

# Ecological Survey Report

## East Coast Protection Group

September/ October 2021

Sonya Roxburgh

### Surveys carried out:

Date	Area covered
05/09/2021	Canterbury Gully to Ward Beach.
09/09/2021	Waima Lower Riverbed to Mirza Creek.
11/09/2021	Canterbury Gully to Cape Campbell Airstrip.
15/09/2021	Marfells beach, Mussel Pt to Fisherman's creek.
15/09/2021	Ward beach/ South 1km
18/09/2021	Canterbury Gully and selected sites Northward
19/09/2021	West of Cape Campbell, around Cape South to airstrip.
24/09/2021	Booboo Stream and South 1km
29/09/2021	Ward Beach to Waima/Ure River
01/10/2021	Ward Beach /Chancet North to "Mud rock point"
08/10/2021	Ure river mouth and beach
09/10/2021	Long Point to "mud rock" point.
10/10/2021	Booboo to north side of Long point
15/10/2021	Canterbury Gully to Cape Campbell airstrip
16/10/2021	Airstrip to Cape Campbell.
21/10/2021	Booboo Stream nesting zone
22/10/2021	Booboo Stream nesting zone
26/10/2021	Ward to The Needles
27/10/2021	Ward to Chancet Rock

## 1. Sea birds and shore birds

On most surveys all birds seen were recorded, however often focus on nesting detracts from general bird surveys, and vice versa. On some days accurate general shorebird observations were not carried out, in order to focus on shorebird nesting. Therefore those days are not included in the table below. Grassland, scrub and forest bird species observed have also been excluded from this table, due to irregularity of recording. Flocks of pelagic birds were also seen at a distance offshore some days, including up to 5 white capped albatross. Some flocks appeared to consist of hundreds of shearwaters (likely huttons') and petrels, however they were too distant to be identified.

### General shore and seabird counts September:

		05-Sep	09-Sep	11-Sep	15-Sep	19-Sep	24-Sep	29-Sep
Common name	Scientific name	CG to Ward	Waima to Mirza	CG to airstrip 11/09	Marfells/ Mussel pt	West CC south to airstrip	Booboo Stream	Ward to Waima
Banded dotterel	<i>Charadrius bicinctus</i>	55	22	24	0	10	21	50
Variable oystercatcher	<i>Haematopus unicolor</i>	16	2	4	4	13	1	0
S. I. pied oystercatcher	<i>Haematopus finschi</i>	4	1	2	4	1	1	0
Black-backed gull	<i>Larus dominicanus</i>	31	43	15	12	36	32	12
Black-billed gull	<i>Larus bulleri</i>	0	13	0	0	32	0	0
Red-billed gull	<i>Larus novaehollandiae</i>	53	0	13	313	145	12	13
White-faced heron	<i>Egretta novaehollandiae</i>	6	0	0	2	2	0	0
Pied shag	<i>Phalacrocorax varius</i>	15	0	7	17	13	9	9
Spotted shag	<i>Strictocorbo punctatus</i>	0	0	0	3	0	1	0
Black shag	<i>Phalacrocorax carbo</i>	0	0	1	0	0	2	0
Little shag	<i>Phalacrocorax melanoleucos</i>	3	0	2	1	4	0	0
White-fronted tern	<i>Sterna striata</i>	0	2	0	5	0	0	0
Black-fronted tern	<i>Chlidonias albostratus</i>	0	0	0	0	0	0	0
Caspian tern	<i>Hydroprogne caspia</i>	5	3	3	0	3	3	1
Paradise shelduck	<i>Tadorna varigata</i>	0	0	0	2	0	2	2
NZ dotterel	<i>Charadrius obscurus</i>	1	0	0	0	0	1	0
Pied Stilt	<i>Himantopus himantopus</i>	3	2	0	1	0	0	2

### General shore and seabird counts October:

		01-Oct	08-Oct	09-Oct	15-Oct	21-Oct	26-Oct	27-Oct
Common name	Scientific name	Ward beach to mudrock	Ure river	Long Point/ mudrock	CG to airstrip	Booboo	Ward to Needles	Ward to Chancet
Banded dotterel	<i>Charadrius bicinctus</i>	22	11	14	19	25	51	18
Variable oystercatcher	<i>Haematopus unicolor</i>	11	3	12	6	1	4	2
S. I. pied oystercatcher	<i>Haematopus finschi</i>	0	0	0	0	2	0	0
Black-backed gull	<i>Larus dominicanus</i>	12	20	34	15	6	9	3
Black-billed gull	<i>Larus bulleri</i>	0	65	2	0	0	2	2
Red-billed gull	<i>Larus novaehollandiae</i>	34	2	33	39	6	13	25
White-faced heron	<i>Egretta novaehollandiae</i>	3	0	0	0	0	0	0
Pied shag	<i>Phalacrocorax varius</i>	9	0	6	15	1	4	3
Spotted shag	<i>Strictocorbo punctatus</i>	2	1#	2	1	0	0	1
Black shag	<i>Phalacrocorax carbo</i>	0	0	0	0	0	1	0
Little shag	<i>Phalacrocorax melanoleucos</i>	0	0	0	0	0	0	0
White-fronted tern	<i>Sterna striata</i>	0	0	0	0	0	1	0
Black-fronted tern	<i>Chlidonias albostratus</i>	0	6	0	0	0	0	0
Caspian tern	<i>Hydroprogne caspia</i>	5	0	4	0	2	0	0
Paradise shelduck	<i>Tadorna varigata</i>	2	2	2	4	0	0	0
NZ dotterel	<i>Charadrius obscurus</i>	0	0	0	0	0	0	0
Pied Stilt	<i>Himantopus himantopus</i>	0	2	2	0	0	0	5
Ruddy turnstone	<i>Arenaria interpres</i>	0	0	0	42	0	0	0
Grey teal	<i>Anas gracilis</i>	0	0	0	0	0	0	2
Pacific golden plover	<i>Puvialis fulva</i>	0	0	0	2	0	0	0
Black fronted dotterel	<i>Euseyonis melanops</i>	0	0	0	0	0	0	1
Sacred Kingfisher	<i>Todiramphus sanctus</i>	0	0	0	0	0	0	0
Australasian Gannet	<i>Morus serrator</i>	5	1	1	1	1	1	1

This survey period encompasses a time of high seasonal change, with the notable movement of native shorebirds into nesting areas, and the sudden arrival of migratory shorebirds from overseas. Migratory birds arrived early to mid-October, roosting at a point near the Cape Campbell Airstrip, which appears to be a site particularly favoured for roosting and feeding by many species of birds. A flock of around 50 ruddy turnstone (*Arenaria interpres*) were seen, as well as a pair of pacific golden plover (*Puvialis fulva*). One New Zealand dotterel (*Charadrius obscurus*) was seen from August onward, and remained in the same area just south of Booboo stream for some time. It was absent in from the site in early October, but is likely to have been feeding at areas nearby, as what was possibly the same bird returned briefly late October.

The number of New Zealand pipit observed appears unusually low for shoreline and dune habitat, and along much of the coast they are unnoticeable. The most observations that have been made are from around Ward beach to just north of Chancet Rock, however it is unclear if the same birds are being recorded a number of times as they move around. When these surveys were begun it was not a major focus, however as the lack of pipit has become obvious, more effort has been made to accurately record the location of any sightings.

### **Banded dotterel (*Charadrius bicinctus*)**

#### **List of Banded dotterel nests found and current status:**

<b>Nest ID#</b>	<b>Location NZ Grid</b>	<b>Area</b>	<b>Nest first seen</b>	<b>Last known status</b>
BD01	1704273 5376011	Canterbury Gully	05/09/2021	Failed by 11/09. Likely effected by severe windstorm. Re-nesting October
BD02	1694306 5361706	Mirza Creek	09/09/2021	3 eggs seen 29/09 likely close to hatching.
BD03	1705038 5376885	South of CC airstrip	11/09/2021	Chick seen 15/10. Adults seen in territory 16/10 no chick seen.
BD04	1704045 5375953	Canterbury Gully	12/09/2021	Failed by 03/10 Predation or stock trampling
BD05	1704002 5375940	Canterbury Gully	12/09/2021	Failed by 03/10 Predation or stock trampling
BD06	1698194 5366476	Ward Beach	15/09/2021	26/10 All 3 chicks seen.
BD07	1702348 5373420	Booboo stream on sand	24/09/2021	3 eggs seen. Gone by 10/10. Pair still in vicinity, no sign of chicks.
BD08	1701880 5373125	Booboo stream	24/09/2021	24/09 3 chicks seen. No chicks seen during October visits.
BD09	1701952 5373202	Booboo stream	24/09/2021	1 egg remaining on nest, and 1 Chick seen nearby 22/10.
BD10	1698196 5366622	Ward Beach	29/09/2021	26/10 Eggs gone, no chicks seen. No strong defensive behaviour that would indicate chicks. Likely fail.
BD11	1698130 5366312	Ward Beach South	29/09/2021	26/10 Definite nesting /defensive behaviour but unable to find as birds are still jumpy.
BD12	1698098 5366214	Ward Beach South	29/09/2021	26/10 Eggs gone, no birds within territory, but 1 chick seen further north, this may be them.
BD13	1696342 5364490	North of Needles	29/09/2021	26/10 pair with 2 chicks seen around 80m northward, possible this is them.
BD14	1696376 5364221	North of Needles	29/09/2021	Pair with 2 chicks seen nearby 26/10 Well hidden and defended.

BD15	1696283 5364205	North of Needles	29/09/2021	2 older chicks seen 26/10 at exact location. Well hidden and defended.
BD16	1696308 5363773	South side of Needles	29/09/2021	29/09 Definite nesting behaviour. 26/10 No BD seen in territory. Area heavily disturbed by vehicles.
BD17	1696209 5363635	South side of Needles	29/09/2021	29/09 1 chick seen. 26/10 No chicks seen 26/10/21. Area heavily disturbed by vehicles.
BD18	1695302 5362664	Fridge south of Needles	29/09/2021	29/09 1 chick seen.
BD19	1694980 5362472	Fenceline North of Mirza	29/09/2021	3 eggs seen 29/09
BD20	1694347 5361801	Mirza Creek back of beach	29/09/2021	Pair still defending something but unable to locate.
BD21	1692594 5360179	Waima South below terrace	29/09/2021	Constantly disturbed by people and dog, No eggs or chicks seen 08/10. Likely fail.
BD22	1698508 5366909	Ward Beach North	01/10/2021	01/10 Definite nesting behaviour. 27/10 Only 1 Adult feeding alone, no defensive behaviour. Failed?
BD23	1698710 5367151	Ward Beach Boulders	01/10/2021	01/10 1 chick seen. 27/10 defensive behaviour but chick not seen.
BD24	1699201 5367641	Chancet	01/10/2021	01/10 1 chick seen. 27/10 Confirmed only 1 chick remaining.
BD25	1692535 5360255	Waima South side	08/10/2021	08/10 3 eggs, female on nest
BD26a	1702118 5373322	Booboo stream near craypots	10/10/2021	Entire decoy nest? 3 Eggs. One egg seen remaining on 21/10, nest unattended, scavenged possibly by starling or magpie by 22/10.
BD26b	1702113 5373318	Booboo stream near craypots	22/10/2021	22/10 3 Eggs. Regular incubation noted from 11/10 but was thought to be decoy, as eggs were seen in first location.
BD27	1701795 5373083	Booboo stream south	10/10/2021	10/10 Decoy nest trick, nest not found. 21/10 Nest found, 3 eggs.
BD28	1701650 5372988	Stream south of Booboo 1km	10/10/2021	3 eggs. Newly hatched chick seen 21/10. 2 chicks seen mobile 22/10
BD29	1705603 5377380	South end of CC airstrip terrace	15/10/2021	15/10 3 eggs. VOC nesting nearby.
BD30	1704299 5376010	Canterbury Gully terrace north	15/10/2021	15/10 3 Eggs.
BD31	1706080 5379245	Cape Campbell Planting area	16/10/2021	16/10 Bird calm, 3 eggs seen.
BD32	1702028 5373259	Booboo stream 900m south	11/10/2021	3 eggs 21/10. Adult bird seen sitting 22/10.
BD33	1696824 5365291	Halfway Ward Beach to Needles	26/10/2021	Bird calmly sitting. 3 eggs
BD34	1696442 5364784	Creek North of Needles	26/10/2021	Bird calmly sitting. 3 eggs
BD35	1697343 5365742	Halfway WB to Needles	26/10/2021	26/10 1 Chick seen with parents. On high terrace.

Survey data shows an estimate of around 160 banded dotterel currently within the survey area, including at least 70 pairs. Due to their movement on a beach and to/ from feeding areas each day, it is difficult to be precise with the estimated number.

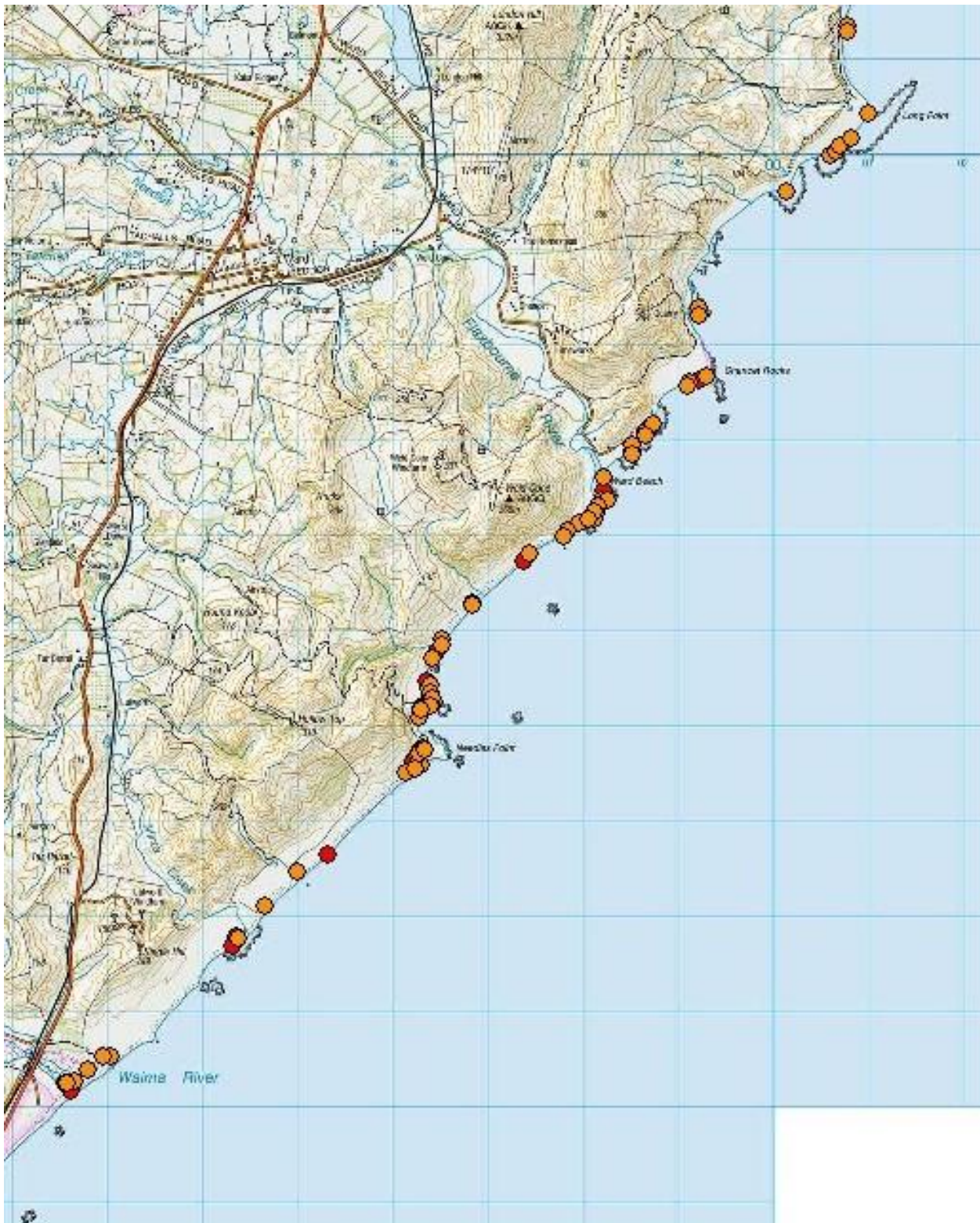
The 2 maps below show all banded dotterel pair territorial locations during September and October. While far fewer actual nests were found, it is important to note that most birds at these locations were present on

a regular basis, and often exhibiting territorial behaviour, as if nesting, preparing or attempting to nest, or hiding chicks that often could not be seen.

**Banded dotterel (*Charadrius bicinctus*) Pair locations northern section:**



**Banded Dotterel (*Charadrius bicinctus*) Pair locations (southern section, Long point to Waima):**









Nest BD01: Photos showed the upper beach terrace where nest was seen had been significantly altered by severe winds, with large amounts of small and medium sized debris removed. It was also in an area of high possible human disturbance.

Other banded dotterel pairs were noted as acting in a defensive and territorial manner as if they were likely to be nesting, but were not included in this list as nesting was less certain, and often time didn't allow further investigation, or they had recently been disturbed and refused to settle. These may turn out to have been nesting, or were about to nest when observed. Where dotterel were in areas of greater disturbance, or had just been stirred by others, it was difficult to locate nests.

So far this nesting season to October 31 no banded dotterel have been sighted from Marfells beach to Cape Campbell.

### **Nesting area patterns and issues:**

So far throughout this season, the two areas with the highest number and density of territorial/nesting banded dotterel pairs are at The Needles, and for 1km southwards of Booboo Stream. Other noticeable secondary areas are at Ward Beach, Canterbury Gully and Long point. There continues to be some change, however, with new pairs appearing to arrive and set up nesting territories in "gap" areas where they were previously not seen, well into October. Other areas appear to serve as mostly feeding areas that are visited from a larger distance.

Although it is still too early to see any firm data regarding nesting success and impacts on nesting, some patterns can already be seen. The Booboo stream site so far appears to have a low chick survival rate, especially compared with the North side of the Needles. Both areas are among the least impacted by humans, so the likely difference is predator numbers. While predators have been noted in both areas, the range of potential predatory species at Booboo appears to be higher. All 3 nest cameras are currently set up at this site, which hopefully will provide more answers. There is also a stark difference between the North side of the Needles, and the south side. While the difference in nesting habitat plays a part with the number of nesting pairs here, the nest success rate of the North side is again much higher than the South side, despite the short distance between. Vehicle disturbance on the south side appears to be a major issue.

At Long point, At least five banded dotterel pairs had set up territories and were attempting to nest, exhibiting territorial and nesting behaviour. At the time of the October survey, however, an ATV was regularly being driven very close alongside and/or even through all of these nesting territories. Some may have been nesting or had chicks already, but as these birds had been so frequently disturbed, their high level of alertness and highly defensive behaviour prevented the finding of nests. Further south, on the north side of Chancet Rock Scientific Area, the same problem was found where four pairs of banded dotterel were congregating and acting territorially. Three different vehicles had driven through in recent times, despite driving past the sign stating no vehicles. The same sign on the other side of Chancet rock at Ward beach was also ignored, with fresh tracks seen on 27 October of an ATV driven directly through the nesting areas of the five pairs along that section of beach. This is the only part of this surveyed coastline where such signs exist.

A nest camera set up at Canterbury gully showed that stock loose on the beach will impact nesting, however the cause of two of the nest failures there are also may have been predation. Stock had not been noted as an issue at this site previously, it appears to be rare event for that area; however other areas of the coast

show regular trampling by stock. From South of the Booboo site, down to just north of Chancet rock, both cattle and sheep prints are frequently seen. North of the Waima/ Ure river sheep also appear to frequently be on the loose.

A number of sites along the coast provide good feeding and roosting habitat for a number of bird species, even though some may not be good nesting habitat. Banded dotterel, variable oystercatcher, and South Island pied oystercatcher can often be seen visiting these areas to feed at various times of the day, before returning to their usual roosts up to several kilometres away. Dotterel taking a break from nesting duties can sometimes be seen joining up with others that they would normally act territorially around, to feed in these communal areas. Some of these locations appear to provide good food and shelter for a large number of species, including visiting migratory birds. The most notable locations for such bird congregations are the point at the south end of the Cape Campbell airstrip, the sandbar at Booboo stream, Long point, also point 1km south of Long point referred to as “mud-rock point”, and the mouth of the Waima /Ure river. The rock platforms around Cape Campbell, various other rock outcrops and creek outlets also provide good shelter and feeding for a wide array of bird species.

**Variable Oystercatcher (*Haematopus unicolor*) nests observed: 2**

**List of Variable Oystercatcher nests and current status:**

Nest ID	Date first observed	Location	Previous status	Current status/Outcome
VO01	11/09/21	Cape Campbell airstrip	Abandoned when first found	Eggs gone by 18/09/21
VO02	16/10/21	Beach south end CC airstrip		1 egg seen 16/10/21

There appears to be around 34 variable oystercatcher currently within the survey area, including approximately 11 pairs. The majority appear to roost and feed in the area from Cape Campbell southwards up to 3 km, and around the wider vicinity of Long point. Other pairs are also dispersed more widely away from grouped birds. Two of these birds have coloured bands on them, making the tracking of them and their respective partners easier. Most of the pairs seem to remain in regular territorial areas, however some forage over large distances, making an exact count difficult. Only two pairs appear to cover the distance between Chancet Rock and Waima/Ure river, with The Needles appearing to be the southern/ northern limit of each respective pair.

Some are seen roosting or feeding either alone or in groups. A regular group of eight variable oystercatcher frequent the area from Booboo stream to “mud-rock” point south of Long Point. Other small groups have been seen just south of Cape Campbell.

An abandoned nest with 3 eggs was found on gravel patch in airstrip paddock, and was later confirmed to belong to variable oystercatcher. No oystercatchers were seen nearby. The second nest found may possibly belong to the same pair, given the location and timing. No others have been seen nesting so far; however a pair that hold a territory around the Ward beach area were seen mating in late October. The map below

shows usual locations of resident variable oystercatcher, with each dot indicating a pair or group within the area that they are usually seen.

**Map of variable oystercatcher locations and pair territories:**



### Other Bird Species Nesting:

Nest ID	Common name	Species name	Date first observed	Location	Current status/Outcome
CT01	Caspian Tern	<i>Hydroprogne caspia</i>	19/09/21	On beach at Airstrip Point	Failed by 15/10/21. Area washed by severe storm tide.

## 2. Lizards

### Lizard Surveys carried out:

Some brief searches were carried out as time allowed at the following locations: Dunes between Waima river and Mirza creek, Sand and vegetation along fence line near Cape Campbell airstrip, Marfells beach west end to east of Mussel point, Canterbury Gully, Cape Campbell, and Booboo stream. In most cases the lizards seen moved too fast for to be seen or photographed adequately. These observations will contribute to future mapping of key locations for population monitoring setup.

### Findings:

- Two skinks seen scurrying into the matagouri outside of Cape Campbell airstrip fence.
- Both lizard and gecko species were seen at Mussel point.
- Geckos seen at Canterbury Gully.
- Lizard moving in grass, too fast to be seen properly, Booboo Stream.

## 3. Vegetation:

Native plants of interest, and areas of important habitat seen during surveys have been noted, and locations recorded. A map and details will be collated at a later date.

## 4. Other observations:

### Deceased Wildlife:

Many seals and number of birds including little blue penguin, pied shag and spotted shag have been found recently deceased. Most of these are noticeably emaciated.

A deceased Weddell seal (*Leptonychotes weddellii*) was found on October 10<sup>th</sup> between Long point and Booboo stream. This is an Antarctic species that has only been twice previously recorded on mainland New Zealand. It appeared to have been dead for some time, with the carcass misshapen and desiccated. This was reported to DOC through the Marine Mammals Database.

**Pest animal sign:**

Pigs have been resident South of Booboo stream, coming out of scrub and foraging on the beach. While 2 were shot, one appears to remain in the area still. They have also been causing trouble in the Pinoli farm, and may have caused sheep to get out around Canterbury gully. Unknown medium/large ungulate prints have also been seen between Booboo stream and Canterbury gully. This appears to be a wild animal rather than farm stock, but does not appear to be a pig.

Rabbits and/or hares are common at most locations, with high numbers noted around Waima, Cape Campbell, and Chancet rocks to Long point. A springtime population increase can now be seen in many areas. It appears these may directly impact nesting birds, by frightening them off nests during the night.

Cat sign has been seen in many areas; Early October in Mirza area, Booboo stream, Chancet rock, and recently Canterbury gully and The Needles. Various sized mustelid and hedgehog prints have been seen also, particularly notable at Booboo stream.

Magpies have been observed on beaches, and appear to be stalking shorebirds and other fauna, and may be preying on chicks. A flock of magpies frequently fly from a farm gully north of Long point, and have been seen visiting areas where shorebirds nest and feed from Long point to Booboo stream. Another appears to stalk various fauna on the Cape Campbell airstrip.

**Stock/fencing issues noticed:**

- Sheep in dunes between Waima and Mirza creek, possibly escaped through a large gap with fallen section of fence near Waima river mouth.
- Sheep on beach at the Needles, both sides of the point. This appears to have been addressed.
- Sheep sign can be seen over large areas on beach and dunes along most of the coastline from North of Chancet rock, northwards almost to Booboo stream. Locations were identified where some are getting out from farmland.
- Sheep trampling was the most likely cause of a banded dotterel nest failure at Canterbury gully, however feral pigs may have caused the sheep escape.

**Human Activity**

On many survey days, no people were seen on the more secluded beaches; however there was often fresh sign of visitors having been on in vehicles, on bicycles and on foot. Through September it appeared to be still quiet due to cooler weather, and most activity occurring on weekends. Dog prints are usually seen along Marfells beach and around Mussel point, often some distance from any human footprints, indicating they were not on a lead. Morning activity from Marfells beach to around the Cape Campbell airstrip is noticeably busier than other times and other areas, this includes people on ATV's setting and retrieving craypots, and one storing a pot near the airstrip. Vehicles are fewer south of Canterbury Gully to Chancet Rock, but relatively fresh ATV tracks were seen in most places on each visit, and clearly impacting banded dotterel.

On 29/09 new vehicle tracks were seen from the north end of the car park at Ward beach, southward around the beach to the river mouth, directly through where a dotterel family with chicks roam. The river can easily be accessed by vehicle if needed from South of the car park without driving around the beach, and it is not far to walk from the car park. Fresh vehicle tracks were seen on each visit south of the Flaxbourne River, directly through where at least 3 banded dotterel pairs are now nesting or attempting to nest, and continuing most of the way to the Needles, where there are many more banded dotterel.

The Waima riverbed and the beach northwards to the Needles has become increasingly busier through the seasonal change, with birds in the lower riverbed and nearby beach area now under constant disturbance from vehicles, people on foot, and uncontrolled dogs. On 29/09 one such dog was seen harassing a nesting dotterel. Tracks also show that vehicles are driving from there, along the beach to the Needles possibly on a daily basis, using all levels of the beach, often on the higher zones where dotterels were nesting, and up and down a steep sand dune. Vehicles had also been driven out on to the rocks where seals rest. A large number of vehicles had visited in late October.

There is only one small area on the surveyed coastline where signs clearly state that vehicles are not allowed; this is on the north side of Chancet rock. These signs are being completely ignored, as the same ATV from tracks much further north continue south past these signs, and through a mudstone pavement area where many birds roost, and a group of banded dotterel are attempting to nest. As of 01/10 the recent tracks of 2 different ATVs could be seen.