THE INTERNATIONAL COUNCIL FOR SCIENCE
SCIENTIFIC COMMITTEE ON ANTARCTIC RESEARCH

SCAR BULLETIN
No 151, October 2003

Twenty-fifth Antarctic Treaty Consultative Meeting
Warsaw, Poland, 10–20 September 2002

Decisions, Resolutions and Measures

MEASURE 1 (2002)
Antarctic Protected Area System: Management Plans for Antarctic Specially Protected Areas

The Representatives,
Recalling Resolution 1 (1998) allocating responsibility among Consultative Parties for the revision of Management Plans for Protected areas;
Noting that the draft Management Plans appended to this Measure have been endorsed by the Committee for Environmental Protection and the Scientific Committee on Antarctic Research (SCAR);
Recognizing that these Areas support outstanding natural features and biota of scientific interest;
Recommend to their Governments the following Measure for approval in accordance with paragraph 1 of Article 6 of Annex V to the Protocol on Environmental Protection to the Antarctic Treaty:
That the Management Plans for the following sites:

- Antarctic Specially Protected Area No 106, Cape Hallett, Northern Victoria Land, Ross Sea;
- Antarctic Specially Protected Area No 107, Emperor Island, Dion Islands;
- Antarctic Specially Protected Area No 108, Green Island, Berthelot Islands;
- Antarctic Specially Protected Area No 117, Avian Island, Marguerite Bay;
- Antarctic Specially Protected Area No 121, Cape Royds, Ross Island;
- Antarctic Specially Protected Area No 123, Barwick and Balham Valleys, South Victoria Land
- Antarctic Specially Protected Area No 124, Cape Crozier, Ross Island;
- Antarctic Specially Protected Area No 126, Byers Peninsula, Livingston Island;
- Antarctic Specially Protected Area No 130, "Tramway Ridge", Mount Erebus, Ross Island;
- Antarctic Specially Protected Area No 137, Northwest White Island, McMurdo Sound;
- Antarctic Specially Protected Area No 147, Ablation Point – Ganymede Heights;
- Antarctic Specially Protected Area No 148, Mount Flora, Hope Bay;
- Antarctic Specially Protected Area No 157, Backdoor Bay, Cape Royds, Ross Island.

and which are annexed to this Measure, be adopted.
That the management plan for Cape Royds, Ross Island (ASPA No 121) be approved by the ATCM subject to the agreement by the Commission for the Conservation of Antarctic Marine Living Resources.

Note: The Management Plan for Antarctic Specially Protected Area No 106 was reproduced in *SCAR Bulletin* No 148 (January 2003) and the Management Plan for Antarctic Specially Protected Area Nos 107, 108, 117, 121, 123, 124 and 126 were reproduced in *SCAR Bulletin* No 150 (July 2003). Summaries of the Management Plans for Antarctic Specially Protected Areas, nos 130, 137, 147, 148 and 157 are reproduced here.

The full Management Plans may be found on the CEP website at: http://www.cep.aq/default.asp?casid=5132

Management Plan for Antarctic Specially Protected Area No. 130
TRAMWAY RIDGE, MT. EREBUS, ROSS ISLAND

1. Description of values to be protected

Tramway Ridge is an ice-free area of gently sloping warm ground 1.5 km to the Northwest of the main crater of Mt. Erebus, located at an elevation of between 3350 m and 3400 m. The area has significant gas emission and its soil has the highest surface temperatures on Mt Erebus, making it of interest to volcanologists as well as biologists.

The single, as yet unidentified, moss species found in the Area is unusual in that it persists in the protonematal stage. An unusual variety of a common thermophilic cyanobacterium is especially noteworthy.

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2. Aims and objectives

Management at Tramway Ridge aims to:

- avoid degradation of, or substantial risk to, the values of the Area;
- prevent unnecessary human disturbance to the Area;
- permit research on the unique physical environment and associated vegetation and microbial communities while ensuring they are protected from oversampling;
- minimise the possibility of introduction of alien plants, animals and microbes to the Area;
- preserve a part of the Area, which is declared a Prohibited Zone, as a reference site for future studies;
- permit visits for management purposes in support of the objectives of the management plan.

3. Management activities

- Durable wind direction indicators should be erected close to the designated helicopter landing site and be removed when no longer required.
- Markers should be placed at the helicopter pad.
- A line of flags should mark the route (Map A) between the USAP Upper and Lower Erebus Huts.
- Signs illustrating the location and stating entry restrictions shall be placed on posts marking the boundaries of the Area.
- A copy of this Management Plan should be kept in all of the nearby research hut facilities.
- Markers, signs or structures within the Area shall be maintained in good condition.
- Visits shall be made to ensure management and maintenance measures are adequate.

4. Period of designation

Designated for an indefinite period.

5. Maps and photographs

Map A: Tramway Ridge, Mt. Erebus, location image map.
Map B: Tramway Ridge, Mt. Erebus, location contour map.
Map C: Tramway Ridge, site image map.
Map D: Tramway Ridge, site contour map.
Figure 1: Perspective view of the Tramway Ridge area.

6. Description of the Area

6(i) Geographical coordinates, boundary markers and natural features

The boundary of the designated Area is defined as a square of 200 m by 200.8 m which encompasses most of the warm ground area of lower Tramway Ridge (167°06'35″E, 77°31'05″S: Map B). The Area is divided into two parts of almost equal size, the northern half being a Prohibited Zone. The boundaries of the Area and the Prohibited Zone (marked by signposts at each corner) and prominent features are shown on Map B. Several boundary signposts have been offset owing to dangerous ground at the actual corner point.

The steam-warmed lithosols in the Area provide an unusual habitat of limited extent. There is no evidence of the presence of microinvertebrate animals in the soils. The vegetation comprises protonematal moss and diverse microalgae, which has developed on the fumarolic soils and differs significantly from other Antarctic plant communities. The algal flora comprises six cyanobacteria and five chlorophytes.

6(ii) Prohibited, restricted or managed zones within the Area

The northern half of the Area is designated a Prohibited Zone in order to preserve part of the Area as a reference site for future comparative studies, while the southern half of the Area (which is essentially similar in biology, features and character) is available for research programmes and sample collection.

6(iii) Structures within and near the Area

Signposts mark the corner points of the boundaries. The USAP Lower and Upper Erebus Huts are located approximately 1 km to the Northeast (3400 m) and Southeast (3612.5 m) respectively.

6(iv) Location of other ASPAs within close proximity of the Area

The closest ASPAs are the historic huts at Cape Evans (ASPA No. 154) and Cape Royds (ASPA No. 156) approximately 20 km south west.

7. Permit conditions

Permits may be issued only by appropriate national authorities as designated under Article 7 of Annex V to the Protocol on Environmental Protection to the Antarctic Treaty.

7(i) Access to and movement within the Area

Landing of helicopters within the Area is strictly prohibited. Helicopter overflight of the Area should be avoided. Use of helicopter smoke bombs is strictly prohibited within 200 m of the Area. Access into the Area shall be on foot and land vehicles are prohibited. Visitors should avoid walking on visible vegetation and areas of warm ground.

7(ii) Activities that are or may be conducted in the Area, including restrictions on time or place

- Scientific research which will not jeopardise the ecosystem of the Area
- Essential management activities, including monitoring
- Entry to the Prohibited Zone is prohibited.

7(iii) Installation, modification or removal of structures

No structures, except boundary markers and signs, are to be erected within the Area except as specified in a Permit.

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7(iv) Location of field camps

Camping required for work in the Area should be near the existing USAP Upper or Lower Erebus Hut sites.

7(v) Restrictions on materials and organisms which can be brought into the Area

No living animals, plant material or microorganisms shall be deliberately introduced into the Area and precautions shall be taken against accidental introductions. No herbicides or pesticides shall be brought into the Area. Any other chemicals, including radio-nuclides or stable isotopes shall be removed from the Area. Fuels are not to be brought into the Area. Food shall not be consumed within the Area. Equipment and other materials are not to be stored in the Area.

7(vi) Taking of or harmful interference with native flora or fauna

Taking of or harmful interference with native flora or fauna is prohibited, except in accordance with a Permit.

7(vii) Collection or removal of anything not brought into the Area by the Permit holder

Material may be collected or removed from the Area only in accordance with a Permit.

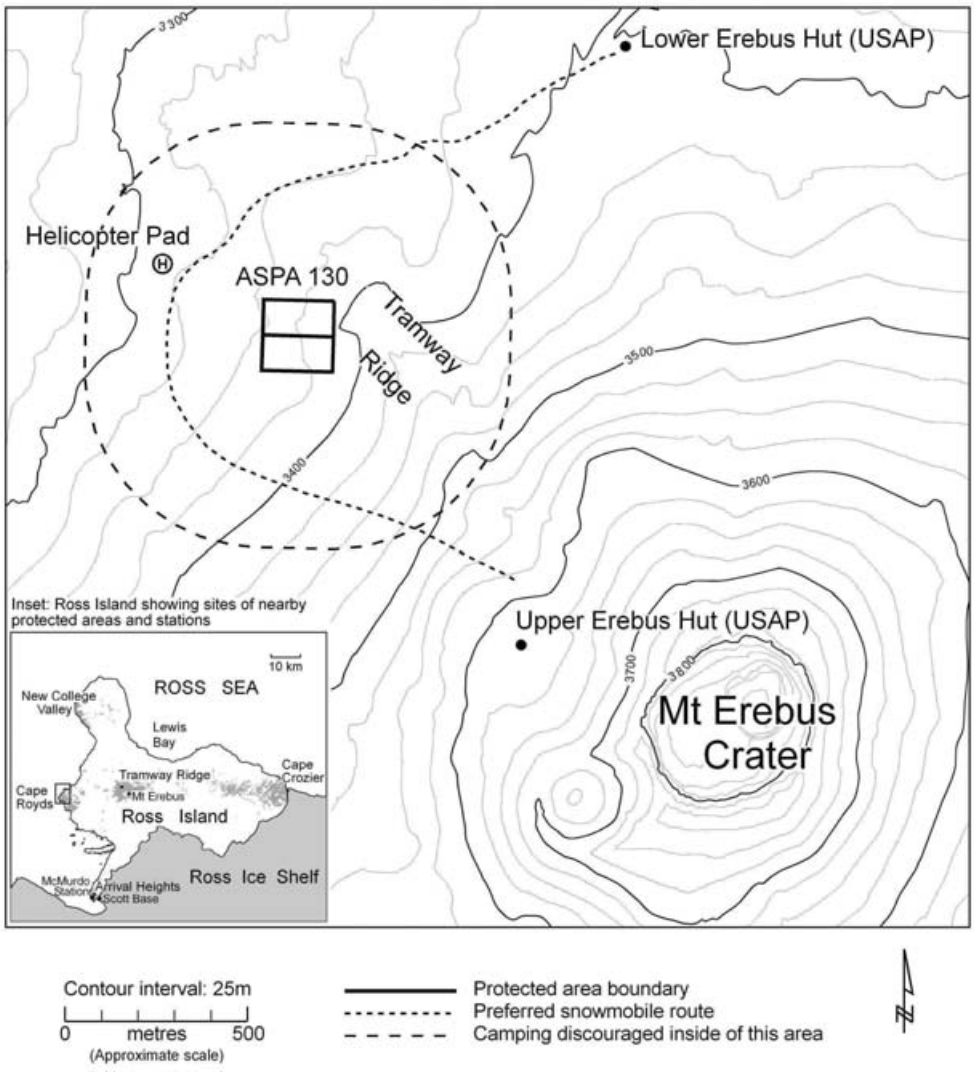
7(viii) Disposal of waste

All wastes, including all human wastes, must be removed from the Area. Excretion of human wastes is prohibited within the Area.

7(ix) Measures that are necessary to ensure that the aims and objectives of the Management Plan can continue to be met

Any sampling equipment or markers brought into the Area shall be sterilised and maintained in a sterile condition before being used within the Area. To the maximum extent practicable, footwear and other equipment used or brought

Map B: Tramway Ridge, Mt Erebus Antarctic Specially Protected Area No 130. Location contour map.



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into the Area (including backpacks or carry-bags) shall be thoroughly cleaned or sterilised and maintained in this condition before entering the Area;
Sterile protective overclothing shall be worn.

7(x) Requirements for reports
Parties shall ensure that the principal holder for each Permit issued submits to the appropriate authority a report describing the activities undertaken.

Management Plan for Antarctic Specially Protected Area No. 137
NORTHWEST WHITE ISLAND, McMURDO SOUND

1. Description of values to be protected

This locality contains an unusual breeding population of Weddell seals (Leptonychotes weddellii) which is the most southerly known, and which has been physically isolated from other populations by advance of the McMurdo Ice Shelf and Ross Ice Shelf. Year-round studies have detected no evidence of immigration or emigration of seals from the population, which appears to have grown to around 25 to 30 animals from a population of around 11 in the 1960s. The Area requires long-term special protection because of the exceptional importance of the Weddell seal colony, outstanding scientific values and opportunities for research.

2. Aims and objectives

Management at NW White Island aims to:

- avoid degradation of, or substantial risk to, the values of the Area by preventing unnecessary human disturbance to the Area;
- allow scientific research on the ecosystem, in particular on the Weddell seals, while ensuring protection from possible scientific impacts;
- allow other scientific research;
- minimize the possibility of introduction of alien animals and microbes into the Area;
- allow visits for management purposes.

3. Management activities

- Signs showing the location and boundaries with clear statements of entry restrictions shall be placed at appropriate locations.
- A copy of this management plan shall be kept available at McMurdo Station, Scott Base and at the Black Island facilities.
- Markers, signs or structures erected within the Area shall be removed when no longer necessary.
- Visits shall be made to ensure management and maintenance measures are adequate.

4. Period of designation

Designated for an indefinite period.

5. Maps and photographs

Map A: NW White Island, SSSI-18, topographic map.

6. Description of the Area

6(i) Geographical coordinates, boundary markers and natural features

White Island is situated approximately 20 km SE of the edge of the McMurdo Ice Shelf and 25 km SE of Hut Point on Ross Island. The island is approximately 30 km long, 15 km wide, and rises to a maximum elevation of 762 m. The northern and western shores of White Island descend steeply, with water depths of 600 m occurring within 5 km of the island. The island is predominantly ice-covered and is completely surrounded by the permanent shelf ice of the McMurdo Ice Shelf and Ross Ice Shelf.

The Weddell seal population was estimated at 26 seals greater than one year of age in 1991. Between two and four live pups have been recorded in several seasons (1963–1968, 1981, 1991). The seals are physically isolated by the barrier of the shelf ice, and are unable to swim the 20 km distance under the ice to reach the seasonally open waters of McMurdo Sound.

6(ii) Restricted and managed zones within the Area

None.

6(iii) Structures within and near the Area

There are no structures within or near the Area.

6(iv) Location of other protected areas within close proximity of the Area

The nearest protected areas are: Arrival Heights (SSSI-2) and Discovery Hut (SPA-28); Cape Evans (SPA-25) and Cape Royds (SSSI-1 and SPA-25); and Tramway Ridge (SSSI-11).

7. Permit conditions

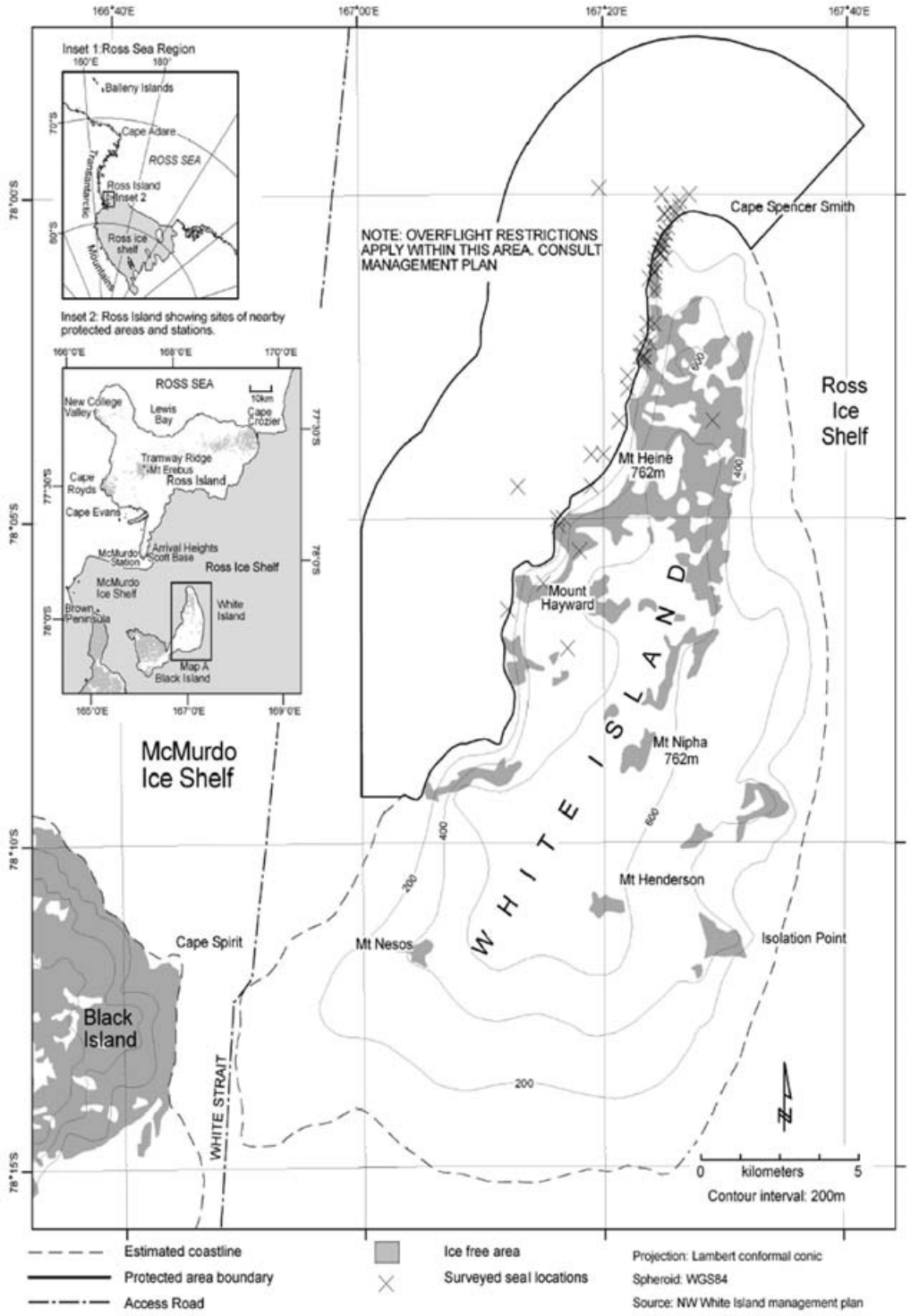
Entry into the Area is prohibited except in accordance with a permit issued by appropriate national authorities.

7(i) Access to and movement within the Area

Access into the Area is permitted on foot, by vehicle, or by aircraft. Landing of aircraft and overflight lower than 750 m (~2,500 ft) within the Area, is normally prohibited. Vehicles are strongly discouraged from approaching closer than 50 m from seals, and closer approaches should be on foot.

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Map A: NW White Island, Antarctic Specially Protected Area No 18. Topographic map.



7(ii) Activities that are or may be conducted in the Area, including restrictions on time or place

Activities that may be conducted within the Area include:

- scientific research that will not jeopardize the ecosystem of the Area;
- essential management activities, including monitoring.

7(iii) Installation, modification or removal of structures

No structures are to be erected within the Area except as specified in a permit. Removal of specific equipment for which the permit has expired shall be a condition of the permit.

7(iv) Location of field camps

Permanent field camps are prohibited within the Area. Temporary campsites are permitted within the Area.

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7(v) Restrictions on materials and organisms that can be brought into the Area

No living animals, plant material or microorganisms shall be deliberately introduced into the Area and precautions shall be taken against accidental introductions. No herbicides or pesticides shall be brought into the Area. Any other chemicals shall be removed from the Area. Fuel is not to be stored in the Area.

7(vi) Taking or harmful interference with native flora or fauna

Taking or harmful interference with native flora and fauna is prohibited, except in accordance with a separate permit.

7(vii) Collection or removal of anything not brought into the Area by the permit holder

Material may be collected or removed from the Area only in accordance with a permit.

7(viii) Disposal of waste

All wastes shall be removed from the Area.

7(ix) Measures that are necessary to ensure that the aims and objectives of the management plan can continue to be met

Permits may be granted to enter the Area to carry out biological monitoring and site inspection activities.

Any specific sites of long-term monitoring shall be appropriately marked. The use of explosives is prohibited.

Visitors shall take special precautions against introductions, particularly microbial and viral introductions from other seal populations.

7(x) Requirements for reports

Parties should ensure that the principal holder for each permit issued submits to the appropriate authority a report describing the activities undertaken.

Management Plan for Antarctic Specially Protected Area No. 147
ABLATION VALLEY AND GANYMEDE HEIGHTS, ALEXANDER ISLAND

1. Description of values to be protected

The principal values are the geological, geomorphological, glaciological, limnological, and ecological features, and the outstanding scientific interest of one of the largest ice-free ablation areas in West Antarctica.

2. Aims and objectives

- avoid degradation of, or substantial risk to, the values of the Area by preventing unnecessary human disturbance and sampling in the Area;
- preserve the Area as a largely undisturbed reference site;
- allow scientific research;
- minimise the possibility of introductions;
- allow visits for management purposes.

3. Management activities

- A map showing the location of the Area shall be displayed prominently at General San Martín and Rothera scientific stations in Marguerite Bay, where copies of this Management Plan shall be available.
- Abandoned equipment or materials shall be removed to the maximum extent practcable.
- Markers shall be maintained in good condition.
- Visits shall be made to ensure management and maintenance measures are adequate.

4. Period of designation

Designated for an indefinite period.

5. Maps and photographs

Map 1: ASPA No. 147 location map.
Map 2: ASPA No. 147 topographic sketch map.

6. Description of the Area

6(i) Geographical coordinates, boundary markers and natural features

Ablation Valley – Ganymede Heights (between latitudes 70°45′ S and 70°55′ S and longitudes 68°21′ and 68°40′ W, approximately 180 km^2, is situated on the east side of Alexander Island. The Area has a central west–east extent of about 10 km and a north–south extent of about 18 km, flanked to the west by the upper part of Jupiter Glacier, to the east by the permanent ice shelf in George VI Sound, to the north by Grotto Glacier and to the south by the lower reaches of Jupiter Glacier. Ablation Valley – Ganymede Heights contains the largest contiguous ice-free area in the Antarctic Peninsula sector of Antarctica, with the smaller permanent ice fields and valley glaciers within the massif representing only about 17% of the Area. The topography of the region is mountainous, rising to a maximum altitude of 1070 m. The region has been heavily glaciated.

The designated Area comprises the entire Ablation Valley – Ganymede Heights massif (Map 2).

6(ii) Restricted and managed zones within the Area

None.

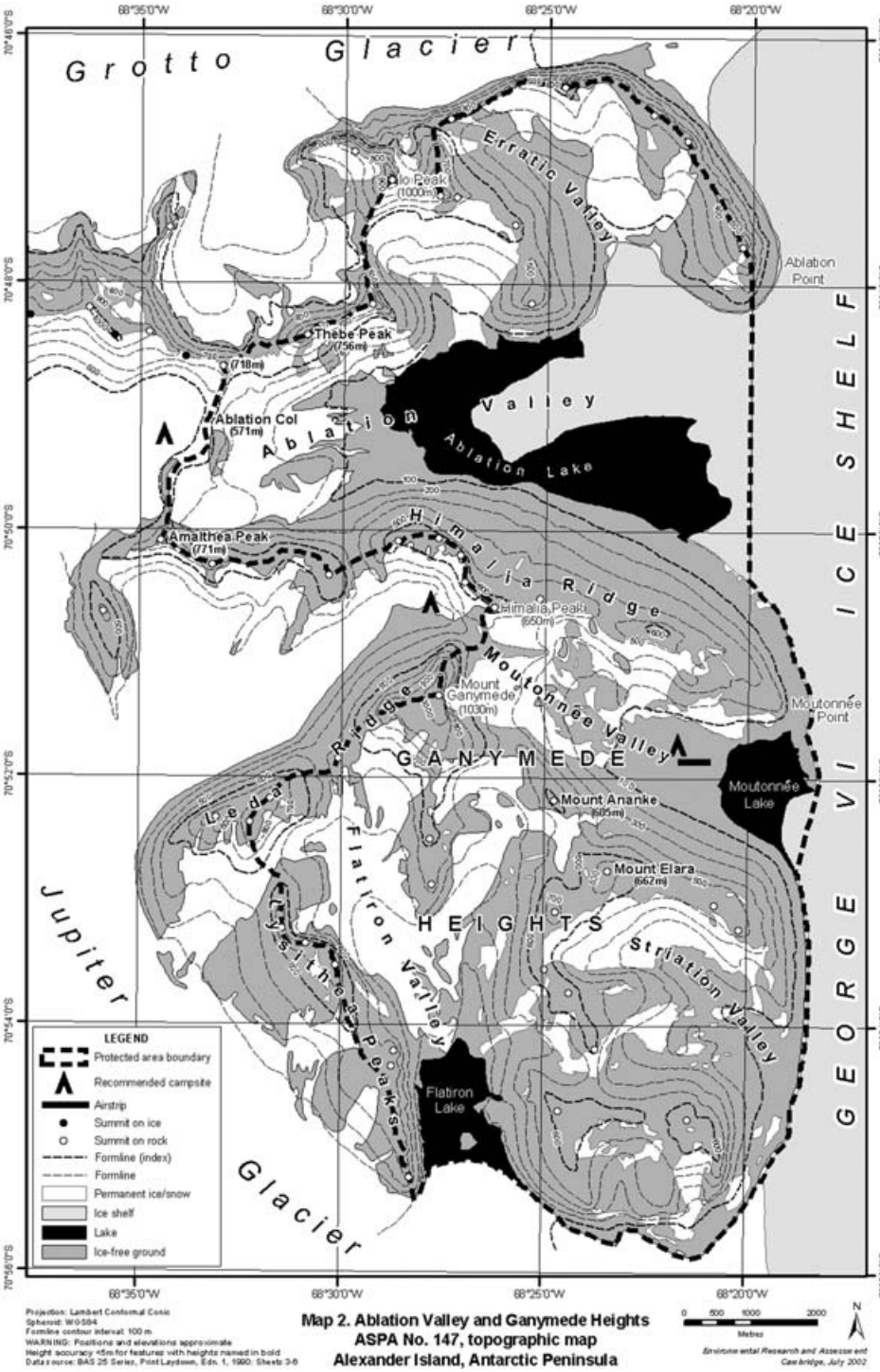
6(iii) Structures within and near the Area

There are no structures known to be present in the Area except some cairns, as survey markers, and some bright red reflectors to mark the airstrip in Moutonnée Valley. The nearest structure is an abandoned caboose at Spartan Cwm. A summer-only facility exists at Fossil Bluff.

6(iv) Location of other protected areas within close proximity of the Area

There are no other protected areas within 300 km.

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7. Permit conditions

Entry is prohibited except in accordance with a Permit.

7(i) Access to and movement within the Area

There are no special restrictions on the points of access to the Area, nor on the overland or air routes used to move to and from the Area

- Landing of fixed-wing aircraft within the Area is restricted to the ice-covered lakes or to a single terrestrial site immediately west of Moutonnée Lake.
- Any visitors should move carefully so as to minimise disturbance to soil and vegetated surfaces.
- Diving in lakes within the Area is prohibited unless it is necessary for compelling scientific purposes.

7(ii) Activities that are or may be conducted in the Area, including restrictions on time or place

- Scientific research that will not jeopardise the ecosystem or scientific values of the Area, and which cannot be served elsewhere;

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- Essential management activities, including monitoring.

7(iii) Installation, modification or removal of structures

Structures shall not be erected within the Area except as specified in a Permit and permanent structures or installations, other than the airstrip markers, are prohibited. Removal of specific equipment for which the Permit has expired shall be a condition of the Permit.

7(iv) Location of field camps

One camp site has been designated on the north-western (upper) end of the airstrip in Moutonnée Valley (latitude 70°51'48″ S, longitude 68°21'39″ W) (Map 2).

7(v) Restrictions on materials and organisms which can be brought into the Area

No living animals, plant material or microorganisms shall be deliberately introduced into the Area and the precautions listed in 7(ix) below shall be taken against accidental introductions. No herbicides or pesticides shall be brought into the Area. Any other chemicals, including radionuclides or stable isotopes, which may be introduced for scientific or management purposes specified in the Permit, shall be removed from the Area at or before the conclusion of the activity for which the Permit was granted. Fuel is not to be stored in the Area.

7(vi) Taking or harmful interference with native flora or fauna

Any other taking or harmful interference with native flora or fauna is prohibited, except by Permit.

7(vii) Collection or removal of anything not brought into the Area by the Permit holder

Material may be collected or removed from the Area only in accordance with a Permit.

7(viii) Disposal of waste

All wastes, except human and domestic liquid wastes, shall be removed from the Area. Human and domestic liquid wastes may be disposed of down ice cracks along the margin of George VI Ice Shelf or Jupiter Glacier, or by burying in moraine along the ice margin in these localities as close as practical to the ice.

7(ix) Measures that are necessary to ensure that the aims and objectives of the Management Plan can continue to be met

Permits may be granted to carry out monitoring and site inspection activities. Any specific long-term monitoring sites shall be appropriately marked.

To help maintain the ecological and scientific values derived from the relatively low level of recent human impact at Ablation Valley – Ganymede Heights, visitors shall take special precautions against introductions. Of concern are microbial, invertebrate or plant introductions derived from soils at other Antarctic sites, including stations, or from regions outside Antarctica. Visitors shall ensure that sampling equipment or markers brought into the Area are thoroughly cleaned or sterilised. To the maximum extent practicable, footwear and other equipment to be used in the Area shall be thoroughly cleaned beforehand.

7(x) Requirements for reports

Parties should ensure that the principal holder for each Permit issued submits to the appropriate authority a report describing the activities undertaken.

Management Plan for Antarctic Specially Protected Area No. 148
MOUNT FLORA, HOPE BAY, ANTARCTIC PENINSULA

1. Description of values to be protected

Mount Flora is designated on the grounds that the site is of exceptional scientific importance for its rich fossil flora.

2. Aims and objectives

- avoid degradation of, or substantial risk to, the values of the Area by preventing unnecessary human disturbance and sampling in the Area;
- allow scientific geological and palaeontological research, while protecting from over-sampling;
- allow other scientific research provided it will not compromise the values being protected;
- allow visits for management purposes only in support of the aims of the management plan.

3. Management activities

- A map showing the location of the Area shall be displayed at Esperanza Station and Teniente de Navio Ruperto Elichiribehety Station where copies of this management plan shall be available.
- A sign showing the location and boundaries with clear statements of entry restrictions shall be placed on the lower NE ridge at the northeastern boundary.
- Persons ascending Mount Flora shall not to enter the Area.
- Markers shall be maintained in good condition.
- Visits shall be made to ensure management and maintenance measures are adequate.
- Periodic updating of the boundaries should ensure any newly-exposed fossiliferous rocks are included within the Area.

4. Period of designation

Designated for an indefinite period.

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5. Maps and photographs

Map 1: Mount Flora ASPA No. 148 showing the location of the nearest protected areas
Map 2: ASPA No. 148, Hope Bay, topographic map.
Map 3: ASPA No. 148 geological sketch map.

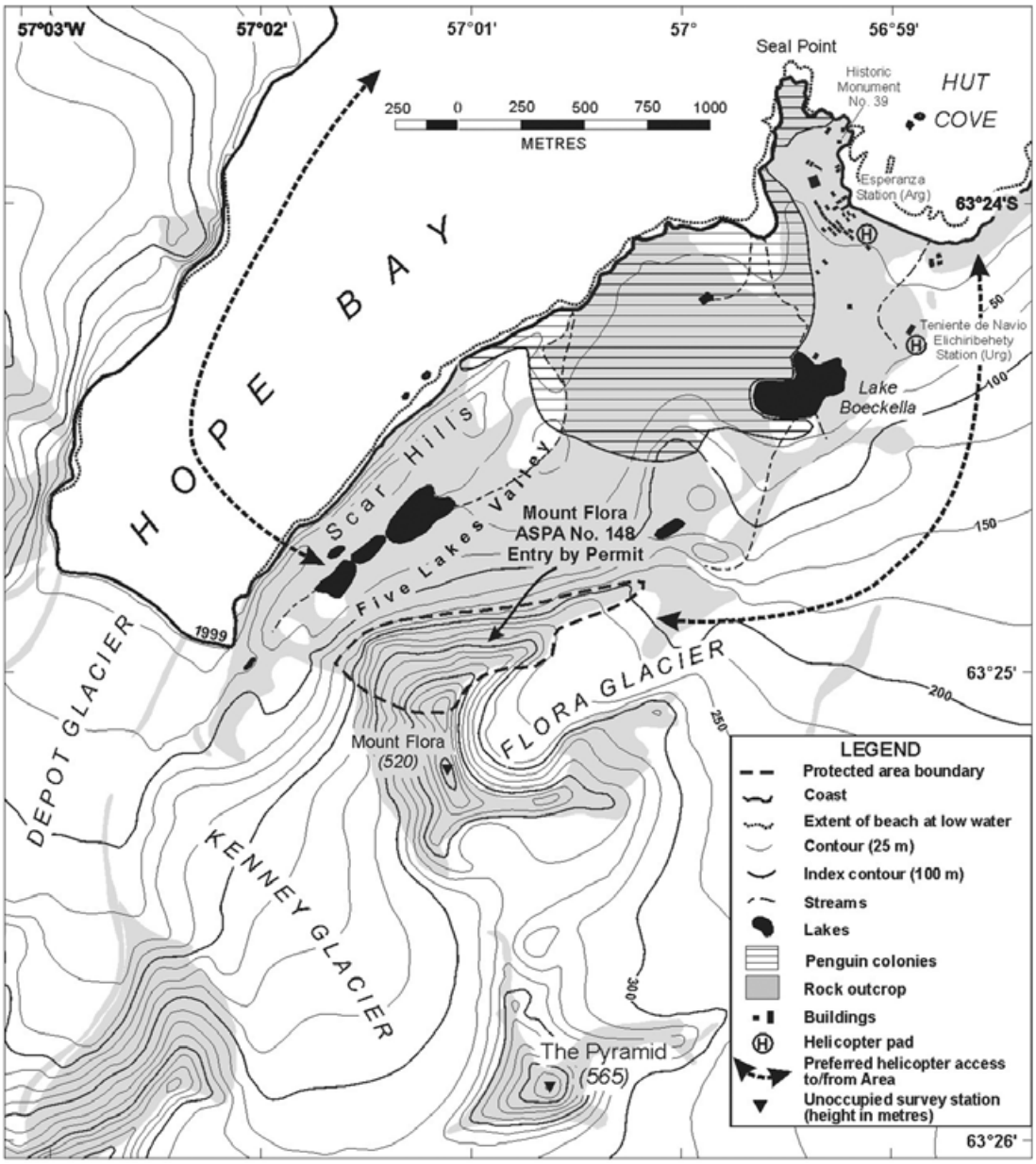
6. Description of the Area

6(i) Geographical coordinates, boundary markers and natural features

Mount Flora (latitude 63°25′ S, longitude 57°01′ W, 0.3 km^2) is situated on the southeastern flank of Hope Bay, at the northern end of Trinity Peninsula, Antarctic Peninsula. The summit of Mount Flora (520 m) is approximately 1 km from the southern shore of Hope Bay. Four glaciers surround Mount Flora. The boundaries include all the known exposed fossiliferous strata on the northern slopes of Mount Flora.

The geology comprises the Hope Bay, Mount Flora and Kenney Glacier Formations. At the base, the Hope Bay Formation (Trinity Peninsula Group) is separated by an angular unconformity from the overlying Mount Flora Formation. The Mount Flora Formation (Botany Bay Group) is composed mainly of sandstones, conglomerates and shale, and contains the most significant fossil strata. The overlying Kenney Glacier Formation (Antarctic Peninsula Volcanic Group), also separated from the Mount Flora Formation by an angular unconformity, is composed of ignimbrites and welded tuffs., ignimbrites, agglomerates and tuffs.

The fossil flora is represented typically by stems of sphenophytes (*Equisetum*), as well as foliage of ferns



Map 2: Mount Flora (ASPA No 148), Hope Bay, topographic map.

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and gymnosperms (cycadophytes, pteridosperms and conifers). Cycadophyte and conifer cone scales, seeds and other unidentifiable stems, leaves and foliage branches are also preserved. Four beetle elytra (exoskeletons) have been identified from a small sample of shale from Mount Flora (Zeuner 1959). There are no known marine fossil floral or faunal deposits in the Area.

The breeding birds of Hope Bay have been well-studied, and part of a large Adélie penguin (*Pygoscelis adeliae*) colony, numbering around 125 000 pairs, is situated about 500 m northeast of the Area. Other birds breeding at Hope Bay include gentoo penguins (*Pygoscelis papua*), brown skua (*Catharacta loennbergi*), Antarctic tern (*Sterna vittata*), Wilson's storm petrel (*Oceanites oceanicus*), kelp gull (*Larus dominicanus*), and sheathbill (*Chionis alba*).

6(ii) Restricted and managed zones within the Area

None.

6(iii) Structures within and near the Area

There are no structures present within the Area. The nearest scientific research stations are Esperanza Station and Teniente de Navio Ruperto Elichiribehety Station both approximately 1.5 kilometres northeast of the Area.

An Argentine hut is located close to the Area.

6(iv) Location of other protected areas within close proximity of the Area

The nearest protected areas to Mount Flora are Potter Peninsula (ASPA No. 132) and the western shore of Admiralty Bay (ASPA No. 128) approximately 150 km to the west. Historic Monument No. 39 is present within the vicinity of Esperanza Station (Map 2).

7. Permit conditions

Entry is prohibited except in accordance with a Permit.

7(i) Access to and movement within the Area

Access to and movement within the Area shall be on foot or by helicopter. Vehicles are prohibited from the Area. Access by helicopter should avoid the penguin colony. Pedestrian traffic should be kept to the minimum.

7(ii) Activities that are or may be conducted in the Area, including restrictions on time or place

- Scientific research that will not jeopardise the scientific values of the Area;
- Essential management activities, including monitoring.

7(iii) Installation, modification or removal of structures

Structures shall not be erected. All scientific equipment installed in the Area must be approved by Permit. Removal of specific equipment for which the Permit has expired shall be a condition of the Permit.

7(iv) Location of field camps

Camping is prohibited within the Area.

7(v) Restrictions on materials and organisms which can be brought into the Area

No living animals, plant material or microorganisms shall be deliberately introduced into the Area. No herbicides or pesticides shall be brought into the Area. Any other chemicals, including radio-nuclides or stable isotopes shall be removed from the Area at or before the conclusion of the activity. Fuel is not to be stored in the Area.

7(vi) Taking or harmful interference with native flora or fauna

There are no described fauna or flora within the Area.

7(vii) Collection or removal of anything not brought into the Area by the Permit holder

Material may be collected or removed from the Area only in accordance with a Permit.

7(viii) Disposal of waste

All wastes, including all human wastes, shall be removed from the Area.

7(ix) Measures that are necessary to ensure that the aims and objectives of the management plan can continue to be met

Visitors removing geological samples shall complete a full record of samples taken, which should be deposited with their National Antarctic Data Centre. Visitors shall demonstrate that they have familiarised themselves with earlier collections to minimise duplication.

7(x) Requirements for reports

Parties should ensure that the principal holder for each Permit issued submits to the appropriate authority a report describing the activities undertaken.

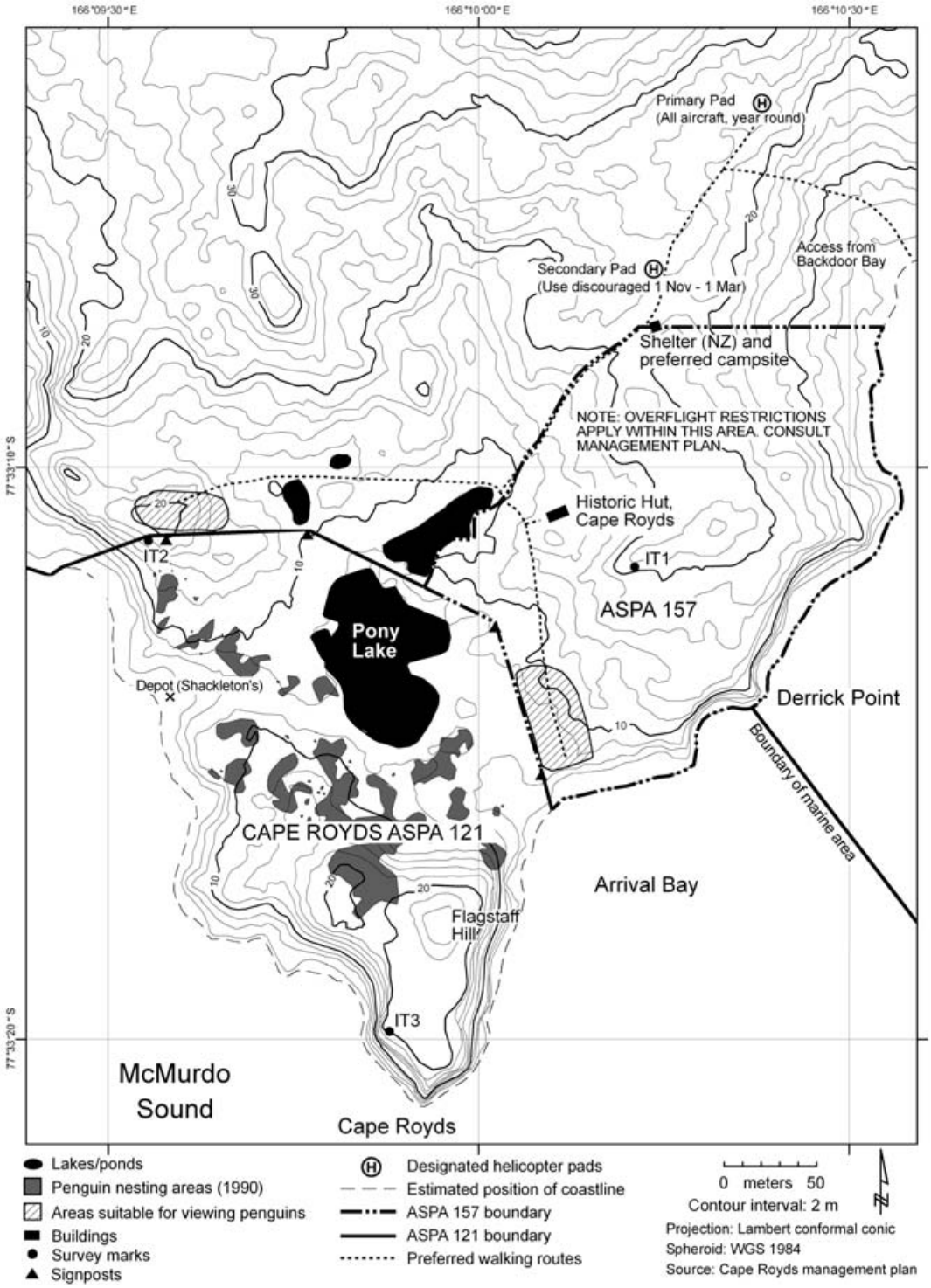
Management Plan for Antarctic Specially Protected Area No 157 for Historic Site No. 15 (containing the historic hut of Sir Ernest Shackleton and its precincts) BACKDOOR BAY, CAPE ROYDS, ROSS ISLAND

1. Description of Values to be Protected

The hut was built in February 1908 by the British Antarctic (*Nimrod*) Expedition of 1907–1909 which was led by Sir Ernest Shackleton. Structures associated with the hut include stables, kennels, a latrine and a garage created for the first motor vehicle in Antarctica. Other significant relics in the Area include an instrument shelter, supply depots, and a rubbish site. Numerous additional artefacts are distributed around the Area.

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Map B: Cape Royds, Antarctic Specially Protected Area 157 (SPA No 127): site topographic map.



2. Aims and Objectives

- avoid degradation of, or substantial risk to, the values of the Area;
- maintain the historic values of the Area through planned restoration and conservation work;
- allow management activities which support the protection of the values and features of the Area;
- prevent unnecessary human disturbance to the Area, its features and artefacts through managed access to the *Nimrod* hut.

3. Management Activities

- A regular programme of restoration and preservation work shall be undertaken.

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- Visits shall be made for management purposes.
- Control of the number of visitors.
- National Antarctic Programmes shall consult together to ensure these provisions are implemented

4. Period of designation

Designated under Measure 1 (1998) for an indefinite period.

5. Maps

Map A: Cape Royds regional map.
Map B: Cape Royds Area map.

6. Description of the Area

6(i) Geographical coordinates, boundary markers and natural features

Cape Royds is an ice free area at the western extremity of Ross Island, approximately 40 km south of Cape Bird and 35 km north of Hut Point Peninsula. The ice free area is composed of till covered basalt bedrock. The designated Area is located to the north east of Cape Royds adjacent to Backdoor Bay. It is immediately to the east of the existing SSSI No. 1, an Adélie penguin rookery. The Area is centred on Shackleton's *Nimrod* expedition hut.

The boundaries of the proposed Area are: South and East, by the shoreline of the eastern coast of Cape Royds including Arrival and Backdoor Bays; West, by a line following the boundary of SSSI No. 1 from the coastline at Arrival Bay to a signpost (77°31′12.6″S, 166°10′01.3″E) and then continuing to follow the boundary of SSSI No. 1 for 40 m in a NE direction; Northwest, by a line extending in a NW direction from the boundary of SSSI No. 1 and following the shore of a small lake to the NW of Pony Lake and then along a gully leading to a point at 77°33′7.5″S 166°10′13″E; North, by a line extended due east from a point at 77°33′ 7.5″ S, 166°10′13″ E to the coastline of Backdoor Bay.

Adélie penguins (*Pygoscelis adeliae*) from the adjacent rookery at Cape Royds often transit the Area. Skuas (*Catharacta maccormicki*) nest in the vicinity.

6(ii) Restricted zones within the Area

None.

6(iii) Structures within the Area

Apart from a Treaty plaque all structures within the Area are of historic origin.

6(iv) Location of other Protected Areas within close proximity

SSSI No 1 Cape Royds is immediately adjacent to this Area. SSSI No 2 Arrival Heights, Hut Peninsula is 32 km south; and SSSI No 11 Tramway Ridge is 20 km east. SSSI No 10, New College Valley, and SPA No 20, Caughley Beach are located 35 km north in the vicinity of Cape Bird. SPA No. 25, Cape Evans is 12 km south, and SPA No. 26, Lewis Bay is 36 km north east. All sites are located on Ross Island.

7. Permit Conditions

Entry to the Area is prohibited except in accordance with a permit.

7(i) Access to and movement within the Area

Control of movement within the Area is necessary to prevent damage caused by crowding around the many vulnerable features within the Area. The maximum number in the Area at any time (including those within the hut) is: **40 people**

Control of numbers within the hut is necessary to prevent damage caused by crowding around the many vulnerable features within the hut. The maximum number within the hut at any time (including guides) is: **8 people** Avoidance of cumulative impacts on the interior of the hut require an annual limit on visitor numbers. The effects of current visitor levels (approximately 1,000 per calendar year) suggest that an increase of more than 100% could cause significant adverse impacts. The annual maximum number of visitors is: **2000 people**

Helicopter landings are prohibited within the Area. Landings may be made at the designated landing sites (see Map B.). Vehicles are prohibited within the Area. Landings from the sea by boat, or vehicle travelling on the sea ice, may be made by approaching from Backdoor Bay.

7(ii) Activities which may be conducted within the Area

Activities which may be conducted within the Area includes:

- visits for restoration, preservation and/or protection;
- educational and/or recreational visits including tourism;
- scientific activity which does not detract from the values of the Area.

7(iii) Installation, modification and removal of structures

No new structures are to be erected in the Area. No historic structure relic or artefact shall be removed from the Area only in accordance with a permit.

7(iv) Location of field camps

Use of the historic hut for living purposes is not permitted. Camping is prohibited within the Area.

7(v) Restrictions on materials and organisms which may be brought into the Area

No living animals or plant material shall be introduced to the Area. No food products shall be taken into the Area. Chemicals which may be introduced for management purposes shall be removed at or before the conclusion of the activity for which they are required. Fuel or other materials are not to be left in depots in the Area. Use of combustion type lanterns is not permitted in the hut under any circumstances.

Smoking in the Area is not permitted.

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7(vi) Taking or harmful interference with native flora and fauna

This activity is prohibited except in accordance with a separate permit.

7(vii) Collection of anything not introduced by a visitor

Material may be collected and removed from the Area only for restoration, preservation or protection purposes, or scientific reasons consistent with the objectives of this plan, and only in accordance with a permit. Visitors must remove objectsintroduced by them.

7(viii) Disposal of waste

All waste generated by visitors shall be removed.

7(ix) Measures that may be necessary to ensure that the aims and objectives of the plan continue to be met

The provision of information for visitors. The development of skills and resources to assist with the protection of the Area's values.

7(x) Requirements for reports

Parties should ensure that the principal holder for each Permit issued submits to the appropriate authority a report describing the activities undertaken.

Twenty-sixth Antarctic Treaty Consultative Meeting Madrid, Spain, 9–20 June 2003

Decisions, Resolutions and Measures

Limitations of space require that the Measures, Decisions and Resolutions are reproduced here in abbreviated form. They do not constitute official versions and should not be used as such. They are intended to serve as an indication of the complete texts. The definitive versions will be published in the Final Report of the Twenty-sixth Antarctic Treaty Consultative Meeting and may be found on the following website: http://www.aeci.es/26atcmadrid/en/Default.htm

DECISION 1 (2003)
APPORTIONING CONTRIBUTIONS TO THE SECRETARIAT OF THE ANTARCTIC TREATY

The Representatives,
Noting the references in Article 4 of Measure 1 (2003) to the contributions of Parties to the budget of the Secretariat of the Antarctic Treaty;
Noting further that one half of the budget will be financed through equal shares and one half through the Consultative Parties' contributions apportioned on a scale determined by the ATCM;
Decide:

1. That the scale of such apportioned contributions shall be determined in the manner described in the Schedule to this Decision;
2. That the Schedule may be adjusted by further Decisions of the ATCM;
3. That this Decision shall become operative on the date on which Measure 1 (2003) becomes effective.

SCHEDULE

METHOD FOR CALCULATING THE SCALE OF CONTRIBUTIONS

The text of the Schedule is not reproduced here.

DECISION 2 (2003)
PROVISIONAL APPLICATION OF MEASURE 1 (2003)

The Representatives,
Recalling Decision 1 (2001) of the XXIV ATCM on the establishment of the Secretariat of the Antarctic Treaty (the Secretariat) in Buenos Aires, Argentina;
Recalling also Measure 1 (2003) of the XXVI ATCM (the Measure);
Decide:

1. That the Secretariat shall act in accordance with Articles 1, 3, 4 (paragraph 1) and 5 (paragraphs 1, 3 and 4) of the Measure, on a provisional basis, until the Measure becomes effective. This Decision shall be reviewed at each ATCM to assess the status of approvals of the Measure and contributions to the budget of the Secretariat;
2. That the Secretariat shall fulfil, to the fullest extent possible, the functions identified in Article 2 of the Measure prioritising its work in accordance with guidance by the ATCM until the Measure becomes effective;
3. To apply provisionally, to the fullest extent possible, the Staff Regulations and Financial Regulations of the Secretariat of the Antarctic Treaty adopted by

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Decisions 3 and 4 (2003) respectively of the XXVI ATCM, until the Measure becomes effective;

4. That paragraphs 1, 2 and 3 above shall apply subject to:
   (a) appointment of the first Executive Secretary in accordance with paragraph 5 below;
   (b) notification by the Depositary Government of contributions paid, in accordance with paragraph 8 below; and
   (c) notification, as provided for in paragraph 9 below, by the Argentine Republic that its constitutional requirements for the provisional application of the Headquarters Agreement have been completed;
5. That the first Executive Secretary shall be selected and appointed by the XXVII ATCM from among candidates who are nationals of Consultative Parties. Each candidature shall be submitted to the Depositary Government no later than 15 February 2004 and shall be accompanied by a curriculum vitae setting out the relevant qualifications and experience of the candidate;
6. That, until the Measure becomes effective, the budget of the Secretariat, which shall be approved by Representatives of all Consultative Parties present at the ATCM, shall be financed by assessed voluntary contributions, which should be made on the basis of Article 4 (paragraphs 3 and 4) of the Measure. Consultative Parties are recommended to make their annual contribution on the basis of the initial scale of contributions annexed to this Decision, which has been calculated according to the Schedule to Decision 1 (2003). Consultative Parties wishing to change the category in which they are listed in this initial scale may do so by notification to the Depositary Government by 22 August 2003. The Depositary Government shall by 12 September 2003 circulate to the Consultative Parties a note confirming the initial scale or revising the scale to reflect any changes made. The ATCM shall review the scale annually to take account of the budget for the following year;
7. That Consultative Parties intending to make voluntary contributions in accordance with paragraph 6 above shall notify the Depositary Government of the amount of such contributions no later than 1 January 2004. The Depositary Government shall inform all Consultative Parties of all such notifications by 21 January 2004. In each subsequent year, until the Measure becomes effective, the same procedure shall apply;
8. That all voluntary contributions notified pursuant to paragraph 7 above should be paid no later than 1 April 2004 to a temporary interest-bearing account, held by the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) on behalf of the Consultative Parties and subject to the approval of CCAMLR. Each Consultative Party concerned should notify the Depositary Government at the time of payment of the amount paid to this account. The Depositary Government, by 21 April 2004, shall notify all Consultative Parties of such voluntary contributions paid to this account. After the Secretariat has informed the Depositary Government that the Secretariat has established an account for its funds, the Depositary Government shall request the CCAMLR Secretariat to transfer all such voluntary contributions, with interest accrued thereon, to the Secretariat. In each subsequent year, until the Measure becomes effective, Regulation 5.5 of the Financial Regulations shall be applied provisionally;
9. To accept the offer of the Argentine Republic, annexed to this Decision, to apply provisionally the Headquarters Agreement adopted by the Measure from the date that the Argentine Republic notifies the Depositary Government that its constitutional requirements to this effect have been completed.

Annex 1 to Decision 2 (2003)
Initial Scale of contributions to the Budget of the Secretariat of the Antarctic Treaty

The text of the Annex is not reproduced here.

Annex 2 to Decision 2 (2003)
Letter of commitment of the Argentine Republic

The text of the Annex is not reproduced here.

DECISION 3 (2003)
STAFF REGULATIONS FOR THE SECRETARIAT OF THE ANTARCTIC TREATY

The Representatives,
Bearing in mind paragraph 3 of Decision 2 (2003) on the provisional application of Measure 1 (2003);
Decide:

1. To adopt the Staff Regulations for the Secretariat of the Antarctic Treaty annexed to this Decision.
2. That the Staff Regulations shall apply fully when Measure 1 (2003) becomes effective.

Annex to Decision 3 (2003)
Staff Regulations for the Secretariat of the Antarctic Treaty

STAFF REGULATIONS

The text of the Regulations is not reproduced here.

Regulation 1 Preamble

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Regulation 2 Duties, Obligations and Privileges
Regulation 3 Hours of Work
Regulation 4 Classification of Staff
Regulation 5 Salaries and other Remuneration
Regulation 6 Recruitment and Appointment
Regulation 7 Leave
Regulation 8 Social security
Regulation 9 Travel
Regulation 10 Separation from Service
Regulation 11 Temporary Personnel under Contract
Regulation 12 Application and Amendment of Regulations

DECISION 4 (2003)
FINANCIAL REGULATIONS FOR THE SECRETARIAT OF THE ANTARCTIC TREATY

The Representatives,
Bearing in mind paragraph 3 of Decision 2 (2003) on the provisional application of Measure 1 (2003)
Decide:

1. To adopt the Financial Regulations for the Secretariat of the Antarctic Treaty annexed to this Decision.
2. That the Financial Regulations shall apply fully when Measure 1 (2003) becomes effective.

Annex to Decision 4 (2003)
Financial Regulations for the Secretariat of the Antarctic Treaty

FINANCIAL REGULATIONS

The text of the Regulations is not reproduced here.

Regulation 1 Applicability
Regulation 2 Financial Year
Regulation 3 The Budget
Regulation 4 Appropriations
Regulation 5 Provision of Funds
Regulation 6 Funds
Regulation 7 Other Income
Regulation 8 Custody of Funds
Regulation 9 Internal Control
Regulation 10 The Accounts
Regulation 11 External Audit
Regulation 12 Acceptance of Annual Financial Statements
Regulation 13 Insurance
Regulation 14 General Provision

DECISION 5 (2003)
MEETING OF EXPERTS ON TOURISM AND NON–GOVERNMENTAL ACTIVITIES

The Representatives,
Decide to:

1. Convene a Meeting of Experts under the provisions of Recommendation IV-24, with the aim of discussing relevant matters related to tourism and non-governmental activities in Antarctica;
2. Request the Meeting of Experts to examine the following topics relevant to the issue of tourism and non-governmental activities in Antarctica:
   - Monitoring, cumulative impact and Environmental Impact Assessment;
   - Safety and self-sufficiency, including search and rescue and insurance;
   - Jurisdiction, industry self-regulation, and an analysis of the existing legal framework and identification of gaps;
   - Guidelines;
   - Adventure (extreme) tourism and government sponsored tourism;
   - Co-ordination amongst national operators.

   Following the ATCM XXVI, an Inter-sessional Contact Group will be established to consider a database on tourism and non-governmental activity and this group should provide an update to the Expert meeting.
3. Encourage attendance at the Meeting by representatives from Consultative Parties, and to invite experts from Non-Consultative Parties, the Scientific Committee on Antarctic Research (SCAR), the Council of Managers of National Antarctic Programs (COMNAP), the International Association of Antarctic Tourist Operators (IAATO), the Antarctic and Southern Ocean Coalition (ASOC), the World Tourism Organization (WTO) and the World Conservation Union (IUCN).
4. Accept the offer of the Norwegian Government to host the Meeting of Experts in Norway, which should be held in advance of ATCM XXVII.
5. In accordance with Recommendation IV-24, request Norway to submit a report of the Meeting of Experts to ATCM XXVII for consideration.

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RESOLUTION 1 (2003)

The Representatives,
Conscious of the importance of ensuring that mariners and vessel operators are aware of, and comply with, the obligations set out in the Environmental Protocol- and in particular its Annex IV (Prevention of Marine Pollution);
Desiring to provide clear and easily understood advice to those operating vessels and yachts in the Antarctic Treaty Area; and
Recalling discussions at ATCM XXV that a means to improve compliance with the Protocol's obligations by vessel and yacht operators would be to include details of the Protocol and its Annexes, as appropriate in the Antarctic navigational guides or pilots published by parties.
Recommend that:
Those Parties that publish advice to marines in the form of, for example, Antarctic "Sailing Directions", "Marine Notices", or "Pilots", should ensure that appropriate detail of the Protocol on Environmental Protection to the Antarctic Treaty (1998) and in particular details of its Annex IV, are included in such publications.

RESOLUTION 2 (2003)
SUPPORT OF THE ATCM FOR THE INTERNATIONAL POLAR YEAR 2007–08

The Representatives,
Aware that the Polar Regions are key components of the Earth System;
Considering the important role of the Polar Regions both in driving and responding to Global Climate Change;
Recognising the opportunities afforded by new technological and logistical developments for polar research in the 21st century to develop an understanding of key global phenomena at the frontiers of discovery;
Acknowledging the important contribution to scientific knowledge resulting from international cooperation in scientific investigations in the Polar Regions;
Noting the opportunity offered by the 125th anniversary of the first International Polar Year (IPY), the 75th anniversary of the second IPY, and the 50th anniversary of the International Geophysical Year (IGY), to galvanise an intensive programme of internationally coordinated research in the Polar Regions;
Noting the active commitment to an International Polar Year of the World Meteorological Organisation (WMO) and the interest of other international bodies responsible for the coordination of research in the Arctic.
Noting the establishment by the International Council for Science (ICSU) of an overarching Planning Group to coordinate the planning for and the establishment of the IPY (2007/08) that will encompass a wide range of science issues of global interest;
Recommend that the parties:

- call upon SCAR and COMNAP to work with International Council for Science (ICSU) to pursue actively the planning and implementation by all interested organizations of an International Polar Year (2007/9) to address priority polar science issues of global relevance;
- within the context of their national Antarctica research programmes and capabilities to support science programmes proposed for the IPY (2007/8) to achieve outcomes which would not otherwise be possible if undertaken by national programmes alone; make the support of the IPY (2007/8) a priority within their national research activities.

RESOLUTION 3 (2003)
CO-OPERATION IN HYDROGRAPHIC SURVEY AND CHARTING OF ANTARCTIC WATERS

The Representatives,
Noting that, in response to Recommendation XV-19 and Resolution 1 (1995), the International Hydrographic Organisation (IHO) has established, amongst its Member States, a Hydrographic Committee on Antarctica (HCA) with the aim of co-ordinating hydrographic survey in the region and producing international nautical charts within the standards of the IHO;
Welcoming the report introduced by the Director of the IHO on progress that is being made by the HCA in the production of the international (INT) scheme of nautical charts for Antarctic waters, though noting that substantial further works remains to be done;
Recalling that the INT chart scheme for Antarctica has been agreed by IHO Member States and that a number of them have volunteered to assist with chart production;
Recognising that the HCA routinely liaises with SCAR in the support of scientific research requiring hydrographic products;
Noting also the valuable contribution to the INT chart scheme by SCAR, COMNAP and IAATO;
Noting further the entry into force of a revised version of Chapter V of the Convention for the Safety of Life at Sea on 1 July 2002 and in particular its Regulation 9 on Hydrographic Services;
Cognisant of the importance of accurate and up-to-date nautical charts as an essential aid to the safety of navigation in Antarctic waters;

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Recommend that:

1. All Consultative Parties with a hydrographic surveying and charting capability in Antarctic waters encourage their national authorities to redouble their efforts to:
   - Co-ordinate their hydrographic surveying and charting activities through the IHO's Hydrographic Committee on Antarctica;
   - Support and contribute to the ongoing development of the INT chart scheme for Antarctic waters agreed by the IHO;
   - Promote the international nature of their Antarctic activities particularly when seeking national support for hydrographic surveying and charting priorities.
2. The IHO Hydrographic Committee on Antarctica continue its endeavours to achieve comprehensive, up-to-date coverage of hydrographic charting and chart production through the INT scheme for Antarctic waters;
3. The item on Co-operation in Hydrographic Surveying and Charting of Antarctic Waters be again included in the agenda of the XXVII ATCM.

RESOLUTION 4 (2003)
SUPPORT FOR THE CONSERVATION OF ALBATROSSES AND PETRELS

The Representatives,
Recalling their responsibilities and the Article IX of the Antarctic Treaty in respect of the preservation and conservation of living resources in Antarctica;
Recognising that Annex II to the Environmental Protocol provides for protection to native birds including Albatrosses and Petrels;
Noting that a number of international instruments have been adopted to enhance the conservation of Albatrosses and Petrels;
Concerned nevertheless that populations of Albatrosses and Petrels are declining, due in large part to the unsustainable mortality of these birds from illegal, unregulated and unreported (IUU) fishing, to the extent that the status of many species of these birds is regarded as threaten, endangered or vulnerable by the IUCN in its Red Data list;
Recommend that:

1. Those Parties to the Antarctic Treaty that have signed, but not yet ratified the Albatross and Petrel Agreement (ACAP), do so as soon as possible; and
2. Furthermore, that other Parties to the Antarctic Treaty that are range states for, or have a particular interest in the conservation of, Albatrosses and Petrels in Antarctica consider acceding to and/or implementing international instruments contributing to the conservation of Albatrosses and Petrels, including the above Agreement.

MEASURE 1 (2003)
SECRETARIAT OF THE ANTARCTIC TREATY

The Representatives,
Recalling the Antarctic Treaty and the Protocol on Environmental Protection to the Antarctic Treaty (the Protocol);
Recognizing the need for a secretariat to assist the Antarctic Treaty Consultative Meeting (the ATCM) and the Committee for Environmental Protection (the CEP) in performing their functions;
Recalling Decision 1 (2001) of the XXIV ATCM on the establishment of the Secretariat of the Antarctic Treaty (the Secretariat) in Buenos Aires, Argentina;
Recommend to their Governments the following Measure for approval in accordance with paragraph 4 of Article IX of the Antarctic Treaty:

ARTICLE 1 Secretariat

The Secretariat shall constitute an organ of the ATCM. As such it shall be subordinated to the ATCM.

ARTICLE 2 Functions

1. The Secretariat shall perform those functions in support of the ATCM and the CEP which are entrusted to it by the ATCM.

ARTICLE 3 Executive Secretary

1. The Secretariat shall be headed by an Executive Secretary who shall be appointed by the ATCM from among candidates who are nationals of Consultative Parties. The procedure for the selection of the Executive Secretary shall be determined by a Decision of the ATCM.

ARTICLE 4 Budget

1. The Secretariat shall operate in a cost-effective manner.
2. The budget of the Secretariat shall be approved by the Representatives of all Consultative Parties present at the ATCM.

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3. Each Consultative Party shall contribute to the budget of the Secretariat. One half of the budget shall be contributed equally by all Consultative Parties. The other half of the budget shall be contributed by the Consultative Parties based on the extent of their national Antarctic activities.

ARTICLE 5 Legal capacity and privileges and immunities

1. The legal capacity of the Secretariat as an organ of the ATCM as well as its privileges and immunities and those of the Executive Secretary and other staff members in the territory of the Argentine Republic shall be provided for in the Headquarters Agreement for the Secretariat of the Antarctic Treaty (the Headquarters Agreement) hereby adopted and annexed to this Measure, to be concluded between the ATCM and the Argentine Republic.

Annex

HEADQUARTERS AGREEMENT FOR THE SECRETARIAT OF THE ANTARCTIC TREATY

The Antarctic Treaty Consultative Meeting (ATCM) and the Argentine Republic,
Convinced of the need to strengthen the Antarctic Treaty system;
Bearing in mind the special legal and political status of Antarctica and the special responsibility of the Antarctic Treaty Consultative Parties to ensure that all activities in Antarctica are consistent with the purposes and principles of the Antarctic Treaty and its Protocol on Environmental Protection;
Having regard to Decision 1 (2001) of the XXIV ATCM and Measure 1 (2003) of the XXVI ATCM on the Secretariat of the Antarctic Treaty in Buenos Aires, Argentina;
Desiring to enable the Secretariat as an organ of the ATCM fully and efficiently to fulfil its purposes and functions; and
Desiring to define the legal capacity of the Secretariat as an organ of the ATCM as well as its privileges and immunities and those of the Executive Secretary and other staff members in the territory of the Argentine Republic;
Have agreed as follows:

ARTICLE 1 Definitions
ARTICLE 2 Legal capacity
ARTICLE 3 Headquarters
ARTICLE 4 Immunities
ARTICLE 5 Objective and waiver of privileges and immunities
ARTICLE 6 Archives
ARTICLE 7 The Treaty flag and emblem
ARTICLE 8 Exemption from direct taxes
ARTICLE 9 Exemption from customs and excise duties and value added tax
ARTICLE 10 Exemption from restrictions and prohibitions
ARTICLE 11 Re-sale
ARTICLE 12 Currency and exchange
ARTICLE 13 Communications
ARTICLE 14 Publications
ARTICLE 15 Privileges and immunities of delegates
ARTICLE 16 Executive Secretary
ARTICLE 17 Staff members
ARTICLE 18 Experts
ARTICLE 19 Visas
ARTICLE 20 Cooperation
ARTICLE 21 Notification of appointments, identity cards
ARTICLE 22 Consultation
ARTICLE 23 Amendment
ARTICLE 24 Settlement of disputes
ARTICLE 25 Entry into force and termination

MEASURE 2 (2003)
ANTARCTIC PROTECTED AREA SYSTEM: MANAGEMENT PLANS FOR ANTARCTIC SPECIALLY PROTECTED AREAS

The Representatives,
Recalling Resolution 1 (1998) of XXIV ATCM allocating responsibility among Consultative Parties for the revision of Management Plans for protected areas;
Noting that the draft Management Plans annexed to this Measure have been endorsed by the Committee for Environmental Protection and the Scientific Committee on Antarctic Research;
Recognising that these Areas support outstanding natural features and biota of scientific interest;
Recommend that their Governments, in accordance with paragraph 1 of Article 6 of Annex V to the Protocol on Environmental Protection to the Antarctic Treaty, approve the Management Plans, annexed to this Measure, for the following sites:

Antarctic Specially Protected Area No 105, Beaufort Island, Ross Sea;

Antarctic Specially Protected Area No 114, Northern Coronation Island, South Orkney Islands;

Antarctic Specially Protected Area No 118, Cryptogam Ridge, Mt Melbourne, North Victoria Land and summit of Mt Melbourne, North Victoria Land;

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Antarctic Specially Protected Area No 135, North-East Bailey Peninsula, Budd Coast, Wilkes Land;

Antarctic Specially Protected Area No 143, Marine Plain, Mule Peninsula, Vestfold Hills, Princess Elizabeth Land;

Antarctic Specially Protected Area No 152, Western Bransfield Strait, Antarctic Peninsula;

Antarctic Specially Protected Area No 153, Eastern Dallmann Bay, Antarctic Peninsula;

Antarctic Specially Protected Area No 154, Botany Bay, Cape Geology, Victoria Land;

Antarctic Specially Protected Area No 156, Lewis Bay, Mount Erebus, Ross Island, Ross Sea;

Antarctic Specially Protected Area No 160, Frazier Islands, Wilkes Land;

Antarctic Specially Protected Area No 161, Terra Nova Bay, Ross Sea

Management Plan for Antarctic Specially Protected Area No. 105
BEAUFORT ISLAND, McMURDO SOUND, ROSS SEA

1. Description of values to be protected

The island comprises a variety of terrain and habitats: gently sloping ice-free ground with summer ponds and small meltwater streams draining to the coast; moderately sloping ice fields covering much of the west side of the island; and steep, rugged cliffs on the eastern slopes. There is a large Adélie penguin (*Pygoscelis adeliae*) colony, a small breeding colony of Emperor penguins (*Aptenodytes forsteri*), and several breeding colonies of South polar skua (*Catharacta maccormicki*). The boundaries of the Area include fast-ice occupied by breeding birds.

The moss community is dominated by a single species, *Bryum argenteum*: the essentially monospecific character of the site is unique. There is also a diverse community of algae, and while a detailed algal survey has not yet been undertaken, *Prasiola crispa* is particularly abundant throughout the site, together with a number of unicellular chlorophytes and xanthophytes (including *Botrydiopsis* and *Pseudococcomyxa*), and cyanobacteria (particularly scillatorians) mixed with the *Prasiola*. Green snow algae, a mixture of *Chloromonas* and *Klebsormidium*, are present as well as the red snow algae *Chlamydomonas* sp., *Chloromonas* sp., and *Chlamydomonas nivalis*.

2. Aims and objectives

- avoid degradation of, or substantial risk to, the values of the Area;
- preserve the natural ecosystem as a reference area;
- allow scientific research on the natural ecosystems, plant communities, avifauna and soils in the Area;
- minimise human disturbance to plant communities;
- minimise the possibility of introduction of alien plants, animals and microbes to the Area;
- allow visits for management purposes.

3. Management activities

- A map and copies of the Management Plan shall be available at Scott Base (NZ).
- Markers, signs or structures erected for scientific or management purposes shall be maintained in good condition, and removed when no longer necessary.
- Visits to ensure management and maintenance measures are adequate.
- National Antarctic Programmes shall consult together with a view to ensuring these steps are carried out.

4. Period and designation

Designated for an indefinite period.

5. Maps and photographs

Map A: Beaufort Island regional topographic map.
Map B: Beaufort Island regional orthophotograph
Map C: North Beaufort Island orthophotograph
Map D: South Beaufort Island orthophotograph.
Figure 1: Perspective view of Beaufort Island from an elevation of 225 m, 900 m out from the preferred Helicopter Pad at an azimuth of 300° W.

6. Description of the Area

6(i) Geographical coordinates, boundary markers and natural features

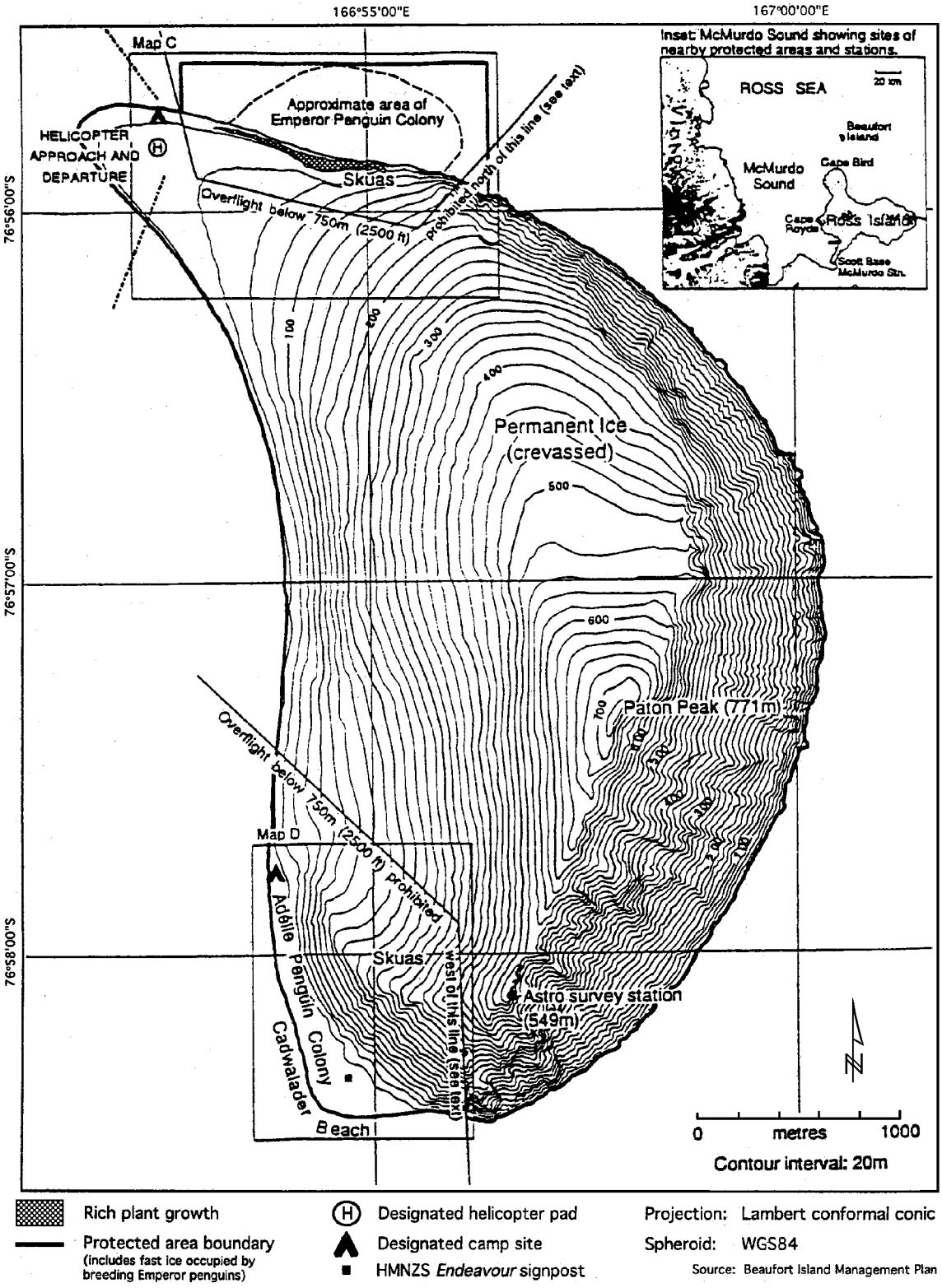
The designated Area encompasses the whole of Beaufort Island (76°59′S, 167°00′E Map A) above the mean high water mark, and includes adjacent fast-ice occupied by breeding Emperor penguins. The 7 km by 3.2 km island rises to 771 m at Paton Peak. Boundary markers and signs have not been installed to mark the Area.

Beaufort Island is one of a series of late Tertiary volcanic vents that developed along a line of weakness in the Ross Sea floor. The geology in typical of an eroded, sub-aerially produced basaltic complex, with lava flows and explosion breccias and tuffs evident.

An Adélie colony occupies the flat area at Cadwalader Beach (Map D). The number of Adelie penguins breeding on Beaufort Island Peaked at pairs in 1986. Since then the population has ranged from 23,512 breeding pairs (in 1998) to 53,733 (in 1986). A population of skuas nests on more gentle ice-free slopes at the edge of the permanent ice field on the west flank of the island. A population of approximately 100 skuas (1995 count) breeds on the terrace and ice-free slopes leading toward the cliffs. On the fast-ice adjacent to the northern coast a small colony of breeding Emperor penguins is present annually.

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Map A: Beaufort Island, Antarctic Specially Protected Area No 105, topographic map.



The ice-free moraine terrace on the north end of the island supports the richest growth of vegetation recorded on Beaufort Island. The moss community is extensive (approximately 2.5 ha), with much of the site showing 100% ground cover, dominated by a single species, *Bryum argenteum*. One specimen of another species, *Pottia heimii*, was found after an extensive search: the essentially monospecific character of the site is unique. In the upper (southern) part of the area the *Bryum* is intermixed with *Nostoc* colonies (cyanobacterium).

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There is also a diverse community of algae, and while a detailed algal survey has not yet been undertaken, *Prasiola crispa* is particularly abundant throughout the site, reflecting the high nutrient status and abundance of melt water. A number of unicellular chlorophytes and xanthophytes (including *Botrydiopsis* and *Pseudococcomyxa*) and cyanobacteria (particularly scillatorians) were found mixed with the Prasiola. Green snow algae contained a mixture of *Chloromonas* and *Klebsormidium*. The snow algae *Chlamydomonas* sp., *Chloromonas* sp., and *Chlamydomonas nivalis* represent one of the most southerly locations where red snow algae have been observed.

6(ii) Restricted zones within the Area

None.

6(iii) Structures within and near the Area

The only structure known to exist on the island is a signpost on a prominent rock in the Adélie colony at Cadwalader Beach (Map D).

6(iv) Location of other protected areas within close proximity of the Area

The nearest protected area to Beaufort Island is New College Valley ASPA 20 located 35 km to the south at Cape Bird. Cape Royds ASPAs 121 and 157 area a further 35 km to the south.

7. Permit conditions

Entry into the Area is prohibited except in accordance with a Permit issued by appropriate national authorities.

7(i) Access to and movement within the Area

Land vehicles are prohibited within the Area and access shall be by small boat or by aircraft. Aircraft should land on the island only at the designated site (166°52′31″ E, 76°55′49″ S: Maps A–C and Figure 1) on the large flat toe of ice on the north end of the island. Use of smoke grenades when landing within the Area is prohibited. Pilots, air or boat crew, or other people on aircraft or boats, are prohibited from moving on foot beyond the immediate vicinity of the landing site.

Overflight of bird breeding areas lower than 750 m (or 2500 ft) is normally prohibited.

7(ii) Activities that are or may be conducted in the Area, including restrictions on time or place

- Scientific research that will not jeopardise the ecosystem of the Area and which cannot be served elsewhere;
- Essential management activities, including monitoring.

7(iii) Installation, modification or removal of structures

No scientific equipment or structures are to be erected within the Area except as specified in a Permit.

7(iv) Location of field camps

Camping is permitted only at two designated sites (Maps A–D).

7(v) Restrictions on materials and organisms which can be brought into the Area

No living animals, plant material or microorganisms shall be deliberately introduced into the Area and precautions shall be taken against accidental introductions. No herbicides or pesticides shall be brought into the Area. Any other chemicals, including radio-nuclides or stable isotopes, which may be introduced for scientific or management purposes specified in the Permit, shall be removed from the Area at or before the conclusion of the activity for which the Permit was granted. Fuel is not to be stored in the Area.

7(vi) Taking or harmful interference with native flora or fauna

Taking or interfering with flora or fauna is prohibited.

7(vii) Collection or removal of anything not brought into the Area by the Permit holder

Material may be collected or removed from the Area only in accordance with a Permit.

7(viii) Disposal of waste

All wastes, including all human wastes, shall be removed from the Area.

7(ix) Measures that are necessary to ensure that the aims and objectives of the Management Plan can continue to be met

Permits may be granted to enter the Area to carry out biological monitoring and site inspection activites. Any sites of long-term monitoring shall be marked. Visitors shall take special precautions against introductions. Of particular concern are microbial or vegetation introductions sourced from soils at other Antarctic sites, including stations, or from regions outside Antarctica. Visitors shall take the following measures to minimise the risk of introductions:

a) Any sampling equipment or markers brought into the Area shall be sterilised and maintained in a sterile condition. Footwear and other equipment shall be thoroughly cleaned or sterilised before entering the Area; sterilisation should be by an acceptable method.

7(x) Requirements for reports

Parties should ensure that the principal holder for each permit issued submit to the appropriate authority a report describing the activites undertaken.

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Management Plan for Antarctic Specially Protected Area No. 114
NORTHERN CORONATION ISLAND, SOUTH ORKNEY ISLANDS

1. Description of values to be protected

Northern Coronation Island, South Orkney Islands, "embraces areas of coastal ice-free terrain (Conception, Prong and Foul Points) with large seabird colonies and lichen-dominated cliffs, and permanent ice rising to the Brisbane Heights plateau which provides an excellent representative area of a pristine ice environment near the northern limit of the maritime Antarctic and the Antarctic Treaty Area, and that the interrelated terrestrial, permanent ice and marine components of this area comprise an integrated example of the coastal, permanent ice and sublittoral ecosystems of the maritime Antarctic environment".

The Area is difficult to access, few site visits have been made and there is little baseline or up-to-date information available on the ecosystems. The original values cited for the Area cannot be reaffirmed as insufficient information exists for the values to be substantiated.

In view of its assumed pristine condition, the primary potential value of the Area is as a reference site for use in comparative studies with more heavily impacted sites. Before this value can be realised, baseline studies are required on the environment and ecosystems present.

2. Aims and objectives

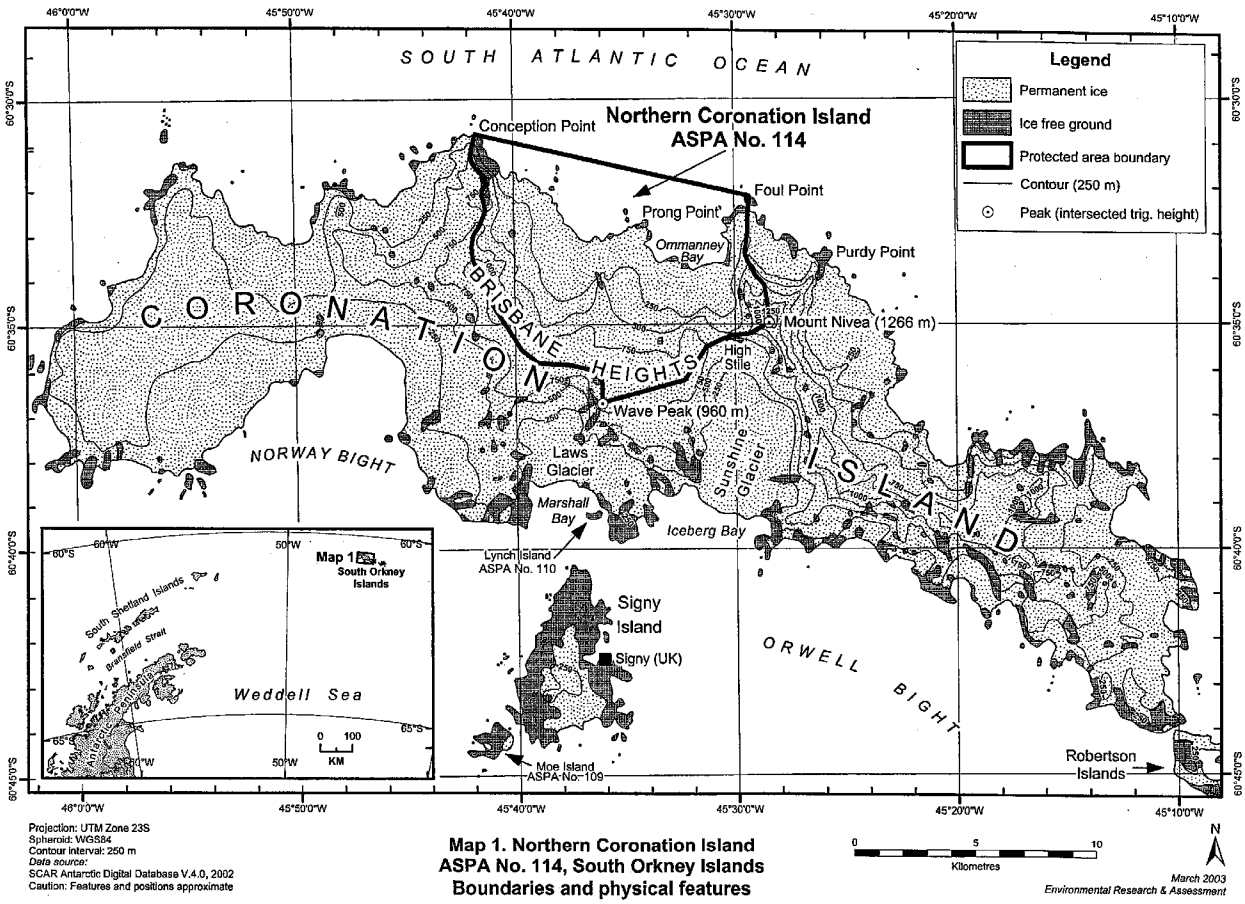
- preserve the ecosystem of the Area in a largely undisturbed state for its potential as a reference area;
- avoid degradation of, or substantial risk to, the potential value of the Area as a reference site;
- ensure that the purpose, nature, methods and conditions of observation and / or sampling are clearly defined before access is allowed;
- ensure that visits for management purposes are in support of the aims of the management plan

3. Management activities

- Copies of this management plan shall be made available at Signy (UK) and Orcadas (Arg.) research stations.
- Visits to assess whether the Area continues to serve the purposes for which it was designated.

4. Period of designation

Designated for a period of five years to allow opportunity for site visits to be made. If access to the site remains unachievable during this time, consideration should be given to terminating the site's status as an ASPA.



Map 1. Northern Coronation Island ASPA No. 114, South Orkney Islands Boundaries and physical features

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5. Maps and photographs

Map 1: Northern Coronation Island, Antarctic Specially Protected Area No. 114: Boundaries and physical features.

6. Description of the Area

6(i) Geographical coordinates, boundary markers and natural features

Coronation Island (Latitude 60°33′ S, Longitude 45°35′ W, 478 km^2) is the largest of the South Orkney Islands, extending approximately 48 km with a west-north-west to east-south-east orientation (Map 1). It is largely ice-covered and the northern coastline is indented and generally precipitous, with sharp rocky ridges forming bold headlands between ice cliffs. Exposed boulder beaches are present at the base of many of the ice and rock cliffs. The interior of Coronation Island rises to its maximum height of 1266 m at Mount Nivea. The Area includes two glacial catchments draining northwards from Mount Nivea and the Brisbane Heights plateau. The Area totals approximately 92 km^2. The land within the Area is dominated by permanent ice, with outcrops and cliffs in a few places.

The Area lies between Conception Point to the west and Foul Point to the east. The eastern boundary follows a ridge from Foul Point southwards to the summit of Mount Nivea (1266 m), thence west-south-westwards down the ridge to the col at High Stile. From High Stile, the boundary continues WSW following the ridge of Brisbane Heights to Wave Peak (960 m). From Wave Peak it extends due north, thence west and in a northwesterly direction following the broad ridge of Brisbane Heights. It then extends due north along the main ridgeline to Conception Point. The actual summits of Mount Nivea and Wave Peak and the southern side of High Stile are outside the Area. The northern boundary is a straight line from Conception Point to Foul Point.

No climate data are available but conditions are expected to be broadly similar to those at Signy Island.

Coronation Island comprises regionally metamorphosed rocks belonging to the Scotia metamorphic complex. The rocks were deformed and metamorphosed to albite-epidote-amphibolite-facies grade during or prior to the late Triassic but the true age of the original sedimentary sequences is uncertain.

No information on streams and lakes is available.

There is little information available on the biological communities in the Area. Breeding chinstrap penguins (*Pygoscelis antarctica*) occupy the few flat and gently sloping parts of the Area at Conception Point, with numbers roughly estimated to be around 5000 in 1997. Crags are occupied by nesting cape petrels (*Daption capense*) and snow petrels (*Pagodroma nivea*). Skuas (*Catharacta* sp.) and sheathbills (*Chionis alba*) have been noted at Conception Point, while southern giant petrel (*Macronectes giganteus*), Antarctic fulmar (*Fulmarus glacialoides*), prions (*Pachyptila sp.*), and Wilson's and black bellied petrels (*Oceanites oceanicus, Fregetta tropica*) have been observed close to the coast.

Seals have not been observed within the Area.

White, yellow and orange encrusting lichens are present, often on ice-free cliffs on the coast, along with patches of the common alga *Prasiola crispa*.

There is no information on the marine environment.

There have been few reported visits and human impacts are considered to be minimal.

6(ii) Restricted and managed zones within the Area

None.

6(iii) Structures within and near the Area

There are no structures known to be present in the Area. The nearest scientific research station is Signy Research Station 12 km south of the Area on Signy Island.

6(iv) Location of other protected areas within close proximity of the Area

The nearest protected areas are Lynch Island (ASPA No. 110) and Moe Island (ASPA No. 109) (Map 1).

7. Permit conditions

Entry into the Area is prohibited except in accordance with a Permit issued by an appropriate national authority.

7(i) Access to and movement within the Area

- Access to and movement within the Area shall be on foot, by small boat or by helicopter. Land vehicles are prohibited.
- There are no special restrictions on overland access routes.
- There are no special restrictions on landings from the sea.
- Landing of helicopters in or close to sites occupied by concentrations of breeding birds is prohibited.
- Helicopters may land elsewhere within the Area when necessary.
- Use of helicopter smoke grenades is prohibited.
- Pilots, air or boat crew, or other people on helicopters or boats are prohibited from moving on foot beyond the immediate vicinity of their landing site.
- All movement within the Area should be kept to the minimum consistent with the objectives of any permitted activities.

7(ii) Activities that are or may be conducted in the Area, including restrictions on time or place

- scientific research for compelling reasons that cannot be served elsewhere;
- collection of baseline information on the Area;
- essential management activities, including site inspection or monitoring.

7(iii) Installation, modification or removal of structures

Structures shall not be erected within the Area.

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7(iv) Location of field camps

Camping is permitted within the Area for purposes consistent with the objectives of this management plan.

7(v) Restrictions on materials and organisms which can be brought into the Area

No living animals, plant material or microorganisms shall be deliberately introduced into the Area and precautions shall be taken against accidental introductions. No poultry products, including products containing uncooked dried eggs, including wastes from such products, shall be released into the Area or into the adjacent sea. No herbicides or pesticides, nor any other chemicals, including radionuclides or stable isotopes, shall be brought into the Area. Fuel may be used for essential transport within the Area, although fuel and other materials shall not be stored in the Area.

7(vi) Taking or harmful interference with native flora or fauna

Taking or harmful interference with native flora or fauna is prohibited.

7(vii) Collection or removal of anything not brought into the Area by the Permit holder

Material may be collected or removed from the Area only in accordance with a Permit.

7(viii) Disposal of waste

All wastes shall be removed from the Area.

7(ix) Measures that are necessary to ensure that the aims and objectives of the Management Plan can continue to be met

To help maintain the values derived from the historically low level of human impact at Northern Coronation Island special precautions against introductions shall be taken. To the maximum extent practicable, all equipment brought into the Area shall be thoroughly cleaned before entering the Area.

7(x) Requirements for reports

Parties should ensure that the principal holder for each Permit issued submits a report describing the activities undertaken to the appropriate authority.

Management Plan for Antarctic Specially Protected Area No 118
SUMMIT OF MOUNT MELBOURNE, VICTORIA LAND

1. Description of values to be protected

The biotic communities of the closest documented fumarolic ground, 400 km to the south on Tramway Ridge, Mt Erebus and on Mt Rittman, in the Mountaineer Range over 180 km to the north, are considered significantly different to that on Mt Melbourne. Mount Melbourne has the only known leafy example of the moss *Campylopus pyriformis* on the Antarctic continent (the moss is present on Mt Erebus only in the protonema stage). The algae *Stigonema ocellatum* and *Chlorella* cf. *reniformis* are the only Antarctic records. Several other algal species are not recorded elsewhere in Antarctica, apart from Mt Erebus. An entirely new species of thermophilic bacteria, *Bacillus thermoantarcticus*, has also been discovered on the summit. The total cover of vegetation is estimated at 100–200 m^2. Despite this relatively small area of cover, the uniqueness and fragility of the biological communities and their physical environment are such that the Area is of high scientific and conservation value and vulnerable to human disturbance. The dangers of introducing new organisms and disturbance by trampling and sampling are great and justify this site being given long-term special protection. Extensive ice-free geothermal areas at high altitude, supporting a unique community of flora and microbiota and accumulations of organic matter, make this Area of exceptional scientific interest.

2. Aims and objectives

Management at Mount Melbourne aims to:

- avoid degradation of, or substantial risk to, the values of the Area by preventing unnecessary human disturbance;
- allow scientific research;
- minimise the possibility of introductions;
- preserve a part of the natural ecosystem as a reference site;
- allow visits for the purposes of installation and maintenance of essential communications equipment;
- allow visits for management purposes.

3. Management activities

- A copy of this Management Plan shall be kept in all of the research hut facilities located within 25 km.
- Markers, signs or structures shall be maintained in good condition.
- Visits shall be made to ensure management and maintenance measures are adequate.
- National Antarctic Programmes are encouraged to consult together to ensure these steps are carried out.

4. Period of designation

Designated for an indefinite period.

5. Maps and photographs

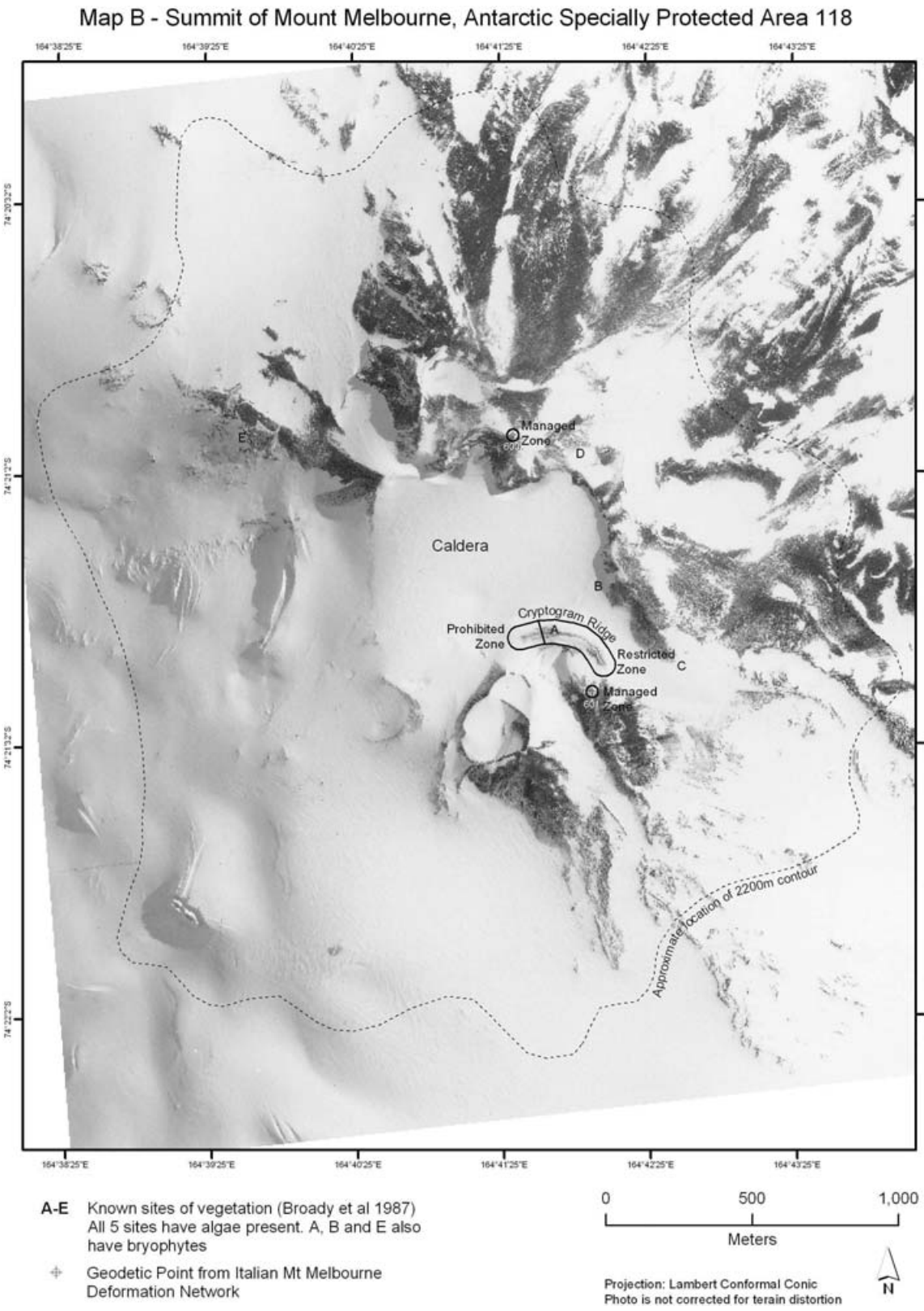
Map A: Mount Melbourne, location map.
Map B: Mount Melbourne, site map.

6. Description of the Area

6(i) Geographical coordinates, boundary markers and natural features.

Mount Melbourne (2733 m, 74°21′S 164°42′E), northern Victoria Land, lies between Wood and Terra Nova bays.

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The Area encompasses all terrain above the 2200 m contour surrounding the main crater of Mt Melbourne. Boundary markers are not installed.

Mount Melbourne is part of the McMurdo volcanics, a line of dormant and extinct volcanoes along the coast of Victoria Land. The Mt Melbourne area is thought to be

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late Quaternary in age and the most recent eruption may have been as little as 150 years ago. The volcanic rocks are trachyte to trachyandesite overlying basalt.

Mount Melbourne is an almost perfect low-angle volcanic cone with extensive areas of hot ground, fumaroles, and ice towers prominent around the summit crater. The summit caldera is about 1 km in diameter and forms the névé for a westward flowing glacier. The summit also contains the most extensive areas of snow-free warm or steaming ground, fumaroles and ice towers or pinnacles. Surface soil (0–2 cm depth) temperatures of up to 42°C, areas of cooler ground where activity is discontinuous, and zones of geothermal activity are marked by ice and snow hummocks up to a metre in height.

There are three main areas exhibiting thermal activity: two on the edge of the caldera, and a third about 250 m lower on the northern slopes. These geothermal areas support a unique biological assemblage of species otherwise restricted to low altitudes. Plant life is only possible through small water droplets, formed by the condensation of steam, keeping the soils moist.

Mount Melbourne exhibits high biodiversity relative to other geothermal sites in the Antarctic, both maritime and high altitude. Biota includes algal crusts and felts (11 species), bryophytes (one species of moss and one of liverwort), a protozoan, and a range of microflora. A lichen association has been observed as a component of black crusts over small areas of warm soil.

6(ii) Prohibited, restricted and managed zones within the Area

Prohibited and Restricted Zones — Cryptogam Ridge An area on the southern rim of the main summit crater (known as Cryptogam Ridge) is designated as a Prohibited Zone and a Restricted Zone (see Map B) in order to protect the most extensive stand of vegetation and preserve part of the Area as a reference site for future comparative study.

Managed Zones

Two Managed zones (see Map B) have been established within the Area where survey marks used in deformation studies need to be regularly accessed, and a radio repeater is installed and maintained each season. The zones extend 15 m around the survey marks and are located as follows:

1. Summit of Mt Melbourne, containing survey mark no. 600 and radio repeater site; and
2. South-east of Cryptogam Ridge, containing survey mark no. 601.

6(iii) Structures within and near the Area

Six survey marks are used in an ongoing Italian scientific programme. A radio repeater is installed annually on cool, ice-free ground near the summit.

6(iv) Location of other protected areas within close proximity of the Area

The nearest protected areas are: Cape Hallett, ASPA No. 106 and Botany Bay ASPA No. 164.

7. Permit conditions

Entry into the Area is prohibited except in accordance with a Permit issued by an appropriate national authority.

7(i) Access to and movement within the Area

Land vehicles are prohibited with the Area; helicopters may only land at the established survey marks within the two Managed Zones; use of smoke grenades is prohibited; any over flight of the Prohibited or Restricted Zone must be more than 50 m above ground level; and hovering is not permitted lower than 50 m.

Visitors must avoid walking on areas of visible vegetation or moist soil, both on ice-free ground and among ice hummocks, and should not interfere with any ice structures. Pedestrian traffic should be kept to the absolute minimum.

7(ii) Activities that are or may be conducted in the Area, including restrictions on time or place

- scientific research;
- essential management activities; and
- essential operational activities.

7(iii) Installation, modification or removal of structures

No structures are to be erected within the Area except as specified in a Permit. All scientific equipment installed in the Area must be approved by Permit and clearly identified by country, name of the principal investigator, and year of installation.

7(iv) Location of field camps

Camping is permitted only in the ice-filled caldera or outside the Area (i.e. below the 2200 m contour).

7(v) Restrictions on materials and organisms which can be brought into the Area.

- no living animals, plant material or microorganisms shall be deliberately introduced into the Area and precautions shall be taken against accidental introductions;
- chemicals, including radio-nuclides or stable isotopes shall be removed from the Area at or before the conclusion of the activity;
- fuel is not to be stored in the Area; and
- all materials introduced shall be removed and shall be stored and handled so that risk of their introduction into the environment is minimised.

7(vi) Taking or harmful interference with native flora or fauna

Any removal or disturbance of the vegetation or invertebrates is prohibited.

7(vii) Collection or removal of anything not brought into the Area by the Permit holder

Material may be collected or removed from the Area only in accordance with a Permit.

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7(viii) Disposal of waste

All wastes shall be removed from the Area.

7(ix) Measures that are necessary to ensure that the aims and objectives of the Management Plan can continue to be met

1. Permits may be granted to carry out biological monitoring and site inspection.
2. Sites of long-term monitoring shall be marked.
3. Visitors shall take special precautions against introductions, particularly microbial or vegetation introductions sourced from:
   - thermal areas, both Antarctic and non-Antarctic;
   - soils at any other Antarctic sites, including those near stations;
   - soils from regions outside Antarctica.

a) Any equipment brought into the Area shall be sterilised and maintained in a sterile condition. Footwear and other equipment shall be thoroughly cleaned or sterilised;
b) Sterilisation should be by an acceptable method.
c) Sterile protective over clothing shall be worn.
d) Both the interior and exterior of helicopters should be cleaned before landing within Area.

7(x) Requirements for reports

Parties shall ensure that the principal holder for each Permit issued submits to the appropriate authority a report describing the activities undertaken.

Management Plan for Antarctic Specially Protected Area No. 135
NORTH-EAST BAILEY PENINSULA, BUDD COAST, WILKES LAND

1. Description of Values to be Protected

The flora of the Windmill Islands region comprises 36 species of lichen, five bryophyte species, a liverwort, and 150 non-marine algae and 120 fungal taxa have been recorded. An ascomycete mycorrhizal fungus has been shown in the liverwort *Cephaloziella varians*. Three species of the lichen genus *Lecidea* have been collected and await identification.

North-east Bailey Peninsula, Antarctic Specially Protected Area is representative of a diverse assemblage of the Windmill Islands region flora. As such, the Area has intrinsic ecological value and scientific importance, particularly to botanists, microbiologists, soil scientists and glacial geomorphologists.

2. Aims and Objectives

- avoid degradation of, or substantial risk to, the values of the Area;
- preserve a part of the natural ecosystem as a reference Area;
- allow scientific research on the ecosystem;
- minimise the possibility of introduction of alien plants, animals and microbes to the Area;
- allow for maintenance of the Tandem Delta antenna communications installation;
- allow visits for management purposes.

3. Management Activities

- signs shall be placed at the boundaries of the Area;
- A copy of this Management Plan shall be kept at Casey station;
- markers, signs or structures shall be maintained in good condition and removed when no longer required;
- abandoned equipment shall be removed;
- visit to ensure that management activities are adequate: and
- review the Management Plan at least every five years and update as required.

4. Period of Designation

Designated for an indefinite period.

5. Maps

Map A: East Antarctica, showing location of North-east Bailey Peninsula.
Map B: Budd Coast, Wilkes Land, showing location of North-east Bailey Peninsula.
Map C: Topographic map of North-east Bailey Peninsula.
Map D: Vegetation map of North-east Bailey Peninsula
Map E: Geology of North-east Bailey Peninsula.
Map F: Detail of North-east Bailey Peninsula vegetation, structures and lakes.

6. Description of the Area

6(i) Geographical co-ordinates, boundary markers and natural features

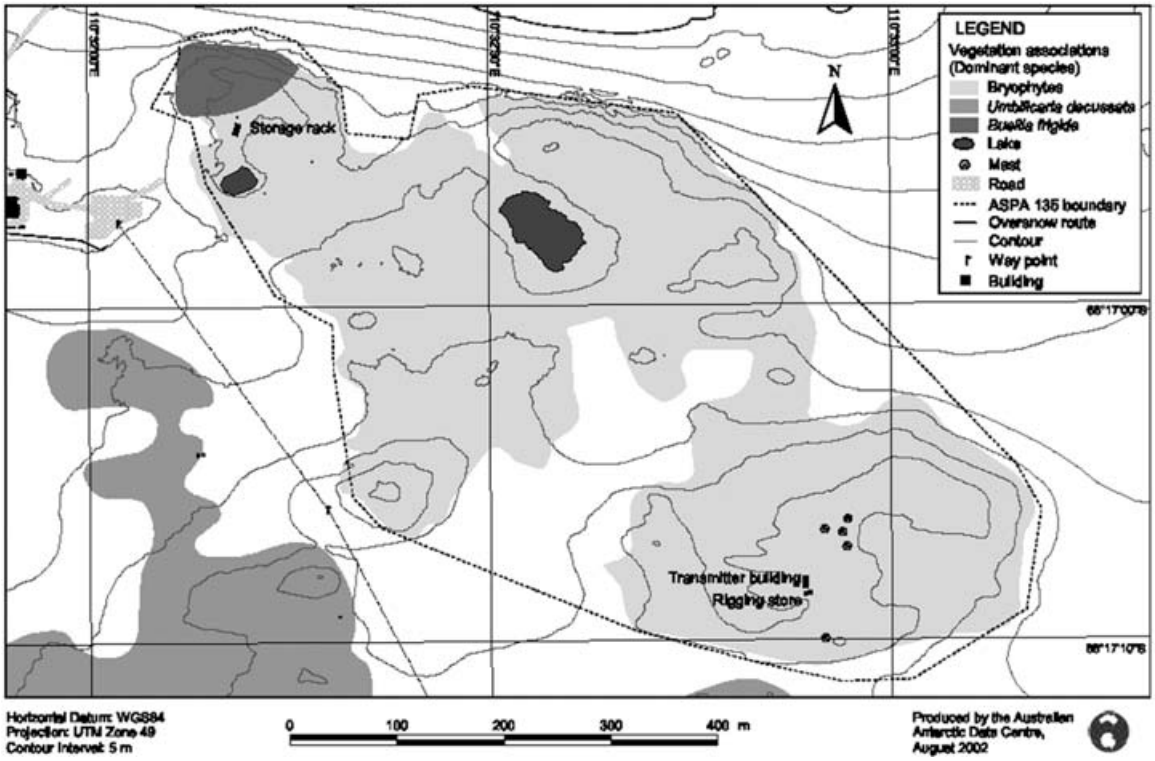
The North-east Bailey Peninsula Antarctic Specially Protected Area is approximately 0.28 km^2 in area and located on Bailey Peninsula adjacent to the Windmill Islands Group on the Budd Coast, Wilkes Land, East Antarctica, (Maps A and B). Bailey Peninsula comprises low lying, rounded ice-free rocky outcrops (maximum altitude approximately 40 m) and, approximately 3 km east, rises to the Løken Moraines (altitude approximately 130 metres).

The climate of the Windmill Islands region is frigid-Antarctic.

The Mesoproterozoic facies terrain of the Windmill Islands comprises migmatitic metapelites and metapsammites interlayered with mafic to ultramafic and

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Map F: North-east Bailey Peninsula, Antarctic Specially Protected Area No 135.



felsic sequences with rare calc-silicates, large partial melt bodies (Windmill Island supacrustals), undeformed granite, charnockite, gabbro, pegmatite, aplites and cut by easterly-trending late dolerite dykes. Bailey Peninsula is part of a the northern gradation of a metamorphic grade transition which separates the northern part of the Windmill Islands region from the southern part.

The Windmill Islands region was glaciated during the Late Pleistocene. Bailey Peninsula was deglaciated by 5500 corr. yr B.P. Isostatic uplift has occurred at a rate of between 0.5 and 0.6 m/100 yr.

Soils on Bailey Peninsula are derived from weathered gneiss, moraine deposits and outwash gravels stemming from glacial episodes. Seabirds have a large impact on soil formation in the entire landscape. Cold monomictic lakes and ponds occur in bedrock depressions and are usually ice-free during January and February. Nutrient rich lakes are found near the coast; sterile lakes are located further inland and are fed by meltwater and local precipitation.

The vegetation of Bailey Peninsula is exceptionally well developed and diverse and represents one of the most important botanical sites on continental Antarctica.

Four species of birds are known to nest in the vicinity of Bailey Peninsula. These include Adélie Penguin *Pygoscelis adeliae*, Snow Petrels *Pagodroma nivea*, Wilson's Storm Petrel *Oceanites oceanicus*, and the Antarctic Skua *Catharacta maccormicki*.

The mite *Nanorchestes antarcticus* has been found on Bailey Peninsula. Five species of tardigrades have been collected: *Pseudechiniscus suillus, Macrobiotus* sp., *Hypsibius antarcticus, Ramajendas frigidus and Diphascon chilenense*.

6(ii) Special Zones within the Area

There are no special zones within the Area.

6(iii) Location of Structures within and adjacent to the Area

Casey station (Australia) is located to the north-west. A small storage rack, a transmitter building and rigging store, and an antenna mast are located in the Area.

6(iv) Location of other Protected Areas in the vicinity

The nearest protected Areas are Clark Peninsula, ASPA 136, Ardery Island and Odbert Island, ASPA 103.

7. Permit Conditions

Entry into the Area is prohibited except in accordance with a Permit issued by an appropriate National Authority.

7(i) Access to and Movement within or over the Area

Vehicles are prohibited within the Area and access should be by foot.

7(ii) Activities which are or may be conducted within the Area, including restrictions on time and place

- Compelling scientific research which cannot be undertaken elsewhere.
- Essential management activities.
- Sampling.
- Maintenance of the antennas and transmitter facility.

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7(iii) Installation, modification or removal of structures

Any structures erected or installed within the Area are to be specified in a Permit and must be maintained in good condition, clearly identifying the permitting country, name of principal investigator and year of installation.

7(iv) Location of field camps

Parties are prohibited from camping within the Area.

7(v) Restrictions on materials and organisms which may be brought into the Area

- No living animals, plant material or microorganisms shall be deliberately introduced into the Area.
- No herbicides or pesticides shall be brought into the Area. Any other chemicals shall be removed.
- Fuel is not to be stored in the Area.
- All material introduced shall be for a stated period and shall be removed at or before the conclusion of that period.

7(vi) Taking of or harmful interference with native flora and fauna

Taking of or harmful interference with native flora and fauna is prohibited, except in accordance with a Permit.

7(vii) Collection and removal of anything not brought into the Area by the Permit Holder

Material may be collected or removed from the Area only in accordance with a permit. Material of human origin may be removed.

7(viii) Disposal of waste

All wastes shall be removed from the Area.

7(ix) Measures that may be necessary to ensure that the aims and objectives of the Management Plan can continue to be met

Permits may be granted to enter the Area to carry out biological monitoring and Area inspection and management activities.

Persons entering the Area shall take special precautions against introductions, particularly microbial or vegetation introductions sourced from soils at other Antarctic sites, or from regions outside Antarctica.

7(x) Requirements for reports

Parties should ensure that the principal Permit Holder for each Permit issued submit to the appropriate Authority a report describing the activities undertaken.

Management Plan for Antarctic Specially Protected Area No. 143
MARINE PLAIN, MULE PENINSULA, VESTFOLD HILLS, PRINCESS ELIZABETH LAND

1. Description of Values to be Protected

Marine Plain is representative of a major Antarctic terrestrial ice-free ecosystem with outstanding fossil fauna and rare geological features. It is of exceptional ongoing scientific interest and has been subject to several detailed geological, palaeontological, geomorphological and glaciological studies.

The Area has yielded an outstanding vertebrate fossil fauna including *Australodelphis mirus*, the first higher vertebrate named from the Oligocene-Pleistocene interval on land in Antarctica, and the first cetacean fossil from the polar margin of circum-Antarctic Southern Ocean that postdates the break-up of Gondwana. Marine Plain has also revealed four other species of cetaceans; a species of fish; and a diverse invertebrate fauna comprising molluscs, gastropods, marine diatoms, and the first Pliocene decapod crustacean from Antarctica.

Marine Plain contains a roughly horizontal section of ca 8 m thick Pliocene marine sediments known as the Sørsdal Formation, which is exposed or underlies Holocene sediments, up to about 1 m thick. A diatom biostratigraphy placed the Sørsdal Formation in the *Fragilariopsis barronii* Zone, Early Pliocene (ca 4.5–4.1 Ma).

The Vestfold Hills have an ice-free area of approximately 413 km^2, and are characterised by their low altitude, typically less that 180 m. The hills have been subject to intermittent glaciation and glacial striae show the direction of past ice movements.

Marine Plain provides the largest periglacial thermokarst in East Antarctica.

The meromictic and saline Burton Lake, together with several smaller lakes and ponds in the ASPA, provide important examples in the spectrum of hypersaline to fresh water lake types in the Vestfold Hills and present the opportunity for important research.

2. Aims and Objectives

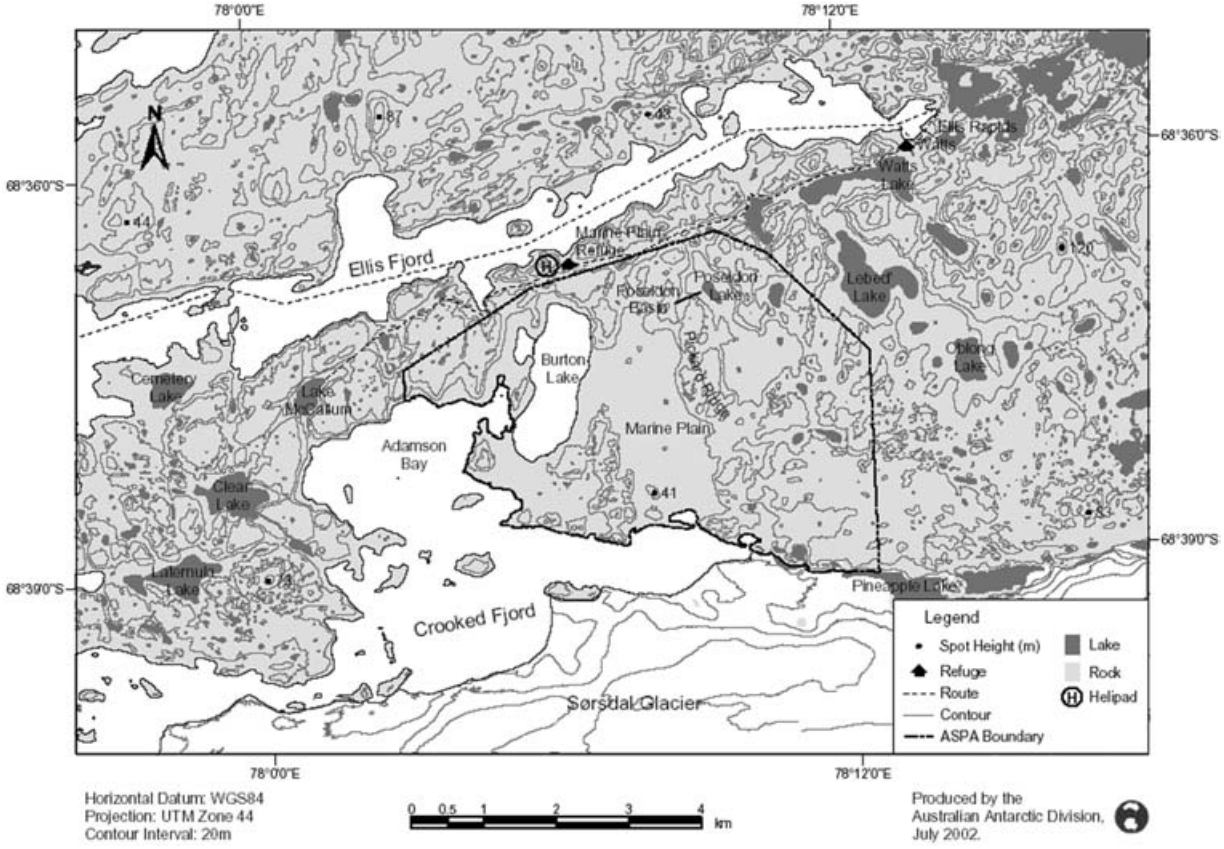
- avoid degradation of, or substantial risk to, the values of Marine Plain by preventing unnecessary human disturbance in the ASPA;
- allow scientific research;
- minimise damage to landforms, glacial and periglacial features; and potential fossil sites;
- maintain the aesthetic and wilderness values; and
- allow visits for management purposes.

3. Management Activities

- a copy of this Management Plan shall be kept at the adjacent Davis station, Marine Plain Refuge and will be provided to ships visiting the vicinity;
- install markers to identify boundary turning points;
- signs shall be placed at appropriate locations to help avoid inadvertent entry;
- require an environmental impact assessment of any activity within the ASPA;
- structures shall be maintained in good condition and removed when no longer required;

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Map B: Marine Plain ASPA, Vestfold Hills, East Antarctica.



- abandoned equipment or materials shall be removed to the maximum extent possible;
- visit the Area to ensure that management activities are adequate: and
- review the Management Plan at least every five years and update as required.

4. Period of Designation

Designated for an indefinite period.

5. Maps

Map A: Vestfold Hills, East Antarctica, showing the locations of Marine Plain ASPA;
Map B: The region immediately surrounding Marine Plain ASPA.
Map C: Geological map of Marine Plain ASPA.
Map D: Sørsdal Formation sketch map
Map E: Sketch of Surface Geology

6. Description of the Area

6(i) Geographical Co-Ordinates, Boundary Markers and Natural Features

Marine Plain ASPA (23.4 km^2, 68°37′50.2″ S, 78°07′55.2″ E) opens into an arm of Crooked Fjord on the southern side of Mule Peninsula. The Vestfold Hills are a largely ice-free oasis of approximately 512 km^2 of bedrock, glacial debris, lakes, and ponds, at the eastern side of Prydz Bay, Princess Elizabeth Land.

The three major lithologies forming the Vestfold Hills are (in order of age) Chelnock Paragneiss, Mossel Gneiss and Crooked Lake Gneiss. This is repeated in units from east-northeast to west-southwest. Intruded into these, are groups of mafic dykes in a rough north-south orientation (Map C). The dykes are a major feature of the Vestfold Hills.

The Precambrian rock is overlain in low-lying areas (approximately 10–17 m above sea level) by ca 8 m of early Pliocene (ca 4.5-3.5 Ma) diatomite with limestone lenses in the upper half. The limestone contains molluscs, especially bivalves including *Chlamys tuftsensis* Turner. Holocene (ca 6.49 ka) glacial debris disconformably covers the marine deposit (0.5–1 m), extending over an area of 8–10 km^2. A layer of lenticular sandstone separates the Pliocene and Holocene units.

Burton Lake is a major feature of the western side of the Area. There is a number of unnamed ponds and small lakes within the Area. Burton Lake has a maximum depth of 18 m. Burton Lake, is ice-covered for 10–11 months of the year and is seasonally connected to Crooked Fjord by a tidal channel approximately 20 m wide and up to 2 m deep. The lake is isolated from Crooked Fjord for about 6–7 months of the year by ice.

The lake contains a range of photosynthetic bacteria, psychrophilic bacteria, one novel species of bacterium is *Psychroserpens burtonensis*, which has not been cultured from or recorded in any other environment, 41 diatom

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species, four metazoan species, many holotrichia, at least two species of nematode, a large marine amphipod and tardigrades. One species of fish, *Pagothenia borchgrevinki*, has been observed in the lake on one occasion.

Mosses and lichens occur in the vicinity of small ephemeral watercourses. The northern end of Burton Lake provides a rich lichen site, while the northern end of Poseidon Lake is rich in mosses.

Several vertebrates occur sporadically during the summer months. Wilson's storm petrels (*Oceanites oceanicus*), Snow petrels (*Pagodroma nivea*) and South polar skuas (*Catharacta maccormicki*) nest in the Area. Weddell seals (*Leptonychotes weddellii*) and Southern Elephant seals (*Mirounga leonina*) along with Adélie penguins (*Pygoscelis adeliae*) and Emperor penguins (*Aptenodytes forsteri*) also occur in small groups.

The Vestfold Hills area has a polar maritime climate that is cold, dry and windy.

6(ii) Special Zones within the Area

None.

6(iii) Location of Structures Within and Adjacent to the Site

There are two refuges located nearby: Marine Plain Refuge with an adjacent helicopter landing site; and Watts Hut.

A variety of evidence of research activity remains at Marine Plain. Boundary markers are to be installed at boundary turning points.

6(iv) Location of Other Protected Areas in the Vicinity

Two Historic Sites and Monuments lay in the Vestfold Hills, at least 25 km north of Marine Plain: HSM No. 72 and HSM No. 6.

7. Permit Conditions

Entry into the Area is prohibited except in accordance with a Permit issued by an appropriate national authority.

7(i) Access to and Movement within or over the Area

- Movement within the ASPA should be kept to a minimum with every reasonable effort made to minimise impact.
- The helicopter landing site is immediately adjacent to the Marine Plain refuge should be used.
- Motorised boats are not to be used on Burton Lake.
- Over-flight of lakes should be kept to a minimum.
- Movement within the ASPA by vehicle is prohibited.

7(ii) Activities which are, or may be conducted, within the Area, including restrictions on time and place

- scientific research that cannot be undertaken elsewhere;
- sampling for approved research programs;
- sampling of lakes,; and
- management activities, including monitoring.

7(iii) Installation, modification or removal of structures

Any structures erected or installed within the Area are to be specified in a Permit. Permanent structures or installations are prohibited.

7(iv) Location of field camps

Parties should not camp in the Area but use the Marine Plain Refuge (68°36′54″ S, 78°6′30″ E).

7(v) Restrictions on materials and organisms which may be brought into the Area

- No living animals, plant material or microorganisms shall be deliberately introduced.
- No herbicides or pesticides shall be brought into the ASPA. Any other chemicals must be removed at or before the conclusion of the activity.
- Organic material is not to be used.
- Fuel is not to be stored in the ASPA.
- All materials introduced shall be removed at or before the conclusion of the stated period.

7(vi) Taking of or harmful interference with native flora and fauna

The taking of or harmful interference with native flora or fauna is prohibited, except by Permit.

7(vii) Collection and removal of anything not brought into the Area by the Permit Holder

- Sample material may be collected or removed from the ASPA only in accordance with a Permit;
- Permits shall not be granted if there is a reasonable concern that the sampling proposed would take, displace, remove or damage such quantities of rock, soil, water, or native flora or fauna that their distribution or abundance at Marine Plain would be significantly affected. Excavation of fossils is exempted from this requirement; and
- Material of human origin likely to compromise the values of the Area, which was not brought into the Area by the Permit holder or otherwise authorised, may be removed unless the impact of the removal is likely to be greater than leaving the material *in situ*. In this event, the appropriate national authority should be notified.

7(viii) Disposal of waste

All wastes, including all human wastes, shall be removed from the ASPA.

7(ix) Measures that may be necessary to ensure that the aims and objectives of the Plan of Management can continue to be met

- Permits may be granted to carry out monitoring and site inspections.
- Any specific sites of long-term monitoring shall be appropriately marked.
- Persons shall take special care walking or skiing over slopes, moraines, rock exposures and diatomite soil.
- Special precautions shall be taken against introductions, particularly microbial or vegetation introductions sourced from soils at other Antarctic

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sites, including stations, or from regions outside Antarctica.
- The closure and securing of excavation sites during and at the completion of an activity should ensure to the extent reasonably possible, stratigraphic integrity is preserved and endolithic communities are maintained.
- Abandoned scientific equipment shall be removed, and excavations rehabilitated.

7(x) Requirements for reports

Parties should ensure that the principal Permit Holder for each Permit issued submits to the appropriate national authority a report on activities undertaken.

Management Plan for Antarctic Specially Protected Area No. 152
WESTERN BRANSFIELD STRAIT

1. Description of values to be protected

Western Bransfield Strait, particularly its benthic fauna, is of exceptional scientific interest and requires long-term protection from potential harmful interference.

The Area is important for studies of the composition, structure and dynamics of the marine communities. It is recognized as an important spawning ground for several fish species, including the rock cod *Notothenia coriiceps* and the icefish *Chaenocephalus aceratus*. The Area is within the research area of the Palmer Long Term Ecological Research (LTER) Program; fish collected from the Area are used in the study of biochemical and physiological adaptations to low temperatures. Some of the fish collected have been used for comparative studies with the more heavily impacted Arthur Harbour area. Scientific research is also being undertaken on the benthic faunal communities.

2. Aims and objectives

- avoid degradation of, or substantial risk to, the values of the Area;
- allow scientific research on the marine environment;
- allow other scientific research;
- allow visits for management purposes.

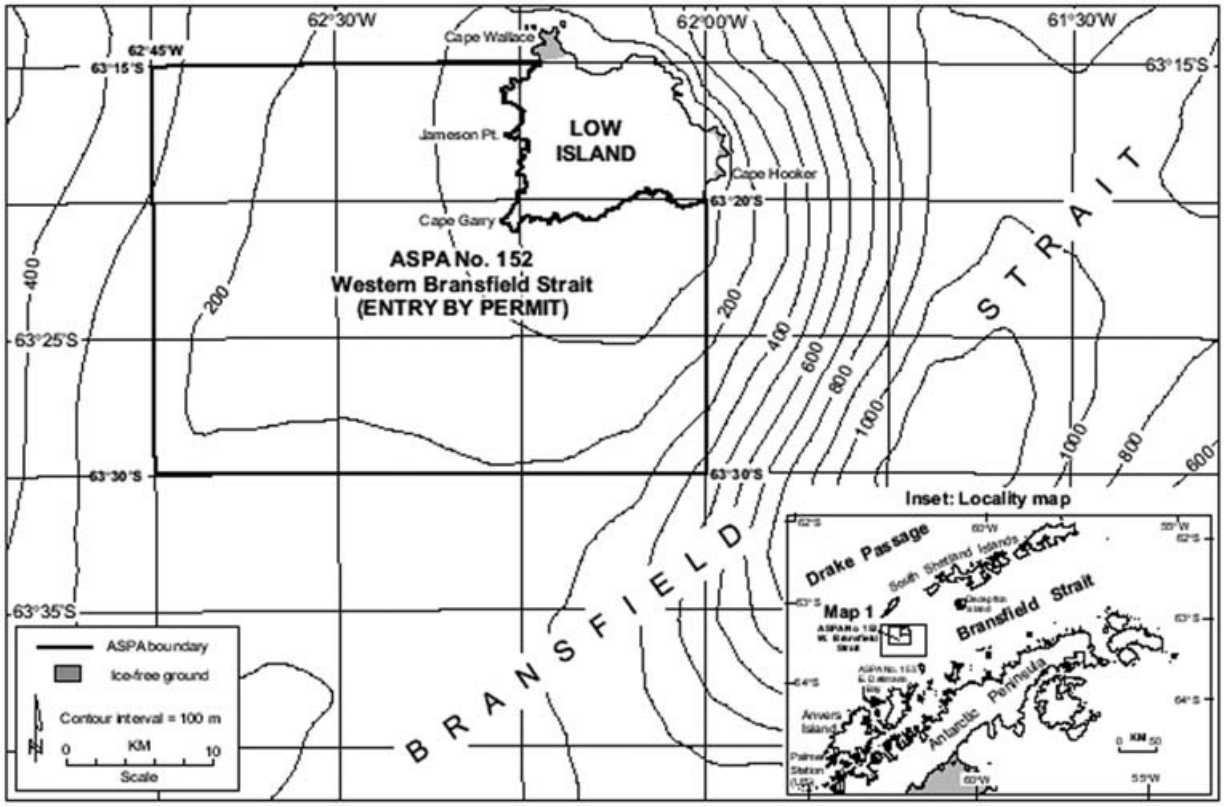
3. Management activities

- Copies of this Management Plan shall be made available at Palmer Station (USA) and to vessels traveling in the vicinity.
- Buoys or other markers shall be maintained in good condition.
- Visits to ensure management and maintenance measures are adequate.

4. Period of designation

Designated for an indefinite period.

MAP 1: ASPA No 152. Western Bransfield Strait bathymetric map.



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5. Maps and photographs

Map 1: ASPA No. 152 Western Bransfield Strait bathymetric map.

6. Description of the Area

6(i) Geographical coordinates, boundary markers and natural features

The Area lies approximately 80 km west of the Antarctic Peninsula, mostly within the 200 m isobath directly south and west of Low Island. To the west and south of Low Island, and for approximately 20 km from the shore, the sea floor slopes gently from the intertidal zone to depths of approximately 200 m. The sea floor slopes steeply to the east of Low Island, reaching depths of up to 1200 m in this part of Bransfield Strait.

The boundaries of the Area at Western Bransfield Strait are defined in the north as the line of latitude at 63°15′ S and in the south at 63°30′ S; in the east the boundary is defined as the line of longitude at 62°00′ W and in the west 62°45′ W (Map 1). The northeastern boundary is defined as the shoreline of Low Island, extending from 62°00′ W, 63°20′ S in the south-east (approximately two kilometers from Cape Hooker) to 62°13′30′′W, 63°15′ S in the north-west (Cape Wallace).

The predominantly soft sand/mud/cobbled-rock substrate supports a rich benthos with numerous fish species, invertebrates (sponges, anemones, annelids, molluscs, crustaceans, asteroids, ophiuroids, echinoids, holothurioids, brachiopods, tunicates), and marine plants, in several distinct communities.

Fish species include *Chaenocephalus aceratus, Harpagifer bispinis, Notothenia coriiceps, N. gibberifrons, Parachaenichthys charcoti* and *Trematomus newnesi*. The Low Island shelf appears to be a spawning ground for several fish species, eg *Chaenocephalus aceratus* and *N. coriiceps*. The Area is a mating ground for Yellowbelly rock cod (*Notothenia coriiceps*). Larval species recorded in the Area include *Bathylagus antarcticus, Electrona antarctica, Gymnodraco acuticeps, Nototheniops larseni, Notothenia kempi* and *Pleuragramma antarcticum* (Sinque and others 1986; Loeb and others 1993; Morales-Nin and others 1995).

The following benthic amphipod species have been recorded within the Area: *Ampelisca barnardi, A. bouvieri, Byblis subantarctica, Epimeria inermis, E. oxicarinata, E. walkeri, Eusirus antarcticus, E. perdentatus, Gitanopsis squamosa, Gnathiphimedia sexdentata, Jassa* spp., *Leucothoe spinicarpa, Liljeborgia georgiana, Melphidippa antarctica, Oediceroides calmani, O. lahillei, Orchomenella zschaui, Parharpinia obliqua, Parepimeria bidentata, Podocerus septemcarinatus, Prostebbingia longicornis, Shackeltonia robusta, Torometopa perlata, Uristes georgianus* and *Waldeckia obesa* (Wakabara and others 1995).

In 1987 approximately 295,000 pairs of chinstrap penguins (*Pygoscelis antarctica*) were breeding at five locations on Low Island.

No data are available on the numbers of ship movements through the Area, although the South Shetland Islands and northwestern Antarctic Peninsula are popular destinations for tourist ships. Numerous research cruises along the western Antarctic Peninsula have included sampling stations within the Area.

6(ii) Restricted and managed zones within the Area

None.

6(iii) Structures within and near the Area

There are no structures known to be within or near the Area. The nearest scientific stations are Decepción (Argentina) and Gabriel de Castilla (Spain), both on Deception Island.

6(iv) Location of other protected areas within close proximity of the Area

The nearest protected areas to Western Bransfield Strait are Eastern Dallmann Bay (ASPA No. 153), and Port Foster and other parts of Deception Island (ASPAs No. 140 and No. 145 respectively).

7. Permit conditions

Entry into the Area is prohibited except in accordance with a Permit issued by an appropriate national authority.

7(i) Access to and movement within the Area

Access into the Area shall be by sea, over sea ice or by air. Anchoring should be avoided within the Area.

7(ii) Activities that are or may be conducted in the Area, including restrictions on time or place

- Scientific research;
- Essential operational activities of vessels, such as transit through, or stationing within, the Area in order to facilitate science or other activities or for access to sites outside of the Area;
- Essential management activities.

7(iii) Installation, modification or removal of structures

Structures or scientific equipment shall not be installed within the Area except as specified in a Permit. All markers, structures or scientific equipment installed in the Area shall be clearly identified by country, name of the principal investigator and year of installation.

7(iv) Location of field camps

None.

7(v) Restrictions on materials and organisms which can be brought into the Area

No living animals, plant material, pathogens or microorganisms shall be deliberately introduced into the Area. No herbicides or pesticides shall be introduced into the Area. Any other chemicals, including radio-nuclides or stable isotopes, which may be introduced for scientific or management purposes specified in the Permit, shall be used in the minimum quantities necessary to achieve

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the purpose of the activity for which the Permit was granted.

7(vi) Taking or harmful interference with native flora or fauna

Taking or harmful interference with native flora or fauna is prohibited, except by Permit.

7(vii) Collection or removal of anything not brought into the Area by the Permit holder

Collection or removal of anything shall only be in accordance with a Permit. Permits shall not be granted if there is a reasonable concern that the sampling proposed would take, remove or damage such quantities of substrate, native flora or fauna that their distribution or abundance within the Area would be significantly affected.

7(viii) Disposal of waste

All wastes shall be removed from the Area.

7(ix) Measures that are necessary to ensure that the aims and objectives of the Management Plan can continue to be met

1. Permits may be granted to carry out biological monitoring and site inspection activities.
2. Any specific sites of long-term monitoring should be appropriately marked on site and on maps of the Area.

7(x) Requirements for reports

Parties should ensure that the principal holder for each Permit issued submits to the appropriate authority a report describing the activities undertaken.

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