



## **INT 2019/02 IDENTIFICATION OF SEABIRDS CAPTURED IN NEW ZEALAND FISHERIES QUARTERLY REPORT: 1 July 2021 to 31 March 2022.**

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### **Scope of work completed:**

New Zealand waters support a diverse range of seabird species, and much of the commercial fishing activity in the region overlaps with their 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 birds caught and returned and/or identifications using photographs or Central Observer Database (COD) records from Ministry of Primary Industries from 1 July 2021 to 31 March 2022.

There were a total of 361 seabirds captured and returned, photographed, or listed as interactions from New Zealand commercial fisheries, primarily trawl vessels, between 1 July 2021 and 31 March 2022 (Table 1).

There have been 169 seabirds from 20 taxa necropsied from this period (Table 1). These seabirds were caught on 39 vessels: 27 trawl vessels (87 seabirds), 8 longline vessels (55 seabirds), 2 purse seine vessels (2 seabirds) and 2 setnet vessel (16 seabirds). An additional nine seabirds need to have their fishing vessel type confirmed (this will be obtained from the next COD extract). Due to the length of some fishing trips and subsequent transport 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.

Government observers correctly identified 71% of the dead seabirds that were returned for necropsy and identified 17.8% into the correct group (i.e., *Procellaria* petrel for white-chinned petrel).

Examination of the Central Observer Database (COD) extract or images provided for this period gave a total of 192 birds that were reported captured (i.e. *Interaction*;  $n = 117$ ) or photographed (i.e. *Photo*;  $n = 75$ ) as seabird interactions from 41 fishing vessels: 32 trawl vessels (170 seabirds), and 9 longline vessels (22 seabirds) and may include some non-capture interactions such as vessel impacts. Due to a lag between Observer data and images being entered into 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 (i.e. those specimens damaged by fishing gear and machinery, or by sea lice) it was not possible to collect all data; these 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 are received of an individual bird, the best image is used to match to the corresponding Access database entry, but all images are 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 an Access database.

**Table 1:** Common and scientific names of seabirds captured and returned, photographed or listed as an interaction from New Zealand fisheries between 1 July 2021 and 31 March 2022.

COMMON NAME	SCIENTIFIC NAME	NECROPSY	PHOTO	INTERACTION	TOTAL
<b>Albatross (unidentified)</b>				4	<b>4</b>
<b>Black (Parkinson's) petrel</b>	<i>Procellaria parkinsoni</i>		1	1	<b>2</b>
<b>Buller's albatross</b>	<i>Thalassarche bulleri bulleri</i>	17	1		<b>18</b>
<b>Buller's and Pacific albatross</b>	<i>Thalassarche bulleri</i>		1	3	<b>4</b>
<b>Campbell albatross</b>	<i>Thalassarche impavida</i>	1			<b>1</b>
<b>Cape petrels</b>	<i>Daption spp.</i>			2	<b>2</b>
<b>Chatham Island albatross</b>	<i>Thalassarche eremita</i>	1			<b>1</b>
<b>Common diving petrel</b>	<i>Pelecanoides urinatrix</i>	7		3	<b>10</b>
<b>Fairy prion</b>	<i>Pachyptila turtur</i>	1	1	2	<b>4</b>
<b>Flesh-footed shearwater</b>	<i>Puffinus carneipes</i>	3	6		<b>9</b>
<b>Fluttering shearwater</b>	<i>Puffinus gavia</i>	2			<b>2</b>
<b>Giant petrel (unidentified)</b>	<i>Macronectes spp.</i>			3	<b>3</b>
<b>Great albatross (unidentified)</b>	<i>Diomedea spp.</i>			5	<b>5</b>
<b>Grey-backed storm petrel</b>	<i>Garrodia nereis</i>	1			<b>1</b>
<b>Grey-headed albatross</b>	<i>Thalassarche chrysostoma</i>			2	<b>2</b>
<b>Mid-sized petrel &amp; shearwater (unidentified)</b>				1	<b>1</b>
<b>New Zealand white-capped albatross</b>	<i>Thalassarche steadi</i>	19	2	16	<b>37</b>
<b>Northern giant petrel</b>	<i>Macronectes halli</i>	3			<b>3</b>
<b>Otago shag</b>	<i>Phalacrocorax chalconotus</i>	15			<b>15</b>
<b>Petrel (unidentified)</b>			2	9	<b>11</b>
<b>Petrel, prions, and shearwaters (unidentified)</b>				7	<b>7</b>
<b>Prion (unidentified)</b>	<i>Pachyptila spp.</i>			3	<b>3</b>
<b>Procellaria petrel (unidentified)</b>	<i>Procellaria spp.</i>			5	<b>5</b>
<b>Pterodroma petrel (unidentified)</b>	<i>Pterodroma spp.</i>			1	<b>1</b>
<b>Red-billed gull</b>	<i>Larus scopulinus</i>			1	<b>1</b>
<b>Salvin's albatross</b>	<i>Thalassarche salvini</i>	21	12	22	<b>55</b>
<b>Shearwater (unidentified)</b>	<i>Puffinus spp.</i>			1	<b>1</b>
<b>Small albatross (unidentified)</b>	<i>Thalassarche spp.</i>			1	<b>1</b>
<b>Snares cape petrel</b>	<i>Daption capense australe</i>	1			<b>1</b>
<b>Sooty shearwater</b>	<i>Puffinus griseus</i>	9	3	3	<b>15</b>
<b>South Georgia diving petrel</b>	<i>Pelecaniodes georgicus</i>	1			<b>1</b>
<b>Southern black-browed albatross</b>	<i>Thalassarche melanophris</i>		1		<b>1</b>
<b>Southern royal albatross</b>	<i>Diomedea epomophora</i>	4		2	<b>6</b>
<b>Storm petrel (unidentified)</b>				1	<b>1</b>
<b>Wandering (Snowy) albatross</b>	<i>Diomedea exulans</i>			1	<b>1</b>
<b>Westland petrel</b>	<i>Procellaria westlandica</i>	9	2	1	<b>12</b>
<b>White-bellied storm petrel</b>	<i>Fregatta grallaria</i>		1		<b>1</b>
<b>White-chinned petrel</b>	<i>Procellaria aequinoctialis</i>	50	42	17	<b>109</b>
<b>White-faced storm petrel</b>	<i>Pelagodroma marina</i>	2			<b>2</b>
<b>Yellow-eyed penguin</b>	<i>Megadytes antipodes</i>	2			<b>2</b>
<b>Total</b>		<b>169</b>	<b>75</b>	<b>117</b>	<b>361</b>

**Table 2:** Species and numbers of seabirds killed and returned from observed fishing vessels between 1 July 2021 and 31 March 2022, by sex (M = male, F = female, U = unknown) and age (A = adult, BA = breeding adult, NB = non-breeding adult, SA = sub-adult, I = immature and J = juvenile, U = unknown).

SPECIES	SEX			AGE							TOTAL	% TOTAL	
	M	F	U	A	B	NB	SA	I	J	U			
Buller's albatross	7	8	2	16	7	1					1	17	10.1%
Campbell albatross	1			1								1	0.6%
Chatham Island albatross		1		1	1							1	0.6%
Common diving petrel	2	3	2	7								7	4.1%
Fairy prion	1			1								1	0.6%
Flesh-footed shearwater	2	1		3	1							3	1.8%
Fluttering shearwater	1	1		2	1							2	1.2%
Grey-backed storm petrel	1			1								1	0.6%
NZ white-capped albatross	11	8	1	14	8	2	5					19	11.2%
Northern giant petrel		3		3								3	1.8%
Otago shag	7	7	1	7	1				8			15	8.9%
Salvin's albatross	13	6	2	20	13	1					1	21	12.4%
Snares cape petrel	1			1	1							1	0.6%
Sooty shearwater	7	2		8	4				1			9	5.3%
South Georgia diving petrel			1								1	1	0.6%
Southern royal albatross	2	2		4	2							4	2.4%
Westland petrel	6	2	1	9	4	2						9	5.3%
White-chinned petrel	39	9	2	50	22	1						50	29.6%
White-faced storm petrel	1	1		2								2	1.2%
Yellow-eyed penguin	1	1							2			2	1.2%
<b>TOTAL</b>	<b>103</b>	<b>55</b>	<b>12</b>	<b>150</b>	<b>65</b>	<b>7</b>	<b>5</b>	<b>0</b>	<b>11</b>	<b>3</b>	<b>169</b>		
<b>% TOTAL</b>	<b>60.9%</b>	<b>32.5%</b>	<b>7.1%</b>	<b>88.8%</b>	<b>38.5%</b>	<b>4.1%</b>	<b>2.6%</b>		<b>6.5%</b>	<b>1.8%</b>			

**Table 3:** Stomach contents of seabirds killed and returned on fishing vessels between 1 July 2021 and 31 March 2022.Note: Birds can have multiple items in the stomachs resulting in higher content figures than the total number of seabirds killed and returned ( $n = 169$ ).

SPECIES	EMPTY	MISSING	BAIT	OFFAL (OR DISCARDS)	NATURAL	BARNACLES OR SEAWEED	PLASTIC	PROVENTRICULAR OIL	WORMS
Buller's albatross	4	3	1	8	3	2		1	1
Campbell albatross			1	1					
Chatham Island albatross				1					
Common diving petrel	3	2			2				
Fairy prion	1								
Flesh-footed shearwater	2		1	1					
Fluttering shearwater					1		1		
Grey-backed storm petrel	1								
NZ white-capped albatross	6	1		14	2				
Northern giant petrel			1	3	3			2	1
Otago shag				20	6	1		1	9
Salvin's albatross	5	2		19	4				
Snares cape petrel				1				1	
Sooty shearwater	2		1	6	2			3	
South Georgia diving petrel	1								
Southern royal albatross	2			3					
Westland petrel		1	1	8					
White-chinned petrel	11	2	14	29				13	2
White-faced storm petrel	1				1				
Yellow-eyed penguin	1			1	1	1			
<b>TOTAL</b>	<b>40</b>	<b>11</b>	<b>20</b>	<b>115</b>	<b>25</b>	<b>4</b>	<b>1</b>	<b>21</b>	<b>13</b>
<b>% TOTAL</b>	<b>23.7%</b>	<b>6.5%</b>	<b>11.8%</b>	<b>68%</b>	<b>14.8%</b>	<b>2.4%</b>	<b>0.6%</b>	<b>12.4%</b>	<b>7.7%</b>

**Table 4:** Gizzard contents of seabirds killed and returned on fishing vessels between 1 July 2021 and 31 March 2022.Note: Birds can have multiple items in the gizzard resulting in higher content figures than the total number of seabirds killed and returned ( $n = 169$ ).

SPECIES	EMPTY	MISSING	SQUID BEAKS	OTOLITHS	EYEBALLS	BONES OR SKIN	PLASTIC	WORMS	STONES, BARNACLES, FEATHERS, SEAWEED
Buller's albatross	3	3	2		1	4		2	3
Campbell albatross						1			
Chatham Island albatross									2
Common diving petrel	4	1				3			
Fairy prion	1								
Flesh-footed shearwater				1		4	1		
Fluttering shearwater						1	1		
Grey-backed storm petrel	1								
NZ white-capped albatross	4		7	1	3	8		1	1
Northern giant petrel			1		4	2	1	1	3
Otago shag	1								
Salvin's albatross	3	2	3	4	6	15		1	1
Snares cape petrel						1		1	
Sooty shearwater	2		3	2	1	3	1	1	
South Georgia diving petrel	1								
Southern royal albatross			3		3	2		2	
Westland petrel		1	8	4	1	6		3	1
White-chinned petrel	1	3	39	8	3	24	1	22	1
White-faced storm petrel				2		1			1
Yellow-eyed penguin									1
<b>TOTAL</b>	<b>21</b>	<b>10</b>	<b>66</b>	<b>22</b>	<b>22</b>	<b>75</b>	<b>5</b>	<b>34</b>	<b>14</b>
<b>% TOTAL</b>	<b>12.4%</b>	<b>5.9%</b>	<b>39.1%</b>	<b>13%</b>	<b>13%</b>	<b>44.4%</b>	<b>3%</b>	<b>20.1%</b>	<b>8.3%</b>

**Table 5:** Number of seabirds of each species killed and returned from observed fishing vessels between 1 July 2021 and 31 March 2022, by fisheries type and location of capture.

SPECIES	BOTTOM/MIDWATER TRAWL						SETNET	LONGLINE		UNCONFIRMED <sup>1</sup>	TOTAL
	NET	COD-END	LENGTHENER	OTHER	WARP	DECK STRIKE		HOOK	DECK STRIKE		
Buller's albatross	8				5			2			17
Campbell albatross								1			1
Chatham Island albatross					1						1
Common diving petrel	3					4					7
Fairy prion	1										1
Flesh-footed shearwater								2		1	3
Fluttering shearwater	1							1			2
Grey-backed storm petrel						1					1
NZ white-capped albatross	5	1		1	2			10			19
Northern giant petrel	2			1							3
Otago shag							15				15
Salvin's albatross	13		1		7						21
Snares cape petrel				1							1
Sooty shearwater	7			1				1			9
South Georgia diving petrel										1	1
Southern royal albatross	3				1						4
Westland petrel	3							4			9
White-chinned petrel	17			2				28		1	50
White-faced storm petrel						2					2
Yellow-eyed penguin							1			1	2
<b>Total</b>	<b>63</b>	<b>1</b>	<b>1</b>	<b>6</b>	<b>16</b>	<b>7</b>	<b>16</b>	<b>55</b>		<b>4</b>	<b>169</b>
<b>% Total</b>	<b>37.3%</b>	<b>0.6%</b>	<b>0.6%</b>	<b>3.6%</b>	<b>9.5%</b>	<b>4.1%</b>	<b>9.5%</b>	<b>32.5%</b>		<b>2.4%</b>	

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

**Table 6:** Number of seabirds killed and returned from observed fishing vessels between 1 July 2021 and 31 March 2022, by injury.Note: Birds can have multiple injuries resulting in higher figures than the total number of seabirds killed and returned ( $n = 72$ ).

SPECIES	NO INJURIES	HOOK					BROKEN BONES	LACERATIONS, SEVERED BODY PARTS	CRUSHED	GREASED	LICED	WATERLOGGED
		BODY	WING	BILL	THROAT	UNKNOWN <sup>2</sup>						
Buller's albatross	2			1	1		7	12	1	3		1
Campbell albatross							1					
Chatham Island albatross										1		
Common diving petrel	1						1		4			1
Fairy prion									1			1
Flesh-footed shearwater								1				1
Fluttering shearwater	1											1
Grey-backed storm petrel	1											
NZ white-capped albatross	5		2	3	2		5	4	1	1	1	3
Northern giant petrel	1						2			1		
Otago shag							2				3	11
Salvin's albatross	3						14	5	3	4	1	6
Snares cape petrel	1											
Sooty shearwater	3						4	2				2
South Georgia diving petrel							1					
Southern royal albatross							5	2				1
Westland petrel	3			1	1	1		1			1	1
White-chinned petrel	7	1	1	1		1	17	10	2		10	30
White-faced storm petrel	1							1				
Yellow-eyed penguin							1					
<b>Total</b>	<b>29</b>	<b>1</b>	<b>3</b>	<b>6</b>	<b>4</b>	<b>2</b>	<b>60</b>	<b>38</b>	<b>12</b>	<b>10</b>	<b>16</b>	<b>59</b>
<b>% Total</b>	<b>17.2%</b>	<b>0.6%</b>	<b>1.8%</b>	<b>3.6%</b>	<b>2.4%</b>	<b>1.2%</b>	<b>35.5%</b>	<b>22.5%</b>	<b>7.1%</b>	<b>5.9%</b>	<b>9.5%</b>	<b>34.9%</b>

<sup>2</sup> An unknown hook location relates to a seabird caught and killed on a longline vessel but with no apparent hook injury anywhere on the body. No additional capture information was provided by the observer. These seabirds may have been tangled in the line rather than hooked.

**Table 7:** Comparison of fat scores in the returned birds between 1 July 2021 and 31 March 2022 (1= no fat to 5 = extremely fat, U = unknown).

SPECIES	FAT SCORE					
	1	2	3	4	5	U
Buller's albatross	4	8	3			2
Campbell albatross	1					
Chatham Island albatross	1					
Common diving petrel	1	3	1			1
Fairy prion		1				
Flesh-footed shearwater		1	2			
Fluttering shearwater	2					
Grey-backed storm petrel			1			
NZ white-capped albatross	6	4	1	7		1
Northern giant petrel		1		2		
Otago shag	1	4	8	2		
Salvin's albatross	7	5	3	4		2
Snares cape petrel	1					
Sooty shearwater	5	2	1	1		
South Georgia diving petrel			1			
Southern royal albatross	1		3			
Westland petrel	2	5	1			1
White-chinned petrel	23	14	7	1		4
White-faced storm petrel	1		1			
Yellow-eyed penguin			2			
<b>TOTAL</b>	<b>56</b>	<b>48</b>	<b>35</b>	<b>17</b>	<b>0</b>	<b>11</b>
<b>% TOTAL</b>	<b>33.1%</b>	<b>28.4%</b>	<b>20.7%</b>	<b>10.1%</b>		<b>6.5%</b>



**Table 8:** Number of seabird interactions photographed or recorded on fishing vessels between 1 July 2021 and 31 March 2022.

	DEAD	ALIVE	TOTAL
Photographed and listed in MPI COD extract	15	4	19
Photographed but not listed in MPI COD extract to date			0
Photographed and listed in MPI COD extract, but image still to be processed or not received to date	45	11	56
<b>Sub-total (Photographed seabirds)</b>	<b>60</b>	<b>15</b>	<b>75</b>
<b>% Sub-total (Photographed seabirds)</b>	<b>80%</b>	<b>20%</b>	
Listed as an interaction only in MPI COD extract, but not photographed	37	80	
<b>Sub-total (Interaction seabird)</b>	<b>37</b>	<b>80</b>	<b>117</b>
<b>% Sub-total (Interaction seabirds)</b>	<b>31.6%</b>	<b>68.4%</b>	
<b>TOTAL (Photograph and Interaction seabird combined)</b>	<b>97</b>	<b>95</b>	<b>192</b>
<b>% TOTAL</b>	<b>50.5%</b>	<b>49.5%</b>	