

Management Plan For Antarctic Specially Protected Area No. 156 LEWIS BAY, MOUNT EREBUS, ROSS ISLAND

Introduction:

An area on the lower slopes of Mount Erebus, above Lewis Bay on the north side of Ross Island, was originally declared a tomb in Recommendation XI-3 (1981) after notification by New Zealand that 257 people of several nationalities lost their lives when the DC-10 aircraft in which they were travelling crashed at this site on 28 November, 1979.

In spite of the determined and courageous actions of the New Zealand and United States Antarctic expeditions the bodies of some of those who died could not be recovered. Expressing deep sympathy with the relatives of those who died and with the Government and people of New Zealand, the tomb was declared in order to ensure that the area be left in peace. Because the site is a tomb, its values are enduring.

The Area was designated as a Specially Protected Area No. 26 by Measure 2 (1997) primarily to ensure the Area is kept inviolate as a mark of respect in remembrance and in order to protect the site's emotional values. The site was re-designated as Antarctic Specially Protected Area No. 156 by Decision 1 (2002) and a revised management plan was adopted by Measure 2 (2003). The management plan was reviewed and continued without changes at CEP XI (2008).

1. Description of values to be protected

The designated Area is the crash site of Air New Zealand flight TE-901, on the slopes of the north side of Mount Erebus, Ross Island. The Area encompasses the crash site and the surrounding glacial ice, 2 km to either side of this site down to the sea, and includes the airspace above this region to an altitude of 1000 m (3280 ft) with the exception of a 200 m wide air access 'corridor' along the coastline. The remains of the aircraft and the bodies of some of those who died that could not be recovered remain in the Area now designated as a tomb.

In late 1979 a six-foot Oregon timber cross was erected close to the crash site as a memorial to those who lost their lives. After damage by wind this cross was replaced on 30 January 1987 with a cross of stainless steel, located on a rocky promontory overlooking and approximately 3 km from the crash site (Figure 1). This site is not part of the protected area, but was designated as Historic Site and Monument (HSM) No. 73 in recognition of the commemorative and symbolic values of the cross. In November 2009, a stainless steel koru time capsule was installed next to the cross containing messages from the victim's families.

Based on the Environmental Domains Analysis for Antarctica (Resolution 3 (2008)) Lewis Bay is located within Environment O *West Antarctic Ice Sheet* (also includes inland Coats Land, Taylor Dome, Ross Island ice cap).

2. Aims and objectives

Management at Lewis Bay aims to:

- avoid degradation of, or substantial risk to, the values of the Area by preventing unnecessary human disturbance to the Area;
- ensure the crash site is kept inviolate and prevent unnecessary human disturbance to the Area;
- allow visits to the nearby site of the memorial cross for the purposes of commemoration or to pay respects;
- allow visits for purposes in support of the aims of the management plan.

3. Management activities

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

- All pilots operating in the region shall be informed of the location, boundaries and restrictions applying to entry and over-flight of the Area;
- The Area shall be visited as necessary to assess whether it continues to serve the purposes for which it was designated and to ensure the management activities are adequate;
- National Antarctic Programmes operating in the region shall consult together with a view to ensuring the above management activities are implemented.

4. Period of designation

Designated for an indefinite period.

5. Maps

Map A: Lewis Bay protected area topographic map. Note: Map A is derived from the Antarctic Digital Database (ADD) Version 1.0, 1993, which was prepared to a base scale of 1:250,000 under the auspices of SCAR. Positional corrections have been applied to the ADD source data using 1993 and 1995 Global Positioning System (GPS) data and 1993 aerial photography. Accuracy of the map remains approximate pending publication of new and accurate Ross Island maps at 1:50,000 scale. The geographical coordinates of the crash site and other features are considered accurate to within approximately 100–200 m horizontally. Elevation data are considered accurate to approximately 100 m vertically.

Specification: Projection: Lambert conformal conic; Standard parallels: 1st 79° 18' 00" S; 2nd 76° 42' 00" S; Central Meridian: 167° 30' 00" E; Latitude of Origin: 78° 01' 16.211" S; Spheroid: GRS80.

6. Description of the Area

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

The designated Area on the slopes of Mount Erebus (Map A) encompasses the crash site, centred on 77° 25' 29"S, 167° 28' 30"E, at an elevation of 520 m (1,720 ft). The Area includes the surrounding glacial ice 2 km to either side of the crash site. The Area extends as a 4 km wide 'rectangle' down to the sea, and includes the airspace above this region to an altitude of 1,000 m (3,280 ft), with the exception of a 200 m wide air access 'corridor' along the coastline.

The west boundary of the Area is the 167° 23' 33" E meridian; the east boundary of the Area is the 167° 33' 27" E meridian. The south boundary is the 77° 26' 33" S parallel, while the north boundary is defined by the coastline (Map A).

The aircraft's primary impact occurred at an elevation of 446.7 m. Debris from the wreckage was spread up-slope 570 m from that point, over an area 120 m wide to an elevation of 580 m (1,900 ft). Much of the aircraft wreckage is now buried in ice and is slowly moving down-slope with the glacier to the sea. The bodies of some of those who died could not be recovered and remain in the Area.

Boundary markers have not been placed to mark the Area for two reasons: their presence is considered detrimental to the inviolate values of the site, and their maintenance would be impractical on the moving glacier.

6(ii) Access to the area

Land vehicles are prohibited within the Area and access shall be by foot or by helicopter. Overflight of the Area is prohibited below 1,000 m (3,280 ft) above sea level with the exception of a 200 m wide air access 'corridor' along the coastline which allows transit of aircraft through the Area at times when visibility or conditions make avoidance of the Area otherwise impractical. No special restrictions apply to the air routes or landing sites used to move to and from the Area by helicopter when access is permitted.

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

The stainless steel memorial cross (HSM No. 73) is located on a rock outcrop (77° 26' 38"S, 167° 33' 43"E, at an elevation of 810 m (2,660 ft)) approximately 3 km southeast of the crash site, and is a symbol of the special significance of the Area. A stainless steel koru time capsule was installed next to the cross containing messages from the victim's families in November 2009. No other structures exist within or near the Area. Debris from the aircraft remains *in situ*.

6(iv) Location of other protected areas in the vicinity

The nearest protected areas to Lewis Bay are:

- ASPA 130 Tramway Ridge, Mount Erebus, 15 km south near the summit of Mount Erebus;
- ASPA 116 Caughley Beach, New College Valley, Cape Bird approximately 35 km northwest on Ross Island;
- ASPA 121 Cape Royds and ASPA 157 Backdoor Bay, approximately 35 km west on Ross Island; and
- ASPA 124 Cape Crozier, 40 km to the east 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

7(i) General permit conditions

Entry into the Area is prohibited except in accordance with a Permit issued by an appropriate national authority. Conditions for issuing a Permit to enter the Area are that:

- it is issued only for compelling reasons that are in support of the aims of the Management Plan;
- the actions permitted are in accordance with the Management Plan;
- the actions permitted will not compromise the values of the Area;
- the Permit shall be issued for a finite period;
- the Permit, or an authorized copy, shall be carried when in the Area; and
- a visit report shall be supplied to the authority named in the Permit.

7(ii) Access to, and movement within or over, the Area

Land vehicles are prohibited within the Area and access shall be by foot or by helicopter. Overflight of the Area is prohibited below 1,000 m (3,280 ft) above sea level, except for essential access related to the values for which this site is protected, or for inspection and monitoring of the site. No special restrictions apply to the air routes used to move to and from the Area by helicopter when access is permitted. At all other times, a 200 m wide air access 'corridor' is located along the coastline which allows transit of aircraft through the Area at times when visibility or conditions make avoidance of the Area otherwise impractical (Map A). Use of helicopter smoke grenades within the Area is prohibited unless absolutely necessary for safety, and then these should be retrieved.

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

All visits to the Area for any purpose shall be made recognising the principal values to be protected in the Area, and as far as possible the Area should be left in peace.

Visits may be made for essential management activities including inspection to ensure the values of the Area are being maintained and to determine if materials at the site present a problem by emergence from the ice and then possible wind dispersal, or for securing or removal of such items. Visits may also be made for removal of materials introduced into the Area subsequent to its designation, if appropriate.

7(iv) Installation, modification or removal of structures

No new structures are to be erected within the Area, except as specified in a Permit. It is prohibited to modify or remove any structure that was present within the Area at the time of special protection designation.

7(v) Location of field camps

Camping is prohibited within the Area, unless under exceptional circumstances for management. Where camping is required for such activities, the site selected shall be no closer than 200 m from the location of the wreckage at the time of the visit (77° 25' 29"S, 167° 28' 30"E).

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

It is prohibited to introduce any materials into the Area. Smoke grenades used when absolutely necessary for safety of air operations should be retrieved.

7(vii) 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 issued in accordance with Annex II of the Protocol on Environmental Protection to the Antarctic Treaty.

Where taking or harmful interference with animals 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(viii) The collection or removal of materials not brought into the Area by the Permit holder

Unless specifically authorized by permit, visitors to the Area are prohibited from interfering with or from handling, taking or damaging anything not brought into the Area by the Permit holder. If it has been determined that materials at the site are emerging from the ice and dispersal by wind presents a management problem, such materials should be appropriately disposed of with due regard to the families of victims and according to national procedures. Materials introduced into the Area subsequent to designation may be removed unless the impact of removal is likely to be greater than leaving the material *in situ*. If this is the case the appropriate authority should be notified.

7(ix) Disposal of waste

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

7(x) Measures that may be necessary to continue to meet the aims of the Management Plan

Permits may be granted to enter the Area for compelling reasons that are in support of the aims of the Management Plan. To help maintain the site's emotional value, visits to the Area should be minimised as far as practicable.

7(xi) Requirements for reports

The principal permit holder for each visit to the Area shall submit a report to the appropriate national authority as soon as practicable, and no later than six months after the visit has been completed. Such visit reports should include, as applicable, the information identified in the recommended visit report form [contained in Appendix 4 of the Guide to the Preparation of Management Plans for Antarctic Specially Protected Areas appended to Resolution 2 (1998)].

If appropriate, the national authority should also forward a copy of the visit report to the Party that proposed the Management Plan, to assist in managing the Area and reviewing the Management Plan.

Parties should, wherever possible, deposit originals or copies of such original visit reports in a publicly accessible archive to maintain a record of usage, for the purpose of any review of the Management Plan and in organising the use of the Area.



Figure 1: Memorial cross for the 1979 Mount Erebus crash victims (HSM No.73) and koru time capsule (installed in November 2009), overlooking the crash site (© Antarctica New Zealand Pictorial Collection: K322 09/10).

Map A – Lewis Bay, Antarctic Specially Protected Area No. 156: Topographic Map

