MW. MOLLYMAWKS

Status of chapter	This chapter, new in 2025, provides an update of the previous information in the Seabirds chapter of AEBAR 2021. The present update included the restructuring of relevant information into a general seabird overview, with individual chapters for different seabird species groupings, including the current chapter on mollymawks.
Scope of chapter	This chapter provides detailed information on mollymawks (genus *Thalassarche; Buller's, Chatham, Salvin's and white-capped albatrosses*) that breed in New Zealand; descriptions of the nature of fishing interactions, the nature and extent of interactions with fisheries; the management context and approach, means of estimating fisheries impacts and population level risk; and main sources of uncertainty. As well as a brief overview of the *Thalassarche* genus including species that breed outside of the New Zealand Exclusive Economic Zone (EEZ).
Area	New Zealand Exclusive Economic Zone and Territorial Sea (TS) (noting that many seabirds are migratory and spend prolonged periods outside New Zealand's EEZ. On the high seas these effects are considered by other organisations, such as Regional Fisheries Management Organisation; capture estimates from New Zealand waters are reported to these bodies.
Focal localities	Interactions with fisheries occur in many parts of the EEZ and TS, on the high seas, and in the EEZs of other nations.
Key issues	Improved understanding of estimating incidental captures and risk in poorly-observed and unobserved fisheries and out-of-zone; improved understanding of population size and structure of whole-island populations at the breeding sites; improved understanding of distributional overlap with fisheries of outside New Zealand's EEZ, and incidental captures in these fisheries; cryptic mortality rates and survival of birds released alive.
Emerging issues	Potential new fishery monitoring techniques. New fishery mitigation technology. Aerial drone surveys for whole-population surveys. Global observer programmes.
Fisheries New Zealand research (current)	DAT2023-04C PSC Suite - 2022/2023, and 2023/2024; PR02023-17B Satellite Time for Southern Royal albatross; RIS2023-03 Collaborative update to Southern Hemisphere Risk Assessment;
New Zealand government research (current)	DOC Conservation Services Programme (CSP) projects: INT2024-01 Observing commercial fisheries, INT2022-02 Identification of seabirds captured in New Zealand fisheries, INT2023-02 Species identification of camera-detected protected species captures in New Zealand fisheries, MIT2024-01 Protected species liaison project, MIT2024-02 Enhancing seabird bycatch mitigation across the set and soak periods in surface longline fisheries, MIT2024-03 Assessment of weighted hooks as a seabird bycatch mitigation option for surface longline fisheries; POP2022-10 Antipodes Island seabird research: Antipodean albatross and white chinned petrel; POP2023-04 Campbell Island seabird research
Related chapters/issues	National Plan of Action (2020) Reducing the incidental mortality of seabirds in fisheries (Fisheries New Zealand 2020). https://www.mpi.govt.nz/dmsdocument/40652-National-Plan-Of-Action-Seabirds-2020-Report. Risk assessment chapter (Chapter RA). General chapter on seabirds (Chapter GS).

MW.1 CONTEXT

Mollymawks are medium-sized albatrosses in the genus *Thalassarche*. The nine species in this genus commonly occur throughout the Southern Hemisphere, with Buller's, Campbell black-browed, Chatham, grey-headed, Salvin's and white-

capped albatrosses breeding in New Zealand, and Indian yellow-nosed and black-browed classified as non-resident natives. The latter are all "absolutely protected" in New Zealand waters (please see Chapter GS for detailed information on legislation and policies pertaining to petrels and other seabirds in New Zealand and internationally).

MW.2 BIOLOGY

The summary of information provided here is based on summaries provided elsewhere, most notably species data collated by the Agreement of the Conservation of Albatrosses and Petrels (ACAP https://acap.aq/), New Zealand Birds Online (https://www.nzbirdsonline.org.nz/), and summaries Taylor (2000).

The following biological information will focus on the species from the genus *Thalassarche* that breed in New Zealand, with a particular focus on Buller's, Chatham, Salvin's and white-capped albatrosses.

MW.2.1 TAXONOMY

The generic classification of the Diomedeidae family was revised in the 1990s, based on cytochrome-b gene sequences, which resulted in the smaller albatrosses (sometimes also known as mollymawks) being split from the Wandering/Royal albatross clade (genus: *Diomedea*). The genus *Thalassarche* was resurrected for all Southern Ocean mollymawks, and this taxonomy has gained widespread acceptance.

MW.2.1.1 BULLER'S ALBATROSSES

Initially described as two separate species, northern and southern Buller's albatrosses, the ACAP taxonomic working group recommended that these two taxa do not warrant species status; they are currently considered to be subspecies, *Thalassarche bulleri platei* and *Thalassarche bulleri bulleri*.

Other names for this species are Buller's mollymawk, Pacific albatross, Pacific mollymawk, and also Northern Buller's albatross and Southern Buller's albatross.

Information provided here is for the species or the separate subspecies, as available.

MW.2.1.2 CAMPBELL BLACK-BROWED ALBATROSS

The Campbell black-browed albatross *Thalassarche impavida* was long considered a sub-species of the Black-browed Albatross *T. melanophrys*. The species-pair was split based on genetic data by Robertson and Nunn (1998). *Thalassarche impavida* is now generally considered a monotypic species, including by ACAP.

Other names for Campbell black-browed albatross are Campbell albatross, Campbell Island mollymawk, and Campbell mollymawk.

MW.2.1.3 CHATHAM ALBATROSS

Chatham albatross was previously included under a single polytypic species, but had its single species status adopted by the ACAP and BirdLife International, following morphometric, phylogenetic, and population genetics studies.

Other names for Chatham albatross are Chatham Island albatross, Chatham Island mollymawk, and Chatham mollymawk.

MW.2.1.4 GREY-HEADED ALBATROSS

This monotypic species was originally described as *Diomedea chrysostoma* in 1785. Following the reinstatement of *Thalassarche* in 1996 the species was classified as *T. chrysostoma*. This classification has been adopted by BirdLife International and ACAP.

Other names for grey-headed albatross are grey-headed mollymawk, flat-billed albatross, flat-billed mollymawk, Gould's albatross, Gould's mollymawk, grey-mantled albatross, and grey-mantled mollymawk

MW.2.1.5 SALVIN'S ALBATROSS

Salvin's albatross, *Thalassarche salvini*, was split into its own species following morphometric, phylogenetic, and population genetics studies. Its species status has been adopted by the ACAP and by BirdLife International. Other names are grey-backed albatross and Salvin's mollymawk.

MW.2.1.6 WHITE-CAPPED ALBATROSS

White-capped albatross, *Thalassarche steadi*, was distinguished as its own species from shy albatross *Thalassarche cauta* during taxonomic changes to this genus. The Taxonomy Working Group of the ACAP and BirdLife International adopted this distinction, based on morphometric, phylogenetic and population genetics studies.

Other names for this species are white-capped mollymawk, shy mollymawk, shy albatross.

MW.2.2 DISTRIBUTION

MW.2.2.1 BULLER'S ALBATROSSES

Buller's albatross is a breeding endemic to New Zealand, with its colonies restricted to four island groups: northern Buller's albatross breeds at Chatham Islands, with the main colonies at The Forty-fours and The Sisters, and some pairs breeding at Three Kings Islands (Rosemary Rock); southern Buller's albatross has its main colonies at The Snares Islands and Solander Islands.

Both taxa migrate across the Pacific Ocean from their New Zealand breeding sites to non-breeding locations in the south-east Pacific Ocean. Information of their distributions is available from recent tracking data, collected over a year (2021 to 2022) to obtain information of the year-round distribution of each subspecies (Fischer et al. 2023). These data documented distinct differences in the breeding season and distribution between the two taxa (Figure MW.1). During the breeding season, the core distribution of northern Buller's albatross was primarily around Chatham Rise, compared with the distribution of southern Buller's albatross which was in the southern South Island. Their distributions only overlapped in the period between July and September (non-breeding season) off the coast of South America. Overall, both taxa spent their time predominantly in New Zealand waters, the high seas, and off South America (i.e., Chile and Peru); southern Buller's albatross also spent considerable periods of time in Australian waters.

Distribution modelling based on "best-quality spatial abundance information" confirmed these general spatial patterns of the two subspecies (Roberts et al. 2023). The predictive distribution of northern Buller's albatross indicated that this subspecies was most abundant around its main breeding colony at Chatham Islands and for part of the year over western Chatham Rise, whereas the predicted distribution of southern Buller's albatross was centred on its breeding colonies (Figures MW.2 to MW.5).

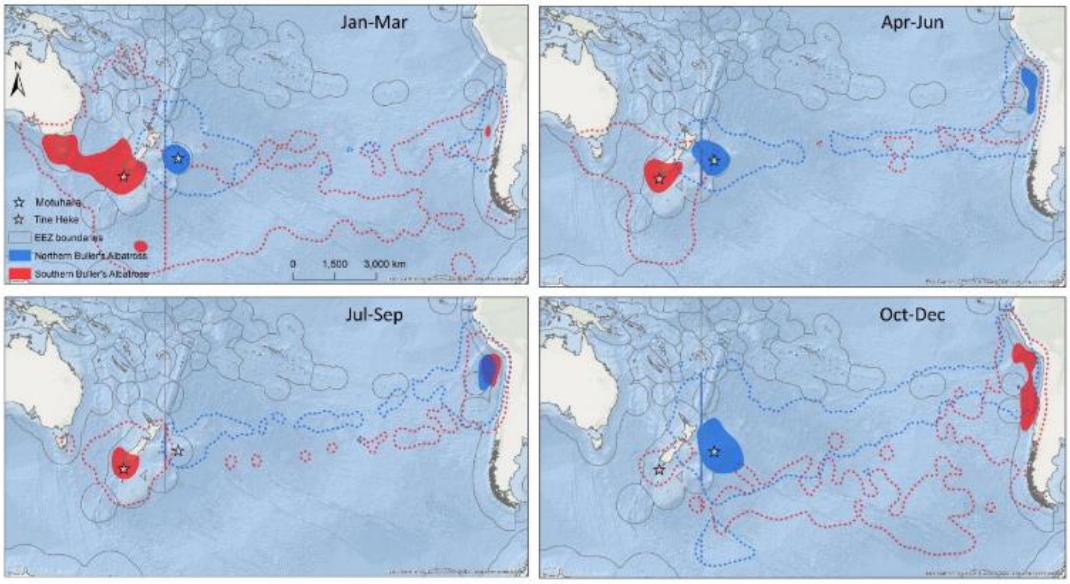


Figure MW.1: Distribution of northern and southern Buller's albatross per annual quarter (from Fischer et al. 2023). Distributions are represented by kernel density utilisation distribution (UD) UD_{50} and UD_{95}. Copyright permission received.

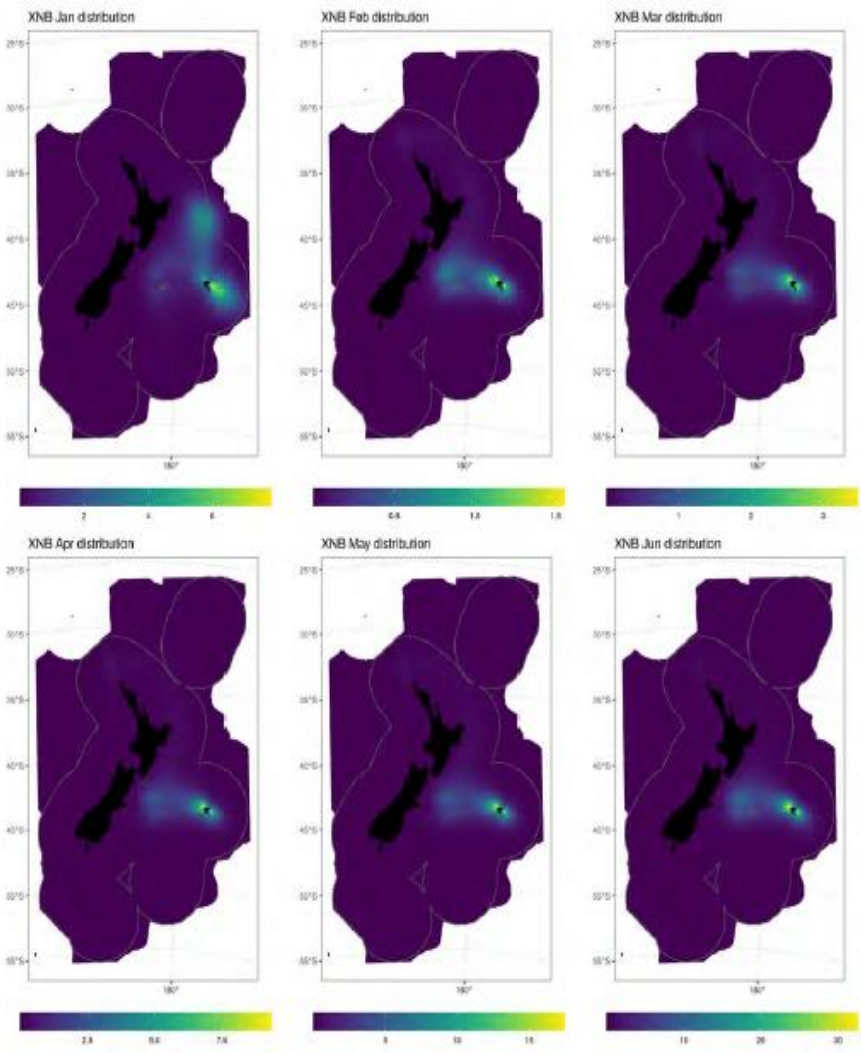


Figure MW.2: Predicted relative spatial density of northern Buller's albatross (XNB) by month, for January to June (from Roberts et al. 2023). Please note different colour scale across months.

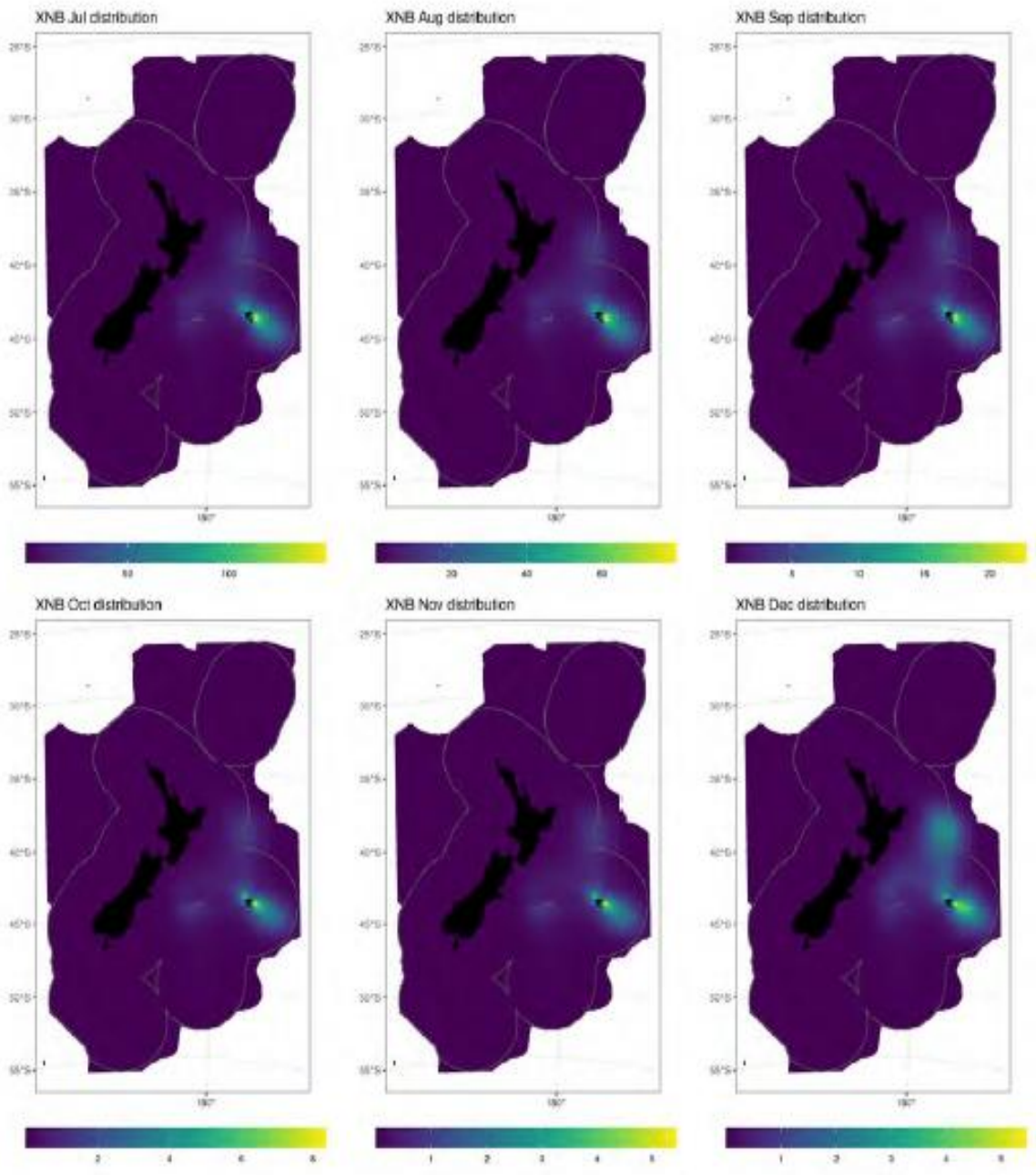


Figure MW.3: Predicted relative spatial density of northern Buller's albatross (XNB) by month, for July to December (from Roberts et al. 2023). Please note different colour scale across months.

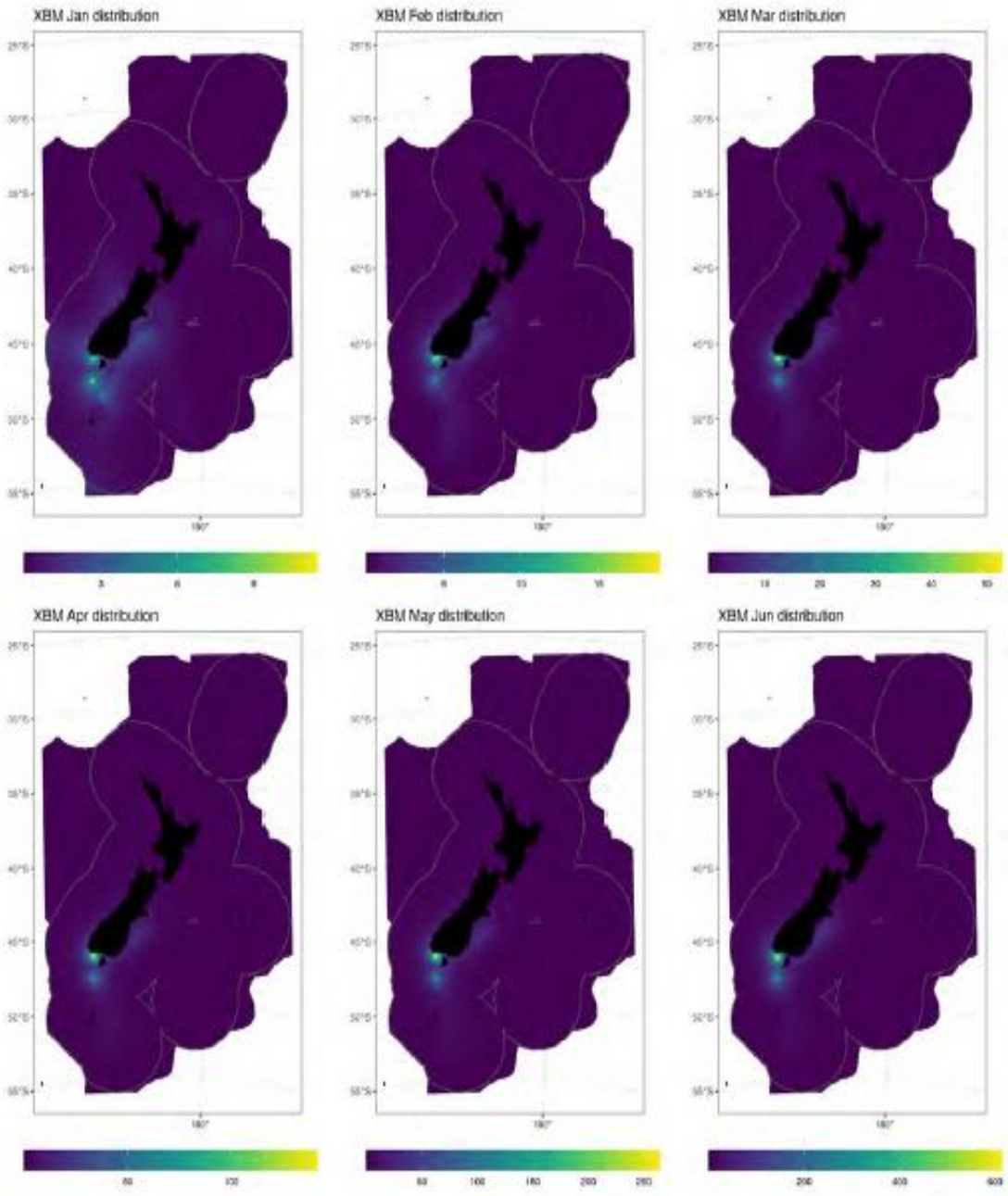


Figure MW.4: Predicted relative spatial density of southern Buller's albatross (XBM) by month, for January to June (from Roberts et al. 2023). Please note different colour scale across months.

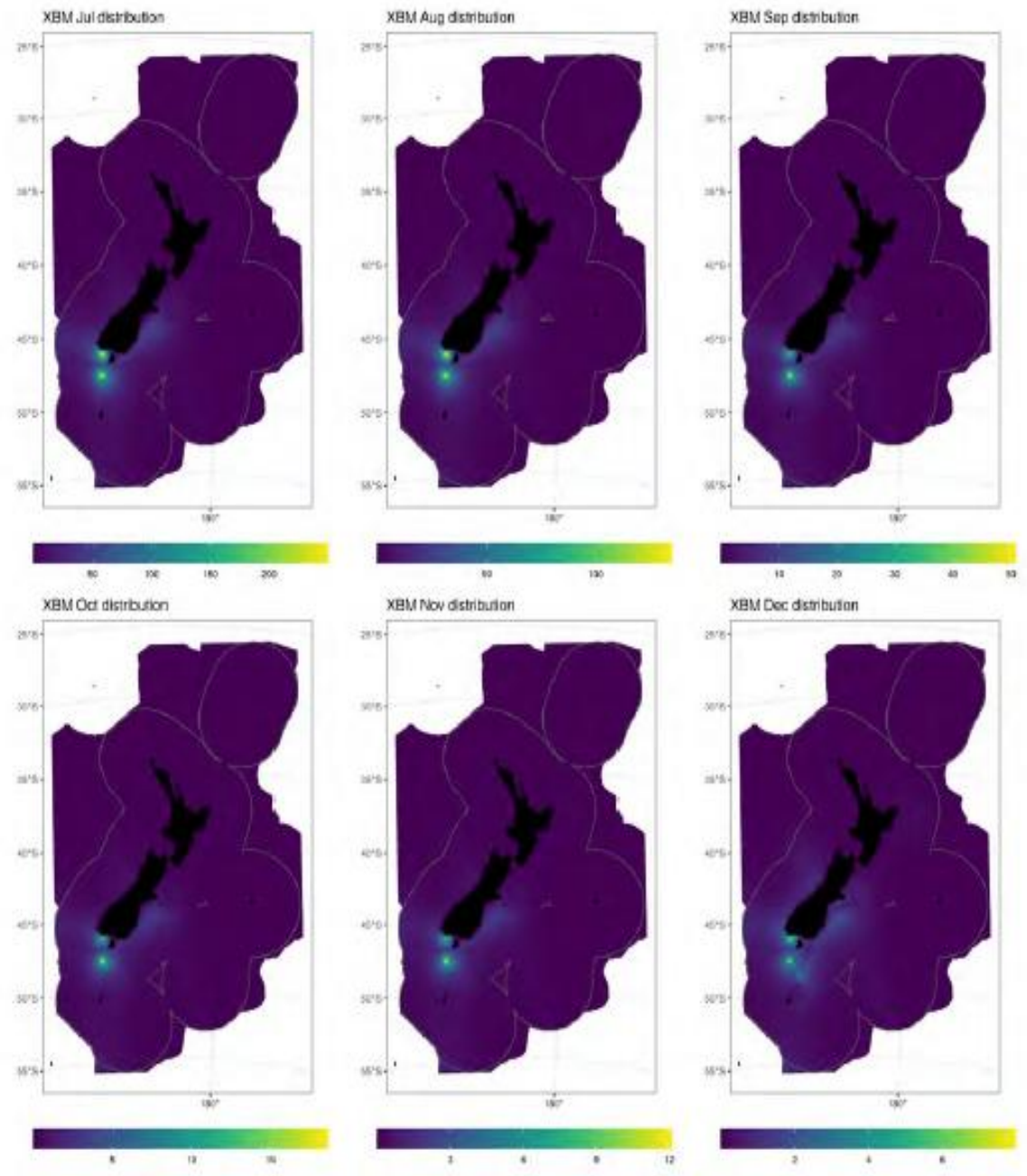


Figure MW.5: Predicted relative spatial density of southern Buller's albatross (XBM) by month, for July to December (from Roberts et al. 2023). Please note different colour scale across months.

MW.2.2.2 CAMPBELL BLACK-BROWED ALBATROSS

Campbell black-browed albatross is endemic to Campbell Island, nesting at the north of the island mostly in mixed colonies with the Grey-headed Albatross *T. chrysostoma*.

Satellite-tracking studies indicated that birds provisioning chicks predominantly foraged over neritic waters during trips lasting less than four days, with some long trips of 8-21 days over oceanic waters (Cherel et al. 1999; Waugh et al. 2000). The foraging range during short trips extended 150-640 km from the breeding colony, mainly over subantarctic waters within the 1,000 m depth contour on the Campbell Plateau (Cherel et al. 1999; Waugh et al. 1999a). Longer trips extended up to 2,000 km from the colony, ranging from subtropical to Antarctic waters, but mainly to the Polar Frontal Zone or to the east of the Campbell Plateau (Waugh et al. 1999a, 2000).

During winter, adults were found widely dispersed around the Tasman sea and the south-western Pacific Ocean east of New Zealand, whereas in summer the distribution of both breeding and non-breeding birds was more restricted and southerly (32°S to 44°S) (Waugh et al. 1999b).

During the non-breeding period, adults tended to move northwards into warmer waters beyond western Australia in the west and to waters offshore from Chile in the east. Overall, about 30% of adults spent a portion of their non-breeding period in the central and eastern Pacific Ocean (Thompson et al. 2021). Little is known about the distribution of juveniles.

MW.2.2.3 CHATHAM ALBATROSS

Chatham albatross *Thalassarche eremita* is a New Zealand breeding endemic, with its only breeding site located on the island The Pyramid Te Tara Koi Koia, at the southern end of Chatham Islands.

Satellite tracking of breeding birds document their foraging distribution close to the Chatham Islands breeding site during chick rearing (Fraser et al. 2010; Deppe et al. 2014; see Figure MW.6). During this period, birds predominantly forage within 400 to 600 km distance from the colony, within shelf and shelf break areas of the Chatham Rise. Non-breeders and juveniles migrate eastwards to coastal waters of Chile and Peru in winter (Quiñones et al. 2022). There have also been records and sightings of vagrant Chatham albatross in eastern Australian waters and off Tasmania, and off southern Africa.

The predicted distribution of Chatham albatross illustrated its prevalence around Chatham Islands, particularly in the southern area (Roberts et al. 2023, Figures MW.7 and MW.8). Across New Zealand's EEZ, the species was predicted to have the highest abundance between August and February.

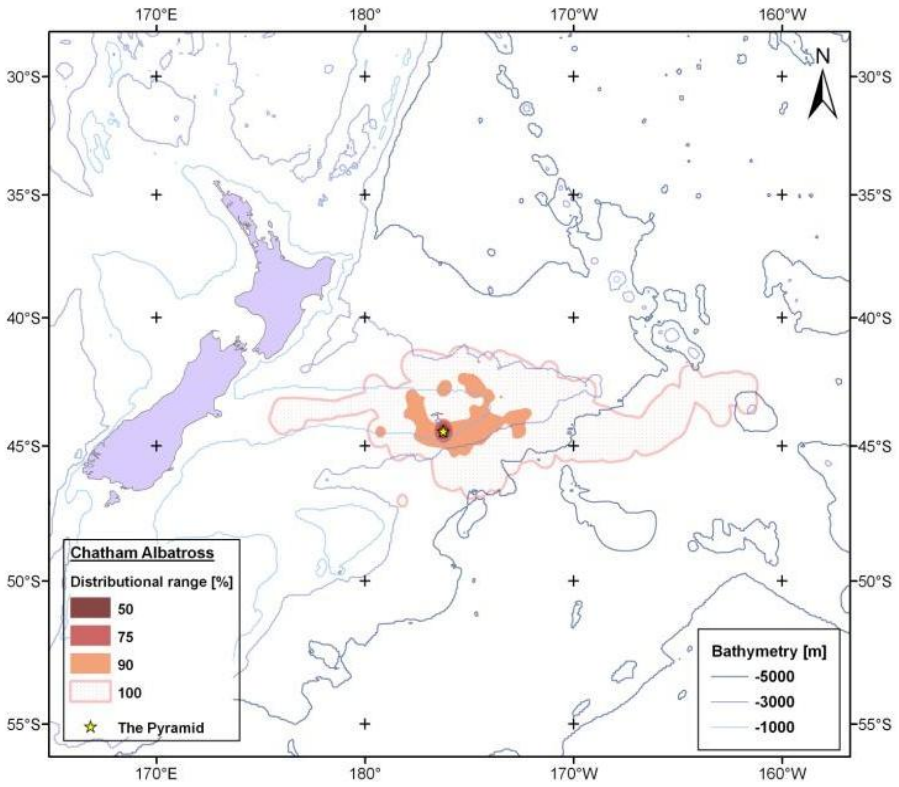


Figure MW.6: Distributional range of Chatham Island albatross during incubation and early chick rearing as derived from tracking studies in November–December 2007–09 (51 tracks)(from Fraser et al. 2010).

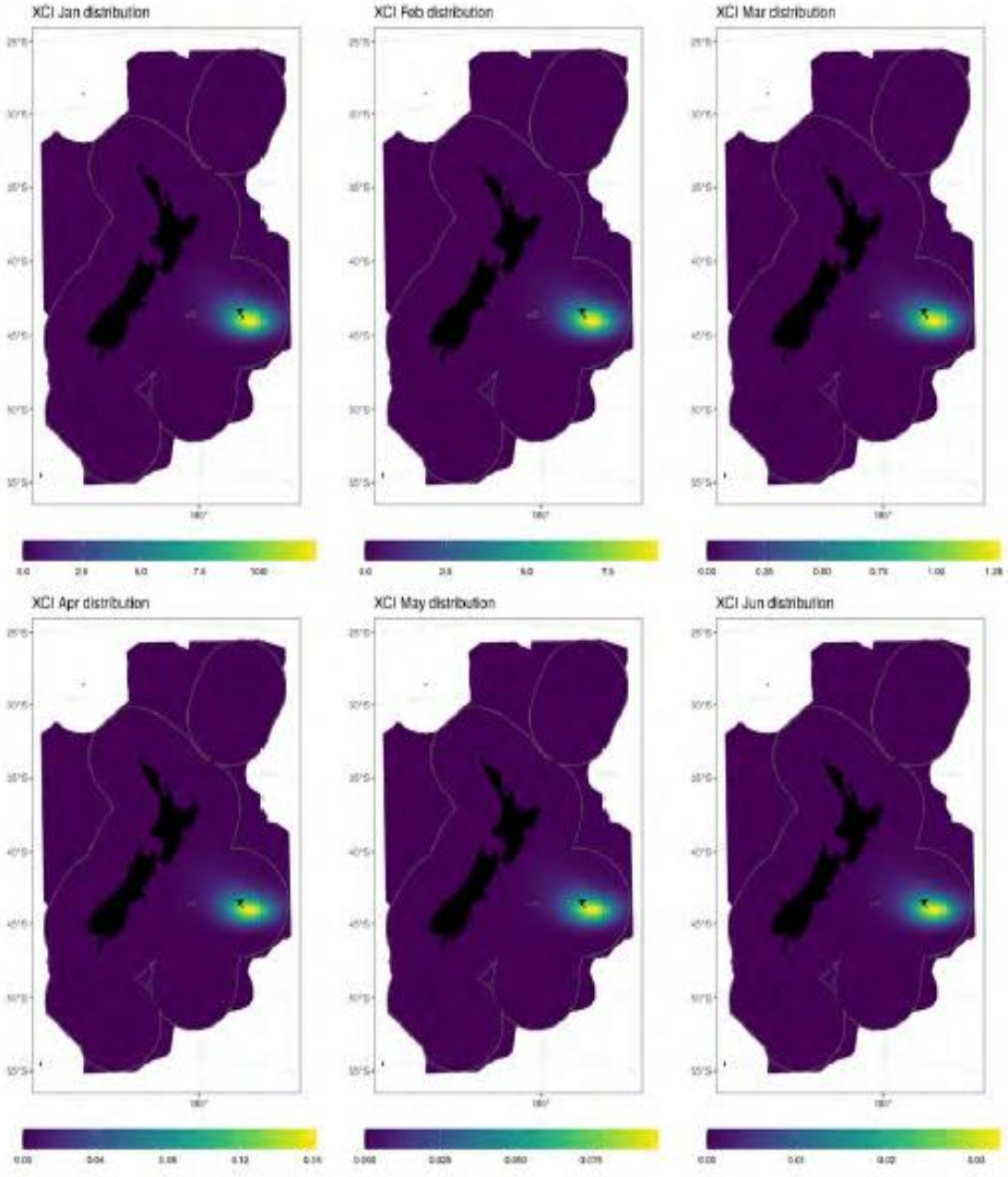


Figure MW.7: Predicted relative spatial density of Chatham albatross (XCI) by month, for January to June (from Roberts et al. 2023). Please note different colour scale across months.

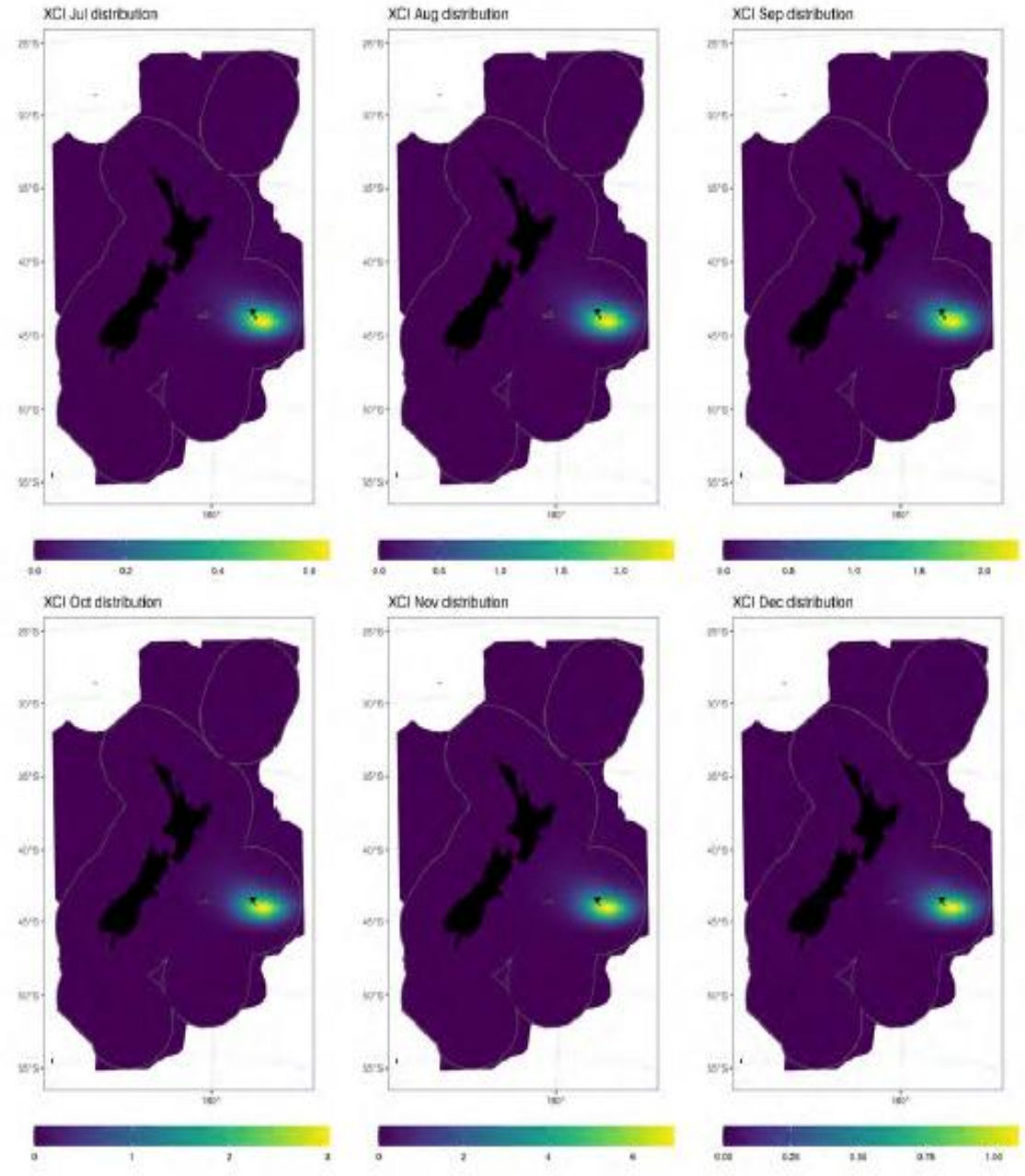


Figure MW.8: Predicted relative spatial density of Chatham albatross (XCI) by month, for July to December (from Roberts et al. 2023). Please note different colour scale across months.

MW.2.2.4 GREY-HEADED ALBATROSS

Thalassarche chrysostoma breed on six subantarctic islands or archipelagos – South Georgia, Crozet, Kerguelen, Macquarie, Prince Edward, and Campbell, as well as on two island groups off southern Chile – Diego Ramirez and Ildefonso

Thalassarche chrysostoma has a circumpolar distribution over cold subantarctic and Antarctic waters (Waugh et al. 1999a). At Iles Kerguelen, Campbell Island and South Georgia (Islas Georgias del Sur), the species is principally an oceanic forager, concentrating in the Antarctic Polar Frontal Zone and associated oceanic upwellings (Waugh et al. 1999a). Prey biogeography also indicates some neritic foraging around Campbell Island (Waugh et al. 1999a) during chick rearing.

MW.2.2.5 SALVIN'S ALBATROSS

Salvin's albatross is endemic to New Zealand, where it only breeds at Bounty Islands and at a group of Snares Islands islets, The Western Chain. Individual nests or chicks have also previously been reported from Chatham Islands (The Pyramid and the Forty-fours), and from the Crozet archipelago (southern Indian Ocean), but these birds were no longer present in 2018.

Information of the at-sea distribution of this species is available from observations, recoveries from fishing vessels, and tracking data. The core range of Salvin's albatross extends west to Australia and east across the Pacific Ocean to the west coast of South America. Tracking of birds at the Snares Islands Western Chain documented Salvin's albatross distribution throughout four seasons (Sagar et al. 2011; see Figure MW.9). No birds were in New Zealand's EEZ during autumn (April), with most (23) of the tracked birds in South American waters at that time, and one record from eastern Bass Strait and along the eastern coast of Tasmania. During May, individuals started to return to New Zealand waters, which continued throughout June and July. The tracks of birds exiting South American waters originated from either the Peruvian or southern Chilean coasts. During this period, birds recently arriving in New Zealand waters were primarily east of the Chatham Islands, off Puysegur, and at the Stewart-Snares shelf. Egg-laying starts in August and all the birds were within Australasian waters during August to October, primarily on the Challenger Plateau, off Puysegur, at the Stewart-Snares shelf, and at Campbell Plateau. During this period, these birds from the Snares Islands Western Chain occupied a relatively narrow longitudinal range between 160° E and 175° E and appeared to avoid, or be excluded from, the area around the Bounty Islands, where the other Salvin's albatross colony is located. Beginning in mid-October, chicks hatch and, between November and March, presumed successful breeders foraged primarily on the Challenger Plateau, off Puysegur, at the Stewart-Snares shelf, and at Campbell Plateau. There was some movement across the Pacific in each of the months between November and March with presumed failed breeders leaving the New Zealand EEZ during the earlier part of this period and presumed successful breeders migrating east during March (Sagar et al. 2011).

Tracking of birds breeding at the Bounty Islands showed that these breeders foraged in waters east of mainland New Zealand with high-density areas ("hotspots") towards the east coast of northern South Island and southern North Island; other hotspots were in central and western parts of Chatham Rise and also at Mernoo Bank (Thompson et al. 2014; see Figure MW.10). These tracking data seemed to confirm that Salvin's albatross at Bounty Islands use separate areas in New Zealand waters during the breeding season than conspecifics breeding at the Snares Islands Western Chain; birds at the latter colony have a more westerly distribution.

Recent analysis of combined tracking and survey data of Salvin's albatross (and black petrel) during its migration from breeding colonies to non-breeding areas confirmed this species' presence in waters off Peru between February and July (Fischer et al. 2022). Predictive distribution modelling based on these data suggested that Salvin's albatross is present in Peruvian waters throughout all seasons, in the northern Humboldt upwelling system.

In addition, predictive distribution modelling in New Zealand's EEZ indicated that this species was most abundant around its main breeding colony at Bounty Islands (Roberts et al. 2023; Figures MW.11 and MW.12). In some months, Salvin's albatross was also abundant east of South Island, particularly over western Chatham Rise.

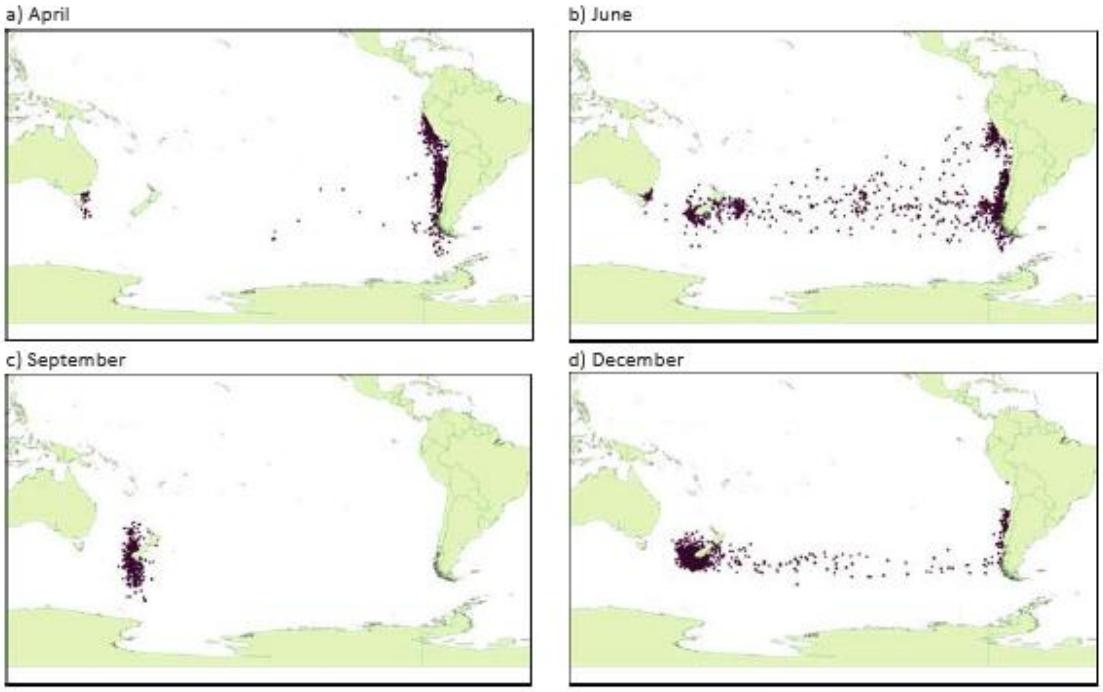


Figure MW.9: Distribution of Salvin's albatross *Thalassarche salvini* from the Snares Islands Western Chain tagged with geolocators at four times of the year (from Sagar et al. 2011). a) April, after the completion of their breeding season, b) June, showing their return tracks from South American waters to New Zealand waters prior to egg laying, c) September, when their partners were incubating an egg, and d) December, the birds around New Zealand are presumed to be foraging for food for themselves and their chick, and the birds crossing the Pacific Ocean and in South American waters are presumed to be failed breeders.

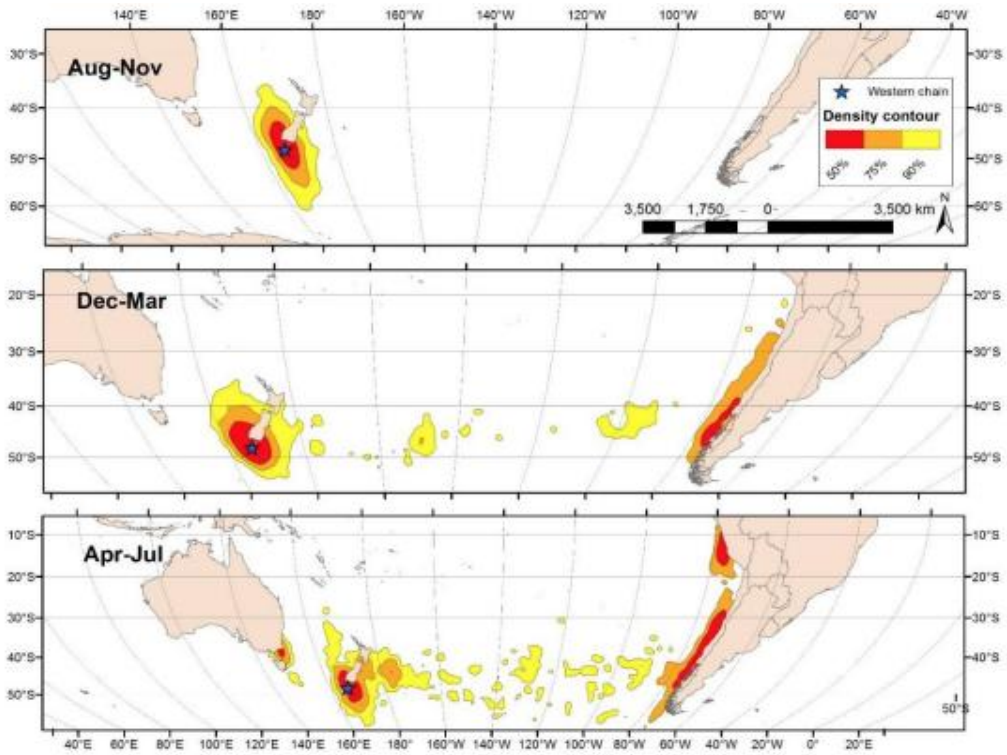


Figure MW.10: Distribution (kernel density utilisation distributions, UDs) for breeding Salvin's albatross at the Snares Islands Western Chain (from Thompson et al. 2014). Distributions are based on geolocation light sensor (GLS) data from 24 birds, tracked from 2008–09. Shown are the 50% UD (red), 75% UD (orange), and 90% UD (yellow). Colony location is shown by blue star.

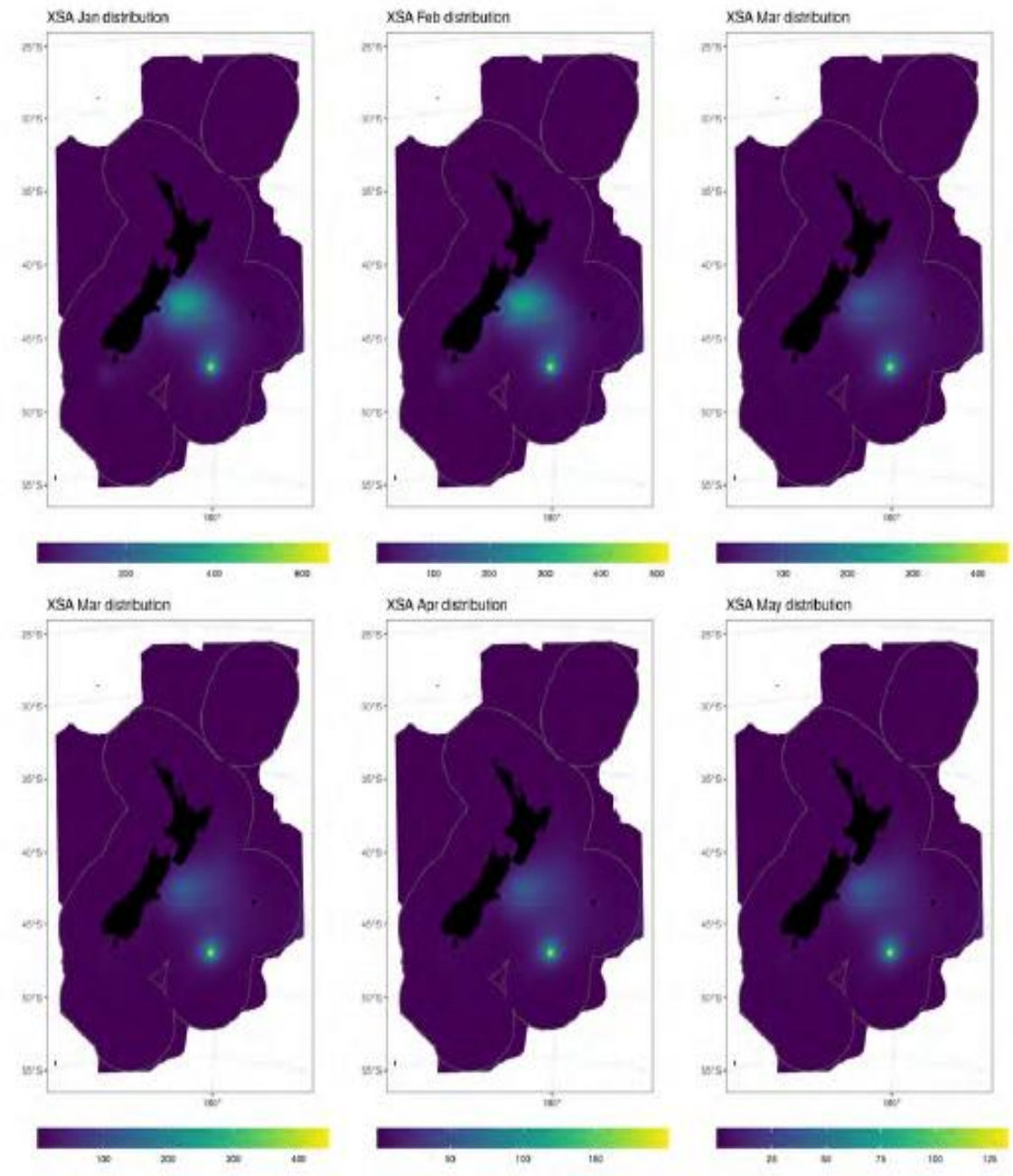


Figure MW.11: Predicted relative spatial density of Salvin's albatross (XSA) by month, for January to June (from Roberts et al. 2023). Please note different colour scale across months.

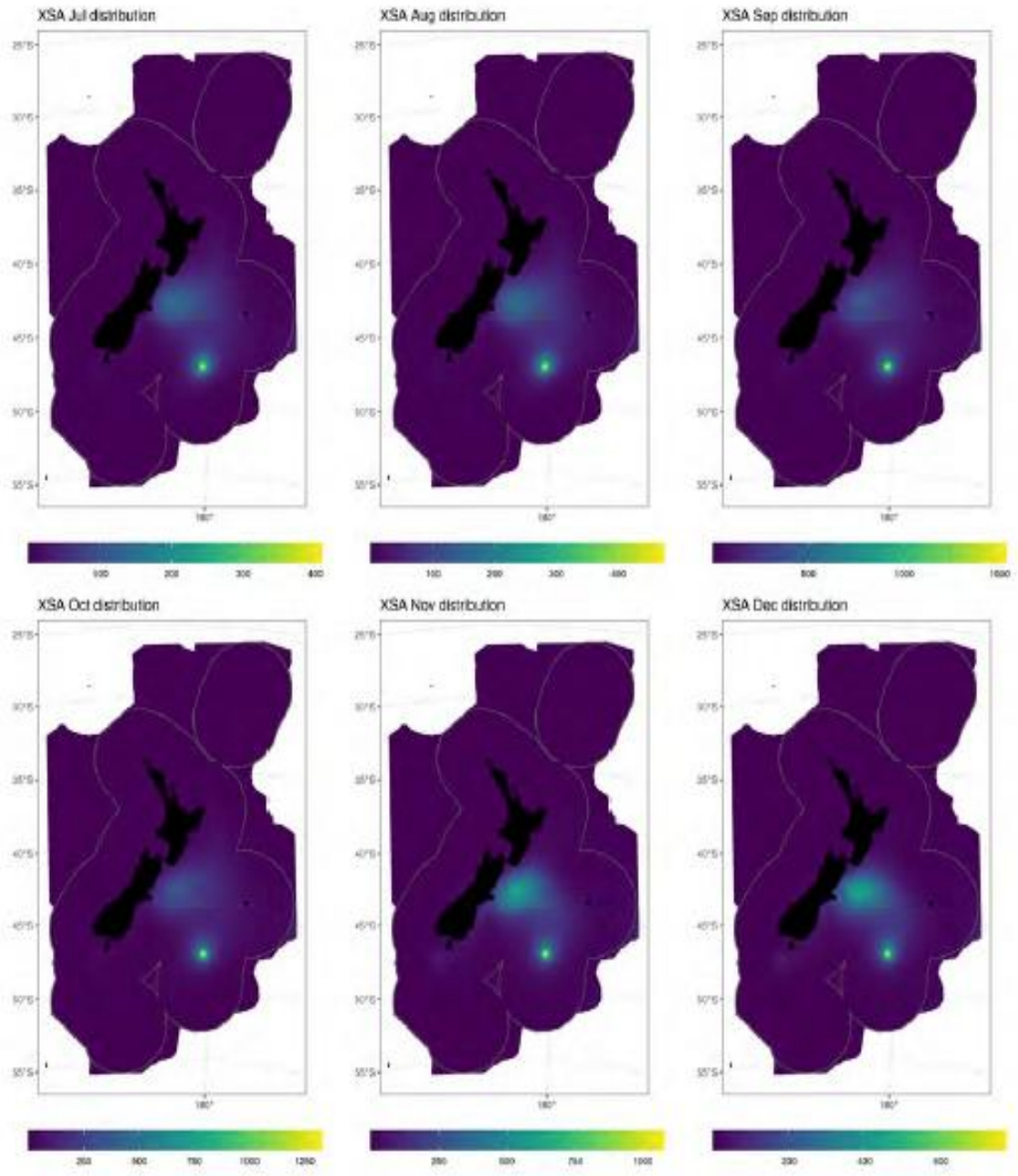


Figure MW.12: Predicted relative spatial density of Salvin's albatross (XSA) by month, for July to December (from Roberts et al. 2023). Please note different colour scale across months.

MW.2.2.6 WHITE-CAPPED ALBATROSS

White-capped albatross is endemic to New Zealand, breeding only on New Zealand's subantarctic islands, primarily the Auckland Islands, and also Bollon's Island in the Antipodes Island group, with occasional records from Chatham Islands (the Forty-fours). Most (an estimated 95%) of the total population breeds at Disappointment Island within the Auckland Islands.

During the breeding season (November-June), New Zealand white-capped albatross forage in coastal waters throughout New Zealand, particularly south from Cook Strait and across the Tasman Sea to south-east Australian waters. After breeding most birds remain in Australasian waters, with about 20% of adults migrating across the Indian Ocean to seas off South Africa and Namibia (Sagar 2013). Overall, this species favours New Zealand's EEZ, particularly an area in the Southern

Ocean between southern South Island and Auckland Islands; a second widely-used area is south-eastern Australia (Thompson et al. 2009; see Figure MW.13).

A tracking study of white-capped albatross at the South-West Cape colony at Auckland Islands illustrated its foraging distribution during the guard stage (Torres et al. 2011). During this period, foraging efforts were concentrated in an area east of Auckland Islands, above the shelf edge (approximately 250 m water depth).

Recent distribution modelling of this species predicted its highest abundance around southern South Island and Stewart Island and also in proximity of Auckland Islands (Roberts et al. 2023). This finding was in contrast to earlier modelling, which indicated its highest density around Auckland Islands during the breeding period, and off the north-west coast of South Island during the non-breeding period.

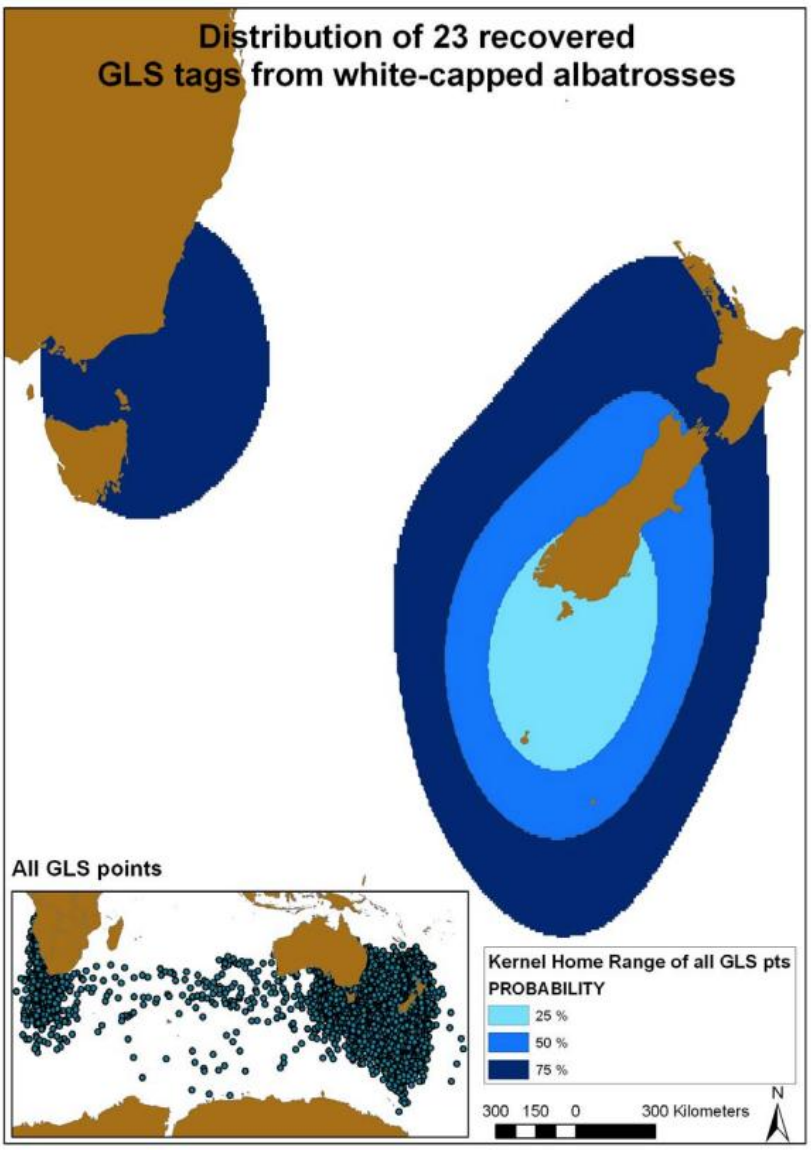


Figure MW.13: Distribution of white-capped albatross based on geolocation light sensor tags (from Thompson et al. 2009). Shown are geolocation points (insert) and kernel density plots.

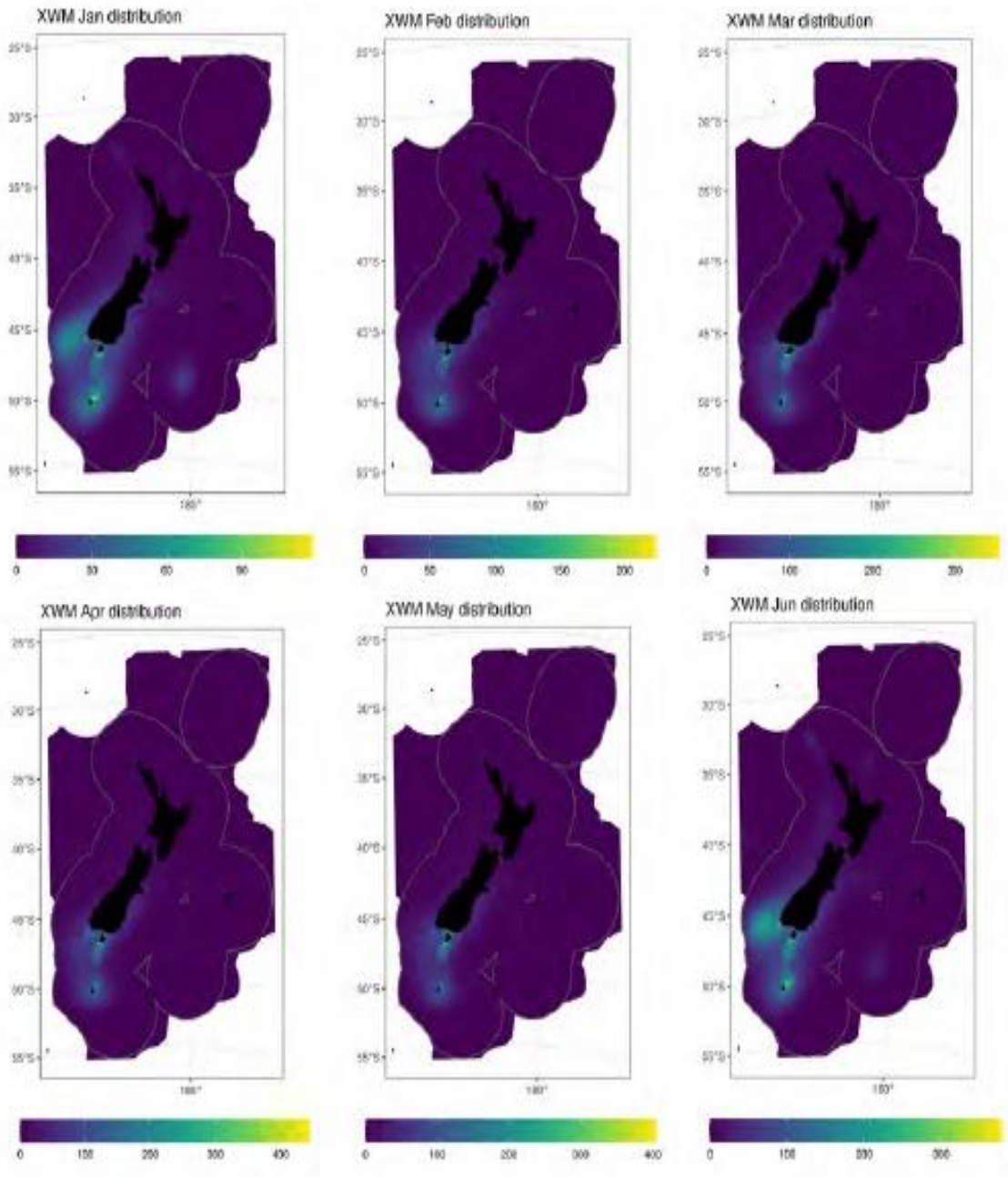


Figure MW.14: Predicted relative spatial density of white-capped albatross (XWM) by month, for January to June (from Roberts et al. 2023). Please note different colour scale across months.

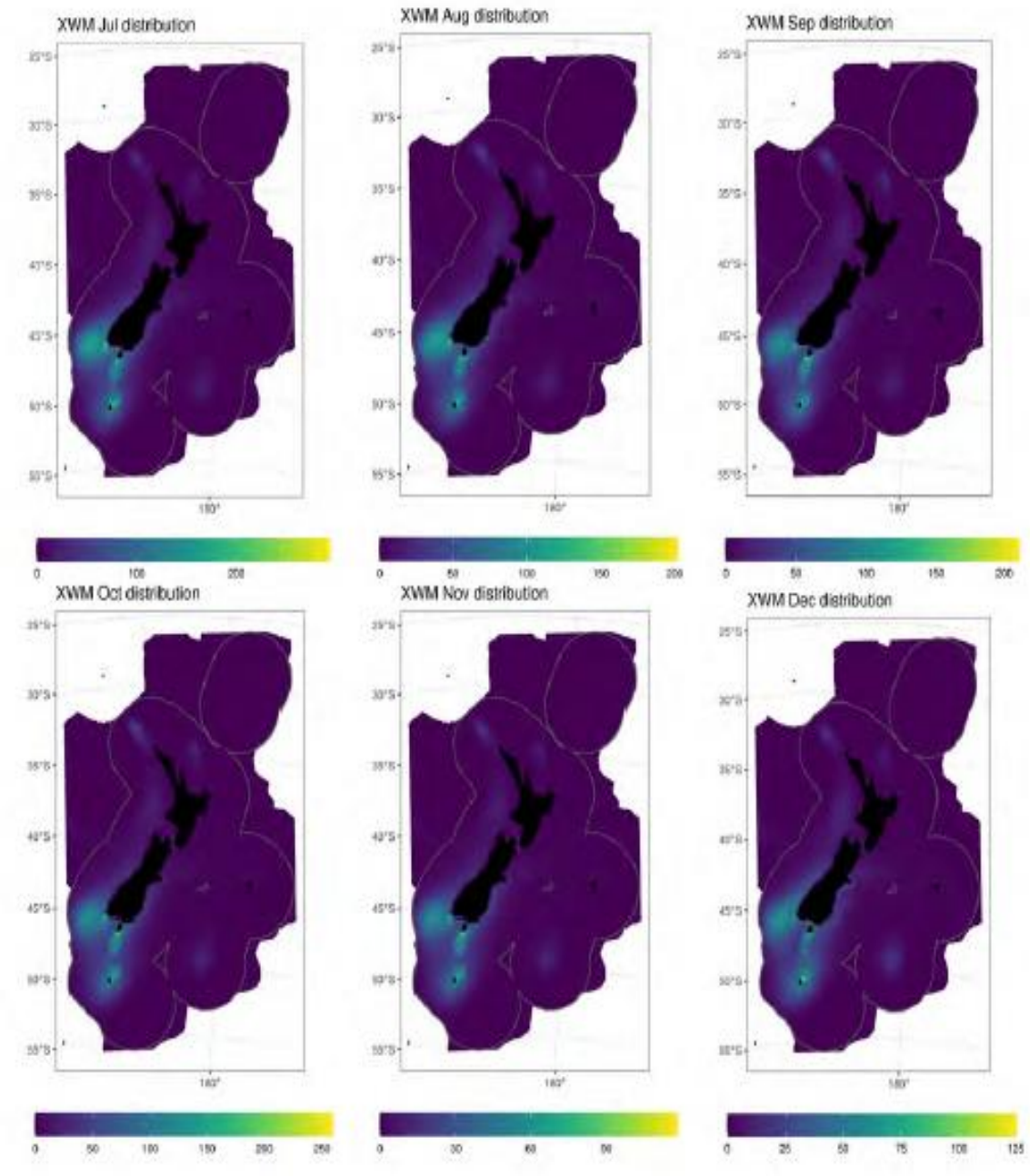


Figure MW.15: Predicted relative spatial density of white-capped albatross (XSA) by month, for July to December (from Roberts et al. 2023). Please note different colour scale across months.

MW.2.3 FORAGING ECOLOGY

These next sections focus on Buller's, Chatham, Salvin's and white-capped albatrosses.

MW.2.3.1 BULLER'S ALBATROSSES

The diet of Buller's albatross consists of fish (including fishery discards of hoki *Macruronus novaezelandiae* and jack mackerel *Trachurus* spp.), cephalopods (squid), krill, and salps. The birds feed mainly at the surface, with occasional surface plunges or shallow dives.

MW.2.3.2 CHATHAM ALBATROSS

Chatham albatross are considered surface feeders, although they may also shallow-dive for food. Their foraging ecology and diet has received relatively little attention, but this species is known to feed on cephalopods (squid), fish, and euphausiid (krill) species.

MW.2.3.3 SALVIN'S ALBATROSS

The diet and feeding habits of Salvin's albatross are considered to be similar to that of other species in this genus; fish and squid are likely to form the main parts of its diet, which are consumed via surface seizing; surface plunges and shallow dives are rare. It occasionally forages in large multi-species flocks, targeting small schooling fish that are brought to the surface by subsurface predators.

MW.2.3.4 WHITE-CAPPED ALBATROSS

White-capped albatross feeds on fish, cephalopods (squid), crustaceans and tunicates. It feeds by surface seizing, but also divers to catch prey. Offal from fishing vessels is also considered to form a substantial proportion of its diet.

MW.2.4 REPRODUCTIVE BIOLOGY

MW.2.4.1 BULLER'S ALBATROSSES

Buller's albatross is a colonial annual breeder, with shared incubation and chick care. Breeding cycles last about eight months, with one egg produced by breeding season. Eggs are laid by the northern subspecies in October/November, by the southern subspecies in January/February, hatching after 68 to 72 days. After fledging, immature birds start returning to the colony after at least three years, with the average age at first breeding between 10 and 12 years. The maximum age of this species exceeds 45 years.

MW.2.4.2 CHATHAM ALBATROSS

Chatham albatross is a colonial, annual-breeding species, with shared incubation and chick rearing. A single egg per pair is laid from September to October, but may start as early as the first week in August. Incubation time is 68 to 72 days. Chicks hatch between November and December, and fledge between March and May, when they are about 120 to 140 days old. The youngest bird returning to the colony was four years old, and age at first breeding is around seven years.

MW.2.4.3 SALVIN'S ALBATROSS

Salvin's albatross is a colonial, annual-breeding species that nests in large colonies; the main breeding population (95% of the total New Zealand population) is at the Bounty Island, with the other main colony at the Snares Islands Western Chain. Incubation and chick care are shared and a single egg per breeding pair is laid from late August to September. Chick hatch between the end of October (at the Snares Islands Western Chain) and are considered to fledge at the age of four months in March to April. The age of return to colonies or age at first breeding is unknown, but considered to be likely similar to metrics of other *Thalassarche* species.

MW.2.4.4 WHITE-CAPPED ALBATROSS

A number of aspects pertaining to the breeding biology and breeding cycle of white-capped albatross remain unknown. This species is a colonial breeder and was initially considered to nest annually, but a high frequency of biennial breeding indicates an intermediate breeding strategy (Thompson et al. 2011). White-capped albatross breeds in austral summer,

returning to the colony between late September and early October (Elliott et al. 2023). Eggs are laid in November, and chicks fledge between mid-June and mid-August the following year. Most recent data of chick success (survival from hatching to fledging) indicated 66% success at Disappointment Island in 2023 (Elliott et al. 2023), with earlier rate of 29% in 2018 (via trial nest cameras; Rexer-Huber et al. 2019) and 62% (between early incubation and mid-rearing of chicks) in 2006/07 at South-west Cape (Thompson & Sagar 2007). Some adults remain near the colony year-round.

MW.2.5 POPULATION BIOLOGY

MW.2.5.1 NORTHERN BULLER'S ALBATROSS

There has been relatively little research on northern Buller's albatross, which has been attributed to the remote and inaccessible locations of the breeding sites (Fischer et al. 2023). A complete census of the northern Buller's albatross population nesting at The Forty-fours Motuhara documented a total of 15,809 breeding pairs in 2022 (Bell et al. 2023); at The Sisters, the breeding population consisted of about 3,300 breeding pairs (see Fischer et al. 2023).

An earlier (2016) aerial survey of the colonies at the Chatham Island group included an estimated annual count of 17,969 annual breeding pairs (based on aerial close-up photos after corrections), and 16,138 annual breeding pairs (based on ground counts after corrections; correction factor 0.121) for the Forty-fours and The Sisters (Baker et al. 2017). Most birds (85.3%) were breeding on The Forty-Fours. For the latter location, the ground count was 16,492 annual breeding pairs, which included an estimate of 3,445 nesting attempts that had failed.

The population size of this species is listed as 55,000 to 99,999 mature individuals for both subspecies, with a stable population trend (BirdLife International 2024).

For the northern subspecies, population estimates included in the 2023 New Zealand seabird risk assessment were 45 800 (95% confidence interval: 41 300–54 000) adults, 20 300 (95% CI: 33 19 300–21 300) annual breeding pairs, proportion of adults breeding of 0.89 (0.757–0.965), age at first reproduction of 12 (9.15–14.8) years, juvenile survival rate of 0.155 (0.0168–0.355), and current adult survival rate of 0.955 (0.931–0.979)(Peatman et al. 2023).

MW.2.5.2 SOUTHERN BULLER'S ALBATROSS

In comparison to its conspecific, there has been considerable research effort focused on southern Buller's albatross at The Snares Islands, and to a lesser extent at Solander Islands. At Snares Islands, the subspecies has been monitored in a longer-term programme, with almost-annual population estimates at three study colonies since 1992, most recently in 2024 (Sagar et al. 2024). These data revealed decreases in the total number of nests or breeding pairs in 2024 compared with data from 2023, which was attributed to changes in annual adult survival (Figure MW16). Annual adult survival rates were comparatively high between 1992 and 2004, but have since then shown an overall decline (Figure MW17). There was also a recent decline in fledging success (Figure MW18).

Across island groups, population estimates of southern Buller's albatross consist of about 8700 breeding pairs at The Snares Islands and about 5500 breeding pairs at Solander Islands (see Fischer et al. 2023a).

Population estimates for this taxon used in the recent New Zealand seabird risk assessment were a population size of 33,600 (95% confidence interval: 29 500–40 100) adults, 14,900 (95% CI: 33 13 700–16 200) annual breeding pairs, proportion of adults breeding of 0.89 (0.755–0.964), age at first reproduction of 12 (9.15–14.9) years, juvenile survival rate of 0.156 (0.017–0.367), and current adult survival rate of 0.955 (0.931–0.979)(Peatman et al. 2023).

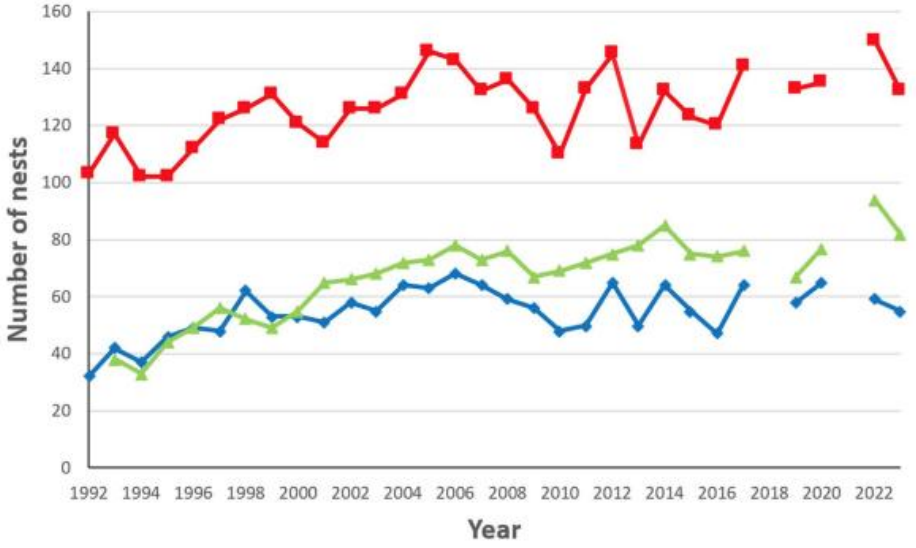


Figure MW.16: Number of breeding pairs of southern Buller's albatross counted annually at three study colonies, The Snares Islands between 1992 and 2023 (from Thompson & Sagar 2023). The colonies are: Mollymawk Bay, red squares and line; Lower Punui Bay, blue diamonds and line; Upper Punui Bay, green triangles and line. The study colonies were not visited in 2018 and in 2021.

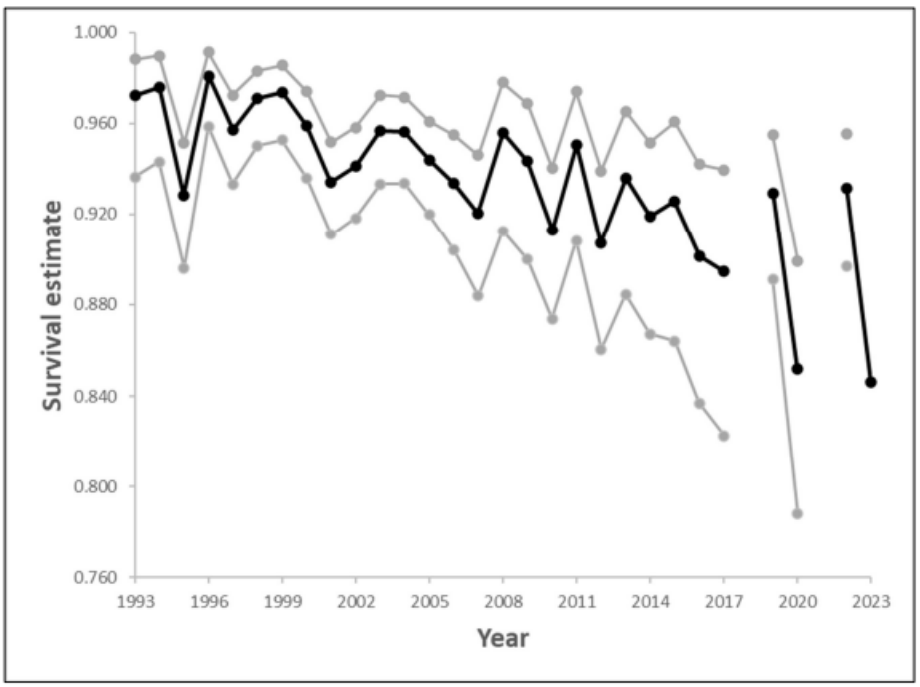


Figure MW.17: Estimated annual survival for southern Buller's albatross at the Snares Islands (from Thompson & Sagar 2023). Shown are estimates of survival (black dots and lines) and estimates of upper and lower 95% confidence intervals (grey dots and lines). Confidence intervals have been omitted for 2023, and no estimates are shown for 2018 and 2021.

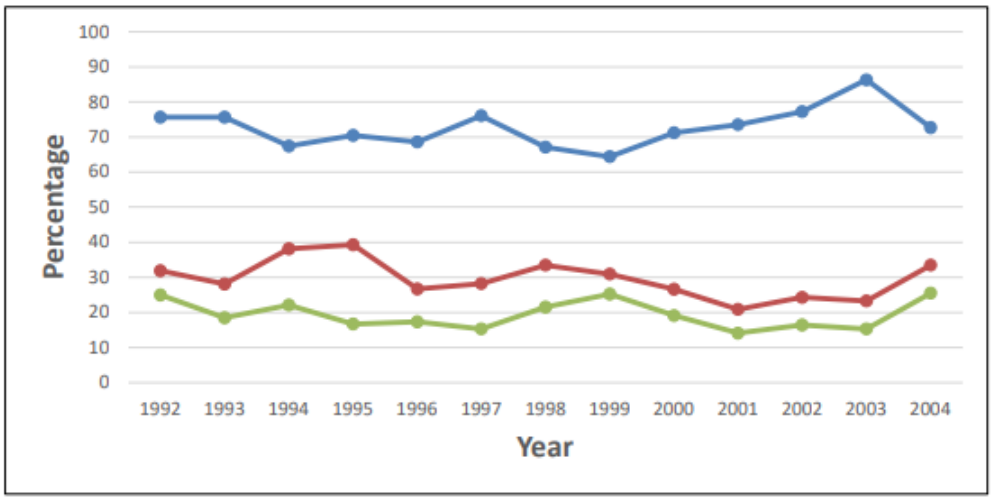


Figure MW.18: Fledging success, return and recruitment rates of southern Buller's albatross banded as chicks in three study colonies at The Snares Islands, 1992-2004 (from Thompson & Sagar 2023). Fledging success, blue; return rate, red; recruitment rate, green.

MW.2.5.3 CHATHAM ALBATROSS

Population surveys of Chatham albatross have been carried out since 1999 at the nesting sites, with the most recent census in 2016 (Bell et al. 2017). These surveys count the number of nests, and also record the status of each nest. In addition, birds are banded on each survey to determine the number of recaptures on subsequent surveys, adding to an increasing number of known-aged birds. This banding record enables an assessment of annual adult mortality. For nest counts, the number of annual breeding pairs has remained stable over the survey period, with an average of 5296 (5194 to 5407) annual nests or annual breeding pairs across surveys. The overall population estimate in 1998 was 18,000 to 20,000 individuals. The population size of Chatham albatross currently listed by BirdLife International is 11,000 mature individuals, with a stable population trend (BirdLife International 2024).

Population data for this species reviewed for the 2023 New Zealand seabird risk assessment included an estimated population size of 12,000 (95% confidence interval: 10 900–14 200) adults, 5 290 (95% CI: 5 140–5 450) annual breeding pairs, proportion of adults breeding of 0.888 (0.75–0.964), age at first reproduction of 12 (9.16–14.8) years, juvenile survival rate of 0.174 (0.0172–0.39), and current adult survival rate of 0.965 (0.941–0.982)(Peatman et al. 2023).

MW.2.5.4 SALVIN'S ALBATROSS

There is limited information of the population status of this species, particularly for its main colony at the Bounty Islands. Early estimates for this site included about 76,000 breeding pairs in 1978, compared with 31,000 pairs in 1997 (see Thompson et al. 2020). Three aerial surveys conducted at this colony between 2010 and 2018 also provided estimates of breeding pairs, but differences in the survey methods and in the correction factors applied to survey data prevented direct comparisons of these estimates over time. Limitations of aerial surveys compared with ground counts include the need for correction factors to distinguish the proportion of birds that are actively breeding from "loafers" (birds not associated with a nest). To assess the accuracy of ground counts and to estimate population trends, whole-island surveys of Salvin's albatross at Proclamation Island, Bounty Islands, were undertaken in 1997, 2004, and 2011 (Amey & Sagar 2013). These surveys documented a 14% decline in breeding pairs between 1997 and 2004, and a 13% decline between 2004 and 2011; there was an overall decline of 30% between 1997 and 2011 (Sagar et al. 2015). Counts of nests on Depot Island decreased by 10% between 2004 and 2011. Subsequent surveys indicated increases in the number of Salvin's albatross at Proclamation Island between 2010 and 2013, but estimates from a recent 2019 census (trialling the use of aerial drones) revealed another decline (Parker & Rexer-Huber 2020).

The estimated total population size of Salvin's albatross is 79,990 mature individuals, with an unknown population trend (BirdLife International 2024).

In comparison, surveys of Salvin's albatross breeding at Snares Islands Western Chain in 2008, 2009, and 2014 indicated a small but stable population of approximately 1100 to 1200 pairs (Sagar et al. 2011, Sagar et al. 2014). Recapture data from birds banded at this colony supported the analysis of adult survival, leading to an estimated adult survival probability of 0.967 (Sagar et al. 2011).

Estimated population parameters provided by Peatman et al. (2023) were a population size of 92,900 (95% confidence interval: 63 000–133 000) adults, 41,200 (95% CI: 28 400–57 500) annual breeding pairs, proportion of adults breeding of 0.89 (0.755–0.963), age at first reproduction of 12 (9.18–14.9) years, juvenile survival rate of 0.175 (0.0194–0.391), and current adult survival rate of 0.965 (0.94–0.982).

MW.2.5.5 WHITE-CAPPED ALBATROSS

The biology and ecology of white-capped albatross are still poorly understood. Some population data of white-capped albatross are available from annual censuses of the breeding population at Auckland Island for the period between 2006 and 2017 (most recently analysed in Baker et al. 2023). Aerial photographs from three breeding sites (at Disappointment Island, South-west Cape, and Adams Island) were used to estimate the number of annual breeding pairs for each breeding season after adjusting for the estimated proportion of birds that was clearly not associated with active nests ("loafers"). For this period, the estimated mean number of annual breeding pairs at Auckland Islands was 89,846 pairs, but there was high inter-annual variability around this estimate (range: 74,031–116,025 breeding pairs). Considering the population trend over the 12-year study period documented a negative linear trend in adjusted counts for all sites combined, but this trend was not statistically significant.

The overall population size of this species is estimated to be 203,600 mature individuals, with a decreasing population trend (BirdLife International 2024).

A recent population study of this species at Disappointment Island documented an annual adult survival of 0.92 (Elliott et al. 2023), compared with the estimated adult survival of 0.89 or 89% (95% confidence interval: 86–91%) in 2022 (Parker et al. 2022).

For white-capped albatross, the population size is estimated at 203,600 mature individuals with a decreasing population trend (BirdLife International 2024).

Biological input data for the 2023 New Zealand seabird risk assessment included population estimates of a population size of 255,000 (95% confidence interval: 200,000–327,000) adults, 86,000 (95% confidence interval: 70 400–104,000) annual breeding pairs, proportion of adults breeding of 0.677 (0.574–0.769), age at first reproduction of 12 (9.12–14.8) years, juvenile survival rate of 0.161 (0.0172–0.365), and current adult survival rate of 0.899 (0.859–0.93).

MW.2.6 CONSERVATION BIOLOGY AND THREAT CLASSIFICATION

MW.2.6.1. BULLER'S ALBATROSS

The international threat ranking of Buller's albatross is Near Threatened (BirdLife International 2024). In the New Zealand Threat Classification System, southern Buller's albatross is listed as At Risk - Declining; northern Buller's albatross was assessed as Naturally Uncommon (Robertson et al. 2021).

MW.2.6.2 CAMPBELL BLACK-BROWED ALBATROSS

The threat ranking for Campbell black-browed albatross is Naturally Uncommon in the New Zealand threat classification, and it is ranked Vulnerable in its international assessment (Robertson et al. 2021, BirdLife International 2024).

MW.2.6.3 CHATHAM ALBATROSS

The threat ranking for Chatham albatross is Naturally Uncommon in the New Zealand threat classification, and it is ranked Globally Threatened - Vulnerable in its international assessment (Robertson et al. 2021, BirdLife International 2024).

MW.2.6.4 GREY-HEADED ALBATROSS

The threat ranking for grey-headed albatross is Nationally Vulnerable in the New Zealand threat classification, and it is ranked Endangered in its international assessment (Robertson et al. 2021, BirdLife International 2024).

MW.2.6.5 SALVIN'S ALBATROSS

For Salvin's albatross the threat rankings are Nationally Critical in the New Zealand system and Globally Threatened - Vulnerable in the international assessment (Robertson et al. 2021, BirdLife International 2024).

MW.2.6.6 WHITE-CAPPED ALBATROSS

Assessments of white-capped albatross have led to its ranking as Nationally Critical in the New Zealand system and Globally Threatened - Vulnerable in the international classification (Robertson et al. 2021, BirdLife International 2024).

MW.3 GLOBAL UNDERSTANDING OF FISHERIES INTERACTIONS

Fisheries bycatch has been recognised as one of the most serious threats to a number of seabird species and populations, particularly albatrosses and petrels, including *Thalassarche* albatrosses. Interactions with commercial fisheries occur throughout their distributional range, including in New Zealand waters, the high seas, and in waters under the jurisdictions of other countries. At the same time, species-specific capture data from waters outside New Zealand are frequently lacking. Species-specific capture data from observers are also available from other countries that have fisheries overlapping with these *Thalassarche* species (e.g., Australia, Japan, South Africa; see Abraham et al. 2019), but these records are generally not publicly available and are difficult to access. In addition, for some species, at-sea identification to species level can be challenging, further limiting available data.

For surface-longline fisheries in the Southern Hemisphere, observer data indicated 2704 observed captures of *Thalassarche* species in the period between 2012 and 2015 (Abraham et al. 2019). Most (2276) of these observed captures were in the Japanese high seas, followed by 189 observed captures in New Zealand's domestic fleet, and 131 observed captures in the South African joint-venture fleet.

A number of mollymawk species, including Buller's albatross have been documented to attend fishing vessels and feed on discards, such as in Argentinean waters (Dellacasa et al. 2022).

MW.3.1. BULLER'S ALBATROSSES

The distribution of Buller's albatrosses extends across a number of Regional Fisheries Management Organisations (RFMOs), the Indian Ocean Tuna Commission (IOTC), the Western and Central Pacific Fisheries Commission (WCPFC), the Inter-American Tropical Tuna Commission (IATTC), the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), and the South Pacific Regional Fisheries Management Organisation (SPRFMO). These organisations cover pelagic and demersal

fisheries in the region in regards to the conservation of albatross and petrels in general. The principal range states for Buller's albatross are Australia, New Zealand, Chile, and Peru.

Bycatch of Buller's albatrosses has been frequently reported in a range of commercial fisheries in New Zealand, particularly longline fisheries, and also squid and fish trawl fisheries. In Australian waters, Buller's albatrosses have been caught in pelagic longline fisheries; bycatch records from Chile are from pelagic longlines targeting swordfish. Overall, there is little information about captures by fisheries off Chile and Peru.

Species distribution models for four Southern Hemisphere species, including Buller's albatross, compared their predicted preferred habitat with the distribution of fishing effort (Goetz et al. 2020). This modelling documented high fishing effort within the predicted preferred habitat of this species at a global scale and within New Zealand's EEZ.

MW.3.2. CAMPBELL BLACK-BROWED ALBATROSS

Campbell black-browed albatross overlaps with five Regional Fisheries Management Organisations, but principally the CCSBT, WCPFC, and SPRFMO. New Zealand and Australia are the main Range States for Campbell albatross.

Similar to other albatross species, Campbell black-browed albatross is caught across a range of commercial fisheries, in New Zealand waters and elsewhere. Bycatch of this species has been recorded in New Zealand pelagic and demersal longline fisheries. In addition to feeding on offal discards, observed interactions with these fisheries also included both live and dead captures.

MW.3.3. CHATHAM ALBATROSS

The distribution of Chatham albatross overlaps with the Western and Central Pacific Fisheries Commission (WCPFC), the Inter-American Tropical Tuna Commission (IATTC), the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), and the South Pacific Regional Fisheries Management Organisation (SPRFMO); it also occasionally overlaps with the Indian Ocean Tuna Commission (IOTC). The principal range states for this species are New Zealand, Chile, and Peru.

Similar to other albatross species, Chatham albatross is caught across a range of commercial fisheries, in New Zealand waters and elsewhere. Bycatch of this species has been recorded in New Zealand pelagic and demersal longline fisheries, and also in longline fisheries off the coasts of Chile and Peru. Records of interactions also include the attendance of trawlers in New Zealand waters and of longline vessels around Tasmania and off South America. Records from small-scale fisheries in Peru include frequent sightings of Chatham albatross (>30% of total seabird sightings in winter) (Moreno & Quinones 2022). In addition to feeding on offal discards, observed interactions with these fisheries also included the incidental capture (and subsequent release) of a Chatham albatross.

MW.3.4. GREY-HEADED ALBATROSS

Given its circumpolar distribution, Grey-headed albatross overlaps with all major southern hemisphere Regional Fisheries Management Organisations, including those aimed at ensuring the long-term conservation and sustainable use of fishery resources other than tuna: SWIOFC (South-West Indian Ocean Fisheries Commission), SIOFA (Southern Indian Ocean Fisheries Agreement), and SEAFO (South-East Atlantic Fisheries Organisation), as well as SPRFMO.

Though similar to other albatross species, only a single grey-headed albatross has been observed caught in commercial fisheries in New Zealand waters, in an inshore trawl fishery.

MW.3.5. SALVIN'S ALBATROSS

Salvin's albatross is frequently bycaught in New Zealand demersal longline and trawl fisheries. In other waters, there are some bycatch records of this species in pelagic longline fisheries targeting swordfish off Chile; however, there is a general lack of understanding of incidental captures of Salvin's albatross off Chile and Peru, particularly in small-scale fisheries. Onboard observers in the small-scale fishery targeting squid off Peru recorded a high proportion of Salvin's albatross sightings (>50% of all seabird sightings) during winter, with the most frequently observed behaviour consisting of foraging on offal discards (Moreno & Quinones 2022).

The distribution of Salvin's albatross extends across the Western and Central Pacific Fisheries Commission (WCPFC), the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), the Indian Ocean Tuna Commission (IOTC), the Inter-American Tropical Tuna Commission (IATTC), and the South Pacific Regional Fisheries Management Organisation (SPRFMO). Principal range states are New Zealand, Chile, Peru, and Australia.

MW.3.6. WHITE-CAPPED ALBATROSS

White-capped albatross is bycaught in New Zealand commercial trawl and longline fisheries, often featuring prominently in observer records.

This species is also caught frequently in fisheries outside New Zealand's EEZ. An ACAP summary of bycatch of this species included an estimated 8,000 annual mortalities of white-capped albatross in trawl and longline fisheries in the Southern Ocean; records of 7,000 to 11,000 total mortalities between 1998 and 2000 in the pelagic longline fishery in South Africa; 7,700 annual mortalities of albatrosses in observer data of the South African trawl fishery that were reported as the shy-type albatross grouping and subsequently confirmed to be white-capped albatross; juvenile white-capped albatross recorded in incidental captures in the Uruguayan pelagic longline fleet in the south-western Atlantic Ocean; and high numbers of albatross captures in the shy-type albatross grouping in pelagic fisheries in Japan, Taiwan, and Korea are also likely to include this species. The ACAP highlights the lack of observer coverage and reliable estimates for this species, which is often confounded by the lack of identifications to the species level.

An ecological risk assessment for seabirds and fisheries in the area under the SIOFA identified white-capped albatross to have a high vulnerability to fisheries in this area; it was identified as one of 11 high-risk species (Reid et al. 2023). White-capped albatross had over 45% overlap with demersal longline, 33% with trawl, and 22% with pelagic longline in this part of the Indian Ocean. A previous studies of fishing-related mortality of white-capped albatross (and shy albatross) found that thousands of juvenile and adult white-capped albatrosses are killed by fisheries throughout their range each year (Baker et al. 2007).

Species distribution models for this species in the Southern Hemisphere documented relatively high fishing effort within the predicted preferred habitat of white-capped albatross (Goetz et al. 2020). This finding was similar at a global scale and within New Zealand waters.

The distribution of white-capped albatross extends across a number of different fisheries organisations, including the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), the Commission for the Conservation of Southern Bluefin Tuna (CCSBT), the Inter-American Tropical Tuna Commission (IATTC), International Commission for the Conservation of Atlantic Tunas (ICCAT), the Indian Ocean Tuna Commission (IOTC), Western and Central Pacific Fisheries Commission (WCPFC), Southern Indian Ocean Fisheries Agreement (SIOFA), SEAFO (South-East Atlantic Fisheries Organisation), the South Pacific Regional Fisheries Management Organisation (SPRFMO).

MW.4 STATE OF KNOWLEDGE IN NEW ZEALAND

In New Zealand fisheries, incidental captures of southern Buller's albatross, Salvin's albatross, and white-capped albatross are frequently recorded by observers, and these three taxa generally dominate bycatch records, and seabird captures identified by subsequent necropsy (e.g., see Bell & Larcombe 2023).

An important factor for the incidental capture of some seabirds, particularly mollymawks, is their attendance at fishing vessels, where they are feeding on fishery discards. High numbers of mollymawks around fishing vessels have been documented in New Zealand (and overseas), increasing the likelihood of incidental captures. Although fishery discards have been found to be an important component in the diet of chicks of southern Buller's albatross, it is difficult to ascertain if the potential positive effect on population growth outweighs the negative impacts from fishing-related mortality (Francis et al. 2008).

Other factors that influence the bycatch of seabirds include characteristics related to fishing operations, including the timing and location of fishing, and also gear configurations and mitigation measures. A recent analysis of factors that may influence captures of seabirds in New Zealand small-vessel surface-longline fisheries suggested that for Buller's albatross and white-capped albatross (and also black petrel), the main effects influencing captures were vessel length, moon phase, start month, and an interaction term for area and species in the model (Meyer & MacKenzie 2023).

MW.4.1 QUANTIFYING FISHERIES INTERACTIONS

Fisheries observers onboard commercial fishing vessels in New Zealand record interactions of seabirds (and other protected species) with fishing operations, including incidental captures. Observer data for the fishing years from 2002–03 to 2020–21 included records of mollymawk bycatch in trawl, surface longline, and bottom longline (see Chapter GS). The estimation of total seabird captures across commercial fisheries is dependent on sufficient observer coverage. The latter is frequently limited for small-vessel and inshore fisheries, preventing reliable estimates for these fisheries and for a number of seabird species in other commercial fisheries. Nevertheless, capture estimates were available for Buller's albatross (combined for both subspecies), Salvin's albatross, and white-capped albatross.

MW.4.1.1 BULLER'S ALBATROSSES

Between 2002–03 and 2020–21, there was one observed capture of northern Buller's albatross each in trawl and surface-longline fisheries; there were no observed captures of this taxon in bottom longline (see Chapter GS).

For southern Buller's albatross, observer records included 529 observed captures in trawl, mostly in squid and hoki targets. In surface-longline fisheries, there were 510 observed captures, and this taxon was the most-frequently reported bycatch in these fisheries. Of the total records, 486 of the observed captures were in southern bluefin tuna targets. There were also 14 observed captures of this subspecies in bottom-longline fisheries, including ten captures in the ling target fishery.

The bycatch assessments combine the northern and southern subspecies under Buller's albatross (e.g., see Abraham & Richard 2020). Estimated captures for this taxon have been consistently high across trawl, surface- and bottom-longline fisheries in New Zealand waters, albeit to a lesser extent in large-vessel bottom-longline fisheries (Table MW.1, Figure MW.19). Over time, the capture estimates of Buller's albatross have declined in large-vessel trawl fisheries, and also in large- and small-vessel surface longlines (Figure MW.19). For small-vessel trawl and small-vessel bottom-longline fisheries, the estimates have varied over time, and included considerable uncertainty.

Table MW.1: Fishing and observed effort, the observed capture rate (number of captures per unit effort), and estimated mean number (95% credible interval, c.i.) of Buller's albatross captures (both subspecies combined) by commercial fisheries in New Zealand's Exclusive Economic Zone (Protected species bycatch; estimates from PSC v7 and observed captures from PSC v9). Data are shown by fishing year for small (<28 m length) and large (≥28 m) vessels; observed capture rates are per 100 trawl tows or 1000 longline hooks. [continued on next page]

Fishing year	Effort		Observed captures	Estimated captures		Effort		Observed captures	Estimated captures	
	All effort	% obs	Rate	Mean	95% c.i.	All effort	% obs	Rate	Mean	95% c.i.
Large-vessel trawl						**Small-vessel trawl**				
2007–08	32 766	25.3	0.20	71	44–106	56 768	1.3	0.00	38	13–84
2008–09	29 978	24.7	0.23	60	37–89	57 572	4.1	0.08	41	15–87
2009–10	29 506	26	0.16	56	33–86	63 387	2.1	0.00	40	14–88
2010–11	27 393	22.7	0.32	68	43–100	58 685	2.1	0.00	36	12–76
2011–12	25 593	32.7	0.39	95	68–133	58 825	1.7	0.31	41	16–83
2012–13	23 982	49.3	0.49	83	69–103	59 855	1	0.17	42	17–86
2013–14	25 657	43.7	0.33	62	48–82	59 453	3.4	0.00	44	17–86
2014–15	25 648	43.9	0.28	64	46–88	53 117	4.3	0.04	39	15–75
2015–16	25 008	43	0.52	91	74–117	53 021	4	0.00	43	17–83
2016–17	25 750	38.4	0.23	58	40–83	52 423	7.3	0.05	38	15–76
2017–18	26 076	49.2	0.27	60	46–78	48 167	4.4	0.52	47	24–81
2018–19	25 010	48.1	0.43	82	66–104	45 914	4.1	0.16	37	15–73
2019–20	24 228	55.2	0.16	39	27–56	41 766	5.3	0.09	39	16–74
2020–21	22 641	48.6	0.35	62	48–80	41 873	5.1	0.00	37	15–73
2021–22	21 273	55.3	0.34	-	-	38 657	5	0.21	-	-
2022–23	20 936	52.4	0.27	-	-	36 833	3.6	0.22	-	-
Large-vessel surface longline						**Small-vessel surface longline**				
2007–08	568 285	50.2	0.06	31	19–53	1 677 504	8.1	0.03	54	27–91
2008–09	809 230	97.2	0.04	29	28–35	2 306 403	6.5	0.01	74	37–122
2009–10	478 558	100	0.09	42	42–42	2 516 706	7.3	0.15	108	71–157
2010–11	503 370	100	0.05	24	24–24	2 684 809	6.4	0.02	84	48–134
2011–12	551 440	100.6	0.05	27	27–27	2 548 887	6.8	0.02	117	72–177
2012–13	487 520	100	0.00	2	2–2	2 389 412	3.1	0.11	101	62–152
2013–14	653 330	100	0.02	15	15–15	1 897 484	6.8	0.06	88	53–137
2014–15	622 300	99.4	0.03	18	18–18	1 791 086	6.0	0.03	74	41–117
2015–16	54 450	43.6	0.59	17	14–27	2 304 091	13.0	0.14	130	92–180
2016–17	0	-	-	-	-	2 094 236	16.5	0.04	97	60–147
2017–18	0	-	-	-	-	2 292 381	12.9	0.06	91	57–134
2018–19	0	-	-	-	-	2 056 724	9.4	0.09	112	71–166
2019–20	0	-	-	-	-	2 001 019	9.8	0.00	105	61–164
2020–21	0	-	-	-	-	1 601 419	11.5	0.04	66	38–106
2021–22	0	-	-	-	-	1 229 862	5.5	0.12	-	-
2022–23	0	-	-	-	-	1 591 724	3.2	0.04	-	-
Large-vessel bottom longline						**Small-vessel bottom longline**				
2007–08	14 123 096	21.8	0	15	5–40	27 371 507	1.8	0	45	12–108
2008–09	12 861 501	24.8	0	3	0–12	24 575 483	3.6	0	25	6–60
2009–10	13 607 740	12.6	0	7	0–23	26 846 031	2.7	0	31	7–77
2010–11	12 914 717	11.8	0	7	0–24	27 998 929	1.1	0	39	10–94
2011–12	11 560 277	17.5	0	3	0–14	26 312 456	0.3	0	41	11–103

2012–13	8 240 515	3.3	0	5	0–14	24 271 924	1.9	0	22	5–56
2013–14	16 448 081	11.7	0	9	2–23	24 415 574	4.1	0	21	5–53
2014–15	14 077 799	2.5	0	6	0–18	25 285 508	2.1	0	18	4–44
2015–16	18 603 012	10.8	0	9	2–22	24 887 874	2.5	0	17	3–40
2016–17	22 163 805	17.6	0	9	1–28	24 398 761	4.5	0	16	3–39
2017–18	16 481 655	31.4	0	4	0–14	23 696 662	3.0	0	15	3–36
2018–19	18 007 521	11.5	0	4	0–16	23 352 365	3.0	0	23	5–56
2019–20	17 601 499	17.6	0	6	0–17	22 954 506	5.8	0	36	8–86
2020–21	18 464 082	4.7	0	7	0–25	22 628 920	4.0	0	40	11–102
2021–22	19 225 567	23.3	0	-	-	18 211 656	4.0	0	-	-
2022–23	13 686 416	31.9	0	-	-	17 226 406	1.1	0	-	-

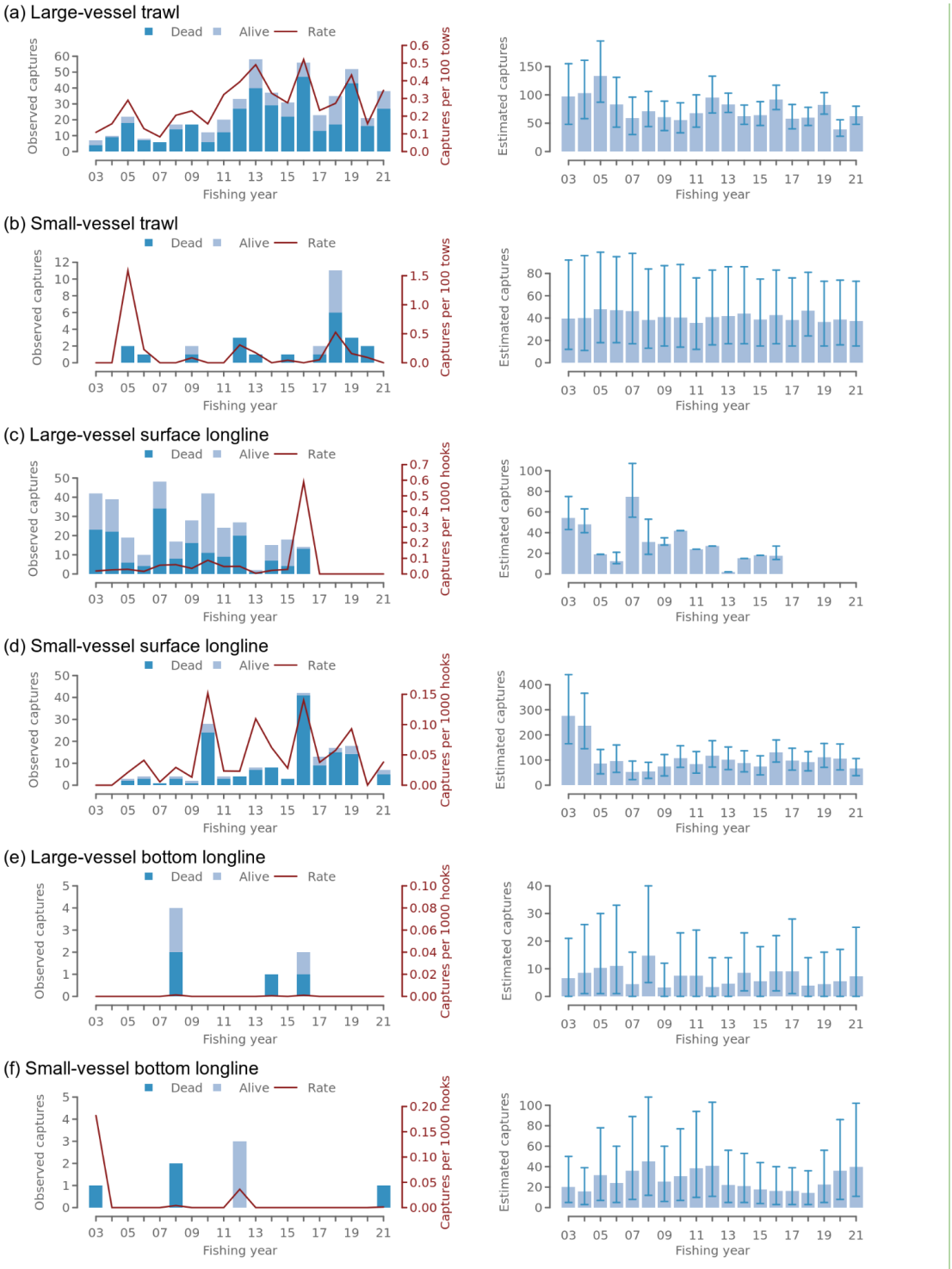


Figure MW.19: Captures of Buller's albatross (both subspecies combined) in commercial fisheries in New Zealand's Exclusive Economic Zone (Protected species bycatch; estimates from PSC v7). Shown are (left panel) the number of observed captures and capture rate (number of captures per unit effort) and (right panel) the estimated mean number (95% credible interval, c.i.) of captures by fishing year for small (<28 m length) and large (≥28 m) vessels; observed capture rates are per 100 trawl tows or 1000 longline hooks. (Note different scales on the y axes.)

MW.4.1.2. CHATHAM ALBATROSS

Observer records for the period from 2002–03 to 2020–21, include 20 observed captures of Chatham albatross in trawl fisheries (mostly in orange roughy targets), and 21 observed captures in bottom-longline fisheries (all in ling targets), without any capture records for surface-longline fisheries (see Chapter GS).

MW.4.1.3. SALVIN'S ALBATROSS

Salvin's albatross is one of the most-frequently recorded species in observer bycatch records, particularly in trawl fisheries (see Chapter GS). There were 569 observed captures of this species between 2002–03 and 2020–21, with the highest number (299 observed captures) in hoki target fisheries, followed by 112 observed captures in mid-water trawl and 55 captures in scampi trawl.

For Salvin's albatross, estimated capture have been high in trawl fisheries, particularly in small-vessel trawl, where capture estimates have remained similar over time (Table MW.2, Figure MW.20). In comparison, estimated captures have declined in large-vessel trawl from relatively high estimates at the start of the reporting period. In surface-longline fisheries, estimated captures had relatively high uncertainty.

Table MW.2: Fishing and observed effort, the observed capture rate (number of captures per unit effort), and estimated mean number (95% credible interval, c.i.) of Salvin's albatross captures by commercial fisheries in New Zealand's Exclusive Economic Zone (Protected species bycatch; estimates from PSC v7 and observed captures from PSC v9). Data are shown by fishing year for small (<28 m length) and large (≥28 m) vessels; observed capture rates are per 100 trawl tows or 1000 longline hooks. **[continued on next page]**

Fishing year	Effort		Observed captures	Estimated captures		Effort		Observed captures	Estimated captures	
	All effort	% obs	Rate	Mean	95% c.i.	All effort	% obs	Rate	Mean	95% c.i.
Large-vessel trawl						**Small-vessel trawl**				
2007–08	32 766	25.3	0.06	75	32–130	56 768	1.3	0.53	123	74–188
2008–09	29 978	24.7	0.15	100	56–158	57 572	4.1	1.10	151	98–221
2009–10	29 506	26	0.46	138	93–199	63 387	2.1	0.75	142	85–219
2010–11	27 393	22.7	0.29	119	69–184	58 685	2.1	0.32	145	87–222
2011–12	25 593	32.7	0.24	91	56–137	58 825	1.7	0.41	145	88–218
2012–13	23 982	49.3	0.42	121	88–162	59 855	1	0.34	152	91–233
2013–14	25 657	43.7	0.44	128	93–173	59 453	3.4	0.15	171	106–258
2014–15	25 648	43.9	0.36	141	95–203	53 117	4.3	0.22	154	97–227
2015–16	25 008	43	0.28	100	66–143	53 021	4	0.09	133	81–199
2016–17	25 750	38.4	0.20	85	50–127	52 423	7.3	0.13	134	80–201
2017–18	26 076	49.2	0.23	100	65–143	48 167	4.4	0.38	147	89–223
2018–19	25 010	48.1	0.16	77	47–115	45 914	4.1	0.05	143	86–219
2019–20	24 228	55.2	0.37	111	82–148	41 766	5.3	0.32	131	80–196
2020–21	22 641	48.6	0.23	65	43–94	41 873	5.1	0.05	133	81–199
2021–22	21 273	55.3	0.37	-	-	38 657	5	0.52	-	-
2022–23	20 936	52.4	0.37	-	-	36 833	3.6	0.30	-	-
Large-vessel surface longline						**Small-vessel surface longline**				
2007–08	568 285	50.2	0	0	0–0	1 677 504	8.1	0.01	10	3–22
2008–09	809 230	97.2	0.03	2	2–2	2 306 403	6.5	0.01	11	3–26
2009–10	478 558	100	0	0	0–0	2 516 706	7.3	0.01	14	4–30
2010–11	503 370	100	0	0	0–0	2 684 809	6.4	0.00	9	1–21
2011–12	551 440	100.6	0	0	0–0	2 548 887	6.8	0.01	7	2–17

2012–13	487 520	100	0	0	0–0	2 389 412	3.1	0.00	7	1–18
2013–14	653 330	100	0	0	0–0	1 897 484	6.8	0.00	5	0–13
2014–15	622 300	99.4	0	0	0–0	1 791 086	6.0	0.00	4	0–11
2015–16	54 450	43.6	0	0	0–1	2 304 091	13.0	0.00	5	0–13
2016–17	0	-	-	-	-	2 094 236	16.5	0.00	3	0–9
2017–18	0	-	-	-	-	2 292 381	12.9	0.00	8	1–19
2018–19	0	-	-	-	-	2 056 724	9.4	0.00	11	2–26
2019–20	0	-	-	-	-	2 001 019	9.8	0.00	11	2–31
2020–21	0	-	-	-	-	1 601 419	11.5	0.01	9	2–23
2021–22	0	-	-	-	-	1 229 862	5.5	0	-	-
2022–23	0	-	-	-	-	1 591 724	3.2	0	-	-
Large-vessel bottom longline						Small-vessel bottom longline				
2007–08	14 123 096	21.8	0	20	0–75	27 371 507	1.8	0	51	10–136
2008–09	12 861 501	24.8	0	26	1–95	24 575 483	3.6	0	52	12–127
2009–10	13 607 740	12.6	0	30	0–141	26 846 031	2.7	0	50	12–124
2010–11	12 914 717	11.8	0	21	2–68	27 998 929	1.1	0	61	15–142
2011–12	11 560 277	17.5	0	24	0–113	26 312 456	0.3	0	61	15–143
2012–13	8 240 515	3.3	0	27	2–85	24 271 924	1.9	0	54	13–132
2013–14	16 448 081	11.7	0	63	18–162	24 415 574	4.1	0	50	13–115
2014–15	14 077 799	2.5	0	24	3–72	25 285 508	2.1	0	46	10–113
2015–16	18 603 012	10.8	0	48	15–108	24 887 874	2.5	0	44	10–105
2016–17	22 163 805	17.6	0	36	5–103	24 398 761	4.5	0	34	8–83
2017–18	16 481 655	31.4	0	11	0–38	23 696 662	3.0	0	42	9–104
2018–19	18 007 521	11.5	0	44	5–139	23 352 365	3.0	0	46	12–108
2019–20	17 601 499	17.6	0	22	2–66	22 954 506	5.8	0	53	12–127
2020–21	18 464 082	4.7	0	27	2–87	22 628 920	4.0	0	44	9–114
2021–22	19 225 567	23.3	0	-	-	18 211 656	4.0	0	-	-
2022–23	13 686 416	31.9	0	-	-	17 226 406	1.1	0	-	-

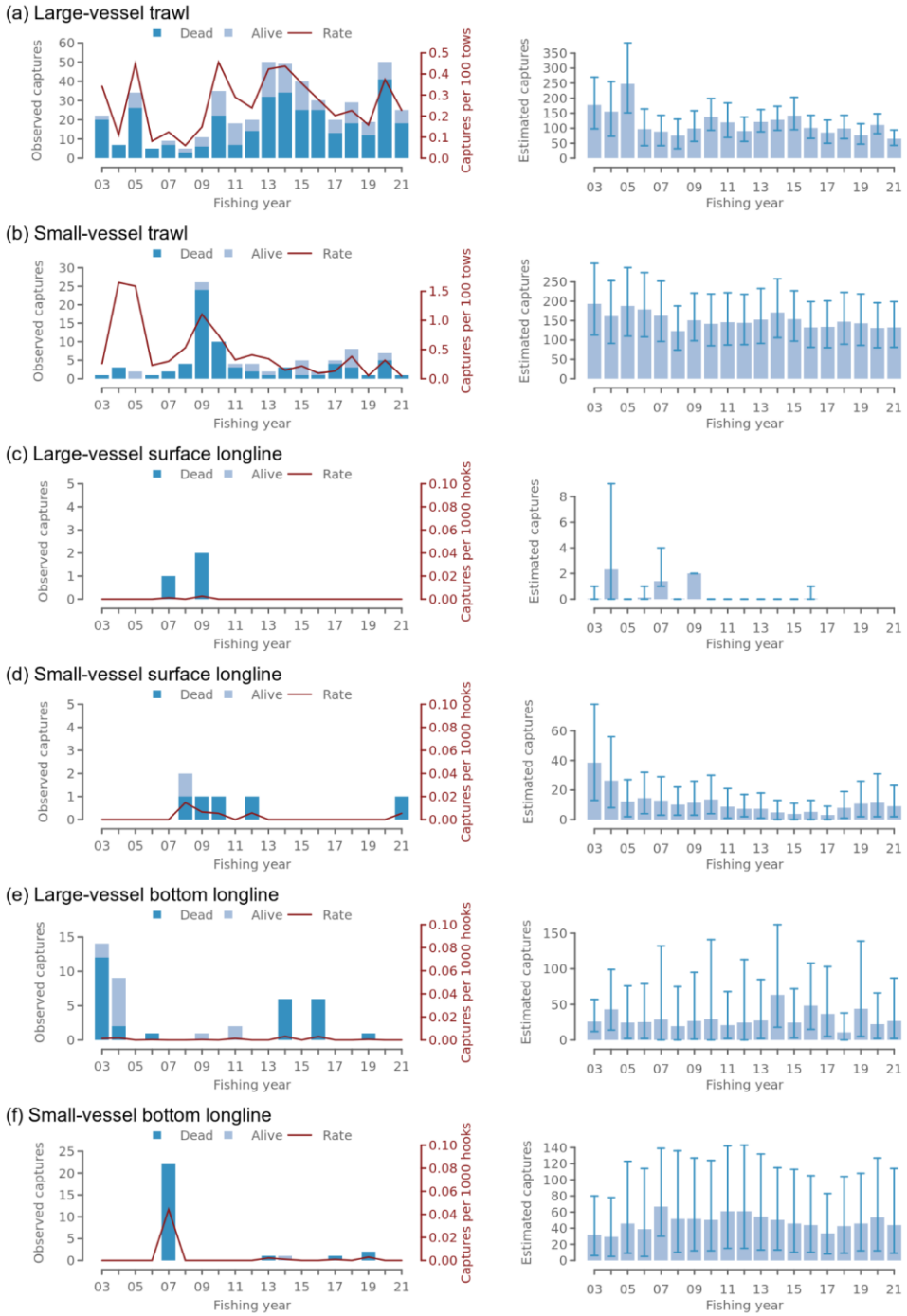


Figure MW.20: Captures of Salvin's albatross in commercial fisheries in New Zealand's Exclusive Economic Zone (Protected species bycatch; estimates from PSC v7). Shown are (left panel) the number of observed captures and capture rate (number of captures per unit effort) and (right panel) the estimated mean number (95% credible interval, c.i.) of captures by fishing year for small (<28 m length) and large (≥28 m) vessels; observed capture rates are per 100 trawl tows or 1000 longline hooks. (Note different scales on the y axes.)

MW.4.1.4. WHITE-CAPPED ALBATROSS

White-capped albatross is the most-frequently recorded species in observer data of trawl fisheries, with 1,764 observed captures between 2002–03 and 2020–21 (see Chapter GS). The highest number of these captures was in squid trawl fisheries, where 1,289 incidental captures of this species were reported. This species also featured frequently in surface-longline bycatch, with 277 observed captures, primarily in southern bluefin tuna target fisheries. There were 14 observed captures of white-capped albatross in bottom-longline fisheries in the reporting period.

Estimated captures of white-capped albatross have been high in trawl fisheries, but showed a marked decline over time in large-vessel trawl following high estimates at the start of the estimation period (Table MW.3, Figure MW.21). Capture estimates of this species were also comparatively high in small-vessel surface longline, with a marked increase in estimates in the 2011–12 fishing year, followed by consistently high estimates since then.

Table MW.3: Fishing and observed effort, the observed capture rate (number of captures per unit effort), and estimated mean number (95% credible interval, c.i.) of white-capped albatross captures by commercial fisheries in New Zealand's Exclusive Economic Zone (Protected species bycatch; estimates from PSC v7 and observed captures from PSC v9). Data are shown by fishing year for small (<28 m length) and large (≥28 m) vessels; observed capture rates are per 100 trawl tows or 1000 longline hooks. **[continued on next page]**

Fishing year	Effort		Observed captures	Estimated captures		Effort		Observed captures	Estimated captures	
	All effort	% obs	Rate	Mean	95% c.i.	All effort	% obs	Rate	Mean	95% c.i.
Large-vessel trawl						**Small-vessel trawl**				
2007–08	32 766	25.3	0.54	152	106–208	56 768	1.3	0.00	167	104–247
2008–09	29 978	24.7	1.05	236	178–304	57 572	4.1	0.55	179	117–258
2009–10	29 506	26	0.40	121	80–173	63 387	2.1	0.75	200	129–288
2010–11	27 393	22.7	0.68	156	108–215	58 685	2.1	0.16	188	120–275
2011–12	25 593	32.7	0.70	169	126–223	58 825	1.7	1.02	187	122–269
2012–13	23 982	49.3	1.07	166	147–191	59 855	1	0.86	202	131–295
2013–14	25 657	43.7	0.67	115	96–139	59 453	3.4	0.25	198	128–288
2014–15	25 648	43.9	0.68	114	96–137	53 117	4.3	0.04	168	107–248
2015–16	25 008	43	0.98	145	126–169	53 021	4	0.19	183	118–264
2016–17	25 750	38.4	0.73	120	98–148	52 423	7.3	0.29	183	118–261
2017–18	26 076	49.2	0.79	133	117–153	48 167	4.4	0.19	160	102–232
2018–19	25 010	48.1	1.02	159	141–181	45 914	4.1	0.16	158	101–228
2019–20	24 228	55.2	0.88	153	136–176	41 766	5.3	0.41	153	99–218
2020–21	22 641	48.6	0.78	116	100–136	41 873	5.1	0.14	153	98–220
2021–22	21 273	55.3	0.37	-	-	38 657	5	0.36	-	-
2022–23	20 936	52.4	0.56	-	-	36 833	3.6	0.75	-	-
Large-vessel surface longline						**Small-vessel surface longline**				
2007–08	568 285	50.2	0.01	6	3–16	1 677 504	8.1	0.00	34	12–67
2008–09	809 230	97.2	0.00	2	2–4	2 306 403	6.5	0.01	43	18–79
2009–10	478 558	100	0.02	11	11–11	2 516 706	7.3	0.10	73	43–114
2010–11	503 370	100	0.01	3	3–3	2 684 809	6.4	0.00	52	23–94
2011–12	551 440	100.6	0.01	6	6–6	2 548 887	6.8	0.01	147	82–234
2012–13	487 520	100	0.00	2	2–2	2 389 412	3.1	0.14	144	84–224
2013–14	653 330	100	0.00	0	0–0	1 897 484	6.8	0.05	117	64–188
2014–15	622 300	99.4	0.00	3	3–3	1 791 086	6.0	0.04	110	60–178
2015–16	54 450	43.6	0.46	16	11–30	2 304 091	13.0	0.10	148	92–228
2016–17	0	-	-	-	-	2 094 236	16.5	0.05	130	79–201
2017–18	0	-	-	-	-	2 292 381	12.9	0.18	136	95–194
2018–19	0	-	-	-	-	2 056 724	9.4	0.11	194	117–301
2019–20	0	-	-	-	-	2 001 019	9.8	0.01	185	105–292
2020–21	0	-	-	-	-	1 601 419	11.5	0.10	121	70–197
2021–22	0	-	-	-	-	1 229 862	5.5	0.10	-	-
2022–23	0	-	-	-	-	1 591 724	3.2	0.20	-	-
Large-vessel bottom longline						**Small-vessel bottom longline**				
2007–08	14 123 096	21.8	0	1	0–5	27 371 507	1.8	0	17	4–37

2008–09	12 861 501	24.8	0	1	0–4	24 575 483	3.6	0	17	4–37
2009–10	13 607 740	12.6	0	1	0–4	26 846 031	2.7	0	15	4–34
2010–11	12 914 717	11.8	0	1	0–5	27 998 929	1.1	0	21	6–47
2011–12	11 560 277	17.5	0	1	0–3	26 312 456	0.3	0.02	20	6–41
2012–13	8 240 515	3.3	0	1	0–5	24 271 924	1.9	0	15	3–33
2013–14	16 448 081	11.7	0	2	0–7	24 415 574	4.1	0	16	4–34
2014–15	14 077 799	2.5	0	2	0–7	25 285 508	2.1	0	14	4–31
2015–16	18 603 012	10.8	0	2	0–7	24 887 874	2.5	0	14	3–31
2016–17	22 163 805	17.6	0	2	0–7	24 398 761	4.5	0	17	6–35
2017–18	16 481 655	31.4	0	1	0–4	23 696 662	3.0	0	13	3–28
2018–19	18 007 521	11.5	0	1	0–4	23 352 365	3.0	0	15	4–34
2019–20	17 601 499	17.6	0	4	1–10	22 954 506	5.8	0	37	15–69
2020–21	18 464 082	4.7	0	2	0–8	22 628 920	4.0	0	29	9–62
2021–22	19 225 567	23.3	0	-	-	18 211 656	4.0	0	-	-
2022–23	13 686 416	31.9	0	-	-	17 226 406	1.1	0	-	-

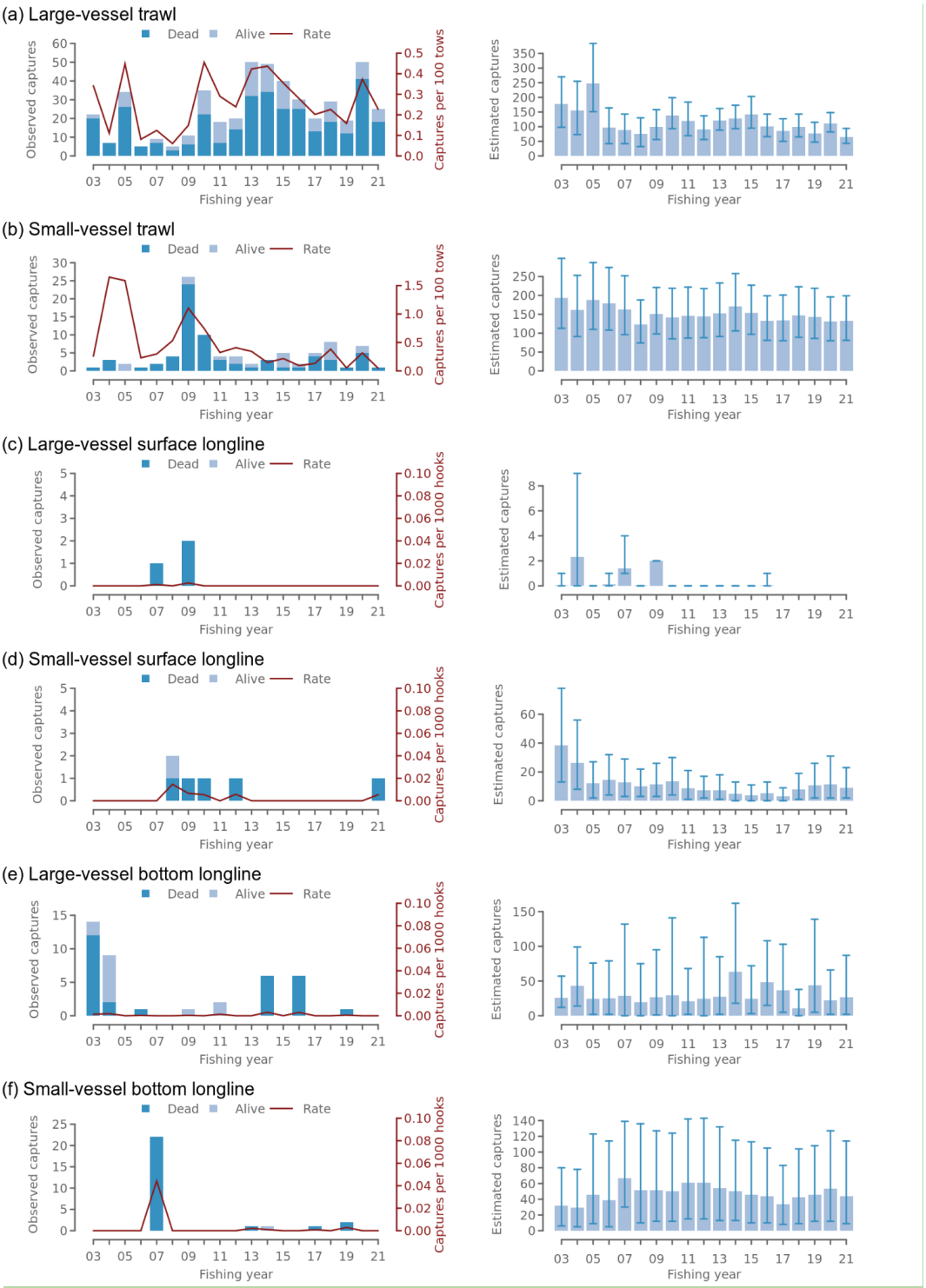


Figure MW.21: Captures of white-capped albatross in commercial fisheries in New Zealand's Exclusive Economic Zone (Protected species bycatch; estimates from PSC v7). Shown are (left panel) the number of observed captures and capture rate (number of captures per unit effort) and (right panel) the estimated mean number (95% credible interval, c.i.) of captures by fishing year for small (<28 m length) and large (≥28 m) vessels; observed capture rates are per 100 trawl tows or 1000 longline hooks. (Note different scales on the y axes.)

MW.4.2 MODELLING POPULATION-LEVEL IMPACTS OF FISHERIES INTERACTIONS

There is limited knowledge of demographic parameters and population trends for Chatham, Salvin's and white-capped albatrosses, limiting accurate population assessments. In addition, low or lack of observer coverage for some fisheries in New Zealand (e.g., small-vessel fisheries) and elsewhere prevent comprehensive bycatch assessments. The southern

subspecies of Buller's albatross has received considerable research attention, including monitoring and population surveys, but there is comparatively little known about the northern subspecies.

Information from quantitative population modelling is available for southern Buller's albatross, white-capped albatross, Chatham albatross

Where detailed population data are lacking, risk assessments provide a systematic approach to estimate population-level impacts of fisheries (and other threats) (see below).

MW.4.2.1 BULLER'S ALBATROSSES

Buller's albatrosses, particularly the southern subspecies, have received considerable research attention, including population monitoring and long-term mark-recapture observations. An assessment of the effects of fishing combined multiple datasets with estimates of fishing effort and bycatch to model potential impacts (Francis & Sagar 2012). The findings suggested that risk to the sustainability of the population has been small in the preceding 60 years, as adult survival had increased markedly over the same period. Nevertheless, recent changes such as slowing of population growth and decreasing adult survival, warranted the need for continued monitoring.

Currently, population trends of Buller's albatross at the Snares and Solander islands are considered to be increasing, and to be stable at Chatham Islands. Relatively little is known about juvenile survival.

The population trend of Buller's albatross is considered "stable" (BirdLife International 2024).

MW.4.2.2 CAMPBELL BLACK-BROWED ALBATROSS

There is limited recent information of the population trends and demographic parameters of Campbell black-browed albatross with the most recent censuses in 2006-2012 giving an estimate of 21,648 pairs (Sagar 2014b).

BirdLife International lists the population trend of Campbell black-browed albatross as increasing (BirdLife International 2024).

MW.4.2.3 CHATHAM ALBATROSS

There is limited information of the population trends and demographic parameters of Chatham albatross. The need for information also includes breeding success, and rates of adult and juvenile survival.

The population trend of Chatham albatross is ranked as "stable" (BirdLife International 2024).

MW.4.2.4 GREY-HEADED ALBATROSS

Most major populations of grey-headed albatross are either declining or the trend is unknown due to lack of regular, comparable surveys.

BirdLife International lists the population trend of grey-headed albatross as decreasing (BirdLife International 2024).

MW.4.2.5 SALVIN'S ALBATROSS

Salvin's albatross features prominently at the top of seabird species bycaught in New Zealand, but has received little research to determine its population size and trend, breeding dynamics and survival rate.

The population trend of this species is unknown (BirdLife International 2024).

MW.4.2.6 WHITE-CAPPED ALBATROSS

There are marked gaps in knowledge of white-capped albatross, including its population dynamics and trends. Fisheries pose a significant threat to this species, and it is the most frequently documented seabird species in observer bycatch records from New Zealand.

A previous modelling study of white-capped albatross at Auckland Islands attempted to estimate the impact of global fishing-related mortalities (Francis 2012). Comparing the predicted population trend at the time (based on data to 2010) with an estimate of annual bycatch mortality (about 17,000 birds per year globally, with 30% of these captures in New Zealand fisheries) did not explain the decline of 9.8% per year over the study period. The discrepancy was attributed to limited data on cryptic mortality. Subsequent surveys indicated considerable variability in counts across years, so that population trends were uncertain.

BirdLife International lists the population trend of white-capped albatross as decreasing (BirdLife International 2024).

MW.4.3 SEABIRD RISK ASSESSMENTS

MW.4.3.1 MULTISPECIES RISK ASSESSMENT FOR NEW ZEALAND

The recent multi-species risk assessment ranked seabird species into different risk categories, including the current mollymawk taxa (Edwards et al. 2023a, see Figure MW.22). Southern Buller's albatross was identified as the taxon to be at highest risk from fisheries, followed by Salvin's albatross and white-capped albatross (Edwards et al. 2023a). Southern Buller's albatross was the only taxon with a risk ratio greater than one (1.19, 95% credible interval, c.i.: 0.71–2.65), placing it in the "very high risk" category. For Salvin's albatross and white-capped albatross the risk category was "high risk"; the respective risk ratios were 0.69 (95% c.i: 0.35–1.69) for Savin's albatross and 0.50 (95% c.i: 0.29–1.07) for white-capped albatross. For Chatham albatross and northern Buller's albatross, the risk category was "medium risk". The risk ratio for Chatham albatross was 0.27 (95% c.i: 0.13–0.68), and for northern Buller's albatross was 0.19 (95% c.i: 0.10–0.43). For Campbell black-browed albatross and grey-headed albatross, the risk category was 'low'. The risk ratio for Campbell black-browed albatross was 0.05 (95% c.i: 0.03–0.14), and for grey-headed albatross was 0.03 (95% c.i: 0.01–0.14).

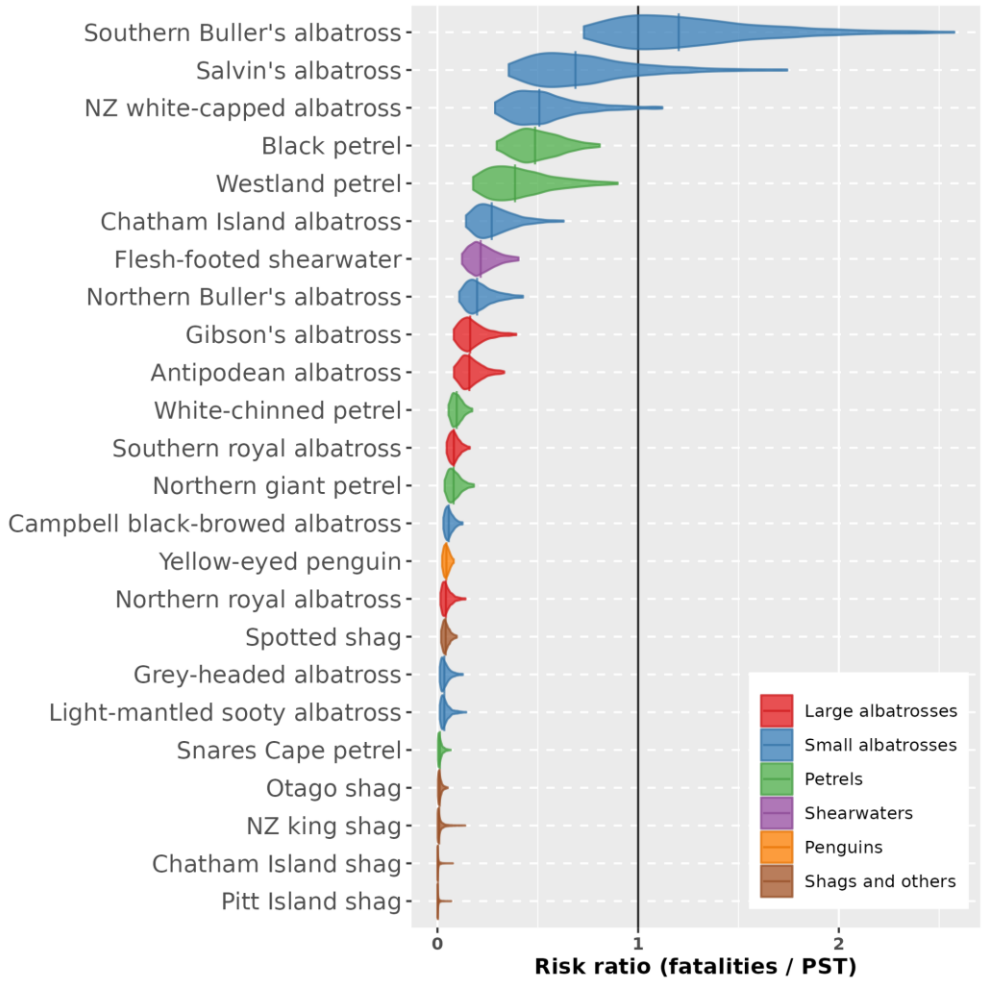


Figure MW.22: Risk ratio for different seabird taxa, generated from data from the 2023 New Zealand seabird risk assessment (Edwards et al. 2023a). The risk ratio is displayed on a logarithmic scale, with the threshold of the number of fishery-related deaths (fatalities) equalling the Population Sustainability Threshold (PST) represented by the black vertical line, and the distribution of the risk ratios within their 95% credible interval indicated by the coloured shapes, including the median risk ratio (vertical line). Seabird taxa are listed in decreasing order of the median risk ratio. Taxa with a risk ratio of almost zero were not included (95% upper limit less than 0.05).

MW.4.3.2 MULTISPECIES RISK ASSESSMENT FOR THE SOUTHERN HEMISPHERE

MW.4.3.2.1 LONGLINE AND TRAWL FISHERIES

Application of the SEFRA framework to assess the risk of fisheries to seabirds in the Southern Hemisphere included New Zealand taxa and also other albatross and petrel species that are under the ACAP (Edwards et al. 2023b). In comparison to an earlier Southern Hemisphere seabird risk assessment that only included surface-longline fisheries, the recent analysis also included trawl and bottom longlining. Nevertheless, the lack of observer capture data from outside New Zealand's EEZ meant that results from the most recent risk assessment were considered preliminary only. Based on these preliminary data, the risk assessment indicated that white-capped albatross, southern Buller's albatross, Salvin's albatross, and northern Buller's albatross were amongst the species identified to be at highest risk from Southern Hemisphere fisheries. All four *Thalassarche* taxa were in the very high risk category. Campbell, Chatham and grey-headed albatrosses were in the high risk category.

MW.4.3.2.2 SURFACE-LONGLINE FISHERIES

An earlier risk assessment for fisheries in the Southern Hemisphere focused on the risk posed to seabirds by surface-longline fisheries (Abraham et al 2019). This risk assessment was based on observer data from Japan, South Africa, Australia, and New Zealand, because these countries have species-specific bycatch data. Effort data were used from regional fisheries management organisations and used to estimate total seabird bycatch. The observed captures were related to the overlap between the observed fishing and the distributions of the seabirds (with the latter derived from tracking data where possible). From the fitted risk assessment model, captures were then estimated across all surface-longline fishing effort in the Southern Hemisphere (as reported to regional fisheries management organisations). The estimates did not include any estimates of cryptic mortality or survival of released seabirds.

In this assessment, there were nine taxa for which the median risk ratio exceeded one, with Buller's albatross included in this high-risk grouping (Figure MW.23).

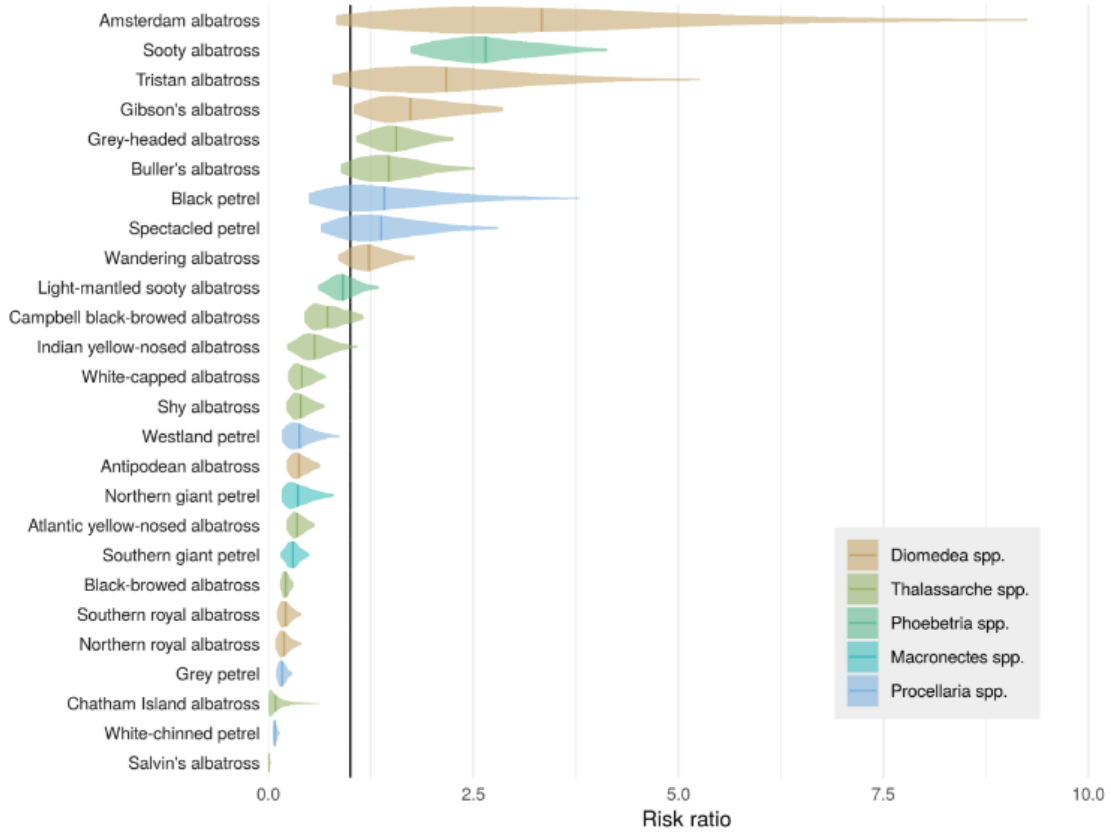


Figure MW.8: Risk ratio for different seabird taxa included in the Southern Hemisphere seabird risk assessment (from Abraham et al. 2019). The risk ratio is the ratio of the estimated annual captures (EAC) in Southern Hemisphere surface-longline fisheries to the Population Sustainability Threshold (PST). No cryptic mortality was included and the potential survival of captured seabirds that were released alive was not considered. Black line indicates a risk ratio of 1. For each species, the distribution of the risk ratio within the 95% credible interval is indicated by the coloured shapes, with the vertical line including the median risk ratio.

MW.4.4 SEABIRD CAPTURES IN NON-COMMERCIAL FISHERIES

A New Zealand assessment of bycatch in non-commercial fisheries included a mollymawk capture (*Thalassarche* sp.) that had occurred on the day fishers were interviewed in a boat ramp survey in Otago, and also an ad hoc mollymawk capture that was described in the recalling of previous incidents (Abraham et al. 2010). Overall, there were 11 mollymawk captures included in the total 15 captures of albatrosses. The bird banding recovery database (BIOWEB) administered by

Department of Conservation) contained fishing-related band recoveries from Buller's albatross, Chatham albatross, Salvin's albatross, and white-capped albatross, but these records rarely include information that allows distinction between non-commercial and commercial fisheries.

A recent analysis of data from boat ramp surveys and from the National Panel Survey of recreational fishers assessed seabird capture records from the 2017–18 fishing year; however, these records are not species-specific, but per bird grouping (Abraham 2020). Capture records from the boat ramp surveys included 15 captures of seabirds identified as "albatross"; responses in the National Panel Survey included 32 captures of "large albatrosses", including one bird group that had been described as "mollyhawks" in the responses.

There are currently no self-reported capture records of any mollymawk species by recreational fishers in the online interactive application by Department of Conservation (https://docnewzealand.shinyapps.io/protectedspeciescatch/; accessed 20 March 2024).

MW.4.5 MANAGING FISHERIES INTERACTIONS

See general seabird chapter.

MW.4.6 SOURCES OF UNCERTAINTY

See general seabird chapter.

MW.5 INDICATORS AND TRENDS

Population size	Multiple species and populations: see Taylor (2000) and updated information.
Population trend	Multiple species and populations: see Taylor (2000) and updated information.
Threat status	Campbell black-browed albatross New Zealand: Naturally Uncommon (Robertson et al. 2021). Chatham albatross New Zealand: Naturally Uncommon (Robertson et al. 2021). Salvin's albatross New Zealand: Nationally Critical (Robertson et al. 2021). White-capped albatross New Zealand: At risk-declining (Robertson et al. 2021). Northern Buller's albatross New Zealand: Naturally Uncommon (Robertson et al. 2021). Southern Buller's albatross New Zealand: At risk-declining (Robertson et al. 2021). Buller's albatross (species) IUCN: Near Threatened (BirdLife International (2024).
Number of interactions	In the 2020–21 fishing year, there were 422 estimated captures (excluding cryptic mortalities) of white-capped albatross, 278 estimated captures of Salvin's albatross, and 213 estimated captures of Buller's albatross across all trawl and longline fisheries (estimates from PSC v7). Most of these estimated captures were in the small-vessel trawl fisheries; there are currently no large surface-longline vessels operating in New Zealand's EEZ.

Bird grouping	Large trawl	Small trawl	Large BLL	Small BLL	Large SLL	Small SLL	All these methods
White-capped albatross	116	153	2	29	0	121	422
Salvin's albatross	65	133	27	44	0	9	278
Buller's albatrosses	62	37	7	40	0	66	213

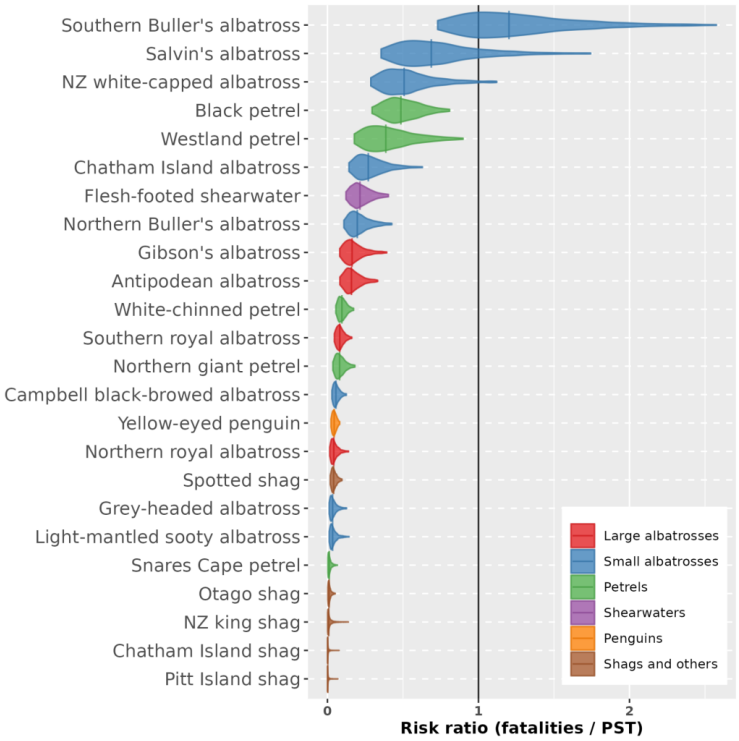
	Other albatrosses	15	20	11	63	0	90	200
	Sooty shearwater	83	108	6	25	0	2	223
	White-chinned petrel	157	18	262	432	0	86	955
	Black petrel	1	24	0	187	0	33	245
	Grey petrel	2	3	14	110	0	11	140
	Flesh-footed shearwater	1	56	1	361	0	47	465
	Other birds	36	106	27	266	0	36	472
	All birds combined	538	657	357	1 560	0	501	3 612

Trends in interactions

Considering capture estimates over time, estimates for white-capped albatross, largely in the large-vessel fleet, declined after the 2004–05 fishing year. At the same time, estimated captures of this species increased in small-vessel surface-longline fisheries and remained relatively high into 2020–21. For Salvin's albatross, capture estimates showed some fluctuations over time, with consistently highest estimates in trawl fisheries. Buller's albatrosses had some fluctuations in capture estimates across all fisheries.



The most recent multispecies risk assessment (Edwards et al. 2023a) estimated that southern Buller's albatross was the seabird taxon most at risk from commercial fisheries in New Zealand waters. It was the only species in the very high risk category. Other species at risk, and in the high risk ranking, were Salvin's albatross, white-capped albatross, black petrel and Westland petrel.



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