

HEROIC HUTS AND BEYOND: MANAGING AUSTRALIA'S HISTORIC ANTARCTIC HERITAGE PLACES

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INTRODUCTION

Awesome and unremitting extremes at sites of Australian endeavour in Antarctica both define and threaten these places' heritage values. Freezing cold, hurricane force winds, marching ice and unforgiving isolation have drawn explorers and scientists. They also create challenges for those in charge of managing what they left behind.

While the Australian Antarctic Division manages Antarctic heritage places, historic heritage management is not one of its guiding goals (which refer to good governance under the Antarctic Treaty, environmental protection, climate research and other work: DEW, 2007: 64). However, with recently redefined legal obligations and a new departmental heritage strategy, 2006-2009 marks for the AAD a new phase of assessing, publicising and managing heritage.

The icons of Australia's Antarctic heritage are the timber huts of Douglas Mawson's 1911-1914 Australasian Antarctic Expedition. The huts are 3000 km from Australia and over 1000 km from the nearest Australian research station, but the images of wind-blasted huts, and the tortured figure of Mawson stumbling back to them after his epic sledging journey, are central to Australians' understanding of the Heroic Era of Antarctic exploration.

Lesser known heritage relates to Australia's subsequent formal claim over nearly half of the frozen continent, before Australia established a permanent presence in Antarctica. These sites are less substantial than Mawson's huts, but are politically influential as tangible associations with the territorial claim era. Some of the least known heritage places are on or within the daily reach of permanently occupied stations. The historic heritage of the AAD / Australian National Antarctic Research Expeditions (ANARE) helps tell the story of the early years of Australia's continuous Antarctic occupation and research.

This paper discusses the nature of some of Australia's Antarctic heritage, and outlines some of the challenges confronting its custodians.

THE HEROIC HUTS

The Australasian Antarctic Expedition, 1911-14

'Mawson's Huts' are two intact timber huts and two standing ruins that have clung for ninety-five years to Cape Denison, a 1.5-km wide rocky peninsula projecting into the centre of Commonwealth Bay, George V Land (67°S, 142° 39' E), at the foot of the Antarctic ice cap. They were the 'main base' or 'winter quarters' of the only truly Australian expedition in the Heroic Era, the Australasian Antarctic Expedition (AAE), led by the great Australian geologist and explorer, Dr (later Sir) Douglas Mawson (1882-1958).

Mawson, twelve Australians, two New Zealanders, two Britons and a Swiss occupied the base from January 1912 to February 1913. They investigated the region's previously unstudied magnetics, meteorology, biology and geology, intending 'to make continuous scientific records at the base-station, and to investigate the surrounding region by sledge journeys' (Mawson, 1914: 258). Their records reveal that their base is the windiest coastal place on earth, with an average daily maximum of 71 km per hour, and frequent snow and ice laden blizzards exceeding 100 km per hour. Surface temperatures, not including wind chill, generally range from -21° C and below in winter, to -3° C in summer.

Six volunteers remained with their leader for an unplanned second year, upon Mawson's late return from the far eastern sledging journey, which only he survived. In November-December 1913, the remaining men packed everything of value, erected a memorial to the two expeditioners who perished, and abandoned the base to the elements. What we now honour as Mawson's Huts Historic Site — in Australia as a National Heritage place and a Commonwealth Heritage place, and internationally as an Historic Site and Monument under the Antarctic Treaty — contains the living quarters and workshop and the remains of purpose-built scientific huts, the memorial, scattered relics, and a plaque marking Mawson's proclamation of sovereignty over the Australian sector of Antarctica seventeen years later.

The Main Hut — two conjoined prefabricated Oregon timber huts (7.3 m square and 5.5 m by 4.9 m) erected in February 1912 — housed the men,

their supplies, their dogs and their workshop, under snow to the roofline for most of the year. It features distinctively Australian verandahs, and innovations based on Mawson's experience in the Ross Sea with Ernest Shackleton, aiming for 'strength to resist hurricanes, simplicity of construction, portability and resistance to external cold' (Mawson, 1915). The occupants viewed their living quarters as a haven, yet their stove only achieved an internal temperature of around 4° C (Mawson, 1942: 116): the men were hardy; outside was appalling.

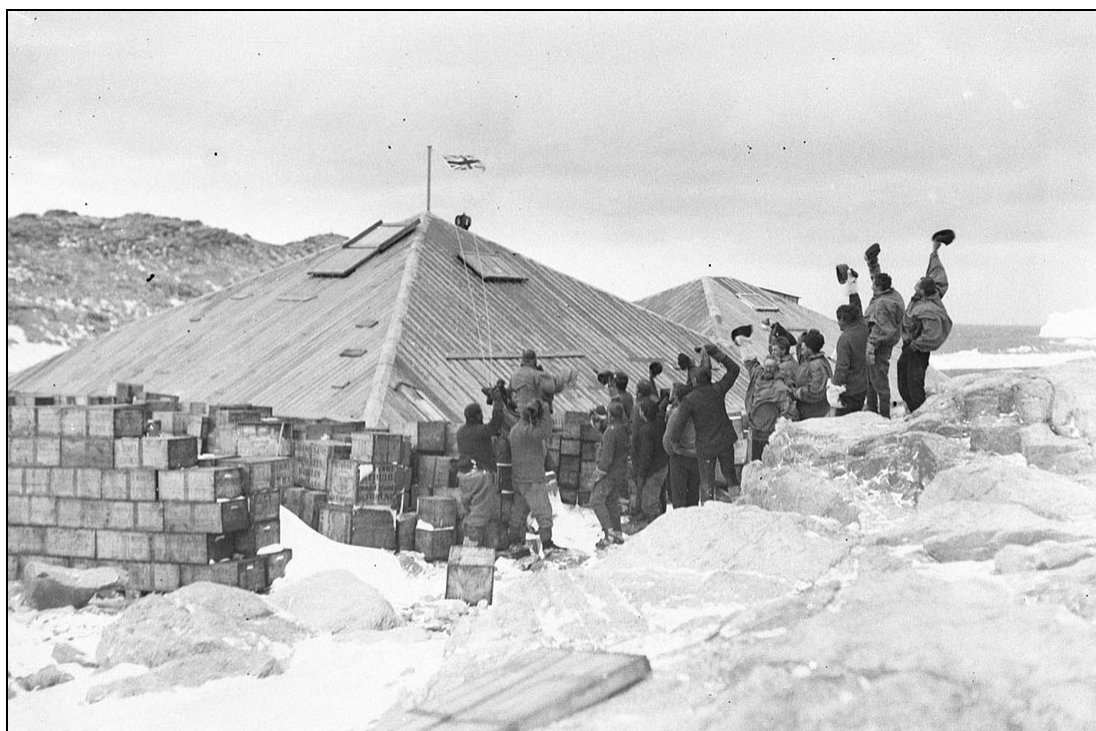


Figure 1: Raising the flag at Cape Denison after erection of the hut (Frank Hurley, 1912: State Library of NSW image 36627)

Thirty metres to the east of the Main Hut lie the ruins of the Transit Hut, an astronomical observatory. On a nearby ridge stands Magnetograph House, erected in March 1912 (5.2 m by 2 m), and the ruins of the small Absolute Magnetic Hut, which were used together to measure the earth's magnetic field. Beyond the huts, there are plumes of artefacts and masts and wires from the first ever Antarctic wireless radio station, which (with limited success) connected the base to Australia via a relay station at subantarctic Macquarie Island.

It is remarkable that something so ephemeral has endured — a remote base, designed for a single year's occupation, only secured from the relentless blizzards by its occupants' vigilance (not to mention their socks, stuffed as caulking into gaps between the boards). Moreover, since Mawson ensured that the place was stripped of everything in working order or with a prospect of re-sale to retire the expedition's debts, it is intriguing that it should still be considered a high integrity historic site.

Mawson's huts endure, physically — allowing an appreciation of what the place was like when the AAE departed the site in 1913, and metaphysically —

through the story of the expedition and its sledging journeys, that 'raw, elemental fight with nature where humanity is stripped to its essentials' (Griffiths, 2007: 25). While the documentary history stands in its own right, these associations clearly rely on 'the known physical presence of the distant remains' (Mackay, 2005: 119-120).

Saving the huts

An officer on the *Aurora* pondered as the expedition's ship steamed away from Cape Denison whether anyone would ever return, and concluded 'I doubt it, after our tale of the weather' (Grey diary, 23 December 1913). The site did lie untouched, until 1931, when Mawson's second BANZARE team, amazed to find so much intact from the AAE years, spent one nostalgic night in tents on shore. Some books and fuel cans were souvenired, and the Absolute Hut was de-roofed. The original expedition's photographer, Frank Hurley (1885-1962) found that gaps in the Main Hut walls had allowed frost encrustations on many objects, while 'an unbroken sheet of ice about 18 inches thick' covered the floor (Hurley diary, 5 January 1931).

Since then, blizzards have enabled snow and ice to infiltrate, placing pressure on the hut's structural members, warping and dislodging fittings, and obscuring the original configuration and objects. The high winds seriously eroded the edges and ridges of the Main Hut and shattered all but the frames of the two smaller huts. From the 1950s, national expeditions began passing through the site, and many registered concerns about the deterioration.

In the late 1960s, believing the Main Hut was on the brink of irreversible collapse and assuming that the costs of sending maintenance parties would be prohibitive, a proposal was made to dismantle the original fabric and reconstruct the hut in an Australian museum (Burch, 1968: 12). Ten years on, however, ANARE teams removing snow and ice from the huts recommended saving the huts *in situ*, in line with the developing philosophy of heritage management (Mackay, 2005: 112). By 1972 the place was a listed historic site under the Antarctic Treaty, and it would become mandatory that listed historic sites 'shall not be damaged, removed or destroyed' (Environmental Protocol Annex V, article 8). It was on the Register of the National Estate by 1980, and the Burra Charter exhorts site managers not to relocate a significant structure 'unless this is the sole practical means of ensuring its survival' (article 9).

The imperative to preserve the huts in their original context has received widespread support from the heritage community (e.g. Blunt, 1985; Hughes, 1992; Pearson, 1993; Mackay, 2005; Griffiths, 2007), although there is a vigorous debate about the preferred methods. A proposal to remove at least the outer boards and some of the contents of the huts to a museum also persists (see Ellyard & Burch, 2006).

On-site conservation has been undertaken by more than a dozen expeditions since the late 1970s. Half were official ANARE / Antarctic Division parties, who reached the site in years when it was possible to divert a ship during a resupply voyage to a working station. Half were organised by private groups, notably Project Blizzard in the mid-1980s, and the (formerly AAP) Mawson's Huts Foundation since the mid-1990s, in years when government grants

and/or sponsorship funds and logistical support from tour operators and others were available. Early work in patching holes gave way to more systematic conservation phases. Maintenance-style tasks have included reattaching the blown off crossbar of the memorial cross (in 1931, 1974, 1978 and 1998), repairing collar ties supporting a platform in the Main Hut, recording artefacts, and reinstating some boards of the smaller scientific huts to prolong their life as standing ruins.

Members of the works teams emphasise that the huts survive not by miracle, but 'because of the skills and forethought of those who planned and built them' and 'because the severe cold limits normal timber deterioration' (Ashley, 1997). Paradoxically, while the cold preserves the fabric by preventing organic threats, the wind and its flying snow and ice has abraded many boards to the brink of collapse, as it has at other Antarctic sites (Harrowfield, 2006). A key intervention has been to remove ice to reveal the internal configuration and spaces, provided monitoring confirms that its removal does not compromise the internal environment (Daniel and Ashley, 2002). It is painstaking and exhausting, especially when it comes after several days of sawing giant blocks of ice away from the hut's perimeter just to gain entry.



Figure 2: The Main Hut, after over-cladding (Simon Mossmann, 2006: Mawson's Huts Foundation, AAD collection)

In light of concerns that the huts were on the brink of blowing away 'like a pack of cards' (Ashley, 1997), between 1998 and 2006, the roofs of the Main Hut workshop, the Magnetograph House and the Main Hut living section were over-clad with new timber encapsulating the weathered original boards. This reversible action has ensured the huts' structural soundness, using timber matching the original material. Nonetheless, there have been concerns about

the undeniable cost, at least in the medium term, of the visual integrity of parts of the site. In December 2006 a Mawson's Huts Foundation crew, assisted by and implementing the works plan of the AAD, over-clad the living section roof. The edges and corners of its 25 mm thick boards had abraded at the rate of 1 mm every ten years since construction. Over-cladding with a fabric membrane and new boards was considered the only option to secure the interior from snow or ice, and maintain the integrity of the roof plane and structure.

Managing the huts

The last three conservation expeditions to Cape Denison were guided by the 2001 Conservation Management Plan, commissioned by the Mawson's Huts Foundation, supported by the AAD, and prepared by Godden Mackay Logan Pty Ltd. During the life of that plan, on-site teams completed major structural conservation work and made inroads into documenting the artefacts. Off-site, the AAD gained the consent of Antarctic Treaty parties to establish an Antarctic Specially Protected Area, and an Antarctic Specially Managed Area. The site also became a National Heritage place and a Commonwealth Heritage place.

With most of the structural stabilisation complete, future expeditions will still need to perform maintenance, but should be able to focus on ice removal to reveal the spaces, fabric and objects inside the Main Hut, and continue archaeological work. Cultural heritage objects are in various conditions — but even the seriously deteriorated material originally viewed as 'compost' fit only for digging out and discarding (Ledingham, 1978: Section 8) may become for archaeologists a resource enriching our understanding of the site (Pearson, 2004: 39; Lazer, 2007: 7).

The new phase of works and the obligations from the new heritage listings makes 2007 an opportune time for the AAD to develop a new plan of management to uphold its obligations as the manager of such an esteemed historic site. AAD heritage officers drafted the new plan by drawing on and updating the 2001 management principles, addressing the National and Commonwealth heritage requirements, incorporating the provisions of the Antarctic Treaty management plans, and returning to the sometimes overlooked primary sources. Several external heritage experts commented on an early exposure draft, which was also introduced to a well-attended seminar convened by the Mawson's Huts Foundation.

The new management plan also encourages public-private partnerships. In May 2007, while comments were being sought on the exposure draft, the Australian Government announced that the public purse will continue to fund on-site conservation, through a \$1.3 million grant to the Mawson's Huts Foundation. The Foundation, in turn, will raise additional funds.

Since the plan is being prepared by, rather than submitted for the consideration of, the site's owner, it can state with some authority what is acceptable (controlled tourist visits; removal of ice to reveal the end-of-occupation configuration) and what is not (replicas to recreate the sense of an occupied site). Site management is answering the sorts of underlying

questions Chaplin noted ‘often exercise the minds of those working to preserve polar heritage sites’ (Chaplin, 2004: 24):

Q: Tourism: *should tourists be allowed?*

A: Yes, in a controlled manner — with guides and in limited numbers (four people inside the hut at any time).

Q: Conservation principles: *does the plan go beyond environmental issues and visitor codes of conduct?*

A: Yes — it describes the history and the condition of heritage values and sets management policies.

Q: Replication: *is it legitimate to enhance the visitor experience?*

A: No, replicated artefacts would undermine the site’s relatively undisturbed historical integrity.

Q: Relics or rubbish: *does it distinguish them?*

A: No — now that post-BANZARE items have been removed, all rubbish is an archaeological deposit (Lazer 2007, Pearson 2004). The plan does, however, prioritise conservation of ‘exceptional’ items.

Q: Intervention: *does it state an historical reference period?*

A: Yes — the reference point is December 1913, when the AAE departed the site (except for parts modified in 1931).

Q: Conflicts: *is there pressure to subordinate historical values to aesthetic, environmental or wilderness values?*

A: No — the plan states that if there is a conflict, the historic values take precedence.

Stakeholders have called for the management plan to articulate a guiding conservation philosophy. The plan will do so, outlining how Mawson’s Huts Historic Site should be ‘valued, protected and understood’. In valuing evidence of the December 1913 configuration, the draft plan encourages cautious removal of ice, while preserving a sense of time elapsed elsewhere, such as the ruined scientific huts. In protecting significant fabric *in situ*, the draft plan calls for objects to be kept in or returned to their original context, and only allows them to be removed for treatment if they are especially important to interpretation, and that is the only means of ensuring their survival. To help more people understand the site, the draft plan calls for partnerships with private organisations and collections agencies.

BEYOND THE HEROIC HUTS: ‘OTHER’ ANTARCTIC HERITAGE

History worth listing

After the Heroic Era of polar exploration gave way to war, several decades passed before land-based activities resumed in East Antarctica. Australian endeavours in the 1930s were as political as they were scientific — short-term visits, driven by the strategic imperative to claim territory. At the start of the decade, Sir Douglas Mawson claimed possession, in the name of King

George V, of lands during the BANZARE voyages of the *Discovery*. Cairns and plaques marking his five proclamation sites signify the origins of what became Australian Antarctic Territory. At the end of the decade, Australian aviator Sir Hubert Wilkins reiterated Mawson's proclamation in the Vestfold Hills, in the hope of negating the plans of his expedition leader Lincoln Ellsworth to claim the area for the United States. While Wilkins' 'claims' (like Ellsworth's) had no official status or legal bearing, they are interesting insights into ongoing territorial anxieties.

In 1953 the inaugural Antarctic Division director, Dr Phillip Law (born 1912), took the *Kista Dan* to establish a year-round station in Australian Antarctic Territory, in Horseshoe Harbour, Mac.Robertson Land. On 13 February 1954, Law's party raised a flag — the Australian flag this time — and named their first modern station in honour of Mawson. Each of the six Australian-designed prefabricated aluminium clad panel huts that founded the small village of Mawson station could be erected in a single day. Two more stations would be occupied by the end of the 1950s.

Structures on the three permanent bases for Australian Antarctic research have been variously maintained, overhauled, adapted, removed and replaced, or destroyed by the elements in the last half century. From the late 1970s to the 1990s, the spartan huts and sheds were replaced by large, generic modular structures on concrete foundations with insulated steel panel walls. Heritage assessments and management arrangements have been based on the reasonable premise that the places of heritage significance are the earlier buildings that predate, and are now towered over by, the products of the modern rebuilding program.

The Heroic Era, the territorial claims and the station founding phase gave rise to official heritage 'listings'. Since the inception of the Register of the National Estate, six Antarctic places for which the AAD is responsible have been registered, three did not progress beyond 'indicative' status, and one was recorded as destroyed. Under the Antarctic Treaty, Australia is also the designated manager of five Historic Sites and Monuments, nine Specially Protected Areas and two Specially Managed Areas (one jointly with other nations).

The 2004 amendments to the *Environment Protection and Biodiversity Conservation Act 1999* set management principles for places on the new National Heritage and Commonwealth Heritage lists: how agencies like the AAD must help the Minister and the Australian Heritage Council identify, assess and monitor the places' values, and manage them to protect, conserve, present and transmit their values to all generations. In Antarctica, the AAD manages one listed National Heritage place of 'outstanding heritage value to the nation', together with two listed and four indicative Commonwealth Heritage places, owned or controlled by the Commonwealth and of 'significant heritage value'.

The AAD's obligations have been distilled into principles, processes and timelines in the Heritage Strategy of its parent Department of the Environment and Water Resources (formerly Environment and Heritage). In short, under the strategy the AAD will make information about Antarctic heritage places publicly available on a departmental heritage register, and then formalise

heritage management plans. This task sees the AAD expanding upon the existing heritage listings, as well as drawing on professional heritage assessments the AAD has commissioned over the past two decades.

'Significant' Australian heritage in Antarctica

Mawson station, established in 1954 on the coast of Mac.Robertson Land (67° 36' S, 62° 53' E), is Australia's oldest Antarctic station, the first ever permanent base south of the Antarctic Circle, and the oldest continuously occupied station in Antarctica. Although it supports less scientific research than Australia's two other stations, it is regarded as the most historically significant and aesthetically inspiring, with its mountainous backdrop. Conditions are milder than at Cape Denison, but still fierce: mean monthly temperatures drop to -18.8°C in August, and there are frequent prolonged southeasterly katabatic winds with mean speeds over 90 km per hour and gusts exceeding 180 km per hour.

Mawson station was included on the Commonwealth Heritage List for its historic values in 2004. Thirteen station buildings had already been entered onto the Register of the National Estate. The station's cultural significance was formally assessed in the 1990s (Clark & Wishart, 1993; Rando & Davies, 1996).

Mawson was a test site for prefabricated panel building systems, which provided solid insulated huts: their 'only limitation' was cost (Bowden, 1997: 121). The successive 'post-tensioned box' designs (from bare plywood cladding to aluminium, zinc anneal and finally asbestos cement sheeting) were on much smaller scales than the current Australian Antarctic Building System (AANBUS) modules. Several huts remain from the original station, although a dozen early structures that were deemed safety or environmental hazards were removed following recording in 1998. What remains is largely below the new station buildings: eight key buildings in a wedge approximately 110 m by 70 m, while the other seven key original buildings are scattered, but more integrated into current operations.

Biscoe Hut, the original living quarters of the first wintering party, was the only timber frame and timber board clad structure erected at Mawson station. The 7.9 m square pitched-roof hut was made by the Norsk Polar Institute for the Norwegian, British and Swedish Expedition, from whom it was purchased. As such, it is unique on Australian stations (Clark and Wishart, 1993). It was put to various uses: for drying and storing sledges, as a brewery and brewery store, a sewing room, and a carpenter's shop. In 2003, fire caused by a malfunctioning electrical heater gutted the building, and smoke, soot, and the 6000 litres of water used to extinguish the blaze caused severe damage.

In 2006-07, the AAD began major repairs: a heritage carpenter spent a summer at the station replacing charred timber, removing the skylights for transfer to Australia for duplication, and repairing the walls and doors.



Figure 3: Biscoe Hut, Mawson station during repairs (Mike Staples, 2007: © AAD)

The restoration of Biscoe Hut, under way with extensive recording with digital photography, notes and diagrams, presents an opportunity for station residents to appreciate what remains of the old station precinct, and submit further ideas on conserving the history it embodies.

Davis station, on the edge of the ice-free Vestfold Hills, Ingrid Christensen Coast, Princess Elizabeth Land (68°35'S, 77°58'E), is the southernmost Australian base, founded in 1957 for the International Geophysical Year. From humble beginnings — wintering groups of ten or fewer men, in a row of small huts — Davis has become the largest and arguably the most important base for Australian Antarctic science.

The Davis station group, and a cairn marking the 1935 landing of the Norwegian Captain Klarius Mikkelsen and his wife Caroline (who became known as the first woman to set foot on Antarctica) are both on the Register of the National Estate, and 'indicative' places on the Commonwealth Heritage List. The cultural significance of Davis station buildings and other places in the Davis region was formally assessed in 1995 (Rando & Davies, 1996b).

Little of the original line of huts remains. Once the program of documenting and removing dilapidated buildings from the 'Old Donga Line' is complete, only nine associated with the early Davis period will remain, mostly within approximately 100 metres of the core of the new station.



Figure 4: Old OICery, Davis station (Deborah Bourke, 2003: © AAD)

The removal of the Old Donga Line, begun in 2002-03 and with a second phase scheduled for 2007-08, will make the station safer for its occupants and the natural environment, while resulting in a loss of on-site heritage values. The AAD intends to retain the remaining buildings, and to conserve similar buildings at Mawson station — ‘Wilkins’ and ‘Shackleton’ — as representatives of this type.

Casey station, on a peninsula in Vincennes Bay, on the Budd Coast of Wilkes Land ($66^{\circ} 17'S$, $110^{\circ} 41'E$), was completed in the AANBUS style in 1991. It is the third station built in an area occupied by the Australian Antarctic program since 1959. The first — Wilkes — is buried, both in ice and in a diplomatic quandary about whose inheritance it is. While Wilkes was proposed for the Register of the National Estate, it remained as an ‘indicative’ place, subject to clarification of whether it should be viewed as an Australian or American responsibility. The second station — the first ‘Casey’ (1965-1991) — which sat a scaffold frame to prevent burial by drift snow, was documented and removed (Clark & Wishart, 1990).

Wilkes station is still there, and is still generating debate. Indeed, it tends to be the only site of heritage interest mentioned in overviews of the Casey region (e.g. Lazer, 2006). American expeditioners constructed the station (in just sixteen days) for ‘Operation Deep Freeze 2’ in the International Geophysical Year. In February 1959, Wilkes passed into Australian custody, on the condition that it remained U.S. State Department property. Under the

custody arrangement, Australia reported annually to the United States on the use of stores and supplies. Since 1969, in the absence of a definitive statement of U.S. interest in preserving or removing the station, the AAD has primarily sought to prevent the remains, now mostly buried in ice, from causing environmental damage by cleaning up hazardous wastes, and documenting the site (Clark & Wishart, 1989; Vincent, 2002).

To some, Wilkes is a tip which should be cleaned up. This seemed to be the impression of parliamentarians who made official Antarctic visits in the past two years (see Senator Barnaby Joyce, *Hansard, ECITA*, 25 May 2006: 12, and Mr Jason Wood MP, *Hansard*, 29 March 2007: 125). Annex III of the Environmental Protocol to the Antarctic Treaty requires waste disposal sites and abandoned work sites to be cleaned up 'by the generator of such wastes and the user of such sites', unless this would interfere with a historic site or cause more damage. Wilkes is not a recognised historic site. However, to archaeologists, a largely intact American IGY base is a rich deposit for our understanding of 'the occupation and human history of the early scientific stations' (Pearson, 2004: 41).

CONCLUSION

While Antarctica is first and foremost a peerless wilderness, protected for its natural values, it contains intriguing links to generations of human activity on the frozen frontier. The evidence is both defined and threatened by physical extremes. Cold, wind and ice create the dramatic setting and the distinctive weathered patina, but over time seriously erode most materials. Remoteness accentuates our appreciation of the pioneers' fortitude, but also makes the logistics of conservation convoluted and expensive. There are extremes too in the debates: from 'save everything' to 'clean up everything'.

Mawson's Huts will always be the jewels in Australia's crown, and preserving the site is a clear political and public priority. In 2007, with the conclusion of a major phase of structural conservation works and the launch of a new management plan, debates are resurfacing. Will the next few years of conservation honour the AAD's obligations and meet the expectations of other communities of interest and expertise with a stake in the site's future?

Transporting conservation teams to the extremely remote and often inaccessible huts is a vexed issue, and looks likely to continue to depend on the passing ships of other nations or tour operators. This needs to be factored into expectations, as it may prescribe the time available for works parties.

On occupied stations, the notion of 'listed heritage' invokes for a national Antarctic program both gratitude for the recognition and anxiety about whether this might impose unrealistic obligations. When resources on ships, aircraft and stations are stretched, and fuel bills are escalating, proposals to maintain unused buildings (which may mean constantly heating them) are likely to be resisted. Moreover, the prevailing Antarctic Treaty philosophy is to tread lightly: nations now remediate old waste sites, and build stations on the basis that they will be removed and recycled at the end of their operational lives.

Antarctic bases are workplaces, not museums, and while a tour ship may visit, for Australian stations this amounts to a few hours once every three or four years. One way to preserve structures of heritage value is to ensure they have a use. However, the modern stations were designed to meet specified needs, so this will not be possible for all the original buildings. Can we run economically and environmentally efficient stations, and adequately preserve what brought Australia there in the first place?

In other words, in yet another Antarctic paradox, while a key challenge facing the conservation of the iconic Mawson's Huts is that they are so far from a working station, a key challenge of conserving lesser known heritage sites at places like Mawson and Davis stations is that they are on a working station.

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