from protected fish, as this has been a H&S issue in the past. KM - It is an issue and we need to make the most of the opportunities that we have, this project needs to go ahead in order to curate the samples that we are getting. WL - The basking shark kits were designed for observers and vessel officers to use, so it might be helpful to have something similar for sea turtles, and a plan for when they are captured alive or dead. RE - Just reiterating the importance of moving forward with live turtle samples, as most of the turtles that are capture are live.
INT-11	Factors influencing risk of Hector's dolphin bycatch in trawl and set net fisheries	JR - What would the information base be for this project? As the number of observed captures is fairly low. KR - As time passes, we will get a larger dataset. JR - It would make more sense if this project was a review. RE - Agreed, if it's going to be scientifically quantifiable study or just data gathering, then it will be repeating some work already going on in industry. Operational variables being discussed and probably best discussed within the fleet. The key point is to pull it into a workshop environment to get that operational feedback. CH - Similar comments, statistically is there any point continuing with this project? AvH - There are some factors being put up as mitigation, such as low headline height etc, so need some evaluation of that. A broader discussion workshop would be relevant to get at some of these things. The reflective spheres discussion from MIT-04 is also relevant. KR - Maybe some elements of delivery of the two projects overlap but then outputs would be separate.
INT-06	Westland petrel overlap with commercial fishing effort	RE – No objection at the moment, if you can provide a bit more detail on amount of collaborative work involved then people can see the benefit and cost savings, and support

the project. PH – Could this project add significantly more information than the risk assessment? JF – There is several years' worth of GPS data, largest samples of GLS deployment, and 2 years of TDR data; most of it has been combined so will be substantially better than anything done with FNZ so far. Following analysis then that would get feedback into the
risk assessment.

Overview of FNZ Research Planning 2024/25

Discussion around current FNZ shortlist.

LH – Regarding BEN2024-03 (Seabed imagery analysis and validation and development of abundance distribution models for key benthic taxa in the EEZ) which taxa will imagery analysis encompass?

PH - It will build on some of coral work, but it's benthic taxa so you would need to pick that up with Karen.

RO – Regarding PRO2024-03 (Establishing a mitigation option for protected species using LED lights) and the overlap with MIT-01, wouldn't it make sense to combine into one project, as the trials will be the same? Not sure how it will be contracted, but feel like you should be doing everything at the same time.

PH – Hendrik and William will be working closely together on that, it's not uncommon for FNZ and DOC to share resources.

KM – Regarding PSB2024-01 (Population and distribution modelling of king shag), is this a data analysis project using some of the tracking data that FNZ aquaculture team is collecting?

Ph – Yes there will be no additional data collection.

JM – Regarding a project on recreational fishing impacts on seabirds, that isn't going to be cost recovered. FNZ has been collecting information from boat ramp surveys, and national panel surveys for a couple of years, and the surveys contain questions on seabirds. Surveys to charter operators have also included questions on seabirds. All this data has been collected regarding seabirds, but there hasn't been any analysis, and it would be great to get it produced and reported on.

PH - It won't make it onto this years plan, but speak to William and Ian to come up with a plan.

KM - Janice, all the bycatch of protected species by charter fishers would need to be reported anyway, not just seabirds. Would be keen to `discuss sometime.

RO – Regarding ZBD2024-04 (Developing a climate vulnerability assessment tool for New Zealand's fisheries), this is an admirable project objective and curious around the budget.

PH – The project is around building a framework as to how it will be done, so won't need a big budget.

KM – Is ZBD2024-07 (Diet plasticity of predators in the Hauraki Gulf) focussed on megafauna? Or seabirds? I have been interested in those feeding associations of seabirds in the Gulf.

PH – Yes the plan is to look at seabirds and megafauna. I feel project is underfunded for the amount of work that's involved, so it will probably progress into 2 -3 more years.

OH – It's looking at predatory fishes, seabirds, marine mammals etc. I can talk to you more about it Karen.

KM – Regarding BYC2024-05 (Exploring inshore fish and invertebrate bycatch data derived from onboard cameras and fisher reporting), is coral included under invertebrates?

CM – In reference to all these projects, corals are included as invertebrates. As part of BYC2024-02 (Bycatch monitoring and quantification of fish and invertebrates in deepwater fisheries) we want to have a closer look at the benthic materials being caught. DT – FNZ looks at non-protected coral bycatch, while DOC looks at protected corals.

RO- It's useful to see this aquatic shortlist, but is it possible to make the non-aquatic projects shortlist available at this time too? PH - Probably but don't have that list at present. That will come out in FRSD in a months' time.

Next steps and Any Other Business

No comments.

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 2024.