

## INT 2022/02 IDENTIFICATION OF SEABIRDS CAPTURED IN NEW ZEALAND FISHERIES

### QUARTERLY REPORT: 1 July 2023 to 31 December 2023.

Elizabeth Bell

Wildlife Management International Ltd, PO Box 607, Blenheim 7240, [biz@wmil.co.nz](mailto:biz@wmil.co.nz)

#### Scope of work completed:

New Zealand waters support a diverse assortment of seabird species, and much of the commercial fishing activity in the region overlaps with seabird foraging ranges. The accurate identification of seabirds captured in New Zealand fisheries is vital for determining the potential impact of fisheries on these populations.

This report summarises identification work completed on dead seabirds caught and returned from commercial fishing vessels, and identification work using photographs or Central Observer Database (COD) records from the Ministry of Primary Industries, across the 1 July 2023 to 31 December 2023 fishing period.

There was a total of 132 seabirds captured and returned, photographed, or recorded as interactions from New Zealand commercial fisheries, primarily trawl vessels, between 1 July 2023 and 31 December 2023.

There have been 56 seabirds from 12 taxa necropsied from this period. These seabirds were caught on 17 vessels (12 seabirds caught on trawl vessels, 26 caught on longline vessels, and four caught on set net vessels). Due to the length of some fishing trips and subsequent transport to WMIL storage facilities in Blenheim it is possible some birds captured in this period may not have been received at the time of writing. Any further specimens received will be reported at a later date.

No banded seabirds have been returned during this period.

Government observers correctly identified 75.0% of the seabirds to species level of those that were returned for necropsy, and identified a further 17.8% into the correct group (e.g., *Procellaria* petrel for white-chinned petrel). Three seabirds (7.1%) were incorrectly identified.

Examination of the Central Observer Database (COD) extract and images provided for this period gave a total of 76 seabird records that were reported as interacting with fishing vessels but carcasses not retained. These incidents were categorised as photographed (*photo*,  $n = 19$ ) or not photographed (*interaction*;  $n = 57$ ). These interactions were from 35 fishing vessels (66 seabirds caught on trawl vessels, eight seabirds caught on longline vessels, and two seabirds caught on set-net vessels). These figures may include some non-capture interactions such as vessel impacts. Due to a lag between observer data and images being entered into the COD, it is possible some interactions within this period may not have been received at the time of writing. Any further specimens will be reported at a later date.

Details relating to each specimen are available on request from the Manager, Conservation Services Programme, DOC (email: [csp@doc.govt.nz](mailto:csp@doc.govt.nz)).

In some necropsy cases (e.g. specimens damaged by fishing gear and machinery, or by sea lice) it was not possible to collect all data; these categories are reported as 'unknown' and appear as such in the relevant tables.

Individual seabirds (i.e. necropsy, photo, or interaction birds) were allocated a unique necropsy number. If multiple photographs were received for an individual bird, the best image was used to match to the corresponding Microsoft Access database entry, but all images were used to confirm species identification. All data and associated information (such as vessel name, position, date of capture, time of capture, possible identification, etc.) for each seabird specimen, photograph or interaction was entered into a Microsoft Access database.

**Table 1:** Common and scientific names of seabirds captured and returned (necropsy), photographed (photo), or listed as an interaction (interaction) from New Zealand fisheries between 1 July 2023 and 31 December 2023.

COMMON NAME	TE REO NAME	SCIENTIFIC NAME	NECROPSY	PHOTO	INTERACTION	TOTAL
Albatross (unidentified)	Toroa				1	1
Buller's albatross	Toroa	<i>Thalassarche bulleri bulleri</i>	8	10		18
Buller's and Pacific albatross	Toroa	<i>Thalassarche bulleri</i>			10	10
Campbell albatross	Toroa	<i>Thalassarche impavida</i>	1			1
Cape petrel	Karetao hurukoko	<i>Daption capense</i>	1	1	1	3
Cape petrels		<i>Daption</i> spp.		1	9	10
Chatham Island albatross	Toroa	<i>Thalassarche eremita</i>	1			1
Common diving petrel	Kuaka	<i>Pelecanoides urinatrix</i>			1	1
Fairy prion	Titi wainui	<i>Pachyptila turtur</i>		1	1	2
Grey-backed storm petrel	Reoreo	<i>Garrodia nereis</i>		1		1
Little black shag	Kawau tūi	<i>Phalacrocorax sulcirostris</i>			1	1
New Zealand white-capped albatross	Toroa	<i>Thalassarche steadi</i>	9	2	6	17
Northern giant petrel	Pāngurunguru	<i>Macronectes halli</i>			1	1
Otago shag	Matapo	<i>Leucocarbo chalconotus</i>	2			2
Petrel, prion, and shearwater (unidentified)					6	6
Prion (unidentified)		<i>Pachyptila</i> spp.			3	3
Royal albatross (unidentified)	Toroa	<i>Diomedea</i> spp.			3	3
Salvin's albatross	Toroa	<i>Thalassarche salvini</i>	14	3	10	27
Shag (unidentified)		<i>Phalacrocoracidae</i>			1	1
Small albatross (unidentified)		<i>Thalassarche</i> spp.			1	1
Sooty shearwater	Titi	<i>Puffinus griseus</i>	11			11
Southern black-browed albatross	Toroa	<i>Thalassarche melanophrys</i>	1			1
Southern royal albatross	Toroa	<i>Diomedea epomophora</i>	1			1
Storm petrel (unidentified)					1	1
Westland petrel	Tāiko	<i>Procellaria westlandica</i>	4			4
White-chinned petrel	Karetao kauae mā	<i>Procellaria aequinoctialis</i>	3		1	4
<b>TOTAL</b>			<b>56</b>	<b>19</b>	<b>57</b>	<b>132</b>

**Table 2:** Numbers of seabirds returned from observed fishing vessels between 1 July 2023 and 31 December 2023, by species, sex (M = male, F = female, U = unknown), and age class (A = adult, SA = sub-adult, J = juvenile, U = unknown).

SPECIES	SEX			AGE				TOTAL
	M	F	U	A	SA	J	U	
Buller's albatross	2	5	1	7	1			8
Campbell albatross	1			1				1
Cape petrel	1			1				1
Chatham Island albatross	1			1				1
New Zealand white-capped albatross	4	5		3	5		1	9
Otago shag	1		1	2				2
Salvin's albatross	6	6	2	13	1			14
Sooty shearwater	6	5		11				11
Southern black-browed albatross		1		1				1
Southern royal albatross		1		1				1
Westland petrel	2	2		4				4
White-chinned petrel	2	1		3				3
<b>TOTAL</b>	<b>26</b>	<b>26</b>	<b>4</b>	<b>48</b>	<b>7</b>		<b>1</b>	<b>56</b>
<b>% TOTAL</b>	<b>46.4</b>	<b>46.4</b>	<b>7.2</b>	<b>85.7</b>	<b>12.5</b>		<b>1.8</b>	

**Table 3:** Numbers of adult seabirds returned from observed fishing vessels between 1 July 2023 and 31 December 2023, by species and breeding status (BA = breeding adult, NB = non-breeding adult, U = adult of unknown breeding status).

Species	Breeder	Non-breeder	Pre-breeder	Unknown	TOTAL
Buller's albatross	3	1		4	8
Campbell albatross	1				1
Cape petrel				1	1
Chatham Island albatross	1				1
New Zealand white-capped albatross	1		1	7	9
Otago shag				2	2
Salvin's albatross	11			3	14
Sooty shearwater	7			4	11
Southern black-browed albatross				1	1
Southern royal albatross			1		1
Westland petrel	2			2	4
White-chinned petrel	2	1			3
<b>TOTAL</b>	<b>28</b>	<b>2</b>	<b>2</b>	<b>24</b>	<b>56</b>
<b>% TOTAL</b>	<b>50.0</b>	<b>3.6</b>	<b>3.6</b>	<b>42.9</b>	

**Table 4:** Stomach contents of seabirds killed and returned on fishing vessels between 1 July 2023 and 31 December 2023. Note: Seabirds can have multiple items in their stomachs resulting in higher content figures than the total number of seabirds killed and returned ( $n = 56$ ).

Species	Empty	Missing	Bait	Offal or discards	Natural	Proventricular oil	Barnacles, rocks, seaweed	Worms
Buller's albatross	4			1	2	2		
Campbell albatross				1	1			
Cape petrel		1						
Chatham Island albatross			1					
New Zealand white-capped albatross	3			5	3			1
Otago shag				1	2			
Salvin's albatross	5	2	1	4	4		2	
Sooty shearwater	1		1	7	9			
Southern black-browed albatross	1							
Southern royal albatross				1				1
Westland petrel	1		1	1	2			
White-chinned petrel	1			2	2			
<b>TOTAL</b>	<b>16</b>	<b>3</b>	<b>4</b>	<b>23</b>	<b>25</b>	<b>2</b>	<b>2</b>	<b>2</b>
<b>TOTAL %</b>	<b>28.6</b>	<b>5.4</b>	<b>7.1</b>	<b>41.1</b>	<b>44.6</b>	<b>3.6</b>	<b>3.6</b>	<b>3.6</b>

**Table 5:** Gizzard contents of seabirds killed and returned on fishing vessels between 1 July 2023 and 31 December 2023. Note: Seabirds can have multiple items in their gizzards resulting in higher content figures than the total number of seabirds killed and returned ( $n = 56$ ).

Species	Empty	Missing	Squid beaks	Otoliths	Fish or squid eyeballs	Fish bones or skin	Seeds, stones, or shell	Plastic, metal, or string	Krill, feathers, barnacles, seaweed	Worms
Buller's albatross	4		2	2	2	2	2			
Campbell albatross					1	1				
Cape petrel					1	1				
Chatham Island albatross								1		
New Zealand white-capped albatross	1		5	2	2	3				
Otago shag	1									
Salvin's albatross	1	3	5	4	3	8	1		2	
Sooty shearwater	1		5	3	1	4		6		2
Southern black-browed albatross			1							
Southern royal albatross			1		1	1	1	1		
Westland petrel			3	1		1	1	1		1
White-chinned petrel			2	2	1	2		1		1
<b>TOTAL</b>	<b>8</b>	<b>3</b>	<b>24</b>	<b>14</b>	<b>12</b>	<b>23</b>	<b>5</b>	<b>10</b>	<b>2</b>	<b>4</b>
<b>TOTAL %</b>	<b>14.3</b>	<b>5.4</b>	<b>42.9</b>	<b>25.0</b>	<b>21.4</b>	<b>41.1</b>	<b>8.9</b>	<b>17.9</b>	<b>3.6</b>	<b>7.1</b>

**Table 6:** Number of seabirds ( $n=33$ ) returned from observed fishing vessels between 1 July 2023 and 31 December 2023, by species, fishery type (Bottom/Midwater Trawl or Longline), and location of capture.

Species	Bottom/Midwater Trawl				Longline		Set Net	UNCONFIRMED <sup>1</sup>
	Net	Cod-end	Warp	Deck strike	Hook	Deck strike		
Buller's albatross	4				2			2
Campbell albatross	1							
Cape petrel							1	
Chatham Island albatross					1			
New Zealand white-capped albatross	1				8			
Otago shag							2	
Salvin's albatross	2				1			11
Sooty shearwater	1				9			1
Southern black-browed albatross					1			
Southern royal albatross					1			
Westland petrel	2				1		1	
White-chinned petrel	1				2			
<b>TOTAL</b>	<b>12</b>				<b>26</b>		<b>4</b>	<b>7</b>
<b>TOTAL (%)</b>	21.4				46.4		7.1	25.0

<sup>1</sup> Fishing type to be confirmed using the next COD extract for the latest information.

**Table 7:** Number of seabirds returned from observed fishing vessels between 1 July 2023 and 31 December 2023, by species and injury type. Note: Seabirds can have multiple injuries resulting in higher figures than the total number of seabirds killed and returned ( $n = 56$ ).

SPECIES	NO VISIBLE INJURIES	HOOK IN WING	HOOK IN THROAT	BROKEN WING	BROKEN LEG	BROKEN BILL	LACERATIONS, SEVERED BODY PARTS	CRUSHED	GREASED	LICED	WATERLOGGED
Buller's albatross	2		1	3		1	3	2	1	1	2
Campbell albatross	1										
Cape petrel				1			1				1
Chatham Island albatross			1								
New Zealand white-capped albatross	3			1		1	1	1			6
Otago shag							1			1	
Salvin's albatross	2			7	2	1	4	6	2	2	8
Sooty shearwater	1	2		2	1	1	7	1			6
Southern black-browed albatross							1				1
Southern royal albatross			1								
Westland petrel	1		1				2				1
White-chinned petrel	1	1		1	1						1
<b>TOTAL</b>	<b>11</b>	<b>3</b>	<b>4</b>	<b>15</b>	<b>4</b>	<b>4</b>	<b>20</b>	<b>10</b>	<b>3</b>	<b>4</b>	<b>26</b>
<b>TOTAL (%)</b>	19.6	5.4	7.1	26.8	7.1	7.1	35.7	17.9	5.4	7.1	46.4

**Table 8:** Comparison of fat scores in seabirds returned between 1 July 2023 and 31 December 2023 (1= no fat to 5 = extremely fat, U = unknown) by species.

SPECIES	FAT SCORE					
	1	2	3	4	5	U
Buller's albatross	5	1	1			1
Campbell albatross			1			
Cape petrel						1
Chatham Island albatross	1					
New Zealand white-capped albatross	4		4	1		
Otago shag		1				1
Salvin's albatross	3	1	2	6		2
Sooty shearwater	4	4	1	1	1	
Southern black-browed albatross		1				
Southern royal albatross			1			
Westland petrel	1	3				
White-chinned petrel		1	1	1		
<b>TOTAL</b>	<b>18</b>	<b>12</b>	<b>11</b>	<b>9</b>	<b>1</b>	<b>5</b>
<b>TOTAL (%)</b>	<b>32.1</b>	<b>21.4</b>	<b>19.6</b>	<b>16.1</b>	<b>1.8</b>	<b>8.9</b>