



# Site Guidelines

## for Tour Ship Visits to Signy Research Station

### Introduction

Signy Island is one of the South Orkney Islands, situated in the Southern Ocean to the north of the Weddell Sea, and approximately 900 km south-west of South Georgia. At 60° 43' S 45° 38' W the island falls just south of the limit of the Antarctic Treaty area. It is operated by the British Antarctic Survey, which is a component of the UK Natural Environment Research Council. The station is occupied in summer only and is used for biological research.

### General Information

- Signy is an active scientific research station; people will be working during your visit.
- Signy operates using the South American and Falkland Island time zone i.e. UCT minus three hours.

There are many ways to contact Signy:

**By email** hbc@bas.ac.uk to contact the Base Commander

**By phone** + 44 1223 221 796 (VoIP) (Base Commanders Office)

**By radio** VHF Channel 16

### Site Guidelines

Recommendation XVIII-1 (1994) of the Antarctic Treaty outlines the general standards expected by visitors. The following guidelines specific to Signy Research Station supplement that Recommendation.

#### Guidelines for Expedition Staff

Up to four tour ship visits per year are accepted at the station. These must be pre-booked through IAATO following the guidance laid down in BAS document "Procedures for Tourist or Non Governmental Expeditions Requesting a Visit to a British Antarctic Survey Research Station or Historic Site". This document is readily available from IAATO.

Accepted ships should confirm their intentions with the Signy Base Commander approximately two weeks prior to the visit, thereafter 48 hr from the station. This communication should detail the numbers of passengers plus ships crew coming ashore. It can also be useful to commence dialogue to ensure the passengers get the maximum value from their visit to the station.

Generally ship visits should last no more than one half of a working day, e.g. a morning or an afternoon visit. For vessels with larger numbers of passengers we can discuss how best to achieve a successful visit.

During the summer the standard working day for the majority of Signy personnel follows this pattern: breakfast completed by 08:30, lunch 13:00 to 14:00, evening meal 18:30 to 19:30. It is helpful if visits do not interfere with the station routines.

There is a jetty with slipway (note: the slipway is gradually deteriorating and may be unsuitable for some visitors, there is also large obstacle off the northwest corner) at the north of the station, this is the preferred point for landing by zodiac. In conditions of heavy swell or dense brash it might difficult under foot accessing the slip. Prevailing conditions can be discussed with the Signy BC (Base Commander) immediately prior to the visit.

To ensure the visitors get the most from their visit they should be split into groups with a maximum of twelve people per group. Each group should be accompanied by a tour guide from the vessel. A Signy station member will lead the group around the station. It is not permitted for visitors to enter station buildings unaccompanied. No more than two groups should be touring the station at any one time. If possible and there are enough ships guides then three groups of 10 at any one time, rotating through (a, Bernsten Point, b, Base area, c Sørllle House).

A nominated representative of the station will give each shore party a safety briefing and presentation either on board the ship, or immediately after landing.

Work commitments allowing, BAS staff at Signy will be happy to give presentations about the science, logistics and life on base at Signy.



## Signy Island Biosecurity Measures

Two non-native species have already been introduced to the back slope behind Signy Research Station. These are the enchytraeid worm *Christensenidrilus blocki* and the flightless midge *Eretmoptera murphyi*, both of which were imported from South Georgia, probably in the late 1960s. The midge is found in concentrations of up to 150,000 per m<sup>2</sup> and expanding its distribution in the vicinity of the research station. Research shows that it could probably survive at locations as far south as Rothera Research Station (67°S) and may be altering ecosystem structure and nutrient turnover on Signy Island.



**Photographs of the non-native midge *Eretmoptera murphyi* adult (4.5 mm long) and larvae (3.5 mm long).**

It is essential that these species are not spread further to other areas of the South Orkney Islands or the vicinity of other Antarctic research stations where they might also colonise.

Therefore, it is important that measures are taken to prevent importation of soil and non-native species both into Signy Island and from Signy Island to other locations.

- While on the ship, prior to landing at Signy Research Station, the tour guides shall ensure all landing personnel are fully aware of the presence of the two non-native species, the need to prevent their further human-assisted spread and the biosecurity measures detailed below.
- Before landing on Signy Island, ensure all clothing and boots are free of soil, seeds and fragments of plant material. All boots and other footwear shall be vigorously scrubbed with a suitable biocide solution (e.g. Virkon®) to remove all traces of soil and mud. Particular attention shall be paid to cleaning the area around the boot tongue. Simply dipping boots in a disinfectant solution or walking through disinfecting mat is not an acceptable degree of cleaning; scrubbing is essential.
- Particular care shall be taken to ensure that boots, clothing, personal belongings and equipment is cleaned so that no soil or plant material is transported off Signy Island inadvertently. This is particularly the case for personnel travelling to other areas of the South Orkney Islands. Boot washing facilities will be provided at the station.

## Guidelines for Visitors

- Signy is our workplace but it is also our home, please respect this.
- Smoking is strictly prohibited inside any building; please use the bins provided to dispose of cigarette butts.
- Please clean your footwear before entering the buildings.
- Please stay with your group during your visit. Do not wander off or enter buildings unaccompanied. Do not pick up or touch things unless your BAS guide advises you otherwise.

### Shop and Post Office

The station shop and post office will open for the visit. The shop sells items such as T-shirts, caps, badges and post cards. Revenue from the shop goes towards recreational items for the station. Stamps and first day covers can also be purchased. It is possible to post letters and cards, which will be taken from the station on the next scheduled ship to the Falkland Islands.



## Walking around Signy, Bernsten Point

It is possible to take a walk around Bernsten Point, the distance is just less than a kilometre. The terrain conditions vary considerably with time of year and prevailing weather.

Early in the summer the walk will be partly/largely on snow, but by mid-summer it will mostly be over rock. At any time of year patches of ice need to be crossed.

A fit person will take approximately thirty minutes to complete the walk and it may take longer if conditions are difficult or regular stops are made. Stout footwear is essential.

A person used to walking in the countryside off prepared paths will not find the walk difficult, but the elderly or infirm might well find it challenging. The Signy BC can advise at the time of the visit; station personnel can be made available to lead this walk.

Be aware there are scientific study sites on the moss banks above the station which are highly sensitive to disturbance DO NOT cross or go beyond the seal fence.

## Fauna & Flora:

### Flora

The flora of Signy Island is largely cryptogamic. Only two flowering plants are found: the Antarctic hairgrass and the Antarctic pearlwort. Both of these are restricted in distribution, usually being confined to sheltered north-facing slopes. The dominant plants are mosses (c.50 species), liverworts (c.12 species) and lichens (c.120 species). Algae and cyanobacteria may also be found in wetter areas.

Less mature upland sites are typical fellfield ecosystems in which small patches of mosses and lichens are interspersed with areas of seemingly bare soil. Again, these ecosystems are fragile and easily damaged.

There are no indigenous terrestrial vertebrates on Signy Island. The soils and vegetation are colonized by large numbers of invertebrates. The most numerous of the larger invertebrates are the springtails and mites, of which, one of the latter is predatory and represents the top of the terrestrial food web.

In addition, there are many species of smaller invertebrates such as protozoa, nematodes and tardigrades.

### Marine Habitat

The underwater habitats around Signy consist of both hard and soft bottom areas. Marine life is plentiful, particularly on rock faces that are sheltered from ice-scouring. Amphipods, anemones, sea squirts, tube worms, brachiopods, limpets, starfish, sponges and sea cucumbers are especially common. Large numbers of fish are also found at some sites.

### Birds

There are three main species of penguin that breed on Signy Island. Chinstrap penguins are the most numerous and occur along the south and west coasts, on Gourlay Peninsula and at North Point. Adelie penguins are found on the west coast, Gourlay Peninsula and at North Point. Gentoo penguins are restricted to a few small colonies at North Point. The first two species may also be found nesting on some of the surrounding islands. In addition, a few breeding pairs of macaroni penguins may be found each year, and odd sightings of individual king and emperor penguins have been made (the latter usually only in winter).

Twelve other bird species breed on Signy Island: southern giant petrel, cape petrel, snow petrel, Antarctic prion, Wilson's storm petrel, blue-eyed shag, American sheathbill, brown skua, McCormick's (south polar) skua, Dominican gull, Antarctic tern and black-bellied storm petrel. Of these, only the latter is difficult to identify or observe in the field. In addition, the Antarctic fulmar (silver-grey petrel) breeds on nearby islands and is regularly observed. Twenty seven visitors and vagrants have been recorded at different times, of which the most common are the black-browed albatross arriving with ships and the Antarctic petrel in spring.

Most birds on Signy can be easily approached for observation or photography. However, avoid walking through nest sites or otherwise causing unnecessary stress. A permit is required to handle or interfere with any Antarctic birdlife.

### Seals

A number of species of seal may be observed around Signy Island. Weddell seals pup on the sea-ice in winter, and may be seen on ice rafts around the island during the summer. Elephant seals pup in early spring and form large pods on some beaches during the summer. Leopard seals haul out onto ice floes, usually individually and may be seen hunting around penguin colonies. Crabeater seals are rare in summer, but may be seen on ice floes. All these are 'true seals'.

The only 'eared seal' seen on Signy Island is the Antarctic fur seal. The population at Signy has been increasing rapidly through the 1980's and 1990's, and there are now over 20,000 on the island. Most of these are young, non-breeding males, although a few females and pups are seen each year.

If fur seals are encountered these creatures should be given a wide berth; they are very playful by nature and frequently chase people. Fur seals will bite humans if they get the chance!



## History

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The sealers, George Powell (British) and Nathaniel Palmer (American), discovered the island group in 1821. Powell named Coronation Island to celebrate the crowning of King George IV. Six days later, and working independently, the islands were also sighted by Michael McLeod. A few years later, Matthew Brisbane, as part of an expedition led by James Weddell, surveyed the south coast of Coronation Island and discovered Signy, although did not name the island.

Visitors to the islands were rare until 1902 when the Scottish National Antarctic Expedition, led by William Bruce, established a base on Laurie Island. However, in 1904 the British government declined to support the expedition and the base was handed over to the Argentinians who have remained there ever since in what is now known as Orcadas Station.

Whaling started in the South Orkney Islands in 1907-08. In 1912-13, as part of a survey of the area, Petter Sørille, captain of the whale catcher Paal, named Signy after his wife and a number of the surrounding islands after his daughters. A Norwegian biologist, Lauritz Sømme, who had visited Signy Island in 1979-80, located Signy Sørille in Norway and passed on greetings from the station. Signy Sørille died in 1989, but contact has been maintained with her daughter Gerd Stranger.

Scientific research started on Signy Island in 1947 when a three-man team occupied a site in Factory Cove above the old whaling station. A new hut (Tønsberg House) was built in 1955 on the site of the whaling station, and further major expansions took place in 1963-64 (Plastic Hut) and 1980-81 (Sørille House) at which point the station attained its largest complement of 27. For much of this period Signy was the prime site for biological research within the Survey, supporting important programmes in marine, terrestrial and freshwater biology. In 1993, following a review of BAS operations in Antarctica, it was announced that Signy Station would be rebuilt on a smaller scale as a summer-only facility concentrating on freshwater research. The new accommodation and laboratory building was erected in 1995-96, again named Sørille House, and left unoccupied for the first time during winter 1996.

Tønsberg House and the Plastic Hut together with the old bulk fuel tank were removed as part of the abandoned bases clean up project in 2002.

A fuller history of Signy Station up to 1987 has been written, and copies are still available :-

Rootes, D. (ed.) (1988) *A concise account of Signy Island Base H*. British Antarctic Survey, Cambridge.

## Further Information

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Further information is available from the British Antarctic Survey website ([www.antarctica.ac.uk](http://www.antarctica.ac.uk)).