



INT2019-02 IDENTIFICATION OF SEABIRDS CAPTURED IN NEW ZEALAND FISHERIES QUARTERLY REPORT: 1 July 2020 to 30 September 2020.

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Scope of work completed:

New Zealand waters support a diverse range of seabird species, but 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 2020 to 30 September 2020.

There were a total of 54 seabirds captured and returned, photographed, or listed as interactions from New Zealand commercial fisheries, primarily trawl vessels, between 1 July 2020 and 30 September 2020.

There have been 20 seabirds from 6 taxa necropsied from this period. These seabirds were caught on 16 vessels: eleven trawl vessels (16 seabirds) and four longline vessels (four seabirds). 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 80% of the seabirds that were returned for necropsy.

Examination of the Central Observer Database (COD) extract or images provided for this period gave a total of 34 birds that were reported captured (i.e. *Interaction*; $n = 22$) or photographed (i.e. *Photo*; $n = 12$) as seabird interactions from 15 fishing vessels: 14 trawl vessels (33 seabirds) and one longline vessel (one seabird) 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).

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 or photographed from New Zealand fisheries between 1 July 2020 and 30 September 2020.

COMMON NAME	SCIENTIFIC NAME	NECROPSY	PHOTO	INTERACTION	TOTAL
Albatross (unidentified)				1	1
Black-browed albatross (unidentified)	<i>Thalassarche</i> spp.			1	1
Buller's and Pacific albatross	<i>Thalassarche bulleri</i>			2	2
Buller's albatross	<i>Thalassarche bulleri bulleri</i>	2	3		5
Cape petrels	<i>Daption</i> spp.			2	2
Common diving petrel	<i>Pelecanoides urinatrix</i>			2	2
Fairy prion	<i>Pachyptila turtur</i>			1	1
Grey petrel	<i>Procellaria cinerea</i>	4	1		5
Grey-backed storm petrel	<i>Garrodia nereis</i>	2			2
New Zealand white-capped albatross	<i>Thalassarche steadi</i>	5	1	5	11
Petrel (unidentified)				1	1
Petrels, prion, and shearwaters (unidentified)				1	1
Prion (unidentified)				1	1
Salvin's albatross	<i>Thalassarche salvini</i>	4	6	2	12
Seabird (unidentified)				2	2
Small albatross (unidentified)	<i>Thalassarche</i> spp.		1		1
Storm petrel (unidentified)				1	1
Westland petrel	<i>Procellaria westlandica</i>	3			3
Total		20	12	22	54

Table 2 Species and numbers of seabirds killed and returned from observed fishing vessels between 1 July 2020 and 30 September 2020, by sex (M = male, F = female, U = unknown) and age (A = adult, BA = breeding adult, N = non-breeding adult, SA = sub-adult, I = immature and J = juvenile, U = unknown).

SPECIES	SEX			AGE							TOTAL	% TOTAL
	M	F	U	A	BA	N	SA	I	J	U		
Buller's albatross	1	1		1	1		1				2	10
Grey petrel	3		1	4							4	20
Grey-backed storm petrel	1	1		2							2	10
NZ white-capped albatross	2	3		4		1		1			5	25
Salvin's albatross	2	1	1	3	1					1	4	20
Westland petrel	3			3							3	15
TOTAL	12	6	2	17	2	1	1	1	0	1	20	
% TOTAL	60	30	10	85	10	5	5	5		5		

Table 3 Stomach contents of seabirds killed and returned on fishing vessels between 1 July 2020 and 30 September 2020.

Note: Birds can have multiple items in the stomachs resulting in higher content figures than the total number of seabirds killed and returned ($n = 20$).

SPECIES	EMPTY	MISSING	BAIT	OFFAL (OR DISCARDS)	NATURAL	BARNACLES OR SEAWEED	PLASTIC	PROVENTRICULAR OIL	WORMS
Buller's albatross	1			1					
Grey petrel	2	1			1				
Grey-backed storm petrel	1							1	
NZ white-capped albatross	4			1					
Salvin's albatross				4					
Westland petrel	1		1	1	1				
TOTAL	9	1	1	7	2	0	0	1	0
% TOTAL	45	5	5	35	10			5	

Table 4 Gizzard contents of seabirds killed and returned on fishing vessels between 1 July 2020 and 30 September 2020.

Note: Birds can have multiple items in the gizzard resulting in higher content figures than the total number of seabirds killed and returned ($n = 20$).

SPECIES	EMPTY	MISSING	SQUID BEAKS	OTOLITHS	EYEBALLS	BONES OR SKIN	PLASTIC	WORMS	STONES, BARNACLES, FEATHERS, SEAWEED
Buller's albatross	1		1						
Grey petrel			4	2		1		3	
Grey-backed storm petrel						2			
NZ white-capped albatross	2	1	2			3			
Salvin's albatross			2	2		3			
Westland petrel			3	1	1	1			
TOTAL	3	1	12	5	1	10	0	3	0
% TOTAL	15	5	60	25	5	50		15	

Table 5 Number of seabirds of each species killed and returned from observed fishing vessels between 1 July 2020 and 30 September 2020, by fisheries type and location of capture.

SPECIES	BOTTOM/MIDWATER TRAWL						SETNET	LONGLINE		TOTAL
	NET	COD-END	LENGTHENER	OTHER	WARP	DECK STRIKE		HOOK	DECK STRIKE	
Buller's albatross				1	1					2
Grey petrel	3							1		4
Grey-backed storm petrel						2				2
NZ white-capped albatross	1			2	1			1		5
Salvin's albatross	2				2					4
Westland petrel	1							2		3
Total	7	0	0	3	4	2	0	4	0	20
% Total	35			15	20	10		20		

Table 6 Number of seabirds killed and returned from observed fishing vessels between 1 July 2020 and 30 September 2020, by injury.

Note: Birds can have multiple injuries resulting in higher figures than the total number of seabirds killed and returned ($n = 20$).

SPECIES	NO INJURIES	HOOK						BROKEN BONES, ETC.	LACERATIONS AND/OR SEVERED BODY PARTS	CRUSHED	GREASED	LICED	WATERLOGGED
		BODY	WING	BILL	THROAT	FOOT	UNKNOWN ¹						
Buller's albatross								2	1	1	1	1	
Grey petrel	2								2	1	1		3
Grey-backed storm petrel	1							1					
NZ white-capped albatross			1					3	5	1	1		
Salvin's albatross	2								2		1		
Westland petrel	1		1						1				
Total	6	0	2	0	0	0	0	5	11	3	4	1	3
% Total	30		10					25	55	15	20	5	15

¹ 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 2020 and 30 September 2020 (1= no fat to 5 = extremely fat, U = unknown).

SPECIES	FAT SCORE					
	1	2	3	4	5	U
Buller's albatross	5	7	2			2
Grey petrel						1
Grey-backed storm petrel	1	3	2	1	1	
NZ white-capped albatross				3		
Salvin's albatross		2				
Westland petrel						
TOTAL	6	12	4	4	1	3
% TOTAL	20.0	40.0	13.3	13.3	3.3	10.0

Table 8 Number of seabird interactions photographed or recorded on fishing vessels between 1 July 2020 and 30 September 2020.

	DEAD	ALIVE	TOTAL
Photographed and listed in MPI COD extract	3	1	4
Photographed but not listed in MPI COD extract to date			0
Photographed and listed in MPI COD extract, but image not received to date	6	2	8
Listed as an interaction only in MPI COD extract, but not photographed	4	18	22
TOTAL	13	21	34
% TOTAL	38.2%	61.8%	