



# National Plan of Action – Seabirds 2020

Implementation Plan - September 2022



Department of  
Conservation  
*Te Papa Atawhai*



**Fisheries New Zealand**

*Tini a Tangaroa*

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# National Plan of Action – Seabirds 2020: Implementation Plan (September 2022)

This version of the Implementation Plan is dated September 2022

Acronyms and abbreviations are listed at the end of this implementation plan.

**Table 1: Activities**

OBJECTIVE	YEAR 2	YEAR 3	YEAR 4	YEAR 5
	(JULY 2021 – JUNE 2022)	(JULY 2022 – JUNE 2023)	(JULY 2023 – JUNE 2024)	(JULY 2024 – JUNE 2025)
<b>Governance and management</b>				
<b>Cross-objective work driven by NPOA</b>	<ul style="list-style-type: none"> <li>- Publish Seabird Annual Report (reporting on 2020/21 fishing year and relevant Implementation Plan)</li> <li>- Use the Annual Report for 2020/21 to update the Seabird Implementation Plan for 2022/23</li> <li>- Hold Seabird Advisory Group meetings at least twice each year to monitor the implementation of NPOA Seabirds 2020 and to update the implementation and monitoring plans</li> <li>- Develop process for review and updating of Mitigation Standards (including consideration of effectiveness and other options)</li> </ul>	<ul style="list-style-type: none"> <li>- Publish Seabird Annual Report (reporting on 2021/22 fishing year and relevant Implementation Plan)</li> <li>- Update Implementation Plan for 2023/24</li> <li>- Hold Seabird Advisory Group meetings at least twice each year to monitor the implementation of NPOA Seabirds 2020 and to update the implementation and monitoring plans.</li> <li>- Initiate review of NPOA Seabirds 2020 in 2024</li> </ul>	<ul style="list-style-type: none"> <li>- Publish Seabird Annual Report (reporting on 2022/23 fishing year and relevant Implementation Plan)</li> <li>- Update Implementation Plan for 2024/25</li> <li>- Continue review of NPOA Seabirds 2020</li> <li>- Hold Seabird Advisory Group meetings at least twice each year to monitor the implementation of NPOA Seabirds 2020, to update the implementation and monitoring plans, and advise on review of NPOA Seabirds 2020</li> </ul>	<ul style="list-style-type: none"> <li>- Publish Seabird Annual Report (reporting on 2023/24 fishing year and relevant Implementation Plan)</li> <li>- Update Implementation Plan for 2025/26</li> <li>- Implement outcome of review of NPOA Seabirds 2020</li> </ul>
<b>Goal 1: Avoiding Bycatch</b>				
<b>Effective bycatch mitigation practices are implemented in New Zealand Fisheries</b>				
<b>Objective 1: Ensure all New Zealand commercial fishers are using practices that best avoid the risk of seabird bycatch, enabled by appropriate regulations</b>	<ul style="list-style-type: none"> <li>- Audit existing Protected Species Risk Management Plans against Mitigation Standards (FNZ/DOC)</li> <li>- Continued roll out, supported by other communications channels with fishers, of Protected Species Risk Management Plans (DOC/FNZ)</li> <li>- Report on at-sea audits of adherence to Protected Species Risk Management Plans (FNZ/DOC)</li> <li>- Report capture and capture rate data for the previous year (FNZ)</li> <li>- Collaboratively developing feedback loop to communicate risk to fishers, both when notable incidents occur and for static risk (e.g. yearly arrival of black petrels to New Zealand waters). (DOC/FNZ)</li> <li>- Review and update of bycatch trigger events and response strategies as appropriate (DOC/FNZ)</li> <li>- Review and update mitigation regulations as appropriate (FNZ)</li> <li>- Develop process for review and updating of Mitigation Standards (including consideration of effectiveness and other options) (DOC/FNZ)</li> </ul>	<ul style="list-style-type: none"> <li>- Audit existing Protected Species Risk Management Plans against Mitigation Standards</li> <li>- Report on at-sea audits of adherence to Protected Species Risk Management Plans</li> <li>- Finalise process, and review and update Mitigation Standards as required</li> <li>- Develop process/protocol, and review / update mitigation regulations as appropriate</li> <li>- Report capture and capture rate data for the previous year</li> <li>- Review and update of bycatch trigger events and response strategies as appropriate</li> <li>- Maintain and enhance deepwater fleet liaison programme for deepwater trawl, scampi and ling bottom longline (DWG)</li> <li>- Report on compliance with seabird mitigation measures</li> </ul>	<ul style="list-style-type: none"> <li>- Audit existing Protected Species Risk Management Plans against Mitigation Standards (FNZ/DOC)</li> <li>- If required, continue roll out, supported by other communications channels with fishers, of Protected Species Risk Management Plans (DOC/FNZ)</li> <li>- Report on at-sea audits of adherence to Protected Species Risk Management Plans (FNZ/DOC)</li> <li>- Report capture and capture rate data for the previous year (FNZ)</li> <li>- Review and update mitigation regulations as appropriate (FNZ)</li> <li>- Maintain and enhance deepwater fleet liaison programme for deepwater trawl, scampi and ling bottom longline (DWG)</li> <li>- Report on compliance with seabird mitigation measures</li> <li>- Use the findings of a social research project funded by the Department of Conservation in 2022/23, to understand the barriers and drivers relating to uptake of the Mitigation Standards in the small vessel bottom longline fleet (DOC)</li> </ul>	<ul style="list-style-type: none"> <li>- Audit existing Protected Species Risk Management Plans against Mitigation Standards (FNZ/DOC)</li> <li>- If required, continued roll out, supported by other communications channels with fishers, of Protected Species Risk Management Plans (DOC/FNZ)</li> <li>- Report on at-sea audits of adherence to Protected Species Risk Management Plans (FNZ/DOC)</li> <li>- Report capture and capture rate data for the previous year (FNZ)</li> <li>- Review and update mitigation regulations as appropriate (FNZ)</li> <li>- Maintain and enhance deepwater fleet liaison programme for deepwater trawl, scampi and ling bottom longline (DWG)</li> <li>- Report on compliance with seabird mitigation measures</li> </ul>

OBJECTIVE	YEAR 2	YEAR 3	YEAR 4	YEAR 5
	(JULY 2021 – JUNE 2022)	(JULY 2022 – JUNE 2023)	(JULY 2023 – JUNE 2024)	(JULY 2024 – JUNE 2025)
	<ul style="list-style-type: none"> <li>- Maintain and enhance deepwater fleet liaison programme for deepwater trawl, scampi and bottom longline (DWG)</li> <li>- Finalise and distribute Mitigation Standard one pagers (FNZ)</li> <li>- Use the findings of a social research project funded by the Department of Conservation in 2020/21, to understand the barriers and drivers relating to uptake of the Mitigation Standards in the surface longline fleet (SS)</li> <li>- Hold the Seabird Smart Awards 2021, to encourage and acknowledge leadership around seabird smart fishing (SS)</li> <li>- Seek funding to produce interactive 360° videos of the main mitigation measures in deepwater trawl, deepwater bottom longline, inshore bottom longline and surface longline, (with tagged captions describing key features) for education, training, and advocacy (SS)</li> </ul>			
<b>Objective 2: Practices that effectively avoid risk of seabird bycatch are supported and promoted to non-commercial fishers</b>	<ul style="list-style-type: none"> <li>- Identify regional engagement opportunities with recreational fishers about seabirds in particular areas and reporting of interactions (FNZ/DOC)</li> <li>- Targeted communications to communities in areas with high risk of interactions with seabirds through local media outlets e.g. local newspapers and social media pages. (FNZ)</li> <li>- Designing an informed communications campaign for mitigating interactions between seabirds and recreational fishers. (FNZ)</li> <li>- Establish a recreational steering group to assist delivery of the recreational strategy – focussing on FMA1 (FNZ)</li> <li>- Pilot voluntary seabird bycatch data collection on amateur charter vessels</li> <li>- Providing resources on seabird capture and release for FNZ personnel attending fishing shows or competitions (SS/FNZ)</li> </ul>	<ul style="list-style-type: none"> <li>-Use output from social research project due for completion in mid-2022 to develop an effective communications strategy for recreational fishers.</li> <li>-Communication strategy will be based on the knowledge gaps and most at risk groups identified by the research project, and with input from the steering group.</li> </ul>	<ul style="list-style-type: none"> <li>-Review effectiveness of communications and modify as required.</li> </ul>	<ul style="list-style-type: none"> <li>-Review effectiveness of communications and modify as required</li> </ul>
<p><b>Goal 2: Healthy Seabird Populations</b>  <b>Direct effects of New Zealand fishing do not threaten seabird populations or their recovery</b></p>				
<b>Objective 3: Research, monitoring and management actions are prioritised for seabird populations of particular concern and their risk ratios reduce</b>	<ul style="list-style-type: none"> <li>- Review seabird species of particular concern and report this in the Seabird Annual Report for 2020/21 (FNZ/DOC, with input from SAG)</li> <li>- Report updated risk ratios for relevant seabird populations (FNZ - AEBAR)</li> <li>- Update Conservation Services Programme Seabird Medium Term Research Plan (DOC/FNZ – refer existing plan)</li> <li>- Implement new research programme along with Observer Services on hook sink rates utilising time-depth recorders (FNZ)</li> </ul>	<ul style="list-style-type: none"> <li>- Review seabird species of particular concern, incorporating any updates to the seabird risk assessment (if available) and report this in the Seabird Annual Report for 2021/22 (FNZ/DOC, with input from SAG)</li> <li>- Update Conservation Services Programme Seabird Medium Term Research Plan to reflect and prioritise projects for species of concern (DOC)</li> <li>- Delivery of population research projects across a range of seabirds including the following species of concern; black and Westland petrels, flesh-footed shearwater, southern Buller's, Gibson's, and Antipodean albatrosses (see Table 2; DOC)</li> </ul>	<ul style="list-style-type: none"> <li>- Review seabird species of particular concern, incorporating any updates to the seabird risk assessment (if available) and report this in the Seabird Annual Report for 2022/23 (FNZ/DOC, with input from SAG)</li> <li>- Continued delivery of multi-year population research projects across a range of seabirds including the following species of concern; black petrel, flesh-footed shearwater, Gibson's, and Antipodean albatrosses (see Table 2; DOC)</li> </ul>	<ul style="list-style-type: none"> <li>- Review seabird species of particular concern, incorporating any updates to the seabird risk assessment (if available) and report this in the Seabird Annual Report for 2023/24 (FNZ/DOC, with input from SAG)</li> <li>- Continued delivery of multi-year population research projects across a range of seabirds including the following species of concern; black petrel, Gibson's, and Antipodean albatrosses (see Table 2; DOC)</li> </ul>

OBJECTIVE	YEAR 2	YEAR 3	YEAR 4	YEAR 5
	(JULY 2021 – JUNE 2022)	(JULY 2022 – JUNE 2023)	(JULY 2023 – JUNE 2024)	(JULY 2024 – JUNE 2025)
<b>Objective 4: The number of fishing-related mortalities is decreasing towards zero</b>	<ul style="list-style-type: none"> <li>- Report updated fishing-related deaths for each seabird population (AEBAR/ risk assessment) (FNZ)</li> <li>- lead a stakeholder process to seek agreement between industry and eNGOs on interpretation of bycatch and seabird population data for use in the public domain (SS)</li> </ul>	<ul style="list-style-type: none"> <li>- Report updated fishing-related deaths for each seabird population (AEBAR/ risk assessment)</li> <li>- Project to investigate the integration of Electronic Monitoring data into process for estimating fishing-related deaths</li> </ul>	<ul style="list-style-type: none"> <li>- Report updated fishing-related deaths for each seabird population (AEBAR/ risk assessment)</li> </ul>	<ul style="list-style-type: none"> <li>- Report updated fishing-related deaths for each seabird population (AEBAR/ risk assessment)</li> </ul>
<b>Goal 3: Research and Information</b> <b>Further information to effectively manage direct fisheries effects on seabirds is continuously improved</b>				
<b>Objective 5: Research is undertaken to improve bycatch mitigation across sectors, especially where there are high bycatch rates and no known effective mitigation (note: mitigation may include spatial and temporal closures)</b>	<ul style="list-style-type: none"> <li>- Complete trials of underwater bait/line setting devices in relevant fisheries (DOC/FNZ)</li> <li>- Continue development and trial of options for mitigating capture of seabirds in trawl nets (FNZ/DWG/SS/DOC)</li> <li>- Identify and develop options for improving sink rates in bottom longline fisheries (DOC)</li> <li>- Collaborate on the development and trial of weighted hooks (SS/DOC)</li> </ul>	<ul style="list-style-type: none"> <li>- Continue development and trial of options for mitigating capture of seabirds in trawl nets and summarise findings of the project for ACAP (FNZ/DWG/SS/DOC)</li> <li>- Mitigation development or improvement projects across inshore trawl, offshore trawl, surface longline and bottom longline fisheries (see Table 2; DOC)</li> </ul>	<ul style="list-style-type: none"> <li>- Continued delivery of a multi-year haul mitigation project for longline fisheries (see Table 2; DOC)</li> </ul>	
<b>Objective 6: Monitoring programmes for New Zealand commercial fisheries are designed and implemented to provide statistically robust information to assess progress towards the NPOA Seabirds 2020's objectives</b>	<ul style="list-style-type: none"> <li>- Review the forms and data collection methods used by observers and fishers to make sure they are appropriate to support the NPOA Seabirds 2020 (FNZ)</li> <li>- Document monitoring objectives and needs based on risk assessment outputs. Include as Annex to Implementation Plan (FNZ)</li> <li>- Continue the Black Petrel Electronic Monitoring project for the 2021/22 summer (FNZ)</li> <li>- Review the footage collected by the 2020/21 Black Petrel Electronic Monitoring Project (FNZ)</li> </ul>	<ul style="list-style-type: none"> <li>- Review the forms and data collection methods used by observers and fishers to make sure they are appropriate to support the NPOA Seabirds 2020</li> <li>- Document monitoring objectives and needs based on risk assessment outputs. Include as Annex to Implementation Plan</li> <li>- Continue the Black Petrel Electronic Monitoring project for the 2022/23 summer (FNZ)</li> <li>- Review the footage collected by the 2021/22 Black Petrel Electronic Monitoring Project (FNZ)</li> <li>- ensure NPOA objectives are incorporated into wider footage review prioritisation when onboard camera roll out begins (inshore trawl and set net vessels)</li> </ul>	<ul style="list-style-type: none"> <li>- Review the forms and data collection methods used by observers and fishers to make sure they are appropriate to support the NPOA Seabirds 2020</li> <li>- Document monitoring objectives and needs based on risk assessment outputs. Include as Annex to Implementation Plan</li> <li>- ensure NPOA objectives are incorporated into wider footage review prioritisation during onboard camera roll out (inshore trawl, surface longline, bottom longline)</li> </ul>	<ul style="list-style-type: none"> <li>- Review the forms and data collection methods used by observers and fishers to make sure they are appropriate to support the NPOA Seabirds 2020</li> <li>- Document monitoring objectives and needs based on risk assessment outputs. Include as Annex to Implementation Plan</li> <li>- ensure NPOA objectives are incorporated into wider footage review prioritisation during onboard camera roll out (remaining inshore trawl, bottom longline and set net vessels plus purse seine and Danish seine)</li> </ul>
<b>Objective 7: Observation and monitoring methods are researched, developed, and implemented across all sectors</b>	<ul style="list-style-type: none"> <li>- Targeted application of bycatch reporting app to fishers in the Hauraki Gulf (DOC)</li> <li>- Continue to attempt to facilitate access to footage and stills of seabird captures to support development of software to allow AI detection of seabirds in EM (SS)</li> </ul>	<ul style="list-style-type: none"> <li>- The business case used to secure funding for the wider rollout of onboard cameras included an allowance of \$5M for research and innovation, over four years beginning in 2021/22. The purpose is to develop artificial intelligence (AI) and other technology innovations. Development of an innovation strategy will begin in 2023, with one of the likely focus areas to improve information on seabird captures, including the use and effectiveness of seabird mitigation measures.</li> </ul>	<ul style="list-style-type: none"> <li>- Continue development of EM innovation strategy</li> </ul>	
<b>Objective 8: A research programme provides information to reduce uncertainty in estimates of risk to seabirds from fishing across all sectors</b>	<ul style="list-style-type: none"> <li>- Seabird monitoring projects provide improved input data for priority/uncertain species (DOC/FNZ)</li> </ul>	<ul style="list-style-type: none"> <li>- Delivery of population research projects across a range of at-risk seabirds to improve estimates of key demographic parameters (see Table 2; DOC)</li> <li>- Delivery of updated seabird risk assessment using data up to the 2019/20 fishing year, monthly spatial distributions, and estimates of proportion of population within the EEZ by month.</li> </ul>	<ul style="list-style-type: none"> <li>- Continued delivery of population research projects across a range of at-risk seabirds to improve estimates of key demographic parameters (see Table 2; DOC)</li> </ul>	<ul style="list-style-type: none"> <li>- Continued delivery of population research projects across a range of at-risk seabirds to improve estimates of key demographic parameters (see Table 2; DOC)</li> <li>- Delivery of updated seabird risk assessment using data up to the 2022/23 fishing year</li> </ul>

OBJECTIVE	YEAR 2	YEAR 3	YEAR 4	YEAR 5
	(JULY 2021 – JUNE 2022)	(JULY 2022 – JUNE 2023)	(JULY 2023 – JUNE 2024)	(JULY 2024 – JUNE 2025)
<b>Goal 4: International Engagement</b> <b>New Zealand actively engages internationally to promote measures and practices that reduce impacts on New Zealand seabirds</b>				
<b>Objective 9: The risk to New Zealand seabirds from fisheries outside the New Zealand EEZ is assessed and communicated to international organisations, governments and other stakeholders</b>	<ul style="list-style-type: none"> <li>- Updated southern hemisphere risk assessment presented to relevant RFMOs (FNZ)</li> <li>- Continue tracking programme for Antipodean albatross and expand to other species as logistics allow (DOC /FNZ)</li> <li>- Analyse and report updated fishery overlap assessments using 2020/21 data (DOC)</li> <li>- Communicate risk assessment results to international organisations, governments, and other stakeholders (FNZ)</li> <li>- Antipodean albatross multi-threat risk assessment results presented to relevant RFMOs (FNZ)</li> </ul>	<ul style="list-style-type: none"> <li>- Southern hemisphere risk assessment: ongoing engagement with relevant RFMO members, including hosting technical meetings of the CCSBT Ecologically Related Species Working Group (ERSWG)</li> <li>- Lead the development of an International Seabird Strategy: a cross government (MPI, DOC, and MFAT) strategy to a) set direction for Government – with a clear and agreed vision and objectives; b) enable and guide action – with an adaptable framework for planning work and monitoring progress, and c) provide clear scope, principles, and criteria for prioritisation (DOC)</li> <li>- Develop WCPFC information papers to set out rationale for review CMMs for seabirds in 2023 (DOC, FNZ)</li> <li>- Develop country-specific science communication documents for use in bilateral engagement – largely focused on communicating the spatial and temporal risk analysis and fleet specific overlap with New Zealand birds (DOC)</li> </ul>	<ul style="list-style-type: none"> <li>- Southern hemisphere risk assessment ongoing engagement with relevant RFMO members, including hosting technical meetings of the CCSBT Ecologically Related Species Working Group (ERSWG)</li> </ul>	
<b>Objective 10: New Zealand advocates for the development, adoption, improvement, and uptake of seabird conservation measures</b>	<ul style="list-style-type: none"> <li>- Advocate for strengthening of seabird conservation measures to ensure international best practice, and effective monitoring of measures through engagement in WCPFC, SPRMFO, CCSBT, and CCAMLR (FNZ)</li> <li>- Seek opportunities to collaborate with members of other RFMOs that may pose bycatch risk to New Zealand breeding seabirds, including IATTC, to strengthen seabird conservation measures and effective reporting (All)</li> <li>- Support implementation of the CMS Concerted Action Plan for Antipodean albatross (DOC)</li> <li>- Continue engagement with ACAP, including active input to progress the Advisory Committee and Working Group work programmes (DOC)</li> <li>- Work with tuna companies, eNGOs and international tuna partnerships to address the risk to Antipodean albatrosses and other at risk seabirds (SS)</li> </ul>	<ul style="list-style-type: none"> <li>- Advocate for strengthening of seabird conservation measures to ensure international best practice, and effective monitoring of measures through engagement in WCPFC, SPRMFO, CCSBT, and CCAMLR (FNZ)</li> <li>- Concerted focus on comprehensive review of WCPFC seabird CMM (Northern and Southern measures) collaborating with USA and other key strategic partners, and engaging Japan (DOC, MPI)</li> <li>- Collaborate with key strategic partners such as USA, EU, Spain, and South American countries that are members of RFMOs (where NZ is not) that may pose bycatch risk to New Zealand breeding seabirds, including IATTC, to strengthen seabird conservation measures and effective reporting (All)</li> <li>- Support implementation of the CMS Concerted Action Plan for Antipodean albatross (DOC)</li> <li>- Continue engagement with ACAP, including active input to progress the Advisory Committee and Working Group work programmes (DOC)</li> <li>- Work with tuna companies, eNGOs and international tuna partnerships to address the risk to Antipodean albatrosses and other at risk seabirds (SS)</li> <li>- Work in the APEC Ocean and Fisheries Working Group (OFWG) to support the development of the SST 'Seabird-safe toolkit' (DOC, MPI, SST)</li> </ul>	<ul style="list-style-type: none"> <li>- Advocate for strengthening of seabird conservation measures to ensure international best practice, and effective monitoring of measures through engagement in WCPFC, SPRMFO, CCSBT, and CCAMLR (FNZ)</li> <li>- Concerted focus on comprehensive review of WCPFC seabird CMM (Northern and Southern measures) (DOC, MPI)</li> <li>- Work with Australia, USA, and other strategic partners to raise the SPRMFO observer coverage on BLL and jig vessels to 20% (DOC, MPI)</li> <li>- Seek opportunities to collaborate with members of other RFMOs that may pose bycatch risk to New Zealand breeding seabirds, including IATTC, to strengthen seabird conservation measures and effective reporting (All)</li> <li>- Support implementation of the CMS Concerted Action Plan for Antipodean albatross (DOC)</li> <li>- Continue engagement with ACAP, including active input to progress the Advisory Committee and Working Group work programmes (DOC)</li> <li>- Work with tuna companies, eNGOs and international tuna partnerships to address the risk to Antipodean albatrosses and other at risk seabirds (SS)</li> <li>- Further support and develop the "Seabird-safe toolkit" and promote via forums such as APEC OFWG (DOC, MPI, MFAT)</li> </ul>	<ul style="list-style-type: none"> <li>- Advocate for strengthening of seabird conservation measures to ensure international best practice, and effective monitoring of measures through engagement in WCPFC, SPRMFO, CCSBT, and CCAMLR (FNZ)</li> <li>- Seek opportunities to collaborate with members of other RFMOs that may pose bycatch risk to New Zealand breeding seabirds, including IATTC, to strengthen seabird conservation measures and effective reporting (All)</li> <li>- Support implementation of the CMS Concerted Action Plan for Antipodean albatross (DOC)</li> <li>- Continue engagement with ACAP, including active input to progress the Advisory Committee and Working Group work programmes (DOC)</li> <li>- Work with tuna companies, eNGOs and international tuna partnerships to address the risk to Antipodean albatrosses and other at risk seabirds (SS)</li> </ul>

OBJECTIVE	YEAR 2	YEAR 3	YEAR 4	YEAR 5
	(JULY 2021 – JUNE 2022)	(JULY 2022 – JUNE 2023)	(JULY 2023 – JUNE 2024)	(JULY 2024 – JUNE 2025)
<b>Objective 11: New Zealand actively works bilaterally, multi-laterally, and with international organisations to build capacity to reduce the risk to New Zealand seabirds</b>	<ul style="list-style-type: none"> <li>- Continue Pacific capacity development programmes (FNZ)</li> <li>- Continue engagement with APEC on seabird conservation during NZ host year 2021 (DOC/MPI)</li> <li>- Continue developing and delivering bilateral collaboration opportunities, including those with Australia, Chile, Peru, Ecuador, Spain, and China (MFAT/FNZ/DOC)</li> <li>- Continue engagement with IGOs, including ACAP and SPREP, to support outreach and capacity building programmes</li> </ul>	<ul style="list-style-type: none"> <li>- Continue Pacific capacity development programmes (FNZ)</li> <li>- Continue developing and delivering bilateral collaboration with Australia, Chile, Peru, Vanuatu, Japan, Taiwan, Ecuador, Spain, and China (MFAT/FNZ/DOC). This involves: <ul style="list-style-type: none"> <li>• implementing the Spain-NZ MOU</li> <li>• agreeing an MOU between Peru's IMPARE and DOC</li> <li>• supporting ACAP secondments from Chile, Peru, Ecuador, (and potentially Colombia) to New Zealand to develop seabird science, build effective collaborative relationships, and build capacity for bycatch management in their home countries</li> <li>• working with USA and China on APEC OFWG seabird focused workshop</li> <li>• collaborating with USA and other key strategic partners to review the WCPFC CMM in 2023</li> <li>• Collaborate with Australia to reach out to Japan to engage on bycatch problem in Tasman Sea</li> </ul> </li> <li>- Continue engagement with IGOs, including ACAP and SPREP, to support outreach and capacity building programmes</li> <li>- Continue engagement with RFMOs including the CCSBT ERSWG on ongoing seabird research (FNZ)</li> </ul>	<ul style="list-style-type: none"> <li>- Continue Pacific capacity development programmes (FNZ)</li> <li>- Continue developing and delivering bilateral collaboration with Australia, Chile, Peru, Vanuatu, Japan, Taiwan, Ecuador, Spain, and China (MFAT/FNZ/DOC)</li> <li>- Continue engagement with IGOs, including ACAP and SPREP, to support outreach and capacity building programmes</li> <li>- Continue engagement with RFMOs including the CCSBT ERSWG on ongoing seabird research (FNZ)</li> </ul>	<ul style="list-style-type: none"> <li>- Continue Pacific capacity development programmes (FNZ)</li> <li>- Continue developing and delivering bilateral collaboration opportunities, including those with Australia, Chile, Peru, Vanuatu, Japan, Taiwan, Ecuador, Spain, and China (MFAT/FNZ/DOC)</li> <li>- Continue engagement with IGOs, including ACAP and SPREP, to support outreach and capacity building programmes</li> <li>- Continue engagement with RFMOs including the CCSBT ERSWG on ongoing seabird research (FNZ)</li> </ul>
	<b>Cross-Objective work driven through other processes</b>			
	<ul style="list-style-type: none"> <li>- Research on indirect effects</li> </ul>	<ul style="list-style-type: none"> <li>- Integrate seabird monitoring objectives in electronic monitoring rollout</li> <li>- Hoiho multi-threat risk assessment to consider effects of climate change on prey availability</li> </ul>	<ul style="list-style-type: none"> <li>- Integrate seabird monitoring objectives in electronic monitoring rollout</li> </ul>	<ul style="list-style-type: none"> <li>- Integrate seabird monitoring objectives in electronic monitoring rollout</li> </ul>

**Table 2: Research plan**

RESEARCH PLAN	YEAR 2	YEAR 3	YEAR 4	YEAR 5
	(JULY 2021 – JUNE 2022)	(JULY 2022 – JUNE 2023)	(JULY 2023 – JUNE 2024)	(JULY 2024 – JUNE 2025)
<b>Fisheries New Zealand lead</b>	<ul style="list-style-type: none"> <li>-PRO2019-09: Spatial distribution modelling of at-risk seabirds in New Zealand commercial fisheries</li> <li>-PSB2020-04: Spatial Distribution Modelling for Hoiho</li> <li>-PSB2020-05: Grooming and preparation of the hoiho database</li> <li>-PSB2020-06 Characterisation of all fishing activity that overlaps with hoiho including fish bycatch</li> <li>-PSB2020-07: Factors affecting protected species captures in domestic surface longline fisheries</li> <li>-PRO2021-04: Comparison of results of protected seabird species capture interactions based on different data collection methods</li> <li>-PRO2021-06: Identification of seabird capture 'hotspots' in the CCSBT RFMO</li> <li>-PRO2021-07: Review, cataloguing, and continuation of footage collected from the 2020/21 Black Petrel Electronic Monitoring project</li> </ul>	<ul style="list-style-type: none"> <li>-PRO2019-10: Refine SEFRA model parameterisation for at-risk protected species</li> <li>-ZBD2019-11: Development of Electronic Automated Reporting System (EARS) to improve seabird bycatch monitoring</li> <li>-PSB2020-09: Southern hemisphere seabird risk assessment</li> <li>-PRO2021-02: Estimation of warp capture cryptic mortality multipliers with seabird corpse catcher devices</li> <li>-PRO2021-03: Antipodean albatross multi-threat risk assessment</li> <li>-PRO2022-01: Hoiho multi-threat risk assessment</li> </ul>		
<b>Department of Conservation lead</b>	<ul style="list-style-type: none"> <li>- INT2019-02: Identification of seabirds - captured in New Zealand Fisheries</li> <li>- POP2019-04: Southern Buller's albatross: Snares/Tini Heke population project</li> <li>- POP2021-01: Black petrel research</li> <li>- POP2021-03: Seabird population research: Chatham Islands</li> <li>- POP2021-04: Flesh-footed shearwater population monitoring</li> <li>- POP2021-07: Otago and Foveaux shag census</li> <li>- POP2021-08: Assessment of causes of low burrow occupancy rates in Westland petrels</li> <li>- MIT2020-01: Hook-shielding use in the surface longline fishery</li> <li>- MIT2021-01: Protected species liaison project</li> <li>- MIT2021-03: Develop methods for increasing sink rates for bottom longline</li> <li>- Bio18 Additional seabird population monitoring projects (TBC)</li> <li>- Bio18 Antipodean albatross population monitoring and tracking (TBC)</li> <li>- Bio18 Bycatch mitigation projects (TBC)</li> <li>- Bio18 Assessment of recreational fishing bycatch in targeted areas (TBC)</li> <li>- Bio18 International engagement (TBC)</li> </ul>	<ul style="list-style-type: none"> <li>- INT2022-02: Identification of seabirds captured in New Zealand fisheries</li> <li>- POP2019-04: Southern Buller's albatross: Snares/Tini Heke population project</li> <li>- POP2021-04: Flesh-footed shearwater population monitoring</li> <li>- POP2021-07: Otago and Foveaux shag census</li> <li>- POP2021-08: Assessment of causes of low burrow occupancy rates in Westland petrels</li> <li>- POP2022-01: Black Petrel population monitoring</li> <li>- POP2022-02: Flesh-footed shearwater juvenile survival and dispersal</li> <li>- POP2022-05: Northern Buller's albatross population monitoring</li> <li>- POP2022-06: Northern royal albatross population monitoring</li> <li>- POP2022-07: Westland petrel foraging movements and diving behaviour</li> <li>- POP2022-08: Auckland Island seabird research: Gibson's and white-capped albatross</li> <li>- POP2022-10: Antipodean Island seabird research: Antipodean albatross + white chinned petrel</li> <li>- POP2022-11: Campbell Island Seabird Research</li> <li>- MIT2021-01: Protected species liaison project</li> <li>- MIT2022-01: Longline hauling mitigation device</li> </ul>	<ul style="list-style-type: none"> <li>- INT2022-02: Identification of seabirds captured in New Zealand fisheries</li> <li>- POP2021-04: Flesh-footed shearwater population monitoring</li> <li>- POP2022-01: Black Petrel population monitoring</li> <li>- POP2022-02: Flesh-footed shearwater juvenile survival and dispersal</li> <li>- POP2022-08: Auckland Island seabird research: Gibson's and white-capped albatross</li> <li>- POP2022-10: Antipodean Island seabird research: Antipodean albatross + white chinned petrel</li> <li>- MIT2021-01: Protected species liaison project</li> <li>- MIT2022-01: Longline hauling mitigation device</li> </ul>	<ul style="list-style-type: none"> <li>- INT2022-02: Identification of seabirds captured in New Zealand fisheries</li> <li>- POP2022-01: Black Petrel population monitoring</li> <li>- POP2022-08: Auckland Island seabird research: Gibson's and white-capped albatross</li> <li>- POP2022-10: Antipodean Island seabird research: Antipodean albatross + white chinned petrel</li> </ul>

		<ul style="list-style-type: none"> <li>- MIT2022-02: Understanding drivers and barriers to mitigation uptake in small vessel bottom longline</li> <li>- MIT2022-04: Bait retention as a driver to mitigation use in the surface longline fishery</li> <li>- MIT2022-05: Large trawl vessel warp mitigation</li> <li>- MIT2022-06: Light mitigation: reducing vessel interactions with seabirds</li> <li>- MIT2022-07: Inshore trawl warp mitigation</li> </ul>		
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## List of Abbreviations and Acronyms

ACAP	Agreement on the Conservation of Albatrosses and Petrels	FNZ	Fisheries New Zealand
AEBAR	Aquatic environment and biodiversity annual report	FNZ DW	Fisheries New Zealand Deepwater Fisheries Management Team
AOP	Annual Operational Plan	FNZ HMS	Fisheries New Zealand Highly Migratory Species Fisheries Management Team
APEC	Asia-Pacific Economic Cooperation	FNZ INS	Fisheries New Zealand Inshore Fisheries Management Team
CCSBT	Commission for the Conservation of Southern Bluefin Tuna	IATTC	Inter-American Tropical Tuna Commission
CMM	Conservation and Management Measure	IGO	Intergovernmental Organisation
CMS	Convention on the Conservation of Migratory Species of Wild Animals	INP	Instituto Nacional de Pesca (Ecuador)
COP	Conference of the Parties	MFAT	Ministry of Foreign Affairs and Trade
CSP	Conservation Services Programme (administered by Department of Conservation)	OFWG	Oceans and Fisheries Working Group (APEC)
DOC	Department of Conservation	RFMO	Regional Fisheries Management Organisation
DWG	Deepwater Group Ltd	SAG	Seabird Advisory Group
ERSWG	Ecologically related species working group	SPREP	South Pacific Regional Environment Programme
FINZ	Fisheries Inshore New Zealand	SS	Southern Seabirds (Southern Seabird Solutions Trust)
		WCPFC	Western and Central Pacific Fisheries Commission

## Annex 1: Monitoring plan for the 2022/23 financial year

### Table 3: Observer sea day plan for 2022/23

FISHERY	KEY FISHERIES COVERED	EXPECTED % EFFORT OBSERVED	PLANNED SEADAYS
<b>Other categories</b>			
Medium risk vessels			250
CCAMLR	High seas	100	265
SPFRMO trawl	High seas	100	150
SPRFMO bottom longline	High seas	20	50
SPRFMO exploratory bottom longline	High seas	100	50
Compliance			100
<b>Other Categories total</b>			<b>865</b>
<b>Highly Migratory Species</b>			
Domestic tuna surface longline – North Island	Southern bluefin tuna	20	150
Domestic tuna surface longline – South Island	Southern bluefin tuna	20	150
Domestic surface longline - North Island	Bigeye tuna / swordfish	20	120
Domestic surface longline - South Island	Bigeye tuna / swordfish	20	25
Domestic purse seine	SKJ, JMA 1, EMA 1, PIL 1		130
<b>Total Highly Migratory Species</b>			<b>575</b>
<b>Inshore</b>			
WCNI – SN, TWL & BLL	Snapper, trevally, gurnard + more (SNA 8, TRE 7, GUR 8 +)	14	182
SNA 1 trawl	Snapper (SNA 1)	11	216
Set net SCSi	School shark, rig, butterfish (SCH 5, SPO 3, BUT 5)	55	266
Set net ECSi – Kaikoura	Tarakihi, hapuku/bass, school shark, rig (TAR 3, HPB 3, SCH 3, SPO 3)	25	182
Set net ECSi – Otago	School shark, rig, hapuku/bass (SCH 3, SPO 3, HPB 3)	40	283
Bottom longline – SNA1	Snapper (SNA 1)	7	302
Bottom longline – bluenose/hapuku	Bluenose, hapuku/bass (BNS 1, HPB 1)	10	39
TAR 2 trawl	Tarakihi (TAR 2)	20	207
ECSi Trawl – TMP	Flatfish, gurnard (FLA 3, GUR 3)	20	298
ECSi Trawl – TAR	Tarakihi (TAR 3)	25	127
SCSi Trawl	Flatfish, stargazer (FLA 3, STA 5)	10	118
South Island trawl - PSH			35
Rock lobster – CRA8	CRA8		50
<b>Total Inshore</b>			<b>2,305</b>

<b>Deepwater / Middle Depth</b>			
Southern blue whiting	Southern blue whiting (SBW 6I, 6B)	100	250
Squid	Squid (SQU 6T, SQU 1T)	75	1,846
North Island deepwater	Orange roughy, alfonsino (ORH 1, 2A, 2B, 3A, BYX 2, CDL 2)	20	110
Chatham Rise deepwater	Orange roughy, oreo (ORH 3B, OEO 4, 3A, BYX 3)	30	290
Sub-Antarctic deepwater	Orange roughy, oreo (ORH 3B, OEO 1, 6)	75	100
West Coast deepwater	Orange roughy (ORH 7A)	50	70
West Coast North Island middle depths	Jack mackerel, barracouta, blue mackerel (JMA 7, BAR 7, EMA 7)	30	300
West Coast South Island middle depths	Hoki, hake, ling, silver warehou (HOK 1, HAK 7, LIN 7, SWA 1)	30	400
Chatham Rise middle depth	Hoki, hake, ling, jack mackerel, barracouta, silver warehou (HOK 1, HAK 4, LIN 3, 4, JMA 3, BAR 1, 4, SWA 3, 4)	30	555
Sub-Antarctic middle depth	Hoki, hake, ling, barracouta, white warehou (HOK 1, HAK 1, LIN 5, 6, BAR 5, WWA 5B)	30	325
Hoki Cook Strait trawl	Hoki (HOK 1)	20	200
WCSI hoki – 'inside the line' trawl	Hoki (HOK 1)	25	105
Scampi - SCI 6A	Scampi (SCI 6A)	25	200
Scampi - other	Scampi (SCI 1, 2, 3, 4A,)	20	300
Ling bottom longline (>34m vessels)	Ling (LIN 3-7)	30	185
Ling bottom longline (<34m vessels)		30	445
Training			300
Days provided on request			300
<b>Total Deepwater / Middle-depth</b>			<b>6,281</b>
<b>Total Planned Seadays</b>			<b>10,026</b>

## Annex 2: Programme objectives for DOC's protected species liaison project

Programme Objectives				
Year 1- 2020/21 Fishing Year	Year 2- 2021/22 Fishing Year	Year 3- 2022/23 Fishing Year	Year 4- 2023/24 Fishing Year	Year 5- 2024/25 Fishing Year
<ul style="list-style-type: none"> <li>- 100% of SLL vessels have PSRMPs</li> <li>- 100% of BLL FMA1 vessels have PSRMPs</li> <li>- 60% of BLL vessels (outside FMA1) have PSRMPs</li> <li>- 90% of Inshore Trawl vessels have PSRMPs</li> <li>- 15% of SN vessels have PSRMPs (focus on FMAs 2,3,5&amp;7)</li> <li>- All relevant vessels visited at least once and PSRMPs and Mitigation folders are updated as needed</li> <li>- Provision of mitigation materials</li> <li>- All data is entered and checked</li> <li>- Develop Liaison Programme Plan and Objectives</li> </ul>	<ul style="list-style-type: none"> <li>- Maintain PSRMP coverage for:                             <ul style="list-style-type: none"> <li>o 100% of SLL vessels</li> <li>o 100% of BLL FMA1</li> </ul> </li> <li>- 100% of BLL vessels have PSRMPs</li> <li>- 100% of Inshore Trawl vessels have PSRMPs</li> <li>- 30% of SN vessels have PSRMPs</li> <li>- All relevant vessels visited at least once and PSRMPs and Mitigation folders are updated as needed</li> <li>- Provision of mitigation materials</li> <li>- All data is entered and checked</li> <li>- Liaison effort is prioritised with development of risk-based system</li> <li>- Review of performance measures to make sure they are fit for purpose</li> </ul>	<ul style="list-style-type: none"> <li>- Maintain PSRMP coverage for:                             <ul style="list-style-type: none"> <li>o 100% of SLL vessels</li> <li>o 100% of BLL vessels</li> <li>o 100% of Inshore Trawl vessels</li> </ul> </li> <li>- 60% of SN vessels have PSRMPs</li> <li>- All relevant vessels visited at least once and PSRMPs and Mitigation folders are updated as needed</li> <li>- Provision of mitigation materials</li> <li>- All data is entered and checked</li> <li>- Liaison effort continues to be prioritised with risk-based system</li> <li>- Liaison Officers trained in the use of the <u>new</u> Liaison Database</li> <li>- Review PSRMP templates (considering needs of NPOA-Sharks and the Hector's Māui TMP)</li> </ul>	<ul style="list-style-type: none"> <li>- Maintain PSRMP coverage for:                             <ul style="list-style-type: none"> <li>o 100% of SLL vessels</li> <li>o 100% of BLL vessels</li> <li>o 100% of Inshore Trawl vessels</li> </ul> </li> <li>- 80% of SN vessels have PSRMPs</li> <li>- All relevant vessels visited at least once and PSRMPs and Mitigation folders are updated as needed</li> <li>- Provision of mitigation materials</li> <li>- All data is entered and checked</li> <li>- Liaison effort continues to be prioritised with risk-based system</li> <li>- Review of performance measures to make sure they are fit for purpose</li> </ul>	<ul style="list-style-type: none"> <li>- Maintain PSRMP coverage for:                             <ul style="list-style-type: none"> <li>o 100% of SLL vessels</li> <li>o 100% of BLL vessels</li> <li>o 100% of Inshore Trawl vessels</li> </ul> </li> <li>- 100% of SN vessels have PSRMPs</li> <li>- All relevant vessels visited at least once and PSRMPs and Mitigation folders are updated as needed</li> <li>- Provision of mitigation materials</li> <li>- All data is entered and checked</li> <li>- Liaison effort continues to be prioritised with risk-based system</li> <li>- Review PSRMP templates</li> </ul>