Coastline monitoring of birds and mammals of Stanley Harbour and Cape Pembroke

Year 1 - December 2020 and June 2021

Stanley Harbour viewed from Engineer Point, December 2020

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Island LandCare

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SUMMARY

An application for Environmental Studies Budget (ESB) funding for a 3-year wildlife monitoring programme of Stanley Harbour and Cape Pembroke coastlines was approved at the September 2020 Environmental Committee meeting. This 3 year project (2020/21, 2021/22 and 2022/23) aims to document coastal wildlife in a region of the Falklands where human activity is at its highest and is increasing annually. Twice-yearly surveys to collect data about the distribution and abundance of coastal birds and seals will assist in the monitoring of the environmental health of this coastline, providing the capacity to detect potential changes in the conservation status of the area's coastal wildlife populations. The survey data may serve also to inform environmental impact assessments for any economic development activities proposed for this area.

A grant of £1,440 was approved for year 1; funding for financial years 2021/22 and 2022/23 is subject to funds being made available. The funding was requested in order to secure government support for annual wildlife and habitat monitoring of one of the most utilised and visited coastlines in the Falklands.

Wildlife surveys were carried out in December 2020 (summer) and June 2021 (winter). Surveys of the north shore of Cape Pembroke Peninsula east of Gypsy Cove (ie Yorke Bay and Yorke Point areas) were carried out in June 2021, after clearance of the minefields in those areas had been completed.

The results of this year's survey data indicate that:

- The highest number of bird species (in both summer and winter) was in Stanley Harbour. The lowest was in Port William.
- Stanley Harbour also had higher numbers of both summer and winter birds per kilometre of coastline than the outer coastlines of Cape Pembroke Peninsula.
- The Canache mudflats are an important foraging area for waders during both summer and winter.
- The most important winter feeding grounds for the Falkland Steamer Duck are in Stanley Harbour with several locations being regularly used by resting birds, including Fairy Cove, a point east of Fairy Cove, the old dump near Moody Brook, the north entrance point of the Canache, the Camber and north shore of Whalebone Cove.
- Kelp Geese are more numerous on the outer coasts in summer, and appear to move into Stanley Harbour during the winter months. The number of breeding pairs is exceptionally low compared with survey data from other areas of the Falklands, and is thought to be due to predation by feral cats.
- Tussacbirds (rarely seen on mainland West or East Falkland) were present year-round at the Cape Pembroke lighthouse area, but are more common in winter.
- Fledgling sooty shearwaters at the colony at Tussac Point on the Cape Pembroke Peninsula continue to be subject to high levels of feral cat predation in March and April when birds are departing their burrows.
- Overall, since the last detailed review of Stanley Harbour and Cape Pembroke's coastal birds (Poncet and Passfield 2013), there does not appear to have been any significant detrimental impacts to numbers and distribution of species. However, the breeding success of the Falkland Steamer Duck and Crested Duck populations of Stanley Harbour appears to be lower than expected.

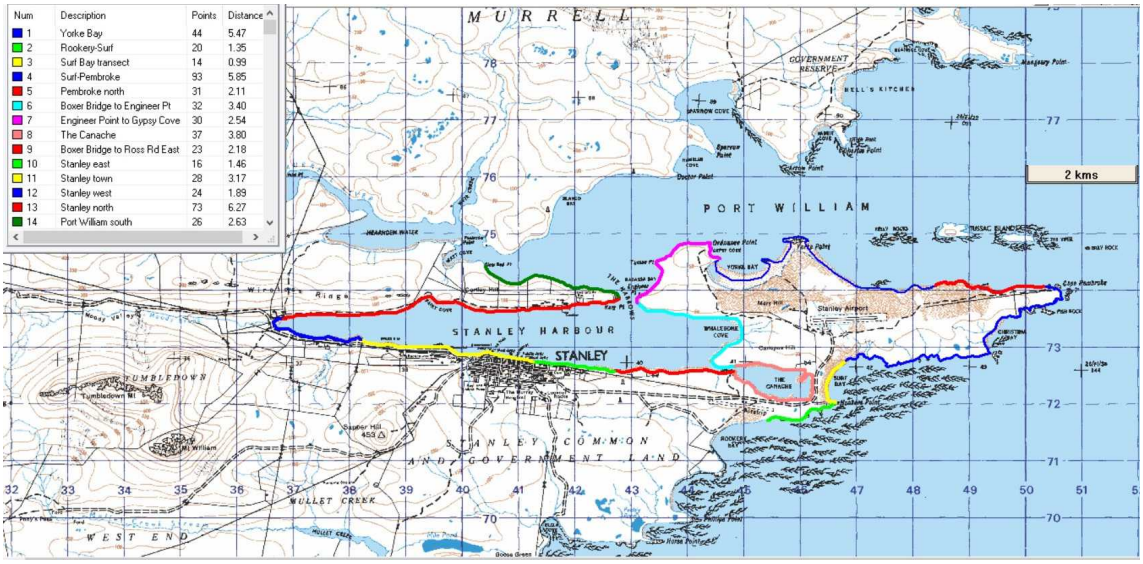
RECOMMENDATIONS

- Determine the breeding success of Falkland Steamer Duck pairs in Stanley Harbour. This would required a half day's survey for each of the months of October, November and December, January and February.
- Extend the survey area to include Yorke Bay and the north coast of the Cape Pembroke coastline. This was done in June 2021 and will continue next season. It requires an extra half day of survey time which has not yet been budgeted for.

SURVEY METHODOLOGY

The survey area comprises 22 km of coastline within Stanley Harbour and 21 km on the exposed outer coastlines of Port William and Cape Pembroke Peninsula (Map 1).

Map 1. *Coastline surveyed (green line); red line shows shoreline with minefields 1982 – 2021.*



The coastline is divided into 14 transects that vary in length from 1 km to 6.46 km (Appendix, Table 1). Factors that determine the start and end points of each transect include habitat type, land use and geographical and topographical features.

Transects can be grouped to provide area-specific data, for example for the outer exposed coastlines (Cape Pembroke Peninsula and Port William) and the sheltered waters of Stanley Harbour and the Canache. Note that up until the minefields were cleared in 2021, most of the north shore of the Cape Pembroke Peninsula coastline was out of bounds and therefore not surveyed until June 2021.

Surveys took place in summer (late November/early December 2020) and winter (June 2021). Fieldwork was carried out by Sally Poncet. Surveys required 20 person hours to complete; working 5 - 6 hours each day, plus travel time to and from the sites.

The resulting bird survey data are effectively 'snapshots' in time, and while they may not capture 100% of all species or birds that are using the site during the course of a year, they have been shown to be a sufficiently accurate indicator of bird occupancy along any given stretch of coastline. Previous research (Tabak et al 2013) has also shown that species detectability is not a limiting factor on coastline surveys in the Falklands: as nearly all vegetation along the coastline surveyed was short with no obscuring structures (apart from a short section of fenced gardens along Ross Road east of the cemetery), and surveys were only carried out tin favourable weather conditions (less than 20 kt of wind and no rain), it is likely that very few birds were not detected.

The identity of each bird species and the number of birds detected along the coastline transects are recorded following a standardised data collection protocol (Tabak et al., 2015). The surveyor walks along the coastline at a slow and consistent pace, noting birds that move ahead or accompany the surveyor to avoid counting the same bird multiple times. Counts are of adults and subadults (except for burrow nesting species such as Magellanic penguin and sooty shearwater, for which only breeding status was recorded); breeding status and social structure are also recorded; breeding status was assessed on the basis of the number of birds present, their behaviour, the habitat they were seen in, time of year and field experience of the surveyors. The geographical location of individuals, pairs and groups of birds is recorded using

a mobile phone app, then stored in an Access database. The sampling unit (transect) consists of a 100 m-wide swathe of coastline extending from 20 m inland of the high tide mark out to ca. 80m offshore. The presence of mammal species (native and introduced) and any evidence of their presence were also recorded. Data are submitted to FIG's Information Management System at SAERI, and are available for public use in accordance with IMS terms and conditions.

Species monitored
All bird species present on the day of survey are recorded. 22 of the 40 odd species recorded from the area are classed as coastal waterbird species of special interest, having being identified as reliable indicator species of the health of inshore marine and coastline ecosystems (Poncet et al. 2017). They are Falkland Steamer Duck, Crested Duck, Speckled Teal, Kelp Goose, Blackish Oystercatcher, Magellanic Oystercatcher, Rock Shag, King Cormorant, Kelp Gull, Dolphin Gull, South American Tern, Turkey Vulture, Black-crowned Night-heron, Striated Caracara, Southern Caracara, Snowy Sheathbill, Falkland Skua, Two-banded Plover, Magellanic Snipe, White-rumped Sandpiper, Rufous-chested Dotterel, White-tufted Grebe.

Of these, Falkland Steamer Duck, Kelp Goose, Crested Duck, Kelp Gull, Rock Shag and both species of oystercatchers are classed as key indicator species: they are the most evenly distributed and/or abundant; they are present year-round on any given stretch of coastline, and are visually conspicuous and easily identifiable. These features makes them the most suitable indicator species for monitoring change in the near-shore marine environment.

RESULTS

Between 40 to 50 bird species may be present year-round and/or seasonally (not including vagrants) along the coastlines of Stanley Harbour and Cape Pembroke. A list of species and their breeding status in 2021 is presented in Appendix 1, Table 3.

A summary of bird species recorded, total number of birds counted and birds per kilometre of coastline for each transect within Stanley Harbour and including the Canache, and for the outer coasts of Cape Pembroke and Port William in December 2020 and June 2021 is presented in Table 1. Table 2 shows the number of birds and birds for each specie sper kilometre of coastline. Seal records included several non-breeding southern sea lions (the majority were hauled out in tussac between Ordnance Point and Tussac Point and at Cape Pembroke) and subadult elephant seals. Non-native mammals present in the area were cats, Norway rats, mice, hares and horses.

Maps 3 to 10 show the seasonal distribution and abundance and nest sites of the 7 key indicator species: Falkland Steamer Duck, Kelp Goose, Crested Duck, Rock Shag, Magellanic Oystercatcher and Blackish Oystercatcher. Numbers of birds are grouped at 50 m intervals along the coast into ranges of 1-5 individuals, 6-10, 11-20, 21-50, 51-100. Nest sites include records of adults with chicks and fledglings.

Table 1. *Numbers of birds and species for each transect surveyed in summer (December 2020) and winter (June 2021).*

Area	Transect	Length (km)	No. species		Total no. birds		Birds/km	
			summer	winter	summer	winter	summer	winter
Cape Pembroke Peninsula & Port William	Rookery Bay to Surf Bay	1.35	11	9	41	118	31	87
	Surf Bay	1	7	7	63	75	63	75
	Surf Bay to Cape Pembroke	5.85	17	17	215	196	37	34
	*Pembroke north	2.11	N/S	daor	n/s	daor	n/s	daor
	*Yorke Bay	5.47	N/S	daor	n/s	daor	n/s	daor
	Gypsy Cove to Engineer Pt	2.54	12	11	119	90	47	35
	Port William	2.63	13	8	67	35	25	13
Totals for Cape Pembroke Peninsula and Port William		**20.95**	25*	21*	505*	514*	**34***	**33***
Stanley Harbour & the Canache	Engineer Point to Boxer Bridge	3.4	15	16	95	178	28	52
	Boxer Bridge to Ross Road	2.18	15	21	101	342	49	167
	Stanley east	1.46	8	11	80	117	50	73
	Stanley town	3.17	15	19	183	241	58	76
	Stanley west	1.7	15	15	110	98	65	58
	Stanley north	6.46	19	21	222	268	34	41
	The Canache	3.8	15	13	75	240	20	63
Totals for Stanley Harbour and the Canache		**22.17**	26	26	866	1484	**39**	**67**

**Note that survey data for transects Pembroke north and Yorke Bay are not included in the total counts for birds, species and birds/km presented in this table. n/s = not surveyed; daor = data available on request.*

Birds were noticeably more abundant in Stanley Harbour in winter (67 birds/km) than in summer (40). (Table 1). Exceptionally high numbers of birds were recorded on the Market Garden coastline between Boxer Bridge and Ross Road East on 4 June 2021 during a period of intense cold and snow-covered ground; nearly 100 upland geese were gathered on the snow-free shoreline with flocks of meadowlarks and house sparrows nearby. The number of species in Stanley Harbour was the same in winter and summer (26). The most abundant species in summer was the Falkland Steamer Duck, followed by the Upland Goose and House Sparrow. In winter, Upland Goose was the most abundant, followed by Rock Shag and Falkland Steamer Duck (Table 2).

The 13.36 km of coastline on the Cape Pembroke Peninsula and in Port William that were surveyed both in December 2020 and June 2021 (so not including transect data for Yorke Bay and Pembroke north coastline sections) had 25 species in summer (when seasonal breeding species Magellanic Penguin, Falkland Skua and Sooty Shearwater were present) and 21 winter. Birds were, overall, less abundant than in Stanley Harbour (34 birds/km in summer and 33 in winter). The Port William shore (north shore of Navy Point) was the least diverse (8 species in winter, 11 in summer), and it also had the lowest number of birds per km of coastline (13 in winter, 25 in summer). Breeding habitat and disturbance do not appear to be limiting factors here: this coastline's vegetation is very lightly grazed whitegrass, with extensive tall-fern beds, and it is rarely used by people. The most abundant species on the Cape Pembroke coastline in summer was the Kelp Goose, then Rock Shag and Falkland Steamer Duck. Rock shags were by far the most abundant during the winter months (15 birds/km), feeding in the offshore kelp beds and resting on offshore rocks; Falkland Steamer Duck, Kelp Goose, Kelp Gull and House Sparrow (between 3 and 4 birds/km each) were next most abundant, the House Sparrow being recorded feeding in large flocks in the marram at Surf Bay.

Essential features required for all coastal birds are freshwater, tall (preferably ungrazed) vegetation and a productive shoreline habitat for foraging. Freshwater sources are used daily by ducks and geese, as well passerines, and particularly where small pools of standing water have formed close to the beach in association with seeps and streams. They are an essential component of the coastal habitat required to support Falklands coastal bird populations.

The Market Garden foreshore, with some of Stanley Harbour's best foraging habitat for shoreline birds.

Retaining freshwater seeps and tall stands of shoreline vegetation are two simple measures for ensuring that birds nesting and feeding in the area are not adversely affected by changes in land use associated with on-going urban development of the Stanley Harbour coastline. Construction of vertical-sided seawalls, security-fenced hardstanding, reduction in the width of the coastal vegetation strip to less than 20 m from the high tide mark and removal of any vegetation from the coastal strip would significantly impact the current distribution and abundance of coastal birds in Stanley Harbour.

***Table 2**. Species listed in order of abundance (field counts and birds per kilometre of coastline) in Stanley Harbour (22.17 km coastline) and Cape Pembroke (13.36 km coastline, excluding transects Yorke Bay and Cape Pembroke north) in summer (December 2020) and winter (June 2021).*

Species	Stanley Harbour and the Canache				Cape Pembroke and Port William			
	summer		winter		summer		winter	
	count	birds/km	count	birds/km	count	birds/km	count	birds/km
Falkland Steamer Duck[1]	215	9.70	212	9.56	50	3.74	53	3.97
Upland Goose	180	8.12	225	10.15	26	1.95	36	2.69
House Sparrow	124	5.59	79	3.56	5	0.37	45	3.37
Crested Duck[1]	71	3.20	116	5.23	7	0.52	0	0
Rock Shag[1]	65	2.93	226	10.19	114	8.53	202	15.12
Kelp Goose[1]	42	1.89	118	5.32	127	9.51	22	1.65
Kelp Gull[1]	34	1.53	52	2.35	32	2.40	47	3.52
Magellanic Oystercatcher[1]	25	1.13	49	2.21	14	1.05	0	0.00
Long-tailed Meadowlark	14	0.63	46	2.07	12	0.90	13	0.97
Turkey Vulture[1]	14	0.63	12	0.54	6	0.45	12	0.90
Falkland Pipit	12	0.54	6	0.27	5	0.37	0	0
Dolphin Gull[1]	11	0.50	0	0	4	0.30	1	0.07
Black-crowned Night-heron[1]	11	0.50	17	0.77	27	2.02	0	0
Dark-faced Ground-tyrant	10	0.45	33	1.49	17	1.27	10	0.75
Falkland Thrush	9	0.41	20	0.90	9	0.67	26	1.95
Southern Giant Petrel	9	0.41	0	0	0	0.00	13	0.97
Black-throated Finch	8	0.36	14	0.63	14	1.05	9	0.67
Blackish Oystercatcher[1]	6	0.27	12	0.54	9	0.67	7	0.52
South American Tern[1]	5	0.23	0	0	2	0.15	0	0
Two-banded Plover[1]	5	0.23	107	4.83	15	1.12	28	2.10
Ruddy-headed Goose	4	0.18	39	1.76	0	0	0	0
Speckled Teal[1]	2	0.09	40	1.80	0	0	2	0.15
White-tufted Grebe[1]	2	0.09	3	0.14	0	0	0	0
Black-chinned Siskin	1	0.05	17	0.77	1	0	0	0
Falkland Skua[1]	1	0.05	0	0	0	0	0	0
Grass Wren	1	0.05	1	0.05	22	1.65	6	0.45
Magellanic Snipe[1]	1	0.05	3	0.14	1	0.07	1	0.07
Rufous-chested Dotterel[1]	1	0.05	28	1.26	2	0.15	0	0
Brown-hooded Gull[1]	0	0	0	0	0	0	2	0.15
Crested Caracara	0	0	0	0	0	0	0	0
Cattle Egret	0	0	0	0	0	0	0	0
Chiloe Wigeon	0	0	0	0	0	0	0	0
Chilean Swallow	0	0	0	0	2	0.15	0	0
Cobb's Wren	0	0	0	0	0	0	0	0
Domestic Goose	0	0	0	0	0	0	1	0.07
King Cormorant[1]	0	0	6	0.27	0	0	0	0
Magellanic Penguin	0	0	0	0	P	P	0	0
Peregrine Falcon	0	0	0	0	0	0	0	0
Red-backed Hawk	0	0	0	0	0	0	0	0
Snowy Sheathbill[1]	0	0	3	0.14	0	0	2	0.15
Striated Caracara[1]	0	0	0	0	0	0	0	0
Sooty Shearwater	0	0	0	0	P	P	0	0
Silver Teal	0	0	0	0	0	0	0	0
Tussacbird	0	0	0	0	0	0	5	0.37
White-rumped Sandpiper[1]	0	0	0	0	31	2.32	0	0
	883	**39.81**	**1484**	66.94	**526**	39.37	**520**	38.92

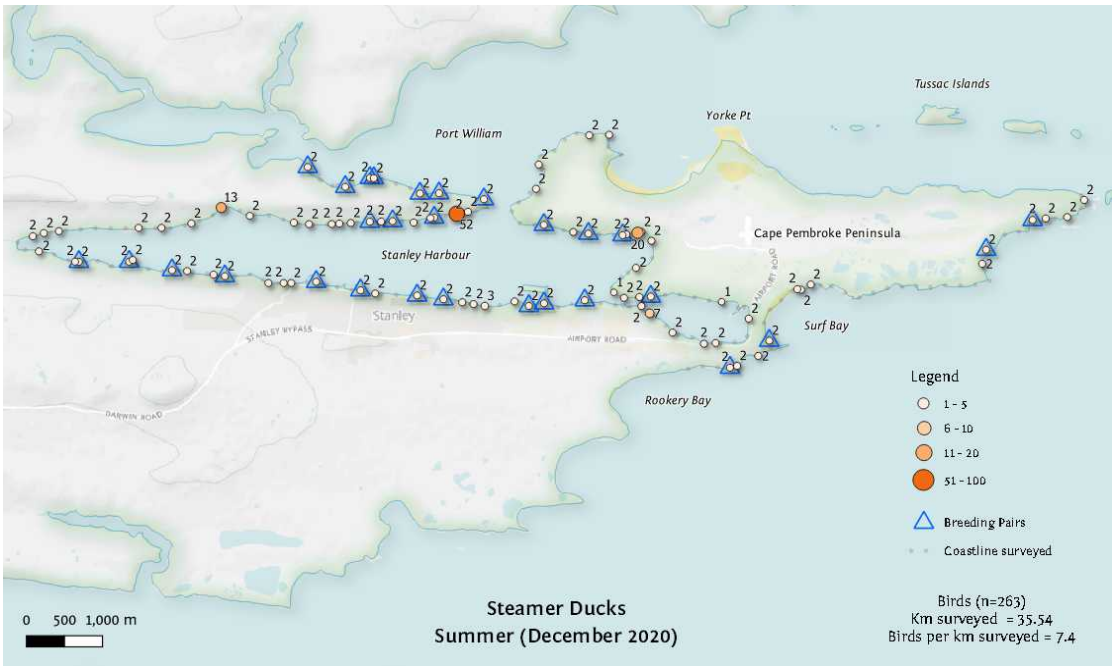
P = present but not counted. Species in blue are key shoreline indicator species; [1] are coastal waterbird assemblage species.

A preliminary assessment of the December 2020 and June 2021 survey data shows that bird abundance is highest along the coastline between Ross Rd East and the Canache (Table 1). This is undoubtedly due to the exceptionally favourable nesting and foraging habitats created by the establishment of arable fields and shelter belts at the Market Garden on Stanley Growers' land. Hedgerows of conifers and deciduous trees, an abundance of freshwater seeps and damp ditches flowing to the shoreline from the fields and a large pond less than 50 m from the coast combine to provide a range of habitats that favour passerines, ducks and geese in particular. The Market Garden fields also provide nesting habitat for a pair of Magellanic Oystercatcher, one of only two pairs that nest in Stanley Harbour. Survey data from previous seasons show that Stanley Growers' trees and hedgerows also attract the occasional vagrant species such as the Fire-eyed Duicon and Southern House Wren (ILC data, Tim and Jan Miller pers. comm.).

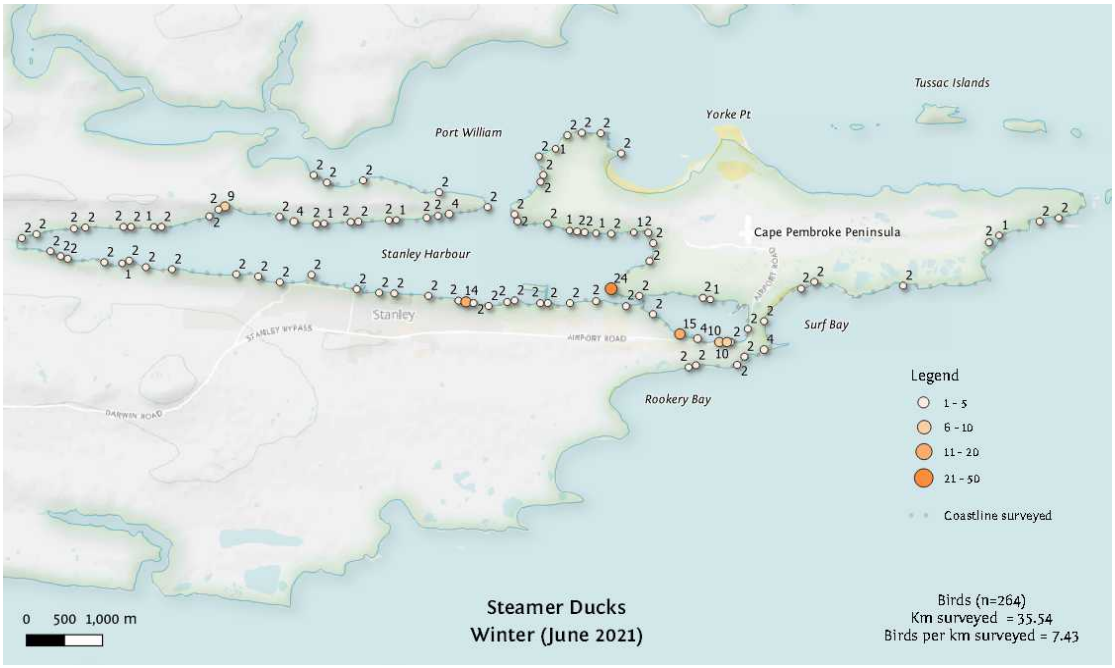
Passerine species were very sparsely distributed and in low numbers during the summer months, with the exception of the House Sparrow which is very common wherever there are buildings. Outside the breeding season, flocks of Long-tailed Meadowlark and House Sparrow were recorded foraging along or close to the shoreline, and notably at the Market Garden where there were also small flocks of Black-chinned Siskin. The Falkland Thrush was less common, with one pair at the Canache, another two on the north side of the harbour and the majority nesting in the trees and hedges at Stanley Growers. Grass Wren, Black-throated Finch, Dark-faced Ground-tyrant, Magellanic Snipe and Falkland Pipit were mostly seen singly or in pairs at all times of the year. Tussacbirds are now regularly seen on the Cape Pembroke coastline near the lighthouse and the south-east facing coastline of Cape Pembroke Peninsula; there is a substantial breeding population on nearby Top and Bottom Islands in Port William. These islands were cleared of Norway rats in 2001, and tussacbirds, probably originating from the nearest breeding population on Kidney Island, colonised within 5 years (Poncet and Passfield 2009).

Falkland steamer duck

Established breeding pairs of Falkland steamer duck are known to occupy coastal territories all year round. Consequently, mapping this species' distribution and abundance provides a robust indicator of population change. The data indicate that distribution of pairs shows little seasonal variation, and that non-breeding birds forage and rest at traditional sites along the coastline; the most commonly used of these are Fairy Cove, the small beach to the east of Fairy Cove, the north entrance point to the Canache, the north side of Whalebone Cove and the old dump site near Moody Brook. Foraging areas for winter flocks include the Canache and kelp beds off Christina Bay and Surf Bay. Breeding pairs are found at regular intervals around most coastlines, being least common along the exposed ocean coastlines between Surf Bay and Cape Pembroke, and along the Stanley town waterfront where the construction of seawalls of vertical concrete and shorelines modified by placement of large boulders have restricted access to inland breeding habitat and reduced foraging habitat.



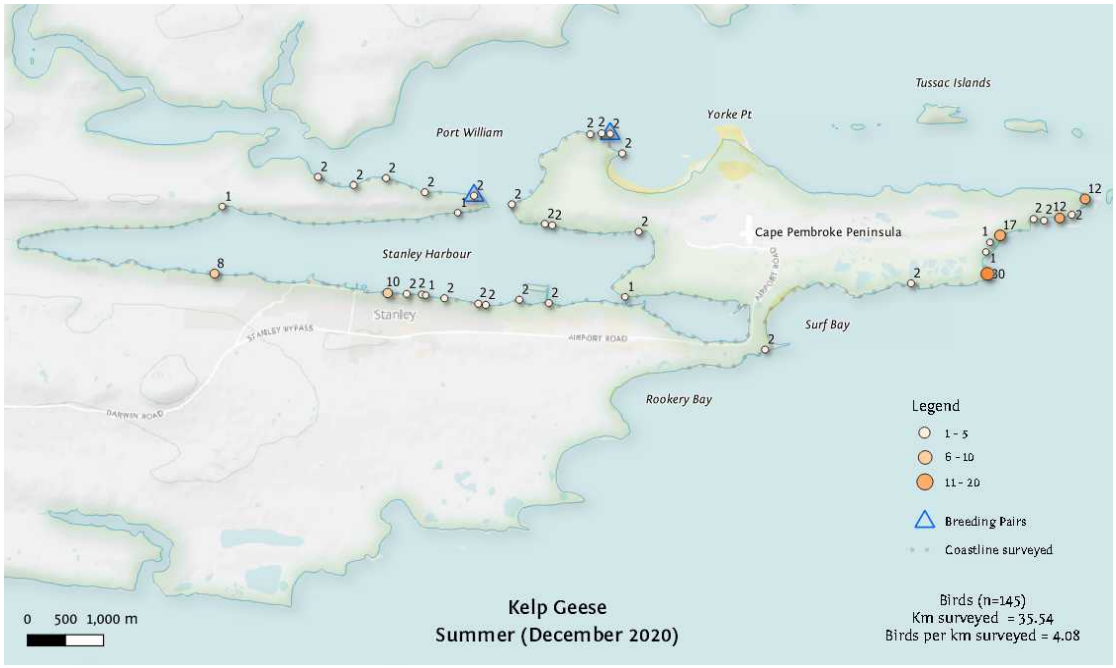
Map 3. *Falkland Steamer Duck – summer December 2020*



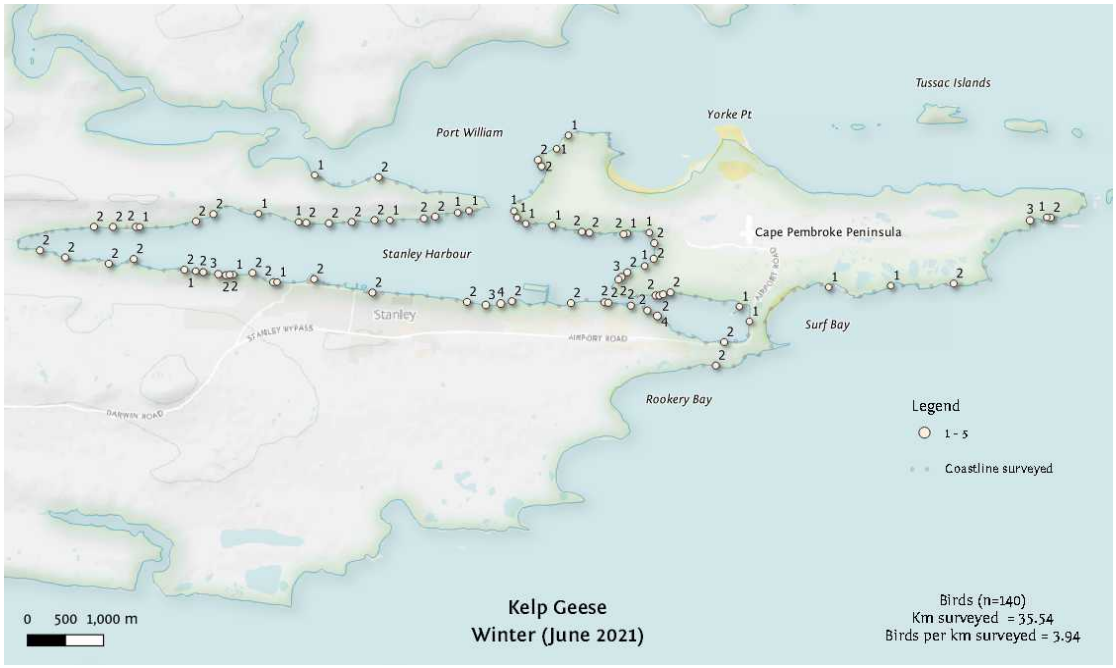
Map 4. *Falkland Steamer Duck – winter June 2021*

Kelp goose

Breeding pairs of this species defend coastline territory during the breeding season only, and disperse once young have fledged. Nest sites are few, being restricted to the steep rocky ledges at the Narrows and Ordnance Point near Gypsy Cove, where nests are possibly out of reach of cats. The data indicate that Cape Pembroke Peninsula (particularly the south-east facing coast south of Cape Pembroke) is an important summer foraging area for this species, and that the sheltered waters of Stanley Harbour are favoured winter foraging grounds.



***Map 5**. Kelp Goose – summer December 2020*

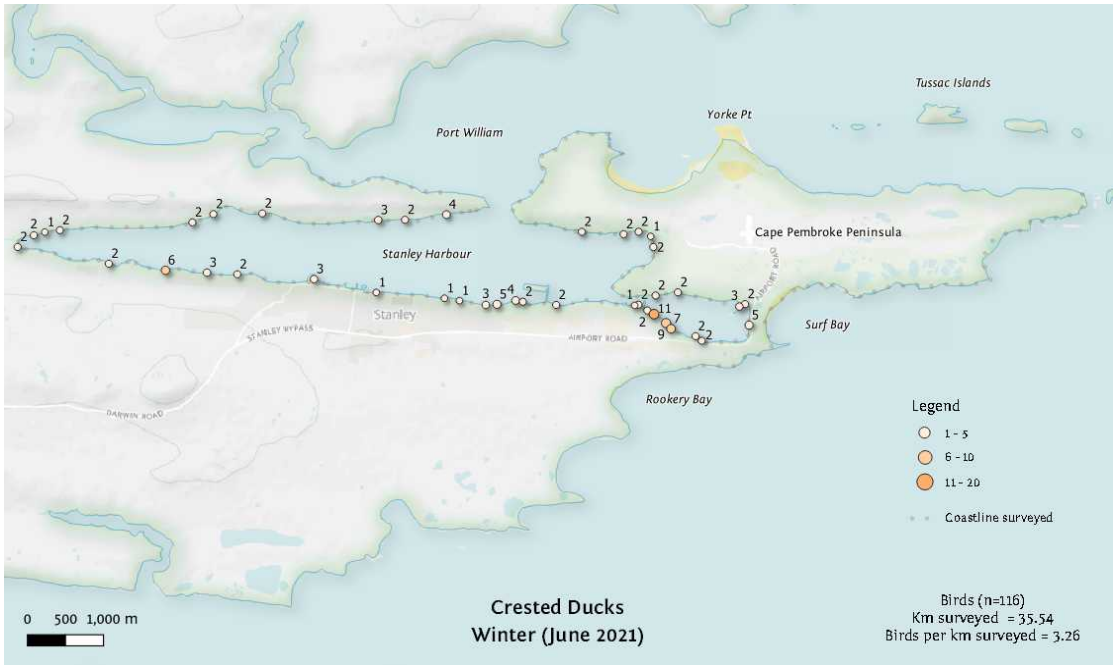


***Map 6.** Kelp Goose – winter June 2021*

Crested Duck

This species appears to be mostly confined to Stanley Harbour, with very few records on the outer coasts of Cape Pembroke this year. Four confirmed breeding sites were recorded (2 at the Canache, one below the Market Garden and another at the west end of the harbour. Crested Duck are known to nest year-round, and it is likely that this survey's records of pairs that were not nesting at the time of survey are potential breeding pairs.

Map 7. *Crested Duck – summer December 2020*



Map 8. *Crested Duck – winter June 2021*

Rock Shag

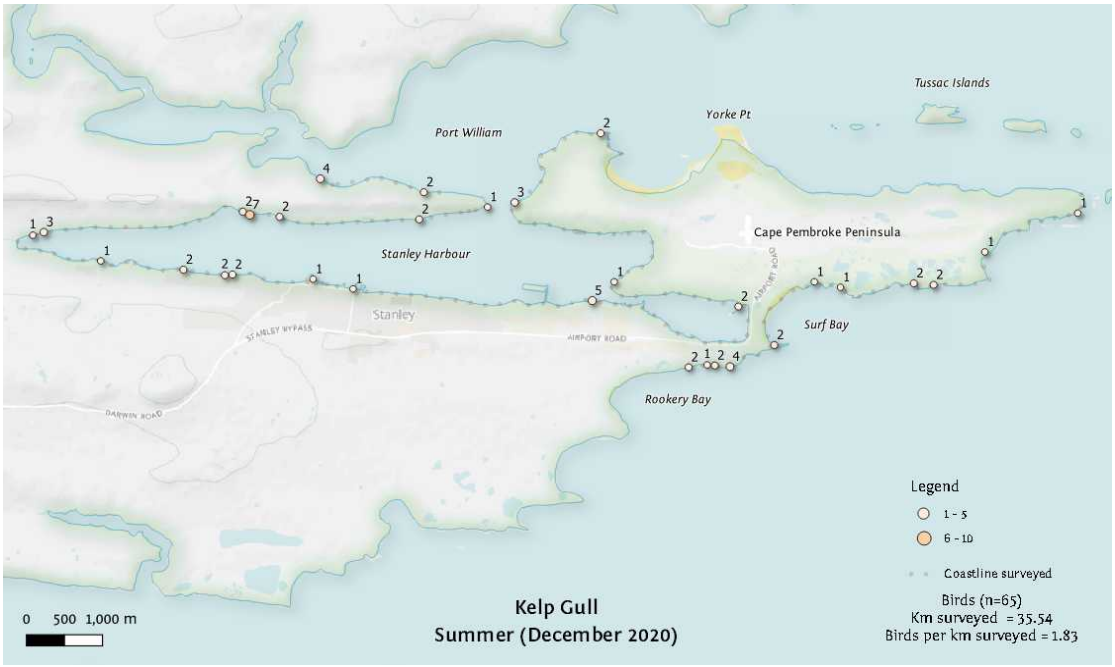
Rock shags are one of the most common and widely distributed shoreline species in the Falklands and are present year-round in Stanley Harbour and the outer coasts of Cape Pembroke and Port William. Their breeding colonies are on the wreck of the *Jhelum* and the stone walls of port at the Camber in Stanley Harbour, at Engineer Point in the Narrows, 3 sites on steep rock ledges west of Ordnance Point near Gypsy Cove, and the largest on an un-named point east of Surf Bay. Individuals and small groups feed daily in the kelp beds in Stanley Harbour, and favoured resting sites are the wreck of the *Charles Cooper,* and on the TDF in Stanley Harbour, Navy Point and several rocky headlands and offshore rocks between Rookery Bay and Cape Pembroke.

Map 9. *Rock shag – summer December 2020*

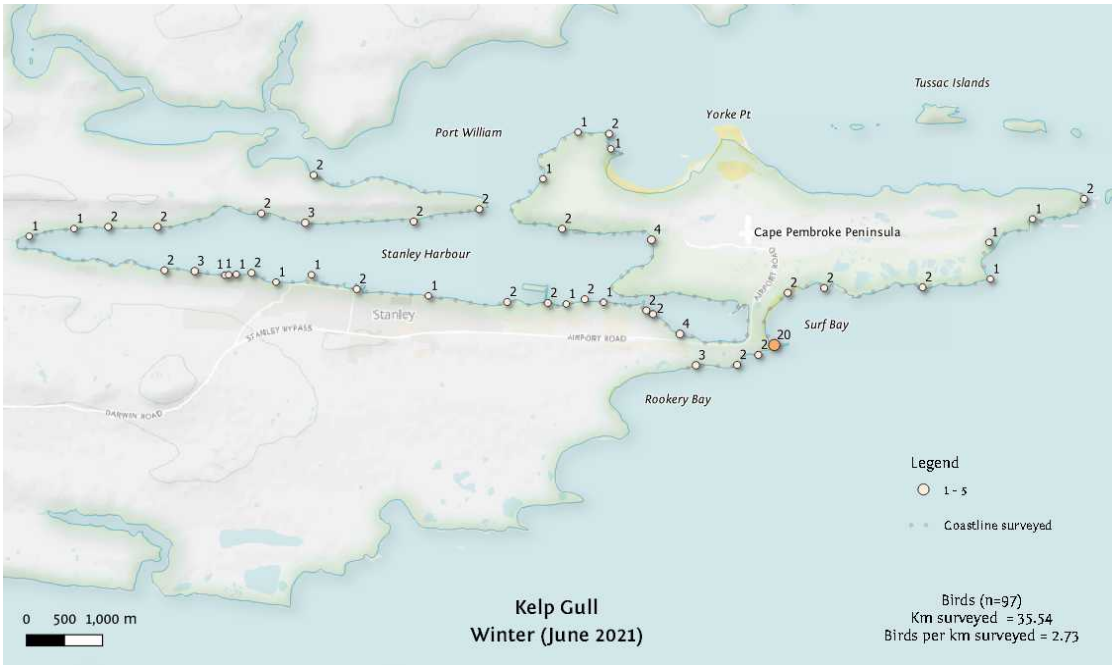
Map 10. *Rock shag – winter June 2021*

Kelp Gull

Kelp Gulls are present year-round in Stanley Harbour, being most often seen in association with groups of foraging Rock Shags and Falkland Steamer Duck feeding in the inshore kelp beds. At times they may also be seen scavenging for food on FIPASS and the East Jetty. Most records are of single birds or pairs rather than large flocks. Similar to the Rock Shag, this species is widely distributed around all Falklands coastlines and is considered to be a good indicator of a healthy inshore marine environment. Numbers are slightly higher in the winter months, no doubt due to dispersal of birds to breeding colonies in the summer.



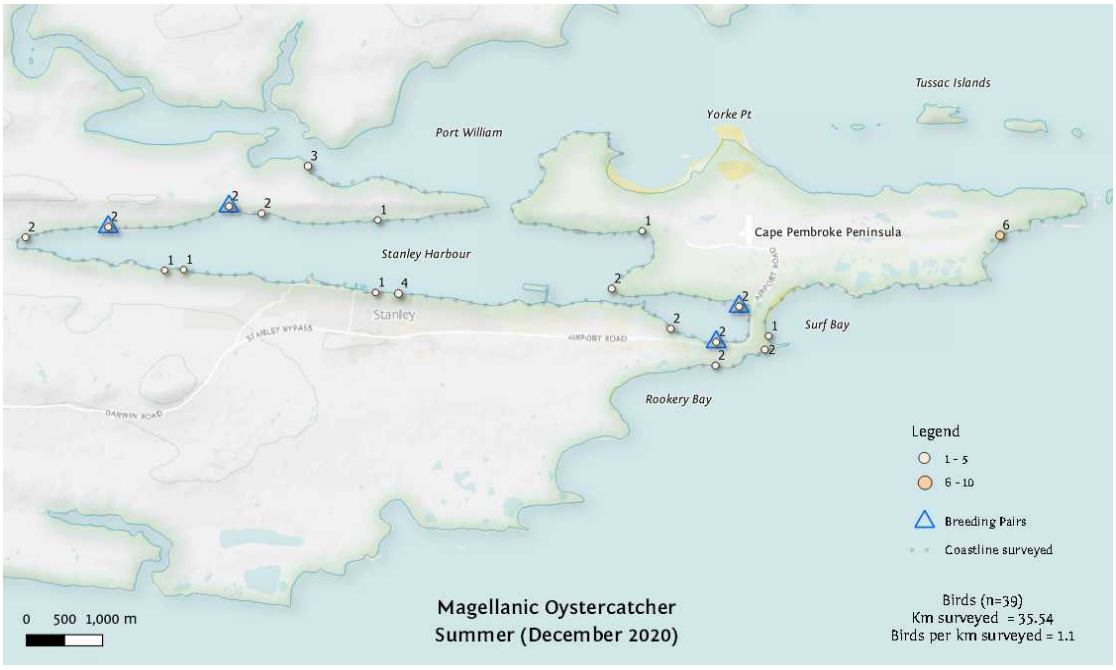
Map 11. *Kelp Gull – summer December 2020*



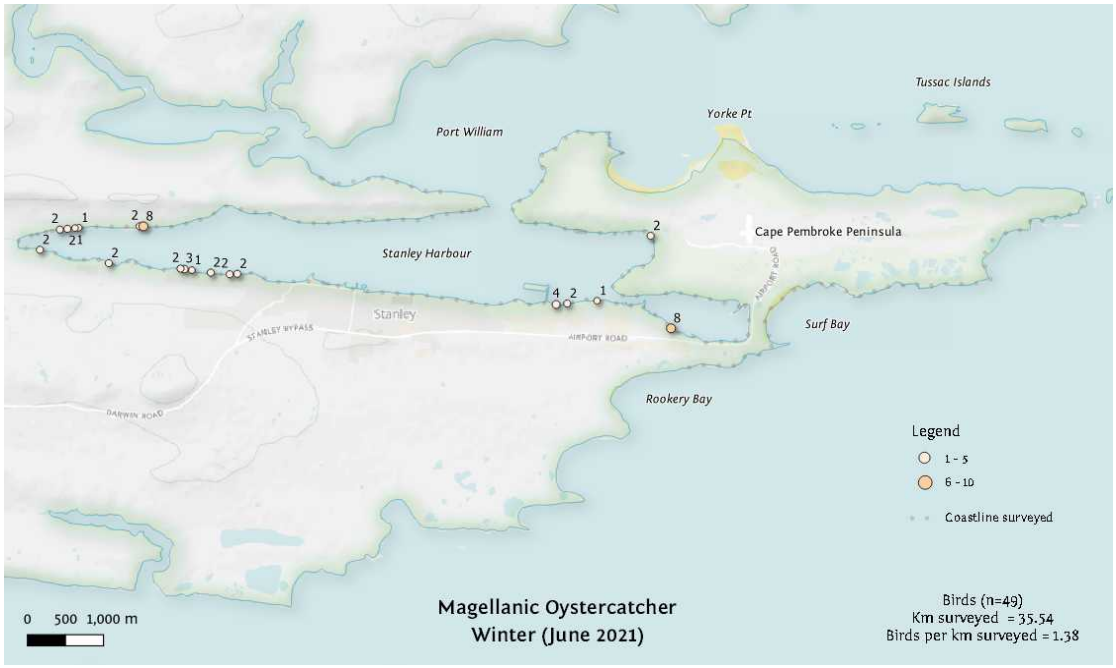
Map 12. *Kelp Gull – winter June 2021*

Magellanic Oystercatcher

This is another widespread species, present at about the same density as the Kelp Gull. Four pairs are known to nest in Stanley Harbour; there are none on the outer coasts. The harbour is also a favoured foraging area, with small groups feeding along many parts of the shoreline in both winter and summer, although numbers are higher in the winter months.



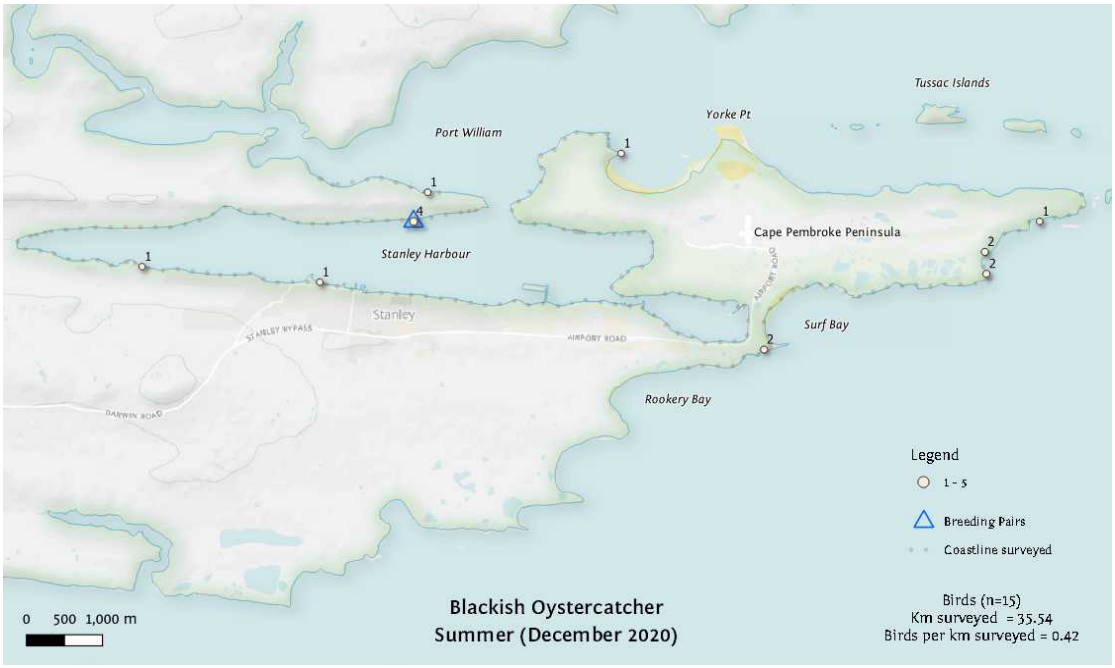
Map 13. *Magellanic Oystercatcher – summer December 2020*



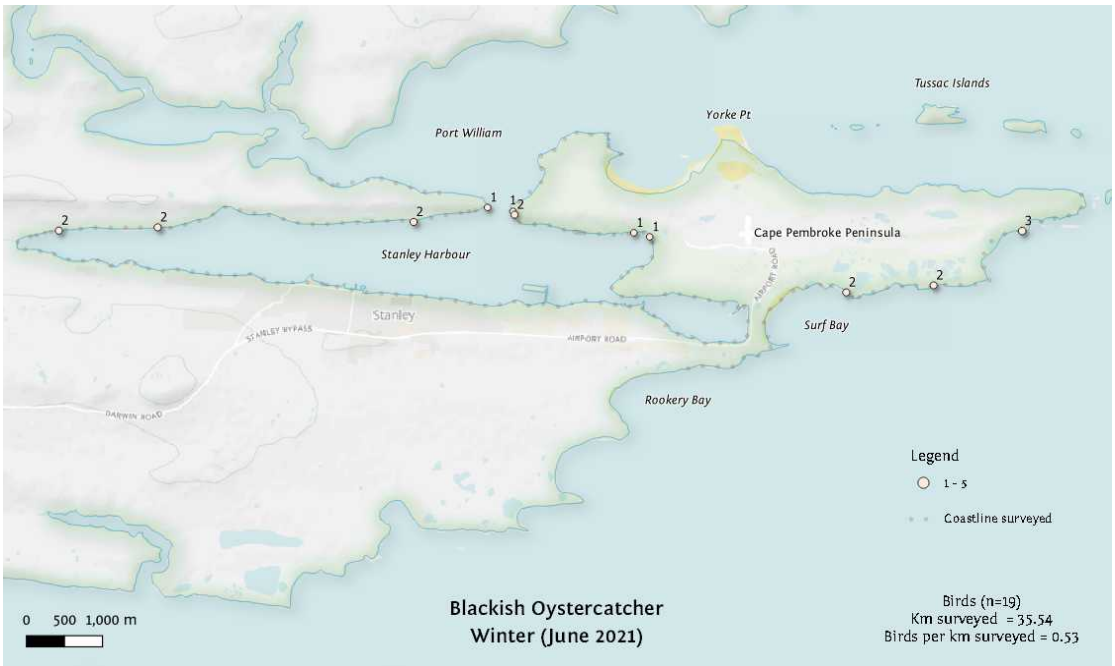
Map 14. *Magellanic Oystercatcher – winter June 2021*

Blackish Oystercatcher

The last abundant of the 7 key indicator species, the Blackish Oystercatcher is nonetheless an important monitoring species, being found on all coastlines of the Falklands. This year, 2 pairs with eggs were nesting on the concrete top of the Camber port, and possibly, but unconfirmed, there may be a pair nesting on the TDF. There appears to be little seasonal change in numbers and distribution, apart from a possible preference for the shores of Stanley Harbour for foraging during the winter months.



Map 15. *Blackish Oystercatcher - summer December 2020*



Map 16. *Blackish Oystercatcher – winter June 2021*

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9 November 2009
Report by Sally Poncet and Ken Passfield

APPENDIX

Map 1. *Location of the 13 transects.*

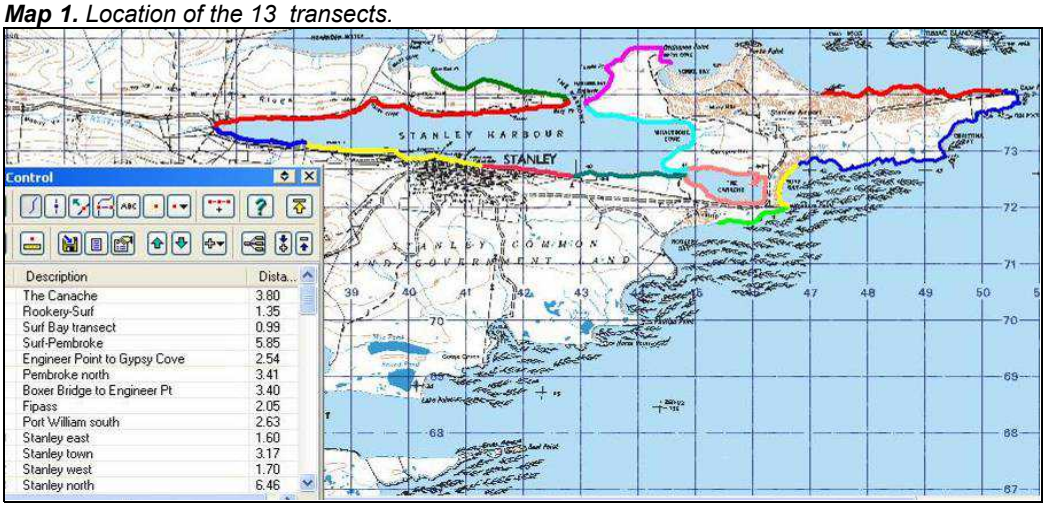

Table 1. *Details of transects*

Area	Transect name	Length (km)	Stop and start points	Broad habitat type
Cape Pembroke Peninsula and Port William	Rookery Bay to Surf Bay	1.35	End of fence line south of Megabid/south end of sand beach at Surf Bay	Exposed rock and some cobble beach coastline, ungrazed
	Surf Bay	1	South end of sand beach/north end of sand beach	Exposed sand beach shoreline, ungrazed
	Surf Bay to Cape Pembroke	5.85	North end of sand beach/end of fence on north coast near lighthouse	Exposed rock and some cobble beach coastline, lightly grazed
	Cape Pembroke north	2.11	End of fence on north coast near lighthouse to Yorke Bay minefield fence	Exposed rock and cobble beach, coastline, 2 sand beaches, lightly grazed
	Yorke Bay	5.47	Yorke Bay minefield fence to Gypsy Cove	Mostly sand beaches
	Gypsy Cove to Engineer Pt	2.54	End of fence on point at south end of Gypsy Cove/fence just south of Engineer Point	Moderately exposed rock and cobble beach coastline, one sand beach, ungrazed
	Port William south	2.63	Navy Point/Clam Bed Point	Moderately exposed rocky coastline, lightly graze
TOTAL		**20.95**		
Stanley Harbour and the Canache	Engineer Point to Boxer Bridge	3.4	fence just south of Engineer Point/north end of Boxer Bridge (west side)	Sheltered cobble beach and rock coastline, lightly grazed
	The Canache	3.8	north end of Boxer Bridge (east side)/south end of Boxer Bridge (east side)	Very sheltered, intertidal mudflats, ungrazed; partially cultivated
	Boxer Bridge to Ross Road	2.18	south end of Boxer Bridge (west side)/Ross Road East	Sheltered urban coastline, rocky foreshore, ungrazed, partially cultivated
	Stanley east	1.46	Ross Road East/FIC yard chainlink fence	Sheltered urban coastline, rocky foreshore, ungrazed
	Stanley town	3.17	FIC yard chainlink fence/Maiden Haven west boundary fence	Sheltered urban coastline, concrete and large boulder seawalls, mown verges
	Stanley west	1.89	Maiden Haven west boundary fence/Moody Brook bridge	Sheltered coastline, rocky foreshore with mudflats at Moody Brook area, lightly grazed
	Stanley north	6.27	Moody Brook bridge/Navy Point	Moderately exposed rocky coastline, one beach at Fairy Cove, lightly grazed
TOTAL		**22.17**		

Table 3. Bird species present along the surveyed coastlines of Stanley Harbour, Cape Pembroke and Port William.
X = breeding or probably breeding P = Present

Bird species	Port William		Stanley Harbour		Cape Pembroke		Latin name
	winter	summer	winter	summer	winter	summer	
Magellanic Penguin				P		X	*Spheniscus magellanicus*
Gentoo Penguin				X	P	X	*Papua pygoscelis*
Southern Giant Petrel	P	P	P	P	P	P	*Macronectes giganteus*
Sooty Shearwater						X	*Puffinus griseus*
King Shag	P		P		P		*Phalacrocorax atriceps albiventer*
Rock Shag	P	P	P	X	P	X	*Phalacrocorax magellanicus*
Falkland Skua				P		P	*Catharacta antarctica*
Kelp Gull	P	P	P	P	P	P	*Larus dominicanus*
Brown-headed Gull					P	P	*Larus maculipennis*
Dolphin Gull			P	P	P	P	*Leucophaeus scoresbii*
South American Tern		P		P		X	*Sterna hirundinacea*
White-tufted Grebe			P	X			*Rollandia rolland rolland*
Black-crowned Night Heron			P	P	P	X	*Nycticorax nycticorax falklandicus*
Coscoroba Swan							*Coscoroba coscoroba*
Feral Domestic Goose					P	P	*Anser anser*
Kelp Goose	P	X	P	X	P	X	*Chloephaga hybrida malvinarum*
Upland Goose	P	X	P	X	P	X	*Chloephaga picta leucoptera*
Ruddy-headed Goose			P	X	P	X	*Chloephaga rubidiceps*
Falkland Steamer Duck	P	X	P	X	P	X	*Tachyeres brachypterus*
Crested Duck	P	P	P	X	P	X	*Lophonetta specularioides*
Speckled Teal			P	X	P	X	*Anas flavirostris*
Snowy Sheathbill			P		P		*Chionus albus*
Magellanic Oystercatcher	P	P	P	X	P	X	*Haematopus leucopodus*
Blackish Oystercatcher	P	P	P	X	P	X	*Haematopus ater*
Rufous-chested Dotterel			P		P	X	*Charadrius modestus*
Two-banded Plover			P	X	P	X	*Charadrius falklandicus*
White-rumped Sandpiper				P		P	*Calidris fuscicollis*
Turkey Vulture	P	P	P	P	P	P	*Cathartes aura jota*
Red-backed Hawk	P	P	P	P	P	P	*Buteo polyosoma*
Crested Caracara							*Caracara plancus*
Falkland Thrush	P	X	P	X	P	X	*Turdus falcklandii falcklandii*
Long-tailed Meadowlark			P	X	P	X	*Sturnella loyca falklandica*
Dark-faced Ground-tyrant	P	X	P	X	P	X	*Muscisaxicola maclovianus*
Tussacbird					P		*Cinclodes antarcticus antarcticus*
Grass Wren	P	X	P	X	P	X	*Cistothorus platensis falklandicus*
House sparrow			P	X	P	X	*Passer domesticus*
Falkland Pipit	P	X	P	X	P	P	*Anthus correndera grayi*
Black-chinned Siskin			P	X	P	X	*Carduelis barbata*
Black-throated Finch	P	X	P	X	P	X	*Melanodera melanodera*