# **Island Visit Reports**

# Coffin, Beef & Ship Islands & Cliff Knob

# Falklands Conservation Nature Reserves



Ship, Beef and Coffin Islands, (from right to left) viewed from Ship Harbour camp, New Island; 29 November 1999

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# Report on visits to Coffin, Beef and Ship Islands in 1979, 1995 & 2001 and observations from the sea of Coffin & Beef Islands & Cliff Knob

## Introduction

These three small islands lying in South Harbour and Ship Harbour, Cliff Knob and the larger New Island were originally owned by the Falkland Islands Government. They were leased to sheep farmers in the second half of the 19<sup>th</sup> century. By the mid-1950s they were farmed by Jack Davis and in 1972 were sold to the newly formed New Island Preservation Company. When that was wound up a few years later, the small islands passed to the Society for the Promotion of Nature Conservation (SPNC), now the Royal Society for Nature Conservation (RSNC).



Coffin, Beef, Ship and Cliff Knob Islands in relation to New Island Based on DOS 1:50,000 Sheet 16

In 1979 a cruise ship, the *Lindblad Explorer* visited the Falklands with Sir Peter and Lady Philippa Scott on board and called at New Island. R.S.R. (Richard) Fitter of the Fauna Preservation Society and his wife Maisie met the Scotts as part of a conservation

delegation and it was there that they planned the establishment of the Falkland Islands Foundation (FIF). Richard Fitter was able to visit Beef and Ship Islands on behalf of SPNC. On 18 January 1979 he landed on Beef Island and in his notes for SPNC reported that it had previously been stocked with sheep, but not in recent years and its name suggested that cattle had been placed there in the past. His list of birds seen (Table 3) is very similar to ours of 2001. On 19 January 1979, he landed on Ship Island and remarked that it was regularly stocked with sheep until about seven years previously (1972), being used as a ram holding pen. He wrote, "The vegetation had suffered severely and is now making a good recovery." He made no mention of rats but stated that a list of the flora of each island was to follow; this has not been found. Unfortunately he was unable to visit Coffin Island or Cliff Knob.

In 1984 the islands were leased to the UK-based FIF. Following the merger of the local Falkland Islands Trust with FIF to form Falklands Conservation (FC) in 1991, the freehold was legally transferred to FC in 1993. They have the status of Nature Reserves in perpetuity and cannot be sold for profit.

In December 2001, the Royal Botanic Gardens, Kew funded FC to conduct fieldwork aimed at discovering possible feral populations of the Felton's Flower *Calandrinia feltonii* in the Purslane family, then considered to be a very rare endemic Falkland plant, one of their 'Ten Threatened Plants of the World'. While travelling on the auxiliary ketch *Penelope* between possible sites for Felton's Flower, the opportunity was taken to carry out brief surveys of birds and plants on islands belonging to Falklands Conservation because they had not been examined since acquisition.

# **Coffin Island**

#### Topography

The island has an approximate flat area of 45ha and is strongly domed with very steep sides above cliffs that generally rise to 50m with the summit at about 109m (357ft). A fringe of Tussac remained on the steeper coastal slopes, particularly to the northwest and north. Coffin Island is roughly square with an indentation on the northwest-facing coast and a small point extending northwards. The cliffs are higher (about 75m or 250ft) to the southeast and southwest and the slope is only slightly less severe facing northwards. A flat, but narrow, rock platform at the base of the gully facing northwest has rusting mooring stanchions which provided a reasonable landing place. The stanchions and remains of fencing indicate that the island was used for grazing before the 1970s.



Coffin Island from the northeast, 20 December 2001

Coffin Island from the north-west, probably from Beef Island; Richard Fitter, 18 January 1979



Coffin Island, northwestern point with sparse tussac; 7 December 1995



Coffin Island seen from summit of Beef Island; 20 December 2001



#### **Surveying Visits**

A passing visit was made on 7 December 1995, in the ex-crabber, the motor vessel *Laura Jay*. We were travelling from Beaver Island to New Island with Jerome, Sally and Jeremy Poncet, Ann Brown (Falklands Conservation), Julian Hector and Joanna Pinnock (BBC Natural History Unit). We approached close to the sheer eastern cliffs where a female Southern Sea Lion with a freshly caught octopus was resting on a low rocky ledge. We were completely sheltered from the strong to gale westerly wind and stayed there for about a quarter of an hour. Only Tussac was noted on the higher parts of these cliffs and a short list of birds seen or heard was made.

On 19 December 2001, the Felton's Flower Project team including Jeannette Clarke, joint owner and wife of the skipper of the auxiliary ketch *Penelope*, Jonathan Felton and Stacey Steen-Macdonald passed Coffin Island in *Penelope* en route between Pitt Island and New Island. We noticed that there was a reasonable landing place on the northwest-facing slope. The next morning it was nearly calm with an overcast sky and it took only a few minutes to reach a safe anchorage northwest of Coffin Island. We landed at 0920 and re-embarked about midday at a flat, but narrow, rock platform below this shallow gully. By that time, the cloud had broken, the sunlight was brilliant and the wind had increased to a strong south-westerly.

# Coffin Island landing place on the northwestern coast; December 2001





Coffin Island; the steep slope above the landing place; December 2001

We climbed slowly up this very steep slope (about 40° from vertical) of very dry, sandy, peaty soil, which was heavily undermined by Thin-billed Prion burrows. While noting

plants, we made our way to the summit at about 109m (357ft). From here the view over South Harbour was excellent and we watched the cruise ship *Hanseatic* leaving New Island. Eastern and south-western coasts of Coffin Island were much steeper than the gully so we returned along the north-facing ridge and across the slope to the landing place.

#### Vegetation

Although Richard Fitter did not land in 1979, he commented in his short report to SPNC that there was tussac all round the cliffs but not inland and that there were no introduced grasses! In 2001, we noticed extensive Tussac on the headlands, where presumably the ground was too steep even for sheep, but as we climbed up the sandy peat slope, Sheep's Sorrel, Yorkshire Fog (a widespread introduced grass) and several patches of Sticky Groundsel were the most numerous species.

At about 33m (100ft) above sea level, we noticed plants that appeared to be Calandrinias but obviously not a population of Felton's Flowers. On examining the area more closely, it appeared that there were many plants present, varying in size between about 3cm and 60cm in diameter and closely resembling the Calandrinias found at North Harbour, New Island in November 1999. We measured the area in which they were growing and found it to be 55m across the slope, extending downwards about 25m on the north-eastern side and 50m on the south-western side of the gully. The central location of this population by GPS was  $51^{\circ}44.27$ 'S  $61^{\circ}15.61$ 'W, with an altitude range of between 35m and 64m above sea level (115-210ft). There were probably between 50 and 100 plants. Stacey and Jonathan located as many plants as possible in the time available and recorded the closest plant of another species adjacent to a Calandrinia, with the following results:

Total	42 Calandrinia plants
Y. Fog & Sh. Sorrel	1
Sticky Groundsel	4
Sheep's Sorrel	8
Yorkshire Fog	29



Coffin Island, December 2001; steep sandy slope with Yorkshire Fog, Sheep's Sorrel and Sticky Groundsel This unnamed Calandrinia was well established on Coffin Island. Almost all plants were in semi-open brown sand alongside or entwined with patches of dead leaves and new shoots of Yorkshire Fog, large, strong, new Sticky Groundsel plants with many dead old stems from previous years and large patches of Sheep's Sorrel. It was obvious that the Calandrinias associated successfully with these plants growing where prions were digging burrows annually and thus disturbing the soil. All three plants can survive and multiply in soil where native vegetation has been removed by grazing. The Calandrinias appeared to be well-grown, had apparently survived the winter and therefore were behaving as perennials or at least, biennials. In contrast, according to the observations of several gardeners, its close relative Felton's Flower '*Calandrinia feltonii*', is usually an annual and appears unable to compete with perennial grasses and herbs.

We could not find any open flowers on the Calandrinias that we examined, but there were many pods with seeds, though these were still immature. A good collection of ripe seeds was easily made from the ground beside and between the plants. Some of these seeds have been donated to the Millenium Seed Bank of the Royal Botanic Gardens at Wakehurst Place in Sussex. Several colour transparency photos were taken, including close up pictures of these and other plants to show the general habitat.

Further up the slope, Fuegian Fescue, Coastal Nassauvia, Mountain Berry and Bluegrass were growing between slabs of bare stone with some sandy patches. Higher elevations were dominated by heath and grassland and towards the summit there were irregular patches of Coastal Nassauvia, Emerald-bog, Fuegian Fescue and Native Strawberry, while there were cushion plants on very thin soils and exposed rocks around the highest point. Six of the 24 recorded species of flowering plants were introduced aliens.

#### Birds

Richard Fitter remarked in 1979 that there were no important seabird colonies, except skuas and prions.

On 7 **December 1995,** it was only possible to see birds from boat level below the eastfacing cliffs when we were alongside and passing towards the New Island settlement. About five Rock Shags were sitting on nests on cliff sides. Two pairs of Upland Geese, one with large goslings, were seen on the northeastern slopes and two pairs of Kelp Goose by the shore. Four Falkland Skuas and a pair of Blackish Oystercatchers were also seen from a distance. Several Tussacbirds were seen and heard singing while a Cobb's Wren was singing strongly.

In **December 2001** many prion remains were strewn about, apparently the result of predation by resident and aggressive pairs of Falkland Skuas. We saw one pair pull a prion from its burrow, tear it apart between them and eat it. A colony of at least ten pairs of Night Herons was seen in Tussac on a near-vertical slope about 100m north of our landing place. About 30 shedding Upland Geese were well up the gully slope in a part where Native Strawberry plants were also found. A pair of Striated Caracaras was displaying, calling and flying in and out of the thick Tussac about 250m north of the landing place. This seemed very likely to be a nest site. Songbirds noted were Falkland

Thrush, Long-tailed Meadowlark, Black-throated Finch and Dark-faced Ground-tyrant. The presence of several Tussacbirds and a few Cobb's Wrens from the landing point and upslope within the northwest-facing bay were strong indications that Coffin Island is free of rats.



Coffin and Beef Islands, to show their relative size and altitude (heights are in feet). Based on DOS 1:50,000 Sheet 16

# **Beef Island**

#### Topography

Beef Island lies 1.8km east of the New Island settlement, about 1.3km northwest of Coffin Island and covers about 10ha. It is domed with very steep slopes to the southeast and is roughly lozenge-shaped, about 500m by 250m but only reaches a height of about 52m (170ft). The south-eastern coast is almost sheer but the others slope more gently and there is a landing-place with narrow rock platforms on the northern coast. This had the remains of a wire gathering pen for livestock and supports for a runway down the rocks to the sea, resembling the arrangement on Coffin Island. Much of the island was thickly covered with Tussac, with the exception of a small area of heathland and low grasses on the north-eastern point. From its name, it was probably grazed by beef cattle in the winter. Some red ash on sand just into the northern edge of the Tussac covering the south-western part of the island, suggested that at least part of the island had been burnt over in the past.

#### Surveying

On **7 December 1995** this island was viewed from about 100m as the *Laura Jay* cruised along the eastern side about midday. No flowering plants were seen except Tussac but some bird species were noted.

On **20 December 2001**, the Felton's Flower team was able to land from 1315 to 1435 on the northwest-facing coast, on a small rock ledge below a steep slope through Tussac. This allowed a fairly close examination of only the north-eastern half. The southeast-facing coast was an almost vertical cliff clothed with Tussac. Along the ridge above the cliff, the ground was very dry, sandy and badly eroded, similar to Coffin Island.



Beef Island, northern shore with landing place, from Laura Jay, 7 December 1995



Beef Island; pair of Striated Caracaras at top of east-facing cliff clothed in tussac, 20 December 2001

#### Vegetation

**18 January 1979:** Richard Fitter noted that two-thirds to three quarters of Beef Island was densely covered with Tussac and the remainder with Sheep's Sorrel and sparse native plants. He thought this open sorrel 'heathland' was probably the result of burning and grazing in the past.

In **December 2001**, seven specimens of the same unnamed Calandrinia were found quickly on the north-facing slope about 20-25m above sea level, in an area measuring roughly  $1 \text{ m x } \frac{1}{2} \text{ m}$ . More were found further down the slope at two places about 10m and

3m to the west. The total number of plants seen was c35, most of them very small. Many seeds were visible on the surface of the sandy peat and below the surface. A bag of sand and seeds was collected and some slide photos taken. Of the 17 flowering plant species found, only nine were native while eight were aliens. Among these, Shepherd's Purse, Common Storks-bill and Pineappleweed had not been seen on Coffin Island. These were all on sandy ground undermined by prion burrows. The only endemic flowering plant found was the very widespread cushion-forming Coastal Nassauvia, which seems particularly adapted to coastal sand and other exposed substrates.



Beef Island 20 December 2001; dry slope with dwarf tussac, where Calandrinias were found

Beef Island, 20 December 2001; healthy seeding plant of unnamed Calandrinia

#### Birds

Richard Fitter reported only eight species on **18 January 1979**. These included a large breeding colony of Falkland Skuas and many breeding Thin-billed Prions, also Rock Shags and at least one pair of Black-crowned Night herons. He saw Falkland Steamer ducks (not recorded in 2001), House (=Cobb's) Wren, Tussacbirds and Black-throated

Finches but did not comment on breeding. He remarked that 'the uncommon Grass Wren was not seen' which is interesting because there is considerable Tussac grass habitat, but it was rather late in the season for males to be singing.

On **7 December 1995** during our passage nearby, only seven species were seen, including a pair of Upland Geese with goslings, three male Kelp Geese and a few Rock Shags and King Shags. We also saw two Thrushes and three Tussacbirds.

Our visit of almost an hour and a half on **20 December 2001** allowed us to record 14 species, of which nine were breeding or probably breeding. These included a small Rock Shag colony on the sides of a deep gulch, possibly two pairs of Striated Caracaras, several burrows of Thin-billed Prions, a family of Black-throated Finches and at least one juvenile Cobb's Wren.

## Ship Island

#### Topography

About 1.8km north of Beef Island in Ship Harbour is a low rounded hummock almost 500m long and 300m wide, covering about 9ha called Ship Island. It reaches a height of no more than 20m (60ft) with no significant cliffs and is roughly pear-shaped, narrowest in the southeast. There are many patches of bare sandy ground with large areas of Sheep's Sorrel and scattered Diddle-dee, forming a much degraded hard camp heathland. At least one patch of burnt ground was seen near the northern coast. Red ash and old clinker were seen inside what was possibly a rat burrow, suggesting that a fire reaching high temperatures had occurred within the tussac peat. Cattle had obviously been placed there in the past, probably for fattening, as an old weathered bullock skull was found.



Ship Island; view over previously burnt ground with Diddle-dee, 20 December 2001



Ship Island, 20 December 2001; layers of burnt ash and clinker below accumulated soil layer



Ship Island; landing place on north-eastern coast, with Rock Shags and King Shags, 20 December 2001

#### **Surveying Visits**

Visits were made by the Felton's Flower team between 1505 and 1615 on **20 December 2001**. We landed on the north-eastern coast, once again using low, flat rock platforms.

#### Vegetation

Richard Fitter described the vegetation on **19 January 1979** as a mosaic of Diddle-dee and Sheep's Sorrel heathland with some patches of dead and regenerating Tussac and native vegetation. On **20 December 2001**, 27 flowering plant species were identified, almost equally split between native and alien species. The general appearance was of very poor vegetation cover, with patches of bare sand and red ash from burnt Tussac. However, we found a much larger variety of plants than on Beef Island. This might be partly due to our concentration on the unnamed Calandrinias on Beef, which reduced the time available for searching other parts of the island. Tussac grass was found only on the south-western point.

#### Birds

In 1979 Richard Fitter noted colonies of Falkland Skua, Kelp Gull, South American Tern and Thin-billed Prion burrows. There were also resting groups of Rock and King Shags. Other species he saw included Crested Duck, Falkland Steamer Duck, Upland Goose and Tussacbird, but he did not note Cobb's Wren.

In **December 2001**, although the vegetation bore little resemblance to its probable condition before grazing, the island appeared to provide good nesting facilities for at least ten species. The largest gathering noted was a colony of about 700 Kelp Gulls and we found many Thin-billed Prion burrows in the sandy ground. At least 20 pairs of Skuas were nesting on the ridge among the Diddle-dee and short grasses. Pairs of all three native geese were seen and both Upland and Ruddy-headed Geese had goslings. Nests, eggs and one pair of both Magellanic and Blackish Oystercatchers were seen on the northern coast. A Striated Caracara nest by a low cliff held a chick in down, just showing some flight feathers. The pair was noisy overhead but did not attack us. Several metres of Diddle-dee along the bank above the nest were strewn with full-grown Kelp Gull feathers, only about 100m from the Kelp Gull colony. No evidence of any songbirds was found and the absence of Tussacbirds and Cobb's Wren suggests that the island has been invaded by rats.

## **Cliff Knob**

This island lying only 400m southeast of Sabina Point, New Island is also a Nature Reserve owned by Falklands Conservation. It is steep-sided, only 250m by 100m, covers about 2ha and had a good cap of mature Tussac. Cliff Knob has no obvious landing place and we could do no more than motor past in December 2001, taking a few photographs. It appeared to have many prion burrows in the tussac peat.

## Other species of interest

**Mammals**: Richard Fitter noted two Southern Sea Lions *Otaria flavescens* at **Beef Island**. We saw one Sea Lion on the eastern rocky coastline of **Coffin Island** in December 1995 and at **Ship Island** in December 2001, there was a large bull and eight female Sea Lions. One 11-spot Ladybird was seen on Coffin and another on Ship was on Wiry Azorella *Azorella filamentosa*.

# Table 1 Flowering Plants recorded on Beef, Coffin and Ship Islands in 2001Entries in red = introduced species; <br/>\$\$ = endemic species

	Coffin	Beef	Ship	
Time ashore Hours:min	nutes	2:40	1:20	1:10
Acaena lucida	Native Yarrow	Х	Х	Х
Acaena ovalifolia 0	Oval-leaved Prickly Burr		Х	Х
Acaena magellanica	Prickly Burr	Х		
Aira praecox	Early Hair-grass	Х	Х	Х
Anagallis alternifolia	Pimpernel			Х
Apium australe	Wild Celery	Х		Х
Azorella filamentosa	Wiry Azorella	Х		Х
Baccharis magellanica	Christmas Bush	Х		
Bolax gummifera	Balsam bog	Х		
Calandrinia sps unnamed	Calandrinia sp	Х	Х	
Capsella bursa-pastoris	Shepherd's-purse		Х	
Cerastium fontanum	Common Mouse-ear	Х		
Colobanthus subulatus	Emerald-bog	Х	Х	Х
Coronopus didymus	Lesser Swine-cress		Х	Х
Empetrum rubrum	Diddle-dee	Х		Х
Erodium cicutarium	Common Stork's-bill		Х	Х
Festuca magellanica	Fuegian Fescue	Х	Х	Х
Gaultheria pumila	Mountain Berry	Х	Х	
Gunnera magellanica	Pig vine	Х		
Holcus lanatus	Yorkshire Fog	Х	X	Х
Juncus scheuchzerioides	Native Rush			Х
Matricaria discoidea	Pineappleweed		X	Х
‡Nassauvia gaudichaudii	Coastal Nassauvia	Х	Х	Х
Poa alopecurus	Mountain Bluegrass	Х		
Poa flabellata	Tussac Grass	Х	Х	Х
Poa pratensis Smooth			Х	
Ranunculus acaulis	Skottsberg's Buttercup			Х
Rubus geoides	Falkland Strawberry	Х		
Rumex acetosella	Sheep's Sorrel	Х	X	Х
Sagina procumbens	Procumbent Pearlwort	Х	Х	Х
Senecio candidans	Sea Cabbage			Х
Senecio viscosus	Sticky Groundsel	Х	Х	Х
Senecio vulgaris	Groundsel			Х
Spergularia marina	Lesser Sea-spurrey	Х		
Stellaria media	Chickweed			Х
Trifolium dubium	Lesser Trefoil			Х
Trisetum spicatum	Spiked Oat-grass	Х		
Ulex europaeus	Gorse			Х
Vulpia bromoides	Squirreltail Fescue			Х
Total species		24	17	27

Table 2 Native and alien flowering plants identified on Coffin Beef & Ship Is.

Coffin: Native	Coffin: Alien	Beef: Native	Beef: Alien	Ship: Native	Ship: Alien	
18	6	9	8	14	13	

# Birds

## Table 3: Species found in 1979, 1995 & 2001

KEY: X = breeding or probably breeding; X? = possibly breeding; P = present

Species	Coffin	Coffin	Beef	Beef	Beef	Ship	Ship
-	1995	2001	1979	1995	2001	1979	2001
Thin-billed Prion		X	X		Х	Х	X?
Rock Shag	X		X	Р	Х	Р	
King Shag				Р		Р	Р
Black-crowned Night heron		X	Х		X?		
Upland Goose	X	X		X	X	Х	X
Kelp Goose	X			X		X	X
Ruddy-headed Goose							X
Falkland Steamer  Duck			X			X	
Crested Duck						X?	
Turkey Vulture							X?
Striated Caracara		X	X		Х		X
Magellanic Oystercatcher							X
Blackish Oystercatcher	X						X
Falkland Skua	X	X	X	X	X	X	X
Dolphin Gull					X?		
Kelp Gull					X?	X	X
South American Tern					Р	X	
Tussacbird	X	X	X	X	X	X	NONE
Dark-faced ground-tyrant		X			X		
Cobb's Wren	X	X			X		NONE
Falkland Thrush		X?		X			
Long-tailed Meadowlark		X?			X?		
Black-throated Finch		X	X		X		
Possible breeding species	7	11	8	7	14	9	10
Total possible breeding species	15		16		13		

## **Implications for Conservation**

The three larger islands have been heavily grazed in the past and Beef and Ship have suffered extensive burning, which was apparently more damaging on Ship Island. Richard Fitter suggested that there was no positive management required for Beef or Coffin, except that entry should be restricted to naturalists and scientific workers and strictly limited numbers of wildlife tourists. For Ship, he recommended the replanting of tussac in areas where it was dead or not regenerating unaided. He thought that access should be controlled as for Beef, with the proviso that special care should be taken not to disturb the tern colony.

There is currently no active management of these four Falklands Conservation Reserves. It is possible that native vegetation may not be able to re-establish itself on Ship and parts of Coffin and Beef Islands, given the extent of erosion in places. With the restrictions on flights to New Island and the necessity for boat transport out to Ship and probably also Beef for tillers of tussac, it would not be easy to carry out any tussac planting on Ship Island. It was puzzling that we were unable to find Felton's Flower growing in the wild on uninhabited offshore islands and surprisingly, we found significant populations of another Calandrinia. Since 2001, work on the genetics and relationships of plants in the family (Portulacaceae) by Mark Hershkovitz of the University of Chile, Santiago has shown clearly that Felton's Flower, considered to be an endemic Falkland plant since 1913, has exactly the same genetic fingerprint as a weedy roadside plant of California *C. menziesii* known as Red-maids. How it reached the Falklands is unknown, but it is likely that North American sealers or whalers inadvertently brought seeds with them (Hershkovitz 2006).

Coffin and Beef Islands were both found to hold significant populations of this stillunnamed Calandrinia. They occupied similar habitats on both islands in sandy soil of north-facing slopes where cattle or sheep were landed in the past. None was found on Ship Island. Whether Coffin and Beef Islands were colonised by this Calandrinia from New Island or vice versa is impossible to say. However it is known that Jack Davis put stock (cattle or sheep) on Coffin from New Island. He also leased Hummock Island in King George Bay (58 km/37 miles to the east) where there is an even larger population of this Calandrinia.

The Tussac grass on the northern and western points of Coffin Island seemed to be in good condition. It is possible that other nocturnal seabirds breed, such as Diving Petrels and Storm Petrels, but this is not yet known. There was also substantial Tussac on Beef Island, mostly covering the nearly sheer southeast-facing cliff faces.

Ship Island is rather different because it has lost almost all its tussac and with the absence of Cobb's Wren, it is possible that rats or mice are present. It is important to discover whether they are established on this island, which is only 400m from New Island to the northwest. These could be Black (Ship) rats as on New Island or Norway rats and it would be interesting to attempt some trapping. Coffin and Beef Islands are free of rats and biosecurity measures should be in place to make it as difficult as possible for rats or mice to invade and become established.

Our visits were very short and most of the time was taken up with investigating the flora. It is essential that a detailed plant, bird and invertebrate survey of all these islands should be carried out in the near future. A baseline for the recovery of their biodiversity needs to be established so that effective management plans can be made.

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