

- In winter 2001 a cow/calf pair travelled from Orutua River mouth to Whangawehi then Hicks Bay, and was sighted over a period of 18 days (Fig. 7).
- In winter 2002, a cow/calf pair first sighted in Bell Block, New Plymouth was later sighted near Tapua stream and Titahi Bay, and was last sighted in Palliser Bay. Sightings were reported over a period of 21 days (Fig. 8).

Figure 6. Residency period of cow/calf pairs and other southern right whale groups sighted around mainland New Zealand between 1976 and 2002.

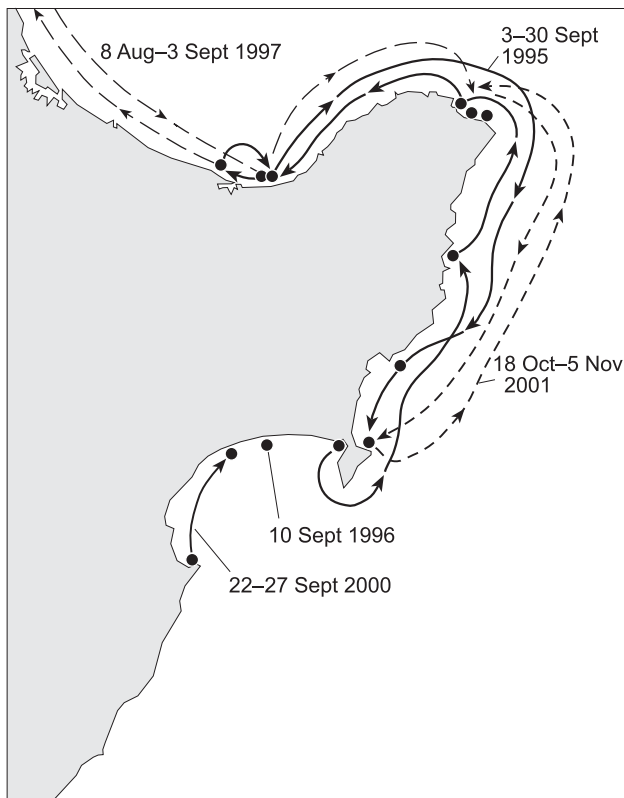
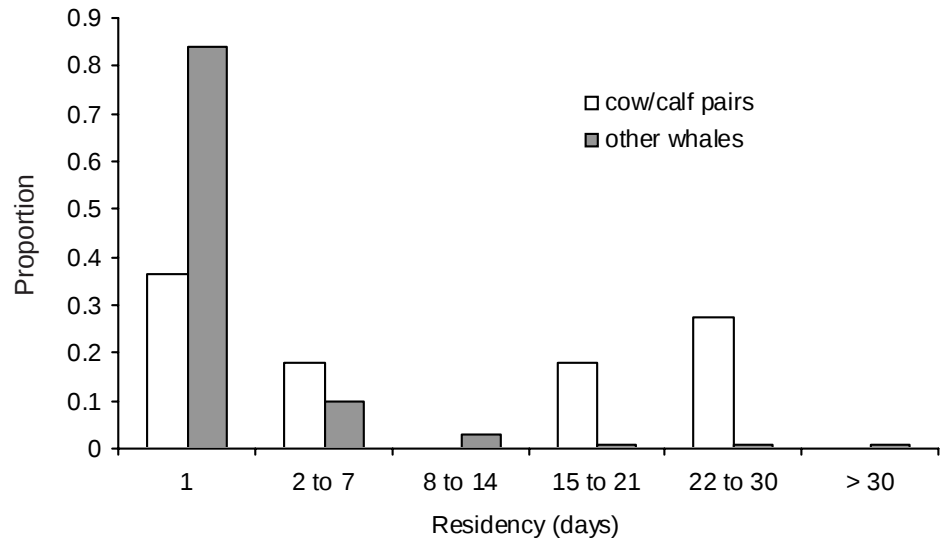


Figure 7. Movements and residency of five southern right whale cow/calf pairs sighted in East Coast/Hawkes Bay Conservancy.

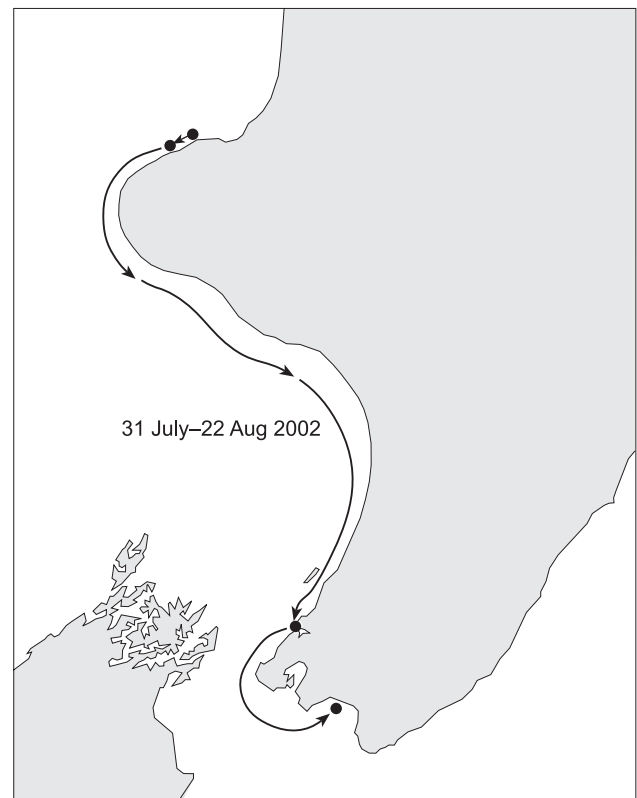


Figure 8. Presumed movement and residency of a southern right whale cow/calf pair sighted in Wanganui/Wellington Conservancy in winter 2002.

4.6 BEHAVIOUR

The behaviour of sighted whales was very seldom recorded (Appendix 1). Reported behaviours included travelling, 'rolling around', playing and leaping, 'frolicking', tail lobbing, possible feeding and swimming up and down a beach. Less demonstrative behaviours (e.g. resting), likely occurred but were not specifically reported.

Mating groups usually consist of 2–8 whales, are highly active, creating white water, and can last for hours to a few days. The group of 10–12 whales reported in Foveaux Strait over winter 1990 and the group of 3–4 whales reported around Otago Peninsula in winter 1994 were likely engaged in mating activity.

The behaviour of cow/calf pairs included resting and travelling close inshore, sometimes over a period of several days and weeks. Nursing was not reported but likely occurred.

TABLE 2. SOUTHERN WHALES (n = 26) PHOTO-IDENTIFIED AROUND MAINLAND NEW ZEALAND.

YEAR	DATE	LOCATION	REPRODUCT. STATUS	PHOTOGRAPHER	USEFULNESS			DISTINCT. CATEGORY
					LEFT	RIGHT	TOPSIDE	
1990	26 Jul	Te Wae Wae Bay/Southland		Andy Cox, DOC	good	good	good	2
1990	?	Port Pegasus/Southland		Unknown		good		1
1992?	May	Mahurangi Harbour/Auckland		Thelma Wilson, DOC		poor		2
1994	6 Jul	St Kilda/Otago	Adult	Graeme Loh, DOC		good	poor	0
1994	6 Jul	St Kilda/Otago	Adult	Graeme Loh, DOC, Natural History Unit	poor	good		2
1994	25 Jul	Warrington Beach/Otago	Adult	Otago Daily Times, DOC staff	fair		poor	2
1994	25 Jul	Warrington Beach/Otago	Adult	DOC staff, Natural History Unit	poor		poor	0
1996	Aug	Jacky Lee Bay/Southland		Anonymous	fair	good	good	2
1996	Dec	Paterson Inlet/Southland		DOC staff	good	poor		3
1997	10 Aug	Mt Maunganui/Bay of Plenty	Cow	Paul Keyes, Bay of Plenty Polytech	fair	fair		3
1997	1 Oct	Wellington Harbour/Wellington		Mark Round, Dominion	good	poor		2
1998	13 Sep	Taraunga/Bay of Plenty	Cow	Kim Westerskov, Tauranga	good	good	fair	1
1998	29 Aug	Kaikoura/Canterbury		Rob Suisted, DOC			good	2
1999	19 Jan	Kaikoura/ Canterbury	Sub-adult	Dennis Buurman, Dolphin Encounter; T. Markowitz, Dusky Dolphin Project	fair		poor	2
2000	23 Jul	Sumner/Canterbury		Jim Lilley, Marine Watch	good			2
2000	27 Jul	New Plymouth/Wanganui		TVNZ One news	poor	good	poor	2
2000	28 Sep	Hen and Chickens Is/Northland	Adult	Carol Turner		poor		3
2000	28 Sep	Hen and Chickens Is/Northland	Adult	Carol Turner		fair	good	1
2000	1 Jul	Tory Channel/Nelson-Marlborough		Zoe Battersby, Dolphin Watch Marlborough	good	good		1
2000	29 Aug	Parapara sandspit/ Nelson-Marlborough		Simon Hall, DOC		poor	fair	3
2001	8 Aug	Bluff Harbour/Southland		B. Harcourt, Southland Times	poor			3
2001	4 Aug	Brighton Beach/Canterbury		Sam Dufresne, Otago University	poor	poor		1
2001	27 Aug	Lyall Bay/Wellington	Sub-adult	Peter Rees, Te Papa		poor		1
2001	11–20 Sep	Endeavour Inlet/ Nelson-Marlborough		Zoe Battersby, Dolphin Watch Marlborough; Jim Tannock, Marlborough Express	good	good	poor	1
2002	24–25 Jul	Bay View/East Coast-Hawkes Bay	Adult	Hawkes Bay newspaper, TVNZ	fair	poor	poor	2
2002	3 Sep	Whangarei Harbour/Northland		Ingrid Visser	good	good	fair	1

4.7 PHOTO-IDENTIFICATION

A total of 26 different whales were photo-identified and photographs were collated into a mainland photo-identification catalogue (Table 2, Appendix 3). Whales were photo-identified in 10 of the 11 Conservancies where they were sighted: Southland (n = 5), Otago (n = 4), Canterbury (n = 4), Nelson-Marlborough (n = 3), Wellington (n = 2), Bay of Plenty (n = 2), East Coast/Hawkes Bay (n = 1), Wanganui (n = 1), Auckland (n = 1) and Northland (n = 3). These included photographs of two cows, two juveniles, seven adults and 15 other whales of unknown status. Overall, 20 whales had at least one good or fair photograph to compare with the New Zealand subantarctic catalogue. One of the six whales for which only poor photographs were available was mottled (highly distinctive), and two others were very distinctive. Overall, pictures of 23 whales were considered of good enough quality to be matched to the subantarctic catalogue. The remaining three whales with poor quality photographs were not distinctive and the ability to match them was low.

No match was made between these 23 photo-identified whales from around mainland New Zealand, and the extensive subantarctic catalogue. None of the small subset of top-side profiles from mainland New Zealand waters (n = 6) were matched to the Australian regional catalogues during a workshop held at the South Australian museum in March 2002.

5. Discussion

5.1 LIMITATIONS AND BIASES

The results presented in this report are based on non-systematic sighting reports of southern right whales obtained from several sources. Determination of species identity, group size and group composition was likely to be subject to error depending on the observer's experience. Efforts were made to verify species identity, group size and composition by viewing photographs or video, interviewing observers, and relying on the description provided. Only confirmed sightings of right whales were included in the analysis. It is possible that some sightings listed as 'unconfirmed' may have been of right whales. As such, the interpretation of the results is based on the minimum number of confirmed southern right whale sightings reported between 1976 and 2002.

Efforts were made to minimise the likelihood of duplicate sightings by grouping sightings when whale groups of similar size or composition were reported on the same day or within a few days of each other, and in the same location or within a few kilometers of each other. This grouping of sightings may downward-bias the number of true unique sightings. However, some sightings may have been duplicate sightings of whales seen several days, weeks or even months apart. Considering sightings as unique when they were in fact resightings would create an upward bias for the true number of unique sightings. Without individual photo-identification (or genetic tagging), these biases are impossible to resolve.

5.2 EVIDENCE OF A SIGNIFICANT RECOVERY OF SOUTHERN RIGHT WHALES AROUND MAINLAND NEW ZEALAND

The number of sightings around mainland New Zealand has increased since the first right whales returning to mainland New Zealand waters after whaling ceased was reported in Tory Strait in 1963 (Gaskin 1964). Between 1976 and 1987, single sightings of southern right whales were occasionally reported in some years. Two decades later, southern right whales have been consistently reported each year, and both the number of sightings and the number of whales are significantly increasing over time. The extent of this increase is difficult to quantify, in part because of the sighting biases mentioned above, and because sighting effort has been inconsistent over time. The University of Auckland/DOC southern right whale research project started in 1995 and, during the first few years of this project, several radio and television interviews, printed press articles, and a TVNZ documentary highlighted the need for more information on southern right whales. This would have increased the awareness of members of the public, whale-watch operators, and DOC regional staff to reporting southern right whale sightings. The estimated rates of increase are likely to be affected by the inconsistent effort in the reporting of sightings and should not be considered as actual rates of population increase, rather as indications that the population is increasing at some unknown rate.

What is of greater concern is that there has not been an increase in sightings of cow/calf pairs and the total number of reproductive females sighted around the mainland is very low. At most, 11 different cow/calf pairs have been sighted around the mainland in the last 25 years. If females show site fidelity and a three-year calving interval, the number of calving females in this population may be closer to four or five. If the whales sighted around the mainland are distinct from those of the subantarctic islands (see below), it suggests that the population around New Zealand is extremely depleted, and that the most vulnerable and important (cows and calves) component of the population should be afforded maximum protection.

5.3 IDENTIFYING IMPORTANT NEW ZEALAND COASTAL HABITAT FOR RIGHT WHALES

The location of reported sightings over the past two decades indicates that several coastal areas are important to right whales. East Coast/Hawkes Bay and Bay of Plenty Conservancy are of primary importance for southern right whale cows with calves in winter and spring. This distribution is concordant with what is known of the historical distribution based on catch records. Hawkes Bay was home to at least 13 whaling stations, 5 of which were on Mahia Peninsula (Prickett 2002). Multiple sightings over several days suggests that the stretch of coastline between Napier and Mt Manganui is currently the primary calving habitat for right whales around mainland New Zealand.

Historical records show that there were at least 17 whaling stations between Preservation Inlet in the southwest of Southland and Moeraki north of Dunedin

(Prickett 2002). The relatively high number of sightings in Southland, in particular Stewart Island, and in Otago suggests that this stretch of coastline continues to be preferential habitat, at least for non-cow/calf pairs. Banks Peninsula, Marlborough Sounds and Wellington are, to a lesser extent, also habitat for right whales.

5.4 DETERMINING RESIDENCE TIME AND BEHAVIOUR OF RIGHT WHALES

Burnell (2001) reported that the residency of non-accompanied whales (non-cows) is often interrupted by periods away from the wintering ground. Without systematic collection of photographs of whales visiting around mainland New Zealand it is difficult to comment on the length of residency as unique sightings may be of the same whale moving offshore and returning near shore at a later date. Overall however, it appears that the residency for non-cow/calf pairs in a specific location is short, usually one or two days and rarely more than a week. The one exception is the group of 10 whales reported to remain in Foveaux Strait for two months over winter 1990. Without photographic documentation, it is impossible to determine if a group seen on several occasions consisted of the same or different whales. The spectacular nature of the group size and overall paucity of whales sighted around the mainland suggests these may have been the same whales.

The behaviour of whales sighted was rarely reported and conclusions regarding habitat use are limited. Descriptions of 'frolicking' and aerial displays by singletons are consistent with that of lone individuals on the subantarctic wintering grounds (Patenaude 2002a). The brief residency time of non-cow/calf whales and the few mating groups observed suggests that for most whales, waters around mainland New Zealand may be a migratory corridor and not a breeding ground.

The use of habitat by cow/calf pairs appears to be very different. On average, the residency times were longer, and in five cases whales were sighted of periods exceeding two weeks. Within these periods, cow/calf pairs were intermittently resting and traveling up close to the coast, a behaviour observed on the subantarctic calving grounds (Barrett 2000).

5.5 DETERMINING BY PHOTO-IDENTIFICATION MATCHING IF THE RIGHT WHALES AROUND THE MAINLAND REPRESENT A SEPARATE STOCK

No photo-id matches were made between the catalogues from waters around the mainland and the subantarctic islands. Despite close to 180 right whales sighted around mainland New Zealand, and contacting a vast network of individuals and organisations, only 26 photo-identifications of whales were collated and, of those, 23 were useful for matching. The photographic data analysed represented 12% of the whales sighted. One or several positive matches would have indicated

movement between the two grounds. However, the absence of a match is difficult to interpret in view of the few photographs available.

Richards (2002) proposed, based on historical distribution and seasonality of catch records, that part of the southern right whales migration route include northward movements through the subantarctic waters in early summer, reaching the subantarctic islands in April (Fig. 9), and then most whales moving further north during late April and early May. Cow/calf pairs then moved inshore to the coastal waters of mainland New Zealand while males remained further offshore, where they spent winter months until continuing a northward migration to waters east of the Kermadec Is in late spring.

Movements of large distances between coastal wintering grounds and offshore islands such as those between South Africa and Tristan de Cunha/Gough I (2769 km) and between Argentina and Tristan de Cunha (4424 km: Best et al. 1993) suggest that historical movements between Auckland Is and the mainland (350 km) were likely. However, analysis of mtDNA sequence frequencies has shown that significant differentiation can occur between southern right whale calving grounds despite the lack of geographic barriers to movement (Baker et al. 1999; Patenaude 2002a). If visitors to waters around mainland New Zealand, and whales wintering in the subantarctic islands, were part of a single New Zealand stock then the low numbers of whales around the mainland and the very few reproductive females would suggest an extreme range contraction.

Alternatively, two stocks of right whales may have existed in New Zealand waters. Based on whaling records and the overlap in the timing of arrival of whales at Campbell I. and around the mainland, Dawbin (1986) suggested that the right whales that were historically found at Campbell and Auckland Is might have been part of separate subantarctic stock, while the whales from around mainland New Zealand/Kermadecs were part of a different stock. While the mainland stock was virtually extirpated, adverse weather conditions and the failure of the whaling stations, especially at Campbell I., may have saved the subantarctic stock from extinction. Extirpation of one or more local stocks has been suggested as a reason for the change in distribution around the coast of South Africa (Best 2000), and could likely be the case for New Zealand. The apparent lack of significant recovery of the stock from around mainland New Zealand may be due to the loss of maternally directed cultural memory of that habitat following extirpation (Clapham & Hatch 2000). If so, the current Auckland Is population may represent the limit of range expansion of the remnant subantarctic stock. The whales visiting waters around mainland New Zealand may be the few survivors left of a severely extirpated stock, which contain as few as 4–11 reproductive females.

5.6 MANAGEMENT RECOMMENDATIONS

Until sufficient photographic or genetic data is collected around mainland New Zealand from southern right whales for conclusive analyses, a cautionary approach suggests that these whales be considered as part of a separate stock. The following recommendations are directed at detecting trends in abundance over time, monitoring existing and potential threats and gathering information to determine conclusively the nature of stock division within New Zealand waters.

1. The highest priority should be afforded to the photo-identification collection of parturient females visiting waters around mainland New Zealand. This information is essential to adequately estimate population size of reproductive females and to determine trends in recruitment rates. One of the limiting factors to collecting photographs is the brief residency time of most whales and the fact that by the times whales have been reported they have left the area. Conservancies where cow/calf pairs have been sighted in the past (East Coast/Hawkes Bay, Bay of Plenty, Wanganui, Wellington, Otago, Canterbury) should develop a plan of quick response to public sightings of southern right whales. Public awareness of the need to collect photographic data could be increased by advertising in the media during key seasons (winter, spring). Marine mammal-watching tour operators and fishing vessels should also be encouraged to immediately contact DOC when they sight a right whale. Because of the relatively long residency time of most cow/calves, the likelihood of successful collection of photographs will be high once a response plan is in place.
2. In Conservancies with regular sightings of southern right whales (e.g. Southland, Otago, East Coast/Hawkes Bay, Canterbury) key personnel should be trained by a qualified person to collect photo-identification and conduct biopsy sampling of southern right whales. A summary sheet describing how to approach a right whale in a small vessel or in an aircraft with minimal disturbance, how to photograph a whale and what specific data to record should be circulated among the different Conservancies.
3. Annual or biennial meetings between right whale researchers and DOC staff should be reinstated to allow researchers to communicate directly with field operators most likely to encounter whales. The success of data collection will be best achieved by encouraging communication between the two groups.
4. The Bay of Plenty and Hawkes Bay coastlines represent an important habitat for the most critical component of the population around mainland New Zealand. In this region especially, the marine mammal protection guidelines should be strongly enforced, and every attempt should be made to minimise anthropogenic threats and disturbances to cows and calves. Adverse effects of human-related activities on this component of the population would have a serious impact on the recovery of this severely depleted population. The International Whaling Commission identified ship strikes and incidental entanglements in fishing gear as the most significant causes of human-induced mortality in right whales (IWC 2001). The author strongly recommends that any existing or proposed human-related activities in the area such as marine farming, vessel traffic, whale-watching and oil or gas exploration be carefully evaluated and monitored for any potential negative effects.

6. Acknowledgements

This report was contracted by DOC's Science & Research Unit (SIN3350), and I thank Rob Suisted and Clint Duffy for their efforts in highlighting the need and urgency for such a study. I am indebted to many that provided the sighting information that made this report possible. Thanks to DOC Conservancy officers, especially Debbie Freeman, Jim Fyfe, Helen Kettles, Bruce Dix, Don Neale, Malcom Smith, Helen Jonas, Hans Rook and Clint Duffy. I thank Alan Baker for providing DOC sighting sheets and Rosemary Tully, Zoe Battersby, Jim Lilley, Diane Clements, Nadine Gibbs and all others that contributed sightings and/or images. I thank Chris Wild for GIS mapping and Barbara Todd for her contribution to the subantarctic photo-identification catalogue.

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Appendix 1

SOUTHERN RIGHT WHALE SIGHTINGS AROUND MAINLAND NEW ZEALAND
LISTED BY CONSERVANCIES. UNCONFIRMED SIGHTINGS SHOWN IN ITALICS.

YEAR	DATE	LOCATION	GROUP SIZE		EST. LENGTH	PH.- ID	REPORTED BY	LAT	LONG	COMMENTS
Auckland										
1992?	May?	Lower Mahurangi Harbour	2	cow/calf		yes	Thelma Wilson, DOC	36°30′	174°45′	
2000	1 Nov	Army Bay, Whagaparaoa Peninsula	1	juvenile			Scott Wyatt	36°37′	174°48′	caught in fishing line
Bay of Plenty										
1989	4 Nov	Tauranga	1	juvenile	10 m		Barry Hartley	37°36′	176°23′	heading N
1995	29 Aug	Taraunga Harbour	1				Bay of Plenty Times	37°38′	176°10′	
1995	21–24 Sep	Torere to Otarawaire Bay	2	cow/calf			Patrick Kavanagh	37°57′	177°01′	seen over several days around Mahia Peninsula, resight of whale seen 3–18 Sep
1997	8 Aug	Whakatane River	2	cow/calf			Coastguard report forwarded by Rosemary Tully, Marlborough Dolphin Watch	37°57′	177°01′	
1997	10 Aug	Whakatane Head, Mt Maunganui	2	cow/calf	c. 14 m, c. 6 m	yes	Paul Keyes, Bay of Plenty Polytech	37°39′	176°12′	likely resight of whale seen 8 Aug in 7–8 m water
1997	15 Aug	Mt Maunganui	2	cow/calf			Daily Post	37°39′	176°12′	likely resight of whale seen 8 Aug
1997	22 late Aug	Mt Maunganui to Opotiki	2	cow/calf			Daily Post	37°39′	176°18′	likely resight of whale seen 8 Aug
1998	13 Sep	3 Miles Reef off Taraunga, Bay of Plenty	2	cow/calf		yes	Kim Westerkov	37°40′	176°12′	
2001	10 Feb	S of White I.	1		13 m		John Baker, MV Ma Cheri	37°40′	177°12′	unconfirmed, very smooth back
2002	27–28 Aug	Whakatane Head	1				Rosemary Tully	37°56′	177°02′	heading E
Canterbury										
1991	Aug	Kaikoura	2	cow/calf			B. Todd in Duffy & Brown 1994	42°24′	173°42′	
1991	21 Sep	Kaikoura	2	cow/calf			The Press, The Star (Christchurch)	42°24′	173°42′	200 m offshore, likely resight of whale seen Aug
1991	22 Oct	Kaikoura	1				Barbara Todd	42°24′	173°43′	800 m offshore
1998	29 Aug	Kaikoura	1			yes	Rob Suisted, DOC; Dennis Buurman	42°24′	173°42′	
1998	4 Sep	Taylor's Mistake	1				Jim Lilley, Marine Watch	43°35′	172°47′	
1998	week of 10 Sep	Christchurch	1	juvenile	9 m		Tom Thomson	43°33′	172°46′	likely resight of whale seen 4 Sep
1998	16 Sep	Southside, Banks Peninsula	3				Simon Childerhouse, DOC	c. 43°48′	173°45′	

YEAR	DATE	LOCATION	GROUP SIZE		EST. LENGTH	PH.- ID	REPORTED BY	LAT	LONG	COMMENTS
1999	19 Jan	Goose Bay to South Bay, Kaikoura	1	juvenile	10–12 m	yes	April Harlin, Tim Markowvitz, Dusky project, Dennis Buurman	42°29′	173°34′	with dusky dolphins
2000	23 Jul	Sumner	1			yes	Jim Lilley, Marine Watch	43°34′	172°46′	
2000	3 Sep	Little Port Cooper	1				Jim Lilley, Marine Watch	43°37′	172°46′	
2000	11 Sep	Le Bons Bay	1				Jim Lilley, Marine Watch	43°44′	173°06′	likely resight of whale seen 3 Sep
2000		Birdlings Flat, Canterbury	3				Jim Lilley, Marine Watch	43°50′	172°42′	
2001	15 Jun	Akaroa	2	adult, juvenile			Diane Clement, Otago University	43°53′	173°00′	
2001	4 Aug	Brighton Beach	1			yes	Sam Dufresne, Otago University	43°32′	172°46′	
East Coast/ Hawkes Bay										
1976	15 Aug	In coastal bays north of Gisborne	1		12 m		F. Robson's day book, reported by C. Duffy, DOC	38°43′	178°05′	seen for several days in bays north of Gisborne up to Mahia Peninsula
1976	23 Aug	Port of Napier	1				F. Robson's day book, reported by C. Duffy, DOC	39°29′	169°56′	likely resight of whale seen 15 Aug
1980	19 Sep	Bayview	1				F. Robson's day book, reported by C. Duffy, DOC	39°25′	176°52′	
1992	16–18 Aug	Porangahau Beach	1				Carol Sciascia	40°18′	176°40′	swimming up and down beach, making regular brief dives—feeding?
1994	9 Aug	Wairoa-Mahia Peninsula	1				Malcolm Smith, DOC	39°03′	177°26′	
1994	10 Aug	Opoutama Beach, Mahia Peninsula	1				Malcolm Smith, DOC	39°04′	177°50′	likely resight of whale seen 9 Aug
1994	19 Aug	Whirinaki, Hawkes Bay	1	adult			Mary Mayes, Whirinaki; Hans Rook, DOC	39°23′	176°54′	400 m offshore, heading SE
1995	3–18 Sep	Mahia Peninsula	2	cow/calf	16–18 m		Jamie Quirk, DOC	39°04′	177°52′	travelled to Te Araroa then Whakatane and back to Tolaga Bay
1996	10 Sep	Waihua Bay	2	cow/calf			Andrew Glaser, DOC	39°06′	177°17′	migrated E through BOP waters and rested by boat ramp
1997	3–4 Sep	Hicks Bay and Te Araroa	2	cow/calf			Daily Post	37°38′	178°22′	likely resight of whale seen late Aug Opotiki, BOP
1998	31 Aug	Mahia Beach	1	juvenile	8–10 m		Malcom Smith, DOC	39°05′	177°52′	
1998	3 Sep	Wainui Beach	1				Ms Storm Dunn	38°42′	178°06′	likely resight of whale seen 31 Aug
1998	10 Nov	20 n.m. south of Cape Kidnappers	2				Thalassa Kawachi aboard Rilyara	39°54′	177°16′	300 m from fishing boat
1999	3 Aug	Bay of Mahia Beach, Mahia Peninsula	1				Helen Jonas, DOC	39°04′	177°50′	
1994	9 Aug	Wairoa-Mahia Peninsula	1				Malcolm Smith, DOC	39°03′	177°26′	
1994	10 Aug	Opoutama Beach, Mahia Peninsula	1				Malcolm Smith, DOC	39°04′	177°50′	likely resight of whale seen 9 Aug

1994	19 Aug	Whirinaki, Hawkes Bay	1	adult		Mary Mayes, Whirinaki; Hans Rook, DOC	39°23'	176°54'	400 m offshore, heading SE
1995	3–18 Sep	Mahia Peninsula	2	cow/calf	16–18m	Jamie Quirk, DOC	39°04'	177°51'	travelled to Te Araroa then Whakatane and back to Tolaga Bay
1996	10 Sep	Waihua Bay	2	cow/calf		Andrew Glaser, DOC	39°06'	177°17'	migrated E through BOP waters and rested by boat ramp
1997	3–4 Sep	Hicks Bay and Te Araroa	2	cow/calf		Daily Post	37°38'	178°22'	likely resight of whale seen late Aug Opotiki, BOP
1998	31 Aug	Mahia Beach	1	juvenile	8–10 m	Malcom Smith, DOC	39°05'	177°52'	
1998	3 Sep	Wainui Beach	1			Ms Storm Dunn	38°42'	178°06'	likely resight of whale seen 31 Aug
1998	10 Nov	20 n.m. south of Cape Kidnappers	2			Thalassa Kawachi aboard Rilyara	39°54'	177°16'	300 m from scampi boat
1999	3 Aug	Bay of Mahia Beach, Mahia Peninsula	1			Helen Jonas, DOC	39°04'	177°50'	
2000	6 Sep	Whakamahi Beach south of Wairoa River mouth	1	adult	15 m	reported to Helen Jonas, DOC	39°04'	177°23'	400 m off beach, rolling around
2000	7 Sep	Bayview, Westshore, Napier	1?	adult	13–16 m	John Adams, DOC	39°27'	176°53'	70–200 m offshore
2000	8 Sep	Tahaenui Beach, north of Whakaki Lagoon	1	juvenile	8–10 m	Helen Jonas, DOC	39°03'	178°42'	heading towards Mahia, 200 m off beach, likely resight of whale seen 6 Sep
2000	10–14 Sep	Long Pt, Mahia Peninsula	1			reported to Malcolm Smith, DOC	39°09'	178°50'	likely resight of whale seen 6 Sep
2000	12 Sep	Black's Beach, Mahia Peninsula	1			reported to Malcolm Smith, DOC	39°03'	177°50'	likely resight of whale seen 6 Sep
2000	13 Sep	Opoutama Beach, Mahia Peninsula	1			reported to Malcolm Smith, DOC	39°04'	178°51'	likely resight of whale seen 6 Sep
2000	14 Sep	Opoutama Beach, Mahia Peninsula	1			reported to Malcolm Smith, DOC	39°04'	178°51'	likely resight of whale seen 6 Sep
2000	14 Sep	Anaura Bay	1	adult		DOC sighting report	38°14'	178°19'	likely resight of whale seen 6 Sep
2000	22 Sep	Bayview	2	cow/calf	6 m	John Adams, DOC	39°25'	176°52'	
2000	22 Sep	Whirinaki	2	cow/calf		Hans Rook, DOC	39°23'	176°54'	likely resight of whale seen 22 Sep
2000	27 Sep	Mohaka River	2	cow/calf		Hans Rook, DOC	39°07'	177°12'	likely resight of whale seen 22 Sep
2001	3 Jan	Clifton, Napier South	3			Flipper Robson's diary	39°38'	177°01'	
2001	1 Sep	Mahia Beach	1			reported to Helen Jonas, DOC	39°05'	177°52'	
2001	1 Oct	Gable End Foreland	1			Boyd McGregor, local charter operator	38°32'	178°17'	unconfirmed
2001	18 Oct	Orutua River mouth, East Cape	2	cow/calf		commercial fisher reported to Jamie Quirk, DOC Gisborne	37°38'	178°27'	close to shore, inside Port Elliot wreck
2001	19 Oct	Whangawehi	3	cow/calf with escort		reported to Helen Jonas, DOC	39°05'	177°58'	very close to shore, resight of whale seen 18 Oct + 1 whale
2001	26 Oct	Tolaga Bay wharf	4	adults		reported to Jamie Quirk, DOC	38°22'	178°19'	
2001	5 Nov	Hick's Bay wharf	2	cow/calf		nephew of Hal Hovell, DOC	37°34'	178°18'	SE towards East Cape, likely resight
2002	24–25 Jul	Westshore and Bayview	1	adult	15 m	Hans Rook, DOC	39°25'	176°52'	split right pectoral
2002	Sep	Ocean Beach	1			Hans Rook, DOC	39 45	177 00	
Nelson/Marlborough									
1991	25–27 Oct	Fighting Bay	1			Bill Cash, reported in Duffy & Brown 1994	41 20	174 12	possible resight of whale seen 22 Oct, Kaikoura

YEAR	DATE	LOCATION	GROUP SIZE		EST. LENGTH	PH.-ID	REPORTED BY	LAT	LONG	COMMENTS
1994	7 Jul	Rununder Pt, 1 n.m. SW	3				Zoe Battersby, Dolphin Watch Marlborough	41°204′	174°15′	going WNW
1994	7 Jul	Coombe Rocks, 2 n.m. E	4				Zoe Battersby, Dolphin Watch Marlborough	41°21′	174°09′	going NNE, likely resight of whale seen 7 Jul, + 1 whale
1995	2 Aug	Glasgow Is	2	1 juvenile			Zoe Battersby, Dolphin Watch Marlborough	41°18′	174°15′	going E
1996	24 Jun	Port Underwood, 3 n.m. ENE	2				Zoe Battersby, Dolphin Watch Marlborough	c. 41°20′	174°05′	
1997	18 Aug	Perano Head	3	adults			Zoe Battersby, Dolphin Watch Marlborough	41°12′	174°22′	
2000	1 Jul	Tory Channel	1			yes	Zoe Battersby, Dolphin Watch Marlborough	41°14′	174°15′	
2000	27 Aug	Awaroa Estuary mouth	1	juvenile	12 m		Hugh Mytton, Totaranui Camp Manager, Nelson paper	40°51′	173°02′	
2000	29 Aug	Parapara sandspit	1	juvenile	13 m	yes	Simon Hall, DOC	40°43′	172°41′	likely resight of whale seen 27 Aug
2001	11–20 Sep	Dryden Bay, Endeavour Inlet; Clova Bay	1	juvenile	10 m	yes	Zoe Battersby, Dolphin Watch Marlborough; Bill Cash, DOC	41°07′	174°12′	with dusky dolphins
Northland										
1970s	Dec	Russell wharf	1	juvenile	7–8 m		Graham Clifford	35°36′	174°07′	unconfirmed
1981	?	Black Rocks, Bay of Islands	3				Graham Clifford	35°07′	174°01′	stayed with boat for 30 min
1988	?	South of Poor Knights Is	4				Cawthorn 1990	35°30′	174°44′	
2000	30 Jul	Bay of Islands	1				Andrew Ryding, University of Auckland	35°11′	174°12′	Whale Rock near Okahu I.
2000	28 Sep	Hen and Chickens Is	2	adults		yes	Carol Turner, Papatoetoe	35°56′	174°44′	feeding
2000	Oct	Rocky Bay, Tutukaka	2				Jenny Burling	35°36′	174°32′	Social, likely resight of whale seen 28 Sep
2001	Dec	Doubtless Bay	2				George Wallbank	c. 34°57′	173°30′	unconfirmed
2002	3 Sep	Whangarei Harbour	1			yes	Ingrid Visser	35°48′	174°27′	
Otago										
1994	6 Jul	St Kilda Beach	2	adults		yes	Karen Baird, Graeme Loh, Richard Nichol, DOC	45°54′	170°41′	200–300 m offshore, heading N, seen on 4 Jul Tomahawk Beach
1994	9 Jul	Otago Harbour	1				Graeme Loh, DOC	45°49′	170°40′	up to Hamilton Bay and past the old whaling station, likely resight of whale seen 4 Jul
1994	19 Jul	Shag Point swimming north up Katiki Beach	1				Dave Houston	45°25′	170°48′	likely resight of whale seen 9 Jul
1994	19–22 Jul	Papanui Beach	3	1 juvenile?			George Lay, tour operator	45°52′	170°45′	same whales in same location for 4 days, 2 are resights

1994	21 Jul	Victory Beach	3			Karen Baird, Chris Lalas, DOC	45°50'	170°45'	likely resight of whale seen 19 Jul
1994	23 Jul	Off Taiaroa Head, then Long Beach and Aramoana Spit	2			Sandra McGrouther	45°47'	170°42'	likely resight of whale seen 21 Jul
1994	24 Jul	Off Warrington Beach	4		yes	DOC sighting report	45°43'	170°37'	2 in surf off Surf Club and 2 c. 200 m off Blueskin Bay, likely resight of previous days
1994	31 Jul	Tomahawk Beach	1			Liz Baynes, Tim Shaw, Murray Smith	45°54'	170°41'	heading N, likely resight
1995	13 Oct	Tahakopa Bay, Catlins	2	possible calf		Tour operator Mary Sutherland	46°34'	169°30'	playing in surf
1995	27 Oct	Taiaroa Head	1			Monarch Cruises	45°46'	170°44'	
1995	12 Nov	Shag Point	1			Dave Houston	45°29'	170°49'	heading S
1995	13 Nov	Otago Harbour entrance	1	juvenile	10 m	Jason Braid on fishing vessel	45°48'	170°43'	swam up harbour until Wellers Rock, likely resight of whale seen 12 Nov
1995	16 Nov	Taiaroa Head and harbour entrance	3			Reported to Monarch Cruises	45°46'	170°44'	unconfirmed
1995	25 Dec	Taiaroa Head	2			Reported to Monarch Cruises	45°46'	170°44'	unconfirmed, heading S
1996	19 Oct	1 n.m. off Taiaroa Head	1			Fisher reported to Monarch Cruises	45°46'	170°45'	unconfirmed
1996	8 Dec	Outside Otago Harbour entrance	1			Reported to Monarch Cruises by Spirit of Freedom	45°47'	170°44'	unconfirmed
1998	19 Sep	Taiaroa Head	1			Monarch Cruises	45°46'	170°44'	
1999	23 Jan	St Clair Beach, Dunedin	1			G. Loh	45°55'	170°33'	playing and leaping clear of water
1999	25 Sep	St Clair Beach, Dunedin	2			D. Nelson, DOC	45°57'	170°33'	going N
1999	26 Oct	3 n.m. N off Taiaroa Head	3			Signal station, reported to Monarch Cruises	45°45'	170°44'	unconfirmed
1999	20 Nov	Waikouiti Bay	3			Otago Daily Times	45°38'	170°40'	
1999	22 Nov	Karitane	3			DOC sighting report	45°39'	170°39'	resight 20 Nov?
2000	14 Feb	Port Chalmers	1			Otago Daily Times, Monarch Cruises	45°49'	170°39'	
2000	8 Apr	West of Nugget Point	1			Richard Win, Seiryō Maru 12	46°24'	172°11'	dead, floating on back, unconfirmed
2000	4 Sep	Moeraki	1			DOC sighting report	45°22'	170°50'	sighted at Waitouiti Beach 5 days earlier
2000	5 Sep	Taiaroa Head	1			Monarch Cruises	45°47'	170°44'	likely resight of whale seen 4 Sep
2001	11 Sep	St Kilda	2	possible calf		Dean Nelson, DOC	45°55'	170°31'	150 m off beach, slow moving around tidal disturbance, feeding?
2002	9 Jun	Sandfly Beach	1	juvenile	12 m	Eduardo Secchi, University of Otago	45°54'	170°40'	200–300 m from shore
2002	21 Jul	Aramoana mole	2			G. Loh, DOC	45°47'	170°44'	
2002	11 Aug	Taiaroa Head	1			S. Hellyer, DOC	45°47'	170°45'	heading N
2002	27 Sep	Otakou, Otago Harbour	2	cow/calf	15 m, 6 m	Richard Oliver, Monarch Cruises	45°49'	170°41'	seen following day at Cape Saunders heading S

YEAR	DATE	LOCATION	GROUP SIZE	EST. LENGTH	PH.- ID	REPORTED BY	LAT	LONG	COMMENTS
Southland									
mid-1980		Freshwater Basin, Milford Sound	1			Lusseau & Slooten 2002	44°39'	167°57'	stranding
1988	12 Sep	Omaui	2			Southland Conservancy	46°31'	168°15'	very large, unconfirmed
1990	26 Jul	Te Wae Wae Bay	10+ 2 juvenile		yes	Andy Cox, DOC	46°13'	167°30'	social group, seen over a 2-month period in Foveaux Strait
1990	19 Aug	Colac Bay	1			Southland Conservancy	46°22'	167°54'	unconfirmed
1990	?	Port Pegasus, Stewart I.	1		yes	Mike Aviss, DOC	47°13'	167°40'	
1991	2 Sep	Stirling Point, entrance to Bluff Harbour	1			Southland Conservancy	46°37'	168°21'	last seen off Dog I.
1992	22 Jul	Beacon Pt, Bluff	2			Southland Conservancy	44°40'	169°08'	one tangled in orange net, seen from ferry later, no net, unconfirmed
1992	8 Sep	Te Wae Wae Bay near Pahia Point	2	cow/calf		Southland Conservancy	46°18'	167°37'	
1992	9 Oct	Mouth of Lyvia River, Doubtful Sound	1		18 m	Southland Conservancy	45°28'	167°10'	unconfirmed
1994	Jan	Acker's Point, Halfmoon Bay	2			Brent Beaven, DOC	46°54'	168°10'	
1995	21 Sep	Inside Bluff Harbour	1	adult	18 m	Southland Times	46°35'	168°18'	frolicking, likely resight of whale seen 21 Sep
1995	4 Oct	Mouth of Lords River, Stewart I.	1	adult		Hilary Squires	47°08'	168°07'	
1995	13 Oct	Pegasus near Albion, Stewart I., inside of Pearl I.	1		12–14 m	Gary Neave	47°10'	167°40'	showing tail, likely resight of whale seen 4 Oct
1995	16 Nov	Murray River, Stewart I.	1			Dave Waters	46°48'	168°01'	swimming S
1995	21 Sep	Big Glory Bay, Stewart I.	1			Mussel farmers reported to DOC; Southland Times	46°59'	169°07'	
1995	1–21 Sep	Te Wae Wae Bay	3			Southland Times	46°18'	167°37'	
1996	21 Sep	Bluff Harbour entrance	2			Southern Air	46°37'	168°21'	heading S out of inlet
1996	16 Oct	East Cape, Stewart I.	1			M. Peterson	47°01'	168°14'	
1996	17 Aug	Howell's Point, Riverton	1			Southland Conservancy	46°23'	168°02'	150–200 m offshore
1996	19 Sep	Porpoise Bay, Catlins	1			Reported to DOC	46°39'	169°07'	500 m offshore
1996	23 Sep	Porpoise Bay, Catlins	2			Reported to DOC	46°39'	169°07'	heading S, one likely resight of whale seen 19 Sep
1996	15 Oct	Bluff Harbour	1			Reported to DOC	46°37'	168°21'	unconfirmed
1996	13–16 Sep	Colac Bay	1			Reported to DOC	46°22'	167°54'	unconfirmed
1996	Aug	Paterson Inlet, Stewart I.	1			Anonymous report to DOC	46°56'	168°03'	
1996	Dec	Ringa Ringa Beach and Ulva I., Paterson Inlet	1	adult		P. Dobbins, P. Lowan, P. Crouchly	46°58'	168°03'	stayed a few days
1996/97?		Horseshoe Bay, Stewart I.	1			Brent Beaven, DOC	46°53'	168°08'	up and down beach all day
1997	June	Milford Sound	1			Lusseau & Slooten 2002	44°40'	167°54'	
1998	19 Jun	Port Pegasus, Stewart I.	2			R. Shaw, Breaksea Girl	47°12'	167°40'	spent 2 days

1998	19 Jun	Port Pegasus, Stewart I.	1				Alan Tennison	47°12' 167°40'	resight
1998	2 Jul	Porpoise Bay, Catlins	1				DOC sighting report	46°39' 169°07'	stayed 2 hrs
1998	20 Jul	Port William, Stewart I.	3	adult			Southland Conservancy	46°49' 168°08'	4 n.m. offshore heading NW
1998	3 Aug–20 Sep	Butterfield Beach, Halfmoon Bay Stewart I.	1				Brent Beaven, DOC	46°55' 168°09'	8 m
1999	6 Jan	Ulva I., east side	1				Southland Conservancy	46°56' 168°11'	black and huge, unconfirmed
1999	29 Sep	Thule and Fred's Camp	1				Southland Conservancy	46°57' 168°02'	
2000	16 Feb	South Head at Curio Bay	2				Nancy Gee, DOC	46°40' 169°07'	50 m offshore, travelling from the north
2000	Sep	Bluff Harbour	1				Southland Times		
2001	26 May	Porpoise Bay, Catlins	1 +				Alison Balance	46°42' 169°05'	
2001	8 Aug	Bluff Harbour	2		12 m	yes	Bob Hawkes, Mana Charters	46°42' 168°20'	accompanied by dolphins
2001	25 Sep	RingaRinga Beach	1	juvenile	9 m		Sharon Pasco, DOC	46°56' 168°10'	
2001	1 Nov	Curio Bay	1				DOC sighting report	46°42' 169°05'	
2002	19 Jun	Hares Ears, Doubtful Sound	2	adults	large		Bob Walker, Renown	45°16' 166°50'	very social, also seen 18 June
Wanganui									
1990	29 Oct	Port Taranaki	1				Oakura Daily News, from Bryan Williams, DOC	39°03' 174°02'	
1993	25 Feb	15 n.m. offshore of Motonui	1				Reported to Bryan Williams, DOC	c. 38°45' 174°18'	unconfirmed
1997	25 Jun	Waikaranga, New Plymouth	1				Barry Hartley	39°04' 174°00'	
1997	8 Jul	Offshore New Plymouth	1				Barry Hartley	38°59' 173°59'	5–7 n.m. offshore
1997	25 Jun	1 n.m. off Port Taranaki	1				Bryan Williams, DOC	39°02' 174°02'	unconfirmed, heading S
2000	27 Jul	New Plymouth	1			yes	One news	39°03' 174°03'	
2000	16 Aug	Pukearuhe, North Taranaki	1				Bryan Williams, DOC	38°53' 174°31'	close to shore, possible resight of whale seen 27 Jul?
2002	31 Jul	Bellblock, New Plymouth	1?				Bryan Williams, DOC	39°02' 174°06'	in 15 m water
2002	1 Aug	Tapuae Stream entrance south New Plymouth	2	cow/calf			Bryan Williams, DOC	39°05' 173°58'	in 12 m water, heading S, likely resight of whale seen 31 Jul
Wellington									
1993	Winter	Sinclair Head, south coast Wellington	1				Bruce Dix, DOC	41°22' 174°43'	
1997	29 Mar	Baring Head, east of Wellington Harbour	3				Bruce Dix, DOC	41°25' 174°52'	300–400 m offshore
1997	1 Oct	Wellington Harbour	2			yes	The Evening Post	41°17' 174°48'	
1999	6 Sep	Houghton Bay	1				Peter Simpson, DOC	41°20' 174°47'	
2001	27 Aug	Lyall Bay	1	juvenile	12 m	yes	TVNZ	41°20' 174°48'	
2002	2 Feb	Tuteremoana, Kapiti I.	5	3 adults, 2 juveniles	16 m, 12 m		Bruce Dix, DOC	40°50' 174°54'	moving about slowly in the shallows
2002	4? Jun	SE of Taputeranga I., Island Bay	1				Marco Zeeman	41°20' 174°47'	1 n.m. offshore, breaching
2002	16 Aug	Titahi Bay	2	cow/calf			Bruce Dix, DOC	41°06' 174°50'	likely resight of whale seen 1 Aug near New Plymouth. See 15 Aug in Palliser Bay

YEAR	DATE	LOCATION	GROUP SIZE	EST. LENGTH	PH.- ID	REPORTED BY	LAT	LONG	COMMENTS
2002	21 Aug	Palliser Bay	2	cow/calf		Roger Bunckenberg, Wellington Flight Centre	41°24′	175°04′	likely resight of whale seen 16 Aug
West Coast									
1988	17–18 Jul	Karoro	1			Don Neal, Greymouth Evening Star	42°29′	171°12′	tail lobbing
1996	Spring	Jackson Bay	1			Brent Trolle, DOC	43°58′	168°45′	unconfirmed, black whale
2000	19 Jul	North Beach Cobden and Blaketown Beach	1	14 m		GES, Trevor Johnston	42°27′	171°12′	close to river mouth and beach, feeding?
2000	30 Jul	Grey River mouth	1			Phil Lowe, Dolphin Adventure Tours	42°27′	171°12′	possible resight of whale seen 19 Jul
2002	27 Jul	Paparoa coast, between Greymouth and Westport	1			Reported to D. Neal, DOC	42°00′	171°21′	

Appendix 2

DETAILED LOCATIONS OF SOUTHERN RIGHT WHALE SIGHTINGS BY CONSERVANCY

