

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

1. Description of Values to be Protected

The significant historic value of this Area was formally recognised when it was listed as Historic Site and Monument No. 15 in Recommendation 9 (1972). It was designated as Specially Protected Area No. 27 in Measure 1 (1998) and redesignated as Antarctic Specially Protected Area 157 in Decision 1 (2002). The Management Plan was reviewed and a revised version with additional visitor management provisions was adopted by means of Measure 2 (2005) and Measure 9 (2010).

The hut (Historic Site and Monument No. 15) on which this Area is centered was built in February 1908 by the British Antarctic *Nimrod* Expedition of 1907-1909 which was led by Sir Ernest Shackleton. It was also periodically used by the Ross Sea party of Shackleton's Imperial Trans-Antarctic Expedition of 1914-1917.

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.

Cape Royds is one of the principal areas of early human activity in Antarctica. It is an important symbol of the Heroic Age of Antarctic exploration and, as such, has considerable historical significance. Some of the earliest advances in the study of earth sciences, meteorology, flora and fauna in Antarctica are associated with the *Nimrod* Expedition which was based at this site. The history of these activities and the contribution they have made to the understanding and awareness of Antarctica give this Area significant scientific, aesthetic and historic value.

Cape Royds is situated in Environment S – McMurdo South Victoria Land geologic based on the Environmental Domains Analysis for Antarctica (Resolution 3 (2008)) and in Region 9 – South Victoria Land based on the Antarctic Conservation Biogeographic Regions (Resolution 6 (2012)). Other protected areas within Environment S includes ASPA 105, 116, 121, 122, 123, 124, 131, 137, 138, 154, 155, 156, 158, 161, 172 and 175 and ASMA 2.

2. Aims and Objectives

The aim of the Management Plan is to provide protection for the Area and its features so that its values can be preserved. The objectives of the Management Plan are to:

- avoid degradation of, or substantial risk to, the values of the Area;
- maintain the historic values of the Area through planned conservation work which may include:
 - a. an annual 'on-site' maintenance programme,
 - b. a programme of monitoring the condition of artefacts and structures, and the factors which affect them, and
 - c. a programme of conservation of artefacts conducted on and off site;

- allow management activities which support the protection of the values and features of the Area including:
 - a. mapping and otherwise recording the disposition of historic items in the hut environs, and
 - b. recording other relevant historic data;
- prevent unnecessary human disturbance to the Area, its features and artefacts through managed access to the *Nimrod* hut.

3. Management Activities

The following management activities will be undertaken to protect the values of the Area:

- A regular programme of conservation work shall be undertaken on the *Nimrod* hut and associated artefacts in the Area.
- Visits shall be made as necessary for management purposes.
- Systematic monitoring shall be put in place to assess the impacts of present visitor limits, and the results and any related management recommendations included in reviews of this Management Plan.
- National Antarctic Programmes operating in or those with an interest in, the Area shall consult together with a view to ensuring the above management activities are implemented.
- Copies of this Management Plan, including maps of the Area, shall be made available at adjacent operational research/field stations and will be provided to ships visiting the Area and vicinity.

4. Period of Designation

Designated for an indefinite period.

5. Maps

Map 1: ASPA No. 157 Backdoor Bay, Regional topographic map.

Projection: Lambert Conformal Conic; Standard parallels: 1st 77° 33' 30"S, 2nd 77° 33' 30"S; Central Meridian: 166° 10' 00"E; Latitude of origin: 78° 00' 00"S; Spheroid: WGS84.

Data sources:

The base map and contours are derived from an orthophotograph using aerial imagery acquired by USGS/DoSLI (SN7847) 16 November 1993 prepared at 1:2500 with a positional accuracy of ±1.25 m (horizontal) and ±2.5 m (vertical) and an on-ground pixel resolution of 0.4 m. Signposts: UNAVCO (Jan 2014). ASPA boundary: ERA (Jan 2014). Survey markers: LINZ (2011). Viewing areas and AWS (approx.): ERA (Jan 2014). Approximate penguin nesting area digitized from georeferenced aerial image acquired 19 Jan 2005 and supplied by P. Lyver, Landcare Research, Mar 2014. Contours (interval 10 m) and other infrastructure supplied by Gateway Antarctica (2009).

Inset 1: Ross Sea region, showing location of Inset 2.

Inset 2 Ross Island region, showing location of Map 1 and McMurdo Station (US) and Scott Base (NZ).

Map 2: ASPA No. 157 Backdoor Bay, Site topographic map. Map specifications as per Map 1, except the contour interval is 2 m.

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 kilometers to the south of Cape Bird and 35 kilometers to the north of Hut Point Peninsula on Ross Island. 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 ASPA 121, an Adélie penguin colony. The Area is centered on Shackleton's *Nimrod* Expedition hut.

The eastern and southern boundary consists of the shoreline of the eastern coast of Cape Royds from an unmarked point in Backdoor Bay (77° 33' 07.5"S, 166° 10' 32.6"E) to an unmarked point in Arrival Bay (77° 33' 15.8"S, 166° 10' 06.6"E).

The western boundary follows the boundary of ASPA 121 from the coastline at Arrival Bay (77° 33' 15.8"S, 166° 10' 06.6"E) 18 metres north-west to a signpost at the southern end of the penguin viewing area (77° 33' 15.2" S, 166° 10' 05.7" E), a further 74 metres to a signpost (77° 33' 12.9"S, 166° 10' 01.9"E) on the northern end of the penguin viewing area and a further 42 metres to a signpost (77° 33' 11.8"S, 166° 09' 59.0"E) east of Pony Lake.

The boundary then extends northwest from the signpost east of Pony Lake (77° 33' 11.8"S, 166° 09' 59.0"E) along a gully leading to an unmarked point (77° 33' 07.5" S, 166° 10' 12.9" E) adjacent to the New Zealand refuge hut.

The northern boundary extends due east from the New Zealand shelter (from the unmarked point at 77° 33' 07.5" S, 166° 10' 12.9" E) to the coastline of Backdoor Bay (77° 33' 07.5"S, 166° 10' 32.6"E).

Skua (*Catharacta maccormicki*) nest in the vicinity of the Area and Adélie penguins (*Pygoscelis adeliae*) from the adjacent colony at Cape Royds often transit the Area.

6(ii) Access to the Area

Access to the Area should be made on foot from Backdoor Bay or the helicopter landing sites using the routes shown in Map 2. Landings by boat (when there is open water), or vehicle (when safe sea ice conditions exist), may be made in Backdoor Bay. Care should be taken to avoid the marine extent of ASPA 121 (see Map 1 and 2).

Helicopters should land throughout the year at the Primary landing site (166°10.38'E, 77°33.06'S) north of the New Zealand refuge hut (Map 2). A Secondary landing site is located at 166°10.24'E, 77°33.11'S, ~100 m SW of the Primary landing site, which should be avoided when the penguin colony is occupied (01 November through 01 March).

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

Apart from a Treaty plaque, all structures within the Area are of historic origin. A major feature of the Area is Shackleton's *Nimrod* Expedition hut located in a sheltered basin. The hut is surrounded by many other historic relics including an instrument shelter, supply depots, and a dump site. Numerous additional artefacts are distributed around the site.

A New Zealand refuge hut and camp site are located at the northwest corner of the ASPA.

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

- ASPA 121 (previously SSSI No. 1), Cape Royds is immediately adjacent to this Area.
- ASPA 122 (SSSI No. 2), Arrival Heights and
- ASPA 158 (SPA No. 28), Hut Point are approximately 35 kilometres south of Cape Royds at Hut Point Peninsula.
- ASPA 130 (SSSI No. 11), Tramway Ridge is 20 kilometres east of Cape Royds.
- ASPA 116 (SSSI No. 10, SPA No. 20), New College Valley is located 35 kilometres north in the vicinity of Cape Bird.
- ASPA 155 (SPA No. 25), Cape Evans is 12 kilometres south.
- ASPA 156 (SPA No. 26), Lewis Bay is 36 kilometres to the north east.

All sites are located on Ross Island.

6 (v) Special Zones within the Area

There are no special zones within the Area.

7. Terms and Conditions for Entry Permits

Entry to the Area is prohibited except in accordance with a Permit. Permits shall be issued only by appropriate national authorities and may contain both general and specific conditions. A Permit may be issued by a national authority to cover a number of visits in a season. Parties operating in the Area shall consult together and with groups and organisations interested in visiting the Area to ensure that visitor numbers are not exceeded.

Permits to enter the site may be issued for a stated period for:

- activities related to conservation, research and/or monitoring purposes;
- management activities in support of the objectives of this Management Plan; and
- activities related to educational or recreational activities including tourism, providing they do not conflict with the objectives of this Management Plan.

7(i) Access to and movement within or over 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 guides and those within the hut) shall be: **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) shall be: **8 people**.
- Avoidance of cumulative impacts on the interior of the hut requires an annual limit on visitor numbers. The effects of current visitor levels (average 767 per year between 1998/99 and 2013/14) suggest that a significant increase could cause significant adverse impacts. The annual maximum number of visitors shall be: **2,000 people**.
- These limits have been set based on current visitor levels and on the best advice available from conservation advisory agencies (which include conservators, archaeologists, historians, museologists and other heritage protection professionals). The limits are based on the proposition that any significant increase in the current level of visitors would be detrimental to the values to be protected. An ongoing monitoring programme to assess the effect of visitors is required to provide the basis for future reviews of the Management Plan, in particular whether the current limits on numbers of visitors are appropriate.

- Adequate supervision of visits to the Area is necessary to prevent damage caused by crowding and by actions inconsistent with the Code of Conduct set out in section 7(ii). All tourism, educational and recreational visits must be supervised by an experienced guide nominated by the operator (refer section 7(ix)).
- Helicopter landings are prohibited within the Area as they have the potential to damage the site by blowing scoria and ice particles and to accelerate the abrasion of the hut and surrounding artefacts. Vehicles are prohibited within the Area. Refer to 6(ii) for recommended approaches and landing sites near the Area.

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

Activities which may be conducted within the Area include:

- visits for conservation purposes;
- educational and/or recreational visits including tourism;
- scientific activity which does not detract from the values of the Area.

Visitors should adhere to the following Code of Conduct, except where conservation, research, monitoring or management activities specified in the Permit require otherwise:

- Thoroughly clean grit and scoria, ice and snow from boots using the brushes provided before entering the hut to reduce floor abrasion and only use tripods or monopods with flat bottomed rubber bases as opposed to those with metal spikes which can damage the floor;
- Remove any clothing made wet by sea water, and any sea ice crystals from boots, as salt particles accelerate corrosion of metal objects;
- Do not touch, move or sit on any items or furniture in the huts - handling artefacts causes damage;
- As many areas are cramped and artefacts can be accidentally bumped, do not wear packs inside and avoid the use of tripods or monopods when the maximum number of visitors (8) are in the hut at one time;
- When moving around the sites, take great care not to tread on any items which may be obscured by snow and remain on established walking tracks;
- Use of combustion style lanterns, naked flames or smoking in or around the hut is prohibited, as fire is a major risk; and
- Visits should be recorded in the book provided. This allows times and levels of visitation to be correlated with temperature and humidity data automatically logged inside the hut.

7(iii) Installation, modification or removal of structures

- No new structures are to be erected in the Area, or scientific equipment installed, except for conservation or scientific activities that do not detract from the values of the Area as specified in section 1.
- No historic item shall be removed from the Area, unless specified in a Permit issued in accordance with the provisions of section 7(vii).

7(iv) Location of field camps

- Use of the historic hut for living purposes is not permitted. Camping is prohibited within the Area under any circumstances.
- An existing field camp site and a New Zealand shelter are located at the north western boundary of the Area (see Map 2).

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

- No living animals, plant material, soil or micro-organisms shall be introduced to the Area. No food products shall be taken into the Area.

- Chemicals may only be introduced for permitted scientific or conservation purposes. Chemicals (including fuel) or other materials are not to be left in the Area, unless required for essential purposes connected with the conservation of the historic structures or the associated relics.
- All introduced materials are to be removed when no longer required and before a date to be specified in the relevant Permit.

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

- This activity is prohibited except in accordance with a Permit issued by the appropriate national authority specifically for that purpose under Article 3, Annex II to the Protocol on Environmental Protection.
- Where animal taking or harmful interference is involved, this should, as a minimum standard, be in accordance with the SCAR Code of Conduct for the Use of Animals for Scientific Purposes in Antarctica.

7(vii) Collection of anything not imported by the Permit Holder

- Material may be collected and removed from the Area for conservation or scientific reasons consistent with the objectives of this Management Plan only when specified in a Permit issued by the appropriate national authority.
- Materials which pose a threat to the environment or human health may be removed from the Area for disposal, in accordance with a Permit, where they meet one or more of the following criteria:
 - i. the artefact presents a threat to the environment, wildlife or human health and safety;
 - ii. it is in such poor condition that it is not reasonably possible to conserve it;
 - iii. it does not contribute in any significant way to our understanding of the hut, its occupants or the history of Antarctica;
 - iv. it does not contribute to, or it detracts from, the visual qualities of the site or the hut; and/or
 - v. it is not a unique or rare item;

and where such action is:

- i. undertaken by parties with appropriate heritage conservation expertise; and
 - ii. part of an overall plan for conservation work at the site.
- National authorities should ensure that any removal of artefacts and assessment against the above criteria is carried out by personnel with appropriate heritage conservation expertise.
 - Artefacts judged to be of high historic value, which cannot be conserved on site with currently available techniques, may be removed in accordance with a Permit for storage in a controlled environment until such time as they can safely be returned to the Area.
 - Samples of soil and other natural materials may be removed for scientific purposes only in accordance with an appropriate Permit.

7(viii) Disposal of waste

All human waste, grey water and other waste generated by work parties or visitors shall be removed from the Area.

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

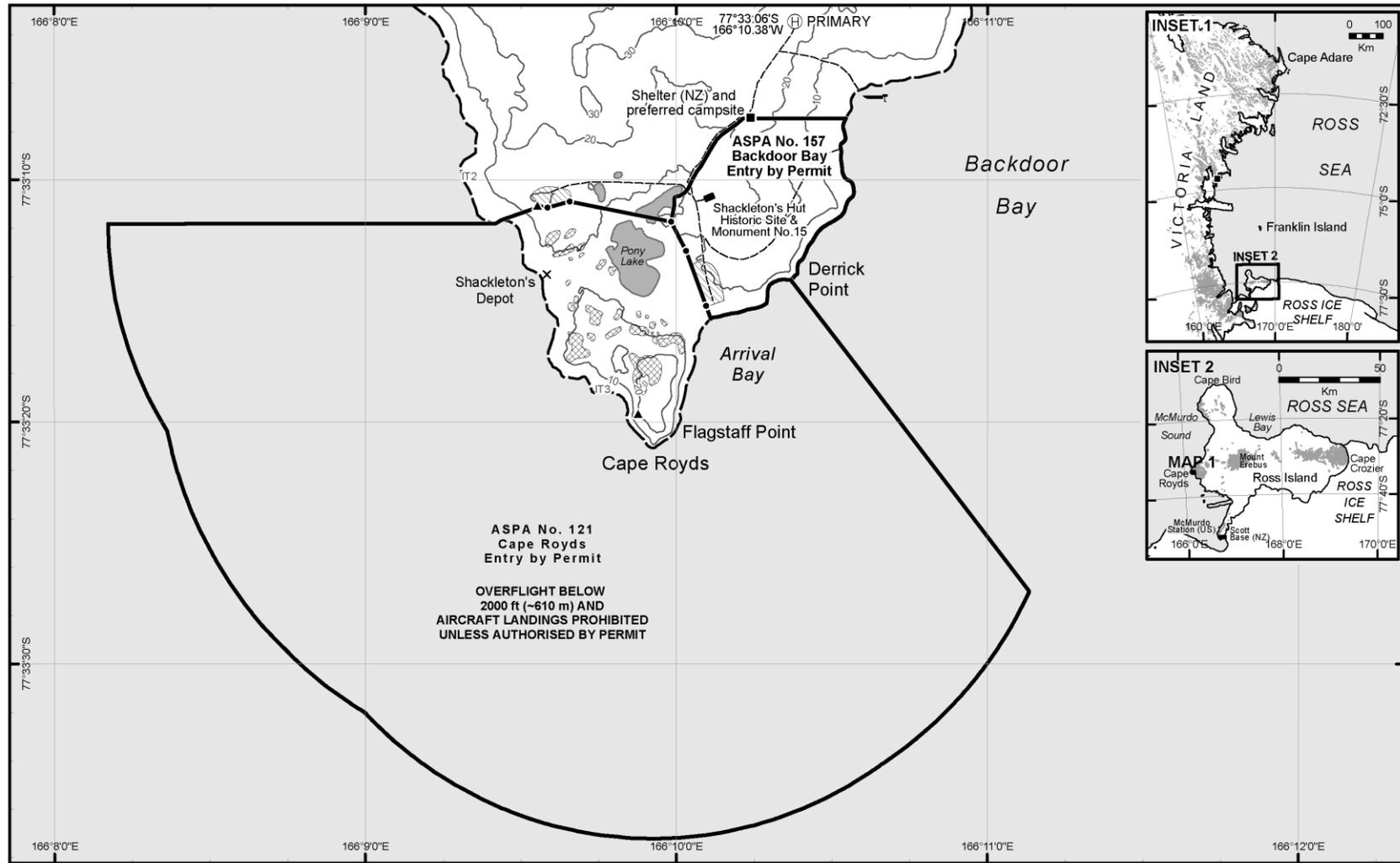
- The Permit, or an authorised copy, shall be carried within the Area.

- Information on the requirements of this Management Plan shall be provided to all visitors.
- The Code of Conduct set out in section 7(ii) shall be followed by all visitors, except where conservation, research, monitoring or management purposes require otherwise.
- Operators facilitating educational and recreational visits (including tourism) to the Area should, prior to commencement of the summer season, nominate people with a working knowledge of both the site and this Management Plan to act as guides during visits.
- All educational and recreational visits (including tourism) shall be supervised by a nominated guide, who is responsible for briefing visitors on the Code of Conduct and the requirements of this Management Plan and ensuring they are complied with.
- Parties should consult and coordinate to develop skills and resources, particularly those related to conservation techniques, to assist with the protection of the Area's values.

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. Such reports shall include, as appropriate, the information identified in the Visit Report Form provided in Appendix 4 of Resolution 2 (1998). In addition, any removal of materials in accordance with section 7(vii) shall be detailed, including the reason for removal and the current location of the items or the date of disposal. Any return of such items to the site shall also be reported.

Parties shall maintain a record of activities within the Area and, in the Annual Exchange of Information, shall provide summary descriptions of activities conducted by persons subject to their jurisdiction, in sufficient detail to allow evaluation of the effectiveness of the Management Plan. Parties should wherever possible deposit originals or copies of such reports in a publicly accessible archive to maintain a record of visitation, to be used both for review of the Management Plan and in managing further visitation to the site.



Map 1: ASPA No. 157 Backdoor Bay - Regional topographic map

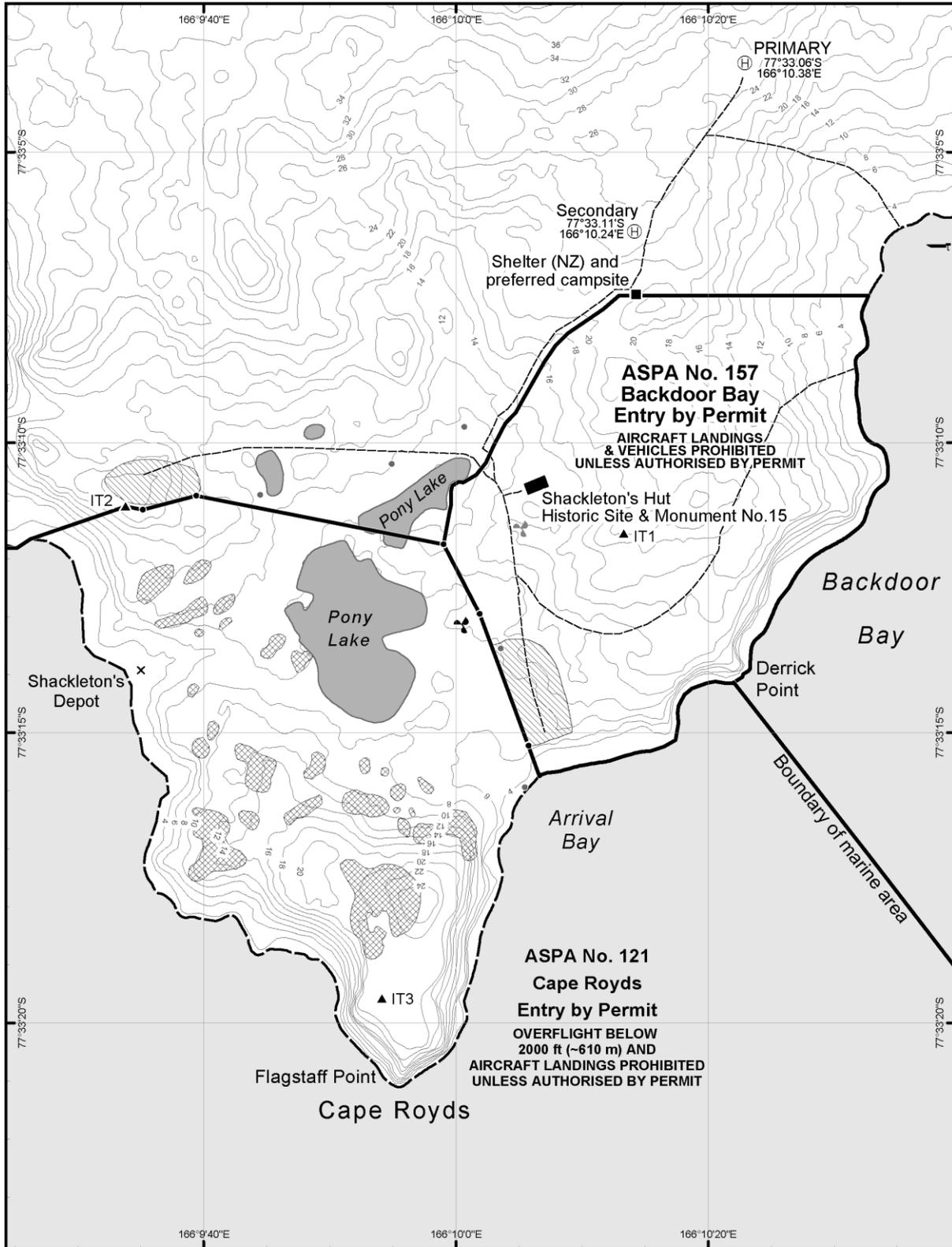
13 Apr 2015 (Map ID: 10093.001.03)
 Antarctica New Zealand
 Environmental Research & Assessment



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|--------------------|----------------------------------------------------|---------------------------|-----------------------------------|
| Coastline (approx) | Lake / pond | Path | Helicopter landing site |
| Contour (10 m) | Antarctic Specially Protected Area (ASPA) boundary | Building | Preferred small boat landing site |
| Ice free ground | Penguin nesting area 2005 (approx.) | Survey marker | |
| Ocean | Penguin viewing area | Signpost / boundary point | |

0 50 100 150 200
 Meters

Projection: Lambert Conic Conformal,
 Spheroid and horizontal datum: WGS 84,
 Data sources: ASPA boundary: ERA (Jan 2014);
 Signposts: UNAVCO (Jan 2014); Topography &
 infrastructure data supplied by Gateway Antarctica (2009);
 Penguins: digitised by ERA from georeferenced aerial
 image (2005) provided by Landcare Research.

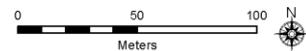


Map 2: ASPA No. 157 Backdoor Bay - Site topographic map

29 Jan 2015 (Map ID: 10093.0002.02)
 Antarctica New Zealand
 Environmental Research & Assessment



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|-----|---------------------|---|--------------------------------|---|-----------------------------------|
| —○— | Coastline (approx.) | ▬ | ASPA boundary | ● | Signpost / boundary point |
| —○— | Contour (2 m) | ▨ | Penguin nesting area (approx.) | ● | Signpost |
| □ | Ice free ground | ▨ | Penguin viewing area | ⊕ | Helicopter landing site |
| ■ | Ocean | — | Path | — | Preferred small boat landing site |
| ☉ | Lake / pond | ■ | Building | ⊙ | Automatic Weather Station |
| | | ▲ | Survey marker | ⊙ | Historic weather station |



Projection: Lambert Conic Conformal.
 Spheroid and horizontal datum: WGS 84.
 Data sources: ASPA boundary: ERA (Jan 2014);
 Signposts: UNAVCO (Jan 2014);
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