

3.23 Hake trawl fisheries

3.23.1 Hake trawl, all birds, New Zealand EEZ

Table 76: Summary of all bird captures in hake trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

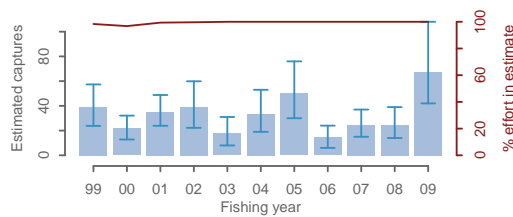
	Tows	Observed		Estimated				
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008–09								
West Coast SI	1 003	209	20.8					
White-capped albatrosses				0	0.00	M	3 (0 - 8)	100.0
Other albatrosses				0	0.00	M	7 (1 - 16)	100.0
Other birds				0	0.00	M	6 (0 - 17)	100.0
Chatham Rise	502	63	12.5					
White-capped albatrosses				0	0.00	M	1 (0 - 2)	100.0
White-chinned petrels				0	0.00	M	1 (0 - 5)	100.0
Sooty shearwaters				6	9.52	M	10 (6 - 20)	100.0
Other albatrosses (Salvin's albatross)				1	1.59	M	13 (4 - 28)	100.0
Other birds				0	0.00	M	2 (0 - 6)	100.0
Stewart-Snares	274	78	28.5					
White-capped albatrosses				1	1.28	M	8 (2 - 18)	100.0
White-chinned petrels				0	0.00	M	3 (0 - 10)	100.0
Sooty shearwaters				0	0.00	M	9 (0 - 44)	100.0
Other albatrosses (Salvin's albatross)				1	1.28	M	3 (1 - 7)	100.0
Other birds				0	0.00	M	1 (0 - 3)	100.0
2007–08								
West Coast SI	1 084	320	29.5					
White-capped albatrosses				0	0.00	M	2 (0 - 5)	100.0
Other albatrosses				0	0.00	M	4 (0 - 9)	100.0
Other birds (fairy prion)				1	0.31	M	3 (1 - 9)	100.0
Chatham Rise	318	26	8.2					
White-capped albatrosses				0	0.00	M	0 (0 - 1)	100.0
White-chinned petrels				0	0.00	M	1 (0 - 4)	100.0
Sooty shearwaters				0	0.00	M	1 (0 - 5)	100.0
Other albatrosses				0	0.00	M	5 (0 - 13)	100.0
Other birds				0	0.00	M	0 (0 - 2)	100.0
Stewart-Snares	157	49	31.2					
White-capped albatrosses				0	0.00	M	2 (0 - 7)	100.0
White-chinned petrels				0	0.00	M	1 (0 - 6)	100.0
Sooty shearwaters				3	6.12	M	4 (3 - 8)	100.0
Other albatrosses				0	0.00	M	1 (0 - 3)	100.0
Other birds				0	0.00	M	0 (0 - 1)	100.0

Table 77: Summary of all bird captures in hake trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

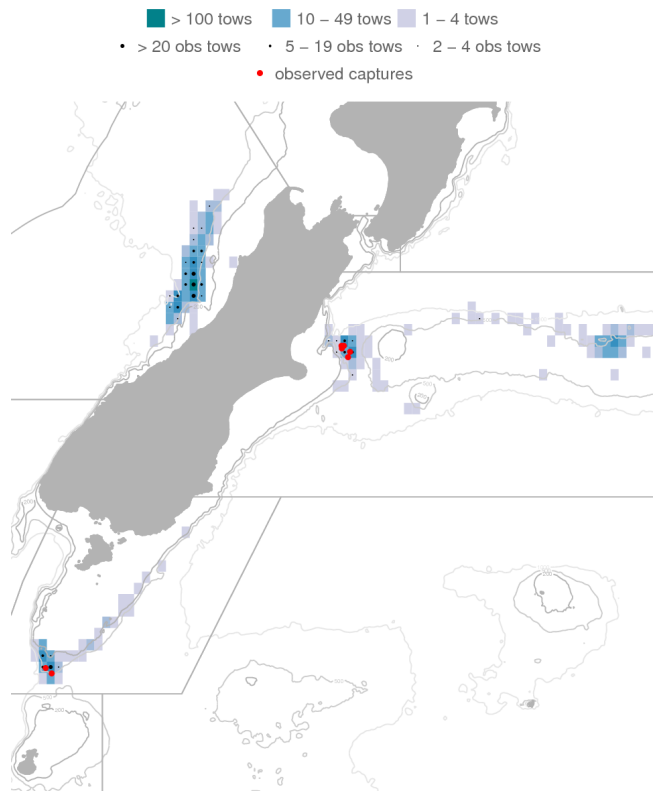
	Tows	Observed			Estimated			
		No. obs	% obs	Capt. ^s	Rate	Type	Est. captures	% inc.
2008–09	1 779	350	19.7	9	2.57	M	67 (42 - 108)	100.0
2007–08	1 559	395	25.3	4	1.01	M	24 (14 - 39)	100.0
2006–07	1 606	295	18.4	8	2.71	M	25 (15 - 37)	100.0
2005–06	1 361	421	30.9	1	0.24	M	14 (6 - 24)	100.0
2004–05	1 555	95	6.1	8	8.42	M	50 (30 - 76)	100.0
2003–04	1 651	140	8.5	6	4.29	M	34 (19 - 53)	100.0
2002–03	945	49	5.2	0	0.00	M	18 (8 - 31)	100.0
2001–02	848	42	5.0	0	0.00	R	39 (22 - 60)	99.6
2000–01	800	35	4.4	6	17.14	R	35 (24 - 49)	99.4
1999–00	527	38	7.2	1	2.63	R	22 (13 - 32)	96.8
1998–99	846	23	2.7	3	13.04	R	39 (24 - 57)	98.3

^s All observed captures by species: sooty shearwater (14), white-capped albatross (10), Salvin’s albatross (7), Buller’s albatross (6), seabird – large (2), Cape petrels (1), shy albatross (1), Chatham albatross (1), northern giant petrel (1), wandering albatross (unidentified) (1), fairy prion (1), white-chinned petrel (1)

(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

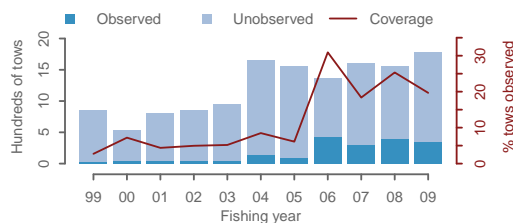


Figure 37: All bird captures in hake trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.23.2 Hake trawl, New Zealand fur seals, New Zealand EEZ

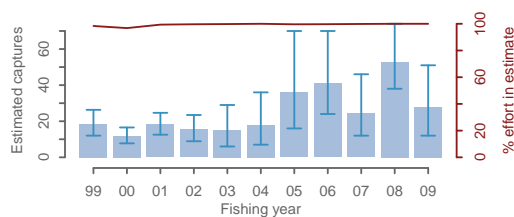
Table 78: Summary of New Zealand fur seal captures in hake trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008-09									
West Coast SI	1 003	209	20.8	3	1.44	M	22 (9 - 44)	100.0	
Chatham Rise	502	63	12.5	2	3.17	M	5 (2 - 10)	100.0	
Stewart-Snares	274	78	28.5	0	0.00	M	0 (0 - 2)	100.0	
2007-08									
West Coast SI	1 084	320	29.5	25	7.81	M	48 (34 - 70)	100.0	
Chatham Rise	318	26	8.2	2	7.69	M	3 (2 - 5)	100.0	
Stewart-Snares	157	49	31.2	1	2.04	M	2 (1 - 4)	100.0	

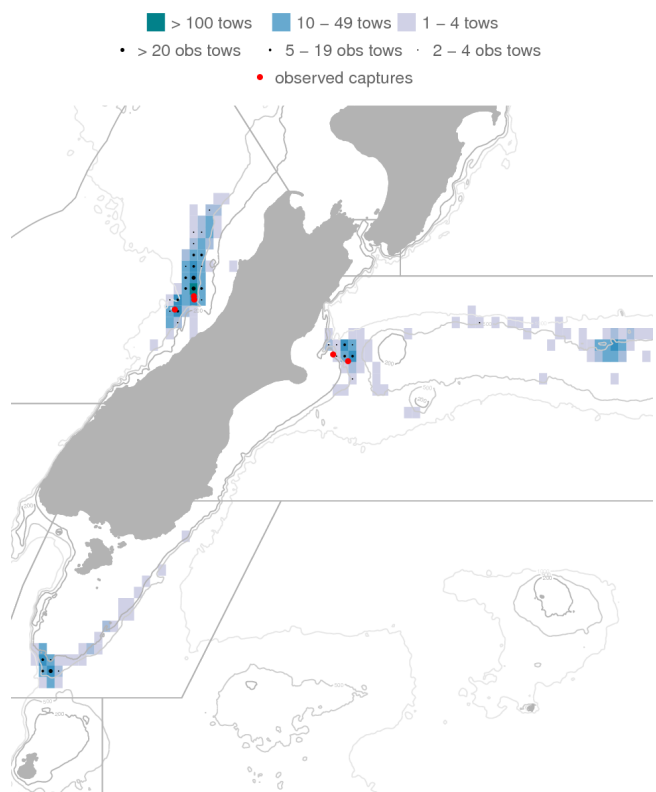
Table 79: Summary of New Zealand fur seal captures in hake trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

Fishing year	Tows	Observed		Observed		Type	Estimated		% inc.
		No. obs	% obs	Capt.	Rate		Est. captures	95% CI	
2008–09	1 779	350	19.7	5	1.43	M	28 (12 - 51)	100.0	
2007–08	1 559	395	25.3	28	7.09	M	53 (38 - 74)	100.0	
2006–07	1 606	295	18.4	4	1.36	M	24 (12 - 46)	99.9	
2005–06	1 361	421	30.9	11	2.61	M	41 (24 - 70)	99.7	
2004–05	1 555	95	6.1	2	2.11	M	36 (16 - 70)	99.6	
2003–04	1 651	140	8.5	0	0.00	M	18 (7 - 36)	100.0	
2002–03	945	49	5.2	3	6.12	M	15 (6 - 29)	99.8	
2001–02	848	42	5.0	0	0.00	R	15 (9 - 23)	99.6	
2000–01	800	35	4.4	0	0.00	R	18 (13 - 25)	99.4	
1999–00	527	38	7.2	0	0.00	R	12 (8 - 17)	96.8	
1998–99	846	23	2.7	0	0.00	R	19 (12 - 26)	98.3	

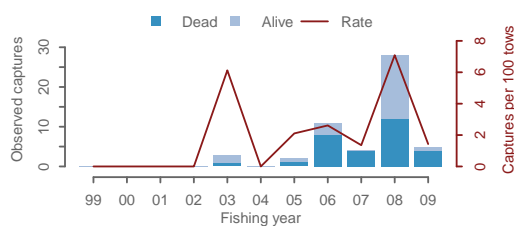
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

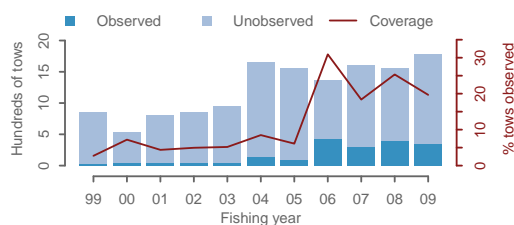


Figure 38: New Zealand fur seal captures in hake trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.24 Ling trawl fisheries

3.24.1 Ling trawl, all birds, New Zealand EEZ

Table 80: Summary of all bird captures in ling trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008–09									
Stewart-Snares	375	69	18.4						
White-chinned petrels				0	0.00	M	1 (0 - 5)	100.0	
Other birds				0	0.00	M	1 (0 - 4)	100.0	
Chatham Rise	234	18	7.7						
Sooty shearwaters				4	22.22	M	7 (4 - 16)	100.0	
Subantarctic	120	52	43.3						
White-capped albatrosses				0	0.00	M	0 (0 - 1)	100.0	
White-chinned petrels				0	0.00	M	0 (0 - 1)	100.0	
Other albatrosses				0	0.00	M	1 (0 - 3)	100.0	
Other birds				0	0.00	M	0 (0 - 1)	100.0	
2007–08									
Stewart-Snares	694	136	19.6						
White-chinned petrels				1	0.74	M	3 (1 - 8)	100.0	
Other birds (fairy prion)				1	0.74	M	2 (1 - 4)	100.0	
Chatham Rise	559	23	4.1						
Sooty shearwaters				0	0.00	M	3 (0 - 10)	100.0	
Subantarctic	205	55	26.8						
White-capped albatrosses				1	1.82	M	1 (1 - 3)	100.0	
White-chinned petrels				2	3.64	M	2 (2 - 3)	100.0	
Other albatrosses ^a				2	3.64	M	3 (2 - 5)	100.0	
Other birds (seabird – small)				1	1.82	M	1 (1 - 3)	100.0	

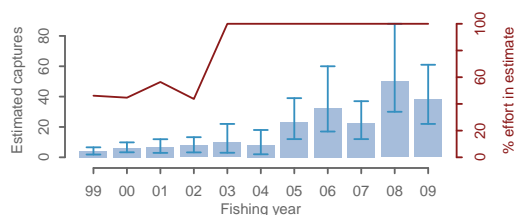
^a Black-browed albatross (unidentified) (1), Salvin's albatross (1)

Table 81: Summary of all bird captures in ling trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

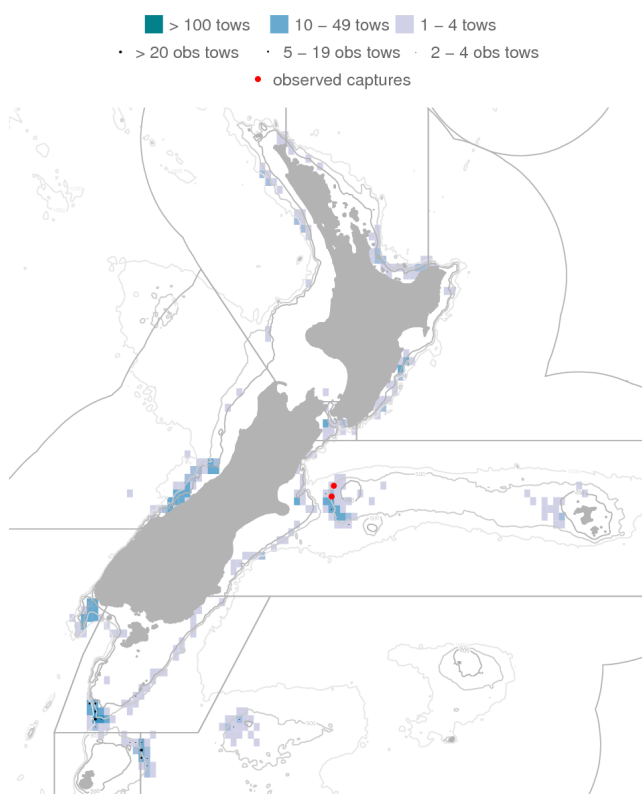
	Tows	Observed		Observed		Type	Estimated	
		No. obs	% obs	Capt. ^s	Rate		Est. captures	% inc.
2008–09	1 407	146	10.4	4	2.74	M	38 (22 - 61)	100.0
2007–08	2 207	241	10.9	8	3.32	M	50 (30 - 88)	100.0
2006–07	1 665	157	9.4	2	1.27	M	22 (12 - 37)	100.0
2005–06	1 394	113	8.1	3	2.65	M	32 (17 - 60)	100.0
2004–05	985	76	7.7	3	3.95	M	23 (12 - 39)	100.0
2003–04	557	22	3.9	0	0.00	M	8 (2 - 18)	100.0
2002–03	634	16	2.5	0	0.00	M	10 (3 - 22)	100.0
2001–02	572	5	0.9	0	0.00	R	8 (3 - 13)	43.7
2000–01	390	0	0.0	-	-	R	7 (3 - 12)	56.4
1999–00	571	7	1.2	0	0.00	R	6 (3 - 10)	44.7
1998–99	468	0	0.0	-	-	R	4 (2 - 7)	46.2

^s All observed captures by species: sooty shearwater (6), white-chinned petrel (4), white-capped albatross (3), Salvin’s albatross (2), black-browed albatross (unidentified) (1), seabird – small (1), fairy prion (1), albatrosses (unidentified) (1), Buller’s albatross (1)

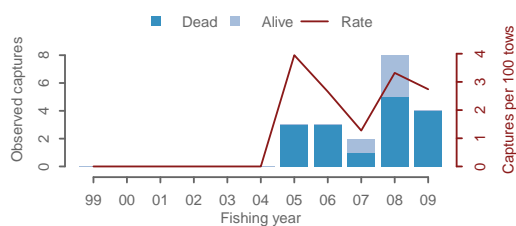
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

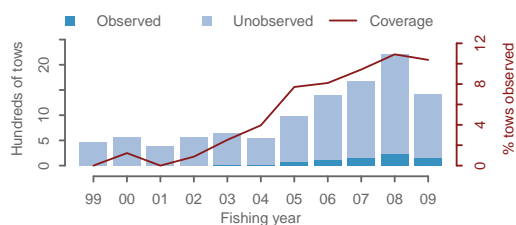


Figure 39: All bird captures in ling trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.24.2 Ling trawl, New Zealand fur seals, New Zealand EEZ

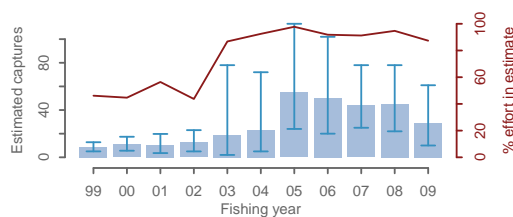
Table 82: Summary of New Zealand fur seal captures in ling trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated		
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008-09								
Stewart-Snares	375	69	18.4	0	0.00	M	5 (0 - 14)	100.0
West Coast SI	267	0	0.0	0		M	4 (0 - 13)	100.0
Chatham Rise	234	18	7.7	0	0.00	M	7 (1 - 20)	100.0
Puysegur	163	0	0.0	0		M	7 (0 - 23)	100.0
Subantarctic	120	52	43.3	0	0.00	M	0 (0 - 1)	100.0
East of NI	70	0	0.0	0		N		
North East	69	0	0.0	0		N		
West Coast NI	56	1	1.8	0	0.00	M	0 (0 - 3)	100.0
Cook Strait	39	0	0.0	0		N		
Auckland Is.	14	6	42.9	0	0.00	M	0 (0 - 1)	100.0
2007-08								
Stewart-Snares	694	136	19.6	3	2.21	M	15 (6 - 30)	100.0
West Coast SI	318	0	0.0	0		M	6 (0 - 16)	100.0
Chatham Rise	559	23	4.1	0	0.00	M	12 (2 - 33)	100.0
Puysegur	218	13	6.0	0	0.00	M	8 (1 - 23)	100.0
Subantarctic	205	55	26.8	1	1.82	M	1 (1 - 2)	100.0
East of NI	36	0	0.0	0		N		
North East	76	0	0.0	0		N		
West Coast NI	64	0	0.0	0		M	1 (0 - 4)	100.0
Cook Strait	5	0	0.0	0		N		
Auckland Is.	32	14	43.8	0	0.00	M	1 (0 - 5)	100.0

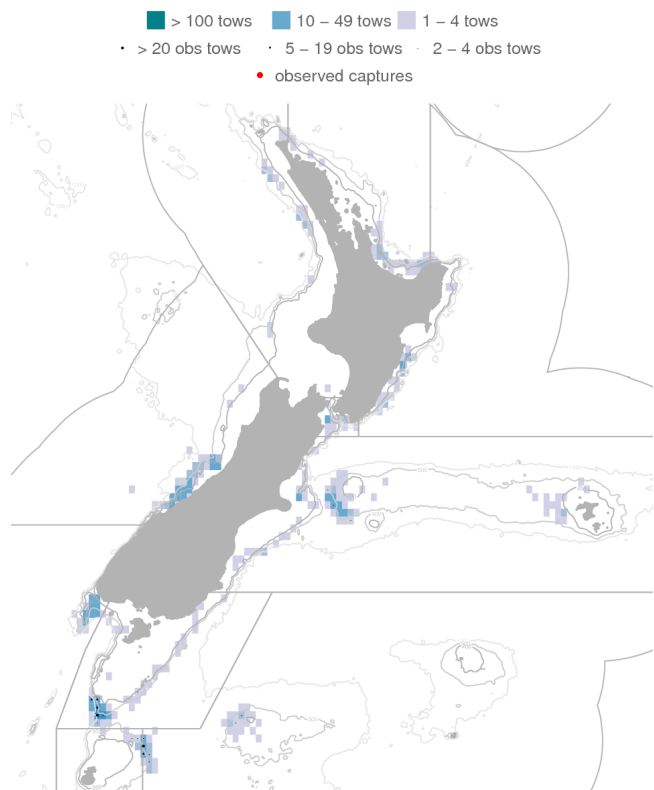
Table 83: Summary of New Zealand fur seal captures in ling trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

Fishing year	Tows	Observed		Observed		Type	Estimated		% inc.
		No. obs	% obs	Capt.	Rate		Est. captures		
2008-09	1 407	146	10.4	0	0.00	M	29 (10 - 61)	87.3	
2007-08	2 207	241	10.9	4	1.66	M	45 (22 - 78)	94.7	
2006-07	1 665	157	9.4	12	7.64	M	44 (25 - 78)	91.2	
2005-06	1 394	113	8.1	2	1.77	M	50 (20 - 102)	91.8	
2004-05	985	76	7.7	10	13.16	M	55 (24 - 113)	97.8	
2003-04	557	22	3.9	0	0.00	M	23 (5 - 72)	92.5	
2002-03	634	16	2.5	0	0.00	M	19 (2 - 78)	86.8	
2001-02	572	5	0.9	1	20.00	R	13 (5 - 23)	43.7	
2000-01	390	0	0.0	-	-	R	10 (4 - 20)	56.4	
1999-00	571	7	1.2	0	0.00	R	11 (6 - 17)	44.7	
1998-99	468	0	0.0	-	-	R	9 (5 - 13)	46.2	

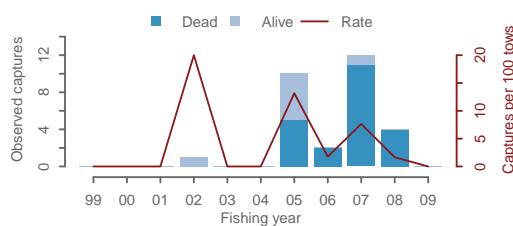
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

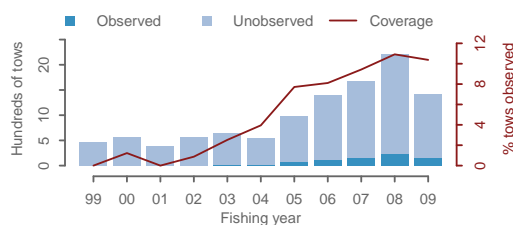


Figure 40: New Zealand fur seal captures in ling trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008-09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.25 Deepwater trawl fisheries

3.25.1 Deepwater trawl, all birds, New Zealand EEZ

Table 84: Summary of all bird captures in deepwater trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008–09									
Chatham Rise	2 966	1 403	47.3						
Other albatrosses ^a				3	0.21	M	6 (3 - 11)	100.0	
Other birds ^b				2	0.14	M	9 (3 - 19)	100.0	
Subantarctic	1 417	496	35.0						
Other birds				0	0.00	M	1 (0 - 3)	100.0	
East of NI	825	26	3.2						
Other birds				0	0.00	M	3 (0 - 10)	100.0	
North East	311	108	34.7						
Other birds				0	0.00	M	1 (0 - 6)	100.0	
Stewart-Snares	143	72	50.3						
Other birds (petrel (unidentified))				1	1.39	M	1 (1 - 2)	100.0	
2007–08									
Chatham Rise	3 244	1 320	40.7						
Other albatrosses (Salvin's albatross)				1	0.08	M	3 (1 - 7)	100.0	
Other birds ^c				3	0.23	M	6 (3 - 12)	100.0	
Subantarctic	1 434	839	58.5						
Other birds ^d				2	0.24	M	2 (2 - 3)	100.0	
East of NI	834	97	11.6						
Other birds				0	0.00	M	1 (0 - 4)	100.0	
North East	380	287	75.5						
Other birds				0	0.00	M	1 (0 - 4)	100.0	
Stewart-Snares	131	61	46.6						
Other birds				0	0.00	M	0 (0 - 1)	100.0	

^a Albatrosses (unidentified) (2), Chatham albatross (1)

^b Cape petrel (1), common diving petrel (1)

^c Giant petrels (unidentified) (1), petrel (unidentified) (1), Cape petrels (1)

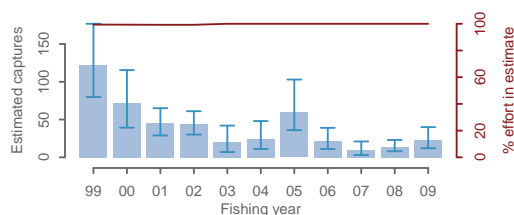
^d Grey petrel (1), storm petrels (1)

Table 85: Summary of all bird captures in deepwater trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

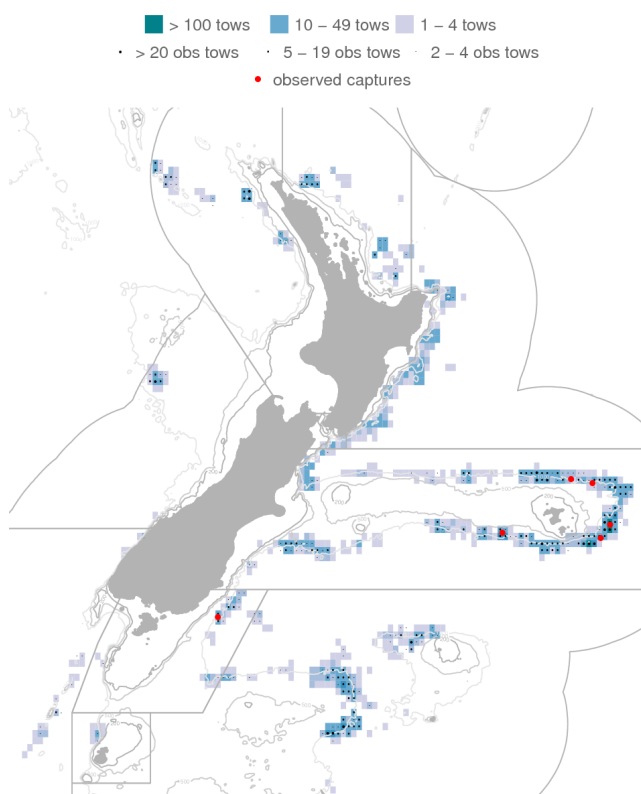
	Tows	Observed		Observed		Type	Estimated	
		No. obs	% obs	Capt. ^s	Rate		Est. captures	% inc.
2008–09	6 130	2 373	38.7	6	0.25	M	23 (12 - 40)	100.0
2007–08	6 730	2 810	41.8	6	0.21	M	14 (8 - 23)	100.0
2006–07	7 477	2 320	31.0	1	0.04	M	10 (3 - 21)	100.0
2005–06	8 291	1 292	15.6	5	0.39	M	21 (11 - 39)	100.0
2004–05	8 406	1 618	19.2	19	1.17	M	60 (36 - 103)	100.0
2003–04	8 006	1 261	15.8	3	0.24	M	25 (11 - 48)	100.0
2002–03	8 867	1 380	15.6	1	0.07	M	21 (7 - 42)	100.0
2001–02	8 220	1 377	16.8	6	0.44	R	44 (30 - 61)	99.2
2000–01	8 925	1 187	13.3	4	0.34	R	45 (29 - 65)	99.2
1999–00	12 505	1 934	15.5	5	0.26	R	72 (39 - 115)	99.3
1998–99	13 714	1 010	7.4	35	3.47	R	122 (80 - 177)	99.4

^s All observed captures by species: white-chinned petrel (24), Cape petrels (17), black-browed albatross (unidentified) (12), albatrosses (unidentified) (7), grey petrel (3), Chatham albatross (3), Salvin’s albatross (3), common diving petrel (3), white-capped albatross (3), petrel (unidentified) (2), seabird – large (2), Buller’s albatross (2), Gibson’s albatross (1), giant petrels (unidentified) (1), Pacific albatross (1), white-faced storm petrel (1), seabird – small (1), sooty shearwater (1), storm petrels (1), shy albatross (1), other species (2)

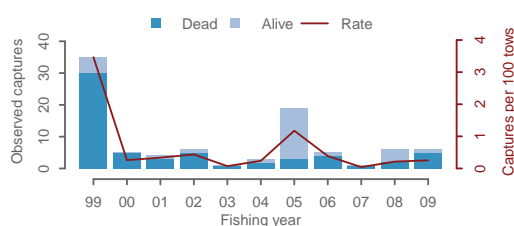
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

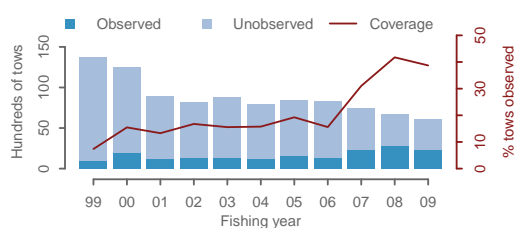


Figure 41: All bird captures in deepwater trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.25.2 Deepwater trawl, New Zealand fur seals, New Zealand EEZ

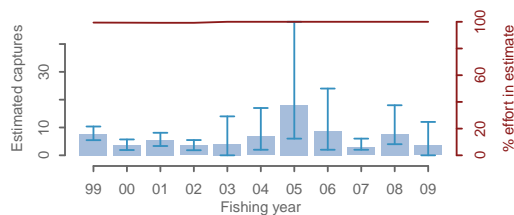
Table 86: Summary of New Zealand fur seal captures in deepwater trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008–09									
Chatham Rise	2 966	1 403	47.3	0	0.00	M	0 (0 - 0)	100.0	
Subantarctic	1 417	496	35.0	0	0.00	M	3 (0 - 12)	100.0	
East of NI	825	26	3.2	0	0.00	M	0 (0 - 0)	100.0	
North East	311	108	34.7	0	0.00	M	0 (0 - 0)	100.0	
West Coast NI	235	168	71.5	0	0.00	M	0 (0 - 0)	100.0	
Stewart-Snares	143	72	50.3	0	0.00	M	0 (0 - 0)	100.0	
Puysegur	78	23	29.5	0	0.00	M	0 (0 - 1)	100.0	
West Coast SI	66	67	101.5	0	0.00	M	0 (0 - 0)	100.0	
Auckland Is.	47	10	21.3	0	0.00	M	0 (0 - 0)	100.0	
Cook Strait	42	0	0.0	0		M	0 (0 - 0)	100.0	
2007–08									
Chatham Rise	3 244	1 320	40.7	0	0.00	M	0 (0 - 0)	100.0	
Subantarctic	1 434	839	58.5	4	0.48	M	8 (4 - 18)	100.0	
East of NI	834	97	11.6	0	0.00	M	0 (0 - 0)	100.0	
North East	380	287	75.5	0	0.00	M	0 (0 - 0)	100.0	
West Coast NI	233	130	55.8	0	0.00	M	0 (0 - 0)	100.0	
Stewart-Snares	131	61	46.6	0	0.00	M	0 (0 - 0)	100.0	
Puysegur	372	58	15.6	0	0.00	M	2 (0 - 7)	100.0	
West Coast SI	0								
Auckland Is.	58	16	27.6	0	0.00	M	0 (0 - 0)	100.0	
Cook Strait	44	2	4.5	0	0.00	M	0 (0 - 0)	100.0	

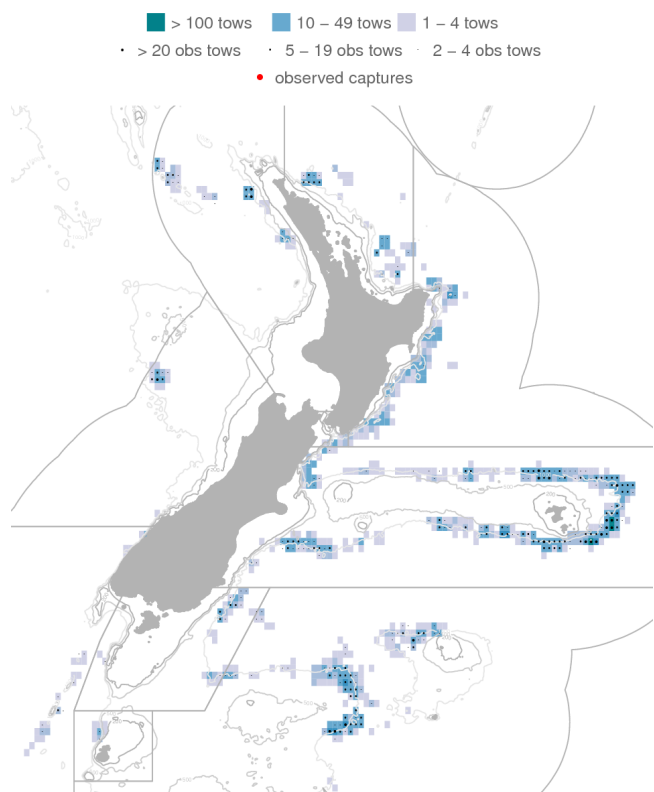
Table 87: Summary of New Zealand fur seal captures in deepwater trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed			Estimated				
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008–09	6 130	2 373	38.7	0	0.00	M	4 (0 - 12)	100.0	
2007–08	6 730	2 810	41.8	4	0.14	M	8 (4 - 18)	100.0	
2006–07	7 477	2 320	31.0	2	0.09	M	3 (2 - 6)	100.0	
2005–06	8 291	1 292	15.6	2	0.15	M	9 (2 - 24)	100.0	
2004–05	8 406	1 618	19.2	4	0.25	M	18 (6 - 48)	100.0	
2003–04	8 006	1 261	15.8	2	0.16	M	7 (2 - 17)	100.0	
2002–03	8 867	1 380	15.6	0	0.00	M	4 (0 - 14)	100.0	
2001–02	8 220	1 377	16.8	0	0.00	R	3 (2 - 5)	99.2	
2000–01	8 925	1 187	13.3	1	0.08	R	6 (3 - 8)	99.2	
1999–00	12 505	1 934	15.5	0	0.00	R	4 (2 - 6)	99.3	
1998–99	13 714	1 010	7.4	3	0.30	R	8 (5 - 10)	99.4	

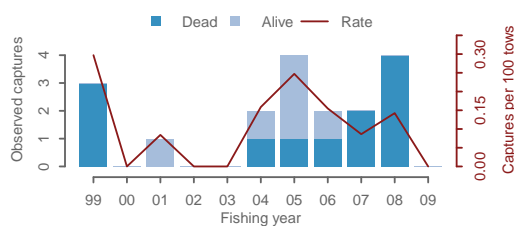
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

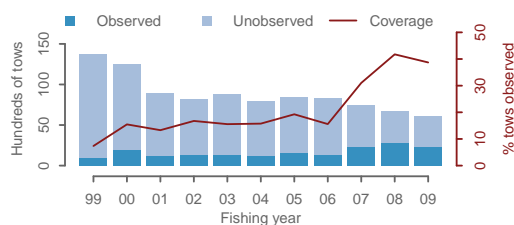


Figure 42: New Zealand fur seal captures in deepwater trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.26 Scampi trawl fisheries

3.26.1 Scampi trawl, all birds, New Zealand EEZ

Table 88: Summary of all bird captures in scampi trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed			Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008–09								
Auckland Is.	1 457	61	4.2					
White-capped albatrosses				1	1.64	M	17 (4 - 43)	100.0
White-chinned petrels				0	0.00	M	10 (2 - 24)	100.0
Sooty shearwaters				0	0.00	M	19 (2 - 61)	100.0
Other albatrosses				0	0.00	M	12 (3 - 23)	100.0
Other birds				0	0.00	M	12 (2 - 35)	100.0
Chatham Rise	1 306	204	15.6					
White-capped albatrosses				0	0.00	M	2 (0 - 6)	100.0
White-chinned petrels				0	0.00	M	2 (0 - 7)	100.0
Sooty shearwaters				0	0.00	M	4 (0 - 16)	100.0
Other albatrosses ^a				14	6.86	M	49 (29 - 80)	100.0
Other birds ^b				2	0.98	M	8 (2 - 20)	100.0
North East	804	91	11.3					
White-chinned petrels				0	0.00	M	2 (0 - 6)	100.0
Sooty shearwaters				0	0.00	M	1 (0 - 5)	100.0
Other albatrosses				0	0.00	M	1 (0 - 5)	100.0
Other birds (flesh-footed shearwater)				2	2.20	M	30 (6 - 86)	100.0
East of NI	407	40	9.8					
White-capped albatrosses				0	0.00	M	1 (0 - 4)	100.0
White-chinned petrels				0	0.00	M	1 (0 - 4)	100.0
Other albatrosses				0	0.00	M	6 (1 - 16)	100.0
Other birds				0	0.00	M	4 (0 - 15)	100.0
2007–08								
Auckland Is.	1 327	93	7.0					
White-capped albatrosses				0	0.00	M	6 (0 - 17)	100.0
White-chinned petrels				0	0.00	M	6 (1 - 16)	100.0
Sooty shearwaters				0	0.00	M	12 (0 - 41)	100.0
Other albatrosses				0	0.00	M	6 (1 - 13)	100.0
Other birds				0	0.00	M	5 (0 - 16)	100.0
Chatham Rise	2 014	185	9.2					
White-capped albatrosses				0	0.00	M	2 (0 - 7)	100.0
White-chinned petrels				0	0.00	M	4 (0 - 11)	100.0
Sooty shearwaters				2	1.08	M	19 (4 - 49)	100.0
Other albatrosses (Salvin's albatross)				4	2.16	M	37 (18 - 64)	100.0
Other birds				0	0.00	M	5 (0 - 14)	100.0
North East	843	145	17.2					
White-chinned petrels				0	0.00	M	2 (0 - 5)	100.0
Sooty shearwaters				1	0.69	M	2 (1 - 5)	100.0
Other albatrosses				0	0.00	M	1 (0 - 3)	100.0
Other birds ^c				5	3.45	M	17 (6 - 43)	100.0
East of NI	622	101	16.2					
White-capped albatrosses				0	0.00	M	0 (0 - 2)	100.0
White-chinned petrels				0	0.00	M	1 (0 - 4)	100.0
Other albatrosses				0	0.00	M	5 (0 - 13)	100.0
Other birds				0	0.00	M	3 (0 - 10)	100.0

^a Salvin's albatross (12), Buller's albatross (1), albatrosses (unidentified) (1)

^b Cape petrel (1), Cape petrels (1)

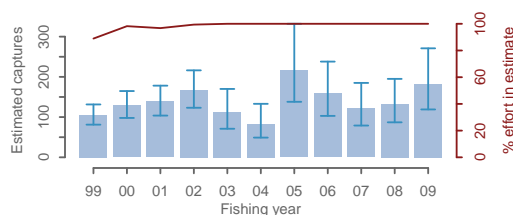
^c Flesh-footed shearwater (4), black petrel (1)

Table 89: Summary of all bird captures in scampi trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated			
		No. obs	% obs	Capt. ^s	Rate	Type	Est. captures	% inc.	
2008–09	3 975	396	10.0	19	4.80	M	182 (119 - 271)	100.0	
2007–08	4 807	524	10.9	12	2.29	M	133 (87 - 195)	100.0	
2006–07	5 135	389	7.6	25	6.43	M	122 (79 - 185)	100.0	
2005–06	4 867	331	6.8	13	3.93	M	159 (103 - 238)	100.0	
2004–05	4 648	143	3.1	9	6.29	M	216 (138 - 332)	100.0	
2003–04	3 730	412	11.0	8	1.94	M	82 (49 - 133)	100.0	
2002–03	5 123	512	10.0	8	1.56	M	112 (71 - 170)	100.0	
2001–02	6 719	591	8.8	6	1.02	R	167 (123 - 216)	99.4	
2000–01	4 978	266	5.3	9	3.38	R	139 (104 - 178)	96.8	
1999–00	4 767	421	8.8	8	1.90	R	129 (98 - 165)	98.2	
1998–99	4 323	499	11.5	14	2.81	R	105 (81 - 131)	88.9	

^s All observed captures by species: Salvin's albatross (33), flesh-footed shearwater (25), sooty shearwater (23), white-capped albatross (15), albatrosses (unidentified) (7), Cape petrels (4), Buller's albatross (4), black-browed albatross (unidentified) (3), seabird – small (3), petrel (unidentified) (2), white-chinned petrel (2), shy albatross (2), Chatham albatross (2), grey-headed albatross (1), seabird (unspecified) (1), northern giant petrel (1), black petrel (1), common diving petrel (1), southern black-browed albatross (1)

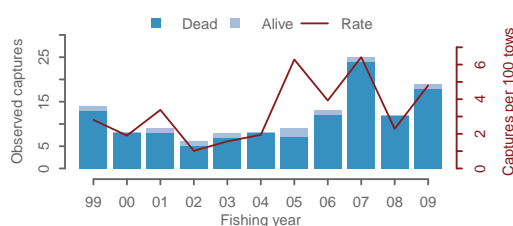
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

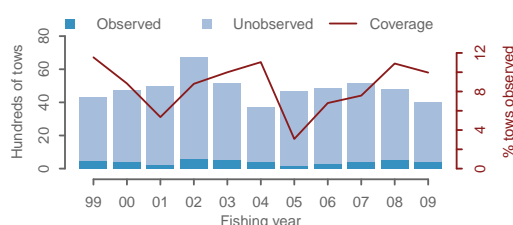


Figure 43: All bird captures in scampi trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.26.2 Scampi trawl, New Zealand sea lions, New Zealand EEZ

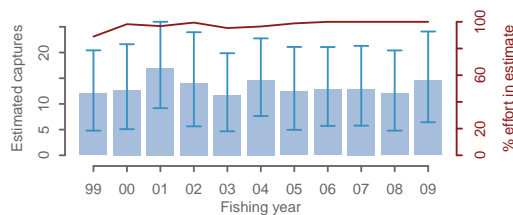
Table 90: Summary of New Zealand sea lion captures in scampi trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. interactions	% inc.	
2008-09									
Auckland Is.	1 457	61	4.2	1	1.64	R	15 (6 - 24)	100.0	
Chatham Rise	1 306	204	15.6	0	0.00	R	0 (0 - 0)	100.0	
North East	804	91	11.3	0	0.00	R	0 (0 - 0)	100.0	
East of NI	407	40	9.8	0	0.00	R	0 (0 - 0)	100.0	
Stewart-Snares	1	0	0.0	0		N			
2007-08									
Auckland Is.	1 327	93	7.0	0	0.00	R	12 (5 - 20)	100.0	
Chatham Rise	2 014	185	9.2	0	0.00	R	0 (0 - 0)	100.0	
North East	843	145	17.2	0	0.00	R	0 (0 - 0)	100.0	
East of NI	622	101	16.2	0	0.00	R	0 (0 - 0)	100.0	
Stewart-Snares	1	0	0.0	0		N			

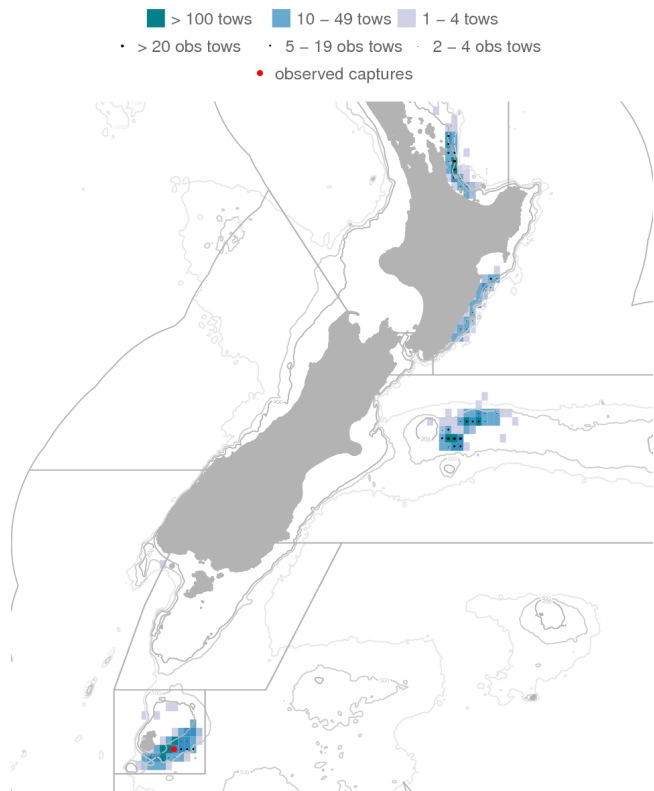
Table 91: Summary of New Zealand sea lion captures in scampi trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

Fishing year	Tows	Observed		Observed		Estimated		% inc.
		No. obs	% obs	Capt.	Rate	Type	Est. interactions	
2008-09	3 975	396	10.0	1	0.25	R	15 (6 - 24)	100.0
2007-08	4 807	524	10.9	0	0.00	R	12 (5 - 20)	100.0
2006-07	5 135	389	7.6	1	0.26	R	13 (6 - 21)	100.0
2005-06	4 867	331	6.8	1	0.30	R	13 (6 - 21)	100.0
2004-05	4 648	143	3.1	0	0.00	R	12 (5 - 21)	98.8
2003-04	3 730	412	11.0	3	0.73	R	15 (8 - 23)	96.5
2002-03	5 123	512	10.0	0	0.00	R	12 (5 - 20)	95.3
2001-02	6 719	591	8.8	0	0.00	R	14 (6 - 24)	99.4
2000-01	4 978	266	5.3	4	1.50	R	17 (9 - 26)	96.8
1999-00	4 767	421	8.8	0	0.00	R	13 (5 - 22)	98.2
1998-99	4 323	499	11.5	0	0.00	R	12 (5 - 20)	88.9

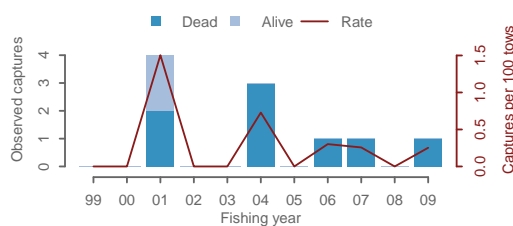
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

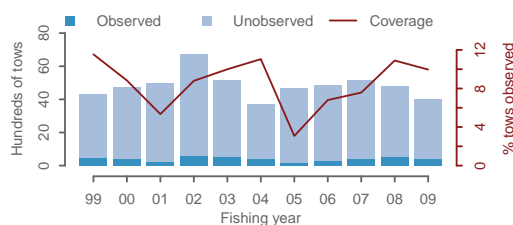


Figure 44: New Zealand sea lion captures in scampi trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008-09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.26.3 Scampi trawl, New Zealand fur seals, New Zealand EEZ

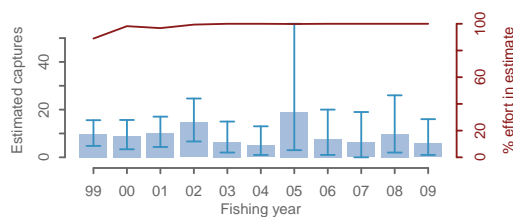
Table 92: Summary of New Zealand fur seal captures in scampi trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008-09									
Auckland Is.	1 457	61	4.2	1	1.64	M	4 (1 - 12)	100.0	
Chatham Rise	1 306	204	15.6	0	0.00	M	2 (0 - 6)	100.0	
North East	804	91	11.3	0	0.00	M	0 (0 - 0)	100.0	
East of NI	407	40	9.8	0	0.00	M	0 (0 - 1)	100.0	
Stewart-Snares	1	0	0.0	0		M	0 (0 - 0)	100.0	
2007-08									
Auckland Is.	1 327	93	7.0	1	1.08	M	6 (1 - 18)	100.0	
Chatham Rise	2 014	185	9.2	0	0.00	M	3 (0 - 10)	100.0	
North East	843	145	17.2	0	0.00	M	0 (0 - 0)	100.0	
East of NI	622	101	16.2	0	0.00	M	0 (0 - 2)	100.0	
Stewart-Snares	1	0	0.0	0		M	0 (0 - 0)	100.0	

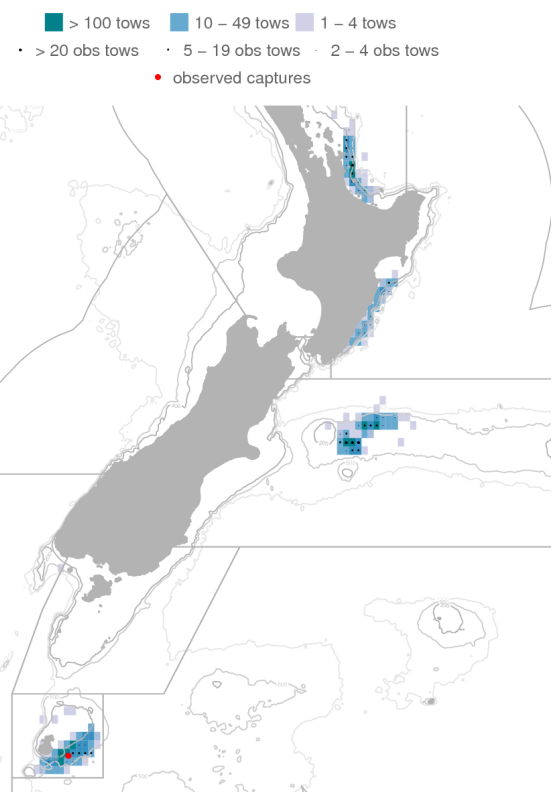
Table 93: Summary of New Zealand fur seal captures in scampi trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

Fishing year	Tows	Observed			Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008–09	3 975	396	10.0	1	0.25	M	6 (1 - 16)	100.0
2007–08	4 807	524	10.9	1	0.19	M	10 (2 - 26)	100.0
2006–07	5 135	389	7.6	0	0.00	M	6 (0 - 19)	100.0
2005–06	4 867	331	6.8	0	0.00	M	8 (1 - 20)	100.0
2004–05	4 648	143	3.1	0	0.00	M	19 (3 - 56)	99.8
2003–04	3 730	412	11.0	1	0.24	M	5 (1 - 13)	100.0
2002–03	5 123	512	10.0	2	0.39	M	6 (2 - 15)	100.0
2001–02	6 719	591	8.8	3	0.51	R	15 (7 - 25)	99.4
2000–01	4 978	266	5.3	1	0.38	R	10 (4 - 17)	96.8
1999–00	4 767	421	8.8	0	0.00	R	9 (3 - 16)	98.2
1998–99	4 323	499	11.5	2	0.40	R	10 (5 - 16)	88.9

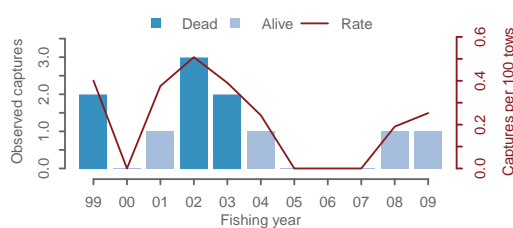
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

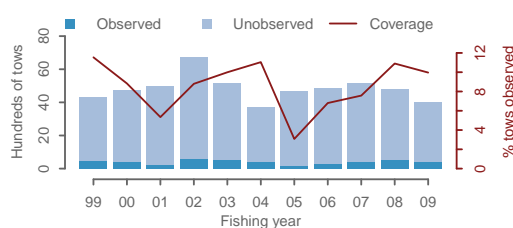


Figure 45: New Zealand fur seal captures in scampi trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.27 Southern blue whiting trawl fisheries

3.27.1 Southern blue whiting trawl, all birds, New Zealand EEZ

Table 94: Summary of all bird captures in southern blue whiting trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008–09									
Subantarctic	1 184	296	25.0						
Other albatrosses				0	0.00	M	1 (0 - 5)	100.0	
Other birds				0	0.00	M	4 (0 - 14)	100.0	
2007–08									
Subantarctic	816	331	40.6						
Other albatrosses ^a				2	0.60	M	2 (2 - 4)	100.0	
Other birds (grey petrel)				1	0.30	M	2 (1 - 7)	100.0	

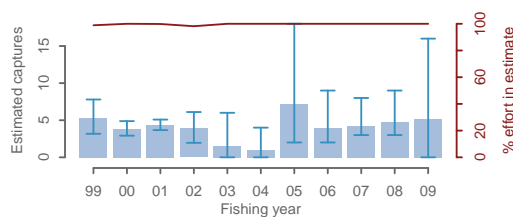
^a Salvin's albatross (1), Campbell albatross (1)

Table 95: Summary of all bird captures in southern blue whiting trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

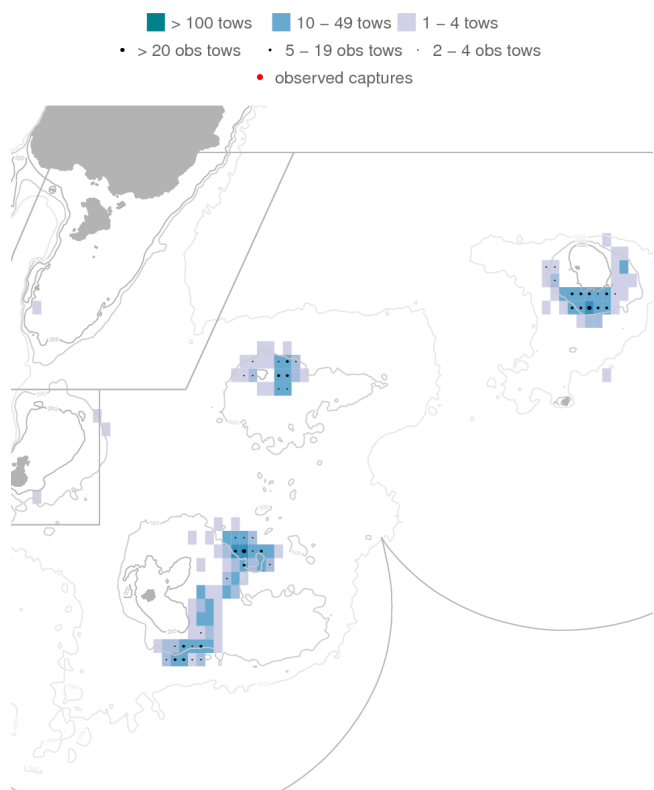
	Tows	Observed		Observed		Estimated		% inc.
		No. obs	% obs	Capt. ^s	Rate	Type	Est. captures	
2008–09	1 187	299	25.2	0	0.00	M	5 (0 - 16)	100.0
2007–08	816	331	40.6	3	0.91	M	5 (3 - 9)	100.0
2006–07	630	224	35.6	3	1.34	M	4 (3 - 8)	100.0
2005–06	624	217	34.8	2	0.92	M	4 (2 - 9)	100.0
2004–05	869	335	38.6	2	0.60	M	7 (2 - 18)	100.0
2003–04	740	241	32.6	0	0.00	M	1 (0 - 4)	100.0
2002–03	638	275	43.1	0	0.00	M	2 (0 - 6)	100.0
2001–02	1 159	334	28.8	0	0.00	R	4 (2 - 6)	98.2
2000–01	664	388	58.4	3	0.77	R	4 (4 - 5)	99.8
1999–00	693	314	45.3	2	0.64	R	4 (3 - 5)	100.0
1998–99	1 250	341	27.3	1	0.29	R	5 (3 - 8)	98.9

^s All observed captures by species: grey petrel (9), Salvin's albatross (3), Cape petrels (2), seabird – large (1), Campbell albatross (1)

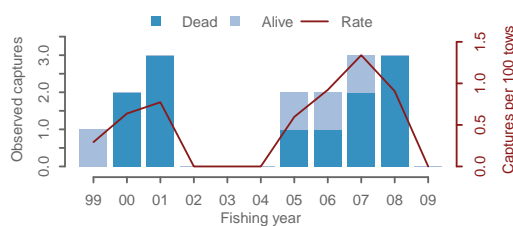
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

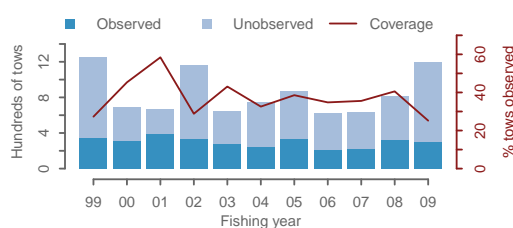


Figure 46: All bird captures in southern blue whiting trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.27.2 Southern blue whiting trawl, New Zealand sea lions, New Zealand EEZ

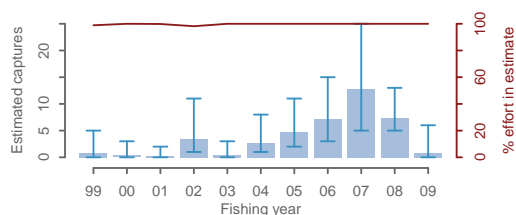
Table 96: Summary of New Zealand sea lion captures in southern blue whiting trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. interactions	% inc.	
2008-09									
Subantarctic	1 184	296	25.0	0	0.00	M	1 (0 - 6)	100.0	
Auckland Is.	2	2	100.0	0	0.00	N			
Stewart-Snares	1	0	0.0	0		N			
2007-08									
Subantarctic	816	331	40.6	5	1.51	M	7 (5 - 13)	100.0	
Auckland Is.	0								
Stewart-Snares	0								

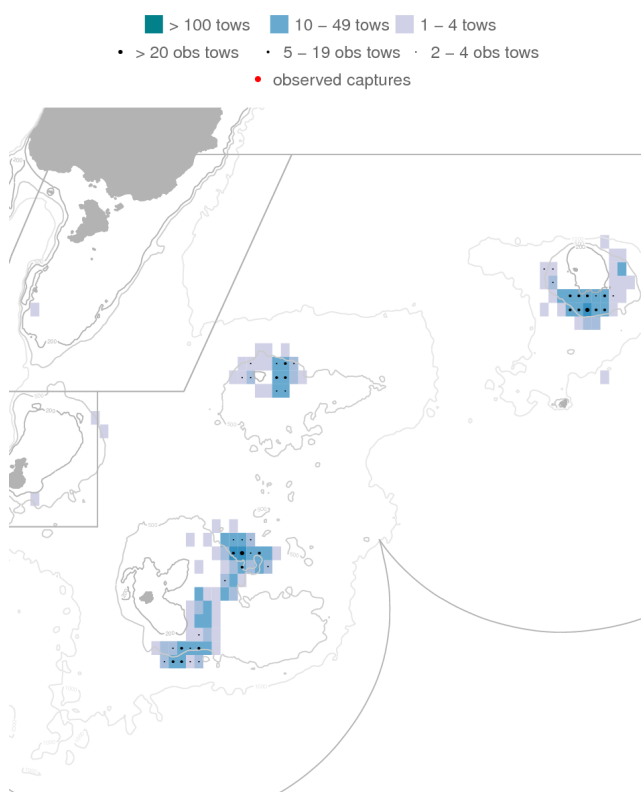
Table 97: Summary of New Zealand sea lion captures in southern blue whiting trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed			Observed		Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. interactions	% inc.		
2008-09	1 187	299	25.2	0	0.00	M	1 (0 - 6)	100.0		
2007-08	816	331	40.6	5	1.51	M	7 (5 - 13)	100.0		
2006-07	630	224	35.6	3	1.34	M	13 (5 - 25)	100.0		
2005-06	624	217	34.8	3	1.38	M	7 (3 - 15)	100.0		
2004-05	869	335	38.6	2	0.60	M	5 (2 - 11)	100.0		
2003-04	740	241	32.6	1	0.41	M	3 (1 - 8)	100.0		
2002-03	638	275	43.1	0	0.00	M	0 (0 - 3)	100.0		
2001-02	1 159	334	28.8	1	0.30	M	3 (1 - 11)	98.2		
2000-01	664	388	58.4	0	0.00	M	0 (0 - 2)	99.8		
1999-00	693	314	45.3	0	0.00	M	0 (0 - 3)	100.0		
1998-99	1 250	341	27.3	0	0.00	M	1 (0 - 5)	98.9		

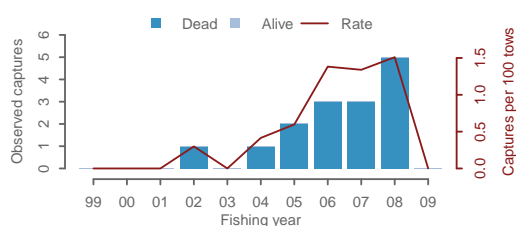
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

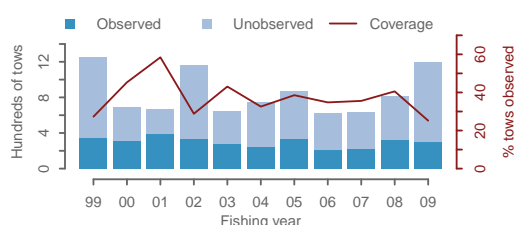


Figure 47: New Zealand sea lion captures in southern blue whiting trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008-09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.27.3 Southern blue whiting trawl, New Zealand fur seals, New Zealand EEZ

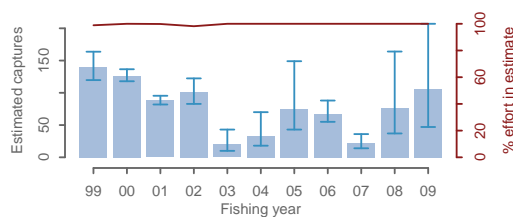
Table 98: Summary of New Zealand fur seal captures in southern blue whiting trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008-09									
Subantarctic	1 184	296	25.0	17	5.74	M	105 (48 - 213)	100.0	
Auckland Is.	2	2	100.0	0	0.00	N			
Stewart-Snares	1	0	0.0	0		N			
2007-08									
Subantarctic	816	331	40.6	24	7.25	M	77 (38 - 160)	100.0	
Auckland Is.	0								
Stewart-Snares	0								

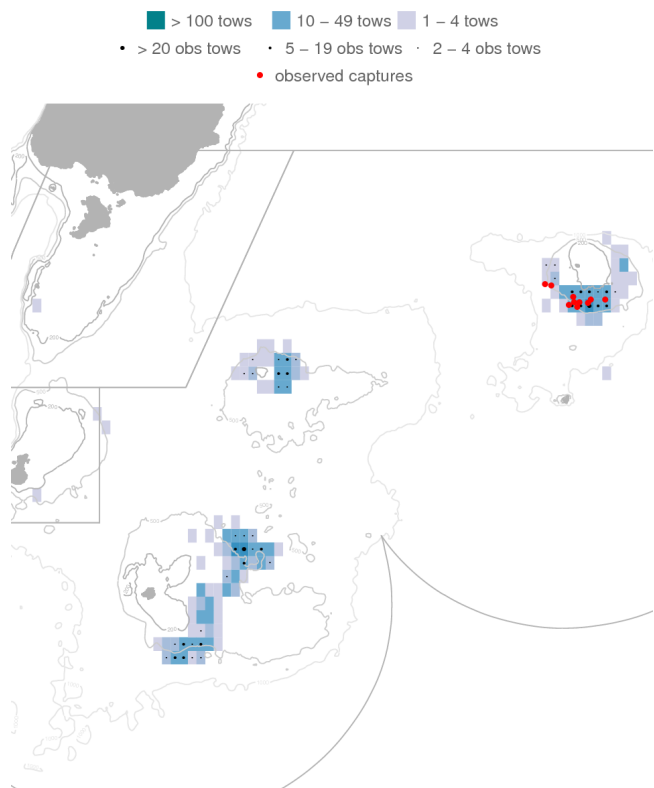
Table 99: Summary of New Zealand fur seal captures in southern blue whiting trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008-09	1 187	299	25.2	17	5.69	M	106 (47 - 207)	100.0	
2007-08	816	331	40.6	24	7.25	M	76 (37 - 164)	100.0	
2006-07	630	224	35.6	13	5.80	M	22 (14 - 36)	100.0	
2005-06	624	217	34.8	52	23.96	M	67 (55 - 88)	100.0	
2004-05	869	335	38.6	33	9.85	M	75 (43 - 149)	100.0	
2003-04	740	241	32.6	13	5.39	M	33 (18 - 70)	100.0	
2002-03	638	275	43.1	8	2.91	M	20 (10 - 43)	100.0	
2001-02	1 159	334	28.8	13	3.89	R	101 (83 - 122)	98.2	
2000-01	664	388	58.4	58	14.95	R	88 (82 - 95)	99.8	
1999-00	693	314	45.3	85	27.07	R	127 (118 - 137)	100.0	
1998-99	1 250	341	27.3	42	12.32	R	140 (120 - 164)	98.9	

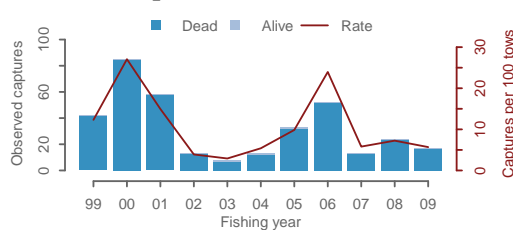
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

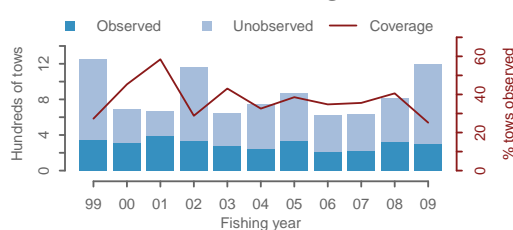


Figure 48: New Zealand fur seal captures in southern blue whiting trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008-09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.28 Jack mackerel trawl fisheries

3.28.1 Jack mackerel trawl, all birds, New Zealand EEZ

Table 100: Summary of all bird captures in jack mackerel trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed		Estimated					
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008–09									
West Coast NI	1 800	680	37.8						
White-chinned petrels				0	0.00	M	2	(0 - 6)	100.0
Other birds ^a				2	0.29	M	6	(2 - 13)	100.0
West Coast SI	221	98	44.3						
Other birds (Westland petrel)				1	1.02	M	1	(1 - 3)	100.0
Stewart-Snares	83	35	42.2						
White-chinned petrels				3	8.57	M	4	(3 - 7)	100.0
Sooty shearwaters				0	0.00	M	3	(0 - 15)	100.0
Chatham Rise	68	1	1.5						
Sooty shearwaters				0	0.00	M	1	(0 - 7)	100.0
Other albatrosses				0	0.00	M	0	(0 - 1)	100.0
2007–08									
West Coast NI	2 195	710	32.3						
White-chinned petrels				0	0.00	M	2	(0 - 7)	100.0
Other birds				0	0.00	M	2	(0 - 7)	100.0
West Coast SI	255	80	31.4						
Other birds				0	0.00	M	0	(0 - 2)	100.0
Stewart-Snares	14	3	21.4						
White-chinned petrels				0	0.00	M	0	(0 - 1)	100.0
Sooty shearwaters				0	0.00	M	0	(0 - 4)	100.0
Chatham Rise	177	21	11.9						
Sooty shearwaters				0	0.00	M	1	(0 - 6)	100.0
Other albatrosses (Buller's albatross)				1	4.76	M	1	(1 - 3)	100.0

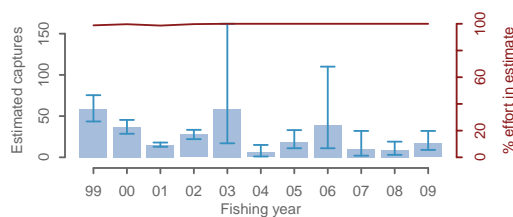
^a Fairy prion (1), prions (unidentified) (1)

Table 101: Summary of all bird captures in jack mackerel trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

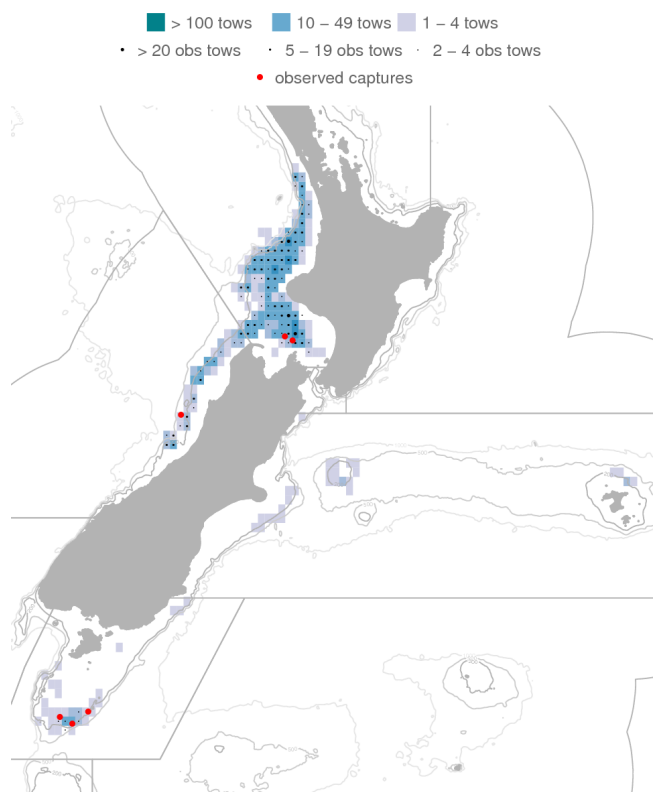
	Tows	Observed		Observed		Estimated		Estimated	
		No. obs	% obs	Capt. ^s	Rate	Type	Est. captures	% inc.	
2008–09	2 172	814	37.5	6	0.74	M	17 (9 - 32)	100.0	
2007–08	2 646	817	30.9	1	0.12	M	9 (3 - 19)	100.0	
2006–07	2 711	802	29.6	1	0.12	M	10 (2 - 32)	100.0	
2005–06	2 808	709	25.2	0	0.00	M	39 (11 - 110)	100.0	
2004–05	2 509	558	22.2	8	1.43	M	19 (11 - 33)	100.0	
2003–04	2 383	152	6.4	0	0.00	M	6 (1 - 15)	100.0	
2002–03	3 067	346	11.3	4	1.16	M	58 (17 - 162)	100.0	
2001–02	3 002	351	11.7	9	2.56	R	28 (22 - 33)	99.8	
2000–01	1 941	404	20.8	9	2.23	R	15 (13 - 18)	98.7	
1999–00	2 290	516	22.5	9	1.74	R	37 (29 - 45)	99.7	
1998–99	3 866	626	16.2	5	0.80	R	59 (44 - 75)	98.8	

^s All observed captures by species: sooty shearwater (15), white-capped albatross (13), white-chinned petrel (5), petrel (unidentified) (3), fairy prion (3), Buller's albatross (3), Cape petrels (2), Campbell albatross (2), prions (unidentified) (2), Salvin's albatross (1), seabird – large (1), Westland petrel (1), common diving petrel (1)

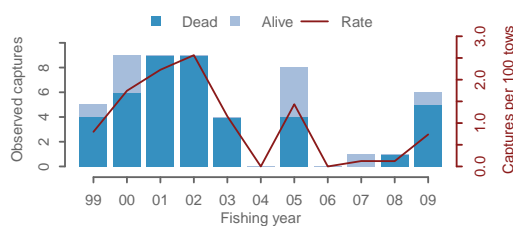
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

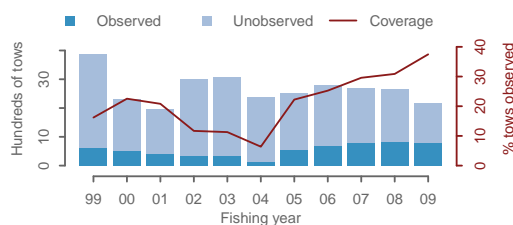


Figure 49: All bird captures in jack mackerel trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.28.2 Jack mackerel trawl, dolphins and whales, New Zealand EEZ

Table 102: Summary of dolphin and whale captures in jack mackerel trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

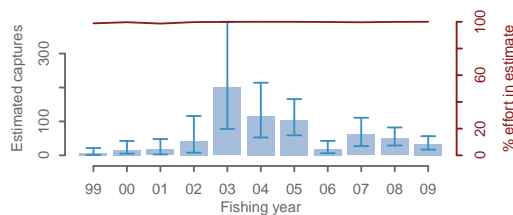
	Tows	Observed			Estimated				
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008-09									
West Coast NI	1 800	680	37.8						
Dolphins (common dolphin)				11	1.62	M	25 (13 - 52)	100.0	
Pilot whales				2	0.29	R	5 (2 - 10)	100.0	
Chatham Rise	68	1	1.5						
Dolphins				0	0.00	R	0 (0 - 1)	100.0	
2007-08									
West Coast NI	2 195	710	32.3						
Dolphins (common dolphin)				20	2.82	M	43 (25 - 75)	100.0	
Pilot whales				0	0.00	R	4 (0 - 10)	100.0	
Chatham Rise	177	21	11.9						
Dolphins				0	0.00	R	1 (0 - 2)	100.0	

Table 103: Summary of dolphin and whale captures in jack mackerel trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

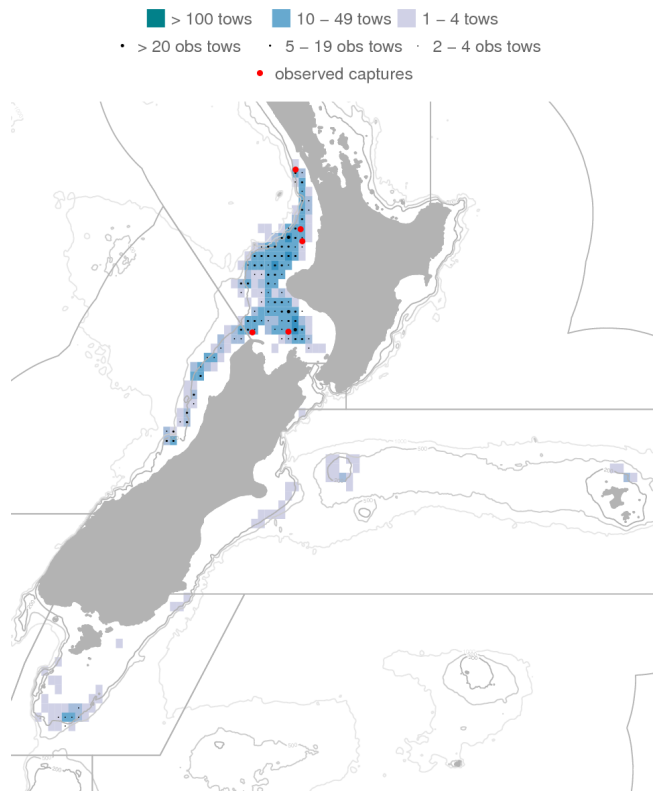
	Tows	Observed				Estimated			
		No. obs	% obs	Capt. ^s	Rate	Type	Est. captures	% inc.	
2008–09	2 172	814	37.5	13	1.60	B	33 (17 - 57)	100.0	
2007–08	2 646	817	30.9	20	2.45	B	50 (29 - 82)	99.9	
2006–07	2 711	802	29.6	11	1.37	B	62 (27 - 111)	99.6	
2005–06	2 808	709	25.2	3	0.42	B	20 (6 - 42)	99.9	
2004–05	2 509	558	22.2	27	4.84	B	104 (59 - 166)	100.0	
2003–04	2 383	152	6.4	17	11.18	B	115 (53 - 214)	100.0	
2002–03	3 067	346	11.3	21	6.07	B	200 (78 - 394)	99.9	
2001–02	3 002	351	11.7	1	0.28	B	43 (8 - 116)	99.8	
2000–01	1 941	404	20.8	1	0.25	B	17 (3 - 48)	98.7	
1999–00	2 290	516	22.5	4	0.78	B	16 (5 - 42)	99.7	
1998–99	3 866	626	16.2	0	0.00	B	7 (1 - 21)	98.8	

^s All observed captures by species: common dolphin (106), pilot whale (11), dusky dolphin (1)

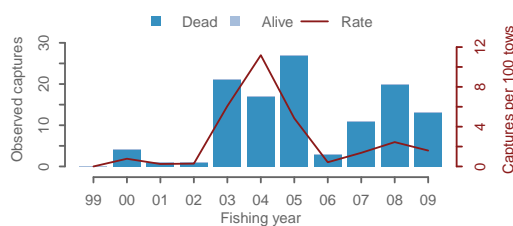
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

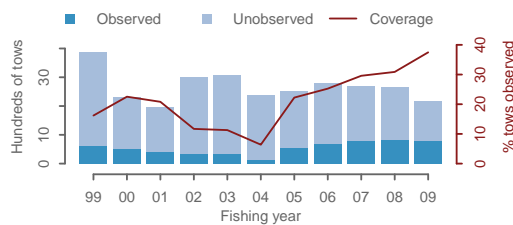


Figure 50: Dolphin and whale captures in jack mackerel trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.28.3 Jack mackerel trawl, New Zealand fur seals, New Zealand EEZ

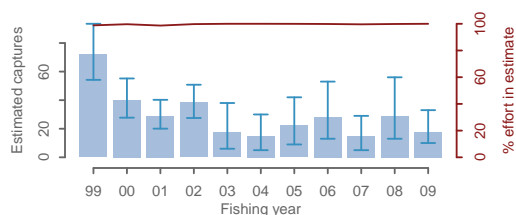
Table 104: Summary of New Zealand fur seal captures in jack mackerel trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008-09									
West Coast NI	1 800	680	37.8	3	0.44	M	7 (3 - 15)	100.0	
West Coast SI	221	98	44.3	5	5.10	M	9 (5 - 19)	100.0	
Stewart-Snares	83	35	42.2	0	0.00	M	0 (0 - 2)	100.0	
Chatham Rise	68	1	1.5	0	0.00	M	1 (0 - 5)	100.0	
Cook Strait	0								
2007-08									
West Coast NI	2 195	710	32.3	1	0.14	M	10 (2 - 23)	100.0	
West Coast SI	255	80	31.4	6	7.50	M	12 (6 - 22)	100.0	
Stewart-Snares	14	3	21.4	0	0.00	M	0 (0 - 1)	100.0	
Chatham Rise	177	21	11.9	0	0.00	M	7 (0 - 22)	100.0	
Cook Strait	5	0	0.0	0		N			

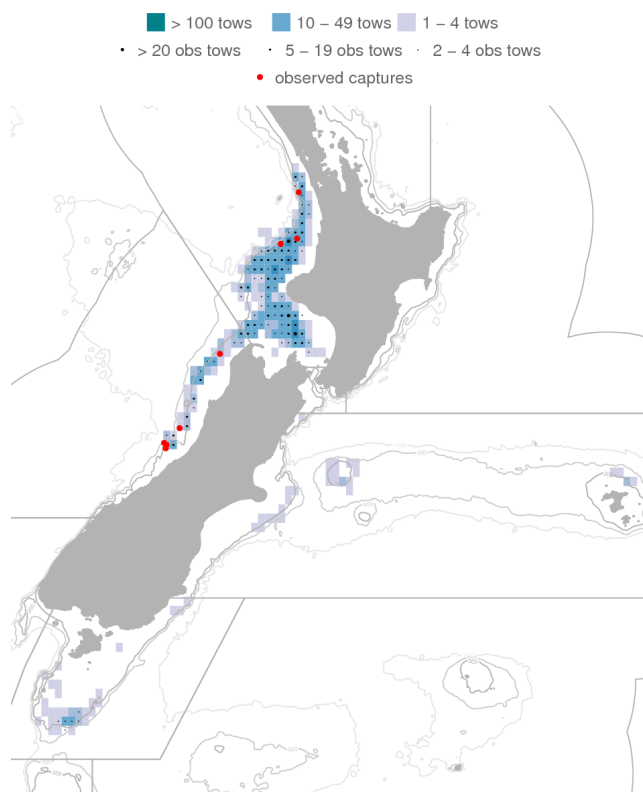
Table 105: Summary of New Zealand fur seal captures in jack mackerel trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed		Observed		Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008–09	2 172	814	37.5	8	0.98	M	18 (10 - 33)	100.0	
2007–08	2 646	817	30.9	7	0.86	M	29 (13 - 56)	99.8	
2006–07	2 711	802	29.6	2	0.25	M	15 (5 - 29)	99.6	
2005–06	2 808	709	25.2	6	0.85	M	28 (13 - 53)	99.9	
2004–05	2 509	558	22.2	5	0.90	M	22 (9 - 42)	100.0	
2003–04	2 383	152	6.4	2	1.32	M	15 (5 - 30)	100.0	
2002–03	3 067	346	11.3	1	0.29	M	17 (6 - 38)	100.0	
2001–02	3 002	351	11.7	5	1.42	R	38 (28 - 51)	99.8	
2000–01	1 941	404	20.8	5	1.24	R	29 (20 - 40)	98.7	
1999–00	2 290	516	22.5	4	0.78	R	40 (28 - 55)	99.7	
1998–99	3 866	626	16.2	19	3.04	R	72 (54 - 93)	98.8	

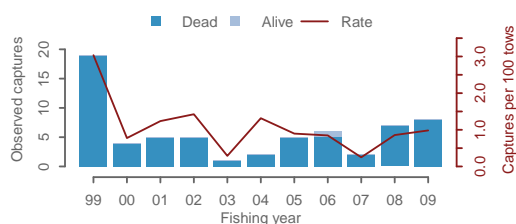
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

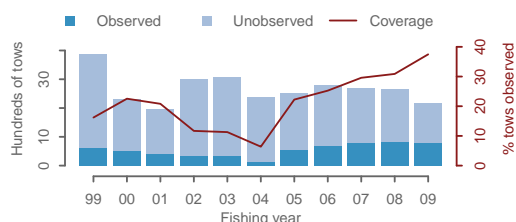


Figure 51: New Zealand fur seal captures in jack mackerel trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.29 Inshore trawl fisheries

3.29.1 Inshore trawl, all birds, New Zealand EEZ

Table 106: Summary of all bird captures in inshore trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed			Estimated		
		No. obs	% obs	Capt.	Rate	Type	Est. captures
2008–09							
Chatham Rise	8 951	476	5.3				
Other albatrosses ^a				11	2.31	N	
Other birds ^b				33	6.93	N	
Stewart-Snares	6 557	333	5.1				
Other birds (gulls and terns)				2	0.60	N	
West Coast SI	6 315	356	5.6				
White-capped albatrosses				6	1.69	N	
Sooty shearwaters				1	0.28	N	
Other albatrosses (albatrosses (unidentified))				4	1.12	N	
Other birds				0	0.00	N	
2007–08							
Chatham Rise	7 923	8	0.1				
Other albatrosses (Salvin's albatross)				1	12.50	N	
Other birds				0	0.00	N	
Stewart-Snares	7 287	0	0.0				
Other birds				0		N	
West Coast SI	6 353	41	0.6				
White-capped albatrosses				0	0.00	N	
Sooty shearwaters				0	0.00	N	
Other albatrosses				0	0.00	N	
Other birds (Cape petrels)				1	2.44	N	

^a Salvin's albatross (9), albatrosses (unidentified) (2)

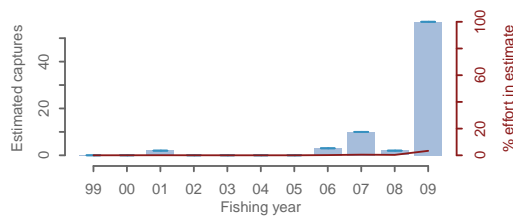
^b Spotted shag (32), petrel (unidentified) (1)

Table 107: Summary of all bird captures in inshore trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

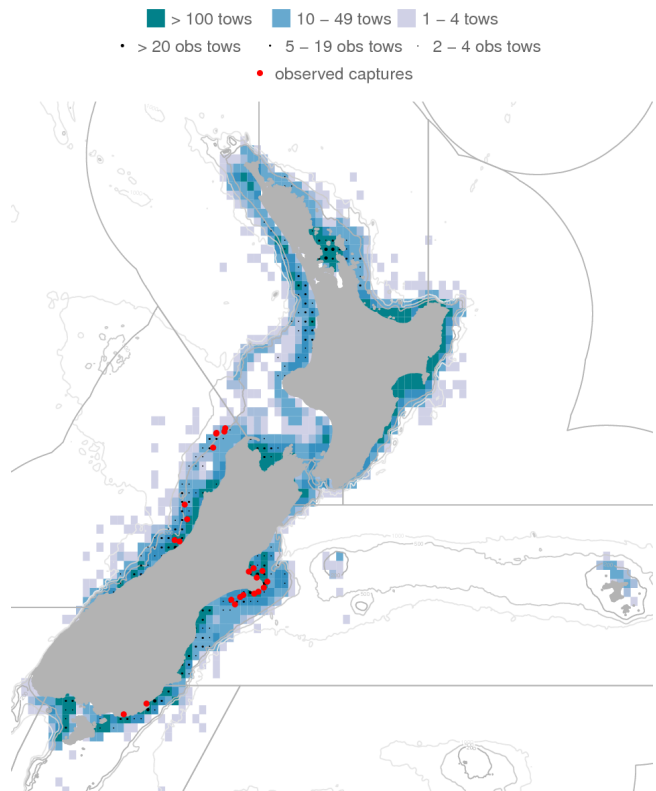
	Tows	Observed			Estimated			
		No. obs	% obs	Capt. ^s	Rate	Type	Est. captures	% inc.
2008–09	51 293	1 723	3.4	57	3.31	N		
2007–08	50 052	158	0.3	2	1.27	N		
2006–07	59 813	292	0.5	10	3.42	N		
2005–06	62 054	103	0.2	3	2.91	N		
2004–05	67 293	18	0.0	0	0.00	N		
2003–04	63 774	8	0.0	0	0.00	N		
2002–03	63 536	9	0.0	0	0.00	N		
2001–02	61 450	28	0.0	0	0.00	N		
2000–01	64 190	48	0.1	2	4.17	N		
1999–00	66 510	29	0.0	0	0.00	N		
1998–99	77 676	18	0.0	0	0.00	N		

^s All observed captures by species: spotted shag (32), white-capped albatross (13), Salvin’s albatross (12), albatrosses (unidentified) (8), gulls and terns (2), Cape petrels (1), sooty shearwater (1), petrel (unidentified) (1), black petrel (1), seabird – large (1), flesh-footed shearwater (1), seabird – small (1)

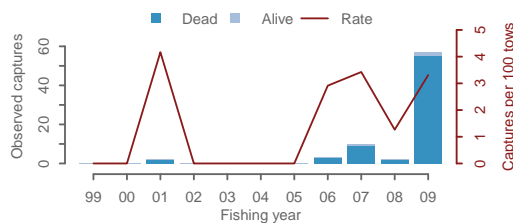
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

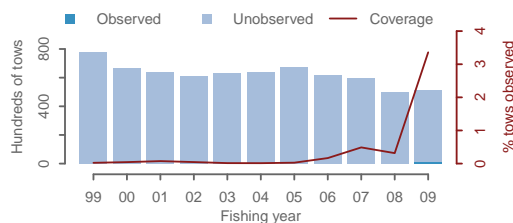


Figure 52: All bird captures in inshore trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.29.2 Inshore trawl, dolphins, New Zealand EEZ

Table 108: Summary of dolphin captures in inshore trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

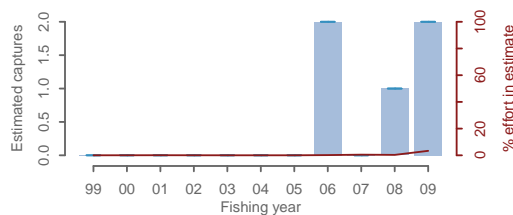
	Tows	Observed				Estimated		
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008-09								
West Coast NI	10 205	263	2.6	2	0.76	N		
East of NI	9 315	0	0.0	0		N		
Chatham Rise	8 951	476	5.3	0	0.00	N		
North East	8 697	295	3.4	0	0.00	N		
Stewart-Snares	6 557	333	5.1	0	0.00	N		
West Coast SI	6 315	356	5.6	0	0.00	N		
Cook Strait	1 190	0	0.0	0		N		
Puysegur	60	0	0.0	0		N		
Subantarctic	2	0	0.0	0		N		
Auckland Is.	1	0	0.0	0		N		
2007-08								
West Coast NI	10 170	64	0.6	0	0.00	N		
East of NI	9 308	0	0.0	0		N		
Chatham Rise	7 923	8	0.1	0	0.00	N		
North East	7 991	44	0.6	1	2.27	N		
Stewart-Snares	7 287	0	0.0	0		N		
West Coast SI	6 353	41	0.6	0	0.00	N		
Cook Strait	947	0	0.0	0		N		
Puysegur	67	0	0.0	0		N		
Subantarctic	5	0	0.0	0		N		
Auckland Is.	1	1	100.0	0	0.00	N		

Table 109: Summary of dolphin captures in inshore trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

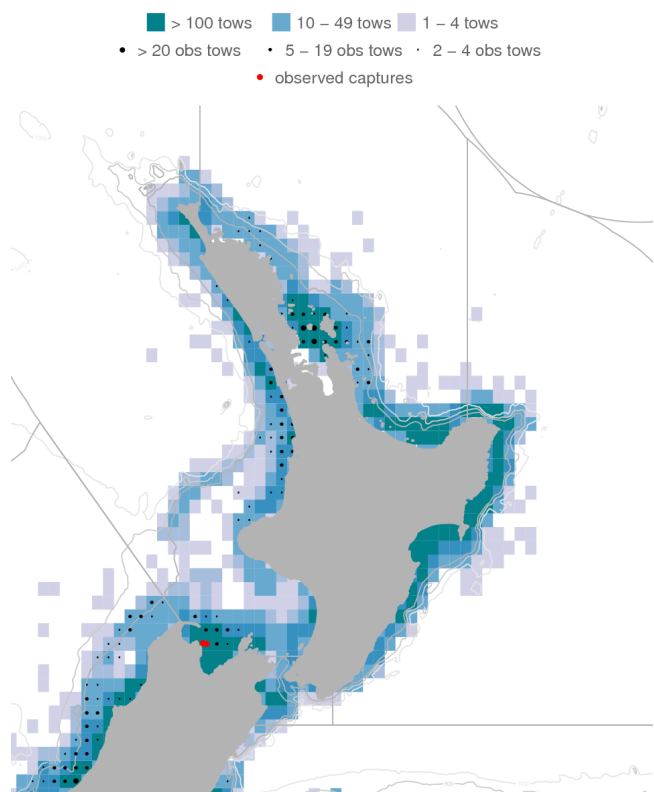
	Tows	Observed			Estimated			
		No. obs	% obs	Capt. ^s	Rate	Type	Est. captures	% inc.
2008–09	51 293	1 723	3.4	2	0.12	N		
2007–08	50 052	158	0.3	1	0.63	N		
2006–07	59 813	292	0.5	0	0.00	N		
2005–06	62 054	103	0.2	2	1.94	N		
2004–05	67 293	18	0.0	0	0.00	N		
2003–04	63 774	8	0.0	0	0.00	N		
2002–03	63 536	9	0.0	0	0.00	N		
2001–02	61 450	28	0.0	0	0.00	N		
2000–01	64 190	48	0.1	0	0.00	N		
1999–00	66 510	29	0.0	0	0.00	N		
1998–99	77 676	18	0.0	0	0.00	N		

^s All observed captures by species: common dolphin (4), bottlenose dolphin (1)

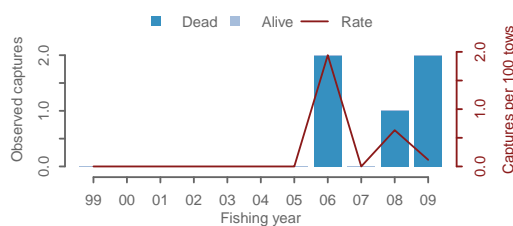
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

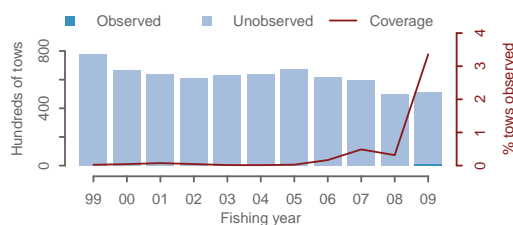


Figure 53: Dolphin captures in inshore trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.29.3 Inshore trawl, New Zealand fur seals, New Zealand EEZ

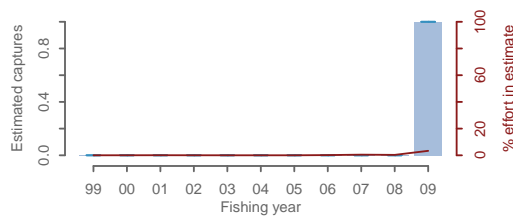
Table 110: Summary of New Zealand fur seal captures in inshore trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated		
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008-09								
West Coast NI	10 205	263	2.6	0	0.00	N		
East of NI	9 315	0	0.0	0		N		
Chatham Rise	8 951	476	5.3	0	0.00	N		
North East	8 697	295	3.4	0	0.00	N		
Stewart-Snares	6 557	333	5.1	1	0.30	N		
West Coast SI	6 315	356	5.6	0	0.00	N		
Cook Strait	1 190	0	0.0	0		N		
Puysegur	60	0	0.0	0		N		
Subantarctic	2	0	0.0	0		N		
Auckland Is.	1	0	0.0	0		N		
2007-08								
West Coast NI	10 170	64	0.6	0	0.00	N		
East of NI	9 308	0	0.0	0		N		
Chatham Rise	7 923	8	0.1	0	0.00	N		
North East	7 991	44	0.6	0	0.00	N		
Stewart-Snares	7 287	0	0.0	0		N		
West Coast SI	6 353	41	0.6	0	0.00	N		
Cook Strait	947	0	0.0	0		N		
Puysegur	67	0	0.0	0		N		
Subantarctic	5	0	0.0	0		N		
Auckland Is.	1	1	100.0	0	0.00	N		

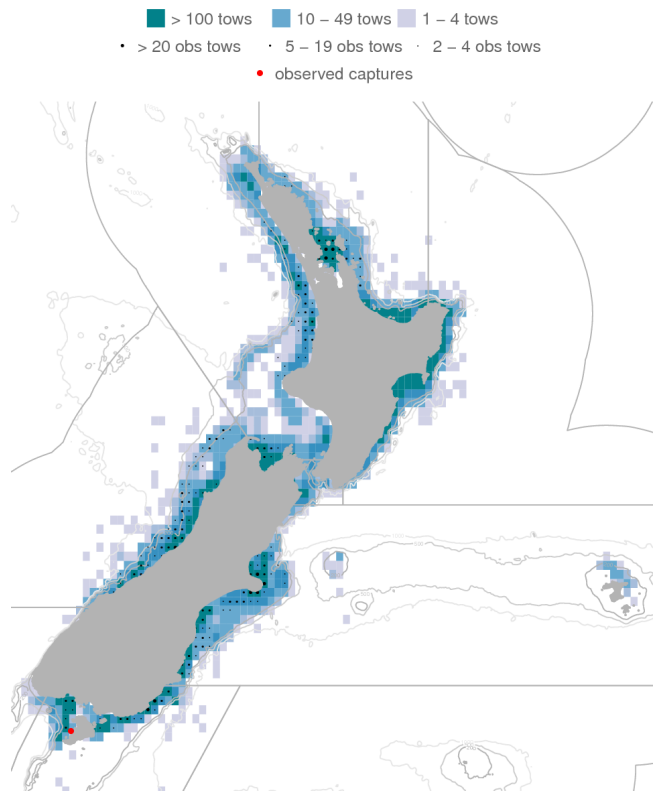
Table 111: Summary of New Zealand fur seal captures in inshore trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed			Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008–09	51 293	1 723	3.4	1	0.06	N		
2007–08	50 052	158	0.3	0	0.00	N		
2006–07	59 813	292	0.5	0	0.00	N		
2005–06	62 054	103	0.2	0	0.00	N		
2004–05	67 293	18	0.0	0	0.00	N		
2003–04	63 774	8	0.0	0	0.00	N		
2002–03	63 536	9	0.0	0	0.00	N		
2001–02	61 450	28	0.0	0	0.00	N		
2000–01	64 190	48	0.1	0	0.00	N		
1999–00	66 510	29	0.0	0	0.00	N		
1998–99	77 676	18	0.0	0	0.00	N		

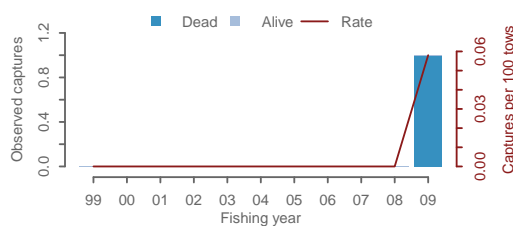
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

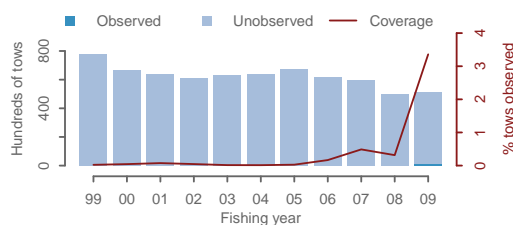


Figure 54: New Zealand fur seal captures in inshore trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.30 Middle depth trawl fisheries

3.30.1 Middle depth trawl, all birds, New Zealand EEZ

Table 112: Summary of all bird captures in middle depth trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008–09									
Chatham Rise	2 723	248	9.1						
White-capped albatrosses				0	0.00	M	9 (2 - 19)	100.0	
Sooty shearwaters				13	5.24	M	126 (45 - 306)	100.0	
Other albatrosses ^a				8	3.23	M	59 (33 - 95)	100.0	
Other birds ^b				1	0.40	M	6 (1 - 16)	100.0	
Stewart-Snares	1 014	251	24.8						
White-capped albatrosses				12	4.78	M	26 (17 - 40)	100.0	
White-chinned petrels				2	0.80	M	6 (2 - 14)	100.0	
Sooty shearwaters				12	4.78	M	35 (16 - 87)	100.0	
Other albatrosses ^c				11	4.38	M	18 (12 - 26)	100.0	
Other birds (petrel (unidentified))				5	1.99	M	7 (5 - 12)	100.0	
West Coast SI	997	40	4.0						
Other albatrosses ^d				2	5.00	M	9 (4 - 18)	100.0	
Other birds				0	0.00	M	4 (0 - 11)	100.0	
North East	161	37	23.0						
Other birds (flesh-footed shearwater)				1	2.70	M	2 (1 - 9)	100.0	
Puysegur	60	41	68.3						
White-capped albatrosses				1	2.44	M	1 (1 - 2)	100.0	
2007–08									
Chatham Rise	2 657	225	8.5						
White-capped albatrosses				1	0.44	M	7 (2 - 15)	100.0	
Sooty shearwaters				0	0.00	M	63 (19 - 164)	100.0	
Other albatrosses (Salvin's albatross)				1	0.44	M	31 (15 - 56)	100.0	
Other birds				0	0.00	M	3 (0 - 7)	100.0	
Stewart-Snares	1 014	82	8.1						
White-capped albatrosses				0	0.00	M	10 (2 - 24)	100.0	
White-chinned petrels				5	6.10	M	10 (5 - 17)	100.0	
Sooty shearwaters				0	0.00	M	28 (5 - 88)	100.0	
Other albatrosses (Buller's albatross)				2	2.44	M	7 (3 - 13)	100.0	
Other birds				0	0.00	M	1 (0 - 5)	100.0	
West Coast SI	1 340	54	4.0						
Other albatrosses				0	0.00	M	5 (1 - 12)	100.0	
Other birds (Westland petrel)				1	1.85	M	3 (1 - 8)	100.0	
North East	194	18	9.3						
Other birds				0	0.00	M	1 (0 - 6)	100.0	
Puysegur	83	0	0.0						
White-capped albatrosses				0		M	0 (0 - 2)	100.0	

^a Albatrosses (unidentified) (4), Buller's albatross (3), Salvin's albatross (1)

^b Petrels, prions and shearwaters (1)

^c Buller's albatross (8), albatrosses (unidentified) (2), smaller albatrosses (1)

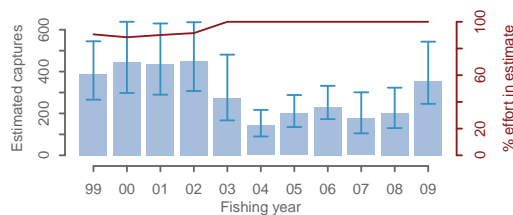
^d Albatrosses (unidentified) (1), Salvin's albatross (1)

Table 113: Summary of all bird captures in middle depth trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

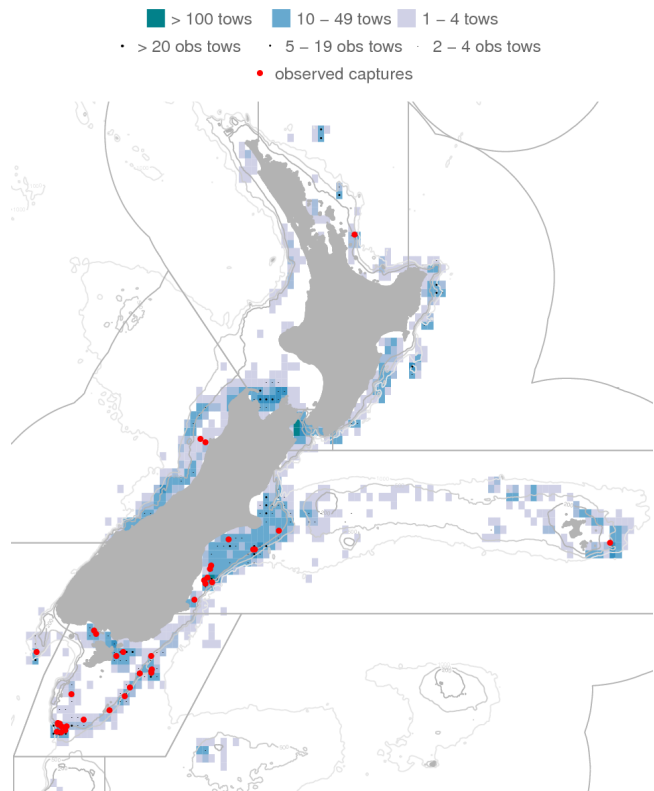
	Tows	Observed		Observed		Type	Estimated		% inc.
		No. obs	% obs	Capt. ^s	Rate		Est. captures		
2008–09	7 234	735	10.2	68	9.25	M	356 (246 - 543)	100.0	
2007–08	7 397	435	5.9	10	2.30	M	201 (130 - 323)	100.0	
2006–07	8 220	393	4.8	12	3.05	M	175 (105 - 301)	100.0	
2005–06	8 410	488	5.8	73	14.96	M	231 (173 - 332)	100.0	
2004–05	9 192	223	2.4	4	1.79	M	199 (135 - 288)	100.0	
2003–04	9 185	194	2.1	8	4.12	M	142 (90 - 217)	100.0	
2002–03	11 181	348	3.1	13	3.74	M	274 (167 - 481)	100.0	
2001–02	11 214	259	2.3	22	8.49	R	449 (307 - 636)	91.5	
2000–01	12 262	236	1.9	21	8.90	R	438 (290 - 630)	90.1	
1999–00	12 482	201	1.6	3	1.49	R	446 (298 - 638)	88.4	
1998–99	11 015	187	1.7	13	6.95	R	388 (266 - 545)	90.6	

^s All observed captures by species: sooty shearwater (114), white-capped albatross (70), Buller’s albatross (17), white-chinned petrel (13), albatrosses (unidentified) (8), petrel (unidentified) (6), Salvin’s albatross (4), Pacific albatross (3), shy albatross (2), seabird – small (1), flesh-footed shearwater (1), southern black-browed albatross (1), prions and shearwaters (1), seabird (unspecified) (1), smaller albatrosses (1), northern giant petrel (1), Westland petrel (1), northern royal albatross (1), prions (unidentified) (1)

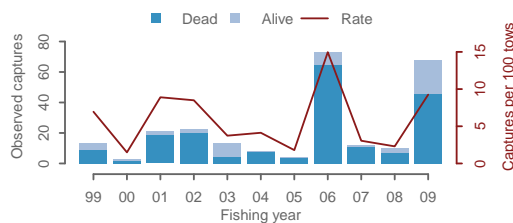
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

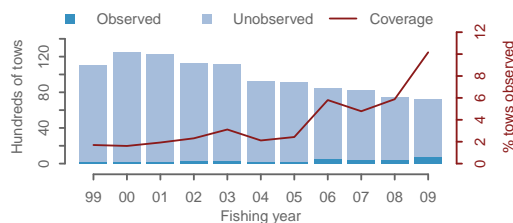


Figure 55: All bird captures in middle depth trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.30.2 Middle depth trawl, dolphins, New Zealand EEZ

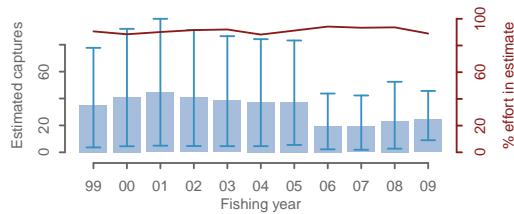
Table 114: Summary of dolphin captures in middle depth trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated		
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008-09								
Chatham Rise	2 723	248	9.1	0	0.00	R	0 (0 - 0)	100.0
Stewart-Snares	1 014	251	24.8	0	0.00	R	0 (0 - 0)	100.0
West Coast SI	997	40	4.0	0	0.00	R	3 (0 - 10)	100.0
West Coast NI	765	70	9.2	7	10.00	R	21 (7 - 41)	100.0
Cook Strait	740	0	0.0	0		N		
East of NI	707	40	5.7	0	0.00	R	0 (0 - 0)	100.0
North East	161	37	23.0	0	0.00	R	0 (0 - 0)	100.0
Subantarctic	65	6	9.2	0	0.00	N		
Puysegur	60	41	68.3	0	0.00	R	0 (0 - 0)	100.0
Auckland Is.	2	2	100.0	0	0.00	N		
2007-08								
Chatham Rise	2 657	225	8.5	0	0.00	R	0 (0 - 0)	100.0
Stewart-Snares	1 014	82	8.1	0	0.00	R	0 (0 - 0)	100.0
West Coast SI	1 340	54	4.0	0	0.00	R	4 (0 - 13)	100.0
West Coast NI	970	25	2.6	0	0.00	R	19 (0 - 46)	100.0
Cook Strait	469	2	0.4	0	0.00	N		
East of NI	652	18	2.8	0	0.00	R	0 (0 - 0)	100.0
North East	194	18	9.3	0	0.00	R	0 (0 - 0)	100.0
Subantarctic	18	11	61.1	0	0.00	N		
Puysegur	83	0	0.0	0		R	0 (0 - 0)	100.0
Auckland Is.	0							

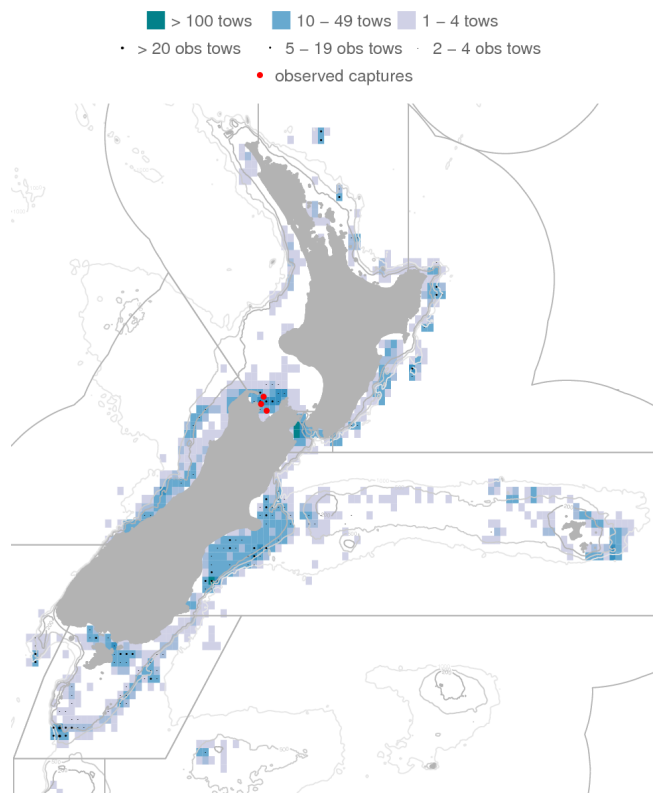
Table 115: Summary of dolphin captures in middle depth trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed			Estimated				
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008–09	7 234	735	10.2	7	0.95	R	24 (9 - 46)	89.0	
2007–08	7 397	435	5.9	0	0.00	R	23 (3 - 52)	93.6	
2006–07	8 220	393	4.8	0	0.00	R	19 (2 - 42)	93.3	
2005–06	8 410	488	5.8	0	0.00	R	20 (2 - 44)	94.2	
2004–05	9 192	223	2.4	1	0.45	R	38 (5 - 83)	91.2	
2003–04	9 185	194	2.1	0	0.00	R	37 (5 - 84)	88.2	
2002–03	11 181	348	3.1	0	0.00	R	38 (5 - 86)	92.0	
2001–02	11 214	259	2.3	0	0.00	R	41 (5 - 91)	91.5	
2000–01	12 262	236	1.9	0	0.00	R	45 (5 - 99)	90.1	
1999–00	12 482	201	1.6	0	0.00	R	41 (4 - 92)	88.4	
1998–99	11 015	187	1.7	0	0.00	R	35 (4 - 78)	90.6	

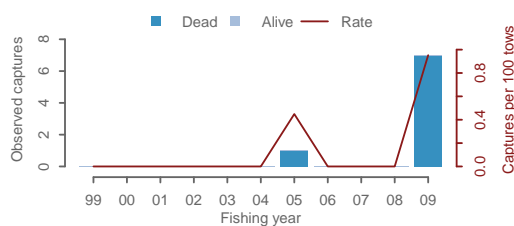
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

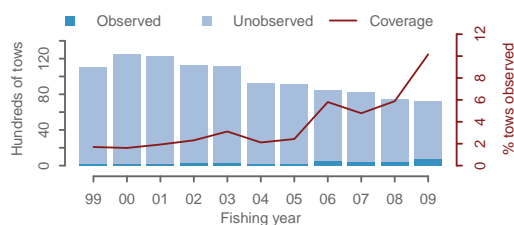


Figure 56: Dolphin captures in middle depth trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.30.3 Middle depth trawl, New Zealand fur seals, New Zealand EEZ

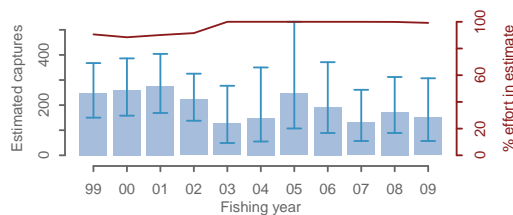
Table 116: Summary of New Zealand fur seal captures in middle depth trawl fisheries, broken down by fishing areas, with the number of tows, number of tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008–09									
Chatham Rise	2 723	248	9.1	2	0.81	M	51 (21 - 100)	100.0	
Stewart-Snares	1 014	251	24.8	0	0.00	M	13 (3 - 31)	100.0	
West Coast SI	997	40	4.0	0	0.00	M	22 (6 - 48)	100.0	
West Coast NI	765	70	9.2	0	0.00	M	2 (0 - 7)	100.0	
Cook Strait	740	0	0.0	0		M	61 (7 - 180)	100.0	
East of NI	707	40	5.7	0	0.00	M	3 (0 - 11)	100.0	
North East	161	37	23.0	0	0.00	M	0 (0 - 0)	100.0	
Subantarctic	65	6	9.2	0	0.00	N			
Puysegur	60	41	68.3	0	0.00	M	0 (0 - 3)	100.0	
Auckland Is.	2	2	100.0	0	0.00	M	0 (0 - 0)	100.0	
2007–08									
Chatham Rise	2 657	225	8.5	6	2.67	M	56 (27 - 106)	100.0	
Stewart-Snares	1 014	82	8.1	0	0.00	M	23 (7 - 47)	100.0	
West Coast SI	1 340	54	4.0	3	5.56	M	45 (19 - 91)	100.0	
West Coast NI	970	25	2.6	0	0.00	M	5 (0 - 14)	100.0	
Cook Strait	469	2	0.4	0	0.00	M	41 (9 - 110)	100.0	
East of NI	652	18	2.8	0	0.00	M	8 (0 - 24)	100.0	
North East	194	18	9.3	0	0.00	M	0 (0 - 0)	100.0	
Subantarctic	18	11	61.1	0	0.00	N			
Puysegur	83	0	0.0	0		M	3 (0 - 13)	100.0	
Auckland Is.	0								

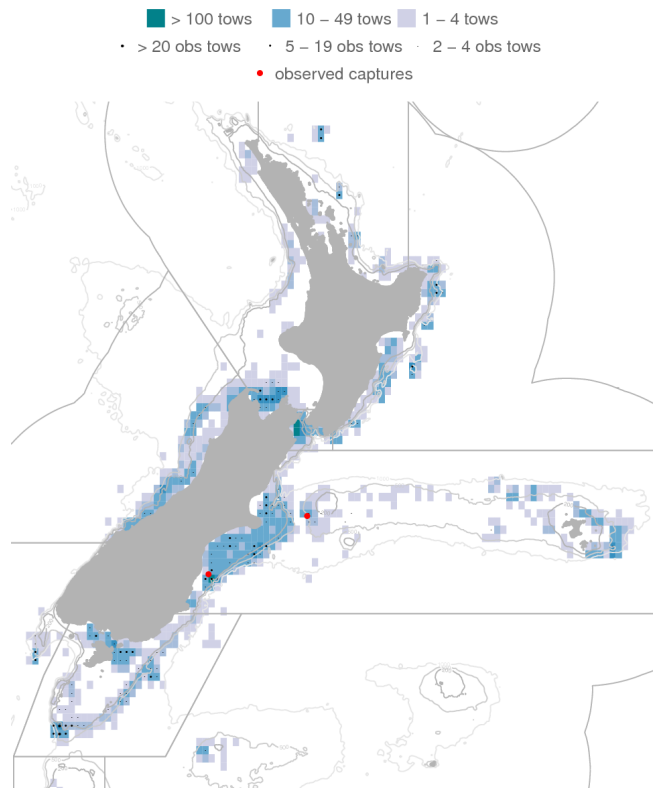
Table 117: Summary of New Zealand fur seal captures in middle depth trawl fisheries, with the number of tows, tows observed, percentage of tows observed, number of observed captures, capture rate per hundred tows, total estimated captures with 95% confidence intervals, and percentage of tows included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Tows	Observed		Observed		Type	Estimated		% inc.
		No. obs	% obs	Capt.	Rate		Est. captures		
2008-09	7 234	735	10.2	2	0.27	M	150 (57 - 307)	99.2	
2007-08	7 397	435	5.9	9	2.07	M	173 (89 - 312)	99.9	
2006-07	8 220	393	4.8	2	0.51	M	131 (57 - 261)	100.0	
2005-06	8 410	488	5.8	5	1.02	M	193 (89 - 371)	100.0	
2004-05	9 192	223	2.4	10	4.48	M	246 (107 - 532)	100.0	
2003-04	9 185	194	2.1	0	0.00	M	149 (55 - 350)	100.0	
2002-03	11 181	348	3.1	1	0.29	M	127 (49 - 277)	100.0	
2001-02	11 214	259	2.3	2	0.77	R	223 (138 - 325)	91.5	
2000-01	12 262	236	1.9	8	3.39	R	276 (169 - 404)	90.1	
1999-00	12 482	201	1.6	0	0.00	R	261 (158 - 386)	88.4	
1998-99	11 015	187	1.7	4	2.14	R	249 (150 - 367)	90.6	

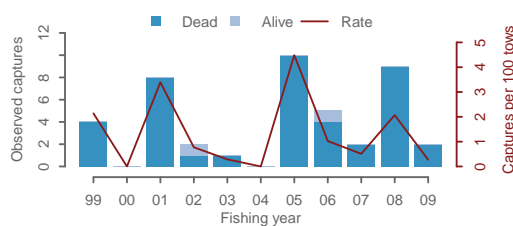
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

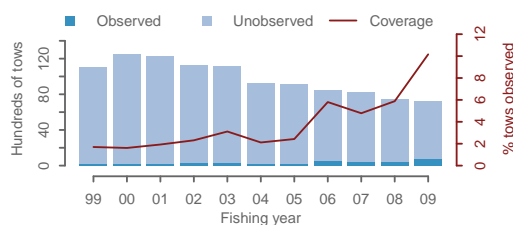


Figure 57: New Zealand fur seal captures in middle depth trawl fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008-09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.31 Southern bluefin longline fisheries

3.31.1 Southern bluefin longline, all birds, New Zealand EEZ

Table 118: Summary of all bird captures in southern bluefin longline fisheries, broken down by fishing areas, with the number of hooks, number of hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Hooks	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008-09									
Area 3	888 430	604 930	68.1						
White-capped albatrosses				3	0.005	M	5 (3 - 15)	100.0	
White-chinned petrels				2	0.003	M	3 (2 - 6)	100.0	
Other albatrosses ^a				38	0.063	M	47 (39 - 62)	100.0	
Other birds (Westland petrel)				1	0.002	M	1 (1 - 3)	100.0	
Area 1	585 103	111 912	19.1						
White-capped albatrosses				0	0.000	M	3 (0 - 10)	100.0	
White-chinned petrels				0	0.000	M	3 (0 - 8)	100.0	
Other albatrosses ^b				7	0.063	M	39 (17 - 77)	100.0	
Other birds (grey petrel)				6	0.054	M	26 (11 - 56)	100.0	
2007-08									
Area 3	654 625	254 208	38.8						
White-capped albatrosses				3	0.012	M	6 (3 - 14)	100.0	
White-chinned petrels				4	0.016	M	6 (4 - 11)	100.0	
Other albatrosses (Buller's albatross)				17	0.067	M	45 (22 - 97)	100.0	
Other birds				0	0.000	M	0 (0 - 2)	100.0	
Area 1	448 700	90 964	20.3						
White-capped albatrosses				0	0.000	M	1 (0 - 6)	100.0	
White-chinned petrels				0	0.000	M	3 (0 - 10)	100.0	
Other albatrosses ^c				5	0.055	M	26 (12 - 54)	100.0	
Other birds (grey petrel)				1	0.011	M	14 (3 - 34)	100.0	

^a Buller's albatross (35), wandering albatross (unidentified) (2), black-browed albatross (unidentified) (1)

^b Buller's albatross (3), Salvin's albatross (2), black-browed albatross (unidentified) (1), Gibson's albatross (1)

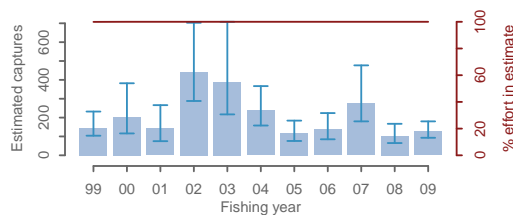
^c Salvin's albatross (1), black-browed albatross (unidentified) (1), Antipodean albatross (1), wandering albatross (unidentified) (1), Buller's albatross (1)

Table 119: Summary of all bird captures in southern bluefin longline fisheries, with the number of hooks, hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

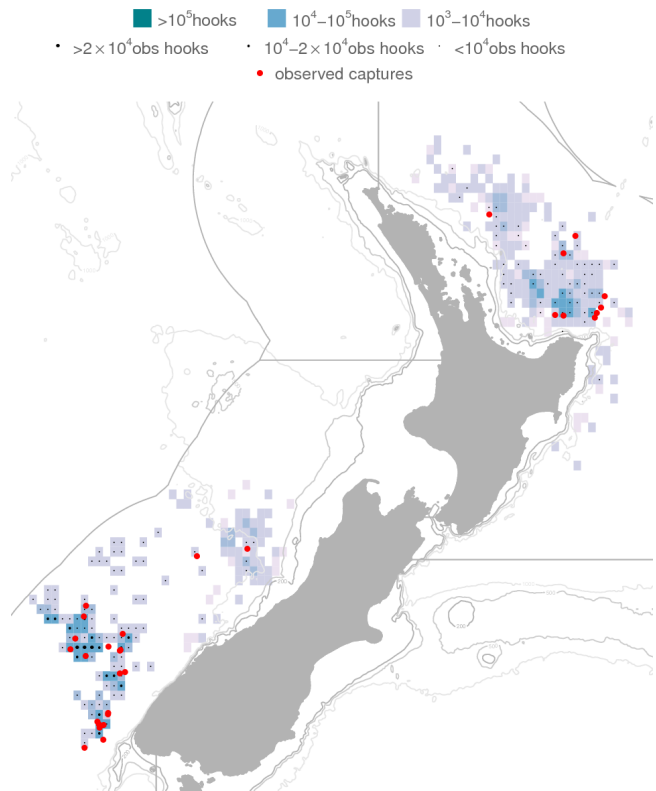
Year	Hooks	Observed				Estimated				
		No. obs	% obs	Capt. ^s	Rate	Type	Est. captures	% inc.		
2008–09	1 473 533	716 842	48.6	57	0.080	M	127 (93 - 180)	100.0		
2007–08	1 104 825	345 172	31.2	30	0.087	M	103 (65 - 167)	100.0		
2006–07	1 939 211	831 972	42.9	111	0.133	M	274 (180 - 477)	100.0		
2005–06	1 493 418	576 234	38.6	29	0.050	M	137 (85 - 224)	100.0		
2004–05	1 662 079	656 231	39.5	36	0.055	M	119 (76 - 184)	100.0		
2003–04	3 193 936	1 343 064	42.1	70	0.052	M	237 (158 - 367)	100.0		
2002–03	3 509 003	1 051 810	30.0	43	0.041	M	389 (217 - 708)	100.0		
2001–02	2 813 894	793 297	28.2	83	0.105	M	443 (288 - 703)	100.0		
2000–01	1 906 725	785 940	41.2	15	0.019	M	142 (75 - 266)	100.0		
1999–00	1 743 562	721 190	41.4	41	0.057	M	205 (116 - 382)	100.0		
1998–99	1 892 036	1 171 046	61.9	74	0.063	M	145 (104 - 232)	99.9		

^s All observed captures by species: Buller’s albatross (337), white-capped albatross (87), grey petrel (45), white-chinned petrel (28), Campbell albatross (19), Gibson’s albatross (11), antipodean albatross (8), wandering albatross (unidentified) (7), southern royal albatross (6), southern black-browed albatross (5), Salvin’s albatross (5), black-browed albatross (unidentified) (5), Cape petrels (5), sooty shearwater (5), Westland petrel (4), flesh-footed shearwater (3), light-mantled sooty albatross (2), albatrosses (unidentified) (2), southern giant petrel (2), seabird – large (1), other species (2)

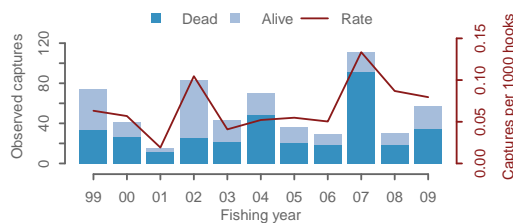
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

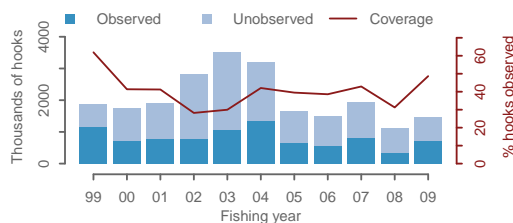


Figure 58: All bird captures in southern bluefin longline fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.31.2 Southern bluefin longline, New Zealand fur seals, New Zealand EEZ

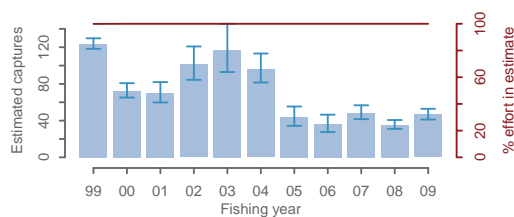
Table 120: Summary of New Zealand fur seal captures in southern bluefin longline fisheries, broken down by fishing areas, with the number of hooks, number of hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Hooks	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008-09									
Area 3	888 430	604 930	68.1	13	0.021	R	27 (25 - 28)	100.0	
Area 1	585 103	111 912	19.1	9	0.080	R	20 (15 - 26)	100.0	
Area 4	0								
2007-08									
Area 3	654 625	254 208	38.8	6	0.024	R	25 (23 - 28)	100.0	
Area 1	448 700	90 964	20.3	2	0.022	R	10 (6 - 15)	100.0	
Area 4	1 500	0	0.0	0		R	0 (0 - 0)	100.0	

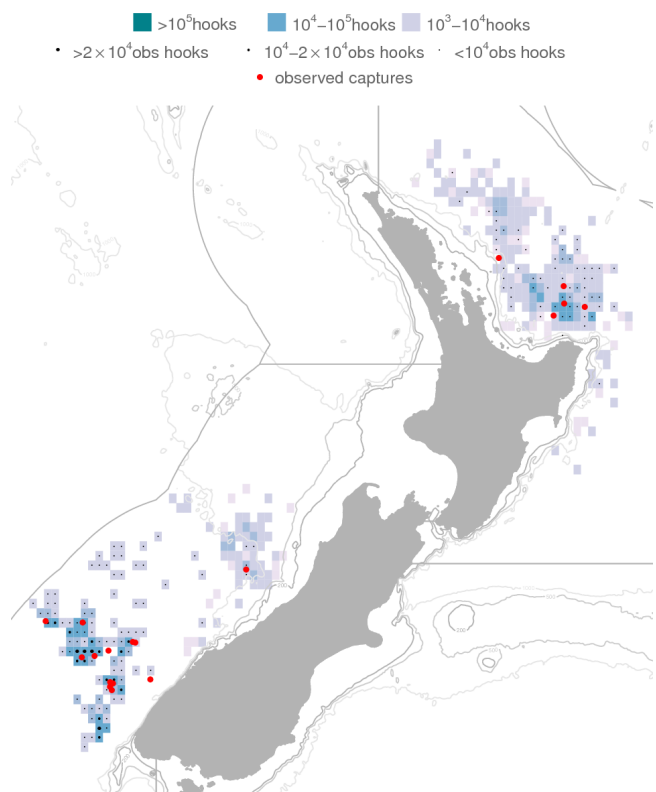
Table 121: Summary of New Zealand fur seal captures in southern bluefin longline fisheries, with the number of hooks, hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

Fishing year	Hooks	Observed			Estimated				
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008–09	1 473 533	716 842	48.6	22	0.031	R	46 (41 - 53)	100.0	
2007–08	1 104 825	345 172	31.2	8	0.023	R	35 (31 - 41)	100.0	
2006–07	1 939 211	831 972	42.9	10	0.012	R	48 (42 - 57)	100.0	
2005–06	1 493 418	576 234	38.6	12	0.021	R	36 (28 - 46)	100.0	
2004–05	1 662 079	656 231	39.5	18	0.027	R	44 (34 - 55)	100.0	
2003–04	3 193 936	1 343 064	42.1	40	0.030	R	96 (82 - 113)	100.0	
2002–03	3 509 003	1 051 810	30.0	56	0.053	R	117 (93 - 146)	100.0	
2001–02	2 813 894	793 297	28.2	44	0.055	R	101 (85 - 121)	100.0	
2000–01	1 906 725	785 940	41.2	43	0.055	R	70 (60 - 82)	100.0	
1999–00	1 743 562	721 190	41.4	42	0.058	R	72 (65 - 81)	100.0	
1998–99	1 892 036	1 171 046	61.9	102	0.087	R	123 (118 - 130)	99.9	

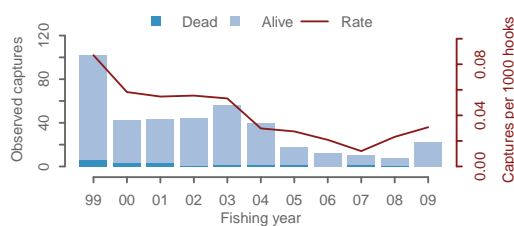
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

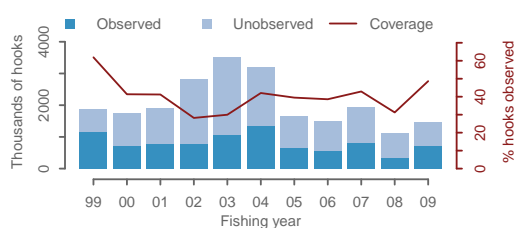


Figure 59: New Zealand fur seal captures in southern bluefin longline fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.32 Bigeye longline fisheries

3.32.1 Bigeye longline, all birds, New Zealand EEZ

Table 122: Summary of all bird captures in bigeye longline fisheries, broken down by fishing areas, with the number of hooks, number of hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Hooks	No. obs	% obs	Observed		Type	Estimated	
				Capt.	Rate		Est. captures	% inc.
2008-09								
Area 1	1 270 417	45 495	3.6					
White-chinned petrels				1	0.022	M	8 (2 - 20)	100.0
Sooty shearwaters				0	0.000	M	2 (0 - 7)	100.0
Other albatrosses ^a				5	0.110	M	148 (61 - 309)	100.0
Other birds ^b				3	0.066	M	240 (87 - 567)	100.0
Area 4	288 910	39 004	13.5					
White-chinned petrels				0	0.000	M	1 (0 - 5)	100.0
Other albatrosses				0	0.000	M	14 (3 - 35)	100.0
Other birds				0	0.000	M	30 (5 - 83)	100.0
2007-08								
Area 1	879 017	15 985	1.8					
White-chinned petrels				0	0.000	M	9 (1 - 23)	100.0
Sooty shearwaters				0	0.000	M	2 (0 - 7)	100.0
Other albatrosses ^c				4	0.250	M	93 (35 - 218)	100.0
Other birds (flesh-footed shearwater)				2	0.125	M	165 (38 - 508)	100.0
Area 4	88 812	8 360	9.4					
White-chinned petrels				0	0.000	M	1 (0 - 3)	100.0
Other albatrosses				0	0.000	M	7 (0 - 21)	100.0
Other birds				0	0.000	M	7 (0 - 23)	100.0

^a Campbell albatross (1), Antipodean albatross (1), northern royal albatross (1), wandering albatross (unidentified) (1), Salvin's albatross (1)

^b Black petrel (2), Cape petrels (1)

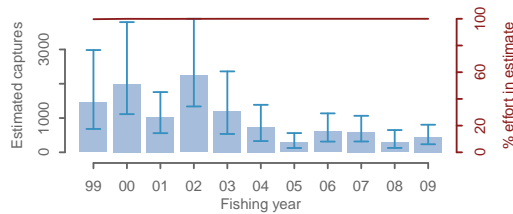
^c Buller's albatross (2), Gibson's albatross (1), Salvin's albatross (1)

Table 123: Summary of all bird captures in bigeye longline fisheries, with the number of hooks, hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

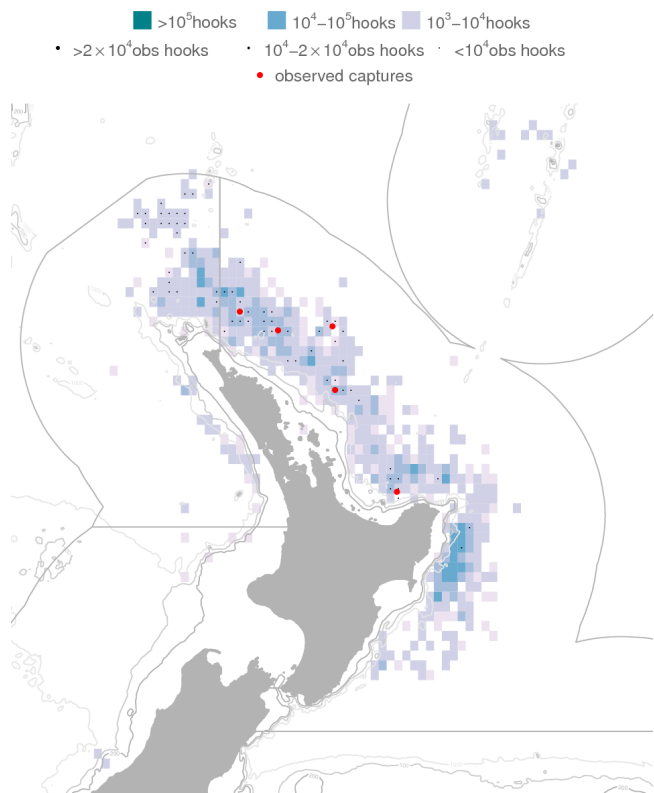
	Hooks	Observed				Estimated			
		No. obs	% obs	Capt. ^s	Rate	Type	Est. captures	% inc.	
2008–09	1 566 817	84 499	5.4	9	0.107	M	445 (235 - 804)	100.0	
2007–08	967 829	24 345	2.5	6	0.246	M	283 (127 - 649)	100.0	
2006–07	1 538 121	83 254	5.4	5	0.060	M	599 (316 - 1 065)	100.0	
2005–06	1 866 616	55 162	3.0	6	0.109	M	607 (313 - 1 136)	100.0	
2004–05	1 645 111	30 142	1.8	1	0.033	M	289 (126 - 561)	100.0	
2003–04	3 504 722	113 501	3.2	1	0.009	M	733 (328 - 1 385)	100.0	
2002–03	5 189 562	62 701	1.2	0	0.000	M	1 214 (535 - 2 361)	100.0	
2001–02	6 911 490	124 862	1.8	84	0.673	M	2 240 (1 338 - 3 895)	100.0	
2000–01	7 058 687	218 731	3.1	36	0.165	M	1 027 (559 - 1 757)	99.9	
1999–00	5 796 808	72 580	1.3	33	0.455	M	1 999 (1 114 - 3 798)	100.0	
1998–99	4 244 819	71 564	1.7	10	0.140	M	1 450 (681 - 2 983)	99.7	

^s All observed captures by species: flesh-footed shearwater (133), black petrel (21), Salvin’s albatross (7), Buller’s albatross (6), wandering albatross (unidentified) (5), white-chinned petrel (4), black-browed albatross (unidentified) (2), sooty shearwater (2), great-winged petrel (2), antipodean albatross (2), Gibson’s albatross (1), petrel (unidentified) (1), Campbell albatross (1), southern black-browed albatross (1), Cape petrels (1), albatrosses (unidentified) (1), northern royal albatross (1)

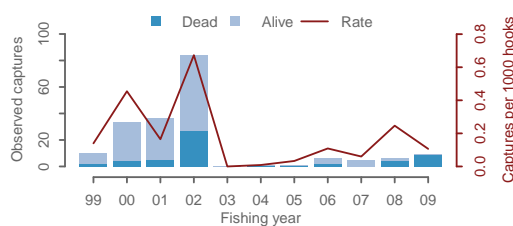
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

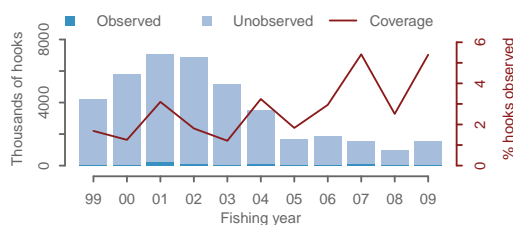


Figure 60: All bird captures in bigeye longline fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.32.2 Bigeye longline, New Zealand fur seals, New Zealand EEZ

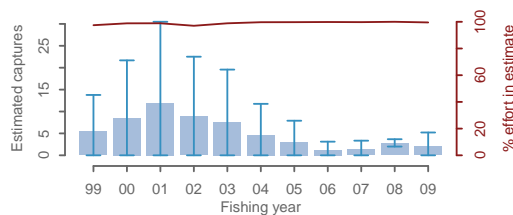
Table 124: Summary of New Zealand fur seal captures in bigeye longline fisheries, broken down by fishing areas, with the number of hooks, number of hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Hooks	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008-09									
Area 1	1 270 417	45 495	3.6	0	0.000	R	0 (0 - 0)	100.0	
Area 4	288 910	39 004	13.5	0	0.000	R	2 (0 - 5)	100.0	
Area 3	7 490	0	0.0	0		N			
2007-08									
Area 1	879 017	15 985	1.8	0	0.000	R	0 (0 - 0)	100.0	
Area 4	88 812	8 360	9.4	2	0.239	R	3 (2 - 4)	100.0	
Area 3	0								

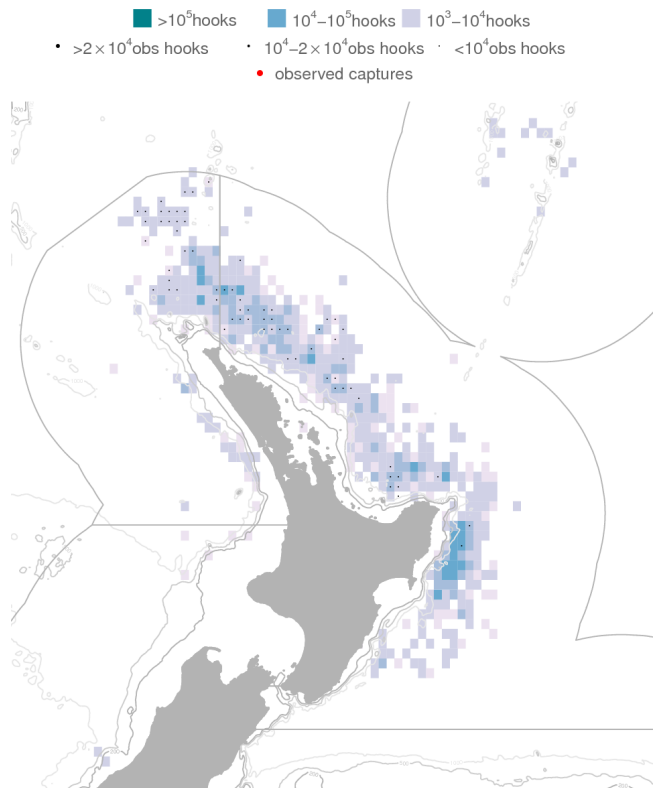
Table 125: Summary of New Zealand fur seal captures in bigeye longline fisheries, with the number of hooks, hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Hooks	Observed		Observed		Estimated		% inc.
		No. obs	% obs	Capt.	Rate	Type	Est. captures	
2008–09	1 566 817	84 499	5.4	0	0.000	R	2 (0 - 5)	99.5
2007–08	967 829	24 345	2.5	2	0.082	R	3 (2 - 4)	100.0
2006–07	1 538 121	83 254	5.4	0	0.000	R	1 (0 - 3)	99.7
2005–06	1 866 616	55 162	3.0	0	0.000	R	1 (0 - 3)	99.8
2004–05	1 645 111	30 142	1.8	0	0.000	R	3 (0 - 8)	99.7
2003–04	3 504 722	113 501	3.2	0	0.000	R	5 (0 - 12)	99.7
2002–03	5 189 562	62 701	1.2	0	0.000	R	8 (0 - 20)	98.9
2001–02	6 911 490	124 862	1.8	0	0.000	R	9 (0 - 23)	97.0
2000–01	7 058 687	218 731	3.1	0	0.000	R	12 (0 - 30)	98.9
1999–00	5 796 808	72 580	1.3	0	0.000	R	8 (0 - 22)	98.8
1998–99	4 244 819	71 564	1.7	0	0.000	R	5 (0 - 14)	97.4

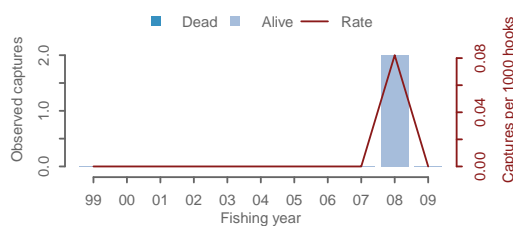
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

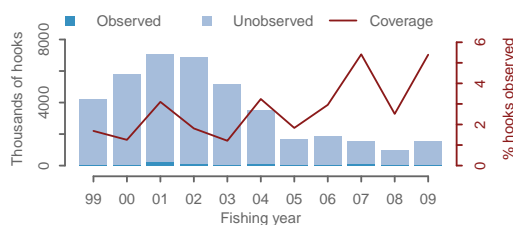


Figure 61: New Zealand fur seal captures in bigeye longline fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.32.3 Bigeye longline, turtles, New Zealand EEZ

Table 126: Summary of turtle captures in bigeye longline fisheries, broken down by fishing areas, with the number of hooks, number of hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

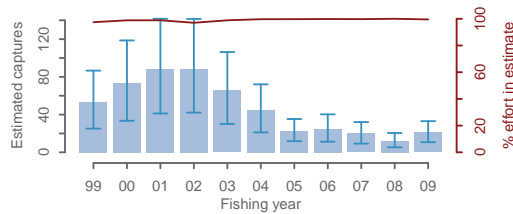
	Hooks	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008-09									
Area 1	1 270 417	45 495	3.6	0	0.000	R	16 (7 - 27)	100.0	
Area 4	288 910	39 004	13.5	2	0.051	R	5 (2 - 9)	100.0	
Area 3	7 490	0	0.0	0		N			
2007-08									
Area 1	879 017	15 985	1.8	0	0.000	R	11 (5 - 19)	100.0	
Area 4	88 812	8 360	9.4	0	0.000	R	1 (0 - 2)	100.0	
Area 3	0								

Table 127: Summary of turtle captures in bigeye longline fisheries, with the number of hooks, hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

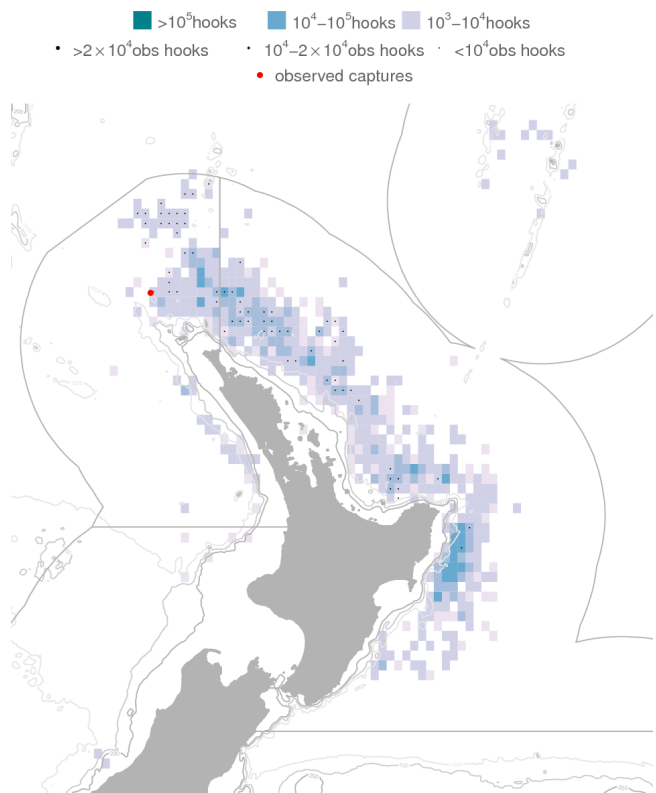
	Hooks	Observed		Observed		Type	Estimated	
		No. obs	% obs	Capt. ^s	Rate		Est. captures	% inc.
2008–09	1 566 817	84 499	5.4	2	0.024	R	21 (11 - 33)	99.5
2007–08	967 829	24 345	2.5	0	0.000	R	12 (5 - 20)	100.0
2006–07	1 538 121	83 254	5.4	1	0.012	R	20 (9 - 32)	99.7
2005–06	1 866 616	55 162	3.0	1	0.018	R	25 (11 - 40)	99.8
2004–05	1 645 111	30 142	1.8	2	0.066	R	23 (12 - 35)	99.7
2003–04	3 504 722	113 501	3.2	1	0.009	R	45 (21 - 72)	99.7
2002–03	5 189 562	62 701	1.2	0	0.000	R	66 (30 - 106)	98.9
2001–02	6 911 490	124 862	1.8	3	0.024	R	88 (42 - 141)	97.0
2000–01	7 058 687	218 731	3.1	1	0.005	R	88 (41 - 142)	98.9
1999–00	5 796 808	72 580	1.3	0	0.000	R	73 (33 - 119)	98.8
1998–99	4 244 819	71 564	1.7	1	0.014	R	54 (25 - 87)	97.4

^s All observed captures by species: marine turtles (6), leatherback turtle (6)

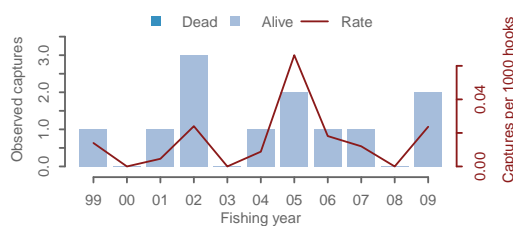
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

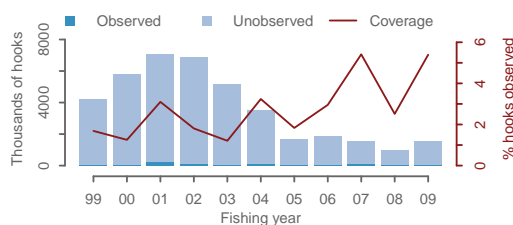


Figure 62: Turtle captures in bigeye longline fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.33 Swordfish longline fisheries

3.33.1 Swordfish longline, all birds, New Zealand EEZ

Table 128: Summary of all bird captures in swordfish longline fisheries, broken down by fishing areas, with the number of hooks, number of hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

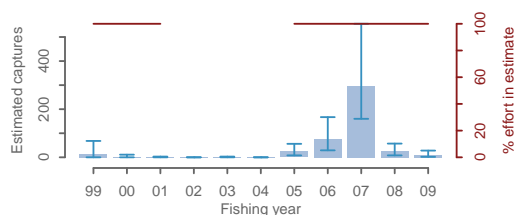
	Hooks	Observed			Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008-09								
Area 1	20 480	3 000	14.6					
White-capped albatrosses				0	0.000	M	1 (0 - 8)	100.0
White-chinned petrels				0	0.000	M	0 (0 - 1)	100.0
Other albatrosses				0	0.000	M	2 (0 - 9)	100.0
Other birds				0	0.000	M	3 (0 - 13)	100.0
Area 4	13 940	3 290	23.6					
White-capped albatrosses				0	0.000	M	0 (0 - 1)	100.0
Other albatrosses				0	0.000	M	1 (0 - 5)	100.0
Other birds				0	0.000	M	1 (0 - 4)	100.0
Area 3	7 280	0	0.0					
White-capped albatrosses				0		M	1 (0 - 7)	100.0
Other albatrosses				0		M	0 (0 - 3)	100.0
2007-08								
Area 1	83 630	17 540	21.0					
White-capped albatrosses				0	0.000	M	4 (0 - 22)	100.0
White-chinned petrels				0	0.000	M	1 (0 - 3)	100.0
Other albatrosses				0	0.000	M	7 (1 - 20)	100.0
Other birds (petrel (unidentified))				1	0.057	M	7 (1 - 25)	100.0
Area 4	35 500	3 350	9.4					
White-capped albatrosses				0	0.000	M	1 (0 - 4)	100.0
Other albatrosses				0	0.000	M	3 (0 - 12)	100.0
Other birds				0	0.000	M	1 (0 - 7)	100.0
Area 3	6 200	0	0.0					
White-capped albatrosses				0		M	1 (0 - 5)	100.0
Other albatrosses				0		M	1 (0 - 6)	100.0

Table 129: Summary of all bird captures in swordfish longline fisheries, with the number of hooks, hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

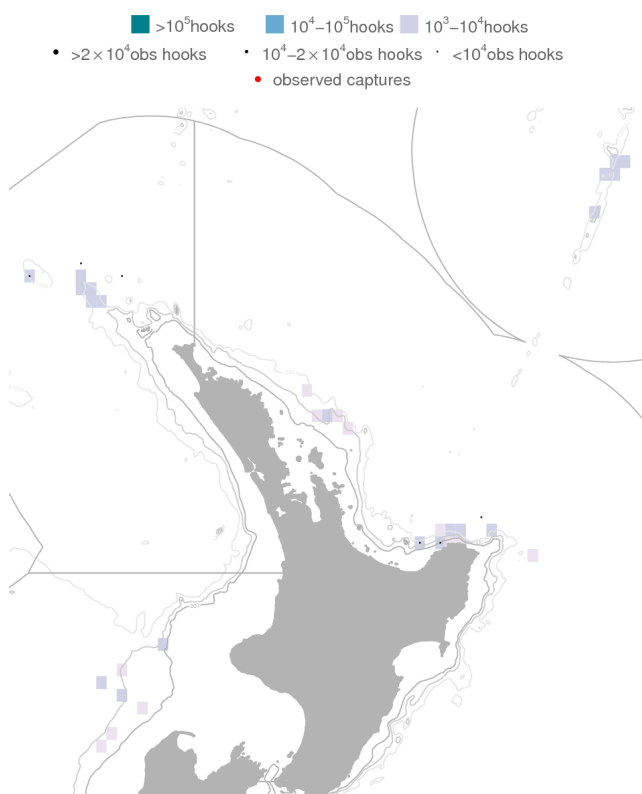
	Hooks	Observed		Observed		Type	Estimated		% inc.
		No. obs	% obs	Capt. ^s	Rate		Est. captures		
2008–09	41 700	6 290	15.1	0	0.000	M	10 (2 - 28)	100.0	
2007–08	125 330	20 890	16.7	1	0.048	M	26 (8 - 57)	100.0	
2006–07	211 255	41 593	19.7	71	1.707	M	297 (160 - 555)	100.0	
2005–06	228 305	4 800	2.1	2	0.417	M	75 (29 - 167)	100.0	
2004–05	132 503	12 218	9.2	2	0.164	M	24 (8 - 56)	100.0	
2003–04	0								
2002–03	2 400	0	0.0	-		M	0 (0 - 3)	100.0	
2001–02	0								
2000–01	1 850	0	0.0	-		M	0 (0 - 3)	100.0	
1999–00	3 800	0	0.0	-		M	2 (0 - 11)	100.0	
1998–99	18 950	0	0.0	-		M	14 (0 - 68)	100.0	

^s All observed captures by species: albatrosses (unidentified) (33), wandering albatross (unidentified) (18), Gibson’s albatross (5), seabird – large (3), black-browed albatross (unidentified) (2), petrel (unidentified) (2), white-chinned petrel (2), grey petrel (2), great-winged petrel (2), antipodean albatross (2), Campbell albatross (1), white-capped albatross (1), flesh-footed shearwater (1), sooty shearwater (1), Buller’s albatross (1)

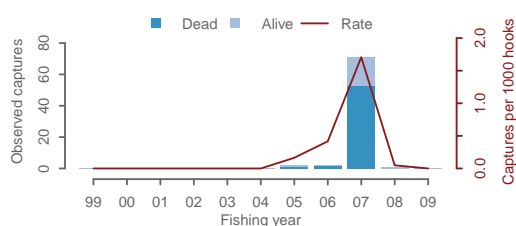
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

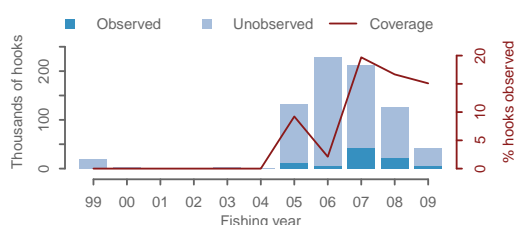


Figure 63: All bird captures in swordfish longline fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.33.2 Swordfish longline, turtles, New Zealand EEZ

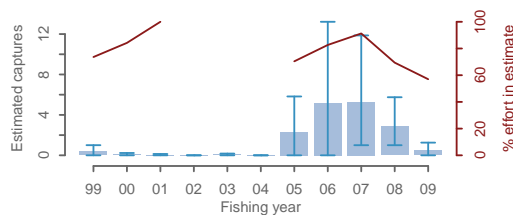
Table 130: Summary of turtle captures in swordfish longline fisheries, broken down by fishing areas, with the number of hooks, number of hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Hooks	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008-09									
Area 1	20 480	3 000	14.6	0	0.000	R	0 (0 - 1)	100.0	
Area 4	13 940	3 290	23.6	0	0.000	N			
Area 3	7 280	0	0.0	0		N			
2007-08									
Area 1	83 630	17 540	21.0	1	0.057	R	3 (1 - 6)	100.0	
Area 4	35 500	3 350	9.4	0	0.000	N			
Area 3	6 200	0	0.0	0		N			

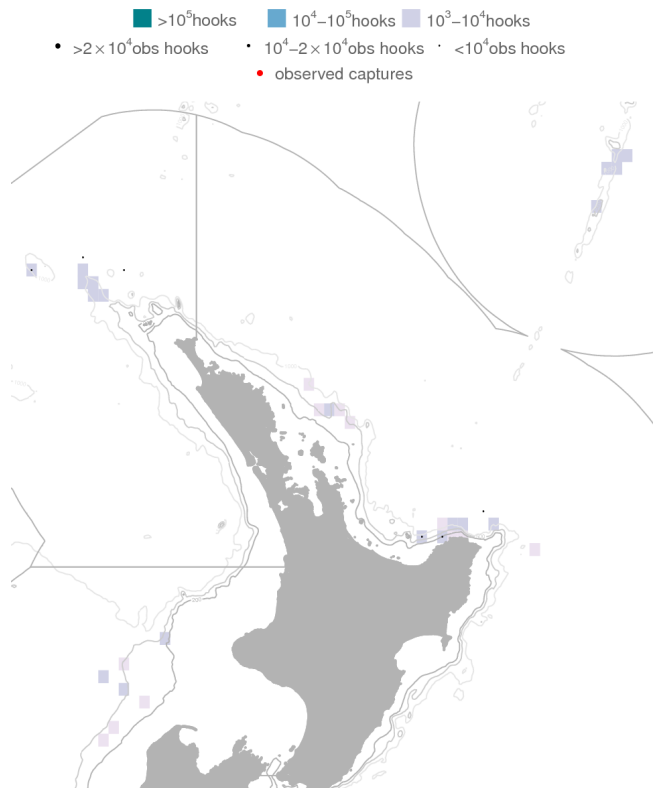
Table 131: Summary of turtle captures in swordfish longline fisheries, with the number of hooks, hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Hooks	Observed			Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008–09	41 700	6 290	15.1	0	0.000	R	0 (0 - 1)	57.0
2007–08	125 330	20 890	16.7	1	0.048	R	3 (1 - 6)	69.4
2006–07	211 255	41 593	19.7	1	0.024	R	5 (1 - 12)	91.3
2005–06	228 305	4 800	2.1	0	0.000	R	5 (0 - 13)	82.7
2004–05	132 503	12 218	9.2	0	0.000	R	2 (0 - 6)	70.4
2003–04	0							
2002–03	2 400	0	0.0	-		R	0 (0 - 0)	100.0
2001–02	0							
2000–01	1 850	0	0.0	-		R	0 (0 - 0)	100.0
1999–00	3 800	0	0.0	-		R	0 (0 - 0)	84.2
1998–99	18 950	0	0.0	-		R	0 (0 - 1)	73.6

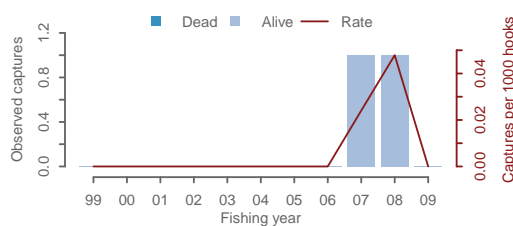
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

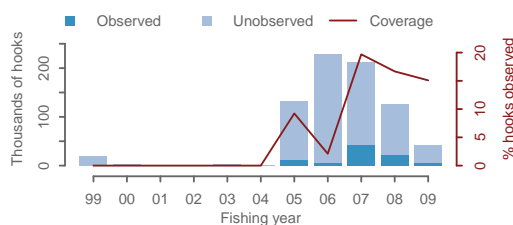


Figure 64: Turtle captures in swordfish longline fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.34 Ling longline fisheries

3.34.1 Large vessel ling longline, all birds, New Zealand EEZ

Table 132: Summary of all bird captures in large vessel ling longline fisheries, broken down by fishing areas, with the number of hooks, number of hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Hooks	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008-09									
Chatham Rise	6 382 948	1 824 408	28.6						
White-capped albatrosses				0	0.000	M	2 (0 - 5)	100.0	
White-chinned petrels				1	0.001	M	294 (23 - 1 100)	100.0	
Sooty shearwaters				0	0.000	M	2 (0 - 8)	100.0	
Other albatrosses ^a				2	0.001	M	14 (3 - 36)	100.0	
Other birds				0	0.000	M	8 (0 - 33)	100.0	
Subantarctic	2 786 330	1 391 250	49.9						
White-chinned petrels				0	0.000	M	46 (1 - 221)	100.0	
Sooty shearwaters				0	0.000	M	0 (0 - 2)	100.0	
Other albatrosses				0	0.000	M	2 (0 - 10)	100.0	
Other birds ^b				2	0.001	M	4 (2 - 12)	100.0	
Stewart-Snares	1 323 200	0	0.0						
White-chinned petrels				0		M	5 (0 - 33)	100.0	
Sooty shearwaters				0		M	6 (0 - 21)	100.0	
Puysegur	249 850	0	0.0						
White-chinned petrels				0		M	23 (0 - 159)	100.0	
Sooty shearwaters				0		M	3 (0 - 13)	100.0	
Other birds				0		M	1 (0 - 4)	100.0	
2007-08									
Chatham Rise	5 612 870	1 375 300	24.5						
White-capped albatrosses				0	0.000	M	2 (0 - 5)	100.0	
White-chinned petrels				0	0.000	M	91 (0 - 533)	100.0	
Sooty shearwaters				0	0.000	M	1 (0 - 6)	100.0	
Other albatrosses (Buller's albatross)				3	0.002	M	11 (3 - 28)	100.0	
Other birds ^c				5	0.004	M	42 (15 - 90)	100.0	
Subantarctic	3 591 200	1 381 800	38.5						
White-chinned petrels				6	0.004	M	79 (6 - 450)	100.0	
Sooty shearwaters				0	0.000	M	1 (0 - 3)	100.0	
Other albatrosses				0	0.000	M	3 (0 - 15)	100.0	
Other birds				0	0.000	M	31 (6 - 82)	100.0	
Stewart-Snares	1 194 423	114 423	9.6						
White-chinned petrels				0	0.000	M	23 (2 - 76)	100.0	
Sooty shearwaters				5	0.044	M	12 (5 - 28)	100.0	
Puysegur	969 053	108 455	11.2						
White-chinned petrels				0	0.000	M	11 (0 - 75)	100.0	
Sooty shearwaters				0	0.000	M	4 (0 - 17)	100.0	
Other birds				0	0.000	M	1 (0 - 7)	100.0	

^a Salvin's albatross (1), Chatham albatross (1)

^b Grey petrel (1), penguins (1)

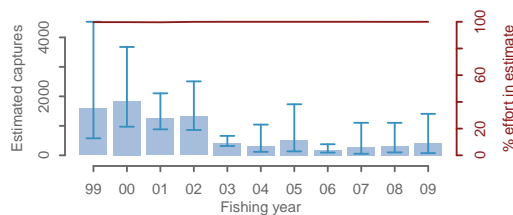
^c Grey petrel (4), Cape petrels (1)

Table 133: Summary of all bird captures in large vessel ling longline fisheries, with the number of hooks, hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

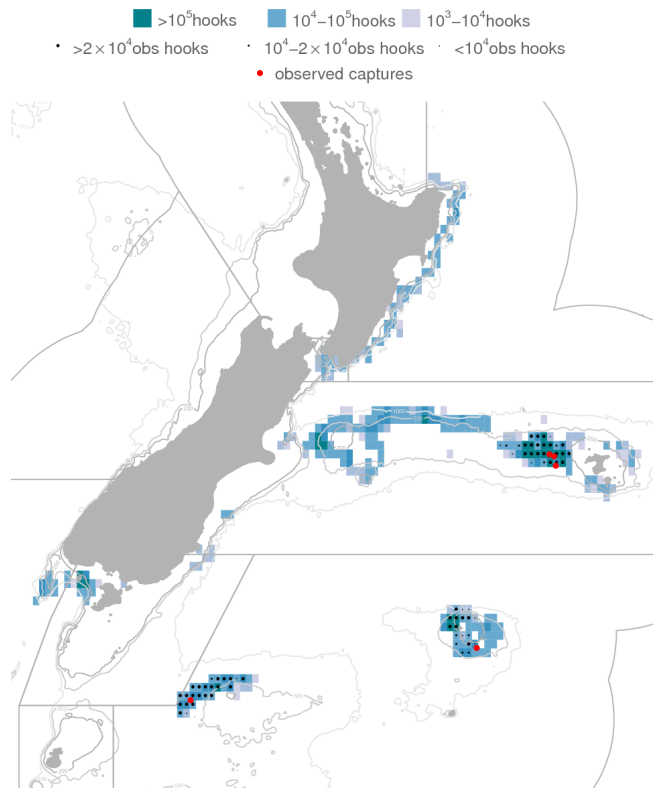
	Hooks	Observed				Estimated			
		No. obs	% obs	Capt. ^s	Rate	Type	Est. captures	% inc.	
2008–09	11 699 928	3 215 658	27.5	5	0.002	M	413 (75 - 1 407)	100.0	
2007–08	12 401 506	2 983 578	24.1	19	0.006	M	314 (99 - 1 102)	100.0	
2006–07	11 713 762	1 834 822	15.7	13	0.007	M	285 (53 - 1 103)	100.0	
2005–06	13 341 632	3 605 075	27.0	29	0.008	M	182 (92 - 376)	100.0	
2004–05	16 322 190	2 618 400	16.0	18	0.007	M	523 (134 - 1 732)	100.0	
2003–04	21 218 162	4 840 054	22.8	43	0.009	M	316 (118 - 1 042)	100.0	
2002–03	16 796 068	11 187 039	66.6	250	0.022	M	428 (317 - 659)	100.0	
2001–02	24 353 509	7 547 517	31.0	427	0.057	M	1 313 (860 - 2 508)	100.0	
2000–01	23 157 794	5 033 144	21.7	505	0.100	M	1 246 (882 - 2 103)	99.6	
1999–00	26 539 103	3 377 278	12.7	186	0.055	M	1 845 (971 - 3 676)	99.7	
1998–99	29 196 641	3 060 232	10.5	90	0.029	M	1 591 (577 - 4 530)	99.7	

^s All observed captures by species: white-chinned petrel (796), grey petrel (403), Salvin’s albatross (150), sooty shearwater (86), Cape petrels (44), petrel (unidentified) (23), albatrosses (unidentified) (16), Chatham albatross (9), northern giant petrel (8), common diving petrel (7), white-capped albatross (7), southern giant petrel (5), wandering albatross (unidentified) (4), giant petrels (unidentified) (4), Buller’s albatross (4), seabird – small (3), storm petrels (3), southern black-browed albatross (2), prions (unidentified) (2), broad-billed prion (1), other species (8)

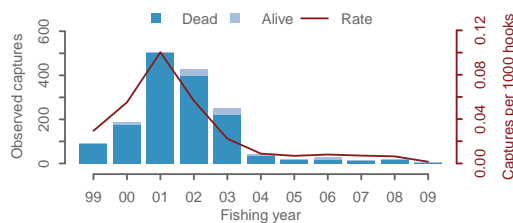
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

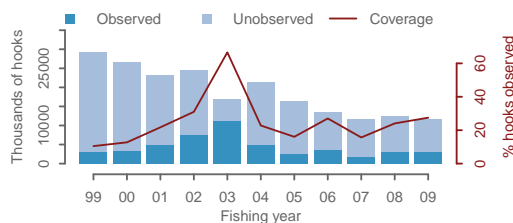


Figure 65: All bird captures in large vessel ling longline fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.34.2 Small vessel ling longline, all birds, New Zealand EEZ

Table 134: Summary of all bird captures in small vessel ling longline fisheries, broken down by fishing areas, with the number of hooks, number of hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Hooks	Observed			Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008-09								
Chatham Rise	2 957 030	498 750	16.9					
White-capped albatrosses				0	0.000	R	2 (0 - 6)	100.0
White-chinned petrels				0	0.000	R	40 (20 - 64)	100.0
Other albatrosses				0	0.000	R	86 (23 - 170)	100.0
Other birds ^a				4	0.008	R	17 (8 - 27)	100.0
2007-08								
Chatham Rise	2 410 020	235 800	9.8					
White-capped albatrosses				0	0.000	R	2 (0 - 5)	100.0
White-chinned petrels				3	0.013	R	38 (20 - 59)	100.0
Other albatrosses				0	0.000	R	76 (21 - 151)	100.0
Other birds				0	0.000	R	12 (3 - 21)	100.0

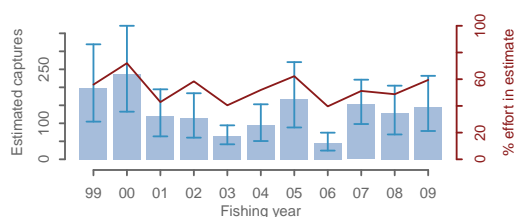
^a Grey petrel (2), Cape petrel (1), Cape petrels (1)

Table 135: Summary of all bird captures in small vessel ling longline fisheries, with the number of hooks, hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

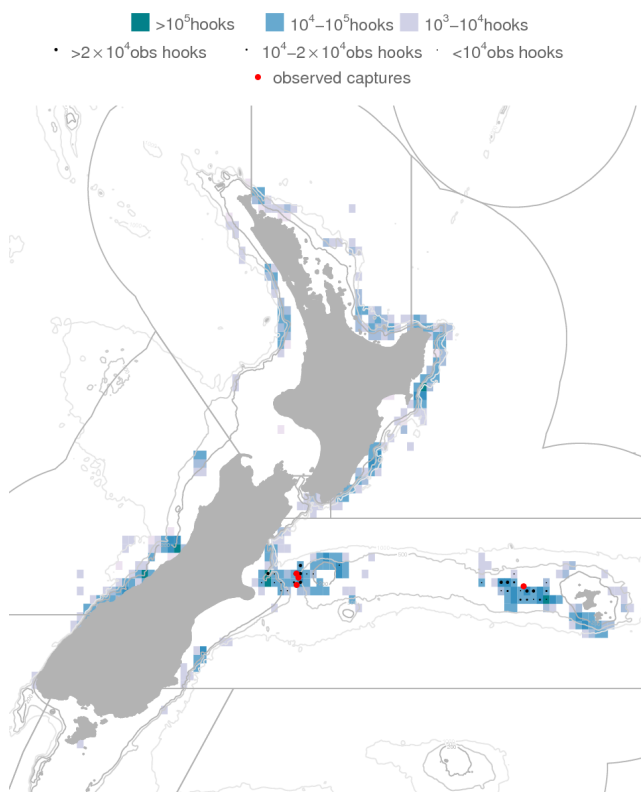
Year	Hooks	Observed			Estimated			
		No. obs	% obs	Capt. ^s	Rate	Type	Est. captures	% inc.
2008–09	5 878 334	498 750	8.5	4	0.008	R	146 (79 - 232)	59.4
2007–08	6 596 699	249 800	3.8	3	0.012	R	128 (69 - 205)	48.8
2006–07	5 262 334	344 635	6.5	38	0.110	R	152 (98 - 221)	51.2
2005–06	2 880 869	0	0.0	-	-	R	46 (24 - 74)	39.6
2004–05	5 222 531	27 220	0.5	0	0.000	R	168 (88 - 270)	62.3
2003–04	3 523 618	38 533	1.1	1	0.026	R	95 (51 - 153)	51.9
2002–03	2 906 481	112 256	3.9	16	0.143	R	65 (42 - 94)	40.4
2001–02	3 641 862	0	0.0	-	-	R	114 (60 - 184)	58.4
2000–01	5 956 949	0	0.0	-	-	R	121 (64 - 195)	42.9
1999–00	5 934 170	234 000	3.9	16	0.068	R	237 (132 - 371)	72.0
1998–99	6 635 113	0	0.0	-	-	R	199 (105 - 320)	56.0

^s All observed captures by species: Salvin’s albatross (29), white-chinned petrel (21), Chatham albatross (14), Cape petrels (4), grey petrel (3), seagull (2), albatrosses (unidentified) (1), shy albatross (1), wandering albatross (unidentified) (1), white-capped albatross (1), Buller’s albatross (1)

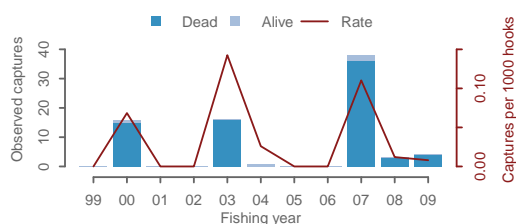
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

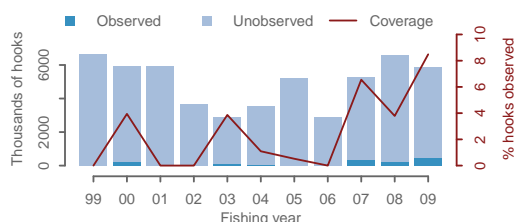


Figure 66: All bird captures in small vessel ling longline fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.35 Snapper longline fisheries

3.35.1 Small vessel snapper longline, all birds, New Zealand EEZ

Table 136: Summary of all bird captures in small vessel snapper longline fisheries, broken down by fishing areas, with the number of hooks, number of hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Hooks	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008-09									
North East	8 730 326	46 424	0.5						
Other birds ^a				21	0.452	M	673 (375 - 1 173)	100.0	
2007-08									
North East	8 910 037	0	0.0						
Other birds				0		M	644 (293 - 1 253)	100.0	

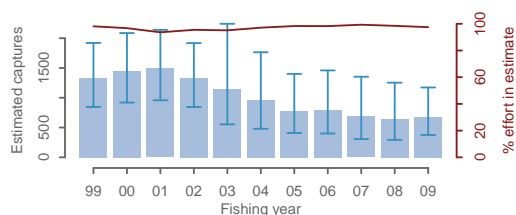
^a Flesh-footed shearwater (10), black petrel (8), black-backed gull (1), petrels, prions and shearwaters (1), penguins (1)

Table 137: Summary of all bird captures in small vessel snapper longline fisheries, with the number of hooks, hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

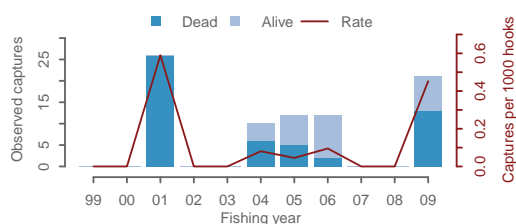
	Hooks	Observed		Observed		Type	Estimated	
		No. obs	% obs	Capt. ^s	Rate		Est. captures	% inc.
2008–09	8 955 340	46 424	0.5	21	0.452	M	673 (375 - 1 173)	97.5
2007–08	9 048 897	0	0.0	-		M	644 (293 - 1 253)	98.5
2006–07	10 446 540	63 650	0.6	0	0.000	M	688 (306 - 1 353)	99.3
2005–06	11 694 638	125 894	1.1	12	0.095	M	789 (400 - 1 459)	98.3
2004–05	11 531 586	264 404	2.3	12	0.045	M	776 (409 - 1 401)	98.3
2003–04	12 254 888	123 783	1.0	10	0.081	M	964 (479 - 1 764)	97.1
2002–03	13 722 067	0	0.0	-		M	1 148 (554 - 2 242)	95.1
2001–02	15 372 878	0	0.0	-		R	1 329 (845 - 1 917)	95.5
2000–01	17 336 728	44 049	0.3	26	0.590	R	1 491 (958 - 2 140)	93.6
1999–00	16 510 012	0	0.0	-		R	1 446 (919 - 2 086)	96.7
1998–99	14 984 633	0	0.0	-		R	1 331 (846 - 1 921)	98.1

^s All observed captures by species: flesh-footed shearwater (34), black petrel (13), grey petrel (11), petrel (unidentified) (7), Buller’s shearwater (6), Australasian gannet (2), fluttering shearwater (2), penguins (1), pied shag (1), seabird – small (1), prions and shearwaters (1), seabird (unspecified) (1), black-backed gull (1)

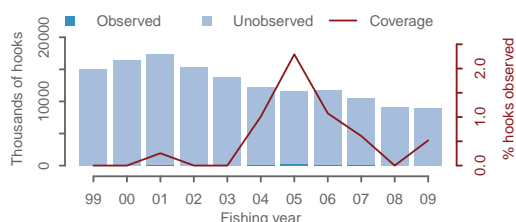
(a) Estimated captures



(c) Observed captures



(d) Effort, and observer coverage



(b) October 2008 to September 2009

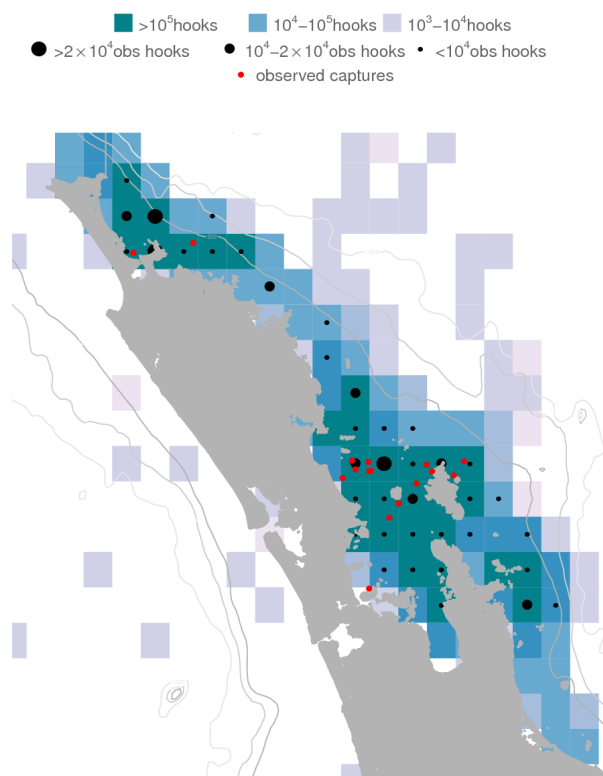


Figure 67: All bird captures in small vessel snapper longline fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.36 Bluenose longline fisheries

3.36.1 Small vessel bluenose longline, all birds, New Zealand EEZ

Table 138: Summary of all bird captures in small vessel bluenose longline fisheries, broken down by fishing areas, with the number of hooks, number of hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Hooks	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008–09									
North East	1 569 102	0	0.0						
Other albatrosses				0		N			
Chatham Rise	944 770	5 250	0.6						
White-chinned petrels				0	0.000	R	5 (0 - 17)	100.0	
Other albatrosses				0	0.000	R	16 (0 - 37)	100.0	
2007–08									
North East	1 604 904	42 550	2.7						
Other albatrosses ^a				3	0.071	N			
Chatham Rise	2 786 303	164 525	5.9						
White-chinned petrels				1	0.006	R	16 (1 - 48)	100.0	
Other albatrosses (Buller's albatross)				3	0.018	R	48 (3 - 105)	100.0	

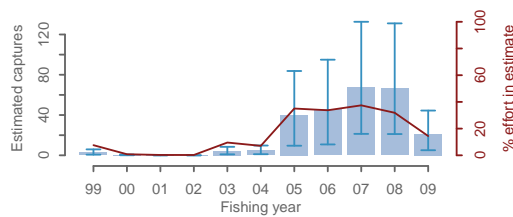
^a Campbell albatross (2), wandering albatross (unidentified) (1)

Table 139: Summary of all bird captures in small vessel bluenose longline fisheries, with the number of hooks, hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

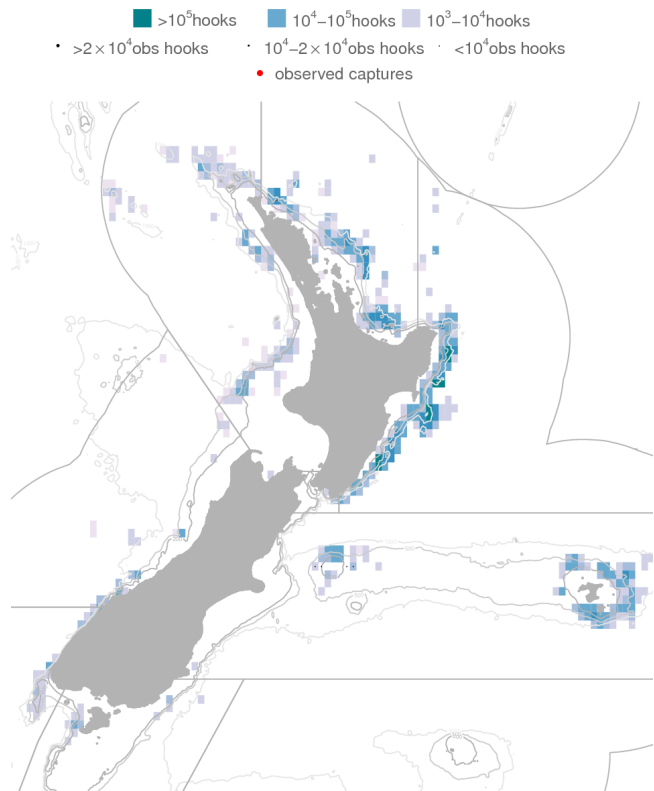
	Hooks	Observed		Observed		Estimated		
		No. obs	% obs	Capt. ^s	Rate	Type	Est. captures	% inc.
2008–09	6 679 070	5 250	0.1	0	0.000	R	21 (5 - 44)	14.4
2007–08	9 265 907	233 575	2.5	7	0.030	R	66 (21 - 131)	31.9
2006–07	7 503 933	92 718	1.2	7	0.075	R	67 (21 - 133)	37.4
2005–06	5 992 291	0	0.0	-	-	R	46 (11 - 95)	33.7
2004–05	5 094 043	9 955	0.2	0	0.000	R	40 (10 - 84)	35.0
2003–04	2 927 330	0	0.0	-	-	R	5 (1 - 10)	7.1
2002–03	1 899 774	0	0.0	-	-	R	4 (1 - 8)	9.5
2001–02	1 556 675	0	0.0	-	-	R	0 (0 - 0)	0.2
2000–01	1 958 289	0	0.0	-	-	R	0 (0 - 0)	0.3
1999–00	1 954 298	0	0.0	-	-	R	0 (0 - 1)	0.8
1998–99	1 655 203	0	0.0	-	-	R	3 (1 - 6)	7.6

^s All observed captures by species: black petrel (4), Buller’s albatross (3), Campbell albatross (2), white-chinned petrel (2), Cape petrels (1), Indian yellow-nosed albatross (1), wandering albatross (unidentified) (1)

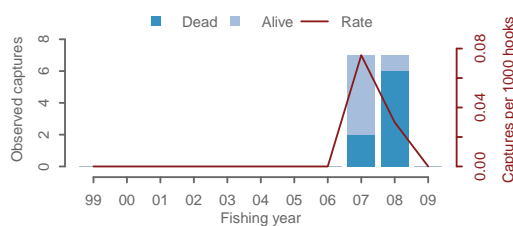
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

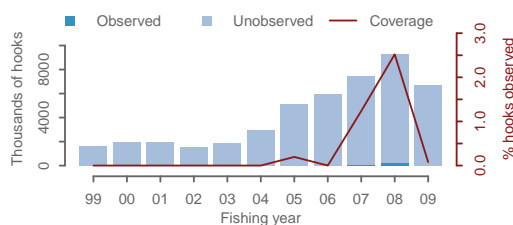


Figure 68: All bird captures in small vessel bluenose longline fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.37 Other bottom longline fisheries

3.37.1 Other small vessel longline, all birds, New Zealand EEZ

Table 140: Summary of all bird captures in other small vessel longline fisheries, broken down by fishing areas, with the number of hooks, number of hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Hooks	Observed				Estimated			
		No. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.	
2008–09									
West Coast NI	1 011 095	5 770	0.6						
Other birds (flesh-footed shearwater)				3	0.520	N			
Chatham Rise	850 778	11 050	1.3						
Sooty shearwaters				0	0.000	N			
North East	847 422	11 776	1.4						
Other albatrosses				0	0.000	R	6 (0 - 19)	100.0	
Other birds (Buller's shearwater)				1	0.085	R	56 (6 - 133)	100.0	
2007–08									
West Coast NI	902 025	5 000	0.6						
Other birds				0	0.000	N			
Chatham Rise	1 316 770	53 965	4.1						
Sooty shearwaters				1	0.019	N			
North East	1 006 656	73 000	7.3						
Other albatrosses (Campbell albatross)				1	0.014	R	7 (1 - 22)	100.0	
Other birds ^a				9	0.123	R	71 (15 - 156)	100.0	

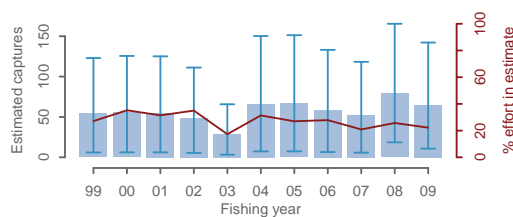
^a Great-winged petrel (6), black petrel (3)

Table 141: Summary of all bird captures in other small vessel longline fisheries, with the number of hooks, hooks observed, percentage of hooks observed, number of observed captures, capture rate per thousand hooks, total estimated captures with 95% confidence intervals, and percentage of hooks included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

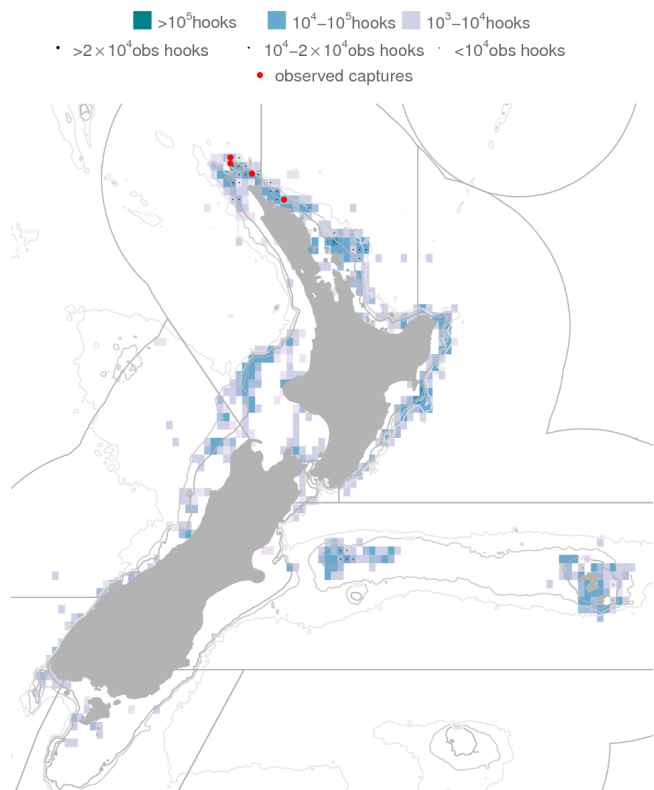
	Hooks	Observed		Observed		Estimated		
		No. obs	% obs	Capt. ^s	Rate	Type	Est. captures	% inc.
2008–09	3 887 986	28 596	0.7	4	0.140	R	65 (11 - 142)	22.2
2007–08	4 144 850	131 965	3.2	11	0.083	R	79 (19 - 165)	25.7
2006–07	3 462 880	8 130	0.2	0	0.000	R	52 (6 - 118)	20.9
2005–06	3 034 559	40 590	1.3	0	0.000	R	59 (7 - 133)	27.9
2004–05	3 420 433	7 949	0.2	0	0.000	R	67 (7 - 151)	27.0
2003–04	2 894 767	0	0.0	-	-	R	66 (7 - 150)	31.4
2002–03	2 345 696	9 000	0.4	0	0.000	R	29 (3 - 66)	17.3
2001–02	1 921 098	0	0.0	-	-	R	49 (5 - 111)	35.0
2000–01	2 406 362	0	0.0	-	-	R	55 (6 - 125)	31.4
1999–00	2 155 862	0	0.0	-	-	R	55 (6 - 126)	35.2
1998–99	2 742 291	0	0.0	-	-	R	54 (6 - 123)	27.1

^s All observed captures by species: great-winged petrel (6), black petrel (3), flesh-footed shearwater (3), sooty shearwater (1), Campbell albatross (1), Buller’s shearwater (1)

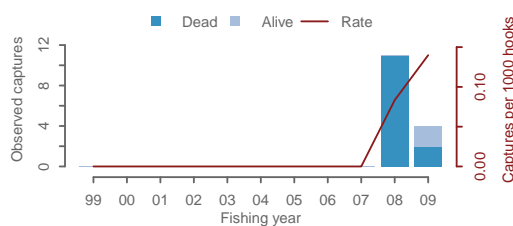
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

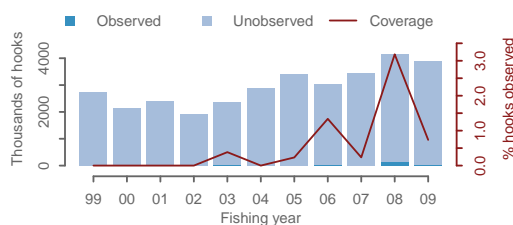


Figure 69: All bird captures in other small vessel longline fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.38 Setnet fisheries

3.38.1 Setnet, all birds, New Zealand EEZ

Table 142: Summary of all bird captures in setnet fisheries, broken down by fishing areas, with the number of kilometres, number of kilometres observed, percentage of kilometres observed, number of observed captures, capture rate per kilometre, total estimated captures with 95% confidence intervals, and percentage of kilometres included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Kilometres	Observed				Estimated		
		Kms. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008–09								
West Coast NI	8 865	51	0.6					
Other birds				0	0.000	N		
Chatham Rise	2 783	220	7.9					
Sooty shearwaters				5	0.023	N		
Other birds ^a				15	0.068	N		
Stewart-Snares	1 124	124	11.0					
Other birds (yellow-eyed penguin)				1	0.008	R	14 (4 - 27)	100.0
2007–08								
West Coast NI	8 518	64	0.8					
Other birds				0	0.000	N		
Chatham Rise	3 428	51	1.5					
Sooty shearwaters				1	0.020	N		
Other birds ^b				4	0.079	N		
Stewart-Snares	1 307	67	5.1					
Other birds (yellow-eyed penguin)				1	0.015	R	17 (5 - 33)	100.0
2006–07								
West Coast NI	8 733	49	0.6					
Other birds (fluttering shearwater)				1	0.020	N		
Chatham Rise	4 120	13	0.3					
Sooty shearwaters				0	0.000	N		
Other birds				0	0.000	N		
Stewart-Snares	1 027	78	7.6					
Other birds (yellow-eyed penguin)				2	0.026	R	14 (5 - 26)	100.0

^a Cape petrels (8), yellow-eyed penguin (4), petrels, prions and shearwaters (1), seabird – large (1), giant petrels (unidentified) (1)

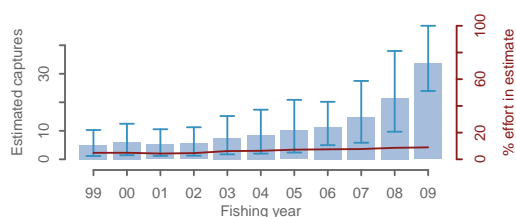
^b Westland petrel (3), Cape petrels (1)

Table 143: Summary of all bird captures in setnet fisheries, with the number of kilometres, kilometres observed, percentage of kilometres observed, number of observed captures, capture rate per kilometre, total estimated captures with 95% confidence intervals, and percentage of kilometres included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

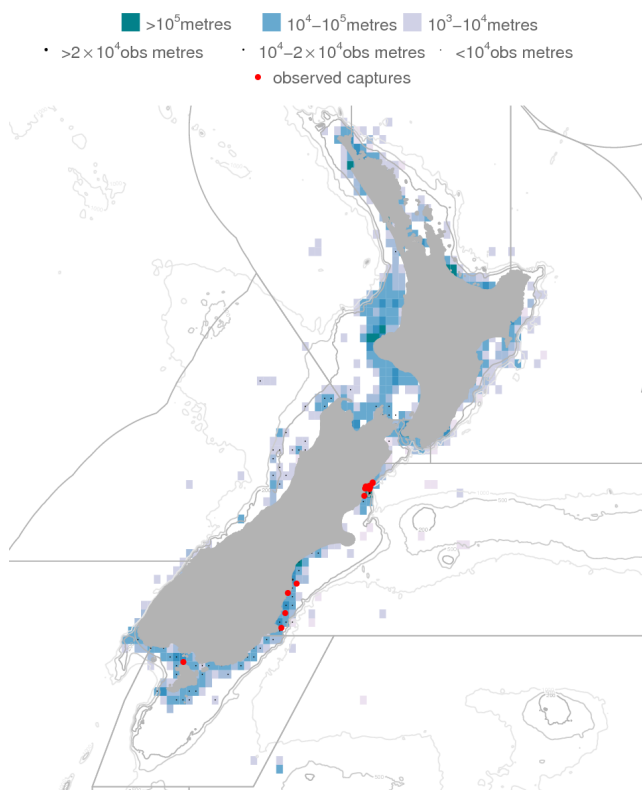
	Kilometres	Observed				Estimated			
		Kms. obs	% obs	Capt. ^s	Rate	Type	Est. captures	% inc.	
2008–09	20 911	460	2.2	21	0.046	R	34 (24 - 47)	8.9	
2007–08	20 978	195	0.9	6	0.031	R	22 (10 - 38)	8.6	
2006–07	24 235	149	0.6	3	0.020	R	15 (6 - 27)	7.7	
2005–06	24 284	135	0.6	3	0.022	R	11 (5 - 20)	7.5	
2004–05	27 196	0	0.0	-	-	R	10 (2 - 21)	7.2	
2003–04	27 052	0	0.0	-	-	R	8 (2 - 17)	6.4	
2002–03	28 274	0	0.0	-	-	R	7 (2 - 15)	6.2	
2001–02	27 944	0	0.0	-	-	R	5 (1 - 11)	4.6	
2000–01	31 020	34	0.1	0	0.000	R	5 (1 - 11)	4.3	
1999–00	30 302	40	0.1	0	0.000	R	6 (1 - 12)	4.9	
1998–99	29 183	2	0.0	0	0.000	R	5 (1 - 10)	4.8	

^s All observed captures by species: Cape petrels (9), yellow-eyed penguin (8), sooty shearwater (6), Westland petrel (3), spotted shag (2), seabird – large (1), white-chinned petrel (1), prions and shearwaters (1), giant petrels (unidentified) (1), fluttering shearwater (1)

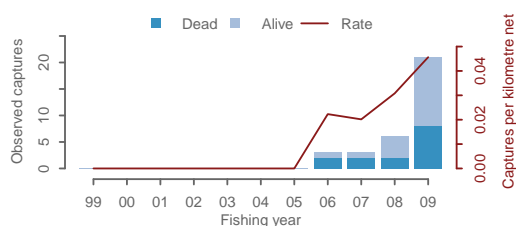
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

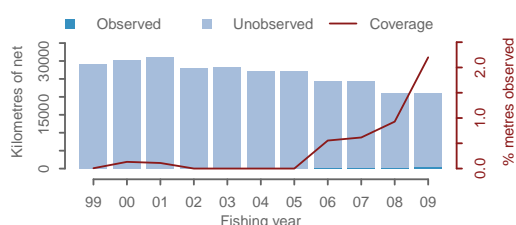


Figure 70: All bird captures in setnet fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.38.2 Setnet, dolphins and whales, New Zealand EEZ

Table 144: Summary of dolphin and whale captures in setnet fisheries, broken down by fishing areas, with the number of kilometres, number of kilometres observed, percentage of kilometres observed, number of observed captures, capture rate per kilometre, total estimated captures with 95% confidence intervals, and percentage of kilometres included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

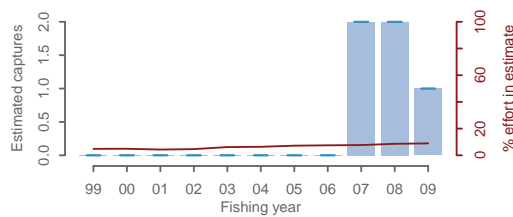
	Kilometres	Observed				Estimated		
		Kms. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008-09								
West Coast NI	8 865	51	0.6					
Pilot whales				0	0.000	N		
Chatham Rise	2 783	220	7.9					
Dolphins				0	0.000	N		
Hector's dolphins				1	0.005	N		
2007-08								
West Coast NI	8 518	64	0.8					
Pilot whales				1	0.016	N		
Chatham Rise	3 428	51	1.5					
Dolphins				0	0.000	N		
Hector's dolphins				1	0.020	N		
2006-07								
West Coast NI	8 733	49	0.6					
Pilot whales				0	0.000	N		
Chatham Rise	4 120	13	0.3					
Dolphins (dusky dolphin)				1	0.076	N		
Hector's dolphins				1	0.076	N		

Table 145: Summary of dolphin and whale captures in setnet fisheries, with the number of kilometres, kilometres observed, percentage of kilometres observed, number of observed captures, capture rate per kilometre, total estimated captures with 95% confidence intervals, and percentage of kilometres included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

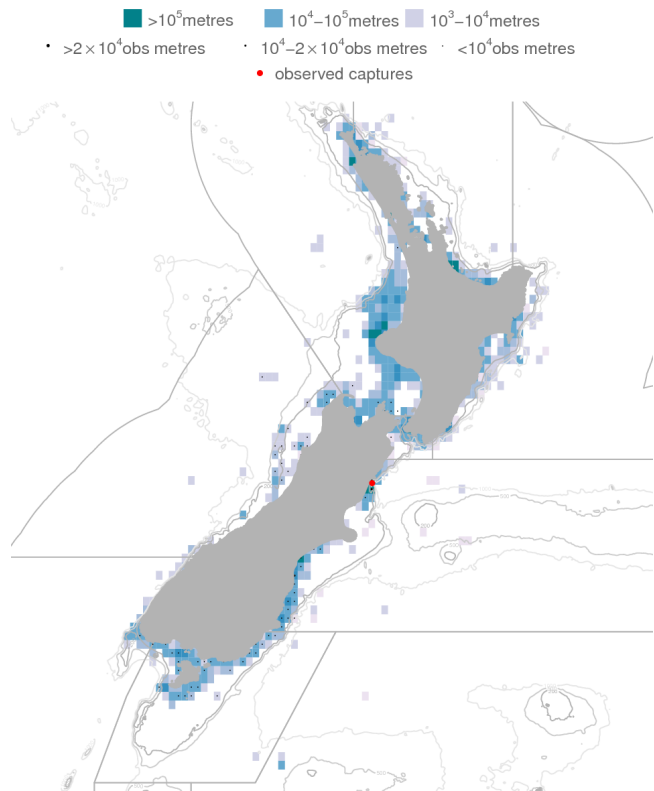
	Kilometres	Observed				Estimated			
		Kms. obs	% obs	Capt. ^s	Rate	Type	Est. captures	% inc.	
2008–09	20 911	460	2.2	1	0.002	R	1 (1 - 1)	8.9	
2007–08	20 978	195	0.9	2	0.010	R	2 (2 - 2)	8.6	
2006–07	24 235	149	0.6	2	0.013	R	2 (2 - 2)	7.7	
2005–06	24 284	135	0.6	0	0.000	R	0 (0 - 0)	7.5	
2004–05	27 196	0	0.0	-		R	0 (0 - 0)	7.2	
2003–04	27 052	0	0.0	-		R	0 (0 - 0)	6.4	
2002–03	28 274	0	0.0	-		R	0 (0 - 0)	6.2	
2001–02	27 944	0	0.0	-		R	0 (0 - 0)	4.6	
2000–01	31 020	34	0.1	0	0.000	R	0 (0 - 0)	4.3	
1999–00	30 302	40	0.1	0	0.000	R	0 (0 - 0)	4.9	
1998–99	29 183	2	0.0	0	0.000	R	0 (0 - 0)	4.8	

^s All observed captures by species: Hector’s dolphin (3), dusky dolphin (1), pilot whale (1)

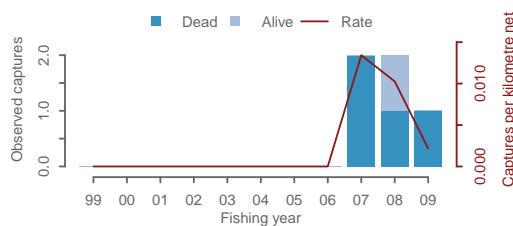
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

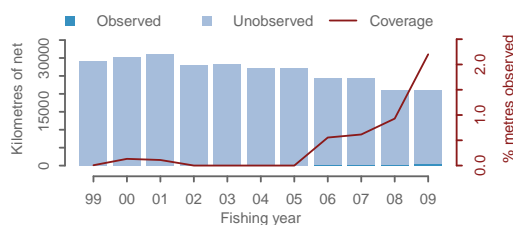


Figure 71: Dolphin and whale captures in setnet fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008–09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

3.38.3 Setnet, New Zealand fur seals, New Zealand EEZ

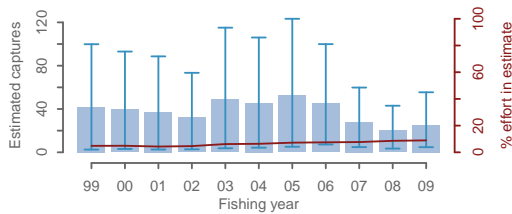
Table 146: Summary of New Zealand fur seal captures in setnet fisheries, broken down by fishing areas, with the number of kilometres, number of kilometres observed, percentage of kilometres observed, number of observed captures, capture rate per kilometre, total estimated captures with 95% confidence intervals, and percentage of kilometres included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Kilometres	Observed				Estimated		
		Kms. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008-09								
West Coast NI	8 865	51	0.6	0	0.000	N		
North East	5 917	0	0.0	0		N		
Chatham Rise	2 783	220	7.9	0	0.000	N		
Stewart-Snares	1 124	124	11.0	0	0.000	R	6 (0 - 20)	100.0
East of NI	943	0	0.0	0		N		
Cook Strait	792	2	0.3	0	0.000	N		
West Coast SI	276	54	19.6	1	0.018	R	5 (1 - 13)	100.0
Puysegur	195	9	4.6	0	0.000	R	14 (0 - 42)	100.0
Subantarctic	14	0	0.0	0		N		
Kermadec Is.	0							
2007-08								
West Coast NI	8 518	64	0.8	0	0.000	N		
North East	5 950	0	0.0	0		N		
Chatham Rise	3 428	51	1.5	1	0.020	N		
Stewart-Snares	1 307	67	5.1	0	0.000	R	8 (0 - 25)	100.0
East of NI	728	0	0.0	0		N		
Cook Strait	652	0	0.0	0		N		
West Coast SI	291	1	0.4	0	0.000	R	5 (0 - 15)	100.0
Puysegur	95	12	12.1	0	0.000	R	7 (0 - 19)	100.0
Subantarctic	8	0	0.0	0		N		
Kermadec Is.	0							
2006-07								
West Coast NI	8 733	49	0.6	0	0.000	N		
North East	8 452	0	0.0	0		N		
Chatham Rise	4 120	13	0.3	0	0.000	N		
Stewart-Snares	1 027	78	7.6	0	0.000	R	6 (0 - 19)	100.0
East of NI	614	0	0.0	0		N		
Cook Strait	503	0	0.0	0		N		
West Coast SI	636	3	0.4	0	0.000	R	11 (0 - 33)	100.0
Puysegur	137	6	4.4	1	0.167	R	11 (1 - 31)	100.0
Subantarctic	13	0	0.0	0		N		
Kermadec Is.	0							

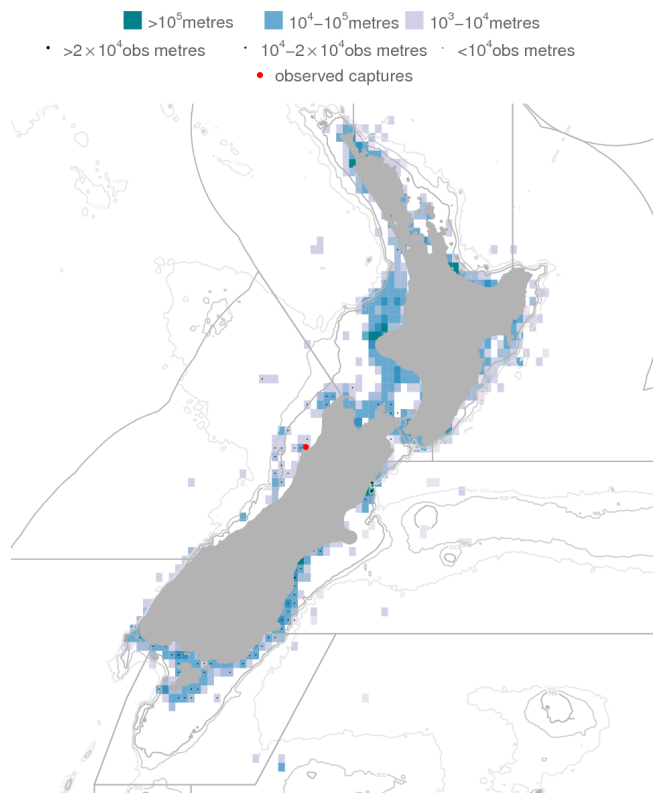
Table 147: Summary of New Zealand fur seal captures in setnet fisheries, with the number of kilometres, kilometres observed, percentage of kilometres observed, number of observed captures, capture rate per kilometre, total estimated captures with 95% confidence intervals, and percentage of kilometres included in the estimate. Estimated type: M - modelled; R - ratio estimated; B - both methods; N - not estimated.

	Kilometres	Observed			Estimated			
		Kms. obs	% obs	Capt.	Rate	Type	Est. captures	% inc.
2008-09	20 911	460	2.2	1	0.002	R	25 (5 - 55)	8.9
2007-08	20 978	195	0.9	1	0.005	R	20 (3 - 43)	8.6
2006-07	24 235	149	0.6	1	0.007	R	28 (5 - 60)	7.7
2005-06	24 284	135	0.6	3	0.022	R	45 (7 - 100)	7.5
2004-05	27 196	0	0.0	-	-	R	52 (5 - 123)	7.2
2003-04	27 052	0	0.0	-	-	R	45 (4 - 106)	6.4
2002-03	28 274	0	0.0	-	-	R	49 (4 - 115)	6.2
2001-02	27 944	0	0.0	-	-	R	32 (3 - 73)	4.6
2000-01	31 020	34	0.1	0	0.000	R	37 (3 - 89)	4.3
1999-00	30 302	40	0.1	0	0.000	R	40 (3 - 93)	4.9
1998-99	29 183	2	0.0	0	0.000	R	42 (3 - 100)	4.8

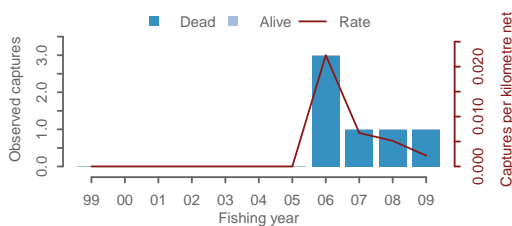
(a) Estimated captures



(b) October 2008 to September 2009



(c) Observed captures



(d) Effort, and observer coverage

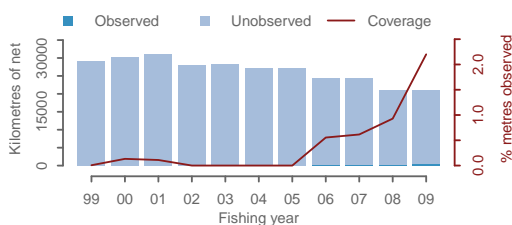


Figure 72: New Zealand fur seal captures in setnet fisheries. (a) Estimated captures, with 95% confidence intervals, (b) Mapped effort and captures from 2008-09, (c) Observed captures, (d) Effort and observed effort. For a fuller explanation of the figure, see Section 3.5.

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