



# Management Plan

## Site of Special Scientific Interest No 26 CHILE BAY (DISCOVERY BAY), GREENWICH ISLAND, SOUTH SHETLAND ISLANDS

### 1. Description of the Site Physical Features

The site comprises two small areas of benthic habitat in Chile Bay located as follows:

Benthic habitat A: Between 50 and 100 m depths and the following coordinates: Lat. 62°28.9'S Long. 59°41'12"W  
Lat. 62°29.3'S Long. 59°41'43"W

Benthic habitat B: Between 100 and 200 m depths and between the following coordinates: Lat. 62°28.3'S Long. 59°40'15"W  
Lat. 62°28.3'S Long. 59°40'47"W

The bottom of both sites consists of coarse to fine silt. The lithological and mineralogical composition of the sediments show their provenance from the outcrops and littoral deposits surrounding Chile Bay, i.e., porphyritic andesite, aphanitic andesite, diorite and andesitic volcanic breccia and tuffs. This material is transported to the coastline mainly by glaciers, solifluction and mud flows. These processes are intensified in the inner part of the bay where the glacier terminates. Chile Bay has a transverse submarine barrier, possibly a submerged moraine separating habitats A and B and dividing the bay into an inner and an outer part. Sediments in the inner bay are protected from the action of waves and currents, thereby preserving the grain size distribution, sorting and shape of the contained material.

#### Biological Features

The benthic assemblages have high species diversity and biomass. Bottom topography and sediment features influence the structure of the communities and distribution pattern. Two assemblages have been recognized: one, dominated by the polychaete *Maldane sarsi antarctica*, is located in the outer part of the bay, mainly below 100 m depth; other characteristic species are *Genaxinus bongranii*, *Cyamonactra denticulum*, *Typhlotanais greenwichensis* and *Pycogonida* spp. The inner assemblage, on the other hand, is not dominated by anyone species but contains *Yoldia eightsii* and *Eudorella gracilor* as characteristic fauna.

### 2. Reason for designation

In Chile Bay there has been continued quantitative and qualitative benthic research since 1967. Data being accumulated provide a baseline for long-term investigations. The site is of exceptional scientific interest and therefore requires long-term protection for possible harmful interference.

### 3. Outline of research

A long-term research program was started in 1967 in connection with the study of benthic fauna re-establishment within Port Foster, Deception Island, following the volcanic eruption of December 1967.

Chile Bay has been designated a control area. These studies are performed yearly in the summer. Community studies to observe biota changes will be augmented with other relevant studies to suit the requirements of a long-term biological monitoring programme.

### 4. Date of expiry of designation

31 December 1997

### 5. Access Points

Although access points as such are not applicable, free passage of ships through these areas is not in any way prejudiced.

### 6. Pedestrian and vehicular routes

Not applicable

### 7. Other kinds of scientific investigations that would not cause harmful interference

Scientific research other than that disturbing benthic habitats and communities.

### 8. Scientific sampling

Samples from the benthic habitats should be taken only for compelling scientific purposes.

### 9. Other restraints

The dumping of waste from ships and bottom hauling should be avoided. Anchoring should be avoided except in compelling circumstances. Siting of bottom devices should be avoided.

