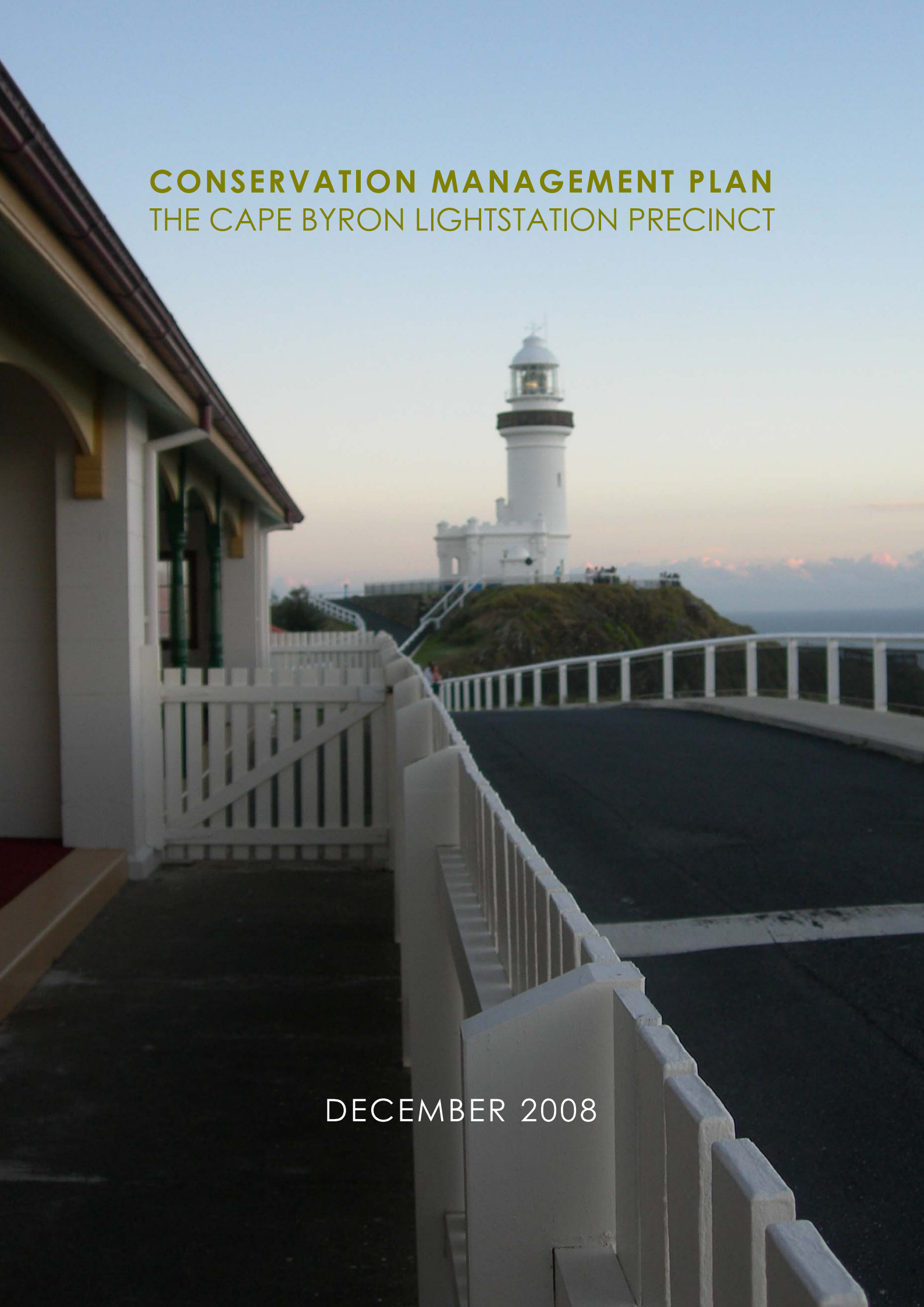
CONSERVATION MANAGEMENT PLAN
THE CAPE BYRON LIGHTSTATION PRECINCT



DECEMBER 2008

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FREEMAN ELLSMORE
DECEMBER 2008

Commissioned by the Cape Byron Trust and the Parks and Wildlife Group
(PWG) of the Department of Environment and Climate Change (DECC)

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Cover photo
Cape Byron Lighthouse at dawn viewed from the southern Assistant Lightkeeper's quarters. Source: Cheryl Leary 2008.

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EXECUTIVE SUMMARY

This Conservation Management Plan for the Cape Byron Lightstation Precinct was commissioned by the Cape Byron Trust and Parks and Wildlife Group (PWG) of the Department of Environment and Climate Change (DECC) to provide direction and guidance for the day-to-day management and long-term conservation of the precinct's significant cultural and natural heritage values. It was prepared with the involvement and support of a representative project steering committee and in accordance with the methodology outlined in the *Australia ICOMOS Burra Charter 1999*.

This plan updates a number of other planning documents. Among other requirements, the project brief called for a review of significance, an updated historical context, an archaeological zoning plan, and practical management policies to guide both day-to-day and longer term decision-making. In addition, steering committee members identified a range of challenges and issues in managing the place, and these were considered in developing this plan.

The Cape Byron Lightstation has a high level of recognition comparable with some of Australia's other iconic tourism attractions—largely relating to its outstanding physical setting and notable aesthetic values; its associations with Byron Bay; its cultural and historic values; and its location at the most easterly point of the Australian mainland. It is also is renowned as a vantage point for watching whales and other marine wildlife in the adjoining Cape Byron Marine Park.

The place is also highly esteemed for its spiritual and cultural significance to the Bundjalung of Byron Bay (Arakwal) people. The Cape Byron Lightstation Precinct is situated within the Cape Byron Headland Reserve: a reserve that is rich in natural and Aboriginal cultural heritage values. The Reserve is managed by the Cape Byron Trust under the *National Parks and Wildlife Act 1974.* The Cape Byron Trust is a model for joint community and government participation in managing cultural sites.

The Cape Byron Lightstation Precinct, as defined in this plan, is the area enclosed by fences on the high part of the Cape, and some small strips of land beyond the fences. Figure 2, in Chapter 1, shows the precinct curtilage. An area slightly broader than that and including the lower car park is also referred to in this plan, and in an Inventory Sheet, as the 'greater precinct'. In addition, given the impacts on the conservation value of the precinct of some 'contingent places' beyond its limits, this plan recommends that these places are also considered, and provides policies to assist this. Contingent places include sites that enable views to and from the precinct and other vantage points; sites where building waste and domestic rubbish was dumped; and features and elements related to the place's Aboriginal history. Considerations wider than the precinct's physical boundaries are relevant to the preservation of the Lightstation's outstanding heritage and cultural values.

The analyses undertaken in developing this plan confirm that the Cape Byron Lightstation Precinct is significant for the following reasons: the historical importance of the lighthouse in NSW navigation safety as part of a string of coastal lights; its significance to the Bundjalung of Byron Bay (Arakwal) people; its outstanding aesthetic values; its close proximity to the outstanding natural values of the Cape Byron Headland Reserve and the Cape Byron Marine Park; its considerable contemporary social values; its historical, technical and scientific 'firsts'; and its Indigenous and historic archaeological features.

This significance of the Cape Byron Lightstation Precinct is summarised in Chapter 7 along with an analysis of significance against NSW heritage criteria; the statement of significance is based on the comprehensive analyses that are detailed within other chapters and the Inventory Sheets in the Appendix.

The Cape Byron Lightstation is an outstanding example of the lightstations built by the Public Works Department of NSW shortly before this function transferred to the Commonwealth. The Lightstation incorporates several outstanding features, including some that do not exist elsewhere, or that were first used at Cape Byron. The lighthouse, now leased to the Australian Maritime Safety Authority, continues to operate under an agreement that also allows the Cape Byron Trust to exhibit the place to visitors so that they can appreciate its outstanding features. As detailed within the physical report in

Chapter 6 and the Inventory Sheets in the Appendices, the ensemble of structures that make up the Lightstation remains largely intact, and in a substantially authentic form and condition.

The historic importance of the Lightstation is explained by the historical research undertaken to inform this plan. The *History of the Cape Byron Lightstation Precinct* was prepared concurrently and is a stand-alone document. A summary historical overview is provided in Chapter 2.

The research undertaken in developing the history has corrected some assumptions about the design and construction of the Lightstation. This research, including the comparative analysis in Chapter 7, confirms that the Lightstation was designed by the Public Works Department's first and only specialist lighthouse architect; that the design was a model for other lighthouses; and that it was one of three that were erected between 1899 and 1901 to a set of plans later adopted as a 'standard' design. In addition, the lighthouse has technical attributes that are uncommon and unique—the mercury float pedestal was one of the first of its type to be installed in an Australian lighthouse, and it has the first feu éclair (lightning-flasher) lens system to be installed in a NSW lighthouse. The structures within the Lightstation are also unusual in their intactness and were built utilising innovative on-site precast concrete masonry construction.

An *Archaeological Zoning* Plan (AZP) was also concurrently prepared—to provide direction in managing the scientific values of the place—and is a stand-alone document. The archaeological zoning of the precinct is summarised in Chapter 5 of this plan.

In contrast with the day-to-day management by former lightkeepers in relative isolation from their managers in distant city offices, the Lightstation is now managed at a local level by people whose connections with the place are intimate and longstanding. This includes the Bundjalung of Byron Bay (Arakwal) people who make up four of the eight members of the Cape Byron Trust responsible for management of the place. The staff and volunteers at the Lightstation today are largely dedicated to serving the needs of visitors who come to experience the scenic and cultural heritage values of the Lightstation and its surroundings. The main challenges today exist as a consequence of the popularity of the place; this is also the source of the main threats to its heritage values.

Policies that make up a potential overarching framework for conservation of the Cape Byron Lightstation Precinct are proposed in Chapter 9. These include policies in relation to aspects such as the setting, natural environment, cultural associations, fabric, interpretation and tourism management. In addition, this plan identifies some issues to be addressed, and proposes policies in relation to the impact of the high numbers of visitors at the place and their associated vehicles. The precinct is a thriving tourism place and a place well used by local people for recreation. As far as it is known, the numbers of visitors to the Lightstation far exceed those to any comparable place; it is the most highly visited Lightstation in Australia and a place which fills to capacity during the summer holidays and during whale-watching peak seasons.

This plan provides guidance for managing the cultural heritage values of the place in the face of this high level of use. The recommendations in Chapter 10 include some suggestions for changes in tourism management, along with strategies that could be considered to ease the pressure on the vulnerable heritage values. For example, the chapter includes suggestions for reducing the heavy visitor traffic to the Lightstation, and strategies that could improve and enhance the tourism experience whilst safeguarding cultural heritage values. These suggestions and strategies relate to small changes such as providing enhanced interpretation that could improve the visitor experience and sustain the place in the foreseeable future.

The Cape Byron Lightstation Precinct is highly significant, irreplaceable and precious—its outstanding cultural heritage values must be conserved for present and future generations; this plan provides direction and guidance for day-to-day management and for the long term conservation of the place.

1 INTRODUCTION

This chapter provides background information in relation to the preparation and scope of this Conservation Management Plan (referred to throughout as 'this plan').

1.1 Background

This plan provides guidance for managing the cultural heritage of the Cape Byron Lightstation Precinct: a place of outstanding heritage and cultural significance. It revises and updates a number of planning documents including the *NPWS Lighthouses: Draft Conservation Management and Cultural Tourism Plan* (Brooks & Associates 2001).

The precinct sits within the Cape Byron Headland Reserve—managed by the Cape Byron Trust under the *National Parks and Wildlife Act 1974*. The Cape Byron Trust is representative of relevant stakeholders, being made up of Bundjalung of Byron Bay (Arakwal) people and local government, state government, NSW Department of Environment and Climate Change (DECC) and community representatives. The precinct is defined in section 1.4.1 below and is shown in Figure 2.

The Cape Byron Lightstation, built in 1901, is one of Australia's most significant lighthouse sites; it is imbued with outstanding aesthetic, scientific and contemporary social values, and is a place of high social and cultural value to the Bundjalung of Byron Bay (Arakwal) people, the traditional owners and joint custodians of the site. It is also a functioning lighthouse and a world renowned tourist site that dominates the landscape of Byron Bay and surrounding regions, and is highly valued by its local and wider community. Cape Byron is a popular tourist destination attracting more than a million visitors a year. These local, interstate and international tourists come to the precinct to take in the outstanding views or, during the winter months, to watch the migration of whales—the place is considered to offer the best mainland position for this pursuit.

The ongoing management of the Cape Byron Lightstation Precinct is inextricably linked with its local Aboriginal history and culture, its striking physical setting, its values as a place of tourism and great beauty, its continuing use as a lightstation, and its high cultural heritage values. This plan attempts to resolve a range of complexities to assist in the day-to-day management of the place and in future planning, and it does so in the context of current cultural heritage management practice and accepted guidelines.

The *Australia ICOMOS Burra Charter 1999* is the accepted standard for conservation of Australian places of significance—it provided a basis for the methodology for developing this plan, and the terms used in this plan are consistent with it.

1.2 Objectives and outcomes

The Cape Byron Trust and the Parks and Wildlife Group of DECC provided the project brief for the development of this plan—in summary, the brief required the project to:

- provide an updated historical context in line with and including natural and Aboriginal heritage
- revise the statement of significance, if necessary
- provide management policies to guide the day to day management and longer term conservation and management of the precinct
- clarify the precinct curtilage
- retain the cultural significance of the buildings, associated structures, moveable heritage, the site and landscape
- ensure conservation management of external and internal building fabric, site and cultural landscapes and moveable heritage
- prepare an archaeological zoning plan
- develop interpretative themes appropriate to the precinct, recommend interpretative materials and media to be used to represent these themes, and review on-site interpretative themes.

In developing this plan, the project team also considered major challenges identified by the steering committee in relation to management of the precinct; these challenges included the need to:

- ensure interpretation adequately acknowledges the shared history of the place and its Aboriginal cultural values
- provide ongoing and viable revenue streams
- maintain site access arrangements whilst ensuring a positive experience for the full range of visitors.

In addition to these major challenges, there are many ostensibly minor issues that have the potential to impact on the precinct values, if not well managed. Such matters have informed the research, have been considered and, to the extent possible, are addressed within this plan.

The principal objectives of this plan are to:

- support the long-term conservation of the precinct
- inform the Plan of Management for the Cape Byron Headland Reserve
- ensure best practice management of cultural heritage values.

With these objectives in mind, the recommended policies are intentionally very practical—to ensure they can be applied in the day-to-day management of the place now and into the future.

1.3 Location

The Cape Byron Lightstation Precinct is located at the eastern extremity of the Cape Byron Headland Reserve—an area of 98.5 hectares located 2 kilometres east of the town of Byron Bay. The Reserve adjoins the Cape Byron Marine Park at its coastal edges.

Figure 1: Aerial view showing the setting with the Cape Byron Lightstation in the mid right of view and the town of Byron Bay to the bottom left of view.
Source: DECC, n.d.

The Cape Byron Lighthouse, located at the highest point of the Cape Byron Headland Reserve, dominates the strip of coastline.

It can be seen from many vantage points in Byron Bay as well as from the wider region, as far afield as Mt Warning (Wollumbin) to the north, Hayters Hill to the south, and from the waters of the adjoining Cape Byron Marine Park. The dramatic topography of the Cape and surrounding area can be seen in the aerial photograph at Figure 1.

The Cape Byron Lightstation Precinct occupies an area of approximately 1 hectare on the ridge above the east facing cliffs of the Cape; the precinct curtilage is defined in the following section, along with contingent places.

1.4 Scope of this Conservation Management Plan

This plan relates not only to the identified Cape Byron Lightstation Precinct ('the precinct'), but also to some important 'contingent' places including an area referred to in this plan as the 'greater precinct'.

1.4.1 Curtilage of the Cape Byron Lightstation Precinct

As far as it is known, there is no formal identification or description of the exact curtilage of the Cape Byron Lightstation Precinct. However, the precinct is commonly understood today as the area enclosed by fences on the high part of the Cape and some small strips of land beyond the fences: this is the curtilage definition adopted in this plan. It is shown in Figure 2 below.

The precinct curtilage as defined in this plan has been adopted for several reasons.

It relates to the original placement of the Lightstation—representing the area built on and operated as a manned lightstation between 1901 and 1989, an area that has remained relatively unchanged from 1901 to the present day, as evidenced in maps and other sources.

The curtilage closely corresponds to the plan laid out for the place in 1899; it had been cleared for use by 1899, was defined in maps as such, and contained by fences that have remained relatively constant since that time.

Figure 2: Cape Byron Lightstation Precinct curtilage. Source: Wildsite Ecological Services, 2008.

It also represents the area where Lightkeepers' main functions were conducted. Lightkeepers were responsible for managing this area from 1901 until 1989, including minor maintenance such as painting buildings and fences, and upkeep of the road from the first gate to the tower (Pratten and Irving 1991). In addition, the term is in common use (for example in signage at the place); the area is generally understood today as 'the precinct'.

Entry to the Cape Byron Lightstation Precinct occurs where the road straightens at the top of the steep ascent to the site at the southern end, and from where the steps from the walking track reach the level apron to the lighthouse at the northern end of the site. The principal means of access to the site is via the tar sealed road and footpath from the southern end—at peak times the road is heavily used by a range of vehicles.

The precinct also includes a small perimeter of level ground outside the fences; the land falls away sharply beyond this small strip of land.

The precinct sits within an 8.2 acre (3.39 hectare) parcel of land originally reserved for 'lighthouse purposes' on the north-eastern fence line of a larger reserve and transferred (as 'Portion 281') to the Commonwealth in about 1915 (Stubbs 2008) and shown in Figure 3.

Figure 3: Aerial view showing 'Portion 281'. Source: Byron Shire Council eView 2008.

The aerial view at Figure 3 at left shows the original Portion 281 of 8 acres that was set aside for the lightstation.

The additional, originally reserved, steep sloping lands to the west of the precinct have never been improved, formally cultivated or managed as part of the Lightstation: today these lands comprise an area of open and varied vegetation.

In addition, the area within the portion set aside for the Lightstation is also important to the precinct today, and is referred to in this plan (particularly in the inventory sheets) as the 'greater precinct'. The three-sided rectangle plus the small bend in the road represents the greater precinct as discussed in this plan.

1.4.2 Contingent places

This plan also deals with some contingent places; these relate to the precinct's use as a site of tourism, and to its history and setting.

These contingent places are dealt with in this plan because there are important cultural, historical and aesthetic values that extend beyond the precinct's physical boundaries, but impact it none-the-less—such as the views from the precinct to sea and land, the views of the Lightstation from many other vantage points, and its Aboriginal history. For example, a legend told in the Minjungbal dialect explains the presence of the Julian Rocks in Byron Bay—a landmark visually, traditionally and historically linked with the lighthouse. There is no doubt that the Julian Rocks, while outside the precinct, are important to the cultural and heritage values of the place. In addition, the popularity of the place as a tourist attraction causes very large volumes of vehicular and pedestrian traffic, especially at peak periods—this traffic impacts both on the precinct itself, and beyond.

Because of such impacts, this plan includes some discussion of critical contingent places when describing management issues—places that, while beyond the physical boundaries of the precinct, are integral to its ongoing management and the preservation of its heritage and cultural values.

1.5 Authorship and project team

This plan was prepared under the direction of Dr Donald Ellsmore who managed the project on behalf of Freeman Ellsmore, wrote substantial parts of the text and coordinated the input of the following team of specialists.

- Peter Marquis-Kyle, conservation architect, prepared the comparative analysis of the Cape Byron Lightstation in Chapter 7 and provided input into various sections, including the policies.
- David Milledge, ecologist of Landmark Ecological Services, assessed the natural values and prepared the landscape overview and description in Chapter 4 and provided input into policies.

- Cheryl Leary managed documentation, supported project planning, contributed to the writing, conducted research and edited the documents.
- Dr Brett Stubbs, historian, undertook the historical review and prepared the historical overview in Chapter 2 and the separate document, *History of the Cape Byron Lightstation Precinct*.
- Jane Ainsworth, archaeologist of ARCHAEO Cultural Heritage Services, prepared the archaeological zoning summarised in Chapter 5, provided input into the policies, and developed the *Cape Byron Lightstation Precinct Archaeological Zoning Plan* as a separate document.
- Peter Freeman, conservation architect, provided feedback at several points and peer reviewed the plan.
- Peter Stolz, local researcher, interviewed people associated with the Lightstation and recorded their views which informed the history and assessment of contemporary esteem for the place.

The Cape Byron Trust and the Parks and Wildlife Group of the DECC provided input through participation in the project steering committee—for example by participating in meetings, and reviewing and providing considered input to and feedback on drafts.

Sonia Limeburner, Ranger, the DECC Project Manager, provided a valuable ongoing point of reference for the project team and resources for the project.

1.6 Documentary sources, report limitations and editorial conventions

1.6.1 Heritage guidelines

This plan was prepared in accordance with relevant NSW heritage guidelines and involved the input of experienced and appropriately qualified heritage practitioners. It is consistent in approach and detail with *The Conservation Plan* (Kerr 2000) and the *Burra Charter* (1999).

1.6.2 Relevant heritage studies

A number of studies dealing with the Cape Byron Headland Reserve and the Cape Byron Lightstation Precinct have been used in the development of this plan, and inform it. These sources are listed in the Bibliography.

Where information from earlier sources was found to be accurate and relevant, it was incorporated into the text, identified at that point, edited where required and referenced. Where it was found to be deficient or out of date, new information was researched and incorporated.

In particular, four new pieces of primary research were undertaken, and their findings have been incorporated and inform the policy development.

- Historical research was conducted in accordance with NSW heritage guidelines, and a separate history of the Lightstation was prepared.
- A vegetation inventory and analysis was undertaken to assess the natural environmental values.
- An indigenous site survey and consultations, and historic site survey were conducted and a separate *Archaeological Zoning Plan* prepared.
- A small oral history study was undertaken to gather primary source information about the Lightstation history and contemporary esteem for the place.

1.6.3 Editorial conventions

This report follows the conventions provided in the *Style manual for authors, editors and printers*, and uses the 'author-date' system for in-text referencing and the bibliography. Under the author-date system, where a work is referred to in the text, the author's name is given in brackets with the date of publication. The bibliography lists documents in alphabetical order of the author's family name or title of the authoring body.

1.6.4 Report limitations

This plan has been developed within the time-frame and budget provided for the work, and is of necessity constrained within those parameters.

For reasons of documentation management and ease of use, this plan does not incorporate or repeat previous work now widely known and well understood. Previous work has been incorporated only where it is relevant to the information context.

The Aboriginal cultural heritage values of the place are well understood by the Bundjalung of Byron Bay (Arakwal) people whose associations with the place are very strong. A representative of the Bundjalung of Byron Bay (Arakwal) people was a member of the project steering committee, and provided input into this plan. However, at the time of writing some stories could not be told given the concurrent Native Title claim. Therefore, information in this plan in relation to Aboriginal culture and heritage is restricted to that which is undisputed, and is included with the agreement of Arakwal representatives who have reviewed the text.

1.7 Acknowledgements

The Project Steering Committee comprised:

- Yvonne Stewart (Chairperson, Cape Byron Trust) and Bundjalung of Byron Bay (Arakwal) representative
- Tony McCabe (Deputy Chairperson, Cape Byron Trust)
- Judy Conlon (Cape Byron Trust)
- Mark Johnston (Cape Byron Trust and DECC Regional Manager)
- Sue Walker (DECC Area Manager)
- Sonia Limeburner (DECC Project Manager)
- Sean Court (DECC Ranger)

2 HISTORICAL OVERVIEW

This chapter provides a brief historical overview of the Cape Byron Lightstation Precinct—a snapshot of the historical context and a summary of relevant historical themes. The *History of the Cape Byron Lightstation Precinct* (Stubbs 2008), developed concurrently with this plan, provides a fuller account.

2.1 Historical context

Prior to European contact and settlement, the area surrounding the present site of the Cape Byron Lightstation was occupied by an unknown number of Aboriginal people who, from all accounts, lived a quiet existence in harmony with their country.

The Aboriginal people depended on their land for survival and for their identity—the district provided not only an abundance of fauna and flora for physical sustenance, but also a significant site for cultural and spiritual expression.

Walgun (the Arakwal word for the shoulder of land that includes, but is not limited to the Cape) was a fundamental element of Aboriginal heritage, dreaming stories and Country—it is believed to have been a ceremonial site and to have been the site of a bora ring (though this may not have had a formal physical form or structure). It was an important viewing place; and it is still critical today in the living stories and cultural and spiritual landscape of the Bundjalung of Byron Bay (Arakwal) people. Elders know the place as a men's ceremonial site before the Lightstation was established there.

On the day Cook named Cape Byron, he recorded having seen people walking on a straight, white, sandy beach south of Cape Byron; it is possible that these were the traditional owners of the land. The area remained relatively undisturbed until the 1880s, although a reserve had been created around Cape Byron as early as 1861 to exclude it from selection. There are very few recorded accounts of the intrusion of European people at this time, and those that are available shed little light on the impact on the traditional owners.

Travellers to the site in 1881 recorded seeing no other people on a walking trip from Ballina to Brunswick Heads, including an overnight stay at Cape Byron—however they possibly were observed by the site's original inhabitants. While the effect of European inhabitation on the traditional owners from the 1880s onwards is largely unrecorded, it can be inferred to an extent from oral histories provided by Bundjalung Elders in recent years.

By the mid 1880s, European settlement of the area was occurring in earnest—1886 saw the first government sale of land at Byron Bay, and in the late 1880s a jetty was built. The need for a lightstation at Cape Byron to complete the string of New South Wales coastal navigation aids was seriously advocated in the mid 1890s, and in 1897, a sum of £18,000 was allocated for the Cape Byron Lightstation construction—attesting to the importance of shipping to the burgeoning colonial economy.

The site for the Cape Byron Lightstation was cleared of vegetation by mid 1898. Road construction commenced in September 1899 and was completed in January 1900. By late 1899 levelling of the site was almost completed. In mid 1900 construction began, and the lighthouse was completed in November 1901—the Cape Byron Lightstation was officially opened on 1 December 1901.

By that time, the infrastructure within the precinct was largely completed and the first Head Lightkeeper and one Assistant Lightkeeper were in residence. The photographs at Figure 4 and Figure 5 recorded the finished works.

Figure 4: View looking north taken to record the finished works. Source: AONSW Reel 2643; Frame 1998, photo taken in 1902.

Figure 5: View looking south taken to record the finished works. Source: AONSW Reel 2643; Frame 2003, photo taken in 1902

Lightkeepers and their families resided at the site from 1901 to October 1989 when the Lightstation was demanned but the full breadth of the lives of the people who worked and resided at Cape Byron Lightstation is largely unrecorded—not even a complete listing of the names of all the Lightkeepers has been compiled.

However, there are records that give some insights—such as articles and photographs from local newspapers, family correspondence, personal and official photographs, and some recently-obtained oral histories. From these sources, we can gain a sense of the lives of Lightkeepers and their families; however, the picture is somewhat incomplete. It does not provide us with first-hand accounts of what must have been quite arduous shifts and duties, and how the Lightkeepers and their families reconciled these responsibilities with their day-to-day domestic lives.

This was one of few lightstations where the children of lightkeepers could attend the local school, and where lightkeepers and their families could access provisions locally and generally participate in the local community—most lighthouses were too remote for this kind of interaction. Family and government photographs not only provide us with a link to the people involved, but also with a record of changes at the site. The photographs at Figure 7 to Figure 9 are from such collections and record aspects of the changing environment of the place.

Figure 6: Car on road to Lightstation with Tallow Beach in background, circa 1920. Source State Records GPO1-24262.

Figure 7: Frank Hurley photograph from tower, circa 1935. Source: NAA an23206120

Figure 8: View from north looking over Byron Bay to Cape Byron circa 1930.
Source: Sate Records 12932-a012-a012X2448000123

As detailed in the chronology in Table 1 at the end of this section, various technical and other improvements were progressively undertaken to improve and modernise the lighthouse and its light, but only minor changes were made to the rest of the Lightstation. For example, electrification of the Lightstation occurred in 1959; the electricity poles are clearly visible in the photograph at Figure 9.


Figure 9: 1961 photograph of lighthouse showing the electricity poles installed in 1959 in the foreground.
Source: DEW ea015296-2543_1961.

Changes in management and responsibility for the Lightstation also occurred over time. In addition, new activities have been introduced at the site, albeit some of them only briefly.

A radar tower was erected at the southern end of the site probably after World War II, and at some time, the weather recording duties of the Commonwealth-employed staff were presumably extended to include coast watching—the coast watch function continues at the site, conducted by volunteers. The radar tower was removed around 1983; the photograph at Figure 10 is thought to have been taken just before it was taken down.

Figure 10: Ian Clifford's 1983 photo with radar tower in far rear of view.
Source: DEW rt05468 1983

Tourism to the place probably began as early as 1901—Lightkeepers always accommodated visitors and no doubt many visitors in the early days could be classed as tourists.

Figure 11: Toilet block at the precinct, circa 1980. Source: ncph036

Today, tourism has grown to a very high level and facilities have been progressively introduced for the convenience of tourists, beginning with the public toilet block built by Byron Shire Council in 1950.

Since then, and particularly since 1989, the site has been modified and adapted to cater for visitors and their vehicles. For example, the circa 1950 toilet block, shown at left in Figure 11 in about 1980, was replaced in 1999 with a more sophisticated facility, and the old ones were demolished.

Following the departure of the last Lightkeeper in 1989, responsibility for the care and maintenance of the Cape Byron Lightstation Precinct is with the Cape Byron Trust—apart from the lighthouse itself which, as a navigational aid, is still under the control of the Australian Maritime Safety Authority (AMSA).

Today the precinct is managed by the Cape Byron Trust through the Arakwal Indigenous Land Use Agreement. The Bundjalung of Byron Bay (Arakwal) people, DECC, and Byron Bay Council are on the Board, with two community representatives appointed by the Minister.

The Bundjalung of Byron Bay (Arakwal) people are fully engaged in management of the place and in providing educational services to ensure the cultural significance of the area is conveyed to the current generation.

Figure 12: Yvonne Stewart, Chairperson, Cape Byron Trust with school group.
Source: Northern Rivers Echo, 2003.

A selective chronology of a range of related events is provided below.

Table 1: Selective chronology of the Cape Byron Lightstation principal developments

Date	Activity
1861	Reserve created around Cape Byron to exclude it from selection
End 1897	£18,000 allocated for lighthouse and quarters at Cape Byron
Middle 1898	Site cleared of vegetation
Sep 1899	Road construction commenced
Late Dec 1899	Levelling of lighthouse site almost complete
Jan 1900	Road to lighthouse site complete
May 1900	Contract let for construction of Lightstation in January, and construction began in May
1 Dec 1901	Lighthouse opened
1905	Occulting machinery removed from light
1913	Creation of Commonwealth Lighthouse Service
1914	6-wick burner converted to vaporised kerosene
1 July 1915	Commonwealth took control of lighthouses from States
1922	3-mantle incandescent kerosene burner installed
1927	20 acres adjoining Portion 281 reserved for public recreation and preservation of native flora
1935	Timber-framed asbestos sheet clad stables built at south end of site
c. 1935	Roofs of former quarters renewed with corrugated AC roof sheeting
c. 1950	Toilet block constructed by Byron Shire Council at south end of site
1959	Light converted from kerosene to electricity
5 Dec 1959	Second assistant keeper position discontinued
1970s–1980s	Crib-lock concrete retaining walls erected
1982	Cape Byron walking track constructed by Dept Lands
1985	Concrete Pavers introduced to lighthouse apron along with reconstruction of walking track
1985	Direct-drive motor installed
Dec 1985	First stage of walking track redevelopment opened
10 Dec 1986	Light extinguished manually for the last time
Dec 1987	Second stage of walking track redevelopment completed
1988	Cape Byron Headland Reserve and Cape Byron Trust created
1989	Lighthouse Keepers terminated and in Oct Nick Rigby commenced as manager
Dec 1989	Parking charges introduced
c.1990	AMSA refurbished lighthouse pavilion roof with fibreglass
1992	Roof tiles reinstated
1995	Indigenous Land Use Agreement signed
1997	Lighthouse site transferred from Commonwealth to NSW DLWC
1999	Toilets were constructed (and old ones demolished)
2002	Public toilets connected to the Council sewerage system
2003	All but 1 of the goats removed
2007	DECC Staff offices removed from site; former quarters connected to Council sewerage system

2.2 State and national historical themes

Historic and physical evidence are listed against NSW and national historical themes in Table 2 below. This is provided to assist understanding of the context in which the Lightstation and its constituent elements were created.

Table 2: NSW and national historical themes

NSW (and national) historical themes	Summary of Cape Byron Lightstation relationships to themes
Aboriginal cultures and interactions with other cultures (2. Peopling Australia)	• Aboriginal use of the place pre-contact • Impact of European settlement • Living stories and high level of involvement of the Bundjalung of Byron Bay (Arakwal) people including active site management and educational interpretation
Communication (3. Developing local, regional and national economies)	• Development and use of the lighthouse from early beginnings and contribution as a navigational aid to shipping • Current use of the precinct for coast watch and sea rescue
Environment – cultural landscape (3. Developing local, regional and national economies)	• Aboriginal past and present cultural associations • Bundjalung of Byron Bay (Arakwal) people having a very active current role • Relationships to colonial economic growth, the growth of the region and towns • Tourism from early days to present
Science (3. Developing local, regional and national economies)	• Weather station providing systematic observations for explanation of observable phenomena • W J Dakin's research on Australian Seashores, in the late 1940s Dakin and his team were assisted by Lightkeeper Alexander
Technology (3. Developing local, regional and national economies)	• Lighthouse development and features (e.g. precast block work) • Light features (technical firsts and significance)
Transport (3. Developing local, regional and national economies)	• How the Lightstation influenced shipping along the NSW coast • Its continuing use today as a navigation aid
Towns, suburbs and villages (4. Building settlements, towns and cities)	• Impact on the growth of Byron Bay and district • How the Lightstation also now contributes to tourism and regional economic growth
Accommodation (4. Building settlements, towns and cities)	• The Lightkeepers' quarters; what they reflect about domestic life at the time
Labour (5. Working)	• The work of Lightkeepers of the State and Commonwealth lighthouse services • The work of engineers and seamen
Defence (7. Governing)	• For example, the radar believed to have been installed in WWII • Role of Lightkeepers in wars
Domestic life (8. Developing Australia's Cultural Life)	• Lightkeepers' families
Leisure	• The walking track, lighthouse tours, whale watching, scenic views and observing and participating in hang-gliding

3 CONTEMPORARY SOCIAL AND ECONOMIC VALUES

This chapter examines the ways in which the local and wider community value the Cape Byron Lightstation. It has been prepared in order to provide an appreciation of its place in the contemporary social landscape—its contemporary social and economic significance.

3.1 Social values

3.1.1 Measuring social values

Objective measures for the contemporary social significance of the precinct are difficult to quantify because social significance is integrally bound up in meanings, memories and shared knowledge—things that perhaps cannot so easily be measured.

One way in which we can attempt to measure the social and contemporary significance of a place is by assessing whether people hold a strong sense of belonging to that place, and if so how this belonging manifests. A sense of belonging is often referred to as 'ownership'. There is little ambiguity about the strength of ownership of the Lightstation by the Byron Bay community; the identity of the community and the area's branding is strongly tied to it. The attachment is as strong today as it was when the tiny community celebrated the opening of the Lightstation over a century ago—without bothering to wait for the arrival of the official party that had been despatched from Sydney for the event, but who arrived late.

However, perceptions of value also differ across cultural groups and across generations; one cultural group or one generation may neglect or destroy evidence that could have been significant to others. For example, it seems likely that the Lightstation construction would have destroyed material evidence of a community whose associations with the place pre-dated the building by thousands of years. However, the Indigenous community still clearly holds the place in very high regard today.

Since the attribution of significance is inherently values-based, it is relevant to try to gauge the present generation's level of esteem for the place; decisions about change in the future can be measured against current aspirations of individuals and groups. This can be done by identifying ways in which the setting, fabric, history, meanings and memories are appreciated today. In order to establish contemporary social significance, and to provide a basis for quantifying it, a number of these measures are analysed below.

3.1.2 Indigenous connections with the setting and natural values

The Lightstation is a prominent visual element in the Byron Bay area today, and the lighthouse is a widely recognised landmark. The prior ceremonial use of the headland including on the knoll at its highest point where the lighthouse was erected, was linked to this cultural and spiritual significance. The name Walgun carries special meaning for the Bundjalung of Byron Bay (Arakwal) people, being their word for the shoulder of land including (but not limited to) the Cape.

The Cape Byron headland is a significant element of the coastal landscape, providing unparalleled views of the coastline, hinterland and ranges. Within this setting, it is easy to imagine how ancient wisps of smoke from campfires could have pinpointed the whereabouts of the earliest communities there. The sweeping views provide an unbroken sequence of the biophysical attributes responsible for the richness of the region's biodiversity.

Several of the plant communities at the Cape Byron Headland Reserve are remnants or regenerated stands of formerly widespread vegetation types of high significance. In particular, the littoral rainforest that borders the Lightstation on two sides, and invades the precinct to a small degree on the western side (marked as 'A' in Figure 21), is highly valued because the extremes of land clearing have largely eliminated it from most of the coastline of the district where it once constituted one of the largest tracts of this form of sub-tropical rainforest in the State.

The Cape Byron Headland Reserve provides a diversity of fauna habitats including a number of those of threatened species. Over 100 species of birds have been recorded in the Reserve. Local and

migratory marine creatures that exist in the sea around Cape Byron include threatened species of whales, turtles and fish. Many of these have special significance for the local Aboriginal community, including as totems.

3.1.3 Examples of community esteem

Cape Byron has been a place of great significance for Aboriginal people for thousands of years and it remains of great significance to them still. The Bundjalung of Byron Bay (Arakwal) people continue to manage the Cape through their representation in the Cape Byron Trust and employment with DECC. Arakwal people strongly identify with the Cape and to a smaller extent, the Lightstation.

The lighthouse is a popular subject for photography; this is one of the reasons it is so recognisable in the wider community. Visitors consistently have themselves photographed in front of the lighthouse because, like Uluru or the Sydney Opera House, it identifies the locale without any need for words.

However, the lighthouse is also the symbol of a wider place: one that evokes all the desirable associations of the area extending from the headland through the Cape to the adjoining natural areas into the vibrant holiday town and out to the hinterland. These associations are well known and highly esteemed, and identifiable by branding with the single image of the lighthouse—thus the wider Byron Bay community has co-opted it in branding the area. The lighthouse image is used as a logo and as a symbol of the relaxed and somewhat bohemian lifestyle that has been synonymous with the district since 'surfies' began to call the area home in the 1950s, and the Aquarius Festival deposited large numbers of career 'sea-changers' in the district in the 1970s. The reputation of the wider place as special and interesting has been consolidated and mythologised through the media of literature, film and, most recently, television. For example, Nick Rigby, the first Manager of the Cape Byron Trust (pers. comm. 2008) reflected on the community's concern for the place when the Cape Byron Trust was established—giving a clear expression of the community's attachment to the place.

At a broader level, icons such as the Lightstation and Cape Byron evoke in many people feelings of pride and optimism. Such places potentially offer people respite from a changing world with its many unresolved environmental and social challenges. They provide tangible examples of natural beauty and cultural meanings in the face of modern threats such as global warming and climate change.

3.2 Economic values

The economic values of the Lightstation can be measured in terms of its wider association with the growth in the local economy and the growth in tourism, and, to a large extent these are one and the same. Population growth and tourism growth statistics illustrate the reality of the recent upward trends in both.

Between 1981 and 2001, Byron Shire experienced a population growth of 3.52%—one of the highest in NSW—then the rate of growth slowed markedly between 2001 and 2006 (Southern Cross University 2008). It is estimated that 1.3 million tourists visited Byron Shire in 2006 and, as discussed in sub-section 3.3 below, this dropped in 2007. Most visitors to the district also visit the Lightstation. It is too early to confirm whether the rate of population growth and level of tourism have peaked.

Many of the economic enterprises of the district utilise the Lightstation and the coastal landscape of the reserve to promote their identities. Some lifestyle products on supermarket shelves are branded with the names Cape Byron or Byron Bay, and exhibit the lighthouse as a logo form because of the strong recognition it evokes of the place.

3.3 Research and educational values

The natural, cultural and historic values of the Cape Byron Headland Reserve, including the Cape Byron Lightstation Precinct, provide a valuable resource for tertiary institutions, school groups, tour operators and special interest groups. The biological, geological, cultural, social, tourism and recreational components provide not only recreational opportunities but also diverse opportunities for education, interpretation and research. While whale watching is perhaps one of the headline educational activities, the place offers equally important educational and research opportunities such

as the whale and dolphin monitoring by Southern Cross University undertaken from within the precinct and visitor surveys.

Various educational activities are currently being offered and promoted. These include interpretative programs and tours for schools and other groups—covering themes such as the significance of the place to the Bundjalung of Byron Bay (Arakwal) people, and the living Aboriginal stories; the story of the Lightstation and lightkeepers and their families; and whale migration, and other natural values of the place and the adjoining Marine Park and Cape Byron Headland Reserve.

Special days and weeks are also promoted such as 'Sea-week', 'Heritage week'—and a celebration to mark the centenary of the Lightstation was held in 2001. Such activities provide valuable opportunities to educate about and promote the place, and to gather information such as oral histories, photographs and other records.

The former Head Lightkeeper's quarters (the 'Visitor Centre') provides information in the form of permanent and temporary displays and exhibitions as well as a video story. In addition, the maritime museum within the base of the lighthouse provides information about the history of the Lightstation and the people and equipment involved.

3.4 Experiential values

Tourism is now the main industry in the Byron Bay district, with one of its principal attractions being the Cape Byron Lightstation. The numbers visiting the district grew to around 1.75 million per year in the early 2000s (Tonge 2002) before dropping to around 1 million in 2007 (Southern Cross University 2008).

Usually, visitors to a tourism district take in its main attractions, and so it is that most visitors to Byron Bay also visit the Lightstation. A large proportion of tourists, perhaps even most, visit both the Cape Byron Headland Reserve and the Cape Byron Lightstation. Dr Meredith Lawrence, author of the *Byron Shire Tourism Management Plan*, estimates that around 80% of tourists to the area visit the Lightstation (pers. comm. 2008).

Figure 13: Buses and visitors at the southern precinct end 2008.
Source: Ellsmore 2008

While it is difficult to precisely identify the exact number of visitors to the precinct from the various information sources, if a conservative figure of 1 million visitors annually to the district is taken as the approximate number, it places the precinct in the top bracket of tourist districts in Australia.

It is by far the most visited lightstation in Australia. In addition to tourists, many local people use the place for informal recreational activities such as jogging, walking and cycling.

A substantial proportion of tourists, possibly more than 30%, are from overseas (Southern Cross University 2004)—the place demonstrably has an international reputation. Information to date indicates that the Lightstation is an important component of the already strong local tourism industry, and has potential for further tourism growth. The Byron Shire Council's draft tourism management plan, designed to guide the sustainable development, management and marketing of tourism in the Shire, was released for comment in May 2008.

Figure 14: Cars at the western side of the precinct 2008.
Source: Ellsmore 2008

Lightstation parking records for the period 2002–08 show the peak of vehicle numbers to have occurred in 2004–05 followed by a decline.

The high number of visitors to the Lightstation reflects the interest in being there, but also raises issues in relation to the volume of traffic—at peak times and seasons the visitor experience is compromised by the numbers of cars, motor bikes, vans and coaches that enter the relatively small precinct site.

Often, vehicles are turned away as parking spaces are taken, so the numbers of vehicles entering and moving within the precinct could be even higher than the parking records indicate.

Changes over recent years in relation to the high number of visitors have included:

- hardening the site, to cater for the impact of many visitors on ground surfaces
- developing fully formed roads and car parks, to cater for a high number of vehicles
- upgrading perimeter fences, to ensure visitor safety
- upgrading the access pathway from the north of the precinct
- providing new toilets and access ramps, in response to visitor needs
- providing a souvenir shop, water bubbler, picnic tables, bike racks, telescopes, ice cream vendor, refreshments, signage and interpretation.

While some of the changes have been required for visitor safety (for example, upgrading fencing) others may have, to an extent, impacted adversely on the essential, formerly functional, character of the place as a working precinct—originally it was a relatively remote location where a small number of men worked to provide navigational safety by way of 24-hour visual security to ships, and where the families of those men lived surrounded by the normal domestic accoutrements of the time, including their domestic animals, vegetable gardens, clothes lines and the like.

With the passing of the need to provide the 24-hour human watch at the site, and with the steady growth in the number of visitors, the place has been incrementally hardened to a degree that these functional aspects of its historic significance have been somewhat diminished. However, the large numbers of tourists to the site also provides potential for revenue-generating opportunities. These funds could potentially offset the costs of infrastructure developments—provided that new developments do not diminish the cultural heritage values or have any other adverse impacts.

Expectations and notions of the quality of the experience can be strongly tied to the reputation of a place—where the reputation is strong (such as is the case with the Cape Byron Lightstation) tourists anticipate that the quality of their experience will also be high. In terms of visitor satisfaction, no comprehensive formal data on visitor satisfaction directly related to the precinct was uncovered in this research. However, a recent Southern Cross University recreation study of the Cape Byron Headland Reserve indicates that in 2003–04 less than 60% of visitors were first time visitors—and this may also be indicative of the Lightstation given the numbers who visit both. It appears the Reserve (and presumably the Lightstation) has more to offer than can be taken in on one visit. The survey results reveal that nearly everyone rated their experience in visiting the Reserve to be good, very good or excellent, and 58% felt that their knowledge of natural and cultural values increased during their visit. However, only 43% felt that the interpretation of Aboriginal culture was adequate (Southern Cross University 2004).

4 LANDSCAPE OVERVIEW AND DESCRIPTION

This chapter describes the natural values of the Cape Byron Lightstation Precinct and its surrounding area. The common names of flora and fauna species are used except on their first entry where the scientific name is provided in italics after the common name.

A list of plant species recorded at the precinct in March 2008 is provided at the end of this chapter in Table 3, and an annotated aerial view of the precinct is provided at Figure 21.

4.1 Preamble

One of the principal natural values of the Cape Byron Lightstation Precinct is the panoramic vista it provides of the Pacific Ocean meeting the eastern tip of the Australian continent. The sweeping views from Lennox Head in the south to Hastings Point in the north, and from the peak of Mount Warning (Wollumbin) in the west to the ocean's horizon in the east, provide an unbroken sequence of the biophysical attributes responsible for the richness of the region's biodiversity.

The basalt-derived soils from the eroded Mount Warning shield-volcano, stretching in fingers or isolated caps from the hinterland to the coast near Lennox Head and north to Ocean Shores, support remnants of the Tumbunan rainforests that formerly covered much of the Australian continent 30 million years ago (Schodde & Calaby 1972).

Soils from metamorphic rocks at Broken Head and Cape Byron, and north to Round Mountain and Hastings Point, carry different subtropical rainforests and also wet sclerophyll forests. The alluvial soils of the narrow coastal plain support a mosaic of rainforest and swamp sclerophyll forests; whereas at the marine interface, sandy soils on the parallel dune and swale formations marking Pleistocene beachfronts are vegetated with drier, open sclerophyll forest, stands of littoral rainforest and expanses of heath and sedgeland (Landmark Ecological Services *et al.* 1999).

Figure 15: Southerly view from Lightstation with three EECs visible—Byron Bay Dwarf Graminoid Clay Heath about the houses in middle distance; Swamp Sclerophyll Forest on Coastal Floodplains below the houses around Cybim Margil Swamp in middle distance; and Littoral Rainforest in right foreground.
Source: D Milledge 2008.

The conservation value of these plant communities and threats to their survival from increasing human exploitation of the coastal zone are reflected in the view from the Lightstation, where three Endangered Ecological Communities (EECs) listed under the NSW *Threatened Species Conservation Act 1995* (TSC Act) can be observed from the precinct within a radius of less than two kilometres (Figure 15 at left).

These three EECs comprise: 'Littoral Rainforest' covering much of the Cape itself and including Wategos Beach; 'Swamp Sclerophyll Forest on Coastal Floodplains' about the margins of Byron Bay; and 'Byron Bay Dwarf Graminoid Clay Heath' located along the ridges running up to the Cape and overlooking the northern end of Tallow Beach (Wildsite Ecological Services 2002).

Another EEC, 'Themeda Grassland on Seacliffs and Coastal Headlands', although not visible from the precinct, can be observed from the track ascending from Wategos Beach (Figure 16). This EEC mostly occupies the steeper slopes at the Cape's northern end (Wildsite Ecological Services. 2002).

Figure 16: The 'Themeda Grassland on Seacliffs and Coastal Headlands' EEC can be seen from the track ascending from Wategos Beach to the Lightstation precinct. Source: D Milledge 2008.

Figure 17: Littoral Rainforest is the most extensive EEC occurring on Cape Byron with this stand prominent on the hill overlooking Cosy Corner, to the south west of the Lightstation. Source: D Milledge 2008.

Much of the littoral rainforest on the Cape is also protected and mapped under *State Environmental Planning Policy No. 26 – Littoral Rainforest*, with the boundaries of some of these stands abutting the western edge of the Cape Byron Lightstation Precinct (Figure 17)—although this policy does not apply within the Reserve, which is National Parks estate.

4.2 Plants and animals in and around the precinct

The area in and about the Cape Byron Lightstation Precinct reflects a recent history of extensive disturbance, with the precinct itself containing little vegetation of any apparent natural or cultural significance. Since the site was levelled in 1899, it appears to have been maintained in a largely cleared condition, and is now dominated by mown lawns and a few scattered plantings and colonisations of native and exotic species.

However, within the surrounding Cape Byron Headland Reserve, the regenerating littoral rainforest on slopes ascending to the northern, western and southern perimeters of the precinct, together with the grassland-sedgeland above the cliffs to the east, support a range of significant native plant and animal species (Wildsite Ecological Services 2002). The history of disturbance in these areas from clearing, continuous human use and grazing by feral goats, is reflected in the presence of a large number of exotic plant or weed species, including several invasive species that dominate some communities (Figure 20).

Closed-canopy littoral rainforest in the vicinity of the precinct presently comprises a Coast Banksia *Banksia integrifolia*-Tuckeroo *Cupaniopsis anacardioides* association (Wildsite Ecological Services 2002) with a number of other typical littoral rainforest trees such as Beach Alectryon *Alectryon coriacea*, Coogera *Arytera divaricata*, Beach Acronychia *Acronychia imperforata.* Three-veined Laurel *Cryptocarya triplinervis*, Guioa *Guioa semiglauca*, Brown Bolly Gum *Litsea australis*, Brushbox *Lophostemon confertus* and Sweet Pittosporum *Pittosporum undulatum* common in the canopy.

Birds are the most conspicuous vertebrate fauna in the littoral rainforest—characteristic rainforest species such as the Australian Brush-turkey *Alectura lathami*, Lewin's Honeyeater *Meliphaga lewinii* (Figure 18), Eastern Whipbird *Psophodes olivaceus,* and Pied Currawong *Strepera graculina* are frequently heard and seen.

The presence of Coast Banksia (Figure 19) with its prolific nectar production regularly attracts lorikeets and honeyeaters with the Rainbow Lorikeet *Trichoglossus haematodus*, Scaly-breasted Lorikeet *T. chlorolepidotus*, Little Wattlebird *Anthochaera chrysoptera*, Noisy Friarbird *Philemon corniculatus* and Brown Honeyeater *Lichmera indistincta* the most commonly seen. Fruit-pigeons, particularly the White-headed Pigeon *Columba leucomela* and Topknot Pigeon *Lopholaimus antarcticus*, are present during autumn and winter months.

Figure 18: Lewin's Honeyeater is a characteristic rainforest species frequently seen and heard in the littoral rainforest about the Lightstation. Source: D Milledge 2008

Figure 19: Coast Banksia is a dominant species in the littoral rainforest and other communities adjoining the Lightstation.
Source: D Milledge 2008

The grassland-sedgeland community above the cliffs along the steep eastern slopes of the Cape and abutting the eastern boundary of the precinct (Figure 20) has been heavily disturbed by goats and is dominated by the exotic Buffalo Grass *Stenotaphrum secundatum* and Kikuyu *Pennisetum clandestinum* with patches of native Spiny-headed Mat-rush *Lomandra longifolia*.

Again, birds are the most commonly seen vertebrates in and over the grassland-sedgeland community, although Eastern Striped Skinks *Ctenotus robustus* are frequently active among the tussocks in warm weather.

The most obvious birds are aerially foraging species such as the Welcome Swallow *Hirundo neoxina* with mobs of the trans-equatorial migratory White-throated Needletail Hirundapus caudacutus congregating in the Cape's updrafts during summer months. Nankeen Kestrels *Falco cenchroides* hover over the grassy slopes hunting small animals, and scattered Coast Banksias shelter family parties of Superb Fairy-wrens *Malurus cyaneus* and the nectar-feeding White-cheeked Honeyeater *Phylidonyris niger*.

Figure 20: The grassland-sedgeland community to the east of the precinct has been invaded by of environmental weed species—the dark green patches are the introduced Bitou Bush and the dominant grass is the introduced Buffalo Grass. Source: D Milledge 2008

Around the Cape's rocky shores the Brahminy Kite *Haliastur Indus* is frequently observed scavenging for flotsam and less frequently, a White-bellied Sea-Eagle *Haliaeetus leucogaster*, totem bird of the Arakwal people, soars past. Occasionally a pair of Sooty Oystercatchers *Haematopus fuliginosus* (listed as Vulnerable under the TSC Act) or an Eastern Reef Egret *Egretta sacra* may be seen foraging over rock platforms at low tide. Eastern Ospreys or Fish-hawks *Pandion cristatus* (listed as Vulnerable under the TSC Act) fish offshore and can sometimes be observed dismembering a catch on rock stacks along the shoreline.

The Cape's inshore waters provide rich fishing grounds at times for seabirds, with Australasian Gannets *Morus serrator*, Crested Terns *Thalasseus bergii* and Silver Gulls *Chroicocephalus novaehollandiae* often seen following schools of pelagic fish. The Pied Cormorant *Phalacrocorax varius* also fishes off the cliffs and in rough weather oceanic seabirds can be observed closer to the shore. Flocks of the locally-breeding Wedge-tailed Shearwater *Ardenna pacifica* occur in summer with other petrels such as the Flesh-footed Shearwater *Ardenna carneipes* and Short-tailed Shearwater *Ardenna tenuirostris*. In winter, southern-breeding albatrosses move north into waters off the Cape and the Black-browed Albatross *Thalassarche melanophris* (listed as Vulnerable under the TSC Act) and Yellow-nosed Albatross *Thalassarche chlororhynchos* are the most common species present at this time.

The waters off the Cape, within the Cape Byron Marine Park, are best known as a place to observe the northerly winter migration of the Humpback Whale *Megaptera novaeangliae* (Wildsite Ecological Services 2002; listed as Vulnerable under the TSC Act), but other marine mammals are often seen from the Lightstation's lookouts. These include the Southern Right Whale *Eubalaena australis* (listed as Vulnerable under the TSC Act) and several dolphin species, the latter also totems of the Arakwal. The most frequently seen dolphins around the Cape are the Common Dolphin *Delphinus delphis* and Bottlenose Dolphin *Tursiops Australia*.

Green Turtles *Chelonia mydas* (listed as Vulnerable under the TSC Act) and Loggerhead Turtles *Caretta caretta* (listed as Endangered under the TSC Act) are frequently observed feeding close to the rocky shore and there is a healthy population of Hawksbill Turtles *Eretmochelys imbricata* about Julian Rocks. Occasional Leatherback Turtles *Dermochelys coriacea* (listed as Vulnerable under the TSC Act) can be seen, more rarely, swimming further out. Large schools of pelagic fish, sharks and rays regularly surface in the inshore waters and the area supports populations of whaler sharks *Carcharhinus* spp and possibly Grey Nurse Sharks *Carcharias taurus* (listed as Endangered under the TSC Act). Occasionally a Great White Shark *Carcharodon carcharias* (also listed as Vulnerable under the TSC Act) is identified.

4.3 Precinct approaches and interface with adjacent vegetation

The approaches to the Cape Byron Lightstation Precinct from the southern car park and from the walking track from Wategos Beach both pass through regenerating littoral rainforest (Wildsite Ecological Services 2002).

The Wategos Beach track also borders areas of Kangaroo Grass *Themeda australis* dominated grassland on exposed northern and eastern slopes above the rocky shoreline (see Figure 21).

The precinct interface with the surrounding vegetation reflects a long history of disturbance and this area is largely characterised by weed species (Wildsite Ecological Services. 2002).

Along the western boundary of the yard of the northern Assistant Lightkeeper's quarters there are native species predominant at the interface, where a littoral rainforest stand with Beach Acronychia, Beach Alectryon, Coast Banksia, Three-veined Laurel, Tuckeroo *Cupaniopsis anacardioides*, Guioa and Sweet Pittosporum overlaps the fence-line (see 'A' in Figure 21).

The grassland-sedgeland community bordering the southern, eastern and northern boundaries of the precinct (Figure 21) is comprised mainly of exotic Buffalo Grass and Kikuyu and although scattered Coast Banksias are present, a number of invasive weed species including Bitou Bush *Chrysanthemoides monilifera*, Lantana *Lantana camara* and Siratro *Macroptilium atropurpureum* are well established.

Similarly, along most of the western boundary, a weed-dominated community grades into the littoral rainforest down-slope (Figure 21). Scattered Coast Banksias also occur but widespread weeds include Mistweed *Ageratina riparia*, Madiera Vine *Anredera cordifolia*, Bitou Bush, Lantana, Siratro, Red Natal Grass *Melinis repens*, Giant Paspalum *Paspalum dilatatum*, Cork Passionflower *Passiflora suberosa*, Broad-leaved Pepper Tree *Schinus terebinthifolia*, Winter Senna *Senna pendula*, Wild Tobacco *Solanum mauritianum* and Buffalo Grass.

Note: Recent regeneration work has been conducted to redress the problem of weeds; whilst there are some weeds present, the precinct interface and boundaries have been largely treated and the work is ongoing.

KEY

HLQ
Head Lightkeeper's quarters

NALQ
Northern Assistant Lightkeeper's quarters

SALQ
Southern Assistant Lightkeeper's quarters

A
Native trees in rear of NALQ yard

B
Small stand of trees in SALQ southern boundary

C
Native trees in rear of NALQ yard

D
Large Tuckeroo (since removed)

E
Large Coast Banksia (since removed)

Figure 21: Lightstation precinct with surrounding littoral rainforest and grassland-sedgeland communities.
Source: Bill Mills 2002.

4.4 Plants and animals within the precinct

Much of the Cape Byron Lightstation Precinct vegetation comprises mown exotic grasses although individuals of locally occurring rainforest trees have established or been planted about the Lightkeepers' quarters and toilet block, as have other locally native vines, shrubs, herbs and ground covers. Several exotic trees have been planted about the quarters, and numerous weed species have invaded the precinct from adjoining disturbed areas.

4.4.1 Assistant Lightkeepers' quarters

Within the fenced yard of the southern Assistant Lightkeepers' quarters, a small stand of trees occurs along the southern boundary close to the building (see 'B' in Figure 21). This comprises two Three-veined Laurels, a Tuckeroo, a Coast Wattle *Acacia sophorae* sapling, a phoenix palm *Phoenix* sp. And a Frangipani *Plumeria* sp. Tuckeroo seedlings and the native Blue Commelina *Commelina cyanea* occur as ground cover under the stand. The remainder of the yard is mown exotic grasses.

The fenced yard of the northern Assistant Lightkeepers' quarters, is more extensively vegetated with native and exotic plants. Native trees in the rear of the yard (see 'A' and 'C' in Figure 21) comprise two Coast Banksias, two Three-veined Laurels, five Tuckeroos, one Pink Bloodwood *Corymbia intermedia* and one Pandanus *Pandanus tectorius* or Screw Pine. A number of exotic trees and shrubs occur with the native trees, including a Frangipani, two Hibiscus *Hibiscus* sp., a Philodendron *Philodendron* sp., Winter Senna *Senna pendula*, a croton *Croton* species, Canna Lily *Canna indica* and Copperleaf *Acalypha wilkesiana*. Apart from a few occurrences of Blue Commelina *Commelina cyanea*, the remainder of the yard is mown exotic grasses.

The large Tuckeroo on the northern boundary marked as 'D' in the 2002 aerial photograph at Figure 21) has recently been removed.

4.4.2 Head Lightkeeper's quarters

The yard of the former Head Lightkeeper's quarters is largely devoid of vegetation apart from mown exotic grasses although a clump of Spiny-headed Mat-rush is present at the north-eastern corner of the building and a Frangipani occurs near the south-western corner.

The large Coast Banksia that grew adjacent to the Frangipani near the south-western corner, marked as 'E' in the 2002 aerial photograph at Figure 21 has now been removed.

4.4.3 Toilet block

The timber walkway surrounds adjoining the southern and western perimeters of the toilet block have relatively recently been planted with locally native tree, shrub and vine species including Water Vine *Cissus antarctica*, Blue Commelina, Brown Kurrajong *Commersonia bartrami*, Swamp Lily *Crinum pedunculatum*, Tuckeroo *Cupaniopsis anacardioides*, Blue Flax Lily *Dianella caerulea*, Scrambling Lily *Geitonoplesium cymosum*, Umbrella Cheese Tree *Glochidion sumatranum*, Cottonwood *Hibiscus tiliaceus*, Red Kennedy Pea *Kennedia rubicunda* , Spiny-headed Mat-rush *Lomandra longifolia*, Pandanus, Austral Sarsparilla *Smilax australis* and Coast Tylophora *Tylophora benthamii*.

However, some of these species, such as Swamp Lily, Cottonwood and Pandanus represent inappropriate plantings as they would not normally occur in this microhabitat. There are also several weed species present including Farmers' Friend *Bidens pilosa*, Fleabane *Conyza bonariensis*, Crowsfoot Grass *Eleusine indica*, Wild Tobacco *Solanum mauritianum*, Blackberry Nightshade *Solanum nigrum* and the invasive Mother-of-millions *Bryophyllum delagoense*.

4.4.4 Lighthouse

Vegetation within the area of the precinct surrounding the lighthouse is confined to mown exotic grasses, although the concrete crib-lock retaining wall bordering the southern approaches has been planted and colonised by a range of native and exotic species including environmental weeds. These include a cockspur flower *Plectranthus cremnus*, Scarlet Pimpernel *Anagallis arvensis*, Mother-of-millions, a sedge *Cyperus* species, a pigweed *Portulacca* sp. and a mustard species.

4.4.5 Precinct fauna

The lack of native vegetation communities within the precinct is reflected by the vertebrate faunal assemblage, which mainly comprises highly opportunistic native birds such as the Pied Butcherbird *Cracticus nigrogularis*, Australian Magpie *Cracticus tibicen* and Pied Currawong that forage about the buildings and lawns. Welcome Swallows nest in outbuildings and the nectarivorous Little Wattlebird, Lewin's Honeyeater and Silvereye *Zosterops lateralis* visit the Coast Banksias when they are in flower.

Reptiles are represented by the ubiquitous Wall Skink *Cryptoblepharus virgatus*, encountered on external building surfaces and walkways, and the introduced Asian House Gecko *Hemidactylus frenatus* that has colonised the quarters.

4.5 Status of plantings and plant species

Table 3: Status of plantings and other plant species

Common name	Scientific name	Status	Occurrence
Coast Wattle	*Acacia sophorae*	**Native**, early coloniser after disturbance	A few saplings in southern picnic area, 1 sapling in southern Assistant Lightkeeper's quarters yard
Copperleaf	*Acalypha wilkesiana*	**Exotic**	A few planted in northern Assistant Lightkeeper's quarters yard
Scarlet Pimpernel	*Anagallis arvensis*	**Exotic**, weed	Scattered plants in the open crib-lock wall bordering road leading to lighthouse
Coast Banksia	*Banksia integrifolia*	**Native**, dominant in adjacent littoral rainforest canopy	Scattered trees and saplings in southern picnic area, 2 in northern Assistant Lightkeeper's quarters yard

Common name	Scientific name	Status	Occurrence
Farmers' Friend	*Bidens pilosa*	**Exotic**, weed	Scattered through toilet walkway area
Mother-of-millions	*Bryophyllum delagoense*	**Exotic**, environmental weed	Scattered through toilet walkway area, scattered clumps in the open crib-lock wall bordering road leading to lighthouse
Canna Lily	*Canna* sp.	**Exotic**, environmental weed	A few clumps planted in northern Assistant Lightkeeper's quarters yard
Water Vine	*Cissus antarctica*	**Native**, occurs in adjacent littoral rainforest	Several vines apparently planted through toilet walkway area
Blue Commelina	*Commelina cyanea*	**Native**, occurs as a ground cover in Kangaroo Grass (Themeda) grassland along track ascending from Wategos Beach	Ground cover in both Assistant Lightkeeper's quarters yards, ground cover about edge of toilet walkway area
Brown Kurrajong	*Commersonia bartramia*	**Native**, occurs in adjacent littoral rainforest	A few small trees apparently planted through toilet walkway area
Fleabane	*Conyza bonariensis*	**Exotic**, weed	Scattered plants through toilet walkway area
Pink Bloodwood	*Corymbia intermedia*	**Native**, occurs in mallee form in adjacent heath and shrublands	1 apparently planted in northern Assistant Lightkeeper's quarters yard
Swamp Lily	*Crinum pedunculatum*	**Native**, occurs in littoral forest and shrubland in low-lying littoral areas	Several plants apparently planted through toilet walkway area
Croton	*Croton* sp.	**Exotic**	1 planted in northern Assistant Lightkeeper's quarters yard
Three-veined Laurel	*Cryptocarya triplinervis*	**Native**, dominant in adjacent littoral rainforest canopy	2 small trees apparently planted in southern Assistant Lightkeeper's quarters yard, 2 trees in northern Assistant Lightkeeper's quarters yard
Tuckeroo	*Cupaniopsis anacardioides*	**Native**, dominant in adjacent littoral rainforest canopy	1 small tree apparently planted and seedlings in southern Assistant Lightkeeper's quarters yard, 5 trees in northern Assistant Lightkeeper's quarters yard, several small trees apparently planted through toilet walkway area
a sedge	*Cyperus* sp.	**Exotic**	A number of plants in the open crib-lock wall bordering road leading to lighthouse
Blue Flax Lily	*Dianella caerulea*	**Native**, occurs in adjacent heathland	A number apparently planted about toilet walkway
Crowsfoot Grass	*Eleusine indica*	**Exotic**, weed	Scattered clumps about edge of toilet walkway area
Scrambling Lily	*Geitonoplesium cymosum*	**Native**, occurs in adjacent littoral rainforest and heathland	A number of vines apparently planted through toilet walkway area
Umbrella Cheese Tree	*Glochidion sumatranum*	**Native**, occurs in adjacent littoral rainforest	Several small trees apparently planted through toilet walkway area
Cottonwood	*Hibiscus tiliaceus*	**Native**, occurs in forest and shrubland in low-lying littoral areas	A number of small trees apparently planted through toilet walkway area
Hibiscus	*Hibiscus* sp.	**Exotic**	2 planted in northern Assistant Lightkeeper's quarters yard
Red Kennedy Pea	*Kennedia rubicunda*	**Native**, occurs as a ground cover in adjacent Kangaroo Grass grassland	A number of vines apparently planted through toilet walkway area

Common name	Scientific name	Status	Occurrence
Spiny-headed Mat-rush	*Lomandra longifolia*	**Native**, occurs commonly in adjacent littoral rainforest, heathland and Kangaroo Grass grassland	1 clump apparently planted in Head Lightkeeper's quarters yard, a number of clumps apparently planted through toilet walkway area
Pandanus	*Pandanus tectorius*	**Native**, dominant locally in littoral communities around rocky and sandy foreshores	1 tree apparently planted in northern Assistant Lightkeeper's quarters yard, several trees planted through toilet walkway area
Philodendron	*Philodendron* sp.	**Exotic**, environmental weed	1 clump planted in northern Assistant Lightkeeper's quarters yard
a phoenix palm	*Phoenix* sp.	**Exotic**, environmental weed	1 planted in southern Assistant Lightkeeper's quarters yard
a cockspur flower	*Plectranthus cremnus*	**Rare native (Briggs and Leigh 1996)**, occurs about adjacent rocky outcrops	Several planted in the open crib-lock wall bordering road leading to lighthouse
Frangipani	*Plumeria* sp.	**Exotic**	1 planted in southern Assistant Lightkeeper's quarters yard, 1 planted in northern Assistant Lightkeeper's quarters yard, 1 planted in Head Lightkeeper's quarters yard
a pigweed	*Portulacca* sp.	**Native**, occurs locally in littoral communities around rocky and sandy foreshores	Scattered clumps in the open crib-lock wall bordering road leading to lighthouse
Winter Senna	*Senna pendula*	**Exotic**, environmental weed	1 in northern Assistant Lightkeeper's quarters yard
Austral Sarsparilla	*Smilax australis*	**Native**, common in adjacent littoral rainforest	1 vine in northern Assistant Lightkeeper's quarters yard , a few vines apparently planted about toilet walkway
Wild Tobacco	*Solanum mauritianum*	**Exotic**, weed	Scattered shrubs about toilet walkway area
Blackberry Nightshade	*Solanum nigrum*	**Exotic**, weed	Scattered plants about toilet walkway area
Coast Tylophora	*Tylophora benthamii*	**Native**, occurs in adjacent littoral rainforest	A number of vines apparently planted about toilet walkway
lawn grasses		**Exotic**, probably established early in Lightstation's history and replenished with recent turfing	Widespread in southern picnic area, in all Lightkeepers' quarters yards
mustard species		**Exotic**	Scattered plants in the open crib-lock wall bordering road leading to lighthouse

5 ARCHAEOLOGICAL ZONING

This chapter provides archaeological zoning maps for the Cape Byron Lightstation Precinct drawn from the *Cape Byron Lightstation Precinct Archaeological Zoning Plan* (ARCHAEO Cultural Heritage Services 2008) developed concurrently with this plan. The *Archaeological Zoning Plan* should be consulted for more information.

The three archaeological zoning maps provided on the following pages (Figure 22 to Figure 24) illustrate the archaeological zoning in relation to Indigenous heritage, historical heritage, and combined Indigenous and historical heritage.

In each map, zones are identified and these are described below.

5.1 Zone A: High potential

This zone contains archaeological surface features of high significance or areas with high historical archaeological potential. It focuses on the areas of substantial historical use at the site which have subsequently undergone little to no disturbance, including the Head Lightkeeper's quarters and Assistant Lightkeepers' quarters, privies, tips and bottle dumps.

As shown in Figure 22 the Indigenous heritage 'A' zone is confined to the area which contains the former builders spoil tip—this area of the site has the highest likelihood to contain Indigenous cultural material.

As shown in Figure 23 the historical archaeological 'A' zone comprises five areas of the site that have known or potential extensive amounts of historical archaeological resources which could contribute knowledge to aspects of the site's history that are presently unknown: the sub-floor areas of the cottages, the bottle dump to the west of the Assistant Lightkeepers' quarters, the lighthouse and the site of the former flagstaff.

5.2 Zone B: Moderate potential

This Zone contains archaeological surface features of moderate significance or areas with moderate historical or indigenous archaeological potential.

As shown in Figure 22 the Indigenous heritage 'B' zone is characterised by areas of the site which have not had European built features (current or former) built on them and have undergone moderate disturbance.

As shown in Figure 23 the historical archaeological 'B' zone comprises the areas of the site that are known to have historically been used for the construction and operation of the Lightstation, and have had only minor to moderate levels of past disturbance.

5.3 Zone C: Low potential

This zone relates to features of low to no archaeological significance, and areas of low to no archaeological potential.

It focuses on the areas of low historical use at the site which have subsequently undergone heavy disturbance or contain items of very little archaeological or historical value. All existing service corridors and trenches (that is, Telstra pits and lines, electrical lines, sewage and drainage) across the site are included in this zone.

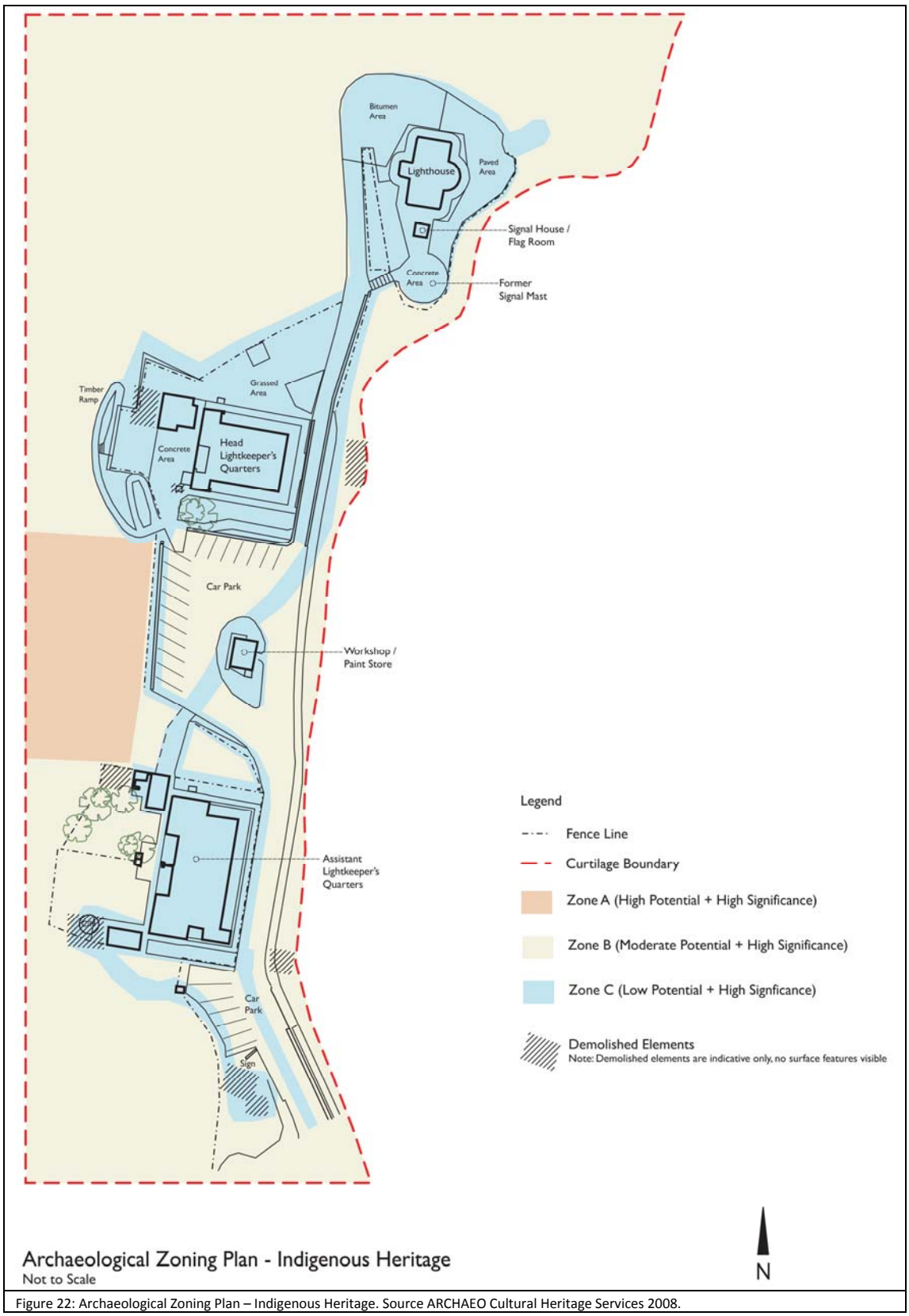

Figure 22: Archaeological Zoning Plan – Indigenous Heritage. Source ARCHAEO Cultural Heritage Services 2008.

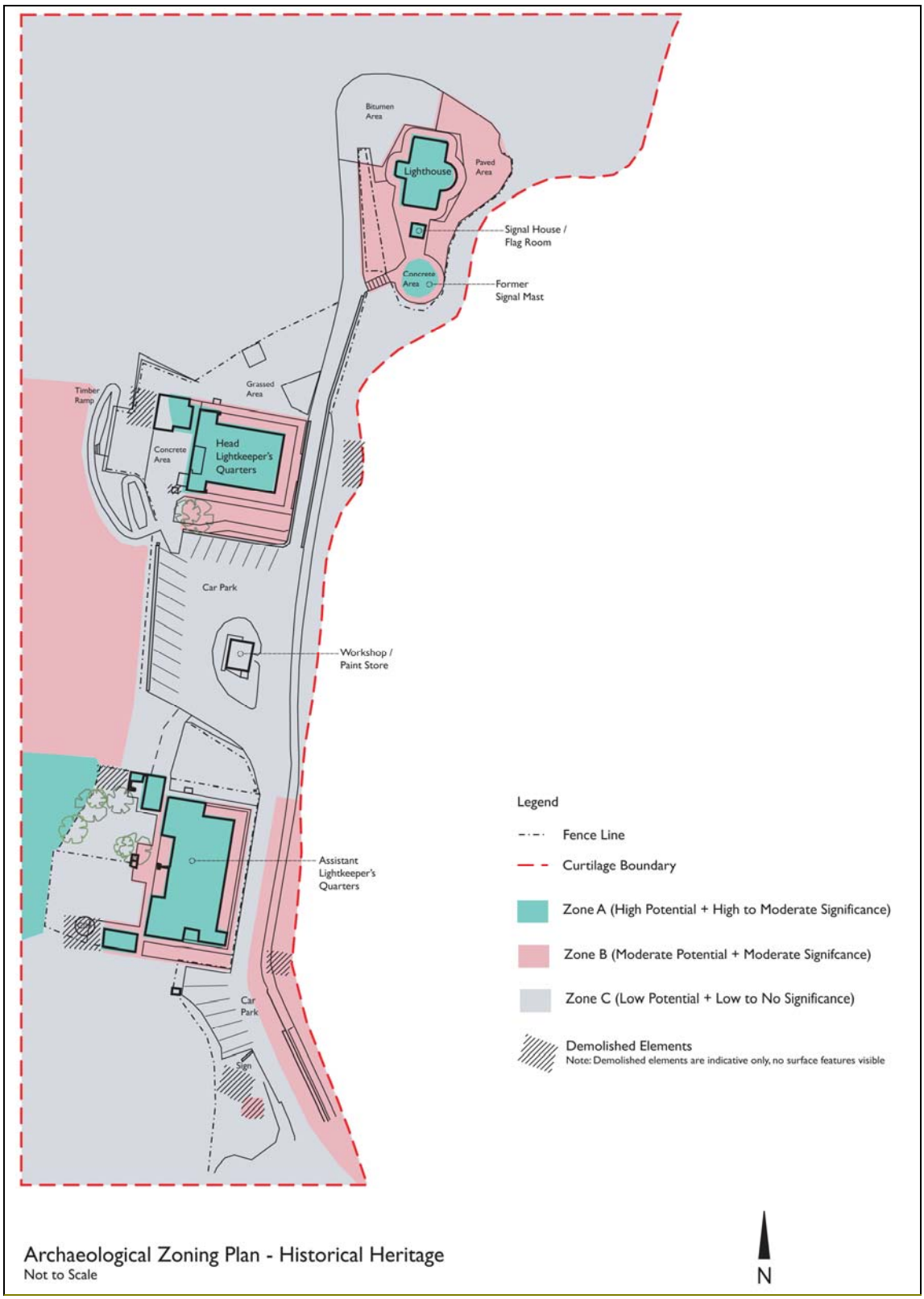

Figure 23: Archaeological Zoning Plan – Historical Heritage. Source ARCHAEO Cultural Heritage Services 2008.

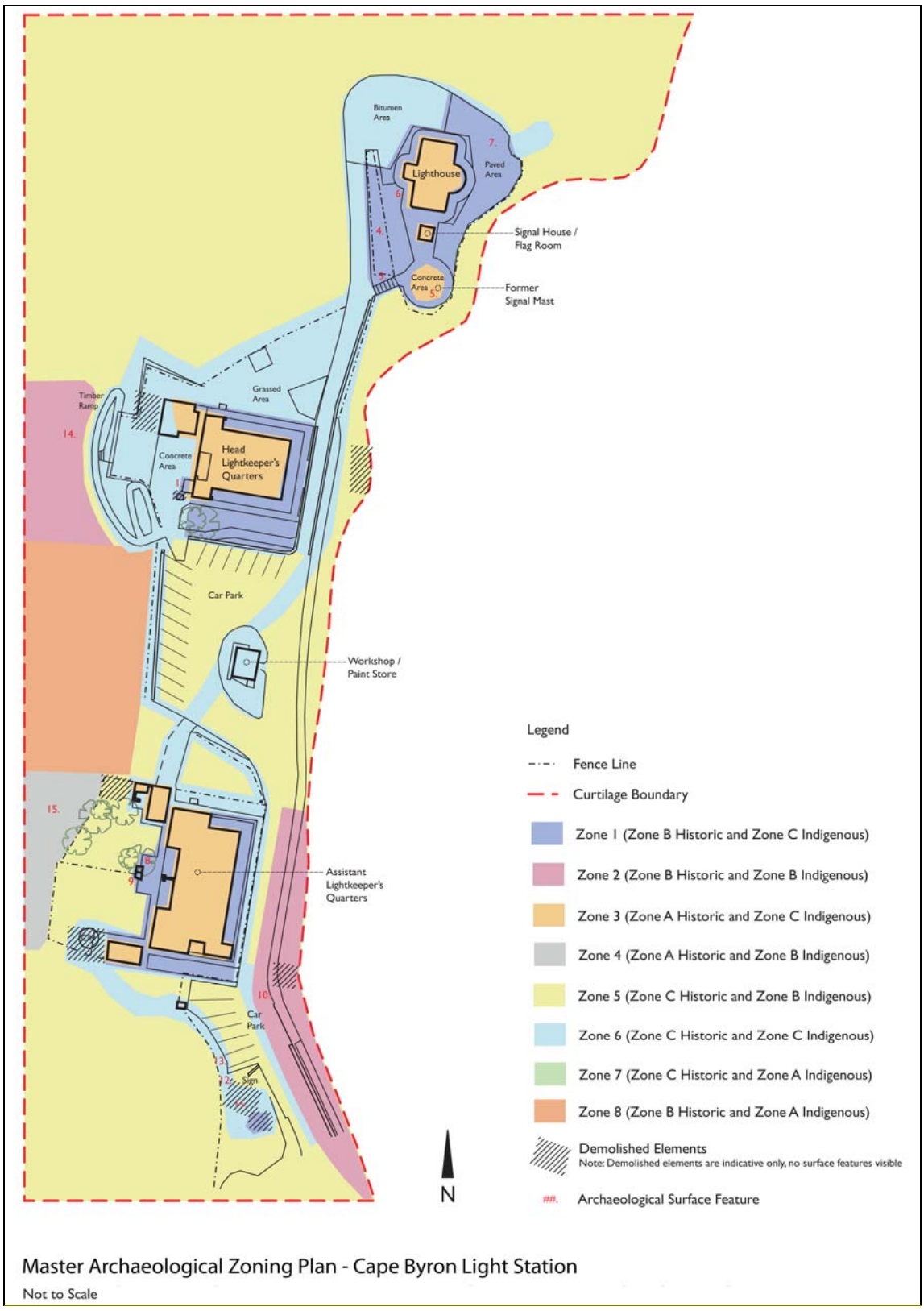

Figure 24: Archaeological Zoning Plan – Combined Indigenous and Historical Heritage. Source ARCHAEO Cultural Heritage Services 2008.

6 SITE ELEMENT OVERVIEW AND DESCRIPTION

This chapter provides details of the physical landscape—a brief overview of the site followed by detailed descriptions and analyses of various features and structures within the Cape Byron Lightstation Precinct.

6.1 The site itself

Cape Byron is a rugged outcrop rising between the long sweep of Tallow Beach to the south and the broad sweep of the Byron Bay to the north. It stands at the most easterly point of the Australian mainland. Its form is a toggle shape in plan orientated north-south on its long axis and linked to the mainland by a low sandy isthmus running more-or-less due west.

Figure 25: Site from air looking to the southern end of the precinct 2003.
Source: Wilmott MR18_013

Figure 26: Site from air looking to the northern end of the precinct 2003.
Source: Wilmott MR18_013

The Cape Byron Lightstation Precinct sits at the top of the Cape, about 100 metres above the sea—its lighthouse stands at the northern end. The lighthouse offers a commanding view of the precinct and beyond.

Below the lighthouse to the south, in a more sheltered part of the precinct, sit three dominant buildings—the pair of former Assistant Lightkeepers' quarters (referred to in this plan as the southern and northern Assistant Lightkeepers' quarters) and the Head Lightkeeper's quarters (also referred to as the 'Visitor Centre'). A small building stands in the centre of the precinct; it was formerly the Paint Store.

This ensemble of structures on its elevated site has a strong identity with very high recognition in large part due to its visual prominence and location in an area of growing tourism importance and ever increasing numbers of local, interstate and foreign tourists; and also due to the homogeneity and form of its component parts.

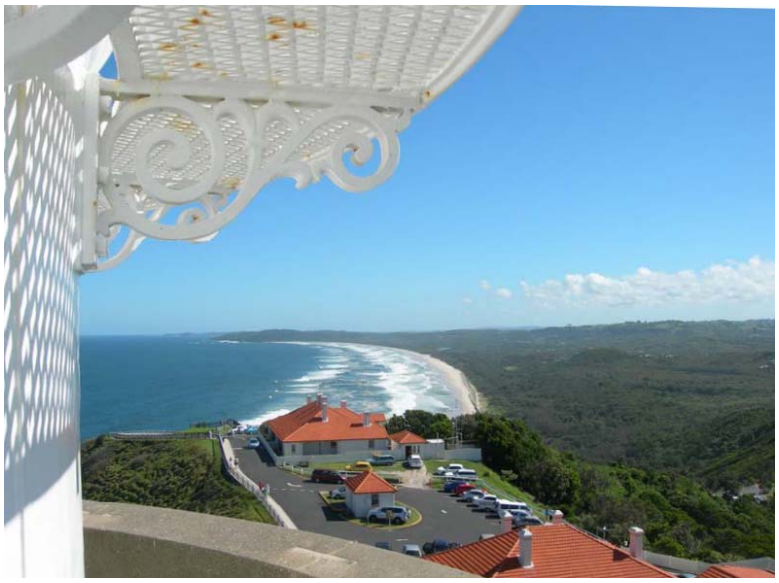

Figure 27: View from the lighthouse looking south 2008
Source: Ellsmore 2008.

The boundaries of the Cape Byron Lightstation Precinct are described in more detail in Chapter 1 and an aerial photograph with the precinct curtilage is provided in that chapter at Figure 2. The 1899 General Block Plan reproduced at Figure 28 below shows the site plan and location.

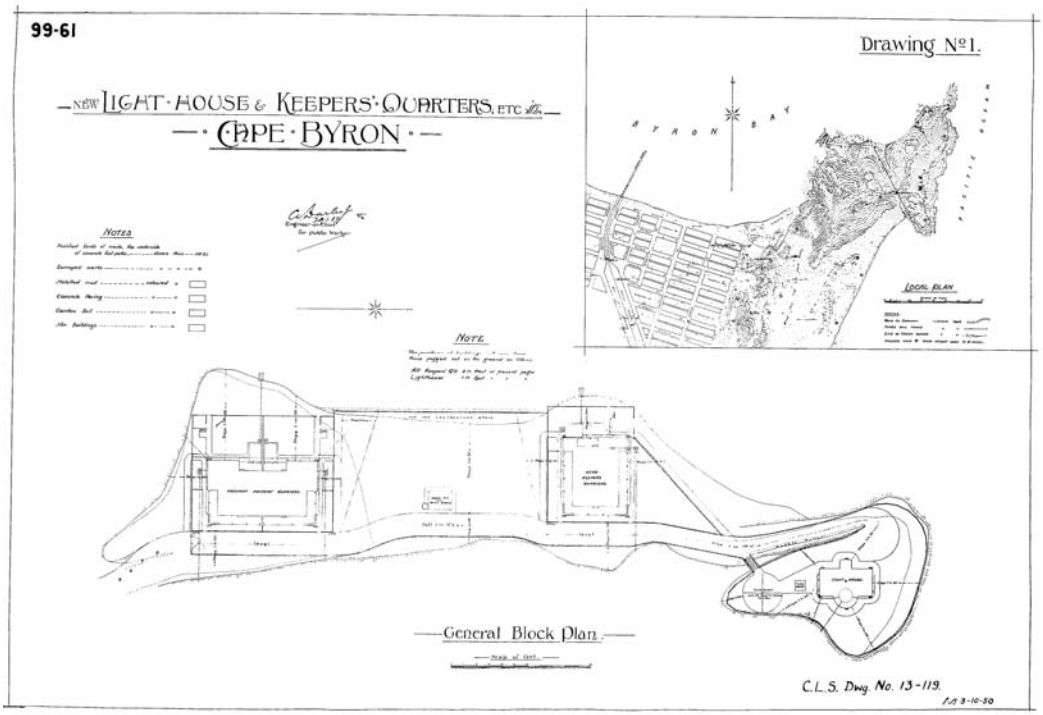

Figure 28: General block plan showing the locality and site plan layout, 1899.
Source: Source: NAA A1082/2 CN 1313119

6.2 Site features

6.2.1 Fences

The precinct area of approximately 1 hectare is currently enclosed by fences in a number of styles. The earliest available photographs show that the following principal fence styles were initially used:

- white-painted arris-top timber fences with three intermediate wire strands, at the precinct boundaries above the cliffs
- light cream-painted picket fences, at the Lightkeepers' quarters fronts
- unpainted timber paling fences, in several locations, mainly to provide privacy to the residential rear gardens and work areas.

None of the original fences has survived in situ; all have been replaced with fences of similar style and materials, but with the characteristics of more recent construction technology. Today, the main arris-top perimeter fencing is 1100 mm high with square top rails laid at 45 degrees on rectangular section posts at two-metre centres. The panels are filled with a balustrade of chain mesh laced to 45 mm diameter black painted stainless steel pipe spanning from post to post at the bottom of the fence and under the top rails. This concession to safety is a non-intrusive adaptation of the traditional perimeter fencing with its three wire strands. Where the entrance gates to the precinct were once located, a single decorative post remains near to its original position—a 250 mm square post, 1250 mm tall with a pyramidal top. There are no gates at the precinct entrance.

The former Lightkeepers' quarters are enclosed with 1100 mm high cream-painted timber picket fences. The pickets of these fences are plain, with no decorative finial at the top, and the posts and rails are square—unlike the triangular rails of the original fences. At the rear of the former quarters, plain and painted paling fences occur in a few locations, presumably where visual screening is needed for privacy.

At the southern end of the precinct, with views over Tallow Beach and the hang gliding launching platform, there is a simple form of arris top fencing stained brown with a chainwire balustrade carried

on horizontal squared top and bottom rails. At the northern end of the site, where the walking track meets the flat paved apron of the lighthouse, a simple white painted post and rail fence encloses the platform, separating the flat apron and steep banks. Outside the precinct, on the approach road and pathways, there are two forms of simple park fencing. The first is constructed with treated pine round posts and rails; the second is metal Armco safety railing separating pedestrians and vehicles at the steep roadway near the site entrance.

6.2.2 Roads

The access road arrives at the site by way of a hairpin bend at the southern end. The tar-sealed roadway is six metres wide at the site entrance. There is a two-metre wide concrete paved footpath between the roadway and fence-line along the eastern boundary. The roadway extends to the lighthouse to the north where it terminates at the lighthouse apron at a series of bollards.

Historical documentation, such as photographs, shows that the now sealed access road to the site from Byron Bay, including the road within the precinct, was established from an early date in its current configuration. The road to the site used during construction is shown as a dotted line on the earliest relevant Parish map. Robert King (unrelated to the lighthouse contractor of same name) used a team of horses to pull up all the material for building the lighthouse, cutting his own tracks. The present road follows very closely the one he cut (Dening 2002).

The exact date when the roadways were first sealed has not been established but it was most likely in the late 1960s, when tourist numbers and traffic volumes began to grow substantially and the roads were paved with bitumen, presumably in response to this increased use. According to Dening (n.d.) in 1939 there were only 7,000 visitors to the site, but in less than 30 years, according to Peter Bailey the last Head Lightkeeper, the number of visitors had grown to 250,000. This growth would have impacted heavily on the unmade site surfaces, especially during prolonged periods of wet weather. Prior to 1950, the road surfaces appear to have been gravel, without kerbs or gutters: adjoining grassed areas merged unevenly with the gravel in ragged edges at the borders.

6.2.3 Footpaths, walking tracks and paving

There is some evidence of early concrete footpaths within the yards of the quarters, and an apron of concrete paving around the lighthouse and also at the base of the former signal mast. However, it appears that the rest of the site remained in a fairly rugged, natural state until the road was sealed.

The concrete footpaths along the eastern fence-line and around the structures are modern. They began to appear in the late 1960s, initially as aprons to the kerbing and guttering, and more recently as constructed footpaths to deal with heavy pedestrian use. The apron of paving at the lighthouse is a mixture of concrete pavers and bitumen, which adjoins a circle of segmented concrete paving where the signal mast once stood. Grass is maintained outside the paved areas on the flat and gently undulating parts of the site. The steep sections where the grade changes are stabilised with concrete crib-locks minimally covered with vegetation. The walking track from Byron Bay to the site arrives at the north east beside the lighthouse, via a set of steps. The path and steps are paved with tan coloured concrete pavers; the same surface finish is on the walking track and lookouts.

The central area of the site, around the old paint store, is paved with bitumen and given over entirely to vehicles for circulation and parking, with diagonal parking bays marked out on the southern side of the former Head Lightkeeper's quarters and along the western boundary fence. An area is also marked out for coach parking. A small area of parking is marked out on the southern side of the former Assistant Lightkeepers' quarters, near the entrance to the precinct. A larger area is set aside for parking below the precinct in an area informally referred to as the 'lower car park'. A gate immediately above that car park controls vehicular access to the un-gated precinct between sundown and 8 am. However, pedestrians can use the pathway beside the road at any time, as it is not gated. The area around the main structures is partly grassed and partly paved; although, when viewed from the lighthouse, the paving dominates. Sporadic plantings are found in the rear yards of the former Assistant Lightkeepers' quarters, and on the margins of the site.

6.3 Site structures

The following text describing structures in the Cape Byron Lightstation Precinct has been adapted from Pratten and Irving's study (1991, pp. 19 to 31). It has been edited to correct minor errors and remove redundant text, and has been enhanced to include knowledge gained in research conducted for this plan, and to include changes at the precinct since the 1991 description was prepared.

6.3.1 Lighthouse

The lighthouse represents some 'firsts': it was the first lighthouse to be built under the newly created NSW Harbours and River Navigation Branch; one of the first Australian installation of a new mercury float mechanism (designed to reduce rotational friction); the first *feu éclair* (lightning-flasher) lens system to be installed in a NSW lighthouse and the only Henry-Lepaute lighthouse optical apparatus in Australia; and it is also a pioneer example of the Public Works Department's burgeoning structural scheme of that time.

The new and successful construction system of precast concrete blocks at Point Perpendicular Lighthouse in 1899 prompted the use of the same scheme at Cape Byron in 1901—and, apart from a few minor details the Cape Byron and Point Perpendicular structures are identical. This can be seen in the 1899 working drawing for Cape Byron—virtually a tracing of the 1897 Point Perpendicular drawing. Cape Byron was the third Australian lighthouse tower constructed of precast concrete blocks—the first having been erected in 1888 on Point Hicks (Lewis 1988).

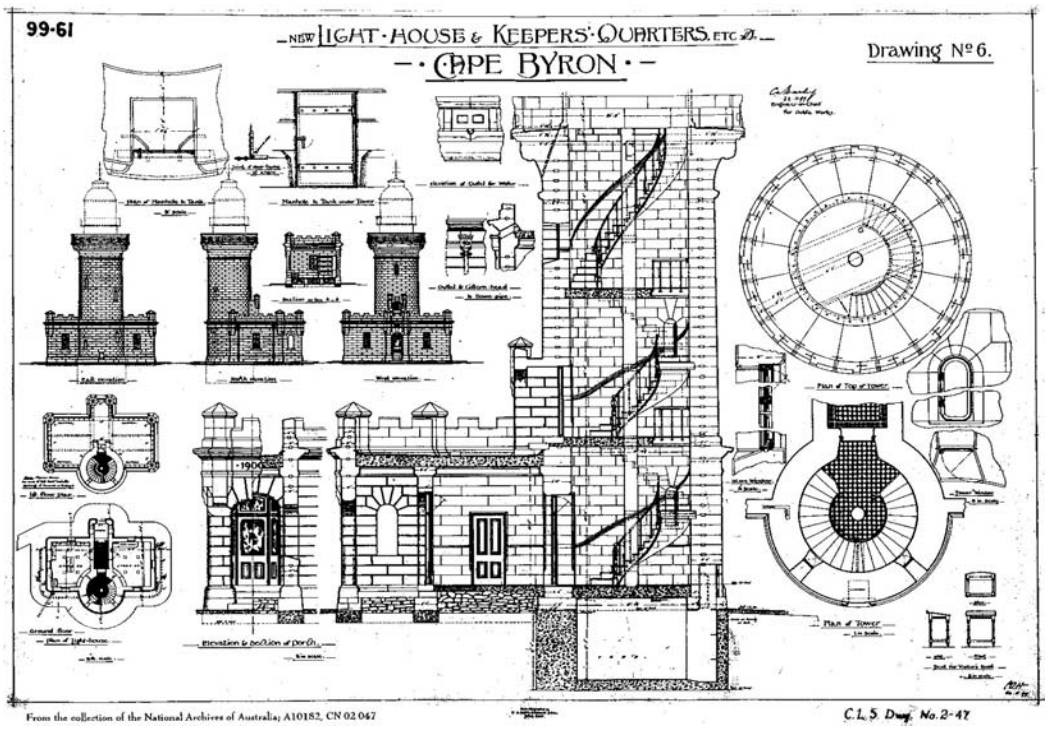

Figure 29: Plans for the Lighthouse 1899
Source: NAA A10182/2 CN02047

Precast concrete block construction provided advantages over construction methods of stone and in-situ concrete. Dressed stonework is more expensive and requires a pool of experienced stonemasons, and high quality stone—none of which was available. Concrete work in-situ can also pose logistical and construction difficulties in terms of the components used and the curved profile and round plan of the traditional lighthouse tower. Precast concrete blocks were used because they combined the strength, appearance and relative ease of construction of stonework, with the economy and quality control of concrete. In addition, they permitted the traditional circular lighthouse design—slightly tapered from the base to the top. The precast concrete blocks were cast on the ground, and then hoisted into position using the same methods as for stone masonry blocks—methods well suited to work at remote sites.

The precast system employed pine timber box moulds, shaped for various parts of the work and supplied by the contractor. The moulds were filled with concrete and thoroughly well rammed and worked with a spade until free from cavities. The resultant blocks, with a 300 mm high wall, were turned out of the moulds after 24 hours. They were immediately cement rendered on all external faces that would be visible in the completed work. The render used equal proportions of Portland cement and sand. It was applied 19 mm thick and then dusted with neat cement 0.6 mm thick. A polished surface was achieved with a steel trowel.

Once rendered, the blocks were protected and allowed to cure before use. Each block had provision for lifting-tackle cast into its top surface. The blocks were laid in the same manner as stonework, including a slight diminution of wall thickness towards the top of the walling; keying together blocks in their bed courses; and channelled or slightly rusticated joints. Instead of traditional masonry keys of lead or copper, the blocks were knitted with 'cement fillets across the beds'. The blocks were bedded and jointed in cement, and had a margin of masons' putty on the outer edge of all bed-joints and perpends. All external corner blocks were cast and rendered with bullnose arrises.

This most unusual and innovative system was completed here with a minimum of decorative embellishment. The design of the lighthouse incorporates pre-worked trachyte, from Bowral NSW, for the tower lantern balcony and balustrade. The floor slabs of the balcony are 406 mm thick, supported on an over-sailing concrete cornice, and the stone balustrade has a moulded coping and panelled front (skilled artisans at the quarry carried out the decorative work). For waterproofing, the stone balcony was originally paved with a surface finish of Val de Travers asphalt.

The tower stands on a foundation of mass concrete let into the natural bedrock. A water tank was excavated into the rock at the base of the tower. It has thick walls of mass concrete and could store 13,600 litres of water for use in the ancillary rooms. An access manhole, with a raised trachyte kerb and wrought iron door, gives access by iron foot-holds to the tank's concrete floor.

Charles Harding, Architect of the Harbours and River Navigation Branch of the Public Works Department, prepared the lighthouse design under general supervision of the Engineer-in-Chief Cecil Darley—and based on the drawings for the Point Perpendicular Lightstation. Material for the lighthouse construction was brought to Byron Bay by ship, and carted to the site along the road cut for the purpose by the contractors.

The light in the lantern is a first-order rotating optical apparatus, manufactured in France by Henry-Lepaute with Fresnel lenses and prisms in a gunmetal frame. It was the first *feu éclair* (lightning-flasher) lens system to be installed in a NSW lighthouse. The lens was rotated by gears driven by weights suspended in the central metal tube which is still in position. For the first 58 years of operation, kerosene was the illuminant. The six-wick burner gave a light of 145,000 candlepower, visible for about 26 nautical miles at sea. The light was increased to one million candlepower in 1922, and, after conversion to mains electric operation in 1959, the light was increased to three million candlepower (3 mega-candelas). The lantern room was constructed with a floor of chequered wrought iron plate supported on rolled iron girders. The dado walling was cast iron, above which the wall was glazed with polished plate in lozenge-shaped panes.

A cast iron gallery, with a perforated cast iron floor supported on cast iron brackets and handrailing of wrought iron, encircles the lantern room. Its roof is a dome covered in sheet metal and surmounted by a ventilator. Above the ventilator is a weather vane which was connected to a dial, visible in the lantern room, indicating the wind direction so that the keeper on duty could regulate the admission of fresh air through baffled vents in the dado walling.

In the event of the failure of lamps, motors or electricity supply, an alarm system connected to the lighting apparatus rang bells in the Lightkeepers' quarters. A subsidiary light is mounted lower down within the tower itself. This is a fixed red apparatus described as a sector light, which shines towards the Julian Rocks lying north-west of the lighthouse.

The tower has three storeys, the top storey being the gallery around the base of the lantern. It has an internal diameter of 3.6 m and a height of 22 m. Its walls are 1067 mm thick at the base, tapering to 762 mm thick at the top. The intermediate floors are of mass concrete 300 mm thick, the lowest being about 600 mm above ground level, and all are paved with small black and white tiles.

Access to the upper floors is via spiral concrete stairs built into the walls; these have slate treads, brass tube handrailing, and wrought iron balusters. The windows have cast gunmetal frames glazed with 9.5 mm thick polished plate glass.

The bulk of the paint has been removed from the internal faces of walls of the tower shaft in recent years by means of chemical stripping.

The ground floor level is made up of a projecting entrance porch, a lobby and two large rooms (one for use as a store or power plant, and one as a workroom—now a maritime museum). These form a symmetrical composition from north to south, but the tower projects half of its diameter beyond these rooms on the east side.

The porch has a trachyte floor and steps and a cedar entrance door with etched plate glass panels and sidelights. The lobby has a tile floor and trachyte steps, and the other rooms have asphalt floors and cedar windows.

Figure 30: Inside the tower from above.
Source: Ellsmore 2008.

The store and workroom were built with internal shelves, work tables, and a wash sink with a pump connected to the underground water tank.

The flat roof over the lobby, store and workroom is of mass concrete supported on rolled iron girders; it was originally paved with Val de Travers asphalt. The roof is accessed by a doorway opening from the first floor of the tower; it has concrete block wing walls and a small roof of poured concrete. All these ground floor rooms are surrounded by crenellated parapet walls with octagonal corner tourelles. The roof within the parapet walls is drained through penetrations in the parapet discharging into iron rain water heads. Internally, the walls of these rooms have sunken dado mouldings and a dado that was originally painted a dark, serviceable colour with lighter coloured walls above.

The exterior walling of the suite of rooms at the base of the tower of the lighthouse has a splayed plinth, originally painted in sombre colours, and there is an original concrete margin of paving around the perimeter.

The lighthouse appears in all photographs as a white painted structure, unlike the quarters which, although constructed with the same precast concrete block system, remained unpainted until the 1960s. The white paint finish of the lighthouse appears to have provided its daylight navigational identity from the outset.

Figure 31: View from the radar tower looking north in the 1960s. Note that the painting of the quarters is in progress as evidenced by the newly painted paint store. Source: Ian Clifford.

6.3.2 Signal house/flag room

General

This small and distinctive building is named on the 1899 working drawing as the signal house, but became known as the flag room. Its purpose was to store the signal flags used to fly signals from the (since removed) signal mast. The building is currently not in use.

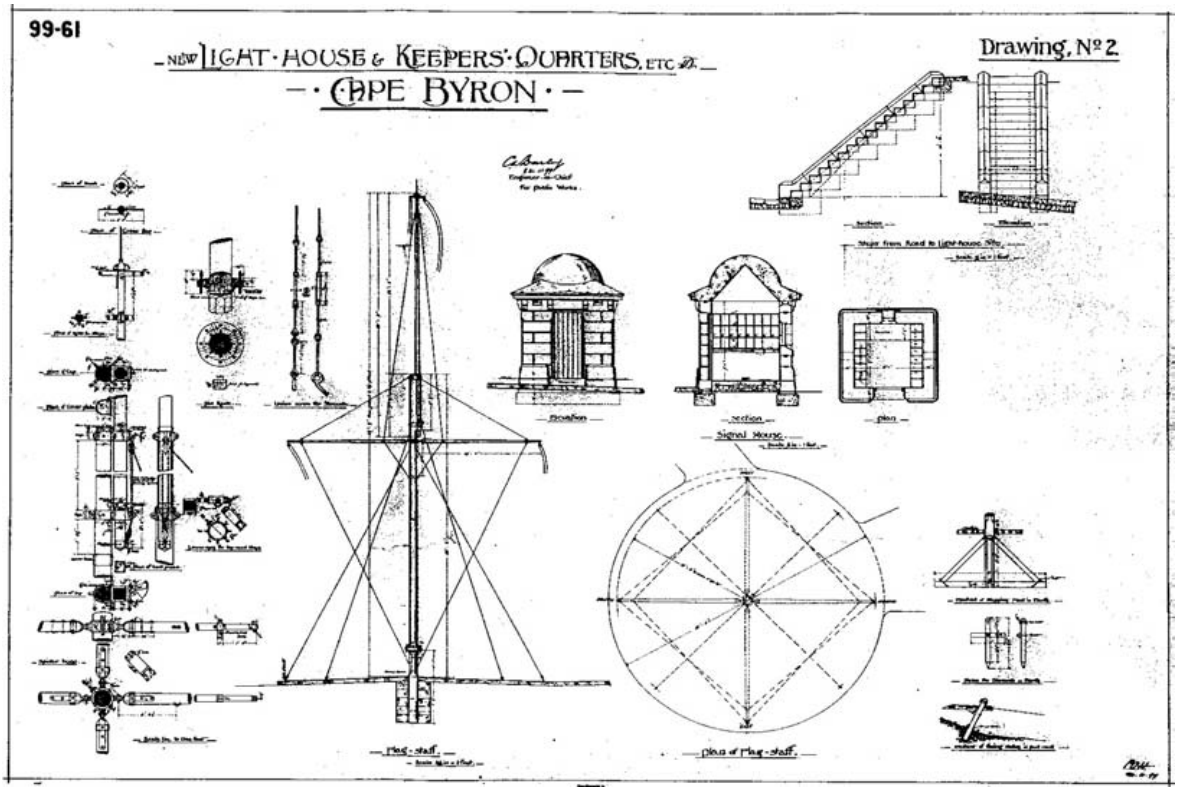

Figure 32: Plans for the construction of the flag staff and signal house.
Source: NAA A10182/2 CN02047

The building is a single room, less than two metres square, constructed of bonded precast concrete blocks matching the lighthouse. As with the lighthouse, the blocks were rendered on their exposed faces before erection, have chamfered edges to give emphasis to the joints, and are keyed together by fillets of cement in the bed joints. It has a heavy splayed plinth, also of concrete blocks, and all external wall corners, including the door reveals, are bullnosed. The exterior of the whole building, including joinery, is painted white except for the plinth, which is blue.

Exterior

The door threshold is of trachyte. The door is framed, ledged, braced and sheeted with vertical boarding, and has brass furniture. There is a small window, now metal-framed and with an opaque fixed panel instead of glass, with a weathered and projecting sill. The top course of walling incorporates metal ventilators and cast brackets which support the cornice. The roof and ceiling form a single cast-in-situ element having a moulded cornice, low-pitched pyramid base and a surmounting semicircular dome—all rendered and tooled externally and poured over formwork of square pyramid shape which, when removed, gave the interior a ceiling rising to a centre apex.

Interior

The floor is concrete, raised slightly above ground level. Under the window there is a built-in table for folding signal flags, and the side walls are lined with timber pigeonholes for storing the flags. The interior surfaces are painted.

6.3.3 Workshop/paint store

General

As with the signal house, this small building is shown on the original drawings of 1899. It is now surrounded by a small grassed and concrete kerbed area in the centre of the upper parking space, but the original drawing shows a surrounding paved margin of concrete. Today it is used as a rest-station for staff managing traffic flows and providing information to visitors.

Exterior

The store is a single room about 5 m x 4 m in plan, constructed using the same system of precast concrete blocks employed at the lighthouse—but these blocks are plain rather than having chamfered edges, and there is no prominent plinth. It has a hipped roof of timber rafters and a recent Marseilles pattern terra cotta tiled roof covering. The roof eaves overhang about 200 mm, the rafters are underlined externally, and the fascia supports an ogee eaves gutter which delivers water to a concrete water storage tank at the building's south-east corner.

There are two timber framed double-hung windows glazed with six panes in the upper sash and four in the lower. The door replaced in 2007, is framed, ledged, braced and boarded. Both door and windows are set with deep exterior reveals; the door has a trachyte threshold and the windows have weathered and projecting sills. The walls and eaves are painted white and the joinery and base are painted blue. The building is painted inside and out.

Interior

The roof structure is framed in hardwood with tusk-tenoned rafters and ridge beams. The rafters are original but the tile battens are new and lined on the underside with insulated foil sarking. The ceiling is lined with TG&V painted boards running north-south. The interior features moulded timber door and window architraves. The original drawing shows a poured concrete floor but it was built with a herringbone patterned brick paved floor.

6.3.4 Head Lightkeeper's quarters

General

This single-storey detached house, originally the Head Lightkeeper's quarters, was built with five main rooms and a kitchen, laundry, bathroom, store and verandahs, external fuel room, toilet and poultry enclosure. It has an underground water reservoir and extensive original perimeter paving. It was fully enclosed by picket and paling fencing when occupied but, now that it is used as a visitor information centre, the site has been opened up by the removal of some fencing.

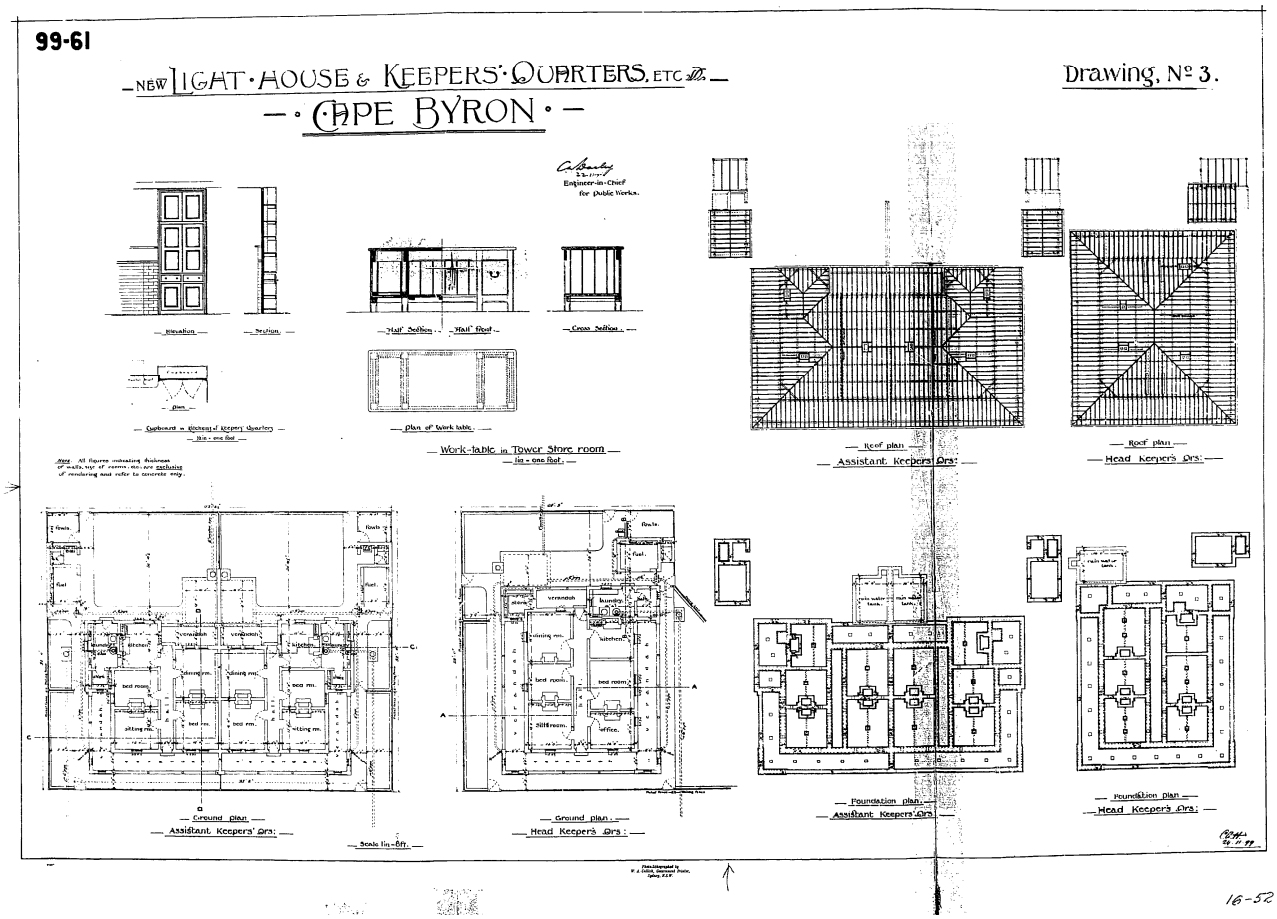

Figure 33: Plans for the construction of the Lightkeepers' quarters 1899 (Drawing No. 3).
Source: NAA A10182/2 CN02047

Exteriors

The walls are of precast concrete blocks throughout, the exterior walls being slightly thicker than the interior. The blocks, plainly cast without chamfered arrises, were laid as for ashlar, with fine pointed joints. There are terra cotta ventilators just below floor level. The building faces east and has a verandah on the north, east and south sides. An ice-cream cart usually sits on the verandah. The original laundry, bathroom and store extend westwards to the same width as the other verandahs, and a small verandah occupies the space between the laundry and the store.

The roof is a simple hipped rectangle extending over the verandahs at a slightly lower pitch, giving the roof a slightly concave form. It is covered with Marseilles pattern terra cotta tiles similar to the original made by the Sydney firm of Goodlet & Smith.

The verandah posts are of iron, cast by Bonner & Son at the Globe Foundry in Sydney. They are designed to simulate turned timber, complete with tapering, banding, quirks and stop-chamfers, and have sockets and brackets for seating and bolting the verandah beams, and shaped valances which span between them. The eaves treatment, common to all pitched roofs in the precinct, consists of projecting rafters with underlining. The chimneys, also of concrete blocks, have decorative caps of trowelled render. These elements give the original design an austere Queen Anne style quality.

Of particular interest externally are the front corner treatments of the verandahs, where there are screen walls at the angles, each perforated by a window with six glazed panes. Presumably designed to reduce the effect of wind, and having engaged piers and plinths, they give the quarters a somewhat Georgian pavilioned effect, heightened by the slight concavity of the roof slope above.

The windows are timber framed with double-hung sashes glazed with four panes in the lower sashes and six in the upper. They are set back, displaying wide reveals. Those protected by the verandahs have weathered flush sills, and the others have weathered projecting sills. Both main doors, one at

each end of the hall, have original and reproduction decorative etched glass top panels. The thresholds are of slate and the door steps of concrete.

Physical evidence, which is supported by early photographs, indicates that prior to the 1960s the concrete blockwork was not painted. It had a drab stone-like appearance derived from the Portland cement—a more earthy tone than modern grey Portland cement. The Lightkeepers' quarters were painted white like the lighthouse in the 1960s.

The verandahs are finished with Val de Travers asphalt, now painted. The outer edges of the verandahs are of trowelled cement render matching the smoothness and hardness of the walling. In the centre east panel, between the verandah posts, there is a glazed screen, probably of a later date. It is fixed to the underside of the beam and replaces the valance, and is raised above the verandah edging on makeshift wooden blocks where it was originally supported on steel pipe supports.

An underground water tank is located at the south-west corner. The original drawing shows that it has concrete walls and floor and its roof, also of concrete, is part of the rear exterior paving. There is also a concrete upstand with a trachyte top and a wrought iron access panel. The house downpipes lead to underground drains which convey roof water to the reservoir. Near the north-west corner is another concrete upstand which contains the waste water pit receiving the drains from the laundry, kitchen and bathroom, and from which the outlet waste pipe leads eastwards away from the building.

The former fuel room is now a storage shed, paved internally with herringbone pattern brickwork, and, in place of the poultry enclosure, there is now a garage/office of recent vintage which has an unusual roofline. The exterior toilet survives intact. An apron of concrete paving in the rear service area extends as paths around the perimeter of the house. The grass terrace was extended in the north-west corner of the block.

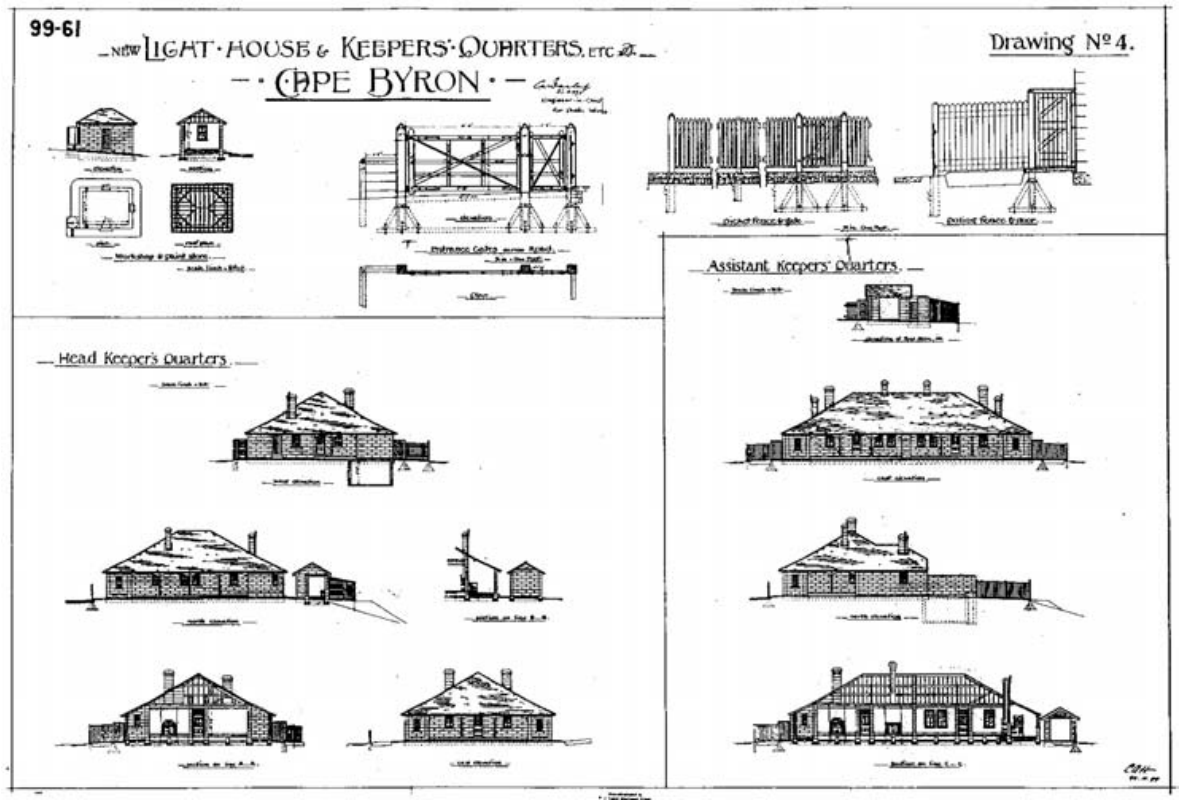

Figure 34: Details for the construction of the Lightkeepers' quarters 1899.
Source: NAA A10182/2 CN02047

The 1899 working drawing at Figure 34 shows two types of fencing to the Head Lightkeeper's quarters. A picket fence—1200 mm high with two rails of triangular section, a plinth, and posts and spaced narrow pickets with decorative tops—is along most of the north and south boundaries, and all the east boundaries of the block (with the north fence being extended further to enclose a triangular

garden area). A paling fence—1520 mm high, also with two rails of triangular section, pyramid-top posts and wider chevron-cut butted palings—enclosed the rest of the block which formed the back yard. There were three rear gates, at least one of which was 1830 mm high with gate posts having a head strainer between them. The fences appear to be mostly on the original alignments, but those on the north and west have been altered. Originally there was a high paling fence on the inside alignment of a path from the signal mast to the store at the rear of the quarters to provide privacy to the yard.

There are no formal plantings around the front of the Head Lightkeeper's quarters; the only vegetation is located on the southern side towards the rear.

Interior

The building was planned with rooms each side of a full-length central hall. The 1899 plan at Figure 33 names the rooms as a sitting room, an office, two bedrooms, a dining room and a kitchen.

The internal walls are hard plastered, with flush cement skirtings separated from the walling by a wide sunk bead moulding. There are simply moulded picture rails high on nearly every wall. Ceilings are lath and plaster and asbestos cement sheet, with pressed metal ventilated ceiling roses (now refixed) in the centre of all the main rooms. Almost all original ceilings have been replaced or covered with flat asbestos-cement sheeting with cover battens.

The chimney pieces are of painted timber, with simple decorative mouldings. The projecting chimney breasts have prominent staff moulds at their vertical edges. The fireplaces, set in concrete chimney recesses, are lined with brown glazed bricks mitred at the corners and having bullnosed outer angles to the cheeks. Front hearths and raised back hearths are grey slate. Each fireplace is gathered into its flue above the opening, but there are no throats or smoke shelves. There are overmantels in the sitting room, the office and the dining room. Each of these identical overmantel features has three chamfered mirrors set into a moulded frame, with shaped brackets supporting a wide top shelf above which is a curved entablature, the ensemble having a slight Art Nouveau character. One of the former bedrooms, and rear kitchen, are the only rooms with more than one window.

The rooms are painted with modern decorative schemes loosely based on the underlying paint schemes. The original schemes were rather simple and institutional in character with drab coloured dados and light stone colours predominating. Doors are generally four-panelled with timber painted architraves. The front and rear doors have operable fanlights with brass mechanisms. The Baltic pine floors are now covered with loose fitting coir mats and have borders painted with black Japan.

The kitchen is a large room with a large recess for a cooking range (now removed) and a built-in cupboard beside the chimney breast. The other kitchen fittings are new. The room has two double hung windows and two doorways—one from the hall passage and a second leading to the laundry and bathroom.

The bathroom, opening off the laundry, has modern fitments: neither bath nor other equipment is shown on the 1899 drawing, though the room itself is clearly marked 'bath'. The laundry is one step down from the rest of the house and its floor, of concrete as shown on the drawing, is now tiled. Its ceiling follows the line of the roof and its framed, ledged, braced and sheeted door has stop-chamfered members. The laundry equipment is modern but the original plan shows a copper and a drained circular wash trough. This room has recently been subdivided with a partition and sliding door to provide storage for consumables from the souvenir shop that operates out of a former bedroom.

Each of the other rooms is now used for displays of different sorts, with minor installations of fittings and services for the new functions. Two rooms have displays relating to Arakwal heritage and use of the Lightstation site, one room houses the souvenir shop, and other rooms are used for movable displays and exhibitions. Mounted on the hall wall near the main entrance are the residual components of an early telephone and former signal connection with the lighthouse.

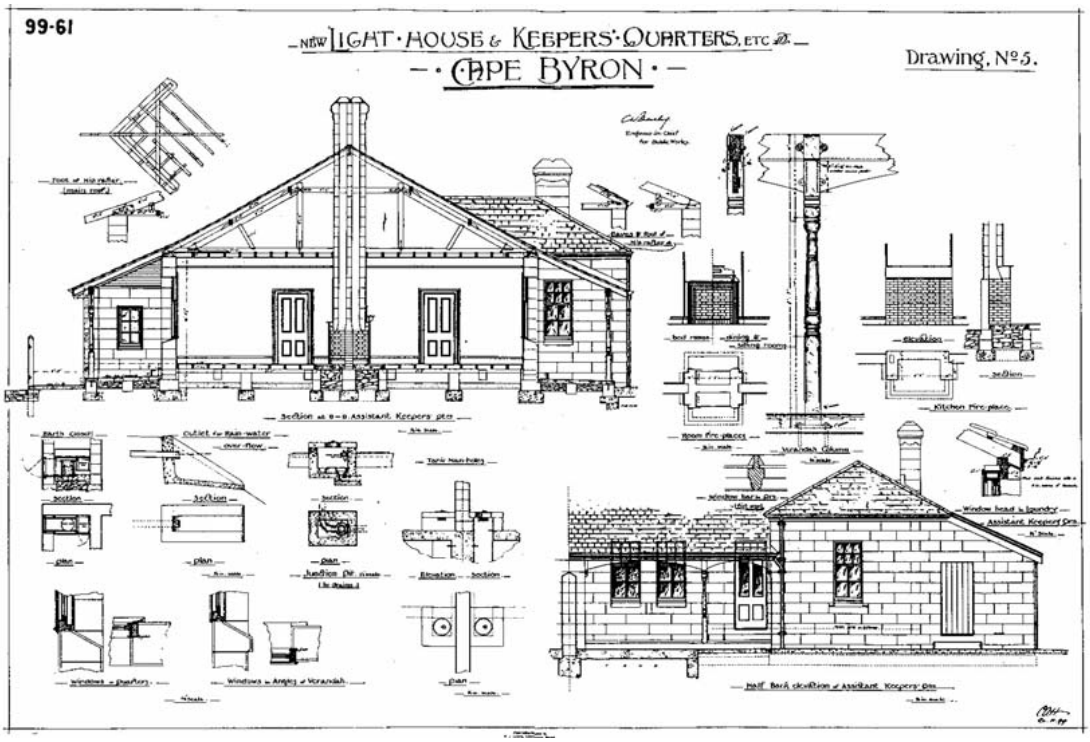

Figure 35: Details for the construction of the Lightkeepers' quarters 1899.
Source: NAA A10182/2 CN02047

6.3.5 Assistant Lightkeepers' quarters

General

In style, construction, appearance, detail, appurtenances and surrounds, this pair of attached former quarters generally matches the Head Lightkeeper's quarters. The two are disposed about a party wall which continues beyond the front (east) and rear (west) separating the front and back verandahs. Each of the pair originally comprised four main rooms, two on either side of a central hall, with the kitchen and laundry beyond them to the west. The sketch in Inventory Sheet 6 in the Appendix shows the plan layout.

Exteriors

The walls and their finishes are the same as those in the Head Lightkeeper's quarters. Like those quarters, these buildings face east with verandahs except where there are projecting rooms and the buildings abut. Accordingly, the pair makes a symmetrical composition when viewed from the front.

The roof covers both buildings and is a large hipped form with subsidiary hips and skillions, covered with modern Marseilles pattern terra cotta roof tiles, which are a close match to the original roof tiles. The verandah posts, beams, floors, edges and corners, as well as the eaves, chimneys, windows and surviving doors are identical with those of the Head Lightkeeper's quarters, as is the gentle concavity of the overall roof form. Both the front and back doors are partially glazed. These replacement doors are modelled on the original doors.

Each of the quarters had a detached fuel store with a gabled roof and an external WC with a parapeted roof when built. The south building retains the fuel room, which is now used as a weather recording room. It has a herringbone patterned brick paved floor. The fuel store of the northern quarters has been adapted to form a hip-roofed garage; it has recently been occupied by the Coast Guard and is used as a command station.

Each of the quarters has a concrete underground water reservoir with a concrete upstand, trachyte top and iron manhole. Concrete paving, which appears to be original, extends around the entire building. The early drawings indicate fencing matching that at the Head Lightkeeper's quarters. Although their alignments appear to be original, all have been altered in detail and the rear and part of the dividing fences are of steel mesh.

Interiors

The plan form of each building is generally similar to that of the former Head Lightkeeper's quarters, except that there are four main rooms instead of five—each has a central full-depth passage with an external door at each end, and the rooms open off each side. As in the Head Lightkeeper's quarters, there is an early telephone and communication bell wall-mounted in each hall. An interesting feature is that the 1899 drawings show the roof has queen post trusses supporting purlins which in turn support common rafters; this is very unusual in domestic construction.

The details of the interiors—wall finishes, skirtings, picture rails, joinery, windows, doors, door furniture, chimney breasts, chimneypieces, fireplaces and overmantels—also generally match those in the Head Lightkeeper's quarters. An original painted dado, about 1200 mm high, can be discerned under the modern painting in each hall. Each room has been recently painted in modern colour schemes loosely based on the historic paint finishes.

In the southern Assistant Lightkeeper's quarters, one bedroom has a 'ripple iron' ceiling with a quad cornice and perforated pressed metal ceiling rose. In the kitchen, the original cooking recess is evident, but the original stove has been removed. The brickwork of the back and cheeks of the recess is glazed and the front brickwork is painted. The beam over the opening, and the chimney gathering within it, is of shuttered concrete and there is a slate mantelpiece. Beside the cooking recess there is a full-height cupboard similar to the one in the kitchen of the Head Lightkeeper's quarters.

The plan of the northern Assistant Lightkeeper's quarters is a mirror image of, and its components and details generally match those of, the southern quarters. Here the rooms are fitted with overmantle fireplaces, having tripartite mirrors of chamfered glass. The kitchen retains its large cupboard beside the cooking recess, though this has been altered. The laundry and bathroom have modern fitments and slate floor finishes.

6.3.6 Other structures within the Lightstation precinct

Steps

The main steps leading from the access road to the base of the lighthouse appear to be original. The 1899 drawing shows heavy sloping and coped plinths formed in concrete, between which are precast concrete treads. No handrails are shown in the drawing but in former years there were timber rails. Today there are timber side fences and stainless steel handrails.

Signal mast

The original signal mast, sometimes called the flagstaff, was a three-stage construction—base, main-staff and top-mast. The base was stepped into the ground, projecting through a concrete apron of circular plan configuration and having a flanged cap. To this cap was bolted the main staff, at the top of which was the spider hoop supporting four yard-arms, which pointed towards the cardinal points of the compass and were separately stayed. Also at the top was the hoop for the main-mast stays. The third stage was the top-mast, stayed to the yards and the base and having a metal finial.

The concrete apron was marked with radial grooves and had stay anchorages at its periphery. Little physical evidence of this now remains except for the radially grooved concrete apron, even the base of the signal mast having been cut off flush with the paving. A small number of the fittings were unearthed during fencing works in 2007 and are now held in storage.

Retaining walls

The steep bank between the level of the road and the flat area above it, at the site of the former signal mast, is retained with a crib-lock retaining wall with random rock at its southern end where it adjoins the steps. Early photographs show excavated rockwork without earth retention.

A second area of crib-lock walling, below the flat terrace at the rear of the Head Lightkeeper's quarters is located where the steep bank was originally retained with horizontal logs. These logs were replaced in 1924 with a concrete retaining wall which, presumably, was demolished when the toilet block was built below the terrace.

Toilet block and walkway

The toilet block is constructed at the north-west corner of the former Head Lightkeeper's quarters below a newly created grassed terrace; this is a concrete block constructed facility with modern toilet fittings, including facilities for people with physical disabilities. Access to the toilets is obtained by a gently graded boarded and ramped walkway that spirals in an oval from the terraced platform above to the toilets below. The handrails are finished with polished stainless steel railings.

6.3.7 Services

Prior to the construction of the Lightstation there were no services at Cape Byron; however, by the time it was opened in 1901 the Lightstation was self sufficient in water and waste was disposed into the sea. Drinking water was provided by means of rainwater captured in underground tanks from the roofs of the structures. Specifically, underground tanks were provided to the lighthouse and to the three Lightkeepers' quarters. These remain today, although not in use.

Stormwater, other than that captured for drinking purposes, was absorbed at the site or allowed to discharge off it. The only known collection and disposal point is the one that is located at the midpoint where there are now pits and an overflow to the sea on the eastern side of the former Head Lightkeeper's quarters. Waste water from the Lightkeepers' quarters was captured in underground tanks from where it was removed from the site by gravity as overflow. Sediment and sludge was presumably decanted at various times to maintain a functional grey water disposal system.

There was no sewerage system in 1901; instead, earth closets were provided at each of the quarters. The structures remain at the rear of each of the quarters although the earth pans have been replaced by water closets following the introduction of septic sewerage. The precinct was connected to the Council's sewerage system in two stages in 2002 and 2007, and the round concrete septic tanks located near each of the quarters were removed.

The telegraph was established at the site in 1901 or thereabouts and electricity was switched on at the site in August 1959—comparatively late for a place in a developed area. The first power would have been purchased from Mullumbimby where the municipal council developed a hydro power station in 1926 to serve the town and surrounding district. As far as it is known, there was no other form of electricity at the site before then; lightkeepers and their households must have survived with kerosene lamps. Originally the power was brought to the site by means of overhead wiring, but the wiring is now mostly underground.

The fire risks at the site are low. The barrenness of the ground and low flammability of the structures means that there are few risks from bush fire, arson or accidents. Nevertheless the risks are not insignificant; the fire risks have been analysed, and measures are in place through the Cape Byron Fire Management Strategy.

Services have been maintained and improved over time. There is now a Maintenance Plan to guide such works. In recent years works have addressed the in-ground and above-ground services in a systematic way; for example, the connection to the Council's sewerage system in 2007.

7 ASSESSMENT OF CULTURAL SIGNIFICANCE

This chapter provides an assessment of the nature and degree of cultural significance of the Cape Byron Lightstation Precinct—it commences with a statement of significance and, in the sections following the statement, provides an assessment against the NSW heritage criteria, a statement on condition and integrity, a comparative analysis with 17 other lightstations, and a significance grading.

In NSW, the values-based system of significance has been in official use since 1996 when the *Heritage Act 1977* was amended. A place is deemed to be of significance at a local or state level according to its ability to demonstrate significance against any one or more of seven agreed criteria, and the level of significance is determined by comparing the place with other places in the local area or in the state.

While the Cape Byron Lightstation Precinct has not previously been assessed against the seven criteria, assessments of its significance have been undertaken in the past[1] using the values and processes described in the *Burra Charter* (1999). In developing this assessment of significance, previous assessments have been considered, along with the findings of research as detailed within this plan, including the comparative analysis.

7.1 Statement of significance

The Cape Byron Lightstation Precinct is significant because of its:

- historical significance as an important element in the establishment of critical navigational aids along the New South Wales coast, and its association with Australian east coast shipping since the beginning of the twentieth century
- significance to the traditional owners, the Bundjalung of Byron Bay (Arakwal) people, who have a strong cultural and spiritual relationship with the place as a fundamental element of their heritage, dreaming stories and Country, and for its vital contemporary Arakwal community role
- outstanding aesthetic and adjacent natural values; it is dramatically located on the top of a high windswept cliff on Cape Byron—a place of great beauty—where it is a dominant landscape feature free of modern intrusions
- technical and historic significance as an unusually intact and representative example of an important class of lightstations, and its continuing use as a functioning lightstation
- considerable contemporary social and community values for the local community, the wider community, and internationally—the precinct is significant for tourism and has a high level of recognition in the public imagination. It is well known as a key whale-watching spot and vantage point for viewing seabirds and other marine vertebrates, and affords unrivalled views of the coastline and the dramatic hinterland
- historical, scientific and cultural 'firsts'
    - the Cape Byron Lighthouse was one of the first in Australia to have a mercury float mechanism, its *feu éclair* (lightning-flasher) lens system was the first to be installed in a NSW lighthouse, and the optical apparatus is the only example made by the important French maker Henry-Lepaute
    - the Cape Byron Lightstation is a pioneer example of the NSW Public Works Department's concrete masonry structural scheme of the period
    - the Cape Byron Lightstation Precinct is jointly managed by traditional owners, the Bundjalung of Byron Bay (Arakwal) people, through the Agreement in 1997 and the Arakwal Indigenous Land Use Agreement. [2]
- Indigenous and historic archaeological features that have the potential to add to our knowledge, particularly in regard to the Indigenous use of the site, and the lives of those who resided there.

[1] The most recent of these assessments are those by Brooks in 2001 and Marquis-Kyle in 2006 (for AMSA). In addition, a draft NSW Heritage Office Database Entry contains an assessment of significance drawn from the 1993 work by Clive Lucas Stapleton & Partners (although that work is limited in some areas researched for this plan).

[2] This approach to managing the shared heritage of the lightstation and the Cape Byron Headland Reserve has been internationally recognised as a best practice model, through the award of the prestigious Fred M Packard International Parks Merit Award, at the 5th World Parks Congress of the International Union for the Conservation of Nature, in Durban in 2003.

7.2 Assessment of significance against NSW heritage criteria

The following assessments against the standard criteria for assessing heritage significance in NSW draws on the information outlined within this plan and documents referenced therein.

Criterion a: An item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).

The Cape Byron Lightstation Precinct is of immense historical and contemporary cultural value to the traditional owners, the Bundjalung of Byron Bay (Arakwal) people—Cape Byron has been an integral element of the Arakwal culture and society for thousands of years and continues to be a highly significant place for its traditional owners. In particular, the Cape, and the site of the Lightstation, is an important element in dreaming stories and the Arakwal cultural landscape; it is believed to have been the site of a former bora ring, a former men's ceremonial place and a viewing place. The traditional owners are highly involved in the day to day management of the place and in planning for its future.

Construction of Cape Byron Lightstation was an important component of the final pre-Federation phase of development in coastal navigational aids; it largely completed the basic set of lighthouses that was to remain in service through the twentieth century. As such, it represents an important step in the development of a state-wide system of coastal navigation, completing the continuous chain of coastal highway lights along the length of the New South Wales coast. In the DECC collection, Cape Byron Lightstation is the most northern lightstation and a counterpoint to Green Cape in the south.

Cape Byron Lightstation also exhibits durable qualities; the high quality infrastructure in the precinct reflects a prosperous colonial economy and the importance of shipping to that economy at the dawn of Federation. The Lightstation is not only outstanding in the group of comparable places, but also well represents the consistent quality and durability of all the lightstations in that group.

In addition, the Lightstation was an integral element in the development of the town of Byron Bay as a major shipping port in the late nineteenth and early twentieth centuries.

Criterion b: An item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area).

The construction of Cape Byron Lightstation is directly associated with Charles Harding, acknowledged as the first and only specialist lighthouse architect in NSW, and his Engineer-in-Chief, Cecil Darley.

Before 1901, the Colonial Architects Department of the NSW Public Works Department designed and built all the lighthouses along the NSW coast. In 1901 the Harbours and River Branch employed its own architect, Charles Harding, to specifically design lighthouses. Since the position ceased to exist in 1901, and Harding occupied the position until that date, he is acknowledged as the architect in charge of lighthouse design at the time of construction of Cape Byron Lightstation.

Cecil Darley was the NSW Engineer-in-Chief for Public Works from 1896 until 1901. As Harding's superior he acknowledged and rewarded Harding's contribution by adopting his innovative design as a standard for future works. Unlike his predecessors, Darley was not an advocate of British technology. Rather, he embraced the emerging NSW engineering fraternity. He set a pattern for public works involvement in a variety of engineering activities and adopted the most appropriate aspects of technology—changes which re-shaped public works engineering in the 1890s and beyond. The use of precast concrete blocks, cast on the site, illustrates his forward-looking approach.

In addition, Cape Byron Lightstation is clearly associated with the work of the engineers, seamen and lightkeepers of the State and Commonwealth lighthouse services who, given the importance of shipping to the colonial economy and related growth of regions, were an important group of workers in the history of NSW. The Cape Byron Lightstation Precinct has high social historical values as a place

of employment and as a residence for the families of the Lightkeepers employed there; this is one of few lighthouses where the children who resided there could attend the local school.

Criterion c: An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).

Cape Byron Lightstation has notable aesthetic values relating to its setting and location. Like the lightstations at Sugarloaf Point, Green Cape, Barrenjoey, Point Stephens and Smoky Cape, it is located on rocky cliffs on the mainland. Within this dramatic location it is a dominant landscape feature with very few modern intrusions in view. It can be seen from a great many vantage points in the local area and from a great distance—including, not only from the ocean, but also from the major north-south trunk road, the Pacific Highway.

The aesthetic delight of the lantern, derived from observing the large spinning mass of crystal glass lenses and prisms in their bronze frame, is almost without equal. The lens is among the most beautiful in Australia. Similar in form to the earlier one at Cape Leeuwin, but more aesthetically satisfying (and technically admirable) because the two lenses meet at their edges, it is second only to Cape Naturaliste, the lens of which is larger and faster rotating.

Like all in the group of comparable places, Cape Byron Lightstation exemplifies handsome, competent architectural design with high aesthetic values. Its architectural forms and details are evolutionary developments built on lessons from earlier examples. The lighthouse tower and Lightkeepers' quarters represent an early application of precast concrete units, in an evolutionary development from previous mass concrete lighthouse towers and quarters at South Solitary Island, Green Cape and Smoky Cape.

Cape Byron, and the site of the Cape Byron Lightstation Precinct, has very high aesthetic significance for the traditional owners, the Bundjalung of Byron Bay (Arakwal) people, and the wider Bundjalung nation. It is a viewing place, from where Arakwal Country can be seen including many important spiritual and dreaming sites. In turn, the precinct itself can be viewed from many other parts of Arakwal Country. As such, it forms a highly significant physical and aesthetic element in the Arakwal cultural and spiritual landscape.

Technically, the Lightstation exemplifies the sophistication of lightstations at the time, incorporating the most advanced technology in the beacon and navigational equipment, and also in building construction techniques adapted for remote coastal headland sites. The lantern, made in the Birmingham factory of Chance Brothers & Co, and the first-order rotating lens and mercury trough pedestal are typical, though the fact that the optical apparatus was made in Paris rather than Birmingham sets it apart. The weight driven clockwork mechanism—no longer in use but still to be seen in the tower—is also typical.

The Lightstation demonstrates the high importance that shipping played in the nineteenth century, and the subsequently vital nature of technology to service this importance. The optical apparatus includes the best available technology of the time. It has components by Fresnel (French inventor of the optical system), Henry-Lepaute (French maker of the optical apparatus) and Chance Brothers (English maker of the lantern). The mercury float pedestal was one of the first of its type in Australia, its *feu éclair* (lightning-flasher) lens system was the first to be installed in a NSW lighthouse, and the optical apparatus is the only example made by the important French maker Henry-Lepaute.

The lighthouse and associated buildings within the precinct are technically important for their early precast concrete block construction. The functional arrangement of the site, with the lighthouse having visual prominence and the staff quarters being subsidiary, is typical.

Criterion d: An item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.

Cape Byron, and the site of the Lightstation, is and has been for many thousands of years, of immense social, cultural and spiritual significance to the traditional owners, the Bundjalung of Byron Bay (Arakwal) people. The site forms an integral element of Arakwal Country and a focus for current and past spiritual and ceremonial activities; it is intrinsically linked to Arakwal dreaming stories and sites, and continues to be a central place for the Arakwal people and their culture. The landscape is significant in maintaining ties with the past, and in facilitating the continuation of Arakwal culture.

The precinct has considerable contemporary social value as the most highly visited tourism site in non-metropolitan NSW and the most highly visited lightstation—more than one million visitors come to the precinct each year. It is well known as a key whale-watching spot, and as a vantage point for sighting rays, sharks, turtles, oceanic seabirds and dolphins. The lighthouse is a widely known and potent community symbol. In terms of its accessibility, the precinct has rich potential to provide future benefits on many levels including in Aboriginal cultural education, history, interpretation of lightstations, tourism and the economy.

Criterion e: An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area).

The potential archaeological resources of the Cape Byron Lightstation Precinct have moderate potential to contribute to our understanding of the site in relation to its Indigenous use and material history; social history of the Lightkeepers and their families who worked and resided at the place; and domestic use of areas unrelated to its function as a lightstation. These aspects of its significance have the potential to yield further information and greater understanding in the future.

Criterion f: An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area).

The Cape Byron Lightstation Precinct is unusual in its intactness; it is a highly visited place which provides visitors with an appreciable sense of its history due to that intactness.

The precinct has rarity in that it includes the first, and currently the only, lightstation in Australia to be on a site jointly managed by the traditional owners; a function which is now a vital aspect of the contemporary social importance of the place.

The lighthouse is rare in having technical attributes that are uncommon and unique—the mercury float pedestal was the one of the first of its type to be installed in an Australian lighthouse, and the optical apparatus is the only example made by the important French maker Henry-Lepaute.

Criterion g: An item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places; or cultural or natural environments (or a class of the local area's cultural or natural places; or cultural or natural environments).

The Cape Byron Lightstation Precinct, including the site, tower, optical apparatus, lantern, balcony, tower, fuel store, (former) signal mast (flagstaff), flag locker (signal house), three Lightkeepers' quarters, ancillary buildings, and site works make an ensemble that is remarkably intact. And, to a limited extent, it is still in use today according to its original purpose. As such, it provides the capacity for demonstrating how a lightstation worked in the early twentieth century, including the lives of the families who resided there.

The Lightstation is representative of a group of lightstations built between 1899 and 1903 using the precast (on-site) concrete block method of construction; as the only one of the three that is also a

first-order light, and the only one incorporating a French optical apparatus, it is the stand-out example.

7.3 Condition and integrity

The condition of the Cape Byron Lightstation Precinct is good—its component structures are maintained to a high standard; the Lightstation is sound in every material aspect.

However, the integrity of the precinct has been compromised in recent years to some extent by changes that have been made in response to the growing numbers of visitors—including upgrading of roads, installation of parking bays and footpaths, and construction of toilets.

While the impact of most of these changes has been relatively low, it is apparent that the fully paved car and bus parking spaces, and the vehicles themselves, provide a significant and detrimental visual and aesthetic impact on the site, especially when viewed from the lighthouse itself or from aerial images. They also break the visual relationship between the former Head Lightkeeper's quarters and Assistant Lightkeepers' quarters.

7.4 Comparative analysis

This section provides a comparison of Cape Byron Lightstation with 17 other Australian lightstations—examples selected to represent three overlapping classes of comparable places (lighthouses with first-order rotating optical apparatus; lighthouses built to the Harding/Darley standard; and lighthouses in the 'DECC collection').

7.4.1 Lightstations with first-order rotating optical apparatus

In the nineteenth century a system of classifying the size of lighthouse optical apparatus was adopted. Under that system, the more powerful apparatus had larger burners and lenses and were visible over a longer range. First-order catadioptric lights, the largest used in Australia, had lenses with a focal radius of 920 mm. Cape Byron was, and is, of this type.

Eight Australian lighthouses are still operating with first-order rotating optical apparatus: Cape Schanck, Victoria (1859); Sugarloaf Point, New South Wales (1875); Smoky Cape, New South Wales (1891); Cape Leeuwin, Western Australia, (1896); Rottnest Island, Western Australia, (1896); Cape Byron, New South Wales, (1901); Cape Naturaliste, Western Australia, (1904); and Eddystone Point, Tasmania (1889, lens installed 1961).

Such large and powerful lights were never common. When the Commonwealth Lighthouse Service was established, there were a couple of dozen of them. Of the eight that survive in service, all have now been adapted to electric drive and electric lighting. Four of them have been mounted on different pedestals or, in one case (Eddystone Point), moved from another lighthouse tower. The optical apparatus at Cape Byron is altogether very intact and original, matched only by those at Cape Leeuwin and Cape Naturaliste, both located in southwest Western Australia. Of the eight lighthouses, only Cape Byron has a lens assembly and pedestal made by the French firm of Henry-Lepaute.

Like the others in this group, Cape Byron Lightstation helps to demonstrate a national pattern of development before Federation, in which each Australian colony played a part in building a system of major aids to navigation. Construction of Cape Byron Lightstation was part of the final pre-Federation phase, largely completing the basic set of lighthouses that were to remain in service through the twentieth century.

Cape Byron Lightstation shares with the others in this group the principal characteristics of a major lighthouse of the late nineteenth century, whether in Australia or elsewhere in the world. The lantern room, made in the Birmingham factory of Chance Brothers & Co, is typical. The first-order rotating lens and mercury trough pedestal are also typical, although the fact that the optical apparatus was made in Paris rather than Birmingham sets it apart. The weight driven clockwork mechanism—no longer in use, but still to be seen in the tower—is also typical.

7.4.2 Harding's 'standard' designs

Cape Byron Lightstation was designed by Charles Harding, the architect in charge of lighthouse design in the Public Works Department, working under the direction of the Engineer-in-Chief for Public Works, Cecil Darley. It was the second of three lightstations that were built to a set of plans that were produced for the first, at Point Perpendicular, which was considered by Darley to be so complete (that is, perfect) that they should be adopted as a standard for lighthouse work in the future.

The three lightstations built to the Harding/Darley standard were Point Perpendicular (1899); Cape Byron (1901); and Norah Head (1903).

Cape Byron Lightstation was almost identical to that at Point Perpendicular (although the lighting equipment at Cape Byron was significantly different, being the only French optical apparatus to be used in an Australian lighthouse). The lightstation at Norah Head was similar in style and arrangement to the other two, but with a different arrangement of the pavilion rooms attached to the tower. The external form of the three lighthouses bears a strong resemblance to the original Macquarie Lighthouse built in 1817 to protect ships from the cliffs near the entrance to Port Jackson (Sydney Harbour). That lighthouse was the first in the Southern Hemisphere, and the first building of this description in NSW (it was replaced by an almost identical structure in 1883 when the old tower developed fatal structural flaws).

Figure 36: Macquarie Light (the second lighthouse, built in 1883 is to the right of photo). Source: Unknown, c. 1883

Figure 37: Cape Byron Lighthouse 2008.
Source: Ellsmore 2008

It seems more than coincidental that the three Federation-era lighthouses listed above bear a close similarity to the Macquarie Light. It is therefore likely, although unproven, that their design was inspired by the Macquarie Light at a time when Federation and nationalism were prominent streams of cultural inspiration.

Furthermore, the innovative use of site-cast concrete masonry construction illustrates a forward looking approach that achieved the appearance of stone (as used in the Macquarie Lighthouses) but without the need for costly and time consuming stone working. Cape Byron Lightstation including the quarters (and Point Perpendicular and Norah Head Lightstations) represents an early application of precast concrete units in an evolutionary development from previous mass concrete lighthouse towers and quarters (at South Solitary Island, Green Cape and Smoky Cape).

7.4.3 The 'DECC collection'

The following ten lightstations are managed by the NSW Department of Environment and Climate Change (DECC) which includes National Parks and Wildlife Service (NPWS): Hornby (1858); Point Stephens (1862); Sugarloaf Point (1875); South Solitary Island (1880); Montague Island (1880); Barrenjoey Head (1881); Green Cape (1883); Smoky Cape (1891); Cape Byron (1901); and Cape Baily (1951). Other agencies are responsible for operation of the (now demanned and automated) navigation aids; AMSA is responsible for the operation at Cape Byron.

Like the others in the collection, Cape Byron Lightstation represents a step in the development of a state-wide lightstation system of coastal navigation aids. In particular, it represents the completion of a continuous chain of a 'coastal highway of lights' along the length of the NSW coast. In this group, Cape Byron Lightstation is the most northern, and a counterpoint to Green Cape in the south. It is representative of the class of places having its principal components intact and in use, although not now performing the function in the original manner.

Like those at Sugarloaf Point, Green Cape and Smoky Cape, Cape Byron Lightstation is located on rocky cliffs on the mainland, in a setting where there are few modern intrusions in view. It has very high recognition due to its prominence on the edge of a vibrant tourism area located near a heavily trafficked highway from which commanding views of the lighthouse dominate the northwards and southwards journey through the area—as well as being sited on the most easterly point of Australia. Cape Bryon Lightstation is the most heavily visited of the DECC collection.

7.5 Significance grading

As detailed above, the Cape Byron Lightstation Precinct is a place of State heritage significance by application of the seven NSW heritage criteria. However, not all parts of the place are of equal value: overall the place fulfils the criteria for significance, but some of the component parts are of lesser significance due to their poor condition or low integrity.

This relative significance is shown diagrammatically in Figure 38 below, and discussed in the text following the figure.

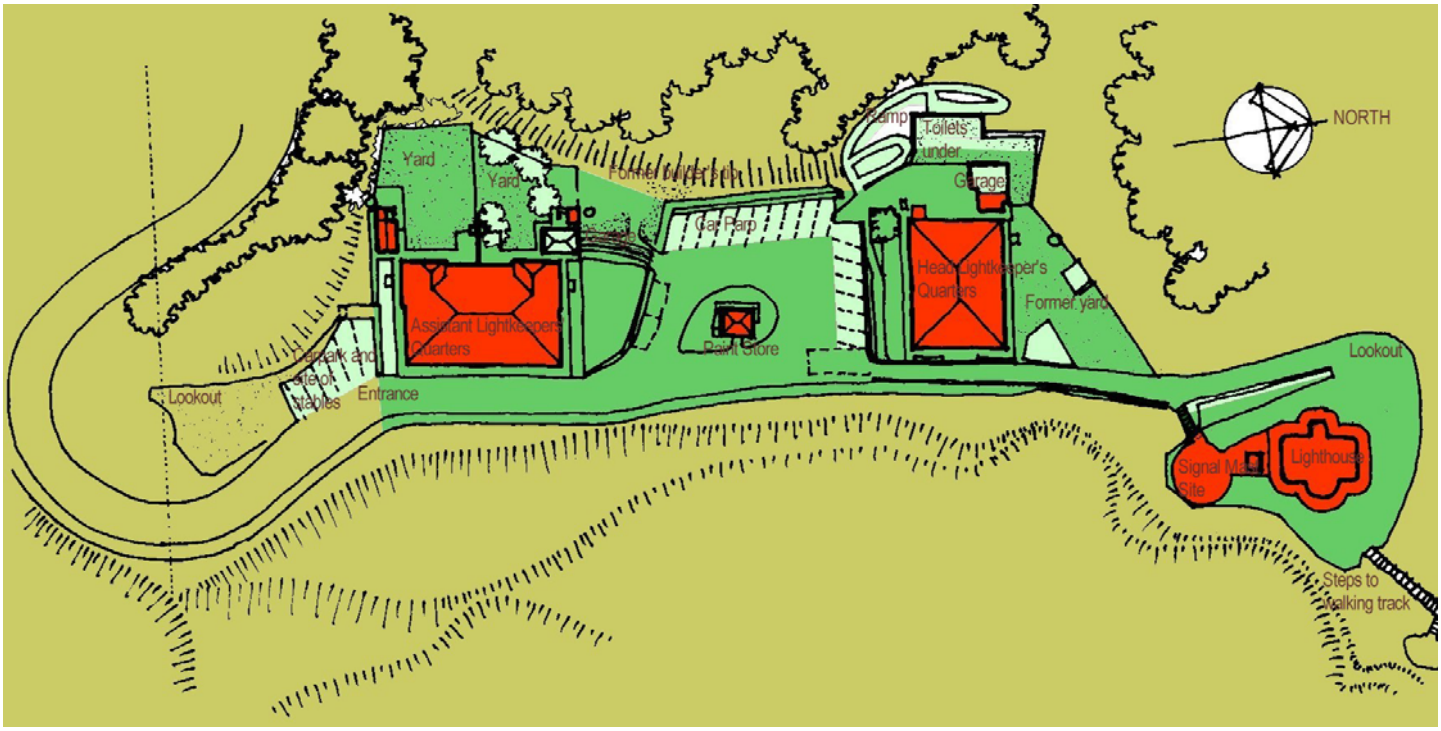

Figure 38: Drawing in plan view showing levels of significance—red (highest); mid green (moderate); light green (little, intrusive or inappropriate); the 'greater precinct' (olive) is the area related surrounding the Lightstation Precinct. Source: Ellsmore 2008

The following elements are of **exceptional to high** significance.

- The setting of the Cape Byron Lightstation Precinct is exceptional, and highly related to its use as a lighthouse. It is a potent landmark of the district and a place of high local esteem being widely known locally, nationally and internationally. The Lightstation is clearly visible from afar with few intrusions, and the precinct affords 360 degree views to the distant horizons. As such, the precinct setting has exceptionally high value.
- The Cape Byron Lighthouse has exceptional value—it is an outstanding item with a high degree of intactness, which can be interpreted relatively easily and is still in use today. The former signal house, concrete base of the former signal mast and the granite steps contribute to the exceptional value of the lighthouse and are considered to be of the same level of significance.
- The Cape Byron Lightstation Precinct and its component structures overall are of high value, due to their high degree of original fabric and intactness, and because subsequent changes do not detract from their significance. The precinct includes the ensemble of structures within the site made up of the tower with its optical apparatus, lantern and balcony; fuel store; flagstaff (signal mast); flag locker (signal house); three Lightkeepers' quarters; and ancillary buildings.
- Potential archaeological resources, related to Indigenous and historic use of the site, and which could contribute information to hitherto unknown or uncertain aspects of the site's history are important, and potentially highly significant. Any material related to Indigenous use of the site that might be identified in the future will have extremely high social significance to the Bundjalung of Byron Bay (Arakwal) people, and would provide a physical link to this cultural and spiritual part of their culture. Further, any identified Indigenous material has the potential to provide additional clarification of the myriad Indigenous uses of the site.

The following elements are of **moderate** significance.

- The fences, roads (exclusive of the car parking areas), paths and outbuildings are mainly of moderate significance—these elements have been modified but contribute to the overall significance of the precinct. The fences, roads and paths are mostly newly constructed elements although in the main they are located in the positions of, or on the alignment of, the originals. The outbuildings are original structures that have been modernised.
- While the precinct landscape itself has no special natural significance, the panoramic, broad landscape-scale vista provided by the elevated position of the Lightstation allows a 'big-picture' appreciation of the evolution and relationships of North Coast ecosystems and the richness that characterises the region's biodiversity including the Marine Park. In this sense, the landscape and natural features viewed from the precinct have moderate significance.
- The precinct has moderate significance for biodiversity conservation at its margins. This is underlined by the more proximate plant communities, with two Endangered Ecological Communities (TSC Act 1995) present, together with a suite of threatened plant and animal species. These communities also contain plants of cultural significance to the Bundjalung of Byron Bay (Arakwal) people, particularly the banksias, geebungs, grass trees mat-rushes, figs and lilly pillys. In addition, the tower provides a platform for viewing Arakwal totemic animals—the sea eagle and dolphins.
- The place also has potential to contribute to our understanding of the social history of the site as a lightstation where, not only lightkeepers were employed, but whole families were in residence—material related to the use of the site as a residence could assist our understanding of lightkeepers and their families, and the social impacts of these roles. As this is currently an aspect of the site's history for which we have little information, it would be moderately significant material.

The following elements are of **little significance, intrusive or inappropriate**. They detract from the overall significance of the Cape Byron Lightstation Precinct and are difficult to interpret.

- The precinct natural landscape itself has no special natural significance.
- The modern structures are of little significance. The two former garages and the new toilets, terrace and access ramp are service facilities that do not in any way enhance the heritage significance of the place, even though they have functional value.

- The two fully-paved car parking areas are somewhat intrusive and have little significance; these impart an urban quality that overwhelms and suppresses the more authentic quality of ruggedness and remoteness that was an essential characteristic of lightstations.
- The concrete crib-lock retaining wall on the west side of lighthouse has little significance and, together with exotic and environmental weed species, detracts from the precinct.
- The following plantings are inappropriate:
  - the stand of trees including two Three-veined Laurels, a Tuckeroo, a Coast Wattle, a Frangipani, and a phoenix palm on the southern side of the southern Assistant Lightkeeper's quarters (see 'B', Figure 21)
  - the stand of trees containing a Pandanus, several Tuckeroos, a Coast Banksia, a Pink Bloodwood, a Frangipani, two hibiscus and other exotic shrubs in the yard immediately to the rear of the northern Assistant Lightkeeper's quarters, particularly the Tuckeroo impinging on the outbuilding at the north-west corner of the building (see 'C', Figure 21)
  - the Swamp Lilies, Cottonwoods and Pandanis planted about the toilet block walkway
  - the Frangipani planted near the south-western corner of the Head Lightkeeper's quarters (see 'E', Figure 21).

In Table 4 below, the principal elements are assigned relative values according to a standard scale of significance from 1 (lowest) to 5 (highest). At best it is a crude summary: the values are more complex and subtle than indicated by the table—all aspects of significance and policy should be considered when making decisions.

Table 4: Schedule of significant fabric

Element	Date	Significance	Comments	Element	Date	Significance	Comments
Lighthouse							
Lantern room	*1901*	**4-5**	Chance Bros 13'0" cast iron	**Concrete masonry walls**	*1901*	**5**	Painted site-cast concrete
Pedestal	*1901*	**5**	Henry-Lepaute mercury float	**Stairs**	*1901*	**4-5**	Concrete with slate treads
Lantern	*1901*	**5**	Henry-Lepaute Fresnel lenses	**Floors**	*1901*	**4-5**	Slate & marble tiles/cement
Lamp	*c.2000*	**2**	Modern electric	**Windows**	*c.1901*	**4-5**	Plate glass in bronze frames
External Gallery	*1901*	**5**	Dressed trachyte and reinforced concrete	**Doors**	*1901*	**5**	Cedar with etched glass
Interior wall and ceiling finishes	*1901*	**5**	Original cement plaster with original and modern paint finishes	**Fittings**	*1901*	**5**	Original elements
Significance Ratings: 5 Exceptional, 4 High, 3 Moderate, 2 Little, 1 Intrusive							
Signal House/Flag Room							
Masonry Walls	*1901*	**5**	Painted site-cast concrete	**Interior wall and finishes**	*1901*	**5**	Original cement plaster with original and modern paint finishes
Windows	*c.1901*	**4-5**	Plate glass in bronze frames	**Floors**	*1901*	**4-5**	Cement with paint finish
Door and frame	*1901*	**5**	Hardwood	**Fittings**	*1901*	**5**	Pigeonhole shelving painted

Element	Date	Significance	Comments	Element	Date	Significance	Comments
Lighthouse surrounds							
Concrete paving	*1901*	**5**	Original repaired	**Asphalt**	*n.d.*	**1**	
Steps to apron	*1901*	**4-5**	Original concrete repaired	**Brick paving**	*c.1985*	**1**	Intrusive element
Crib-lock wall	*c.1970*	**1**	Intrusive element	**Telescope**	*c.1995*	**1**	
Fencing	*c.2007*	**2**	None original	**Geodetic Marker**	*n.d.*	**3**	Functional element
Former Head Lightkeeper's Quarters							
Walls	*1901*	**5**	Painted site-cast concrete	**Verandah columns and framing**	*1901*	**5**	Cast iron and timber with modern paint finishes
Roof structure	*1901*	**5**	Original timber framing	**Verandah paving**	*1901*	**4-5**	Concrete with asphalt topping
Roof tiling	*c.2000*	**2**	Replacement material	**Windows**	*1901*	**5**	Intact timber original. Painted
Rainwater goods	*c.2007*	**1**	Not related to original	**Doors**	*1901*	**5**	Original inc. glass
Chimneys	*1901*	**1**	Painted site-cast concrete	**Internal joinery**	*1901*	5	Original repaired
Ceilings	*1901+*	**3-5**	Not all original	**Chimney pieces**	*1901*	5	Original painted timber with tiled reveals
Internal Walls	*1901*	**5**	Original plaster with modern paint finishes	**Toilet/Laundry fitout**	*c.2007*	**1-2**	Modern inc. partition
Floors	*1901*	**4-5**	Sanded and estapoled/japanned	**Electrical fittings**	*c.1955*	**2-3**	Modern wiring. Some original fittings
				Furniture & fittings	*Var.*	**1-3**	Modern functional
Significance Ratings: 5 Exceptional, 4 High, 3 Moderate, 2 Little, 1 Intrusive							
Rear Yard and Sheds							
Former Fuel Store	*1901*	**4-5**	Modern door	**Privy**	*1901*		Modern sanitary suite
Former Garage	*n.d.*	**1-2**	Converted modern	**Terrace**	*c.1990*	**1-3**	Toilets below
Fences	*c.1995*	**3-4**	Designs based on originals	**Landscaping**	*Var.*	**1-3**	
Former Head Lightkeeper's Quarters Surrounds							
Underground tanks	*1901*	**5**	Modern fittings above ground	**Concrete paths**	*Var.*	**2-5**	Original paths repaired and extended
Fences	*c.1995*	**3-4**	Designs based on originals	**Concrete paving**	*Var.*	**2-3**	Functional modern
Carparking and roads	*Var.*	**1-2**	Modern functional	**Access to toilets**	*c.2005*	**2-3**	Functional new element

Element	Date	Significance	Comments	Element	Date	Significance	Comments
Workshop/Paint Store							
Walls	*1901*	**5**	Painted site-cast concrete	**Door**	*n.d.*	**4**	Original in form. Painted
Roof structure	*1901*	**5**	Original timber framing	**Ceiling**	*n.d.*	**4**	Modern painted boards
Roof tiling	*c.2000*	**2**	Replacement material	**Inside walls**	*1901*	**4-5**	Painted (no plaster)
Rainwater goods	*c.2007*	**1**	Not related to original	**Floor**	*1901*	**5**	Brick paved
Windows	*1901*	**5**	Original timber. painted	**Fit out**	*n.d.*	**1**	Modern
Former Assistant Lightkeepers' Quarters							
Walls	*1901*	**1**	Painted site-cast concrete	**Ceilings**	*1901+*	**3-5**	Not all original
Roof structure	*1901*	**1**	Original timber framing	**Internal Walls**	*1901*	**5**	Original plaster with modern paint finishes
Roof tiling	*C2000*	**2**	Replacement material	**Internal joinery**	*1901*	5	Original repaired
Rainwater goods	*C2007*	**1**	Not related to original	**Chimney pieces**	*1901*	5	Original painted timber with tiled reveals
Chimneys	*1901*	**1**	Painted site-cast concrete	**Floors**	*1901*	**4-5**	Sanded and Estapoled/japanned
Verandah columns and framing	*1901*	**1**	Cast iron and timber with modern paint finishes	**Kitchen fit out**	*c.2003*	**3**	Compatible with original
Verandah paving	*1901*	**4-5**	Concrete with asphalt topping	**Laundry fit out**	*c.2003*	**3**	Compatible with original
Windows	*1901*	**5**	Intact timber original. Painted	**Bathroom fit out**	*c.2003*	**3**	Compatible with original
Doors	*1901*	**5**	Original inc. glass	**Electrical fittings**	*c.1955*	**2-3**	Modern wiring. Some original fittings
Front doors	*c.2000*	**3**	Replacements of originals	**Furniture and fittings**	*Var.*	**1-3**	Modern
				Soft furnishings	*Var.*	**2-3**	Mixture of antique and modern. Not original
Significance Ratings: 5 Exceptional, 4 High, 3 Moderate, 2 Little, 1 Intrusive							
Former Assistant Lightkeepers' Quarters Surrounds							
Former Fuel Stores	*1901*	**4-5**	Modern doors	**Privies**	*1901*	**5**	Modern fittings
Former Garage	*n.d.*	**1-2**	Converted	**Fences**	*c.1995*	**3-4**	Designs based on originals
Landscaping	*Var.*	**1-3**		**Carparking areas and roads**	*Var.*	**1-2**	Modern functional

8 CONSERVATION AND MANAGEMENT POLICY FORMULATION

This chapter provides details of general and specific issues considered in formulating the conservation policies proposed in Chapter 9 of this plan; it summarises and adds to information provided in preceding chapters and provides references to specific policies against relevant text.

8.1 Guiding conservation vision

This plan has been developed to support the long-term conservation of the Cape Byron Lightstation Precinct, inform its day-to-day management, and ensure continuing best practice in management of its cultural heritage values. Places of outstanding cultural significance such as the Cape Byron Lightstation Precinct are irreplaceable and precious—they should be conserved for present and future generations.

The guiding conservation vision embodied in this plan is that the cultural heritage values and reputation of the Cape Byron Lightstation will be further consolidated and sustained through sound conservation management practice. The policies proposed within this plan support this vision. *(Policies 1 to 4)*

The *Burra Charter* (1999) sets out a standard of practice for those who provide advice, make decisions about, or undertake works to places of cultural significance, including owners, mangers and custodians. It is the accepted standard for the conservation of places of significance—its conservation principles should be applied in managing the Cape Byron Lightstation Precinct. Best practice professional conservation should be employed in applying the policies when using and caring for the Lightstation, for example by engaging appropriately skilled persons in planning, and executing works, and in day-to-day decision-making in relation to all aspects of conservation. No action should be taken if it would have any adverse impact on the significance of the place. *(Policies 5 to 7)*

8.2 Opportunities and constraints arising from significance

The analyses conducted in developing this plan confirm that the Cape Byron Lightstation Precinct is a place of outstanding to high cultural significance which requires careful and sound conservation management in order to conserve this significance for future generations. Discussion in relation to opportunities for future use, and constraints on that use in keeping with the significance of the place, is provided in the following sub-sections.

8.2.1 Aboriginal cultural significance

This plan has been prepared in consultation with the Bundjalung of Byron Bay (Arakwal) people; in various sections, the strong cultural and spiritual relationship of the place to the Bundjalung of Byron Bay (Arakwal) people, and its cultural significance and values are explored and detailed.

In acknowledgment of this significance and their current active involvement, this plan recommends policies to ensure the Bundjalung of Byron Bay (Arakwal) people continue to be consulted and involved in management of the place. In accordance with the enhanced understanding of Aboriginal cultural significance this plan provides, no action should be taken in managing and planning for the precinct that would in any way damage Aboriginal cultural values or cause offence. *(Policies 8 to 13)*

Although interpretation of the cultural significance of the precinct to the Bundjalung of Byron Bay (Arakwal) people is provided to visitors in a variety of ways, it could be that some visitors are not gaining a full appreciation of this significance. This issue is discussed under 'Interpretation' later in this chapter. As described in that section, the opportunity now exists to extend the scope of the current interpretation to provide more extensive and meaningful information. This plan recommends a wide range of policies to ensure the interpretation of the Aboriginal, historic and natural cultural significance of the Cape Byron Lightstation Precinct continues, and is enhanced. *(Policies 92 and 99)*

8.2.2 Lightstation setting

The setting of the Cape Byron Lightstation Precinct is exceptionally important due to its outstanding historic and aesthetic values, and its proximity to the Reserve and Marine Park. The precinct has a

powerful sense of place with its strikingly beautiful lighthouse often set against a clear blue sky or ominous cloud formations. It is clearly visible from afar and acts like a magnet drawing people towards it from the north, west and south, and probably from the east, from the air or from the sea.

The site provides for spectacular sightseeing—affording spectacular views of the ocean, the Byron Bay township and the Mt Warning caldera. These views are often enlivened by the sights of whales and small marine wildlife in the adjoining Cape Byron Marine Park; hang-gliders and birds in the sky; or smoke and clouds on the horizons. Many visitors walk through the gates beyond the opening times to experience the renowned sunsets and sunrises that can be observed from the precinct.

While the Lightstation essentially symbolises the European heritage of Cape Byron, there are also powerful Aboriginal cultural heritage values and beliefs that include the landform and activities dating back tens of thousands of years. The Julian Rocks feature in both cultures—having potent mythological value for the Bundjalung of Byron Bay (Arakwal) people and being the object of a warning light built into the lighthouse for navigational safety in the bay.

The conservation of this setting requires a balanced but determined approach in the face of the popularity of the place and the consequent high visitor numbers. This plan recommends that new construction, demolition or other changes that might be contemplated to provide for visitors would not be appropriate if they had adverse impacts on the setting. It also recommends policies in relation to the view-field—to and from the precinct—to ensure the outstanding values of the setting of the Lightstation are retained. *(Policies 14 to 17, 19, 20 and 55)*

8.2.3 Natural significance

As detailed in this plan, the site of the Lightstation was cleared of vegetation and levelled prior to construction. Photographic evidence confirms it was essentially exposed soil at the time of its opening, although a few of the local ground cover species had been planted in the bare earth, presumably to control erosion. The site remained relatively bare for many years, up to at least the 1960s, apart from a few fruit trees and informal ornamental plantings added by lightkeepers to their private rear gardens. In more recent years, vegetation has begun to invade the site from the margins and from within.

The precinct does not have special natural significance, but the vista it provides and the characteristics of the adjacent vegetation are of particularly high value. Conservation and management planning should aim to enhance the natural significance of the precinct by replacing existing inappropriate and problematic plantings with plant species from locally important, low growing communities that, at the same time, maintain the panoramic views.

The immediately adjacent vegetation is now dominated by weed species and this situation requires redress through implementation of a comprehensive weed control program together with infill plantings to restore existing significant communities. This plan recommends that the degraded areas adjoining the precinct should be regenerated; this could be done by establishing low growing communities of local natural significance to re-establish native vegetation that contains plants of cultural significance to the Bundjalung of Byron Bay (Arakwal) people. *(Policies 18 to 24)*

This plan recommends the following specific actions in relation to inappropriate plantings:

- The Frangipani in the yard of the Head Lightkeeper's quarters (see 'E', Figure 21) should be removed.
- The stand of trees (a Pandanus, several Tuckeroos, a Coast Banksia, a Pink Bloodwood, a Frangipani, two Hibiscus) and other exotic shrubs in the yard immediately to the rear of the northern Assistant Lightkeeper's quarters (particularly the Tuckeroo at the north west corner of the building) and the exotic plants on the northern boundary of the yard (see 'C', Figure 21) should be replaced with low-growing Byron Bay Dwarf Graminoid Clay Heath species. Plantings of littoral rainforest understorey species at the rear of the yard (along the western boundary) should be established to complement the existing rainforest trees.
- The stand of trees in the southern side of the yard of the southern Assistant Lightkeeper's quarters (two Three-veined Laurels, a Tuckeroo, a Coast Wattle, a Frangipani and a phoenix palm

(see 'B', Figure 21) should be removed. As for the northern Assistant Lightkeeper's quarters littoral rainforest understorey species planting along the fence inside the yard (at the rear of the yard) should be planted to protect the rainforest on the outside of the fence (from edge effects) and assist in future weed control.

- The inappropriate plantings about the toilet block walkway (Swamp Lilies, Cottonwoods and Pandanis) should be replaced with low-growing Byron Bay Dwarf Graminoid Clay Heath species.

The location of plantings recommended for removal is shown in the view at Figure 39 below.

Figure 39: Cape Byron Lightstation Precinct aerial view showing plantings recommended for removal. Source: Bill Mills 2002.

8.2.4 Integrity of the original design, built form and fabric

Research conducted for this plan clarifies the significance of the Lightstation and the relationships of its component parts to that significance. The characteristics in relation to the design, built form and fabric that make the Lightstation significant must be considered in its future use and these outstanding cultural heritage values maintained. The integrity of the original design should be a foremost consideration in the management of the structures, including any new structures.

Cape Byron Lightstation illustrates a national pattern of development in lightstations and maritime safety before Federation—in which each Australian colony played a part in building a system of major aids to navigation. In its style, and possibly also in its technology, the Lightstation reflects the high ideals of the era. The light, mounted atop an elegant neo-classical tower, was the principal element in the precinct; other elements are subsidiary but were no less important in sustaining the function of the light. It is noteworthy that these subsidiary elements were built to the highest standards using innovative technology but were relatively plain, in keeping with the industrial function.

The precinct layout was carefully planned to give prominence to the lighthouse for these functional reasons, by placing it at the highest point, whilst providing lightkeepers with quarters in a more protected area but with clear unobstructed views between each for functional reasons.

Figure 40: Lighthouse at sunrise 2008. Source: Leary 2008

The precinct was originally built as a single operational working site; for safety reasons it was traditionally a fairly uncluttered functional site with the lighthouse as the principal workplace. Other forms were intrinsically related to the functions of providing a light at night and signalling and related functions by day and over time several parts took on their own distinctive character. The common areas have always had a non-domestic, or industrial character; this original quasi-industrial character of the precinct is an important feature that should be recovered. The Lightkeepers' quarters were enclosed by fences to provide privacy and enclosure; the character of the quarters was domestic, quite different to the functional areas around the lighthouse. This character should be retained.

The significance of the place resides within its character as a complex entity made up of integrated and integral parts; that functional arrangement should remain clear and undiluted by any new structures or activities.

While the precinct is not well lit at night, illumination is required for visitor safety and for special events. Lighting should be instated. Lighting forms should be in keeping with the functional character of the precinct, and be sufficient to ensure holidaying tenants in the quarters, others who visit the site out of hours, and those who attend special events at night can do so with safety. The tower and subsidiary structures should not be illuminated—the only light that should be visible from below the precinct should be the light itself. For special events, lighting should be of a temporary nature and should be in keeping with the intent of the policies established to conserve the cultural heritage values; this should not only be in relation to the scale and scope of lighting, but also in relation to factors such as anchor points, placement and type of lights.

This plan recommends a range of policies to ensure the functional character of the Cape Byron Lightstation Precinct as a place of work, and a place where workers and their families resided, is preserved. These include policies in relation to the integrity of the original design and layout; the increased hardening of the site; the residential character of the quarters and yards; the uncluttered common space; illumination; addition or removal of structures. *(Policies 25 to 33)*

8.2.5 Conservation and maintenance of built fabric, services, fences, paths and roads

While maintenance has been ongoing, between 2004 and 2008 an extensive catch-up maintenance program was undertaken. This included both a general condition assessment and a variety of assessments of various specific fabrics and services. Conservation and maintenance works planning and implementation were also undertaken. The total project cost was $850,000 and the planning included the formulation of the Maintenance Plan—this regular maintenance is why the place is in such good condition today.

The reinstatement of fences and gates has been good overall. However, the style, materials and finishes on the gates could be improved by a more sophisticated interpretation of the original fence details and by better control of workmanship and maintenance. Maintenance should be conducted

with full consideration of the all policies in this plan to ensure the integrity of the original design, built form and fabric are maintained—particular policies are also recommended in relation to built fabric and to services and fences, roads and gates. *(Policies 34 to 51)*

8.2.6 New works and limits of acceptable use

Changes at the place need to continue to be managed in a way that preserves the cultural heritage values: changes should only be made if they are critically necessary for the viability and use of the Lightstation and no changes should be made that would have the potential to damage these values—and all change should be able to be clearly identified as new and be reversible. *(Policies 52 to 60)*

In line with the policies for the future use of the place, all uses should be consistent with its cultural heritage values and subservient to its primary functional character as a lightstation—the limits of acceptable use must be considered within this framework. Future use is also explored in sub-section 8.4 below. *(Policies 100 to 107)*

The policies in this plan provide broad guidance in considering acceptable uses and must be consulted and considered within the statutory planning processes for any changes to the use of the site. The following exploration of a proposed refreshment facility at the Cape Byron precinct may be useful in relation to how the policies in this plan can be implemented.

Scenario for limits of acceptable use with proposed café as the example

During the development of this plan, the refreshment provision from the existing building at the rear of the former Head Lightkeeper's quarters (the 'Visitor Centre') was discussed. This plan recommends that this provision should be planned and implemented. This should be done within the framework of the policies it provides—therefore, the following limitations apply:

- *Scale:* While refreshments should be provided, and appear to be in demand, the facility must be contained and limited. A large scale café would be highly likely to detract from the cultural heritage values and the primary function of the place *(Policies 3, 4, 5)*. However, a small café providing visitors with refreshments such as light snacks during the day (with bakery products, baked foods and the like prepared elsewhere) from small tables or benches located at the facility is likely to be acceptable. The catering in this scenario would be non-intrusive and the needs of visitors served, thus meeting the policy requirements *(Policies 16, 17, 31)*.
- *Placement:* The facility is proposed to be sited at the rear of the Head Lightkeeper's quarters. The paving surface around the area proposed for the refreshment facility is currently uneven and higher than the adjoining grassed area. This could be unsafe for visitors and inappropriate for the addition of seating. In line with the policies, this area would need attention in keeping with the character of the place and to ensure safety *(Policies 34, 39, 40)*. This could include the addition of non-intrusive safety features *(Policies 52 to 60)*. In addition, in line with the policies for access, facilities such as seating should be accessible to all visitors *(Policy 85)*.
- *Access:* Night access to the café would only be acceptable if this was contained and limited to specific events judged by the Cape Byron Trust to be in keeping with the values of the place. This could include opening at times to coincide with special events hosted by the Cape Byron Trust. Regular opening, to the extent that it took on the air of a commercial operation, of an evening could detract from the place. Lighting for night access should be sufficient for safety *(Policy 33)*.

8.2.7 Archaeological significance

The separate *Archaeological Zoning Plan* (AZP) provides detailed information in relation to the development of archaeological significance policies in this plan, and should be consulted when there is a likelihood that works or other activities are likely to disturb archaeological material.

In addition, the zoning maps reproduced from the AZP (and provided in this plan at Figure 22 to Figure 24) provide details of the zones of archaeological potential. These should be consulted when works are planned. Relevant staff should be present for all works that have the potential to impact on archaeological values. *(Policies 61 to 63)*

The Cape Byron Lightstation Precinct has moderate potential to contain (disturbed) items of very high significance to the Bundjalung of Byron Bay (Arakwal) people. It contains items and areas of historic archaeological potential, some of which are likely to have high significance.

8.2.8 Movable heritage items and museum display

There is a diverse, informal collection of movable items at the place including at the maritime museum, and as listed in the Inventory Sheets. The most important movable heritage items in the collection are the visitors desk and some small items of plant and paraphernalia related to early use.

The visitors desk was detailed in the original construction drawings and was in place on the day of opening, when it was used to record the names of those who appeared for the official opening ceremony. Several items used at the lighthouse before the equipment was upgraded and ultimately automated are also important; these include the clockwork mechanism for rotation of the lenses and the red warning light that was formerly orientated to the Julian Rocks. Many small items of equipment, plant and paraphernalia are now gathered in the maritime museum in the lighthouse and are also important to the heritage values. Some of these items were catalogued and treated in 2000 with grant funding from the Maritime Museums of Australia and, since that time, the collection in the lighthouse has been augmented with unrelated items from other lightstations and from the local area. Some of these unrelated items, like the chair from the SS Wollongbar, have high significance.

This plan recommends that the collection should be rationalised and displayed in a more meaningful way to enhance visitor experience, for example by allowing items to be viewed more regularly and by reorganising and interpreting the museum collection more appropriately. The recommended approach includes transferring items that are unrelated to the site or unable to be interpreted and displayed there in a meaningful way, to more appropriate museums or disposed. The acquisition of new items should be restricted to those items that can be provenanced to the Lightstation; and those that have the potential to enhance interpretation and visitor experience. This does not preclude the inclusion of items that are not from the place if they enhance understandings, for example items that interpret the story of other NSW lightstations. *(Policies 64 to 77)*

8.2.9 Traffic management and methods of site access

The impacts of traffic on the amenity of the site are substantial. Each day, and especially during holidays and in the whale watching season, large numbers of tourists and local people visit the site by cars, coaches, minibuses and motorbikes.

Figure 41: Tourists and lighthouse 2008.
Source: Ellsmore 2008.

Figure 42: Tourists and Visitor Centre 2008.
Source: Ellsmore 2008.

The precinct has one access road and two parking areas. Parking is limited and options for off-site parking are likely to be unattractive to some visitors and inaccessible to others because they involve

walking up a steep grade to the site. During peak times the paid parking spaces fill quickly, and many motorists are turned away. Management of the parking is sound but there are still undesirable conflicts between vehicles and pedestrians, and between the amount of vehicles and the heritage values that are incompatible. The potential for conflicts between pedestrians and vehicles (and between coaches and smaller vehicles) during peak periods can be severe. Initially, access to the Lightstation was only from the road at the south—and it is still the only means of vehicular access. Prior to construction of the road, it is likely that Aboriginal people gained access by the same route due to its favourable grade and the presence of camps in the area to the south.

Many pedestrians access the site—and this can be at any time, day or night—they arrive via the road and footpaths at the southern end of the precinct, or via the scenic walking track at the northern end. Some use the free parking spaces in the lower car park and walk from there, and a small number simply park illegally. After dark, the main access point is the southern one, with most visitors walking from the lower car park.

Figure 43: Visitors at Visitor Centre rear yard 2008 with ice-cream vendor. Source: Ellsmore 2008.

Figure 44: Vehicle management 2008.
Source: Ellsmore 2008.

During development of this plan, there was discussion about the possibility of providing alternative means of site access, and the removal of private vehicles entirely. Obviously that could have potential benefits for the amenity of the place but, depending on the nature of the alternative, it might also have adverse impacts and high costs.

This plan recommends further investigation of options to minimise the extent of vehicles in the precinct, or even to remove them altogether, apart from service vehicles and those associated with people with special needs at the site to retain its significance as a lightstation and major tourist destination. Various options could be considered such as low environmental impact electric shuttles; a lift device from Tallow Beach; improved paths on the access road; a bus service from the (once developed) Arakwal Cultural Centre, if deemed appropriate; or pick up from car parks in the Reserve. In addition, this plan recommends actively promoting and encouraging pedestrian access over vehicle access. *(Policies 78 to 81)*

8.2.10 Visitor management

The large number of tourists and other visitors who come to the Cape Byron Lightstation Precinct—at all times and in all seasons—provides challenges and opportunities in managing the precinct. Challenges include dealing with the very high volume of traffic at peak times and the progressive hardening of the site and its potential impact on the cultural heritage values. Opportunities include responding to what is clearly an extremely popular destination by providing appropriate revenue-generating activities that do not diminish its values and providing better interpretation.

The potential for good and bad publicity is high. Positive initiatives that serve the interests of visitors enhance the reputation of the place, while adverse changes could result in negative attitudes and diminish the reputation of the place. Tourism management of the place is therefore sensitive; it demands care and consensus in order to minimise the risks and share the benefits.

Since visitors and tourism will continue to be important in future use of the place, this plan includes and recommends policies in relation to tourism and visitors. As detailed above, these include enhancing the visitor experience by minimising or excluding tourist-related vehicles. Policies also cover upgrading short-stay facilities, re-considering themes and approaches to interpretation, and providing new refreshment facilities and appropriately placed rest stops for visitors. In order that revenue-generating opportunities do not diminish the cultural heritage values this plan also recommends limits on these activities, for example for dealing with outside functions such as weddings and short-term accommodation rental in the Assistant Lightkeepers' quarters. Visitor experience should be evaluated and this plan also recommends such evaluation should be undertaken; thus visitor perceptions and experiences can be factored into strategies over time. *(Policies 82 to 87 and 100 to 107)*

8.3 Interpretation

This plan identifies the need for a whole-of-site carefully considered approach to interpretation of the Cape Byron Lightstation Precinct that should also link with interpretation of the Cape Byron Headland Reserve in which the precinct sits. The draft *Cape Byron Headland Reserve Information and Interpretation Preliminary Concept Plan 2004* [3] provides a sound basis for such interpretation. On page 67 it states:

> *The lighthouse is an icon and a major destination point for tourists and locals. The lightstation [precinct] is a unique site with great potential to disseminate information to many people about the Reserve and its rich history.*

8.3.1 Aboriginal cultural heritage interpretation

The significance of the Cape Byron Lightstation Precinct to the Bundjalung of Byron Bay (Arakwal) people is currently explained to visitors in a variety of ways. For example, Aboriginal culture is interpreted by Aboriginal education guides during school and other group education activities, holiday programs and special days and events weeks. There is clear evidence that the work of the education guides is well supported and valued by schools and the public, as it is one of their most sought after activities. There are also interpretive displays at the former Head Lightkeeper's quarters (the Visitor Centre). These include one panel on the south outside wall and various displays and related information in dedicated rooms in the former quarters.

While the interpretive activities conducted by the Aboriginal education guides are clearly in demand and provide direct information, the effectiveness of the panel outside and the displays within the Visitor Centre in imparting Aboriginal cultural information is less easy to gauge. The interpretation of Aboriginal cultural values appears to be fairly ad-hoc using a range of styles and media—some of which does not appear to attract visitors' attention for any length of time.

Those who visit the precinct but do not enter the Visitor Centre will only gain quite limited information about the Aboriginal cultural significance of the place. Visitors can come to the place and take in the views from the elevated site, perhaps observe a passing whale, then leave without obtaining any enhanced understanding of its rich Aboriginal cultural heritage values. Currently, the main way that they would gain an enhanced understanding is if they were watch the video presentation in the former Head Lightkeeper's quarters and link the stories of Aunty Lorna Kelly (deceased) and others to the Lightstation site.

There is a clear need for other forms of interpretation, and for more accessible information directly associated with the significance and features of the place; this plan recommends that this could be obtained with the input of the Bundjalung of Byron Bay (Arakwal) people. *(Policies 8, 9, 10, 92, 99)*

8.3.2 Historic cultural heritage interpretation

Historic cultural heritage interpretation is also available in various forms. These include school and other group education activities; functions and events such as the lighthouse birthday party held on 1 December 2001, the annual Whale Information morning, heritage week and sea week; lighthouse

[3] An annotated edited discussion draft was viewed by the authors of this plan.

tours; interpretation panels outside the former Head Lightkeeper's quarters (variously called the Visitors Centre and Information Centre in the panels and signs); and the maritime museum.

However, the static information available to inform visitors about the history of the Lightstation is limited—there are no labels on buildings (except for a small sign about leasing the quarters) and there is very limited interpretation of the structures. On the south side of the former Head Lightkeeper's quarters are interpretive panels in two styles and a 'sandwich board' sign is usually placed in front. Most visitors do not appear to be interested in taking much time to study the panels, and therefore probably only a small number obtain enhanced awareness of the history of the place since 1901 or its significance from these sources. The panels and signs throughout the place, while fairly low key, are stylistically inconsistent.

8.3.3 Interpretation themes

The *Preliminary Concept Plan* (Cape Byron Trust 2004) suggests that interpretation at the place should be divided into 'what people *need* to know' and 'what would be *interesting* to know'.

The 'what people *need* to know' can be fairly easily determined and includes that the precinct is part of the Reserve and adjoins the Marine Park; where facilities are located and what they are; any applicable regulations; opening and closing times; and emergency after-hours contacts. Currently, some of this information is provided. However, two (overly) prominent signs at the place (covered with canvas when no parking officer is on duty) provide outdated information (about car park charges) and should be removed or replaced. Gaps in information could include place signs at the southern and northern entrance and information materials such as maps).

The research undertaken in developing this plan suggests that the following 'what would be *interesting* to know' themes in relation to the precinct should be considered for inclusion in the interpretation:

- the pre-contact significance of the place to the Bundjalung of Byron Bay (Arakwal) people, their living stories, cultural heritage, spiritual associations and current active roles
- the role of the Cape Byron lighthouse in coastal navigation as part of the NSW highway of lights, linkages with other NSW lighthouses and with the economic development of the region, state and the country
- the unique and notable technical features of the lighthouse, and at a more basic level, how the lighthouse worked in the past and why it was needed (and even why and how it is still lit today)
- the functions of structures immediately associated with the lighthouse, such as the role of the signal room and signal mast (with the possibility of having the room open, perhaps with a Perspex door, and including interpretive devices in relation to the various flags used and their meanings)
- dual interpretation as applicable—for example, the significance of the Julian Rocks to Aboriginal people and the meaning of the red light in the tower (in warning shipping of the Julian Rocks)
- what the various structures were used for in the past, and as applicable their use today (perhaps by low key simple interpretative signs on buildings)
- the work and roles of Lightkeepers in navigation safety—how they had to ensure the light kept burning and what they did on their shifts, including the day-time shift
- the everyday lives of Lightkeeper's families, including first hand accounts of interesting events in the time the Lightstation was manned.

This plan recommends that these themes should be accessible to visitors. However, it is critical that the place is not overtaken by signage—the form of interpretation must not dominate; it should be subtle and integrated into the experience.

Within these constraints, and in line with the draft *Concept Plan*, discrete signage on buildings could indicate their former functions, and forms of interpretation could include place signs, interpretative signs, identification signs and interpretative devices. In addition, this work should be within a whole-of-site and whole-of-Reserve framework; hence this plan recommends the completion and implementation of the *Preliminary Concept Plan 2004* or similar. *(Policies 88 to 99)*

8.4 Future use

The purposes for which the Cape Byron Lightstation Precinct is used are directly relevant to its conservation; any changes in use could require alterations to the fabric to accommodate these changes, and the precinct's significance is bound up with its use. This plan recommends that the primary use of the place as a lightstation, albeit now a non-active one apart from the illumination of the light at night, should be maintained and respected. *(Policies 100 to 107)*

Any proposed uses of the place that could have adverse impacts on the cultural heritage values should be closely examined in relation to potential impacts on those values. For example, any new structures should be, like the recently-constructed toilets, out of view. The only new structures that would be tolerated would be very minor subsidiary structures—such as the existing recycle bin station, seating and interpretation. New structures would only be acceptable if they have low impact; are sited appropriately; do not obscure or intrude in any way on views to and from the site; do not intrude on the precinct by their scale or height; and maintain the traditional relationships of the principal structures. *(Policies 26, 27 and 54 to 60)*

In addition, revenue-raising functions unrelated to the use of the place as a lightstation, such as weddings, should be limited and contained, including the use of marquees or the like, to ensure the character of the Lightstation remains. Functions that enhance knowledge of the Lightstation, such as 'birthday celebrations' and 'lighthouse reunions', should be encouraged and supported as part of the educational role of the place—these events and activities have the potential to enhance community esteem and potentially provide valuable historic and cultural information. In addition, marketing of any events or activities should be consistent with the cultural heritage values. *(Policies 100 to 107)*

Planning for future use needs to be undertaken on a Reserve basis and with opportunities balanced to ensure accessibility for people from the full range of potential visitors—while costs must be met and revenue validly raised, the range of visitor experiences should not just include expensive options. For example, any new café seating should be open to all visitors, not only those who purchase refreshments; entry for people without cars should not incur a fee; the Head Lightkeeper's quarters should be free to enter; and the Lighthouse tours should be kept at a reasonable cost.

8.4.1 Frequency of use for events such as weddings

Wedding ceremonies are understood to be ephemeral activities that borrow from the space of a venue but leave no imprint. Therefore, there is no reason why weddings should not be held at the place. However, their frequency should not be such that the place becomes known as a 'wedding venue'. For example, if weddings were held every weekend, the primary function of the place could be obscured and visitor numbers increased for reasons other than enjoyment of the heritage values. This would be out of keeping with the values and contrary to the intent of the policies regarding use. Such functions also need to be of a scale that does not overtake the setting and place.

Scheduling of events should include a professional assessment of the capacity of the place and risks involved. In the absence of a 'Commercial Utilisation Policy' covering such events, records of the frequency, type, extent and impact of wedding events should be kept in order to develop a clear profile that could inform a well-structured commercial utilisation policy to be developed in the future.

8.4.2 Extent of exclusive use

Exclusive use of parts of the site, for example holiday lettings of the former Assistant Lightkeepers' quarters, have the benefit of keeping the levels of use of those buildings fairly low, perhaps even less than their original uses. However, all use must be balanced with the need to provide an experience for visitors of all types, independent of their financial means. A comprehensive and a well-structured commercial utilisation policy should be developed to address the range and extent of uses with reference to the broad cross section of potential visitors. No events such as weddings should involve exclusive use, consistent with the aim of the policies to protect the heritage values of the place.

8.4.3 Combination of uses

Continued access by the public to facilities should be retained, and this might conceivably involve a combination of uses at any one time. In order to meet the reasonable needs of all types of visitors it is appropriate to continue to make the site (apart from the areas reserved for holiday letting and Coast Guard) freely accessible during daylight hours. Access to the former Head Lightkeeper's cottage and the lighthouse should be retained so that visitors can be provided with a broad and balanced experience. Modest charges could be applied with discretion to control visitor numbers and their behaviour in relation to the cultural heritage values, or to recoup costs.

8.4.4 Interpretation for one-off events

One-off events which primarily have an interpretive function—for example a re-enactment of the opening of the lighthouse or lighting of the first light—are acceptable. They should be appropriately managed in line with policies in this plan. The interpretation of heritage values is a conventional strategy used to enhance the experience of visitors, while engaging them also in the shared responsibility of protecting the heritage values. However, the interpretation of any proposed events, as well as their frequency and scale, should not confuse the heritage values by distracting visitors from the principal features or by creating unduly dominant visual elements

8.4.5 Exhibitions and cultural events

The iconic status of the Cape Byron lighthouse and surrounding lightstation is a powerful promotional tool. It is not surprising therefore that there will be demands for access for holding cultural events and exhibitions. In line with the policies in this plan, those which have a strong link to the cultural and heritage values of the place should be encouraged. However, those that do not have a cultural connection, such as commercial events, should be dealt with under a well-structured Commercial Utilisation Policy which limits, contains, controls and evaluates such activities. *(Policy 103)*

8.4.6 Filming and photography

Filming and photography should be permitted at the place, subject to copyright considerations and under controls and limits that should be set out in a Commercial Utilisation Policy. Such controls should ensure there is no exploitation of the place in regard to filming and photography, and that such activities do not detract from the cultural or heritage values of the place in line with this plan.

8.5 Condition and integrity

The integrity of the Lightstation is moderate to high. Changes that have occurred in recent years have caused relatively little adverse impact; by and large, they have been favourable to the heritage values and they have mostly brought about improvements in the condition of the precinct. These include a catch-up maintenance program, upgrades and improvements; removal of offices that had been in buildings in the precinct; a habitat restoration (weed removal) program; and the development of improved facilities for visitors (such as upgraded walking tracks and new toilet facilities).

The Inventory Sheets in the Appendix provide further details in relation to the condition of components, as does Chapter 6 of this plan.

This plan recommends a wide range of policies to protect the condition and integrity of the place and ensure this is maintained and conserved. These include policies in relation to: the integrity of the original design, built form and fabric *(Policies 25 to 33)*; conservation of built fabric (Policies 34 to 40); maintenance and replacement of services, fences and paths *(Policies 41 to 51)*; new works and the extent of change *(policies 52 to 60)*; Movable heritage and museum displays *(Policies 64 to 77)*.

In terms of natural values, analyses conducted for this plan confirm that the condition and integrity of the precinct's natural values, as represented by plantings and the unplanned establishment of other plant species, is poor. This plan recommends that this situation could be improved by removal and replacement of intrusive, inappropriate and problematic plants with species representative of vegetation communities that have both high conservation significance and cultural significance to the Bundjalung of Byron Bay (Arakwal) people *(Policies 18 to 24)*.

8.6 Stakeholders

8.6.1 The community of Byron Bay

The community of the Byron Bay is a principal stakeholder in the Lightstation and is formally represented by the Byron Shire Council. However various sectors of the community are also stakeholders with vested interests. It is important that the community maintains its access to the precinct within the constraints of conserving its heritage values. *(Policies 82 to 87 and 103 to 106)*

8.6.2 The Bundjalung of Byron Bay (Arakwal) people

The Cape Byron Headland Reserve is managed by a community trust. The Cape Byron Trust includes both community and government representation; the Bundjalung of Byron Bay (Arakwal) people play a leading role in directing it—four of its eight members are Aboriginal people.

Aboriginal culture is a living story—it is implemented at Cape Byron through the Indigenous Land Use Agreement and is demonstrated by the very high percentage of Aboriginal staff within the Byron Coast Area of the Parks and Wildlife Group, and an active participation in conveying and preserving Aboriginal cultural heritage in a range of ways. The significant role of the Bundjalung of Byron Bay (Arakwal) people in management of the place is reflected throughout the policies in this plan.

8.6.3 Byron Shire Council

Byron Shire Council is also represented on the Trust. A number of current and proposed local planning initiatives that are under development have a potential bearing on the management of the Lightstation. However there is no current proposal by Byron Shire Council that would be in conflict with the existing administration and plans of management for the Lightstation.

None-the-less, it is critical that the Council protects the visual amenity of the place in its planning and in its acceptance of any future developments. This plan recommends policies in relation to views to and from the Lightstation, and the need to strengthen safeguards to protect the visual amenity of the place. *(Policies 14 to 17)*

8.7 Statutory, non-statutory and policy compliance

As outlined below, the Cape Byron Trust and DECC policies, legislation, and non-statutory compliance, and any future listings, apply in relation to the ongoing management and planning of the place.

8.7.1 DECC policy and management

The DECC operates within a framework of policies and guidelines that are binding on staff and are reviewed from time to time according to circumstances.

Relevant DECC policies include the *Parks and Wildlife Group (PWG) Corporate Plan*; *Park Management Policy Manual*; *Interim Guidelines for approvals*; *Cape Byron Headland Reserve Pest Management Plan*; *Cape Byron Headland Reserve Fire Management Strategy;* and *Risk Management* plans. In addition, conservation management objectives as identified through the *Corporate Plan* and the *Northern Rivers Regional Cultural Heritage Management Strategy* provide broad guidelines that reinforce requirements for the Lightstation to be managed in accordance with Ministerial directions regarding best heritage management practice. These are amplified and explained in current policies and plans of management. This policy and guidance framework relates to all of the policies in this plan and the carries equal weight.

As far as it can be ascertained there are no conflicts between PWG objectives and this plan, and it is also consistent in principle and in detail with PWG and DECC policy, planning and management documents including the *Cultural Heritage Strategic Policy*. It might be anticipated that future conflicts could arise between the different values of the place, requiring an assignment of relative values to resolve the conflicts. To do so now, without knowledge of the nature of any future conflict, would be problematic. Nevertheless this plan recommends that any resolution of future conflicts would need to be predicated on the protection of Aboriginal cultural values ahead of European values. *(Policy 12)*

8.7.2 Cape Byron Headland Reserve Plan of Management

The *Cape Byron Headland Reserve Plan of Management 2002* provides a framework for the Cape Byron Trust to manage the Reserve until 2012. As far as it can be determined, the policies in this plan do not conflict with the policies in the *Plan of Management*.

In relation to the Cape Byron Lightstation Precinct, the *Plan of Management* policies must be followed *(Policy 108)*. Policies relevant to the management of the cultural heritage values have not been duplicated in this plan, but have been respected in the development of its policies.

While *all* the policies within the *Plan of Management* apply to the precinct in an overarching sense, some are *more directly* relevant. For reference, Table 5 below maps policies in the *Plan of Management* that have a high or specific relevance to managing the cultural heritage significance of the precinct. Those policies should be referred to in using this plan.

Table 5: Plan of Management related policies

Section no.	**Title** (with possible relationship with aspects covered in this plan in brackets)
1.01	**Vegetation management** (weed eradication, plantings)
1.06	**Coastal landscape** (views to and from the precinct)
1.08	**Noise pollution** (functions in the precinct)
2.01	**Aboriginal cultural heritage** (wide-ranging relevance)
2.02	**Historic cultural heritage** (wide ranging relevance)
3.01	**General recreation management** (visitor numbers and behaviour, non-commercial activities)
3.02	**Public contact, visitor education and interpretation** (interpretation of the place)
3.04	**Visitor access** (public access, access for people with disabilities)
3.06	**Visitor facilities** (commercial ventures, meeting visitor requirements)
3.09	**Lighthouse tours** (tours, traffic minimisation)
3.10	**Commercial recreation management** (overarching policy for commercial ventures)
3.11	**Whale watching** (overarching policy)
3.12	**Visitor accommodation** (use of the former Assistant Lightkeepers' quarters)
3.17	**Education and research** (impact of research activities)
3.18	**Concessions, leasing and licensing** (commercial activities, new works, leases, fees)
4.03	**Participation in the local community** (use of the precinct for events)

8.7.3 Legislation

NSW legislation applicable to aspects of this plan includes the *National Parks and Wildlife Act 1974*; the *Heritage Act 1977*; and the *Environmental Planning and Assessment Act 1979* (amended 1999). Applicable Commonwealth legislation includes the *Environment Protection and Biodiversity Conservation Act 1999* and the *Australian Heritage Council Act 2003*.

Under the National Parks and Wildlife Act, the Cape Byron Lightstation forms part of the Parks and Wildlife Group. However, management of the Cape Byron Headland Reserve in which it is situated is distinctive among the NPWS estate, being managed by a community-based trust, the Cape Byron Trust under the National Parks and Wildlife Act. The *Plan of Management for Cape Byron Headland Reserve* therefore provides direction for management, indirectly, and in accordance with the relevant legislation. (DECC manages the adjoining Cape Byron Marine Park under the *Marine Parks Act 1997*.)

Managing public health and safety is a normal requirement of management that appears to be well provided for in the day-to-day management of the precinct and in planning for the future. This plan makes no further policy recommendations in this regard because, as far as it is known, there are no

conflicts arising from the need to conserve heritage values and the need to ensure a safe, risk-minimised environment for staff, volunteers, contractors and visitors.

Occupational health and safety (OH&S) standards, design and building standards, and residential tenancy standards are mandatory requirements that come into effect at different times. Irrespective of the timing or circumstances, the Cape Byron Trust and the DECC should aim to meet the standards, provided there is no conflict with the heritage values. Since the need for compliance with the *Building Code of Australia* is limited to new works; there is no requirement to upgrade existing facilities retrospectively. Nevertheless it would be appropriate for the Cape Byron Trust and DECC to continue to monitor and review safety at the site and continue to implement recommendations contained in the Graeme Barr Architects Report (2006).

In situations where there could be conflicts regarding desirable or mandatory works, and in anticipation of the place being entered on the State Heritage Register, issues could be referred to the Fire, Access and Services Panel (FASAP) of the Heritage Council for determination.

8.7.4 Listings

The National Trust of Australia (NSW) has classified the Cape Byron Lightstation (Trust Listing 05.2906). The National Trust is a community-based organisation with independently constituted trusts in each state and territory. Most National Trusts compile a heritage list for their state or territory, primarily of historic places, but they also include some Indigenous and natural places. Listing helps to provide recognition, and promote public appreciation and concern for local heritage.

Cape Byron Lighthouse is an item on the Register of the National Estate (Item Number 210 registered on 21 October 1980). Identification on the Register of the National Estate does not bind any party.

The Australian Heritage Council can no longer add places to, or remove places or a part of a place from, the Register of the National Estate (the Register). In 2006, the Environment Protection and Biodiversity Conservation Act, and the Australian Heritage Council Act were amended to, among other things, stop changes to the Register. The Register is now largely symbolic. Its function has been overtaken by the National and Commonwealth listings.

Cape Byron Lightstation is not entered on the State Heritage Register as a place of state significance, therefore the only requirement under the Heritage Act is the requirement to notify the NSW Heritage Council of any proposal to demolish a place (or part of a place) of Local Heritage Significance listed on a Local Environment Plan (LEP). In the future, when the Cape Byron Lightstation is entered on the State Heritage Register as a place of state significance, it will need to be managed in accordance with the provisions of the Heritage Act.

Following changes to Commonwealth heritage legislation in 2004, the Environment Protection and Biodiversity Conservation Act now regulates all actions relating to Commonwealth Heritage Places. The Cape Byron Lighthouse (that is, the area under lease to AMSA) is listed on the Commonwealth Heritage List as one of the significant natural, Indigenous and historic heritage places owned or controlled by the Australian Government. The list comprises places, or groups of places, in Commonwealth lands and waters, that are identified as having Commonwealth heritage values. These places reflect Australia's development as a nation. Listed places are protected under the Act which means that no-one can take an action that has, will have or is likely to have, a significant impact on the environment of a listed place, including its heritage values.

Australian Government agencies that own or control places included in the Commonwealth Heritage List are legally required to develop a plan to protect those places. The Australian Maritime Safety Authority (AMSA) maintains and operates the lighthouse for marine navigation under a lease from DECC and has a plan for the lighthouse.

8.7.5 Licences

The lighthouse tower is leased by AMSA for continuing use as a navigation aid. The Cape Byron Trust and DECC have access to the office room (for the maritime museum) and to the hall, tower, lantern and balcony (for visitor tours conducted by accredited guides). The former power house, or fuel store, is not currently accessible to the Cape Byron Trust or DECC; it contains backup batteries and associated gear that is still operational.

This plan recommends maintaining cooperation with AMSA in an overarching sense *(Policy 109)* but also more specifically in relation to visual access to rooms in the lighthouse *(Policies 74, 75)*.

9 CONSERVATION POLICIES AND GUIDELINES

This chapter provides conservation policies recommended to protect the cultural heritage significance of the Cape Byron Lightstation Precinct; they are based on the analyses in preceding chapters. Recommended strategies to be considered in implementing the policies are provided in Chapter 10.

The following proposed policies aim to guide the Cape Byron Trust and the DECC in their management of the place by ensuring the traditional associations, setting, forms and fabric are conserved; by allowing change that will enhance the place and its interpretation; and by ensuring that there will be no adverse impacts as a result of changes. The policies are designed to ensure the significance of the place is retained, and to avoid any action that could have an adverse impact on that significance.

The policies are broadly grouped in accordance with headings in the policy formulation discussion in Chapter 8, and under these headings the policies are numbered sequentially. Terms used, and their meanings, are the same as those in *Burra Charter* (1999).

9.1 Guiding conservation vision and policy application

Policy 1 The Cape Byron Lightstation Precinct, a place of outstanding to high cultural heritage values, should be conserved through sound conservation practices to ensure its values are sustained for current and future generations.

Policy 2 This plan should be adopted by Cape Byron Trust, DECC (Parks and Wildlife Group) and DEP (Heritage Branch) as the NSW Government's policy framework for conservation of the Cape Byron Lightstation Precinct.

Policy 3 The Cape Byron Lightstation Precinct should be managed in accordance with its high cultural heritage significance; its cultural heritage values should be conserved and clearly interpreted.

Policy 4 The Cape Byron Lightstation Precinct should be managed as a cultural tourism destination and its Indigenous and post-contact values should be explained and interpreted to the widest possible audience.

Policy 5 All decision-making and implementation of works and other activities should be guided by the conservation philosophy, principles, processes, practices and guidelines provided in the *Burra Charter*.

Policy 6 All day-to-day and longer term management decision-making and implementation of works and other activities should be made with reference to this Conservation Management Plan: no action should be taken if it would have any adverse impact on the significance of the place.

Policy 7 This plan should be reviewed within five years, and amended in accordance with any changes to the setting, form, fabric or use of the place, and with any new information that becomes available.

9.2 Aboriginal cultural significance

Policy 8 The Bundjalung of Byron Bay (Arakwal) people, through their involvement on the Cape Byron Trust, should continue to be consulted on all developments at the place, including the impact of any proposed changes on Aboriginal cultural values and their interpretation.

Policy 9 The Bundjalung of Byron Bay (Arakwal) people should be involved in the development and delivery of interpretation strategies for the precinct, in line with the interpretation policies in this plan.

Policy 10 Through the Cape Byron Trust, Bundjalung of Byron Bay (Arakwal) people should be consulted regarding information that might be held by individuals, groups or communities that could inform management of the place in the future, or its interpretation.

Policy 11 The Aboriginal cultural significance of the Cape Byron Lightstation Precinct should be fully respected in all proposed changes.

Policy 12 Resolution of any conflicts regarding management and change should give priority to Aboriginal cultural values.

Policy 13 The known and potential Aboriginal significance of the precinct should be protected and managed in accordance with the archaeological zoning in this plan.

9.3 Lightstation setting

Policy 14 When viewed from external vantage points, the lighthouse should be clearly visible in its setting without any obscuring or distracting elements—new developments within the view-field of the Cape Byron Lightstation that have adverse visual or other impacts on its values should not be supported by the Cape Byron Trust and DECC.

Policy 15 The Cape Byron Trust and DECC should strongly and actively encourage the Byron Shire Council to put in place strict planning controls for the surrounding coastal area to protect the visual amenity and outstanding cultural heritage values of the of the Cape Byron Lightstation in its setting.

Policy 16 No new structure should be built at the Cape Byron Lightstation Precinct that would be visually intrusive when viewed from a distance, or that would adversely impact on views from the Lightstation.

Policy 17 The lighthouse should remain the dominant feature of the Cape Byron Lightstation Precinct and area immediately surrounding it—no structures should be built in the precinct in proximity of the lighthouse if they would compete visually with it or the other principal structures.

9.4 Landscape and vegetation

Policy 18 Vegetation within the Cape Byron Lightstation Precinct should be managed in recognition of the Lightstation's history as a highly functional structured workplace on a denuded site with an essentially barren or open character—sustainable vegetation management practices consistent with this character should be implemented.

Policy 19 No new landscape elements should be introduced that would visually overwhelm or detract from the essentially barren or open character of the Lightstation, or that would shield the place from view.

Policy 20 The incursion of vegetation that could impact on the essentially barren or open character of the Lightstation and the views to and from it should be avoided.

Policy 21 The inappropriate plantings in the yards of the Head Lightkeeper's quarters, northern and southern Assistant Lightkeepers' quarters and about the toilet walkway should be removed and replacement plantings should be primarily confined to ground cover and shrub or heath species of high conservation value and significant to the Arakwal people.

Policy 22 No new landscape elements should be introduced for which there is not an historical precedent or interpretative relevance.

Policy 23 Weed species should be removed, and a weed control program implemented focused on invasive or environmental weed species.

Policy 24 Degraded weed-infested areas on the perimeter of the precinct (where the terrain starts to slope off and invasive weed species are present) should be restored in accordance with the vegetation and weed control strategies in the Cape Byron Headland Reserve Pest Management Plan (Cape Byron Trust 2003).

9.5 Integrity of original design, built form and fabric

Policy 25 The functional character of the Cape Byron Lightstation Precinct as a place of work, and the original form of the lighthouse within an integrated and integral set of structures in relation to that function, should be preserved.

Policy 26 The design layout of the site and the visual separation of elements it provides should be preserved without interference from any infill structures—no new structures or features should be introduced unless they are compatible with the original design.

Policy 27 Any proposed additions or alterations to buildings should respect the pavilion forms of existing structures and be subservient to them in form, style, texture and colour.

Policy 28 The historic layout of the roads and fences should be preserved with the precinct kept as an uncluttered space defined by open perimeter fences and without any new enclosing structures or screenings—unless changes are required to meet identified public safety needs, and are planned and executed as part of the Maintenance Plan.

Policy 29 Existing elements that intrude on the setting, such as the bollards beside the lighthouse, the identified inappropriate plantings and the outdated signs should be scheduled for removal; other intrusive elements such as the car parking spaces should be considered for change if other strategies in relation to traffic are adopted.

Policy 30 Significant features that are currently missing from the precinct, or which have been suppressed by subsequent works—for example, the entrance gate and signal mast—should be considered for reinstatement, either fully or through some other sophisticated form in interpretative devices.

Policy 31 The formal, industrial and functional character of the common areas of the precinct should be preserved; no ornate plantings, hoardings, over-use of signage, clutter, or structures unrelated to this character should be permitted, except for the rear of the Assistant Lightkeepers' quarters and their yards that should retain a domestic setting different from the common areas, and with fences separating the domestic yards from the common areas.

Policy 32 The increased hardening of the site that has occurred over time should not be allowed to confuse or hide the core significance of the place as a functional lightstation, or its fundamental characteristics.

Policy 33 Illumination at the site should be provided to ensure visitor safety and should be in keeping with the functional character of the place; however, no illumination should be directly on the tower or structures—the only light that should be visible from below the precinct should be the light itself.

9.6 Conservation of built fabric

Policy 34 The fabric of the various built elements of the Cape Byron Lightstation should continue to be maintained using the most appropriate materials and techniques consistent with the high standards employed in the original construction and in line with the Maintenance Plan.

Policy 35 The Maintenance Plan should be periodically reviewed to ensure that no fabric is neglected or damaged for want of inspection and rectification.

Policy 36 The patina of the authentic fabric should be retained wherever it would be consistent with correct conservation practice over the medium and long term.

Policy 37 All authentic building fabric that has been removed should be catalogued and stored securely for future reference and potential re-use.

Policy 38 No material should be removed or replaced except where it is necessary to introduce new or better material for conservation in the medium or long term; retention of authentic fabric should be preferred over replacement, unless the authentic fabric is causing damage to adjoining fabric.

Policy 39 New and replacement materials should be selected on the basis of compatibility with the original materials.

Policy 40 All services at the place should continue to be maintained in a sound and safe condition in line with the Maintenance Plan.

9.7 Maintenance and replacement of services, fences, paths and roads

Policy 41 New services should be introduced only if they are needed to support existing uses, and their inclusion is consistent with the aims of conserving the place.

Policy 42 Wherever possible, services should be located underground; however, services that replicate the original services could be located above ground for interpretation purposes, provided their form and location is consistent with the aims of conserving the cultural heritage values of the Lightstation.

Policy 43 All fences and gates at the Lightstation should be maintained in a style and condition consistent with the original drawings and as shown in photographs taken around the time of opening of the Lightstation—unless changes are required to meet identified public safety needs or are required in areas where no fences existed previously, and are planned and executed as part of the Maintenance Plan.

Policy 44 The Cape Byron Trust and DECC should consider the feasibility of reconstructing the entrance gates in their original position and keeping them closed except when required for use, and reconstructing the paling fences that were on the northern side of the former Head Lightkeeper's quarters.

Policy 45 No new fences or gates should be erected at the Lightstation unless they are reconstructions of original fences or gates in their original locations—unless changes are required to meet identified public safety needs or to enclose newly created areas.

Policy 46 The use of bright stainless steel railings on stairs and ramps should be reviewed with a view to eliminating bright metal finishes that are inconsistent with the original character of the place.

Policy 47 No new roads should be created at the Lightstation.

Policy 48 Existing road surfaces and paths should be reviewed, and minimised if a strategy for dealing with traffic is implemented, with a view to eliminating all harsh black bitumen and stark white concrete surfaces.

Policy 49 Any replacement road surfaces and paths should relate more closely to the traditional gravel and honey-coloured aggregate rich bitumen surfaces that appear in the photographs of the 1960s.

Policy 50 Concrete kerbs and gutters should be considered for removal from the site, except where they have a vital function in preventing erosion and managing storm water.

Policy 51 All surfaces should continue to be monitored as part of the Maintenance Plan and a system of response introduced to deal with emerging problems.

9.8 New works and extent of change

Policy 52 Changes should only be made if they are critically necessary for the ongoing viability and use of the Lightstation.

Policy 53 Changes to built forms and fabric should be made in such a way that it should be possible to restore the fabric to its original form without damage; any changes made should be clearly visible, and not disguised as original work.

Policy 54 New works that would enhance interpretation or visitor experience should be permitted, provided they do not impact adversely on the cultural heritage values.

Policy 55 New works should be planned to be subservient to the original Lightstation structures and other features of high significance.

Policy 56 The specific directions contained in the inventory forms included with this plan should be followed for those parts of the Lightstation when planning and executing any changes including maintenance and new works.

Policy 57 No parts of the original structures or other features of high significance should be removed to allow for the introduction of new structures or services, with the exception of services maintained under the Maintenance Plan.

Policy 58 The style of new works should be compatible with the Lightstation and cognisant of its significance, using compatible contemporary materials and forms.

Policy 59 The area at the rear of the former Head Lightkeeper's quarters, including the former garage and concrete paved parts should be examined with a view to providing limited refreshments from that space, and ensuring the currently uneven paved area is safe for visitors (for example, by providing a covering of non-intrusive decking or the like).

Policy 60 The area on the northern side of the former Head Lightkeeper's quarters should be enclosed with timber paling fences as originally constructed, planned for as an area of rest and respite for visitors, and seating should be provided on the northern verandah and against the paling fences.

9.9 Archaeological significance

Policy 61 The Cape Byron Trust should adopt the *Archaeological Zoning Plan* and its provisions.

Policy 62 There should be no avoidable disturbance of known or potential archaeological resources (areas located within Zones A and B in the *Archaeological Zoning Plan*). When archaeological resources are encountered unexpectedly, works should stop immediately and the Culture and Heritage Division of DECC should be notified.

Policy 63 Any works involving disturbance or potential disturbance to archaeological resources would require an archaeological permit and the involvement of a suitably qualified archaeologist.

9.10 Movable heritage and museum displays

Policy 64 The Cape Byron Trust *Collections Policy* should guide all actions regarding movable heritage items at the Lightstation; it should be reviewed to ensure it is congruent with relevant provisions of this plan.

Policy 65 Movable heritage items at the site should be studied in detail, catalogued (if not already) or rationalised; their status should continue to be monitored and recorded in accordance with the Collections Policy.

Policy 66 All movable items of interest at the place should be displayed, used and stored in an environment secured in line with the level and potential type of risk; relevant items, including those that are precious, should be able to be appropriately viewed or used secure from potential damage or theft.

Policy 67 Items of movable heritage that do not enhance interpretation of the place should be de-accessioned.

Policy 68 Acquisition of new items should be restricted to items that can be provenanced to the Lightstation or have the potential to enhance interpretation and the visitor experience; this could include items that interpret the story of other NSW lightstations, and could include items that are not from the site.

Policy 69 Non-core items should be used in school based educational activities at the Lightstation.

Policy 70 Non-core items of limited significance should be displayed in the former Lightkeepers' quarters if they would enhance the experience of staying in quarters formerly inhabited by lightkeepers and their families.

Policy 71 Items on display in the maritime museum should be reviewed and reorganised thematically to provide a more meaningful display complete with interpretation.

Policy 72 The maritime museum should be open regularly and as often as possible with supervision by staff or volunteers.

Policy 73 The Maritime Museums of Australia Project Support Scheme should continue to be accessed for funding and professional support in the development of the maritime museum displays.

Policy 74 Given that the former power house (generator store) in the lighthouse is part of the story of the place, the Cape Byron Trust and DECC should consider discussing with AMSA options for visitors to inspect this room from the doorway, and interpret this room (within the bounds of licence).

Policy 75 The Cape Byron Trust and DECC should consider discussing with AMSA options for enabling inspection of the ground level of the lighthouse tower during maritime museum opening hours, including mechanisms that will provide a secure barricade.

Policy 76 The lantern room, balcony and lantern should be available for inspection regularly in accordance with a schedule to be developed and expanded as resources permit.

Policy 77 The former signal house (flag room) should be available for viewing during the maritime museum opening hours and interpreted to explain its former function, including mechanisms to provide security for any contents that may be included.

9.11 Traffic management and methods of site access

Policy 78 The Cape Byron Trust and DECC should urgently seek to minimise traffic at the place by investigating alternatives; taking positive steps to increase pedestrian access; and, if feasible, introducing a new transport method to bring visitors to the place.

Policy 79 As a result of a new transport method, private motor vehicles should be excluded from the site (except for service vehicles or those used by people with disabilities), parking bays should be removed, and the affected areas returned to the form and condition that prevailed in the 1960s.

Policy 80 Further changes to the existing roads and paths should be incrementally undertaken to return them to a form and condition that existed at the site in the 1960s, for example by removing kerbing and guttering and hard stand areas subject to any needs for stormwater management.

Policy 81 The formal progression of visitors to the precinct via the southern entrance gates and to the lighthouse via the road on the eastern side should be maintained and enhanced as the principal pathway to and through the site (while continuing to provide pedestrian access from the north).

9.12 Visitor management and access

Policy 82 Tourists and people from the local community should continue to be encouraged to visit the place to enjoy its many special attributes.

Policy 83 The numbers of visitors to the place should be monitored and impacts evaluated.

Policy 84 Visitor behaviour in relation to the place and its fabric should be monitored, and a system of response introduced to deal with any emerging problems.

Policy 85 Public access should be retained by maintaining the walking track and by allowing access without entrance charge to the former Head Lightkeepers quarters and to any refreshment space that might be developed.

Policy 86 In all planning for access, the Cape Byron Trust and DECC should consider options for people with disabilities and special needs, and implement these options wherever feasible.

Policy 87 The Cape Byron Trust should respond assertively to any changes in the patterns of visitor behaviour or if there is evidence of adverse impacts on cultural heritage values; limits on access should be set if the impacts begin to exceed the capacity of the site to withstand these.

9.13 Interpretation

Policy 88 Interpretation of the cultural heritage values of the Cape Byron Lightstation Precinct should continue to be provided using a range of approaches, and should involve a whole-of-site carefully considered approach linked with and supporting the Cape Byron Headland Reserve interpretation.

Policy 89 The draft *Cape Byron Headland Reserve Information and Interpretation Preliminary Concept Plan 2004* should be reviewed, amended and enhanced in line with the policies in this plan, adopted and implemented (at least for the precinct).

Policy 90 The interpretation themes recommended in Chapter 8 of this plan should be considered and, subject to further consultation, adopted for inclusion in the redrafted *Concept Plan* for the precinct.

Policy 91 Interpretive information and devices such as place signs, interpretative signs, identification signs and interpretative devices, and direct interpretation by guides, should be in keeping with the cultural heritage values of the place; interpretations should not dominate, but rather should assist in the maintenance of values.

Policy 92 The Bundjalung of Byron Bay (Arakwal) people should continue to be engaged in interpreting the Aboriginal, natural and cultural values.

Policy 93 The former Head Lightkeeper's quarters should continue to be used as a visitor centre and a publically accessible place for interpretation of the Lightstation and relevant aspects of the adjoining Marine Park and Cape Byron Headland Reserve.

Policy 94 The current use of the rooms and interpretation devices in the former Head Lightkeeper's quarters should be reviewed for effectiveness and consistency with the redrafted *Concept Plan*.

Policy 95 The Cape Byron Trust and DECC should investigate the feasibility of reconstructing the former signal mast as it was originally constructed, and displaying appropriate flags on the signal mast daily.

Policy 96 Interpretation signs and devices, and the information they hold, should be maintained and kept current in line with the Maintenance Plan.

Policy 97 Subject to the feasibility of a new transport option, the journey to the place should form part of the interpretation of the spiritual, natural, historical and Indigenous values of the place with interpretation provided onboard.

Policy 98 The effectiveness of interpretation should be evaluated using a range of strategies, and the information used to improve interpretation at the place.

Policy 99 As applicable, names and terms that have meaning for the Bundjalung of Byron Bay (Arakwal) people should be used in the interpretation and signage.

9.14 Future use

Policy 100 Use of the Cape Byron Lightstation should be consistent with its cultural heritage values; its current use is in line with these values and the impact of visitor numbers is moderate, therefore this use should continue.

Policy 101 The Cape Byron Lightstation should continue to be used as a Lightstation to the extent that the light should continue to function and all necessary ancillary resources should be retained at the site.

Policy 102 Future, auxiliary uses of the site, such as tourism, should be subservient to its primary use as a Lightstation.

Policy 103 The Cape Byron Trust and DECC should develop a *Commercial Utilisation Policy* to cover income-generating activities (unrelated to the use of the place as a lightstation); functions such as weddings should be limited and contained, including the use of marquees or the like, to ensure the character of the Lightstation remains.

Policy 104 Functions that enhance knowledge of the Lightstation, such as 'birthday celebrations' and 'lighthouse reunions', should be encouraged and supported as part of the educational role of the place.

Policy 105 The former Assistant Lightkeepers' quarters should continue to be used for short-term holiday residential accommodation.

Policy 106 Visitor experience should be enhanced by upgrading existing facilities and introducing some new facilities to cater for their needs such as relaxation and refreshment.

Policy 107 The Cape Byron Trust and DECC should continue to take steps to ensure that all marketing that refers to the Cape Byron Lightstation, or uses images of it, is consistent with the intent and policies in this plan.

9.15 Statutory, non-statutory and policy compliance

Policy 108 In planning and providing day-today management the Cape Byron Trust and DECC should ensure that all actions to be taken at the Cape Byron Lightstation Precinct comply with current relevant policies and applicable legislation prior to implementation, and with AMSA requirements.

Policy 109 The Cape Byron Trust and DECC should continue to maintain close co-operation with AMSA in the management and conservation of the site.

10 RECOMMENDATIONS AND IMPLEMENTATION STRATEGIES

This chapter discusses strategies that could be considered in implementing the policies provided in Chapter 9 to improve the conservation of the Cape Byron Lightstation Precinct and its management as a tourism place. They will need to be considered for inclusion and scheduling in appropriate planning documentation. Note that, to some extent, implementation strategies are also detailed in the Inventory Sheets in the Appendix.

10.1 Conserving the Cape Byron Lightstation Precinct

The principal aim of this plan is to conserve the cultural heritage values of the Cape Byron Lightstation Precinct. The strategies for this are orthodox and widely understood. The Cape Byron Trust and DECC is already following good practice at the Lightstation. The ongoing maintenance and condition of the place, and the commissioning and preparation of this plan illustrate a firm commitment to best conservation practice. The following strategies will further assist this best practice.

10.1.1 Adopt this plan

This plan should be adopted as the overarching policy framework for conservation of the Cape Byron Lightstation Precinct, and should be provided to all persons associated with the day-to-day management of the place and planning for its future, and its intent and substance effectively communicated.

10.1.2 Manage in accordance with values

As a result of this plan, the values of the Lightstation will be more clearly understood. All future day-to-day management and planning decisions should be made in accordance with the policies in this plan.

10.1.3 Undertake best practice in day-to-day decision-making and ongoing planning

Notwithstanding fluctuations in resources, the policies in this plan underpin sound conservation management practice. The policies should be sufficiently clear to cope with changes in circumstances and, if followed and reviewed when necessary, should ensure best practice.

10.1.4 Engage outside skills when needed

In recognition of the requirement for specialist skills, the Cape Byron Trust and DECC should continue to call on outside expertise when necessary.

This plan makes specific recommendations regarding archaeology and the application of the *Burra Charter*.

10.1.5 Undertake further research

The following avenues of further research were identified in the preparation of this plan, but not pursued due to resource limitations. They are not critical to the plan but they may add value in the future.

- Acquire photocopy of the lighthouse visitors' book (1901-1924) from NAA.
- Examine (with view to acquiring copies) photographs of the lighthouse held in NAA (barcode 9689278).
- Examine CLS personnel records in Australian National Archives with view to compiling complete list of Cape Byron Lightkeepers.
- Examine Byron Bay Public School records (held in State Records Office) for details of lighthouse children in attendance.
- Examine files concerning erection, repair, additions and alterations to public buildings such as plans, specifications, tenders, contracts (held in State Records Office) for possible references to Cape Byron Lighthouse.
- Determine details of alterations to the light in 1922 (close examinations of local newspapers for that year may suffice).
- Determine whether, as has been suggested, electricity was connected to the Lightstation for residential purposes in 1956, three years before the light was electrified.
- Examine cliff face below lighthouse for evidence of site from which stone was quarried for concrete aggregate.

10.2 Interpretation

The research conducted in this plan identified the scope of current interpretation and that it includes a wide range of static and more direct methods. However, it is fundamentally important that the cultural heritage values of the Lightstation should be communicated clearly, and this should be done under a whole-of-site and whole-of-Reserve professional framework.

The recommendations in this plan include updating and implementing the draft *Cape Byron Headland Reserve Information and Interpretation Preliminary Concept Plan 2004*. This is urgently required to underpin the interpretation strategies; the following suggestions must be considered only within one planning framework, not in isolation.

10.2.1 Upgrade signage and displays

As a general strategy interpretation in signage could be improved to provide, more, better and clear information about the full values—the 'need to know' and the 'interesting to know' themes as detailed in this plan. In line with policies, signage should be minimal and not dominate.

10.2.2 Consider oral interpretation

Written and graphic forms to convey information to visitors could be enhanced by additional (perhaps informal) oral presentations. This could include Bundjalung of Byron Bay (Arakwal) people and other guides providing information to visitors about their living stories, culture, history and spiritual associations with the Cape Byron Headland Reserve and the Cape Byron Lightstation. If a new transport option is devised, this could be provided on the journey to the Lightstation.

10.2.3 Review interpretation displays at the Lightstation

The interpretation displays in the former Head Lightkeeper's quarters and in the lighthouse, while valuable to the extent that they provide information to those who seek it, but are inconsistent, and their effectiveness is not assured. The interpretation at the Visitor Centre should be reviewed in conjunction with review of the *Concept Plan*.

10.2.4 Provide dual (or parallel) signage and interpretation

A system of dual or parallel interpretation should be considered. There are many models elsewhere for dual site interpretation, often incorporating two languages, usually to provide information at two levels or for two different audiences. At the Lightstation, the two stories needing to be told relate to the Aboriginal and natural values that existed before the Lightstation was constructed and how this value continues and is a living story today; and the story of the Lightstation that operated as a predominantly stand-alone operation for nine decades. The themes provided in Chapter 8 should be a starting point in the completion and implementation of the *Concept Plan*.

10.2.5 Ensure linkages with future developments

Site interpretation must be flexible enough to ensure compatibility with the Bundjalung of Byron Bay (Arakwal) people's proposal for the Cultural Centre on their own lands.

10.3 Visitor experiences

A strategy needs to be put in place to capture the following suggestions for improving visitor experiences.

10.3.1 Consider alternative transport methods

The impact of a high number of visitor vehicles was identified at the outset as a critical issue, and it has been confirmed while preparing this plan. They detract from visitor experience; a range of methods of delivering visitors to the place, such as self-funded and attractive environmentally-friendly shuttles or similar methods could be considered. (See sub-section 10.4 below on addressing traffic issues.)

10.3.2 Introduce additional seating

It can be observed that there is inadequate seating at the Lightstation for short stay visitors, and the seating that is provided is unattractive. Under this plan, new seating would be provided in the small triangle of yard on the north side of the former Head Lightkeeper's quarters. Additional seating could be supplied on the

verandah facing the yard, and also at the rear of the former Head Lightkeeper's quarters where a proposed refreshment facility could be located.

10.3.3 Develop new refreshment facilities

The proposed new refreshment facility should be a low-key facility around the rear concrete paved yard, former garage and rear service rooms of the Head Lightkeeper's quarters. It would serve the needs of visitors for snacks and it would have the potential to provide more substantial fare on special occasions. However, it should not be a restaurant or café as such—a dominating refreshment facility would have the potential to alter the character of the Lightstation for the worse. An area of seating could be established on the paved area with suitable minor alterations.

10.3.4 Provide better opportunities for interpreting the lighthouse functions and history

In order to meet visitor expectations and to provide better interpretation and educative opportunities in relation to the heritage values, the lighthouse and precinct should be as accessible as possible.

10.3.5 Open the lighthouse regularly

It can be observed that visitors are frequently disappointed that they cannot enter the lighthouse and climb up to the lantern. This is understandable given the attractiveness of lighthouses generally and the imposing presence of Cape Byron Lighthouse and the views to be seen from it. It appears that visitors are not so well aware of other unavailable parts, such as the former signal mast and flag room, although some appear to wonder what these structures are. The conclusion that can be drawn from this is that the lighthouse story needs to be more accessible. The first step could be to open the lighthouse more often under the same controls applying now and, through other changes, move to a situation whereby the lighthouse would be open for inspection as regularly as possible.

10.3.6 Rationalise and more clearly interpret the maritime museum displays

The maritime museum in the lighthouse is an excellent resource with potential for improvement. It is typical of most small museums in having too much material on display that is not essential to the core message, and also being inadequately interpreted. The de-accessioning policy in this plan should be implemented in regard to the non-core and unrelated items in the museum—the maritime museum collection should be rationalised and the core collection interpreted more clearly.

10.3.7 Consider opening the former signal house and reinstating the signal mast

The former signal house (flag room) should be available for viewing daily and interpreted. In addition, the former signal mast was a prominent feature at the site and an essential element in the daytime communication between ships and shore during the years before more sophisticated forms of telegraphic communication were developed. This feature of the Lightstation is not currently interpreted to visitors. The reconstruction of the signal mast would be an expensive project and ongoing maintenance would be costly too. However the interpretive value would appear to warrant the further consideration. Interpretation of the signal mast (reconstructed) could include the flying of pennants and signal flags on gala occasions. Messages could be explained and flags hoisted also for education purposes (within the bounds of acceptable maritime practice in use of flags, as they can be seen from the sea).

10.3.8 Provide interim options for the former signal house and signal mast

In the meantime, the footprint of the signal mast should be explained to visitors through interpretation. The earliest photos of the site showing the signal mast flying the NSW flag from the topmast provide clear detail to supplement the details on the original contract drawings. Investigated for reconstructed and if feasible implemented

10.3.9 Consider viewing the former power house

The recommendation in this plan include that the capacity for the former power house (generator room) to be opened for viewing and interpretation be discussed with AMSA. This would require negotiation and agreement with AMSA for the room should not be open to viewing, from the doorway, when the maritime museum is open.

10.3.10 Consider opening the lighthouse tower door for viewing

The lighthouse tower should also be open for viewing from the doorway and the items on display there should be interpreted (the visitors desk, clockwork mechanism and weight tube). Inspection of the lantern room should continue as now but it must be hoped that more guides would be accredited by AMSA to show more people around the lantern room more often.

10.4 Traffic issues

10.4.1 Minimise traffic or remove private vehicles

This plan identifies traffic as a major impediment to visitor experience, and the impacts of changes in relation to traffic as being less than desirable. It recommends that a new transport method be considered and provides a range of options. This should be considered as a matter of urgency. If a new method is implemented, private vehicles should not be admitted without a permit or a verifiable legitimate reason such as for people with disabilities. The existing car parking areas could then be reduced and reconfigured to provide parking for a smaller number of vehicles, and to provide safe turning circles for vehicles. Entry charges would apply.

10.4.2 Consider alternative options

One option that could be considered along with other methods is electric (battery powered) people movers (shuttle service) that could be provided on a regular and uninterrupted circuit during daylight hours to deliver people from a small number of designated pick-up locations, in particular the areas of paid parking at Cosy Corner, Clarkes Beach and Palm Valley. En-route passengers should be provided with an educational commentary about the values, especially the Aboriginal cultural values. Under this proposal, visitors would travel in colourful, environmentally friendly vehicles to and from the Lightstation and that the experience would be very 'Byron' in character—the experience itself could be marketed as fun. The cost of the service could be met by a single fee that would cover parking, transport and entry to the Cape Byron Headland Reserve and Lightstation. This should be considered along with other options listed in the plan, and will need to work with the planned (Arakwal) Cultural Centre, and any options that centre may be capable of providing.

10.5 Intrusive and inappropriate elements

10.5.1 Return to 1960s condition

Up to the 1960s, the inherent values were sufficiently sound to cope with the steadily growing number of visitors. The Commonwealth-employed lightkeepers were able to accommodate a gradual increase in visitor-related obligations as their primary duties declined. This plan recommends that the site should be returned to the condition that shows in photographs taken in the 1960s when the bitumen was not uniformly perfect and intractably dark in colour, and when the grassed areas melded with the hard paved areas without the harsh delineation of concrete kerbs. The site should be returned to the aspect and ambience of the patinated unevenness that prevailed then, whilst still affording hard surfaces suitable to withstand the rigours of high levels of pedestrian traffic.

10.5.2 Consider actions to reduce impact of hard surfaces

At the same time, steps should be taken to reduce the overall impact of the roads, paths and concrete paved surfaces at the site. The visual impact on the heritage values is not acceptable. Steps need to be taken now to diminish these impacts, starting with the removal of the hard stand car parking areas. This aspect can only be achieved by removing all private motor vehicles from the site, so is contingent on that.

10.5.3 Remove intrusive and inappropriate elements

The intrusive elements identified in the significance assessment in Chapter 7 of this plan, and listed below, should be considered for scheduling in the Maintenance Plan. If, for any reason, the removal of the following items cannot be achieved in the short term (or at all) other strategies to deal with their intrusiveness need to be developed and adopted.

- Consider reducing the fully-paved modern car parks and associated harsh concrete and bitumen structures after an alternative transport means is determined and implemented.
- Replace the concrete crib-lock retaining wall on the south-western side of the lighthouse with a rock wall.
- Remove bollards at the northern end of the platform of the lighthouse.

- Remove the inappropriate plantings in the yards of the Head Lightkeeper's quarters, northern and southern Assistant Lightkeepers' quarters and about the toilet walkway—and replace these with the listed recommended replacement plantings in sub-section 8.2.3 of this plan.

10.6 Movable heritage items

10.6.1 Action the 2000 Collections Policy

The Collections Policy was drafted in 2000 'to collect, preserve, research and interpret, through exhibition and other means, the history of Cape Headland Reserve, including the Cape Byron Lighthouse and local maritime and settlement history'. It provides a good basis for collections management. It simply needs to be followed more assiduously. The movable heritage items at the site or associated with the site need rationalisation although the extent of the collection of items and therefore the rationalisation is not clear. The recommendations contained in this plan should be scheduled also in relation to the same aims.

10.6.2 Further the value of the collection

In accordance with this plan, and building upon the work commenced in 2000 to set up the maritime museum collection and the proposed archive acquisition policy, the collection at the Lightstation could serve to enliven and enhance the visitor experience through more meaningful interpretation. The additional costs associated with broader collection management would be justified by the value it would add to the visitor experience.

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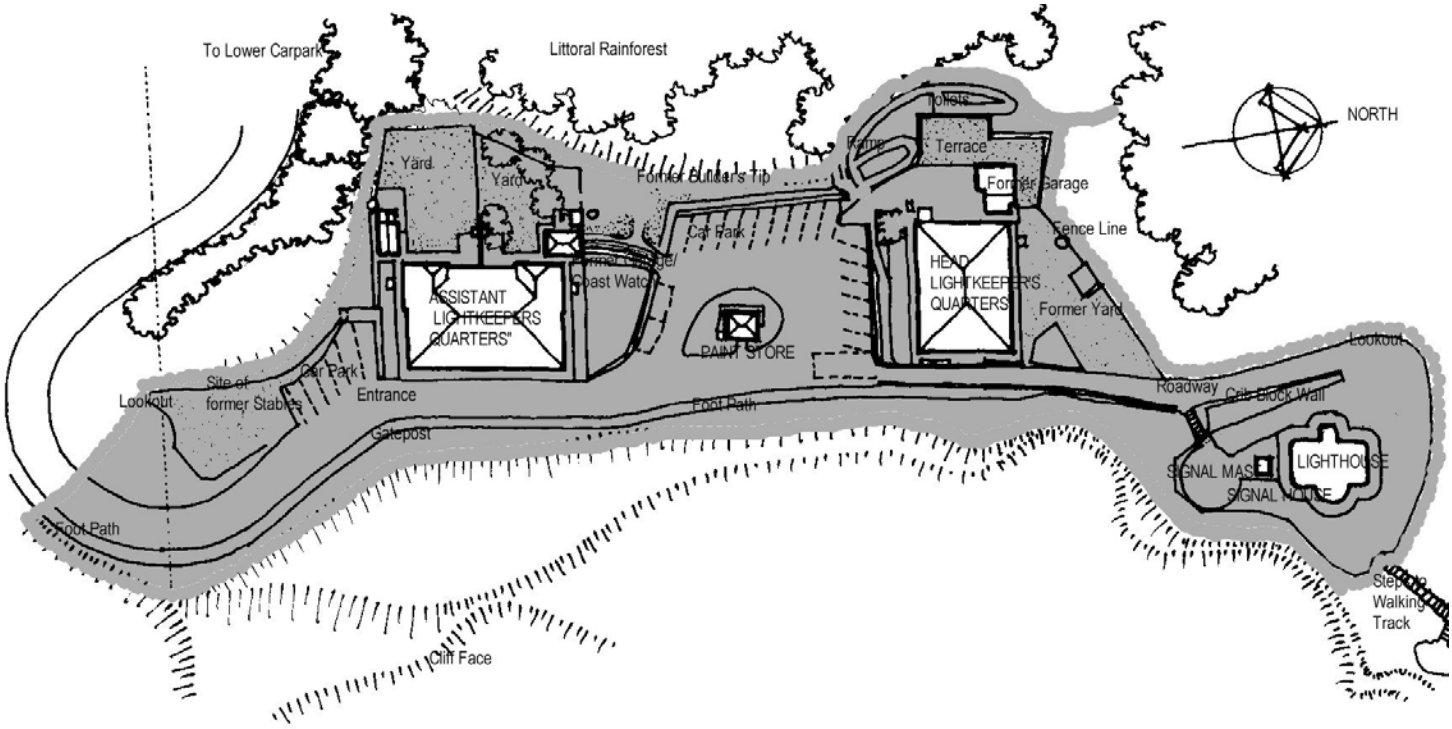
APPENDIX: INVENTORIES 1 TO 9



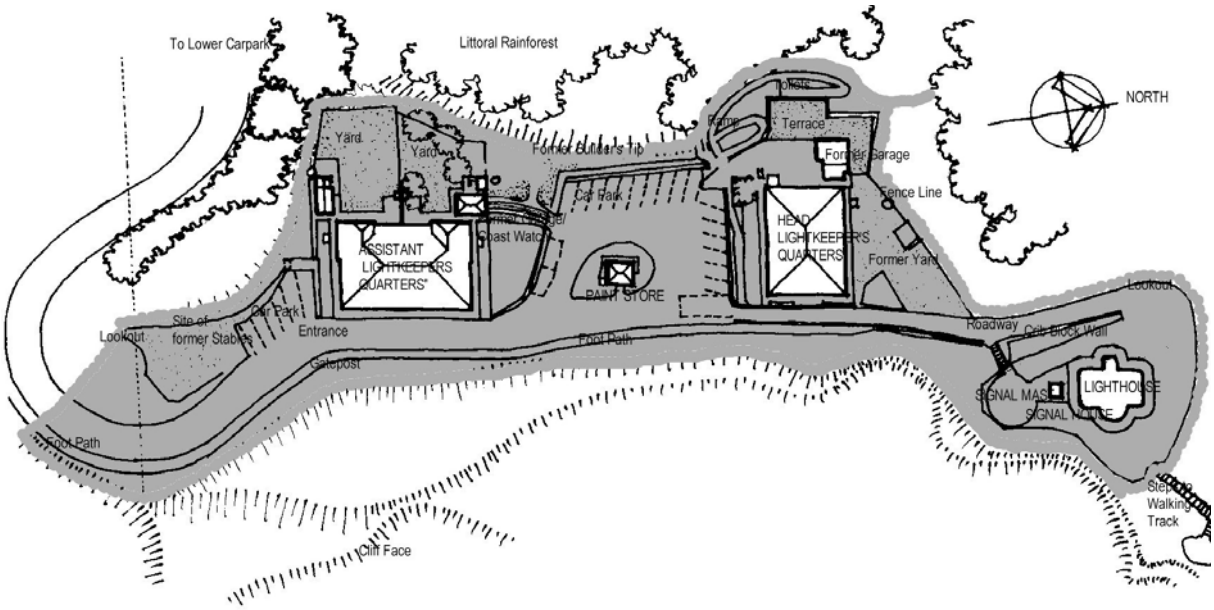
CONSERVATION MANAGEMENT PLAN

THE CAPE BYRON LIGHTSTATION PRECINCT

Site Name & Type	**CAPE BYRON LIGHTSTATION PRECINCT**
Place Number	**Inventory 1**
Place Name and Former Names	Cape Byron Lighthouse and Lightkeepers' Quarters. Part of the land known as 'Walgun' to the Bundjalung of Byron Bay (Arakwal) people
Type of Place	Built Heritage
Associated Items	Cape Byron Headland Reserve and Arakwal National Park

LOCATION

Site Location



Plan of the Cape Byron Lightstation Precinct shaded
Source: Ellsmore 2008

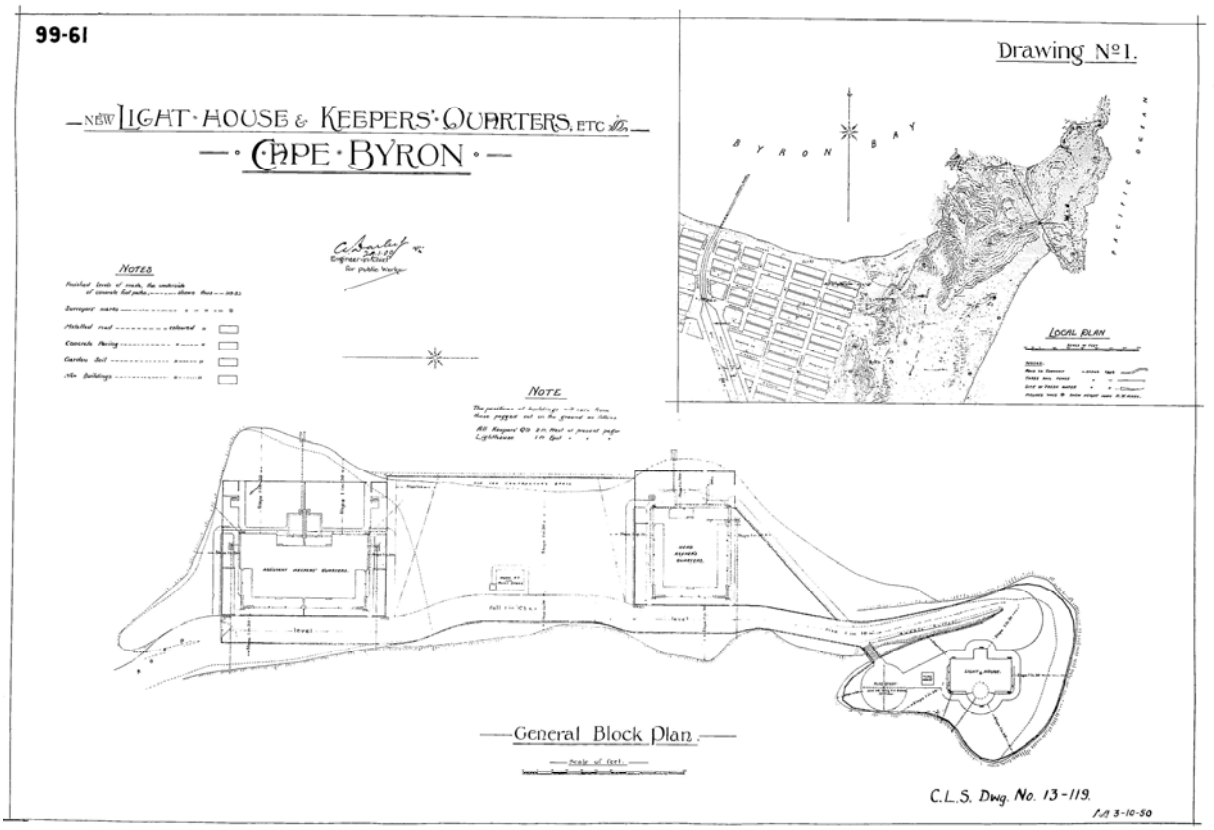
DESCRIPTION

Construction Date 1899–1901

Occupied by the Bundjalung of Byron Bay (Arakwal) people for thousands of years prior to European settlement. The Cape Byron Lightstation Precinct was constructed from 1899 (taken from when road construction commenced). In 1900 construction works of the buildings began, and the lightstation was opened in December 1901. Modified 1900–1901, 1935, 1950, 1982, 1992 and 2003–2007.

Modifications and Additions

c. 1965	Exterior walls and chimneys of Lightkeepers' quarters and outbuildings painted for the first time
c. 1980	Crib-lock concrete retaining walls erected
1982	Cape Byron walking track constructed by Dept Lands
1992	Marseilles pattern terra cotta roof tiles reinstated to Keepers' Quarters and outbuildings
1999	Public toilets constructed below enlarged terrace (and old ones demolished)
2002	Public toilets connected to Council sewer mains. Former quarters painted in 'heritage' colours
2006	Concrete path and safety fence erected on eastern boundary
2007	Former garage converted for Coast Guard. Adjoining fences renewed



Block plan showing the proposed layout and site works of the lightstation 1899
Source: NAA A1082/2 CN 1313119

Photo of the lightstation taken by Frank Hurley c.1935. Note stables at far end of site
Source: NAA an23206120.

Historical Description

The Bundjalung of Byron Bay (Arakwal) people have had a continuing association with the lands and waters around Byron Bay since the 'dreamtime'. Their stories and cultural traditions include the use of the land formation 'Walgun' (meaning 'shoulder') and the probable existence of a bora ring on the highest part of the headland where the lightstation was built. Preparation for the lightstation began in 1898 with the clearing of vegetation from the site. In 1899, a road was constructed from the Byron Bay Township and the cleared site was levelled.

Construction works commenced in July 1900 when the road was ready to convey building materials—some of which were brought by ship to the Byron Bay jetty and transported from there to the site by horse-drawn vehicles. The lightstation officially opened on 1 December 1901. Few changes occurred at the site during the first few decades, apart from improvements to the operation of the light itself, whose power was incrementally increased with innovations in technology. The site remained relatively stable and unchanged under the care of the lightkeepers whose daily routine included not only direct lighthouse duties but also maintaining and painting fences and the lighthouse. However, the concrete masonry walls of the cottages and outbuildings remained in their raw, unpainted until the 1960s.

Among the first changes at the site was the construction of horse stables at the southern end, near the present-day roadway entrance. Plans dated 1934 show the stables to be built in concrete block. However, for reasons now unknown, the stables were constructed as a timber framed, asbestos cement-clad building in 1935. The stables stood till approximately 1950 when a painted brick toilet block was built by Byron Shire Council on or near the same site.

Apart from technological changes at the site, such as the introduction of electricity in 1959, the changes that have had the most impact on the place in heritage terms have been made necessary by the steady growth in visitor numbers and the subsequent transfer of management to the Cape Byron Trust and creation of the Cape Byron Headland Reserve in 1988. In 1989 the care and maintenance of the lightstation precinct was transferred to the Cape Byron Headland Reserve Trust under a lease from the Commonwealth Department of Transport.

Since 1989, when the last Lightkeeper handed on the keys to the first manager of the Cape Byron Trust, the site has been progressively hardened in small incremental ways to withstand the rigours of high volumes of pedestrian and vehicular traffic. The changes have transformed the site from a place of relative isolation with a pervading industrial character, to a busy place with a strong tourism character. People visit the site by day and night in all seasons. Daytime visits are characterised by a constant turnover of vehicles and pedestrians—with most visits being of short duration.

In the past decade, works at the place have been directed towards conservation and improving its cultural tourism potential and visitor safety. Recent works include new fencing on the eastern precipice; kerbing and guttering to most of the sealed areas, with markings for car and coach bays; and the construction of a toilet block and a boarded access ramp below the north-western terrace; improved services; removal of accretions and maintenance works. In addition, the three cottages have been renovated for holiday letting, interpretation and commercial use.

Physical Description

The lightstation precinct occupies an area of approximately one hectare enclosed by fences. The site is partly grassed and partly paved with concrete and bitumen; it has minimal plantings of native and introduced species, mainly in the rear yards of the Assistant Lightkeepers' cottages and on the margins of the site.

The road to the site arrives at the southern end on the eastern side, and extends to the lighthouse at the northern end where it terminates at wooden bollards on the lighthouse forecourt. The road is sealed with black-top bitumen with concrete pedestrian paths along the eastern side of the main carriageway and across the cottage fronts. There are parking bays with lined markings for six vehicles at the entrance and nineteen in the centre between the cottages, plus one designated space on the main carriageway for coaches.

A concrete brick paved walking track rises up from the beaches at the northern end of the reserve, and meets the lighthouse precinct at the northern end beside the lighthouse.

Aerial photo of the lightstation (cropped)
Source: Lands Department. Copy provided by DECC.

Paving around the lighthouse is a mixture of brick and concrete pavers and bitumen, which abuts the original concrete paving at the site of the former signal mast on the southern side of the lighthouse. The major grade changes are retained by concrete crib-lock retaining walls in several locations.

Grass lawns are maintained outside the paved areas on the flat and gently undulating parts of the site. The fences are a combination of white-painted arris-top timber fences with three wire strands (on the precinct boundaries above the cliffs); cream-painted picket fences (to the cottage fronts); and unpainted and painted timber paling fences (providing privacy to the cottage rear gardens and work areas). No original fences survive in situ, although there is a single 250mm square post with a decorative top at the entrance to the site where the entrance gates were once located, and another is held in storage. There are no gates at the entrance to the site.

At the southern end of the precinct, there is a simple form of arris top fencing stained brown and with a chainwire balustrade carried on the horizontal squared top and bottom rails. Within the cottage yards, and around the lighthouse at the base of the former signal mast, there is concrete paving dating to the time of the lightstation's construction. The concrete footpaths along the eastern fence line and around the other structures outside the fence lines are modern.

There are five distinctive structures at the site—the lighthouse and the former signal house, Head Lightkeeper's quarters, workshop and paint store, and Assistant Lightkeepers' quarters—and several smaller outbuildings.

The lighthouse is the northernmost and predominant structure. It is constructed in pre-cast concrete block work standing on a foundation of mass concrete with a lantern room balcony and balustrade of pre-worked trachyte. The lantern room is a prefabricated iron structure with trapezoidal glazing and a copper roof, now sheathed with fibreglass. At the base of the tower there is a flat roofed pavilion with a crenellated parapet and octagonal corner tourelles and a projecting entrance porch. The whole structure is painted white with a skirting of naval blue paint. Nearby, there is a 3,000 gallon below-ground tank with thick walls of mass concrete.

The former signal house is a small distinctive cube-shaped building with a projecting domed roof, an entrance doorway and a small window. It is a concrete block structure like the lighthouse with the same details. The former Head Lightkeeper's quarters is the large single-storeyed detached house standing at the centre of the precinct and also built in concrete block work with a hipped gable terra cotta tiled roof. It has verandahs, concrete paving and picket fencing on the east and south sides.

Aerial photos of the lighthouse (left) central southern parts of the Lightstation Precinct c. 2003
Source: Ashley Wilmont. Copies provided by DECC.

The small former workshop and paint store is located at the centre of the sealed roadway at the mid-point of the long narrow precinct.

Towards the southern end of the site, the former Assistant Lightkeepers' quarters are constructed in the same style and general appearance as the Head Lightkeeper's Quarters. Each 'cottage' has a former detached fuel store with a gabled roof; an external water closet with a low-pitched roof behind parapets; a concrete underground water tank; and extensive paving extending around the entire building. The fenced yard of the southern cottage is a clear area of lawn. The northern cottage has mixed exotic and native shrubs in the back yard.

There are several other distinctive features at the site including a set of steps to the lighthouse terrace from the road, on the route from the cottages to the lighthouse, which appear to be as constructed although showing signs of repairs throughout the years.

Toilets have been constructed recently at the north-west corner of the former Head Lightkeeper's quarters below the grassed terrace. A gently graded boardwalk and steps with polished stainless steel railings provides access suitable for people with disabilities from the main precinct area to these toilets.

Condition

The condition of the lightstation precinct is sound. The buildings and grounds are maintained well. The following aspect of condition is highlighted for rectification.

- A number of inappropriate plantings have been identified in the Landscape Overview. They should be removed in accordance with the directions provided.

Integrity

The integrity of the Lightstation is moderate to high. The structures and principal site features of the 1899 plans are intact and in near authentic condition. Over the past decade there have been concerted attempts to conserve the precinct and to upgrade the condition of the structures and services. As a result the place is now in good overall condition.

The following aspects of loss of integrity, which are relatively minor, are nevertheless highlighted.

- The site boundaries as defined by the fence lines, on the western side of the precinct, are not as originally designed and built. The original block plan and early photographs illustrate a rectilinear arrangement of fences, whereas the fence lines now follow the site contours to some extent.
- The hard surface carriageways and footpaths. Including kerbs, gutters and designated parking bays are newly-introduced and to some extent out of character with the heritage values of the lightstation precinct.

- The modern fences are built to modern standards and in locations that are not fully consistent with the original fence lines and construction details.
- The treated pine bollards beside the lighthouse are not consistent with other fences.
- Modern introduced elements such as the garages, communications tower and equipment, ramp to toilets (outside precinct), recycling and garbage bin station, stainless steel handrails to steps and drinking fountain are not consistent with the original design features.

Inventory Survey Date

2008. Survey undertaken by D. Ellsmore and P. Marquis-Kyle.

STATEMENT OF SIGNIFICANCE

Previous Assessments

Studies undertaken by Pratten and Irving (1991 and 1997), Clive Lucas Stapleton and Partners (1993) and Graham Brooks and Associates (2001).

Current Heritage Recognition

Commonwealth Heritage List and Byron Shire Local Environment Plan.

Comparative Significance

The Cape Byron Lightstation is not only outstanding in the group of comparable places, but also well represents the consistent quality and durability of all the lightstations in that group.

Assessment against NSW Heritage Criteria

Criterion a: The Cape Byron Lightstation is of high historical and contemporary cultural value to the traditional owners and the wider community due to its ongoing associations and importance as a former ceremonial place, a viewing place, and an element in dreaming stories of the Arakwal cultural landscape. Construction of Lightstation in 1899-1901 was an important component of the final pre-federation phase of development in coastal navigation aids; it largely completed the basic set of lighthouses that was to remain in service through the twentieth century—an important step in the development of a state-wide system of coastal navigation, completing the continuous chain of coastal highway lights along the length of the New South Wales coast.

Criterion b: The construction of Cape Byron Lightstation is directly associated with Charles Harding, acknowledged as the first and only specialist lighthouse architect in NSW, and his Engineer-in-Chief, Cecil Darley.

Criterion c: Cape Byron Lightstation has notable aesthetic values relating to its setting and location. The lightstation exemplifies handsome, competent architectural design with high aesthetic values. The lighthouse tower and Lightkeepers' quarters represent an early application of precast concrete units, in an evolutionary development from previous mass concrete lighthouse towers and quarters.

Criterion d: Cape Byron, and the site of the Lightstation, has very high significance for the traditional owners, the Bundjalung of Byron Bay (Arakwal) people, and the wider Bundjalung nation. The place has considerable contemporary social value as the most highly visited tourism site in non-metropolitan NSW and the most highly visited lightstation. It is well known as a key whale-watching spot, and as a vantage point for sighting rays, sharks, turtles, oceanic seabirds and dolphins. The lighthouse is a widely known and potent community symbol.

Criterion e: The potential archaeological resources of the Cape Byron Lightstation Precinct have moderate potential to contribute to our understanding of the site in relation to its Indigenous use and material history.

Criterion f: The Cape Byron Lightstation Precinct is unusual in its intactness. It is rare in having technical attributes that are uncommon and unique.

Criterion g: The lightstation is representative of a group of lightstations built between 1899 and 1903 using the precast (on-site) concrete block method of construction.

Statement of Significance

The Cape Byron Lightstation Precinct is significant because of its:

- historical significance as an important element in the establishment of critical navigational aids along the New South Wales coast, and its association with Australian east coast shipping since the beginning of the twentieth century
- significance to the traditional owners, the Bundjalung of Byron Bay (Arakwal) people, who have a strong cultural and spiritual relationship with the place as a fundamental element of their heritage, dreaming stories and Country, and for its vital contemporary Arakwal community role
- outstanding aesthetic and adjacent natural values; it is dramatically located on the top of a high windswept cliff on Cape Byron—a place of great beauty—where it is a dominant landscape feature free of modern intrusions
- technical and historic significance as an unusually intact and representative example of an important class of lightstations, and its continuing use as a functioning lightstation
- considerable contemporary social and community values for the local community, the wider community, and internationally—the precinct is significant for tourism and has a high level of recognition in the public imagination. It is well known as a key whale-watching spot and vantage point for viewing seabirds and other marine vertebrates, and affords unrivalled views of the coastline and the dramatic hinterland
- historical, scientific and cultural 'firsts'
    - the Cape Byron Lighthouse was one of the first in Australia to have a mercury float mechanism, its *feu éclair* (lightning-flasher) lens system was the first to be installed in a NSW lighthouse, and the optical apparatus is the only example made by the important French maker Henry-Lepaute
    - the Cape Byron Lightstation is a pioneer example of the NSW Public Works Department's concrete masonry structural scheme of the period
    - the Cape Byron Lightstation Precinct is jointly managed by traditional owners, the Bundjalung of Byron Bay (Arakwal) people, through the Agreement in 1997 and the Arakwal Indigenous Land Use Agreement. [1]
- Indigenous and historic archaeological features that have the potential to add to our knowledge, particularly in regard to the Indigenous use of the site, and the lives of those who resided there.

CONSERVATION POLICY

The aim of the conservation policies is to support the long-term conservation of the Cape Byron Lightstation Precinct, inform its day-to-day management, and ensure continuing best practice in management of its cultural heritage values

Conservation Policy Issues

The Bundjalung of Byron Bay (Arakwal) people are involved in management of the place and through their involvement no damage or offence to Aboriginal cultural values should occur.

The setting of the Cape Byron Lightstation Precinct is exceptionally important. The conservation of this setting requires a balanced but determined approach to ensure that new construction, demolition or other changes would not have any adverse impacts on the setting of the Lightstation. Conservation of the natural values requires the replacement of some existing inappropriate and problematic plantings with plant species from locally important, low growing communities that, at the same time, maintain the panoramic views.

[1] This approach to managing the shared heritage of the lightstation and the Cape Byron Headland Reserve has been internationally recognised as a best practice model, through the award of the prestigious Fred M Packard International Parks Merit Award, at the 5th World Parks Congress of the International Union for the Conservation of Nature, in Durban in 2003.

The high significance of design, built form and fabric of the Lightstation demands that the original design should be a foremost consideration in the management of the structures, including any new structures. The precinct layout was carefully planned to give prominence to the lighthouse by placing it at the highest point with clear unobstructed views between each of the site structures for functional reasons.

While the precinct is not well lit at night, illumination is required for visitor safety, including for special events and should be installed. The tower and subsidiary structures should not be illuminated—the only light that should be prominent should be the light itself. The reinstatement of fences and gates to their original detailing should continue as a means of recovering the integrity of the original design. In general changes should only be made if they are critically necessary for the ongoing viability and use of the Lightstation and no changes should be made that would have the potential to damage the heritage values.

The precinct was originally built as a single operational working site; for safety reasons it was traditionally a fairly uncluttered functional site with the lighthouse as the principal workplace. The Lightkeepers' quarters were enclosed by fences to provide privacy and enclosure; the character of the quarters was domestic, quite different to the functional areas around the lighthouse. This character should be retained.

An Archaeological Zoning Plan prepared in 2008 for the site provides specific direction for the management of potential archaeological resources in the precinct.

The impacts of traffic on the amenity of the site are substantial. Large numbers of tourists and local people visit the site by cars, coaches, minibuses and motorbikes and the impacts on the visual amenity, site congestion, noise, and inconvenience to others is substantial.

The precinct has only one access road and two small parking areas – not enough to cope with peak demand. Pedestrians access the site in numbers at all hours of the day and night. They arrive via the road and footpaths at the southern end of the precinct, or via the walking track from Wategos.
It is felt that the removal of non-essential vehicles could have potential benefits for the amenity of the place.

The removal of private motor vehicles at least could only happen if a suitable alternative means of access could be provided. Alternatives should be investigated fully.

The enhancement of short stay facilities at the site by providing new refreshment facilities and appropriately placed rest stops for visitors would assist further in improving the visitor experience. A whole-of-site, carefully considered, approach to interpretation would also enhance the visitor experience. In particular the aboriginal cultural significance needs to be explained better through more interpretive activities, for example conducted by the Aboriginal education guides and by conventional interpretation panels and signage.

Recommended Conservation Policy

General

Policy 1 The Cape Byron Lightstation Precinct, a place of outstanding to high cultural heritage values, should be conserved through sound conservation practices to ensure its values are sustained for current and future generations.

Policy 2 This plan should be adopted by Cape Byron Trust, DECC (Parks and Wildlife Group) and DEP (Heritage Branch) as the NSW Government's policy framework for conservation of the Cape Byron Lightstation Precinct.

Policy 3 The Cape Byron Lightstation Precinct should be managed in accordance with its high cultural heritage significance; its cultural heritage values should be conserved and clearly interpreted.

Policy 4 The Cape Byron Lightstation Precinct should be managed as a cultural tourism destination and its Indigenous and post-contact values should be explained and interpreted to the widest possible audience.

Policy 5 All decision-making and implementation of works and other activities should be guided by the conservation philosophy, principles, processes, practices and guidelines provided in the *Burra Charter*.

Aboriginal cultural significance

Policy 8 The Bundjalung of Byron Bay (Arakwal) people, through their involvement on the Cape Byron Trust, should continue to be consulted on all developments at the place, including the impact of any proposed changes on Aboriginal cultural values and their interpretation.

Policy 16 No new structure should be built at the Cape Byron Lightstation Precinct that would be visually intrusive when viewed from a distance, or that would adversely impact on views from the Lightstation.

Landscape and vegetation

Policy 19 No new landscape elements should be introduced that would visually overwhelm or detract from the essentially barren or open character of the Lightstation, or that would shield the place from view.

Policy 20 The incursion of vegetation that could impact on the essentially barren or open character of the Lightstation and the views to and from it should be avoided.

Policy 21 The inappropriate plantings in the yards of the Head Lightkeeper's quarters, northern and southern Assistant Lightkeepers' quarters and about the toilet walkway should be removed and replacement plantings should be primarily confined to ground cover and shrub or heath species of high conservation value and significant to the Arakwal people.

Policy 22 No new landscape elements should be introduced for which there is not an historical precedent or interpretative relevance.

Policy 23 Weed species should be removed, and a weed control program implemented focused on invasive or environmental weed species.

Integrity of original design, built form and fabric

Policy 25 The functional character of the Cape Byron Lightstation Precinct as a place of work, and the original form of the lighthouse within an integrated and integral set of structures in relation to that function, should be preserved.

Policy 27 Any proposed additions or alterations to buildings should respect the pavilion forms of existing structures and be subservient to them in form, style, texture and colour.

Policy 28 The historic layout of the roads and fences should be preserved with the precinct kept as an uncluttered space defined by open perimeter fences and without any new enclosing structures or screenings—unless changes are required to meet identified public safety needs, and are planned and executed as part of the Maintenance Plan.

Policy 31 The formal, industrial and functional character of the common areas of the precinct should be preserved; no ornate plantings, hoardings, over-use of signage, clutter, or structures unrelated to this character should be permitted, except for the rear of the Assistant Lightkeepers' quarters and their yards that should retain a domestic setting different from the common areas, and with fences separating the domestic yards from the common areas.

Policy 32 The increased hardening of the site that has occurred over time should not be allowed to confuse or hide the core significance of the place as a functional lightstation, or its fundamental characteristics.

Policy 33 Illumination at the site should be provided to ensure visitor safety and should be in keeping with the functional character of the place; however, no illumination should be directly on the tower or structures—the only light that should be visible from below the precinct should be the light itself.

Conservation of built fabric

Policy 34 The fabric of the various built elements of the Cape Byron Lightstation should continue to be maintained using the most appropriate materials and techniques consistent with the high standards employed in the original construction and in line with the Maintenance Plan.

Policy 40 All services at the place should continue to be maintained in a sound and safe condition in line with the Maintenance Plan.

Maintenance and replacement of services, fences, paths and roads

Policy 41 New services should be introduced only if they are needed to support existing uses, and their inclusion is consistent with the aims of conserving the place.

Policy 42 Wherever possible, services should be located underground; however, services that replicate the original services could be located above ground for interpretation purposes, provided their form and location is consistent with the aims of conserving the cultural heritage values of the Lightstation.

Policy 43 All fences and gates at the Lightstation should be maintained in a style and condition consistent with the original drawings and as shown in photographs taken around the time of opening of the Lightstation—unless changes are required to meet identified public safety needs or are required in areas where no fences existed previously, and are planned and executed as part of the Maintenance Plan.

Policy 46 The use of bright stainless steel railings on stairs and ramps should be reviewed with a view to eliminating bright metal finishes that are inconsistent with the original character of the place.

Policy 47 No new roads should be created at the Lightstation.

Policy 49 Any replacement road surfaces and paths should relate more closely to the traditional gravel and honey-coloured aggregate rich bitumen surfaces that appear in the photographs of the 1960s.

Policy 50 Concrete kerbs and gutters should be considered for removal from the site, except where they have a vital function in preventing erosion and managing storm water.

New works and extent of change

Policy 55 New works should be planned to be subservient to the original Lightstation structures and other features of high significance.

Archaeological significance

Policy 61 The Cape Byron Trust should adopt the *Archaeological Zoning Plan* and its provisions.

Policy 62 There should be no avoidable disturbance of known or potential archaeological resources (areas located within Zones A and B in the *Archaeological Zoning Plan*). When archaeological resources are encountered unexpectedly, works should stop immediately and the Culture and Heritage Division of DECC should be notified.

Movable heritage and museum displays

Policy 64 The Cape Byron Trust *Collections Policy* should guide all actions regarding movable heritage items at the Lightstation; it should be reviewed to ensure it is congruent with relevant provisions of this plan.

Traffic management and methods of site access

Policy 80 Further changes to the existing roads and paths should be incrementally undertaken to return them to a form and condition that existed at the site in the 1960s, for example by removing kerbing and guttering and hard stand areas subject to any needs for stormwater management.

Future use

Policy 101 The Cape Byron Lightstation should continue to be used as a Lightstation to the extent that the light should continue to function and all necessary ancillary resources should be retained at the site.

Recommended Policy Strategy

The clear priority in the management of the lightstation precinct is to manage it in accordance with its high values as they are established in the Conservation Management Plan. This does not require any radical departure from current management practices which have been good throughout the history of the place and very good in recent years. Nevertheless, there was a period from the 1960s to the 1990s when the popularity of the site and the high numbers of visitors going to it outstripped the ability of the Commonwealth and the then Trust and NPWS to apply resources to a level necessary to maintain the place in sound condition. However, in the past decade or more the application of financial and professional resources and the works undertaken there have brought the lightstation precinct back to a sound condition. The immediate challenge is to sustain it under the ongoing pressure of high levels of visitation.

The practice of using external specialist resources should continue. Where it is necessary in the future to obtain professional advice to research needs, establish conservation strategies, plan works or undertake works, the advice should be sought. If it is found that future advice is in any way inconsistent with the policies and recommendations in the CMP then the issues should be discussed and resolved and, if necessary the CMP should be amended. If new or conflicting information is revealed by further research this should also be the subject of discussion and, if necessary, the CMP should be amended.

A small number of works to parts of the lightstation precinct are recommended for consideration by the Cape Byron Trust. They include new facilities for visitors and interpretation works. None of them are urgent or essential but they are proposed because of their potential to improve the visitor experience. They are explained in the inventories for the Lighthouse Precinct, Central Precinct and Southern Precinct.

Some relatively minor works are proposed also to remove intrusive and inappropriate elements from the site. These elements have been introduced in recent times and they are considered to impact adversely, although not to a great extent, on the core significance of the place. They too are explained further in the inventories for the Lighthouse Precinct, Central Precinct and Southern Precinct.

At the same time, steps should be taken to reduce the overall impact of the roads, paths and concrete paved surfaces at the site. The visual impact on the heritage values is not acceptable. Steps need to be taken now to diminish these impacts, starting with the removal of the hard stand car parking areas. This aspect can only be achieved by removing all private motor vehicles from the site, so is contingent on that. The policies and recommendations in the CMP provide some direction on the ways and means of achieving this. Some of the details are explained in the inventories for the Lighthouse Precinct, Central Precinct and Southern Precinct.

Recommended Strategy Implementation

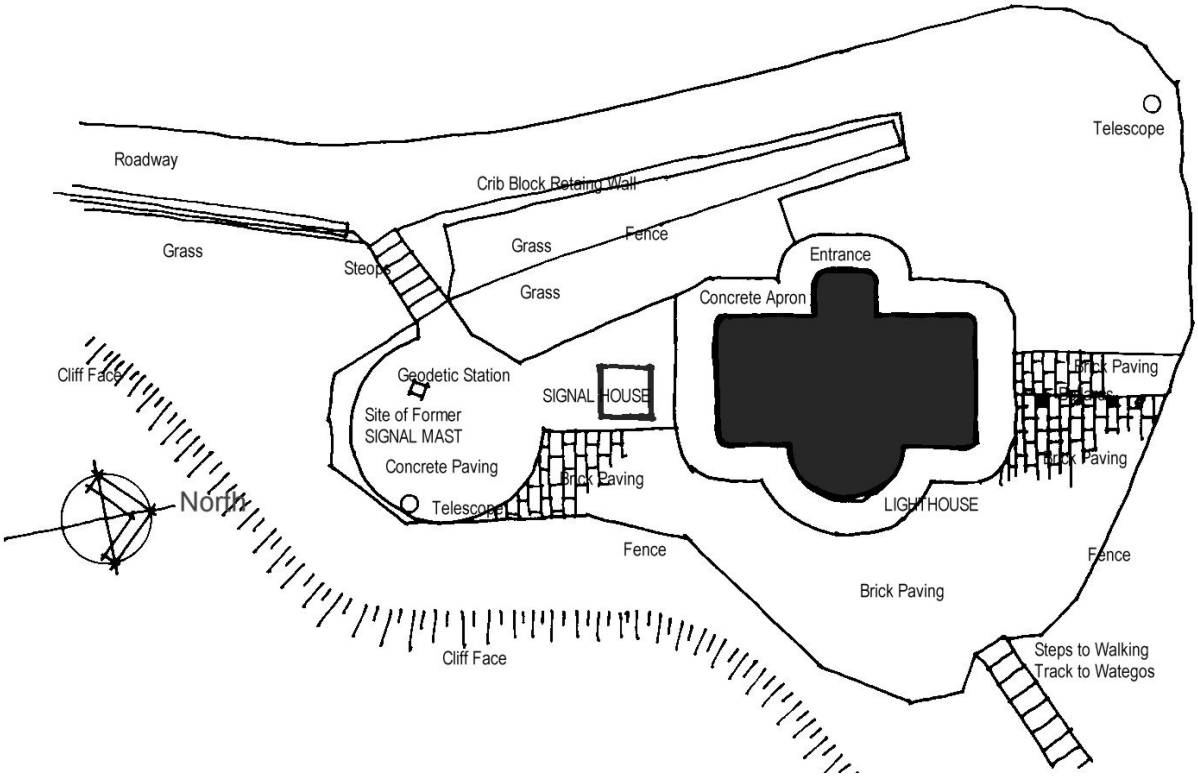
Strategies for the implementation of recommendations above are explained in some detail in the inventories for the Lighthouse Precinct, Central Precinct and Southern Precinct. Strategies that are more general for the whole of the Cape Byron Lightstation Precinct include

- investigating the alternative means of access to the site with a view to removing private motor vehicles within, say, ten years
- upgrading night lighting by means of discrete low-level lighting to paths and the exterior verandahs to increase night safety and security
- incrementally replacing over time all paved surfaces to remove the harsh black-top bitumen and stark white concrete paths and kerbs
- removing the treated pine bollards from the site.

SITE NAME & TYPE	**CAPE BYRON LIGHTHOUSE**
Place Number	**Inventory 2**
Place Name and Former Names	Cape Byron Lightstation
Type of Place	**Built Heritage**
Associated Items	**Cape Byron Headland Reserve**

LOCATION

Site Location



Plan of Lighthouse Precinct showing Lighthouse shaded.
Source : Ellsmore 2008

DESCRIPTION

Construction Date 1900–1901

Modifications

1905	Occulting machinery removed from light
1914	6-wick burner converted to vaporised kerosene
1922	3-mantle incandescent kerosene burner installed
c. 1945	Windows in lighthouse pavilion altered
1959	Light converted from kerosene to electricity
1983	Apron of concrete pavers laid around lighthouse
1985	Direct-drive motor installed
1986	Light extinguished manually for the last time
c. 1990	AMSA refurbished lighthouse pavilion roof with fibreglass

Historical Description

The Bundjalung of Byron Bay (Arakwal) people originally occupied the area that includes the site of the lighthouse. Preparation for the construction of a lightstation on the site began in 1898 with the clearing of vegetation. The lighthouse was designed in 1899 by Charles Harding, Architect-in-charge of lighthouse design, under the direction of Cecil Darley, Engineer-in-chief of public works in NSW. The design was a new standard involving the use of concrete block masonry. The blocks were cast at the site using aggregate mined nearby.

In 1899, a road was constructed from the Byron Bay Township, and the cleared site was almost completely levelled by December 1899. A contract was let on 29 May 1900 for construction of the lighthouse.

Construction works commenced in July 1900 when the road was ready to convey building materials—some of which were brought by ship to the Byron Bay jetty and transported from there to the site by horse-drawn vehicles. The lightstation officially opened when the light was exhibited on a regular basis for the first time on 1 December 1901.

Since then, a small number of changes have been made to the lighthouse, mainly to increase the power of the light provided for by innovations in lighting technology.

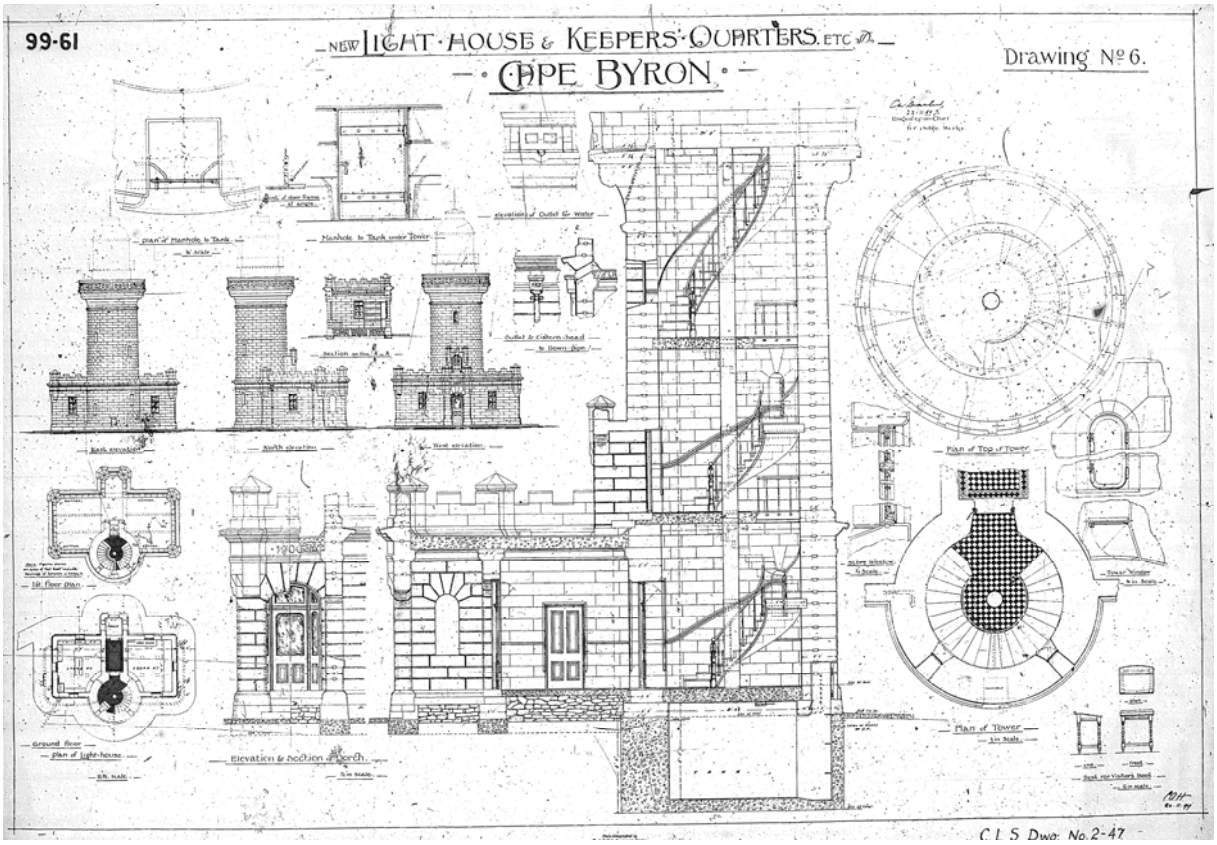
View of the Lighthouse from the south west
Source: Ellsmore 2008

Following electrification in 1959 the number of lightkeepers was reduced from 3 to 2. The light was extinguished manually for the last time on 10 December 1986. The lighthouse was de-manned in 1989 when the lightstation was transferred to the Cape Byron Headland Reserve Trust. The last Lightkeeper handed on the keys to the first manager of the Cape Byron Headland Trust in October of that year. In 1997 ownership of the site transferred back to the State of NSW. At that time the Australian Maritime Safety Authority (AMSA) entered into a lease regarding their continued use of the

lighthouse. AMSA, in turn, granted a licence to NSW (DECC) to enable the Trust to conduct tours and, more recently, operate a maritime museum in one room of the lighthouse.

Physical Description

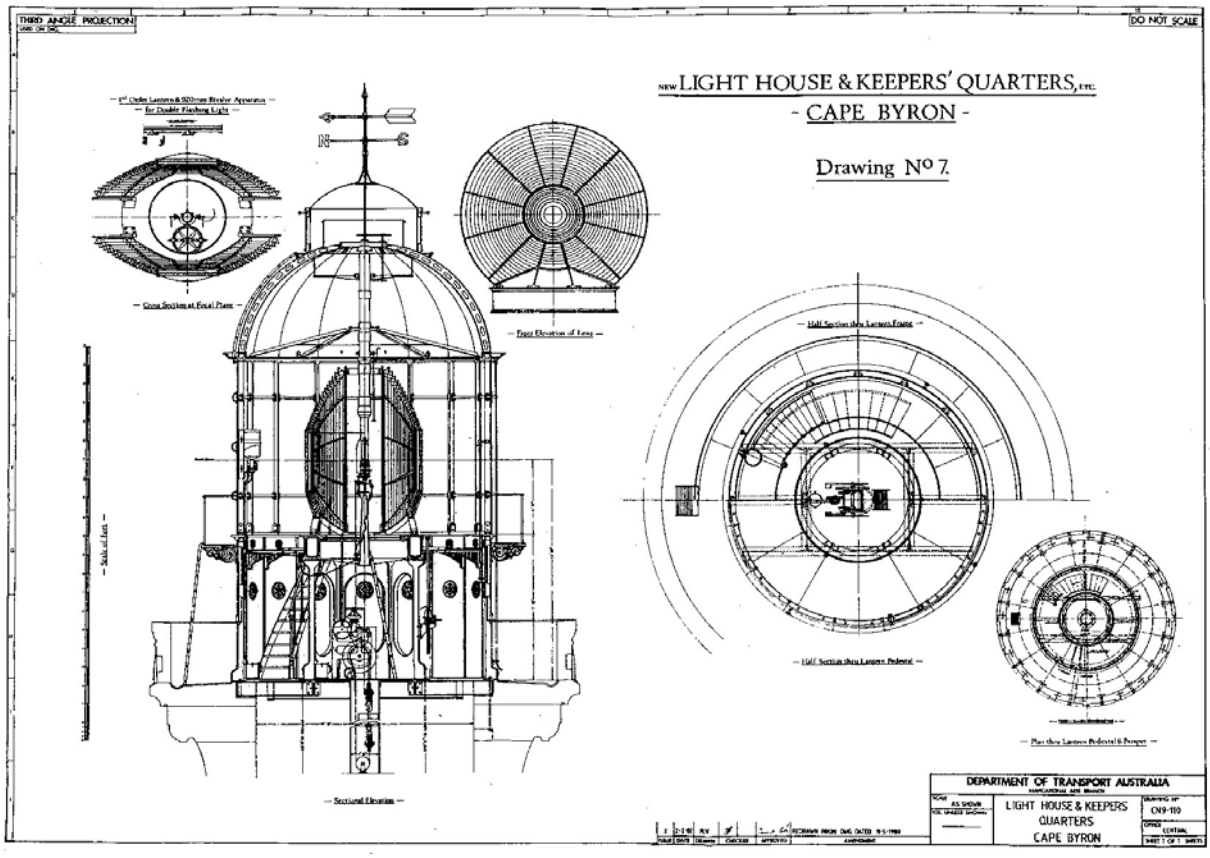
The lighthouse occupies the highest part of the lightstation site, at the northern end. The design of the lighthouse is a standard that was produced by Charles Harding in 1899 – the second of three that were built. The style is classical revival and modelled on, though not attributed to, Francis Greenway's 1818 design for the Macquarie Lighthouse. It has a medium sized circular tower and a symmetrical pavilion at the base.



Plans of the Lighthouse 1899
Source: NAA A10182/2 CN02047

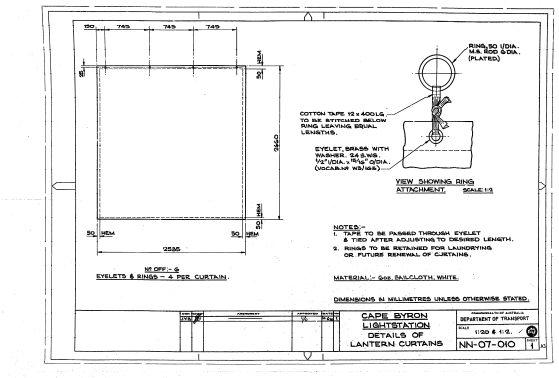
The lantern room is a standard unit produced by Chance Bros of Birmingham. It comprises a cast iron barrel formed base composed of curved panels of cast iron bolted together. The curved glass window panes above are framed in cast iron which also carries the dome-shaped copper roof of the lantern on an armature of cast iron radial ribs. The copper roof sheeting of the dome has been sheeted over with fibre glass. A drum-shaped ventilator on the domed roof carries a weather vane connected by spindle and gears to an internal pointer displaying the wind direction.

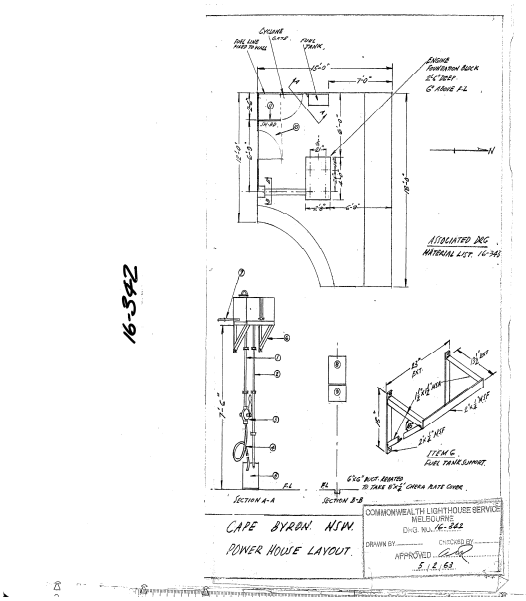
The lantern is equipped with standard interior and exterior cast iron galleries and catwalks for maintenance of the lantern and glass. It has an external roof gutter formed in cast iron, an internal drip tray to catch condensation, and a curtain rail.



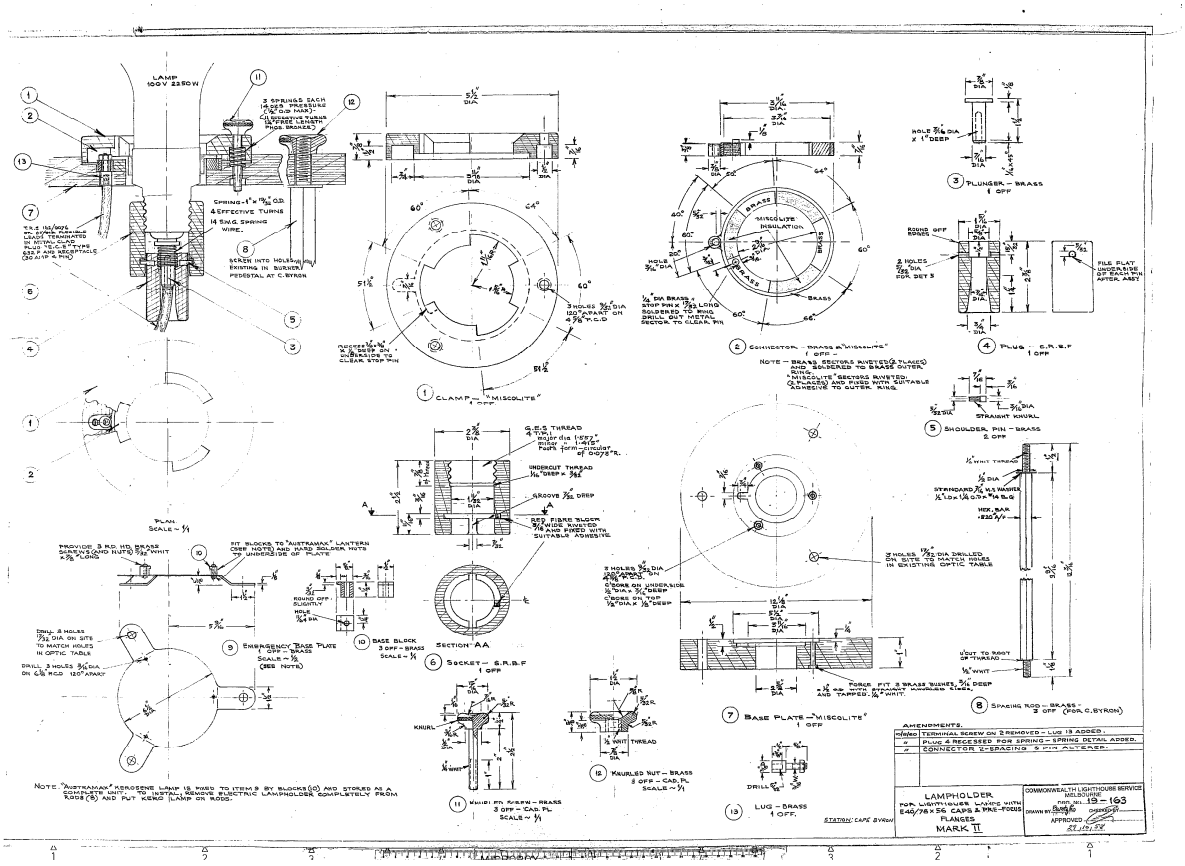
Plans of the Lantern of the Lighthouse 1899
Source: Australian Archives A10182/2 CN02047

The optical apparatus of lenses and lamp are mounted on a cast iron pedestal that contains a mercury float tank in which the 1st order optical apparatus rotates. The apparatus is the only one made by Henry-Lepaute that operates in Australia. It comprises two single-flashing assemblies of Fresnel central lenses and surrounding prisms set in gunmetal frames. The 1,000W-120V tungsten halogen lamp and UVLA 590 lamp charger are mounted on the original cast iron pillar. The whole assembly is rotated by an electric motor and gearbox that replaced the original clockwork mechanism.





Plans of Lighthouse lantern curtains 1940 (above) and Powerhouse layout 1963 (right)
Source: AMSA 2006



Plans of the lampholder details the electric lamps 1959
Source: AMSA 1952

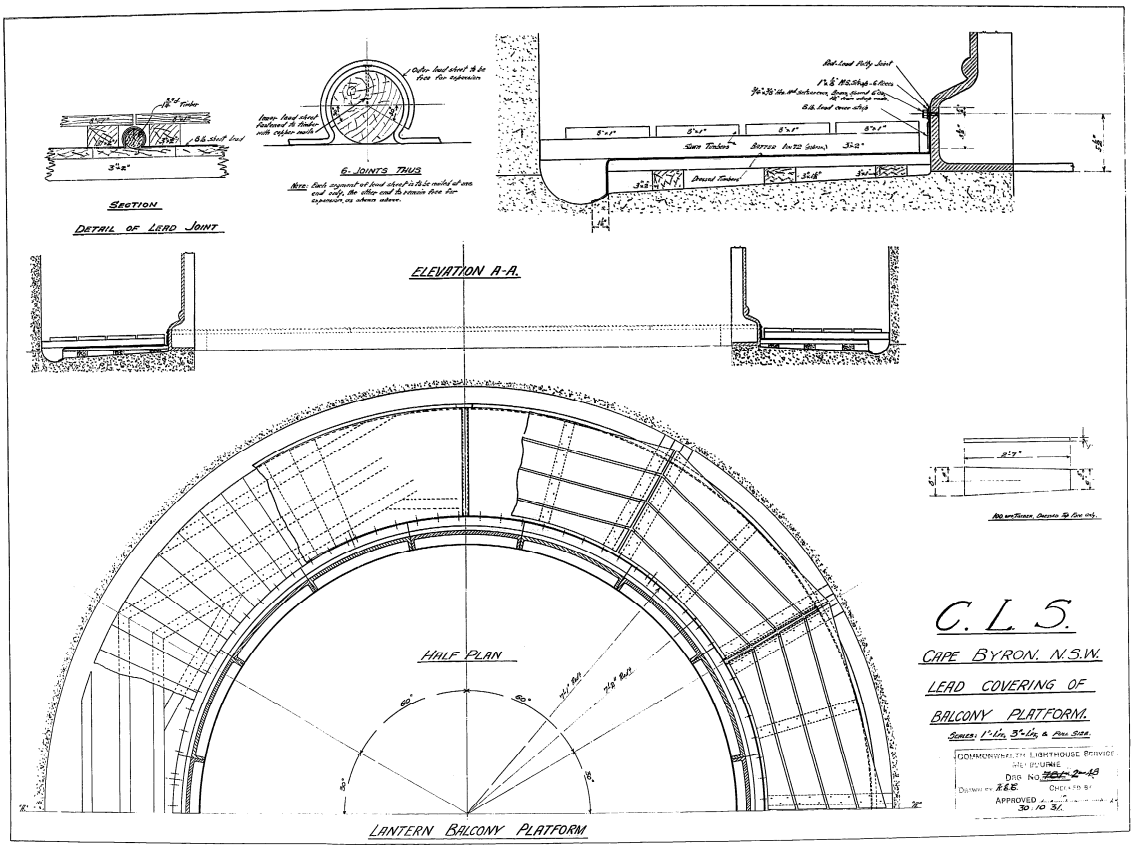
The floor of the lantern room is an integrated cast iron platform made up of cast iron segments bolted together. The balcony outside is formed in mass reinforced concrete which also forms a cornice to the tower. The tower is a block concrete masonry structure. The balustrade to the tower is formed with carved panels of trachyte. Waterproofing of the balcony was achieved originally by means of a topping membrane of Val-de-Travers bitumen that drained to a perimeter gutter which spilled to the exterior through small openings and drip formations in the trachyte balustrade panels.

Views of the mid landing (left) and entrance pavilion roof (right) of the Lighthouse
Source: Ellsmore 2008

The tower is a tapered cylinder constructed in precast (site-cast) concrete blocks that are individually shaped to accommodate the taper and formed with recessed arrises that create deep incised joints in the assembled masonry. The interior of the tower is plain. It is lined with solid, cement rich plaster that is finished with lightly incised ashlar joints and painted. A recent attempt to remove the heavy build-up of paint from the inside face wall of the tower has exposed underlying paint including red

and white lead pigments. Most of the other surfaces within the upper portion of the tower are plain (concrete, cast iron, brass etc) and most are painted.

Semi-circular headed window openings in the tower are filled with plain glass set in cast copper alloy sashes and frames.



Plans for lead covering of balcony platform 1931
Source: AMSA 2006

There is a large water tank below the tower that is accessed via a doorway and manhole with a cast iron door at the base of the tower on the eastern side. The whole of the tower and base pavilion is painted white with a blue painted skirting plinth.

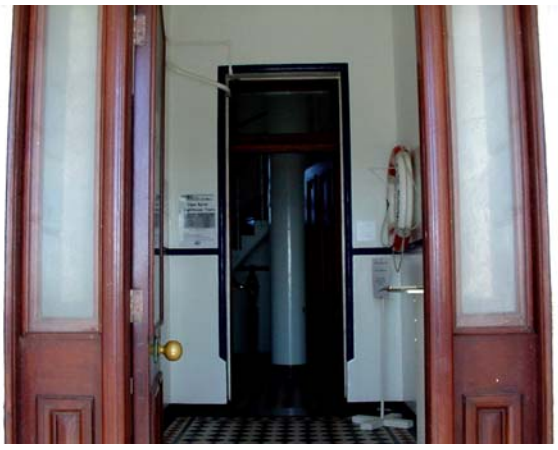
The pavilion at the base of the tower is rectangular in plan intersecting on the long, eastern side with the circular tower. The pavilion, like the tower, is constructed in precast concrete block masonry which finishes in a crenellated parapet that conceals a flat concrete roof behind that is finished with a bitumen membrane like the tower balcony above. The corners of the pavilion are decorated with squat tourelles rising above the line of the parapet. A small portico in the centre of the western, long face of the pavilion is also decorated with squat tourelles at the corners. The floor level of the pavilion is higher than the surrounding ground. It is reached by four steps at the entrance to the portico.

The pavilion contains a pair of rooms flanking a hallway that connects the entrance portico to the circular room at the base of the tower. One of these rooms contains a maritime museum and the other contains back-up power generation equipment. The interior walls of the entrance portico, hallway and rooms are finished with solid plaster. The walls have incised mouldings at the doorways and at the tops of the dados. They have run cement skirtings and decorative cornices at the junction with the ceilings. The ceilings are formed by the undersides of the concrete roof slabs. They are painted plain.

Views of the entrance to the pavilion (left) and door to manhole access to water tank (right)
Source: Ellsmore 2008

The cedar joinery throughout is well detailed with strong mouldings. The entrance doorcase features deep bolection moulded panels and etched and decorated glass. The doors and frames are finished clear. The plain double hung windows are painted.

The floor of the entrance hallway is finished with chequer pattern black and white tiles and border of red and white tiles. The tiles carry through into the circular room at the base of the tower at the centre of which the cast iron weight tube is located. The circular weight tube carried the weights and mechanism that was connected to the cogs of the clockwork mechanism that was located in the lantern room to rotate the optical apparatus. The clockwork mechanism is now displayed on the floor of the room where the visitor desk is also located (see Inventory 9: Moveable Heritage Items).




Views of entrance hallway (left) and floor of the base room of the tower of the Lighthouse (right)
Source: Ellsmore 2008

A spiral stairway formed in cast concrete with a wrought iron railing rises on the inside face of the tower from the ground floor on the north-east side to the lantern room via one intermediate level where the red sector light is located at the north facing window.

Condition

The condition of the lighthouse is sound. The exterior has been painted regularly to maintain the fabric and its condition is generally sound. The interior is also sound. The following aspects of condition are highlighted for rectification.

- The heavy build-up of paint, including recent applications of impervious synthetic medium paint, is causing the masonry to retain water which is causing the paint film to bubble in places. The paint film should be reduced by removing the top layers of paint.
- The outlets to the balcony floor are unlined. This allows water-borne salts to accumulate in the trachyte masonry in the zones of the outlets. The outlets should be lined with an impervious lining material.
- Where the joints in the trachyte masonry have been eroded by salts the joints need to be re-pointed with lime putty mortar or suitable alternative.
- The partially-removed painted inner wall surfaces of the tower require attention to stabilise the remaining paint to prevent red lead and white lead pigments contaminating the interior. A clear consolidant such as Paraloid B72 (clear acrylic resin) might be applied.

Integrity

The integrity of the lighthouse is high. The structure is intact and mostly in authentic condition. The following aspects of loss of integrity, which are relatively minor are nevertheless highlighted.

- The clockwork mechanism has been relocated within the tower.
- The removal of paint from the internal walls of the tower has created a distorted view of the surface finish.
- The heavy build-up of paint on the exterior and the blue skirting at the base of the exterior is impacting adversely on the fine detailing of the concrete masonry.

Inventory Survey Date

2008. Survey undertaken by D. Ellsmore and P. Marquis-Kyle.

STATEMENT OF SIGNIFICANCE

Previous Assessments

Survey undertaken for AMSA by P. Marquis-Kyle, 18 May 2006.

Current Heritage Recognition

Commonwealth Heritage List and Byron Shire Local Environment Plan

Comparative Significance

The Cape Byron Lighthouse is not only outstanding in the group of comparable places, but also well represents the consistent quality and durability of all the lightstations in that group.

Assessment against NSW Heritage Criteria

Criterion a: The Cape Byron Lightstation is of high historical and contemporary cultural value. Construction of Lighthouse in 1900-1901 was an important component of the final pre-federation phase of development in coastal navigation aids; it largely completed the basic set of lighthouses that was to remain in service through the twentieth century - an important step in the development of a state-wide system of coastal navigation, completing the continuous chain of coastal highway lights along the length of the New South Wales coast.

Criterion b: The construction of Cape Byron Lighthouse is directly associated with Charles A Harding, acknowledged as the first and only specialist lighthouse architect in NSW, and his Engineer-in-Chief, Cecil W Darley.

Criterion c: Cape Byron Lightstation has notable aesthetic values relating to its setting and location. It can be seen from a great many vantage points in the local area and from a great distance. The aesthetic delight of the lantern, derived from observing the large spinning mass of crystal glass lenses and prisms in their bronze frame, is almost without equal. The lens is among the most beautiful to be seen in Australia. The lighthouse exemplifies handsome, competent architectural design with high aesthetic values. Its architectural forms and details are evolutionary developments built on lessons from earlier examples. The lighthouse tower and Lightkeepers' quarters represent an early application of precast concrete units, in an evolutionary development from previous mass concrete lighthouse towers and quarters.

Technically, the Lighthouse exemplifies the sophistication of lighthouses at the time, incorporating the most advanced technology including the first-order rotating lens and mercury trough pedestal

Criterion d: Cape Byron, and the site of the Lighthouse, has very high significance for the traditional owners, the Bundjalung of Byron Bay (Arakwal) people, and the wider Bundjalung nation. It is a viewing place, from where Arakwal Country can be seen including many important spiritual and dreaming sites; in turn, the precinct itself can be viewed from many other parts of Arakwal Country.

The Lighthouse has considerable contemporary social value as the most highly visited tourism site in non-metropolitan NSW and the most highly visited lightstation. It is well known as a key whale-watching spot, and as a vantage point for sighting rays, sharks, turtles, oceanic seabirds and dolphins. The lighthouse is a widely known and potent community symbol.

Criterion f: The Cape Byron Lighthouse is unusual in its intactness. It is rare in having technical attributes that are uncommon and unique—the mercury float pedestal was the one of the first of its type to be installed in an Australian lighthouse, and the optical apparatus is the only example made by the important French maker Henry-Lepaute.

Criterion g: The lighthouse is representative of a group of lighthouses built between 1899 and 1903 using the precast (on-site) concrete block method of construction.

Statement of Significance

The Cape Byron Lightstation Precinct is significant because of its:

- historical significance as an important element in the establishment of critical navigational aids along the New South Wales coast, and its association with Australian east coast shipping since the beginning of the twentieth century
- outstanding aesthetic and adjacent natural values; it is dramatically located on the top of a high windswept cliff on Cape Byron—a place of great beauty—where it is a dominant landscape feature free of modern intrusions
- technical and historic significance as an unusually intact and representative example of an important class of lightstations, and its continuing use as a functioning lightstation
- considerable contemporary social and community values for the local community, the wider community, and internationally—the precinct is significant for tourism and has a high level of recognition in the public imagination. It is well known as a key whale-watching spot and vantage point for viewing seabirds and other marine vertebrates, and affords unrivalled views of the coastline and the dramatic hinterland
- historical, scientific and cultural 'firsts'
    - the Cape Byron Lighthouse was one of the first in Australia to have a mercury float mechanism, its *feu éclair* (lightning-flasher) lens system was the first to be installed in a NSW lighthouse, and the optical apparatus is the only example made by the important French maker Henry-Lepaute
    - the Cape Byron Lightstation is a pioneer example of the NSW Public Works Department's concrete masonry structural scheme of the period.

CONSERVATION POLICY

The aim of the conservation policies is to support the long-term conservation of the Cape Byron Lightstation Precinct and the lighthouse in particular.

Conservation Policy Issues

The setting of the Cape Byron lighthouse is exceptionally important. The conservation of this setting requires a balanced but determined approach to ensure that new construction, demolition or other changes would not have any adverse impacts. Conservation of the natural values requires maintenance of the panoramic views.

The high significance of design, built form and fabric of the Lighthouse demands that the original design should be a foremost consideration in the management of the structures, and the lighthouse in particular. The precinct layout was carefully planned to give prominence to the lighthouse by placing it at the highest point with clear unobstructed views between each of the site structures for functional reasons.

While the precinct is not well lit at night, illumination is required for visitor safety, including for special events and should be installed. The tower and subsidiary structures should not be illuminated—the only light that should be prominent should be the light itself.

Under current arrangements the lighthouse is maintained well by AMSA and visits to the lighthouse, including visits to the maritime museum and to the lantern room provide a valuable experience for a limited number of visitors. It should be an aim to increase access and to offer the experience of visiting the interior of the lighthouse to a greater number of visitors through extended opening hours and through more access to parts that are currently not accessible.

Recommended Conservation Policy

General

Policy 1 The Cape Byron Lightstation Precinct, a place of outstanding to high cultural heritage values, should be conserved through sound conservation practices to ensure its values are sustained for current and future generations.

Policy 3 The Cape Byron Lightstation Precinct should be managed in accordance with its high cultural heritage significance; its cultural heritage values should be conserved and clearly interpreted.

Policy 5 All decision-making and implementation of works and other activities should be guided by the conservation philosophy, principles, processes, practices and guidelines provided in the *Burra Charter*.

Lighthouse setting

Policy 14 When viewed from external vantage points, the lighthouse should be clearly visible in its setting without any obscuring or distracting elements—new developments within the view-field of the Cape Byron Lightstation that have adverse visual or other impacts on its values should not be supported by the Cape Byron Trust and DECC.

Policy 17 The lighthouse should remain the dominant feature of the Cape Byron Lightstation Precinct and area immediately surrounding it—no structures should be built in the precinct in proximity of the lighthouse if they would compete visually with it or the other principal structures.

Landscape and vegetation

Policy 19 No new landscape elements should be introduced that would visually overwhelm or detract from the essentially barren or open character of the Lightstation, or that would shield the place from view.

Integrity of original design, built form and fabric

Policy 33 Illumination at the site should be provided to ensure visitor safety and should be in keeping with the functional character of the place; however, no illumination should be directly on the tower or structures—the only light that should be visible from below the precinct should be the light itself.

Conservation of built fabric

Policy 34 The fabric of the various built elements of the Cape Byron Lightstation should continue to be maintained using the most appropriate materials and techniques consistent with the high standards employed in the original construction and in line with the Maintenance Plan.

Policy 35 The Maintenance Plan should be periodically reviewed to ensure that no fabric is neglected or damaged for want of inspection and rectification.

Policy 36 The patina of the authentic fabric should be retained wherever it would be consistent with correct conservation practice over the medium and long term.

Policy 37 All authentic building fabric that has been removed should be catalogued and stored securely for future reference and potential re-use.

Policy 38 No material should be removed or replaced except where it is necessary to introduce new or better material for conservation in the medium or long term; retention of authentic fabric should be preferred over replacement, unless the authentic fabric is causing damage to adjoining fabric.

Maintenance and replacement of services, fences, paths and roads

Policy 41 New services should be introduced only if they are needed to support existing uses, and their inclusion is consistent with the aims of conserving the place.

New works and extent of change

Policy 52 Changes should only be made if they are critically necessary for the ongoing viability and use of the Lightstation.

Movable heritage and museum displays

Policy 64 The Cape Byron Trust *Collections Policy* should guide all actions regarding movable heritage items at the Lightstation; it should be reviewed to ensure it is congruent with relevant provisions of this plan.

Policy 66 All movable items of interest at the place should be displayed, used and stored in an environment secured in line with the level and potential type of risk; relevant items, including those that are precious, should be able to be appropriately viewed or used secure from potential damage or theft.

Policy 72 The maritime museum should be open regularly and as often as possible with supervision by staff or volunteers.

Policy 74 Given that the former power house (generator store) in the lighthouse is part of the story of the place, the Cape Byron Trust and DECC should consider discussing with AMSA options for visitors to inspect this room from the doorway, and interpret this room (within the bounds of licence).

Policy 75 The Cape Byron Trust and DECC should consider discussing with AMSA options for enabling inspection of the ground level of the lighthouse tower during maritime museum opening hours, including mechanisms that will provide a secure barricade.

Policy 76 The lantern room, balcony and lantern should be available for inspection regularly in accordance with a schedule to be developed and expanded as resources permit.

Visitor management and access

Policy 82 Tourists and people from the local community should continue to be encouraged to visit the place to enjoy its many special attributes.

Interpretation

Policy 88 Interpretation of the cultural heritage values of the Cape Byron Lightstation Precinct should continue to be provided using a range of approaches, and should involve a whole-of-site carefully considered approach linked with and supporting the Cape Byron Headland Reserve interpretation.

Future use

Policy 101 The Cape Byron Lightstation should continue to be used as a Lightstation to the extent that the light should continue to function and all necessary ancillary resources should be retained at the site.

Statutory, non-statutory and policy compliance

Policy 108 In planning and providing day-today management the Cape Byron Trust and DECC should ensure that all actions to be taken at the Cape Byron Lightstation Precinct comply with current relevant policies and applicable legislation prior to implementation, and with AMSA requirements.

Policy 109 The Cape Byron Trust and DECC should continue to maintain close co-operation with AMSA in the management and conservation of the site.

Recommended Policy Strategy

The principal aim of the conservation policies is to manage the lighthouse in accordance with values and to always undertake best practice in day-to-day decision-making and ongoing planning. Where necessary and when needed, outside skills should be engaged. At this point in time the lighthouse is managed and maintained well by AMSA and AMSA has brought in external skills when it has needed to.

There are very few obvious weaknesses in the current maintenance arrangements but one cause of concern is the way the paint is holding water. There are large bubbles in the exterior paint film behind which water is trapped. This water needs to be released. The masonry needs to 'breathe'.

Signage at the lighthouse and the displays within it are adequate but they could be augmented for the benefit of tourists. For example, under current arrangements visitors to the lighthouse could remain unaware of the lighthouse functions and history unless they joined one of the tours or spent time in the maritime museum, both of which operate on restricted times. There is an opportunity to widen the dissemination of knowledge about the functions and history of the lighthouse by upgrading and extending the interpretation.

Recommended Strategy Implementation

Maintenance of the lighthouse exterior could be improved by removing some or all of the heavy build up of paint from the exterior and particularly the recently-applied latex and acrylic emulsion paints to increase the potential of the masonry fabric to 'breathe'.

The first step in upgrading the interpretation is to allow the interior of the lighthouse to be viewed by more people more often. Opening hours should be extended. The upgrading of the maritime museum should continue through implementation of the collections policy.

Access to the interior of the tower during normal opening hours should be extended to include viewing into, but not entry into the room at the base of the tower. A physical or electronic barrier should be used to allow clear viewing whilst restricting physical access.

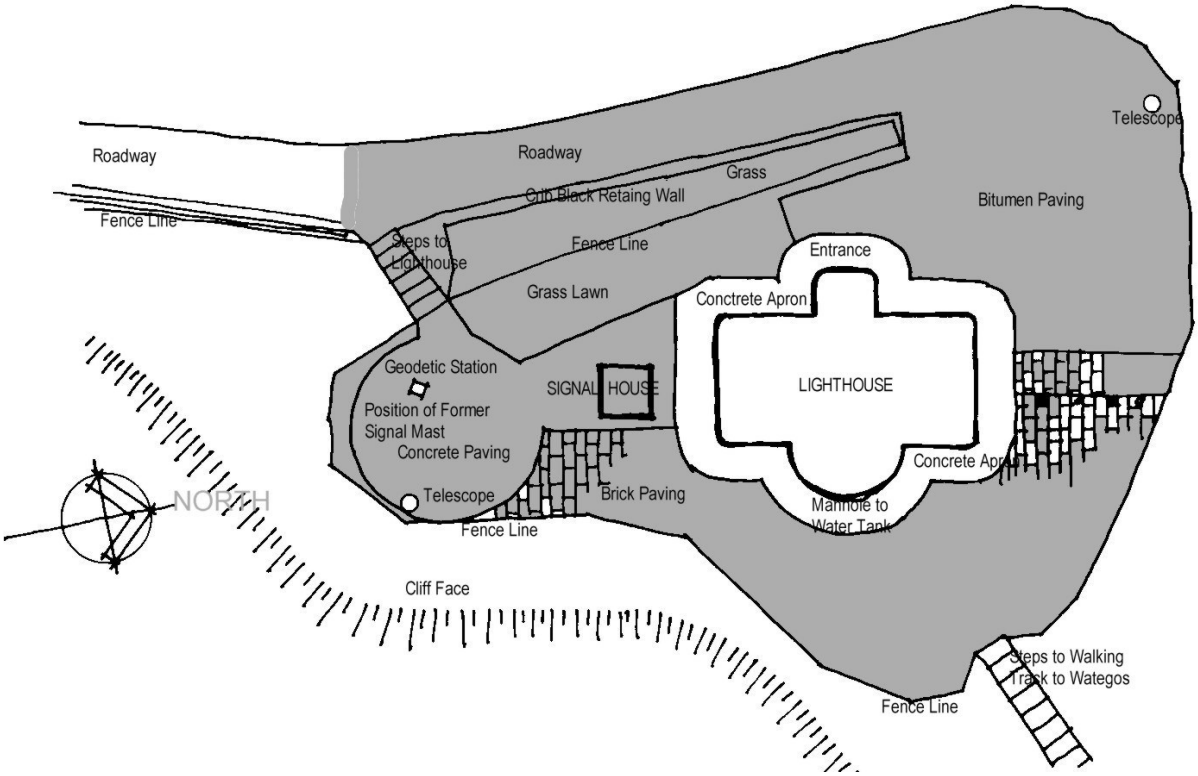
The former power house, which is the room opposite the maritime museum, is currently kept closed. It is leased to AMSA and used only for the storage of back-up power equipment. This continuing use for back-up power is vital, and an important aspect of the lighthouse's function. It would be highly desirable for this information to be also accessible possibly under a similar arrangement whereby access to the room during normal opening hours could include viewing into the room, but not entry. A physical or electronic barrier could be used to allow clear viewing but no entry.

Guided visits to the lantern room are a very valuable interpretation opportunity that should be extended to as many people as possible. However increased access would need to be accompanied by careful monitoring to detect wear-and-tear and by appropriate response.

Site Name & Type	**CAPE BYRON LIGHTHOUSE PRECINCT**
Place Number	**Inventory 3**
Place Name and Former Names	Cape Byron Lightstation
Type of Place	Built Heritage
Associated Items	Cape Byron Headland Reserve

LOCATION

Site Location



Plan of Lighthouse Precinct (shaded) comprising the level fenced area surrounding the lighthouse
Source: Ellsmore 2008

DESCRIPTION

Construction Date 1899–1901

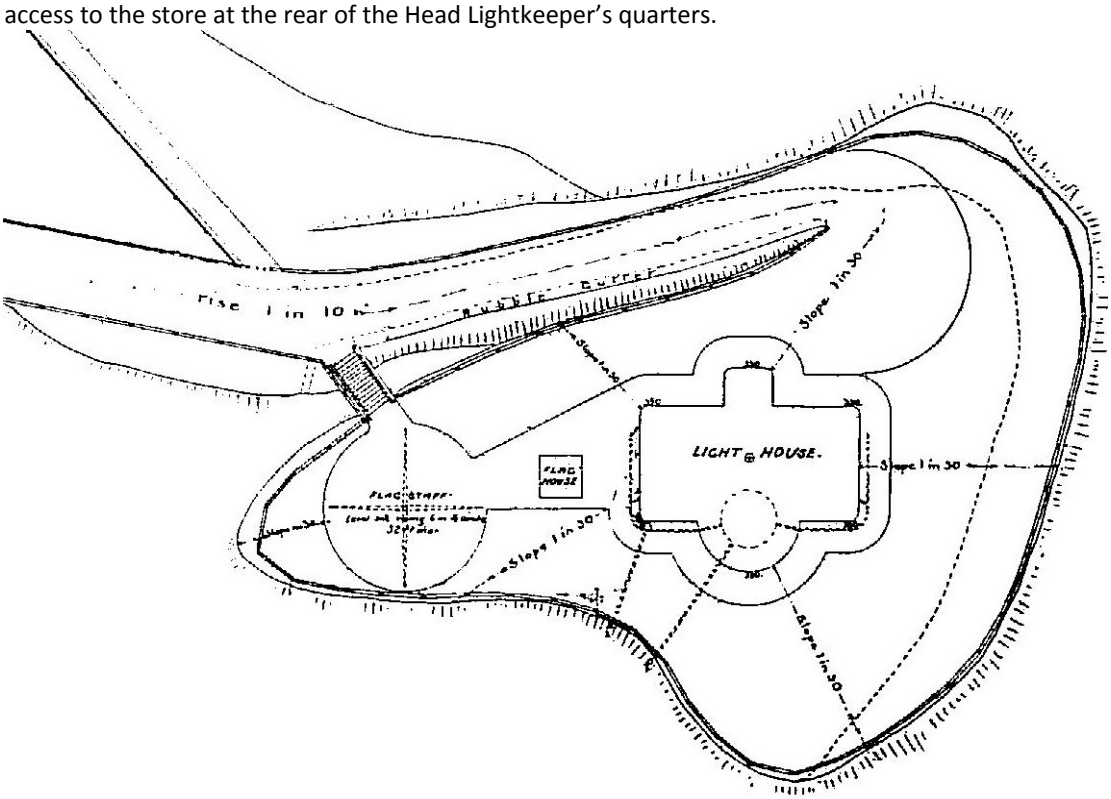
Modifications and Additions

c. 1980	Crib-lock concrete retaining walls erected
1982	Cape Byron walking track constructed by Dept Lands
1985	Concrete Pavers introduced to lighthouse apron along with reconstruction of walking track
2006	Concrete path and safety fence erected on eastern boundary

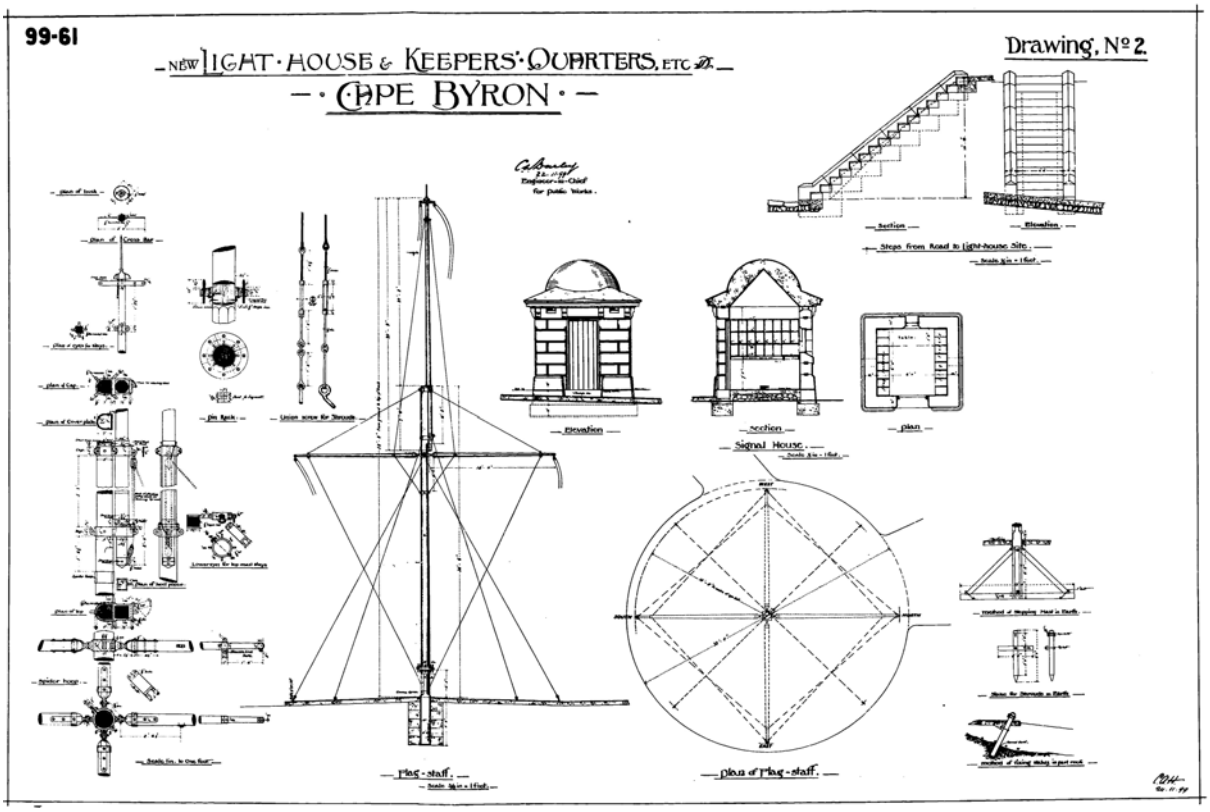
Historical Description

The Bundjalung of Byron Bay (Arakwal) people originally occupied the area that includes the site of the lighthouse. Preparation for the construction of a lightstation on the site began in 1898 with the clearing of vegetation. The Lightstation was designed in 1899 by Charles Harding, Architect-in-charge of lighthouse design, under the direction of Cecil Darley, Engineer-in-chief of public works in NSW.

The design was a new standard involving the use of concrete block masonry. The blocks were cast at the site using aggregate mined nearby. The Lighthouse precinct was laid out in accordance with the plan below, including the concrete-paved apron to the lighthouse, signal house (Flag House) and signal mast (Flag Mast). The steps and path leading in the south westerly direction provided direct access to the store at the rear of the Head Lightkeeper's quarters.



Part of the original plan for construction of the Lighthouse 1899
Source: NAA A10182/2 CN02047



Plans of the Flagstaff, Signal House and Steps from the Road to the Lighthouse Site 1899
Source: NAA A10182/2 CN41-002-01[2]

A contract was let on 29 May 1900 for the construction and works commenced in July 1900 when the road was ready to convey building materials. The Lightstation was officially opened on 1 December 1901.

Since that time a small number of changes have been made to the lighthouse and surrounding area, including the removal of the signal mast some time after 1960. Electricity was brought to the site in 1959. The light was extinguished manually for the last time on 10 December 1986. The lighthouse was de-manned in 1989 when the lightstation was transferred to the Cape Byron Trust.

In 1997 ownership of the site transferred back to the State of NSW. At that time AMSA entered into a lease regarding their continued use of the lighthouse. AMSA, in turn, granted a licence to the Cape Byron Trust to enable it to conduct tours and, more recently, operate a maritime museum in one room of the lighthouse.

Physical Description

The lighthouse precinct occupies the most elevated portion of the site at the northern end of the Lightstation. The precinct containing the Lighthouse, former Signal House and site of the Signal Mast (Flag Mast) occupies a level site that is fully paved with a mixture of surface finishes. The grey concrete-paved apron to the Lighthouse, Signal House and site of the Signal Mast dates to the original construction in 1901. The red concrete brick paving was installed in 1985 when the walking track was also paved.

View of the Lighthouse and immediate surroundings from above from the south east
Source: Ashley Wilmot c 2003 (provided by DECC)

The road to the Lightstation arrives at the southern end on the eastern side, and extends to the lighthouse where it terminates at the lighthouse forecourt. The road is sealed with black-top bitumen

with concrete kerbs. A grade separation between the road at the point of arrival and the level lighthouse site 3 metres above is retained by a random stone and concrete crib-lock retaining wall. A set of concrete steps beside the site of the former signal mast provides a pedestrian access to the level south end of the lighthouse precinct from the road below. Grass lawns are maintained outside the paved areas on the flat and surrounding gently undulating parts of the site within the perimeter fences.


Views of the road to the Lighthouse and the concrete-paved site of the signal mast from above west
Source: Ellsmore 2008

The fences are a combination of white-painted arris-top timber fences with chain wire balustrades (on the precinct boundaries above the cliffs) and treated pine post and railing fences that form part of the walkway track in the reserve. None of the original fences survive in situ. Most are new fences built in the style of the original fences but modified to suit current needs, including visitor safety.


Views of the signal house east side (left) and west side and entrance door (right)
Source: Ellsmore 2008

The Lighthouse and former signal house are constructed of precast (site cast) concrete masonry. The Lighthouse is described in full in Inventory 2. The former Signal House is a very small building by comparison. It is constructed in precast concrete masonry block work to match the lighthouse and

decorated with a domed roof and decorative cornice supported on cast concrete brackets that creates a small eaves overhang. It contains only one small 4^{m2} room that is arranged with pigeon hole shelving on two sides for the orderly storage of signal flags. It has an entry door in the western face and a single small window in the eastern face with a wall-mounted bench below it for folding signal flags. The distinctive domed shaped roof is formed in cast concrete.


Views of the Geodetic Survey marker on the site of the former Signal Mast and Lighthouse precinct
Source: Ellsmore 2008

Evidence of the former location of the tabernacle (or base) of the mast and the guy anchors and pegs for the shrouds can be seen in the circular concrete pad formed in 18 equal segments. The Geodetic Survey marker located there is a two dimensional black painted steel ball mounted on a steel post set in a concrete base. There are also two coin-in-the-slot telescopes at the site for visitors.


Views of the steps to the Lighthouse platform from the lower part of the site
Source: Ellsmore 2008

Concrete stairs located on the western side provided the working lightkeepers with a short route to the store located at the rear of the former Head Lightkeeper's quarters. A pathway on the direct alignment between the steps and the stores was located on the outside of the paling fence enclosing part of the former Head Lightkeeper's yard.

Condition

The condition of the lighthouse precinct is sound overall. The area has been maintained well. The exterior surfaces of the structures and fences have been painted regularly to maintain their fabric. Their condition is generally sound without any evidence of deterioration requiring anything more than regular maintenance. The paved surfaces and the stairs are also generally sound apart from minor cracking due to wear and settlement. The following aspects of condition are highlighted for rectification.

- The concrete brick paving is discoloured and wearing unevenly.
- The concrete stringers of the steps are cracked and needing repair to fill the cracks.

Integrity

The integrity of the Lighthouse precinct is generally high. The structures are intact and in largely authentic condition. The removal from the site of the signal mast has eroded the integrity somewhat and it is recommended that it should be reinstated in some form for interpretation reasons. The following aspects of loss of integrity are highlighted.

- The crib-lock retaining wall is an intrusive element that should be removed and replaced with a random rubble stone wall or stabilised earth bank.
- The Signal Mast is missing from the site. It was a significant element of the complex and an important communication device in earlier times. Its reinstatement would assist with interpretation.
- The former Signal House is currently closed and un-interpreted. It should be interpreted and opened for viewing.
- The treated pine bollards on the northern side of the lighthouse are intrusive elements that should be removed.
- The unpainted timber bench table and seats is an intrusive (temporary) element that should be removed.
- The two telescopes are moderately intrusive elements.
- The stainless steel balustrade to the steps is an intrusive element that none-the-less provides improved safety to users of the stairs.

Inventory Survey Date

2008. Survey undertaken by D. Ellsmore.

STATEMENT OF SIGNIFICANCE

Previous Assessments

Analyses undertaken for NPWS and the Cape Byron Trust by Pratten and Irving (1991 and 1997), Clive Lucas Stapleton and Partners (1993) and Graham Brooks and Associates (2001).

Current Heritage Recognition

Byron Shire Local Environment Plan and Commonwealth Heritage List (lighthouse only).

Comparative Significance

The Cape Byron Lightstation is outstanding in the group of comparable places. It is the best of the three standard lightstations built to the same standard between 1899 and 1903 due to its intactness, location and high levels of visitation.

Assessment against NSW Heritage Criteria

Criterion a: The Cape Byron Lightstation is of high historical and contemporary cultural value to the traditional owners and the wider community due to its former importance as a former ceremonial place, a viewing place, and an element in dreaming stories of the Arakwal cultural landscape. Construction of Lightstation in 1899-1901 was an important component of the final pre-Federation

phase of development in coastal navigation aids; it largely completed the basic set of lighthouses that was to remain in service through the twentieth century - an important step in the development of a state-wide system of coastal navigation, completing the continuous chain of coastal highway lights along the length of the New South Wales coast.

Criterion b: The construction of Cape Byron Lightstation is directly associated with Charles Harding, acknowledged as the first and only specialist lighthouse architect in NSW, and his Engineer-in-Chief, Cecil Darley.

Criterion c: Cape Byron Lightstation has notable aesthetic values relating to its setting and location. It can be seen from a great many vantage points in the local area and from a great distance. The aesthetic delight of the lantern, derived from observing the large spinning mass of crystal glass lenses and prisms in their bronze frame, is almost without equal. The lens is among the most beautiful to be seen in Australia.

Criterion d: Cape Byron, and the site of the Lighthouse, has very high significance for the traditional owners, the Bundjalung of Byron Bay (Arakwal) people, and the wider Bundjalung nation. It is a viewing place, from where Arakwal Country can be seen including many important spiritual and dreaming sites.

The place has considerable contemporary social value as the most highly visited tourism site in non-metropolitan NSW and the most highly visited lightstation. It is well known as a key whale-watching spot, and as a vantage point for sighting rays, sharks, turtles, oceanic seabirds and dolphins.

Criterion f: The Cape Byron Lighthouse precinct is unusual in its intactness. It is rare in having technical attributes that are uncommon and unique.

Criterion g: The Lightstation is representative of a group of lightstations built between 1899 and 1903 using the precast (on-site) concrete block method of construction.

Statement of Significance

The Cape Byron Lighthouse Precinct is significant because of:

- its historical significance as an important element in the establishment of critical navigational aids along the New South Wales coast, and its association with Australian east coast shipping since the beginning of the twentieth century
- its significance to the traditional owners, the Bundjalung of Byron Bay (Arakwal) people, who have a strong cultural and spiritual relationship with the place as a fundamental element of their heritage, dreaming stories and Country, and for its vital contemporary Arakwal community role
- its outstanding aesthetic and adjacent natural values; it is dramatically located on the top of a high windswept cliff on Cape Byron—a place of great beauty—where it is a dominant landscape feature free of modern intrusions
- its technical and historic significance as an unusually intact and representative example of an important class of lightstations, and its continuing use as a functioning lightstation
- its considerable contemporary social and community values for the local Indigenous people, the local community, the wider community, and internationally—the precinct is significant for tourism and has a high level of recognition in the public imagination. It is well known as a key whale-watching spot and vantage point for viewing seabirds and other marine vertebrates, and affords unrivalled views of the coastline and the dramatic hinterland
- the structures represent a pioneer example of the NSW Public Works Department's concrete masonry structural scheme of the period.

CONSERVATION POLICY

The aim of the conservation policies is to support the long-term conservation of the Cape Byron Lighthouse precinct, inform its day-to-day management, and ensure continuing best practice in management of its cultural heritage values.

Conservation Policy Issues

The setting of the Cape Byron Lighthouse precinct and the prominence of the lighthouse is exceptionally important. The conservation of this setting requires a balanced but determined approach to ensure that new construction, demolition or other changes would not have any adverse impacts.

The high significance of design, built form and fabric of the Lighthouse and associated structures demands that the original design should be a foremost consideration in the management of the structures, and the Lighthouse precinct in particular. The precinct layout was carefully planned to give prominence to the lighthouse by placing it at the highest point with clear unobstructed views between each of the site structures for functional reasons.

The level platform on which the lighthouse stands was created at the time of construction by removing the natural knoll, possibly destroying evidence of an Aboriginal ceremonial site. The level platform was required for construction and visibility but also to provide a safe workplace for the lightkeepers who needed to operate in and around the lighthouse at all hours and in all weather. The area is not lit at night other than by light reflected from the rotating lamp above. It should not be illuminated other than by the light itself.

Recommended Conservation Policy

General

Policy 1 The Cape Byron Lightstation Precinct, a place of outstanding to high cultural heritage values, should be conserved through sound conservation practices to ensure its values are sustained for current and future generations.

Policy 5 All decision-making and implementation of works and other activities should be guided by the conservation philosophy, principles, processes, practices and guidelines provided in the *Burra Charter*.

Lightstation setting

Policy 14 When viewed from external vantage points, the lighthouse should be clearly visible in its setting without any obscuring or distracting elements—new developments within the view-field of the Cape Byron Lightstation that have adverse visual or other impacts on its values should not be supported by the Cape Byron Trust and DECC.

Policy 17 The lighthouse should remain the dominant feature of the Cape Byron Lightstation Precinct and area immediately surrounding it—no structures should be built in the precinct in proximity of the lighthouse if they would compete visually with it or the other principal structures.

Integrity of original design, built form and fabric

Policy 25 The functional character of the Cape Byron Lightstation Precinct as a place of work, and the original form of the lighthouse within an integrated and integral set of structures in relation to that function, should be preserved.

Policy 29 Existing elements that intrude on the setting, such as the bollards beside the lighthouse, the identified inappropriate plantings and the outdated signs should be scheduled for removal; other intrusive elements such as the car parking spaces should be considered for change if other strategies in relation to traffic are adopted.

Policy 33 Illumination at the site should be provided to ensure visitor safety and should be in keeping with the functional character of the place; however, no illumination should be directly on the tower or structures—the only light that should be visible from below the precinct should be the light itself.

Conservation of built fabric

Policy 34 The fabric of the various built elements of the Cape Byron Lightstation should continue to be maintained using the most appropriate materials and techniques consistent with the high standards employed in the original construction and in line with the Maintenance Plan.

Policy 35 The Maintenance Plan should be periodically reviewed to ensure that no fabric is neglected or damaged for want of inspection and rectification.

Policy 36 The patina of the authentic fabric should be retained wherever it would be consistent with correct conservation practice over the medium and long term.

Policy 37 All authentic building fabric that has been removed should be catalogued and stored securely for future reference and potential re-use.

Policy 38 No material should be removed or replaced except where it is necessary to introduce new or better material for conservation in the medium or long term; retention of authentic fabric should be preferred over replacement, unless the authentic fabric is causing damage to adjoining fabric.

Maintenance and replacement of services, fences, paths and roads

Policy 41 New services should be introduced only if they are needed to support existing uses, and their inclusion is consistent with the aims of conserving the place.

Policy 43 All fences and gates at the Lightstation should be maintained in a style and condition consistent with the original drawings and as shown in photographs taken around the time of opening of the Lightstation—unless changes are required to meet identified public safety needs or are required in areas where no fences existed previously, and are planned and executed as part of the Maintenance Plan.

New works and extent of change

Policy 52 Changes should only be made if they are critically necessary for the ongoing viability and use of the Lightstation.

Movable heritage and museum displays

Policy 64 The Cape Byron Trust *Collections Policy* should guide all actions regarding movable heritage items at the Lightstation; it should be reviewed to ensure it is congruent with relevant provisions of this plan.

Visitor management and access

Policy 82 Tourists and people from the local community should continue to be encouraged to visit the place to enjoy its many special attributes.

Interpretation

Policy 88 Interpretation of the cultural heritage values of the Cape Byron Lightstation Precinct should continue to be provided using a range of approaches, and should involve a whole-of-site carefully considered approach linked with and supporting the Cape Byron Headland Reserve interpretation.

Recommended Policy Strategy

The aim of the conservation management approach should be to conserve the Lighthouse Precinct in accordance with its high values and to apply best practice in day-to-day decision-making and ongoing planning. Outside skills should be engaged when needed to supplement in-house resources and

further research should be undertaken as and when necessary, but especially as identified in the CMP and when needed to assess the impacts of proposed changes.

Although it is recommended that the signal mast should be reconstructed it is understood that this would be a costly undertaking and it would re-introduce additional maintenance costs over the long term. It is therefore understood that it might not be achievable in the short term. Nevertheless it would be a highly desirable objective for the future.

Apart from an inappropriate table and benches currently located in the Lighthouse Precinct, which is recommended to be removed, there are no seats for visitors and no other facilities for visitors with disabilities. It is hard to see how seating could be introduced without impacting adversely on the aesthetic values of the precinct. However, if it becomes necessary to consider the introduction of some form of seating in the future it is suggested that very plain fixed benches without back rests might be installed within the eastern and northern fence lines to enable a small number of people (particularly elderly or with disabilities) to rest briefly and take in the views.

No other structures should be introduced. The existing non-original elements including the two telescopes are only moderately intrusive. They are accepted as minor, temporary elements. The number of these should not be increased or they could begin to have an adverse intrusive impact.

Signage at the Lighthouse Precinct should be upgraded in accordance with an overall strategy regarding style, materials and corporate values. The signage should include the following:

- Details of the former signal mast and its function, including an historic photograph showing the mast dressed with signal flags (see CMP Figure 4).
- Details of the former signal house and its function, including access to view the interior during opening times.
- Details about the materials of construction of the concrete block structures.
- Details about the importance of the lantern and rotating lenses (which are clearly visible from ground level) in particular the firsts.
- An explanation of the purpose of the geodetic marker.

The concrete brick paving is considered to be unattractive and having at least some minor adverse impact on the values of the Lighthouse Precinct. It is suggested that over the long term bitumen with a light coloured aggregate would be a suitable replacement material.

The treated pine bollards at the northern end of the platform of the lighthouse are intrusive elements due to their (obviously expedient) character. If bollards are required for functional reasons it is recommended that the treated pine bollards should be removed and replaced with removable metal bollards with a black paint finish. These should have the simple character of traditional maritime wharf fittings although it might be necessary to apply yellow paint to parts (again in accordance with simple maritime wharf fittings) for the safety of people with visual impairments.

The concrete crib-lock retaining wall on the south-western side of the lighthouse with its rock wall southern infill is an intrusive element that should be removed. The original bank was an unformed natural rock face. It should be possible to replace the crib-lock wall with a laid rock wall in the character of traditional rock walls of the district.

Recommended Strategy Implementation

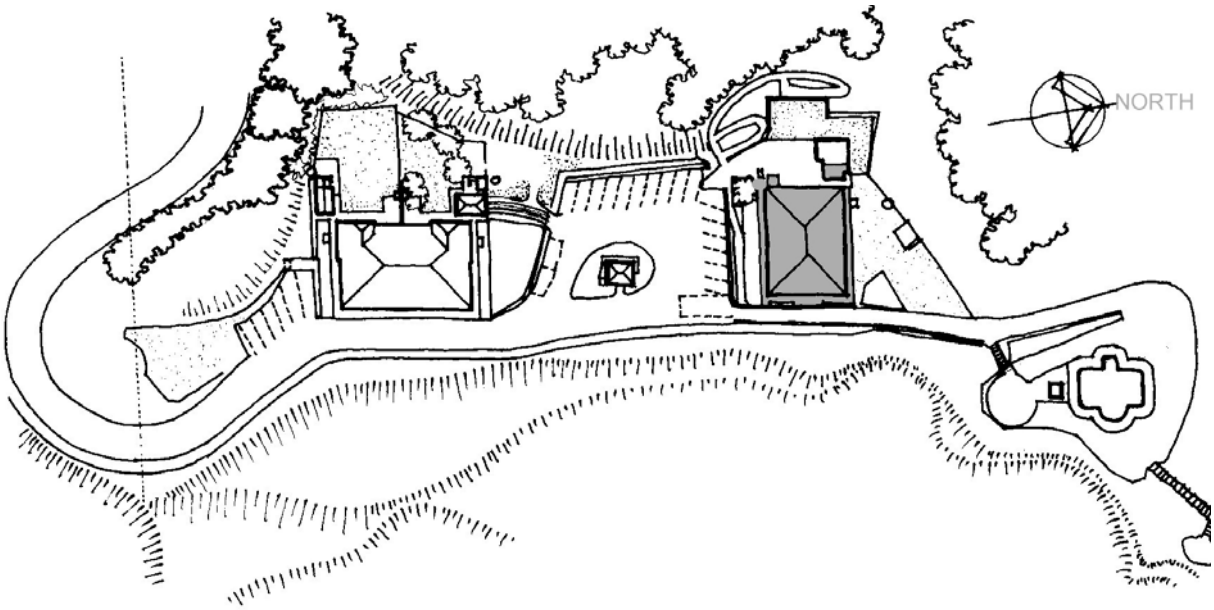
None of the recommendations outlined above are considered to be urgent or mandatory. Nevertheless they should be considered in all forward planning with a view to their implementation in a staged and orderly manner over time.

The level platform around the lighthouse, being the most elevated part of the site, is used heavily at times and especially during the whale watching season. It is also attractive to visitors at night when there is an increased potential for damage to occur by vandalism or misadventure. However the area is robust and there is no indication that the ongoing conservation needs should exceed routine maintenance.

Site Name & Type	**FORMER HEAD LIGHTKEEPER'S QUARTERS**
Place Number	**Inventory 4**
Place Name and Former Names	Head Keeper's Quarters
Type of Place	Built Heritage
Associated Items	Cape Byron Lightstation

LOCATION

Site Location



Plan of Lighthouse Precinct showing Former Head Lightkeeper's quarters shaded.
Source: Ellsmore 2008

DESCRIPTION

Construction Date 1900–1901

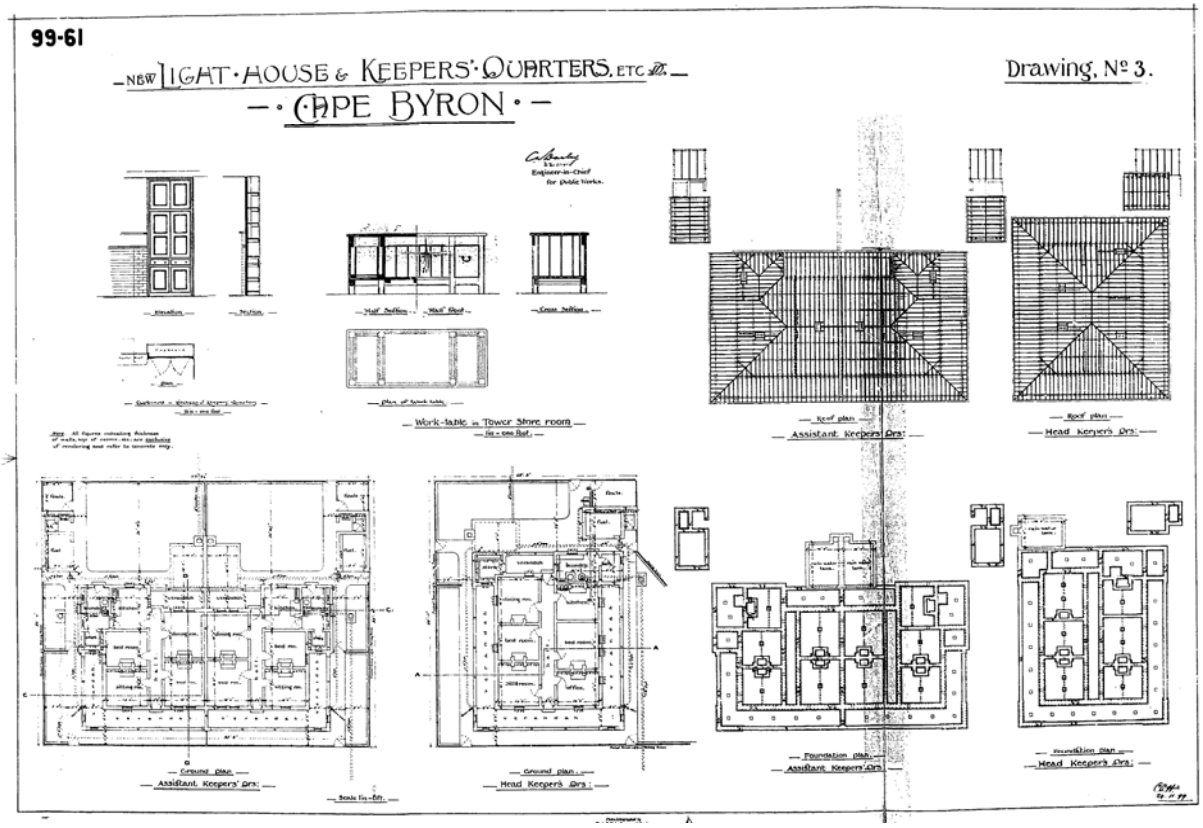
Construction of the Cape Byron Lightstation and associated buildings commenced 1900, completed December 1901; Head Lightkeeper's quarters 1901 (assumed).

Modifications and Additions

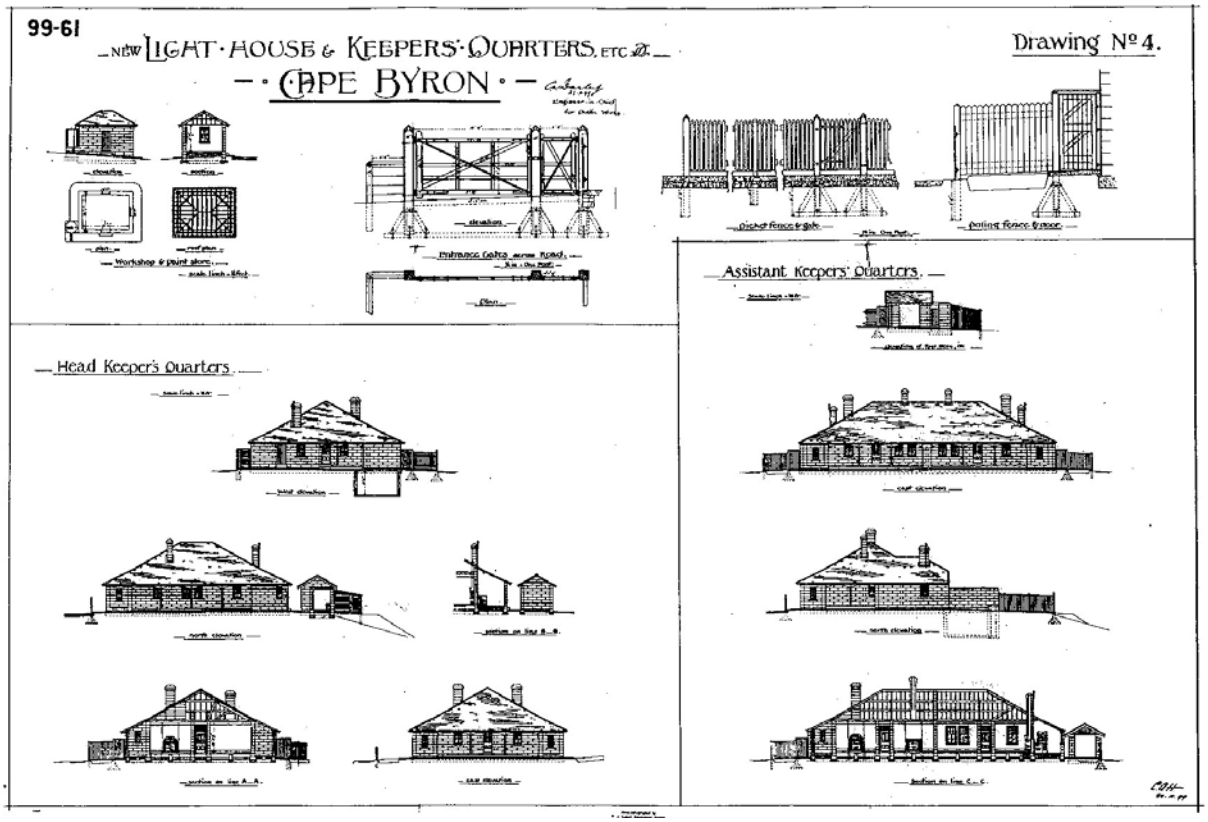
c. 1965	Exterior walls and chimneys of Lightkeepers' quarters and outbuildings painted for the first time
1982	Cape Byron walking track constructed by Dept Lands
1992	Marseilles pattern terra cotta roof tiles reinstated to Keepers' quarters and outbuildings
2002	Former quarters re-painted in 'heritage' colours
2004	Floors sanded and Estapoled with black Japan borders
2007	Kitchen, laundry and bathroom modified. Toilets connected to Byron Shire Council sewer mains Laundry partitioned and new WC installed

Historical Description

Preparation for the construction of the lightstation began in 1898 with the clearing of vegetation from the site. In 1899 a road was constructed from the Byron Bay Township and the cleared site was levelled. Construction works commenced in July 1900 when the road was ready to convey building materials.



Plans of the Lighthouse Keepers' quarters 1899
Source: NAA A10182/2 CN402047



Plans of the Lighthouse Keepers' quarters 1899
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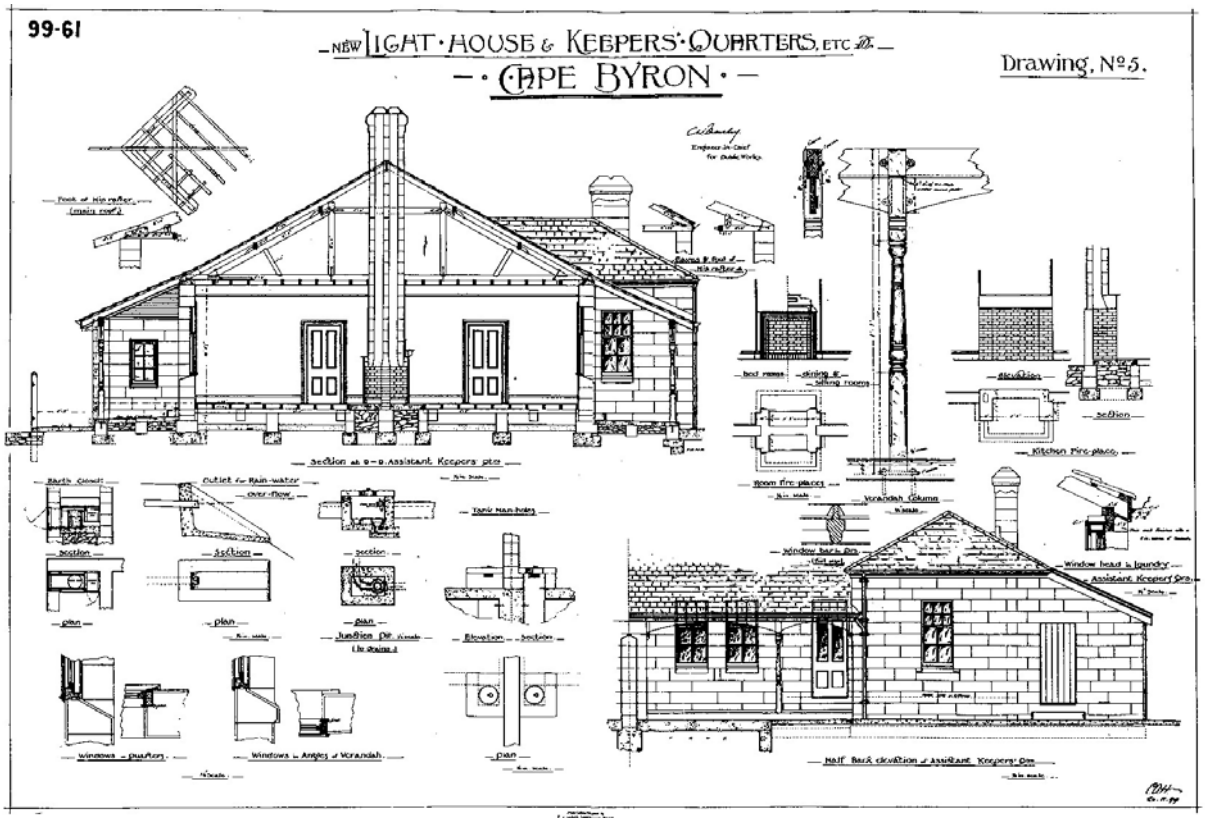


Construction details for the Keepers' quarters 1899
Source: NAA A10182/2 CN402047

The lightstation officially opened on 1 December 1901. The Head Lightkeeper's quarters were included in the original construction contracts and were probably finished and occupied before the lighthouse. Construction of the quarters is assumed to have been completed in 1901.

Few changes occurred at the site during the first few decades. The site remained relatively stable and unchanged under the care of the lightkeepers whose daily routine included lighthouse duties and also maintaining and painting fences and structures.

Apart from technological changes at the site, such as the introduction of electricity in 1959, and relatively minor works around the grounds, the place remained stable and unchanged until management of it was transferred to the Cape Byron Trust in 1989. The last Lightkeeper handed on the keys to the first manager of the Cape Byron Headland Trust in October of that year.

In the past decade, works at the place have been directed towards conservation and improving the cultural tourism potential and visitor safety. Recent works include new fencing on the eastern precipice; kerbing and guttering to most of the sealed areas, with markings for cars and coach bays; and the construction of a toilet block and a boarded access ramp below the north-western terrace. In addition, the quarters have undergone conservation works and upgrading. The former Head Lightkeeper's quarters now operates as an interpretation and display centre with souvenir shop.

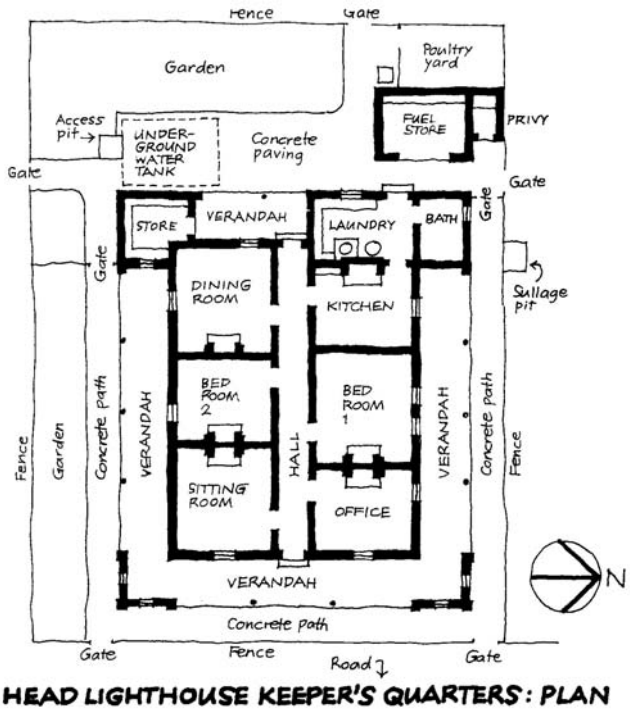
Physical Description

The former Head Lightkeeper's quarters occupies a site towards the northern end of the lightstation precinct below the lighthouse in a slight depression of the site. It is one of five principal structures of the lightstation; a freestanding pavilion with a hipped gabled roof and non-continuous verandahs on four sides.

It is a single-storeyed detached house built in concrete blockwork with a large hipped Marseilles pattern terra cotta roofing tiled gable roof with four tall chimneys and ogee pattern eaves gutters. The wide verandahs are continuous on the north, east and south sides only. A former fuel room, a

toilet and former garage are located at the rear. There is an underground water reservoir and extensive concrete paving and picket fencing on the east and south sides.

View of the northern portion of the lightstation showing the former Head Lightkeeper's quarters unpainted apart from the chimneys, which are freshly painted.
Source: Ian Clifford, Private Collection 1960s



Plan of the quarters, and a view down the hallway from the front door. The uses of the rooms have changed since this plan was drawn and laundry has been partitioned to create a secure storeroom with separate corridor to the rear access door.
Source: Pratten & Irving 1991 (left) and Ellsmore 2008 (right).

The quarters were built in accordance with the constructions plans (above). Only relatively minor changes have been made, mainly in the service area and they can be noted by comparing the

construction plans to the photos and 2001 plan below. Further minor changes have been made in the kitchen/laundry/bathroom area and these are shown in detail in the plans (Barr 2006). The plan of the building is symmetrical around a central hallway running east (front) to west (rear). The rooms are no longer used for domestic purposes but it is possible to discern their original functions from their style and detailing. The five principal rooms are now used for interpretation and display including a souvenir shop in former bedroom 1.

The former kitchen remains intact with some modern built-in cupboards added, but the laundry has been partly partitioned to create a store room and the former bathroom has been renovated and modernised. The former fuel store at the rear is now a dry store and the former privy is a WC with flushing toilet.

Views of the south verandah of the former Head Lightkeeper's quarters
Source: Ellsmore 2008

The building is now painted in a light stone colour with contrasting trim. The timber joinery is painted in two contrasting earth tones and the cast iron verandah posts are deep olive. The verandahs were finished originally with a grey bituminous topping on the concrete paving. This has been painted green and, more recently Indian red. This colour scheme is based on research (Evans 2005).

There is a glazed screen to the verandah at the front entrance. The front and rear doors have decorative glass top panels. At the rear there is an underground reservoir at the south-west corner. A garage of recent vintage is vacant. It was used until 2004 as an office for site staff.

There is an expanse of uneven concrete paving in the rear service area that extends as paths around the most of the perimeter of the building. The darker-shaded areas of concrete paving include original paving but the lighter areas are modern. The concrete footpaths along the eastern and southern fence lines are also modern.

A newly created grass terrace has been established at the north-west corner of the former rear yard, on top of new the public toilets below. A smaller terrace in this location, retained originally by a log bank and later by a concrete retaining wall, can be noted in the 1960s photograph above enclosed by a unpainted timber paling fence. This terrace was enlarged by incorporating the roof of the toilet block below it and by laying turf on top of the concrete roof slab of the toilet block.

There are no formal garden plantings around the cottage. There were no plantings at all in the 1960s photograph above but now, within the small residual cottage yard on the south side, and at the north east corner outside the fence line there are some plantings of low significance. Little is know about the origin of these plantings.

The fences around the former quarters are a combination of light cream-painted picket and paling fences. None of the original fences survive in situ and, as far as it can be determined, none of the original elements have been incorporated into the reconstructed fences.

Views of the rear of the former Head Lightkeeper's quarters (left) and the cultural display in the former sitting room (right)
Source: Ellsmore 2008

The interior of the former Head Lightkeeper's quarters is highly intact in the principal rooms. The rooms are finished with solid wall plaster and lath and plaster ceilings with small timber coved cornices in the principal rooms and pressed metal ceiling roses. The Baltic pine floors are unpainted except for black japanned borders. The joinery is standard turn-of-century style and is painted.
A recent survey of ceilings (Barr 2006) revealed information regarding the original lath and plaster ceilings and the asbestos cement sheet ceilings that were superimposed over them (possibly in the 1950s) in some of the rooms. The timber boarded ceiling linings to the rear corner rooms and verandahs are original.

Condition

The condition of the former Head Lightkeeper's quarters is sound. The exterior surfaces of the structure are painted. They have been painted only since the 1960s. The fences have been painted regularly to maintain their fabric and their condition is generally sound. A recent major program of conservation works has addressed the fabric in a consistent manner. The Marseille pattern terra cotta tiles were reinstated to the roofs in the 1990s; the fourth generation of roof covering on the building.

Over the past few years the cast iron columns and screen across the front verandah have been restored. The interior and exterior paint finishes have been renewed recently. Research has been undertaken professionally in conjunction with these works and other planned works under a pro-active program to conserve the building.

The following aspects of condition are highlighted for attention over the medium term.

- The Val de Travers bitumen verandah topping needs further conservation treatment (although the most appropriate method of treatment remains undetermined). It has undergone some

recent treatment following planning and assessment (McBeath 2007) but its condition continues to deteriorate under the impact of traffic.

- The verandah screen will require new base supports in place of the corroded base pegs.
- The fences will need to be reconstructed to correct details and with appropriate paint finishes in the medium term.

Integrity

The integrity of the building is generally high. However, the external paint finish on the concrete blockwork is not authentic and the replica terra cotta tiled roof covering is unconvincing as a reconstruction of the authentic tiled roof. The building was constructed with subtly mottled concrete blocks that had the appearance of natural stone. The joints were sealed with masons putty to emphasise the dressed stone masonry look. The painting of this blockwork for the first time in the 1960s was therefore not compatible with the aesthetic values. Nevertheless it would be unrealistic to now consider removing the paint, although it could be a long term goal.

The colour schemes within the building are too modern and domestic in nature and they should also be reviewed with a view to reinstating an authentic colour scheme based on detailed research. Brief site research undertaken in conjunction with this study indicates that the original finishes were more sombre and utilitarian: based on predominantly stone colours.

The following brief list of works should be considered to address the losses of integrity.

- Research the original exterior joinery paint finishes and interior paint finishes and reconstruct authentic colour schemes.
- Reconstitute the Val de Travers verandah finish and/or coat it with a grey flexible paint membrane to recover strength and appearance.
- Replace roof tiles with unglazed Marseilles pattern terra cotta roof tiles consistent with the 1901 construction date, in the long term.

Inventory Survey Date

2008. Survey undertaken by D. Ellsmore and P. Marquis-Kyle.

STATEMENT OF SIGNIFICANCE

Previous Assessments

Studies undertaken by Pratten and Irving (1991 and 1997), Clive Lucas Stapleton and Partners (1993) and Graham Brooks and Associates (2001). Small materials research projects on bitumen, cast iron columns, gutters, fences, ceilings and services, 2003 – 2006.

Current Heritage Recognition

Byron Shire Local Environment Plan.

Comparative Significance

The former Head Lightkeeper's quarters at the Cape Byron Lightstation is not only outstanding in the group of comparable places, but also well represents the consistent quality and durability of all the lightstations in that group. It contributes substantially to the overall significance of the Lightstation.

Assessment against NSW Heritage Criteria

Criterion a: The Cape Byron Lightstation is of high historical and contemporary cultural value.

Criterion b: The construction of the Head Lightkeeper's quarters is directly associated with Charles Harding, acknowledged as the first and only specialist lighthouse architect in NSW, and his Engineer-in-Chief, Cecil Darley.

Criterion c: Cape Byron Lightstation, including the Head Lightkeeper's quarters, has notable aesthetic values relating to its setting and location. Its architectural forms and details are evolutionary developments built on lessons from earlier examples. The Lightkeepers' quarters represent an early application of precast concrete units, in an evolutionary development from previous mass concrete lighthouse towers and quarters.

Criterion d: Cape Byron, and the former Head Lightkeeper's quarters, has considerable contemporary social value as the most highly visited tourism site in non-metropolitan NSW and the most highly visited lightstation. The former Head Lightkeeper's quarters is an essential component of the cultural place.

Criterion e: The potential archaeological resources of the site of the quarters have moderate potential to contribute to our understanding of the site in relation to its material history.

Criterion f: The Cape Byron Lightstation Precinct including the former Head Lightkeeper's quarters is unusual in its intactness.

Criterion g: The lightstation, including the former Head Lightkeeper's quarters, is representative of a group of lightstations built between 1899 and 1903 using the precast (on-site) concrete block method of construction.

Statement of Significance

The Cape Byron Lightstation Precinct including the former Head Lightkeeper's quarters is significant because of:

- its historical significance as an important element in the establishment of critical navigational aids along the New South Wales coast
- its outstanding aesthetic values
- its technical and historic significance as an unusually intact and representative example of an important class of lightstations
- its considerable contemporary social and community values
- it is a pioneer example of the NSW Public Works Department's concrete masonry structural scheme of the period.

CONSERVATION POLICY

The aim of the conservation policies is to support the long-term conservation of the former Head Lightkeeper's quarters, inform its day-to-day management, and ensure continuing best practice in management of its cultural heritage values.

Conservation Policy Issues

The high significance of the design, built form and fabric of the Lightstation, including the former Head Lightkeeper's quarters, demands careful recognition in the management of the structures, including any new structures. The precinct layout was carefully planned to give prominence to the lighthouse by placing it at the highest point and by laying out the quarters and stores for functional efficiency and domestic amenity.

While the precinct has never been well lit at night, illumination is required for visitor safety, including for special events and should be installed. The tower and subsidiary structures should not be illuminated—the only light that should be prominent should be the light itself.

The reinstatement of cottage fences and gates to their original detailing should continue as a means of recovering the integrity of the original design. In general changes should only be made if they are critically necessary for the ongoing viability and use of the Lightstation and no changes should be made that would have the potential to damage the heritage values.

The precinct was originally built as a single operational working site; for safety reasons it was traditionally a fairly uncluttered functional site with the lighthouse as the principal workplace. Other forms were intrinsically related to the functions of providing a light at night and signalling and related functions by day and over time several parts took on their own distinctive character. The common areas have always had a non-domestic, or industrial character. Even the Head Lightkeeper's quarters remained uncluttered and unadorned without any pretty decorations or plantings of any sort right up until at least the 1960s. The authentic quasi-industrial character is therefore an important feature that should be recovered.

The need exists now to provide better refreshment facilities at the site and the potential exists for a new provision at the rear of the Head Lightkeeper's quarters where the area is underutilised and of limited significance. The paving surfaces around this area are currently uneven and could be unsafe for visitors if seating was introduced (i.e. there are steps, including a drop to the grassed area). If refreshment facilities are to be provided, the area should be upgraded in keeping with the character of the place. This could include the addition of non-intrusive safety features in line with the policies. All changes should be able to be clearly identified as new and they should be reversible.

The enhancement of short stay facilities at the site by providing appropriately-placed rest stops for visitors would assist further in improving the visitor experience. The refreshment facilities at the site at present are limited. There is an ice cream vendor that is normally located on the northern verandah of the former Head Lightkeeper's quarters. Drinks can be purchased from the souvenir shop.

The former Head Lightkeeper's quarters also provides one of only two interpretation facilities at the lightstation precinct, with temporary information panels located on the southern verandah and displays in four of the rooms. In line with the interpretation policies, these could be enhanced under a whole-of-site, carefully considered, approach to interpretation to enhance the visitor experience.

Recommended Conservation Policy

Guiding conservation vision and policy application

Policy 1	The Cape Byron Lightstation Precinct, a place of outstanding to high cultural heritage values, should be conserved through sound conservation practices to ensure its values are sustained for current and future generations.
Policy 3	The Cape Byron Lightstation Precinct should be managed in accordance with its high cultural heritage significance; its cultural heritage values should be conserved and clearly interpreted.
Policy 4	The Cape Byron Lightstation Precinct should be managed as a cultural tourism destination and its Indigenous and post-contact values should be explained and interpreted to the widest possible audience.
Policy 5	All decision-making and implementation of works and other activities should be guided by the conservation philosophy, principles, processes, practices and guidelines provided in the *Burra Charter*.

Lightstation setting

Policy 17	The lighthouse should remain the dominant feature of the Cape Byron Lightstation Precinct and area immediately surrounding it—no structures should be built in the precinct in proximity of the lighthouse if they would compete visually with it or the other principal structures.

Integrity of original design, built form and fabric

Policy 25 The functional character of the Cape Byron Lightstation Precinct as a place of work, and the original form of the lighthouse within an integrated and integral set of structures in relation to that function, should be preserved.

Policy 27 Any proposed additions or alterations to buildings should respect the pavilion forms of existing structures and be subservient to them in form, style, texture and colour.

Policy 33 Illumination at the site should be provided to ensure visitor safety and should be in keeping with the functional character of the place; however, no illumination should be directly on the tower or structures—the only light that should be visible from below the precinct should be the light itself.

Conservation of built fabric

Policy 34 The fabric of the various built elements of the Cape Byron Lightstation should continue to be maintained using the most appropriate materials and techniques consistent with the high standards employed in the original construction and in line with the Maintenance Plan.

Policy 35 The Maintenance Plan should be periodically reviewed to ensure that no fabric is neglected or damaged for want of inspection and rectification.

Policy 36 The patina of the authentic fabric should be retained wherever it would be consistent with correct conservation practice over the medium and long term.

Policy 37 All authentic building fabric that has been removed should be catalogued and stored securely for future reference and potential re-use.

Policy 38 No material should be removed or replaced except where it is necessary to introduce new or better material for conservation in the medium or long term; retention of authentic fabric should be preferred over replacement, unless the authentic fabric is causing damage to adjoining fabric.

Policy 39 New and replacement materials should be selected on the basis of compatibility with the original materials.

Policy 40 All services at the place should continue to be maintained in a sound and safe condition in line with the Maintenance Plan.

Maintenance and replacement of services, fences, paths and roads

Policy 41 New services should be introduced only if they are needed to support existing uses, and their inclusion is consistent with the aims of conserving the place.

Policy 43 All fences and gates at the Lightstation should be maintained in a style and condition consistent with the original drawings and as shown in photographs taken around the time of opening of the Lightstation—unless changes are required to meet identified public safety needs or are required in areas where no fences existed previously, and are planned and executed as part of the Maintenance Plan.

New works and extent of change

Policy 52 Changes should only be made if they are critically necessary for the ongoing viability and use of the Lightstation.

Policy 53 Changes to built forms and fabric should be made in such a way that it should be possible to restore the fabric to its original form without damage; any changes made should be clearly visible, and not disguised as original work.

Policy 54 New works that would enhance interpretation or visitor experience should be permitted, provided they do not impact adversely on the cultural heritage values.

Policy 57 No parts of the original structures or other features of high significance should be removed to allow for the introduction of new structures or services, with the exception of services maintained under the Maintenance Plan.

Policy 58 The style of new works should be compatible with the Lightstation and cognisant of its significance, using compatible contemporary materials and forms.

Policy 59 The area at the rear of the former Head Lightkeeper's quarters, including the former garage and concrete paved parts should be examined with a view to providing limited refreshments from that space, and ensuring the currently uneven paved area is safe for visitors (for example, by providing a covering of non-intrusive decking or the like).

Policy 60 The area on the northern side of the former Head Lightkeeper's quarters should be enclosed with timber paling fences as originally constructed, planned for as an area of rest and respite for visitors, and seating should be provided on the northern verandah and against the paling fences.

Archaeological significance

Policy 62 There should be no avoidable disturbance of known or potential archaeological resources (areas located within Zones A and B in the *Archaeological Zoning Plan*). When archaeological resources are encountered unexpectedly, works should stop immediately and the Culture and Heritage Division of DECC should be notified.

Visitor management and access

Policy 82 Tourists and people from the local community should continue to be encouraged to visit the place to enjoy its many special attributes.

Interpretation

Policy 91 Interpretive information and devices such as place signs, interpretative signs, identification signs and interpretative devices, and direct interpretation by guides, should be in keeping with the cultural heritage values of the place; interpretations should not dominate, but rather should assist in the maintenance of values.

Policy 93 The former Head Lightkeeper's quarters should continue to be used as a visitor centre and a publically accessible place for interpretation of the Lightstation and relevant aspects of the adjoining Marine Park and Cape Byron Headland Reserve.

Policy 94 The current use of the rooms and interpretation devices in the former Head Lightkeeper's quarters should be reviewed for effectiveness and consistency with the redrafted *Concept Plan*.

Recommended Policy Strategy

The approach to managing the former Head Lightkeeper's quarters in accordance with values has been followed there in recent years and it should continue. When necessary, outside skills should be engaged to ensure informed decision making.

The building should be always accessible to visitors so that they would have the opportunity to see how the keepers lived in solid, well designed but simple buildings. This would not preclude other uses, including current uses, except where those uses obscured the information about the original designed use of the place.

Signage and interpretation should be enhanced in accordance with an overall, whole-of-site strategy to achieve the best use of the former Head Lightkeeper's quarters. This might include a review of room usage and possible relocation of the souvenir shop, perhaps into the rear former garage and former office. Copies of all of the original construction drawings should be displayed there.

The former industrial barrenness of the Head Lightkeeper's quarters should be interpreted in some way. At present the quarters sit within a well manicured green grass and hard surface setting that is contrary to its authentic appearance. Planning for this, and for new refreshment facilities, should also address the shortcomings of the intrusive elements and the former garage and store in particular.

It is separately recommended (inventory 5) that the yard on the northern side should be enclosed with a solid paling fence as it was and that the sheltered area should be managed for the benefit of visitors with some seating.

The inappropriate plantings in the yards of the Head Lightkeeper's quarters should be removed.

The use of the rooms, verandahs, yards and proposed new refreshment facility should be subject to a commercial utilisation policy that should be developed for the whole site. The policy should cover such activities as appropriate uses, frequency of use, number of attendees, access to facilities for catering, charges and hours of operation.

Recommended Strategy Implementation

The use of the former Head Lightkeeper's quarters should be reviewed as a matter of priority to achieve the dual objectives of interpreting the use of the place whilst also obtaining the best yield of visitor facilities from its rooms, covered verandahs and former yards. It should be confirmed that the current mixed use with free public access is still the best use.

The interpretation should be reviewed also as a matter of priority in accordance with the interpretation plan. At present the interpretation there is mixed and inconsistent.

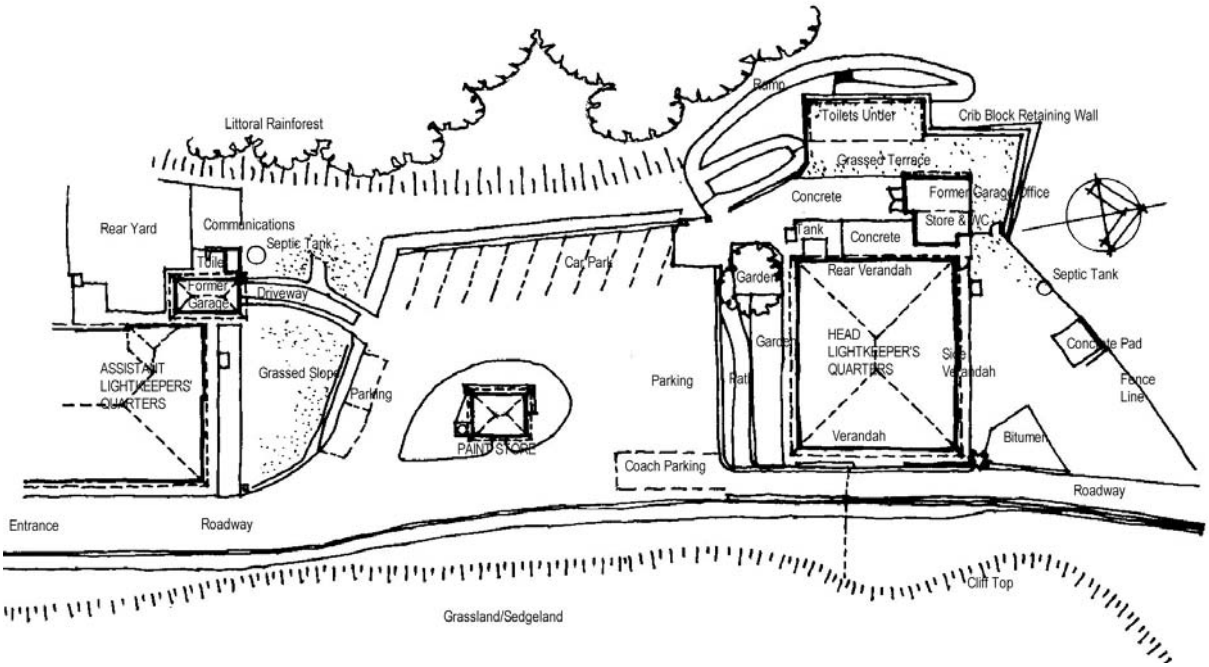
As part of the interpretation strategy, the original paint colour schemes in the principal rooms should be researched fully using standard micrographic analyses and appropriate schemes should be revealed or selectively reconstructed to convey an accurate impression of the original room finishes. As far as it is possible, the lighting, furnishings and furniture should also be researched with the same aim.

In all other respects, other than those dealt with separately in regard to the central precinct, current management practices should continue.

Site Name & Type	**CAPE BYRON LIGHTSTATION CENTRAL PRECINCT**
Place Number	**Inventory 5**
Place Name and Former Names	Cape Byron Lighthouse and Lightkeepers' Quarters
Type of Place	Built Heritage
Associated Items	Cape Byron Headland Reserve

LOCATION

Site Location



Plan of the central precinct
Source: Ellsmore 2008

DESCRIPTION

Construction Date 1899–1901

The Cape Byron Lightstation Precinct was constructed from 1899 (taken from when road construction commenced). In 1900 construction works of the buildings began, and the lightstation was opened in December 1901.

Modifications and Additions

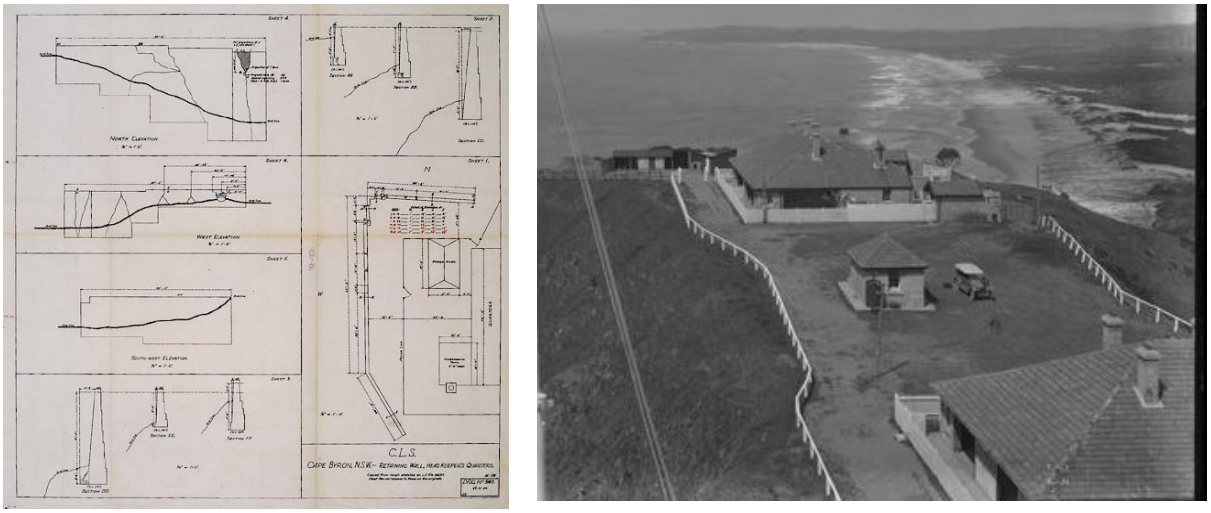
c. 1965	Exterior walls and chimneys of Lightkeepers' quarters and outbuildings painted for the first time
1982	Cape Byron walking track constructed by Dept Lands
1992	Marseilles pattern terra cotta roof tiles reinstated to Keepers' Quarters and outbuildings
1999	Public toilets constructed below enlarged terrace (and old ones demolished)
2002	Public toilets connected to Byron Shire Council sewer mains
2006	Concrete path and safety fence erected on eastern boundary
2007	Former paint store renovated (door replaced).Former garage to Assistant Lightkeepers' quarters converted for Coast Guard. Adjoining fences renewed.

Historical Description

The Bundjalung of Byron Bay (Arakwal) people have had a continuing association with the lands and waters around Cape Byron for a long time before the lightstation was established there. Preparation for the lightstation began in 1898 with the clearing of vegetation from the site. In 1899, a road was constructed from the Byron Bay Township and the cleared site was levelled. Construction works commenced in July 1900 when the road was ready to convey building materials—some of which were brought by ship to the Byron Bay jetty and transported from there to the site by horse-drawn vehicles. The lightstation officially opened on 1 December 1901. Few changes occurred at the site during the first few decades after it commenced operation.

1902 views showing the central precinct from the south (left) and north (right)
Source: State Records, reel 2643 frame numbers 2003 and 1998.

The site remained relatively stable and unchanged under the care of the lightkeepers whose daily routine included lighthouse duties and maintaining and painting fences and the lighthouse. However, the concrete masonry walls of the cottages and outbuildings remained in their natural, unpainted condition for a long time.



Drawing showing a new retaining wall at the rear of HLKQ 1924 (left) and the precinct in c.1935
Source: NLA Plan of wall No.4957006_0001 (left) and pic-an23206120 by Frank Hurley.

Among the first changes at the site was the construction of a retaining wall in 1924 at the rear of the former Head Lightkeeper's quarters to replace the log bank that shows in the 1902 image above. This was subsequently replaced by a crib-lock wall and more recently by a toilet block. In 1959 electricity was introduced to the site for the first time.

In the late 1950s tourism to the site began to grow at a time when people were also visiting to witness whaling from the vantage point of the lightstation. Changes began to occur in response to the

tourism, including the construction of the first public toilets. The subsequent transfer of management to the Cape Byron Headland Trust and creation of the Cape Byron Headland Reserve in 1989 brought about further changes. Since 1989, when the last Lightkeeper handed on the keys to the first manager of the Cape Byron Headland Trust, the site has been progressively hardened in small incremental ways to withstand the rigours of increasing volumes of pedestrian and vehicular traffic. The small changes have transformed the site over time from a place of relative isolation with a pervading industrial character to a busy place with a strong tourism character. People now visit the site by day and night in all seasons and in large numbers.

Views of the precinct in the 1960s (left) and 1983 (right) during and after painting of the quarters
Source: Ian Clifford Private Collection c. 1960 (left) and DEW image No. rt05468.

View from above in 2003
Source: Ashley Wilmont c. 2003

Daytime visits to the precinct are characterised by a constant turnover of vehicles and pedestrians — with most visits being of short duration. An area of formal parking for 18 cars and one coach has been

marked out in the area around the former paint store, which serves as a roundabout for vehicles. This is not enough to satisfy demand and as a consequence there are constant traffic movements through the roundabout.

In the past decade, works at the place have been directed towards the conservation of the structures and improving its cultural tourism potential and visitor safety. Recent works include new fencing; kerbing and guttering to most of the sealed areas, with markings for car and coach bays; and the construction of a toilet block and a boarded access ramp below the north-western terrace.

Physical Description

The road to the site arrives at the southern end of the precinct and extends to the lighthouse at the northern end where it terminates. Private vehicles are parked in the designated area on the western side of the former paint store. The road is sealed with black-top bitumen with concrete pedestrian paths along the eastern side and across the cottage fronts.

Vehicles that cannot be accommodated in the designated areas are turned away. Drivers complete a circuit around the former paint store and exit the site.

Views across the central precinct parking area taken from the south (left) and north (right). The embankment in the left view was created at the time of construction by dumping the builders' spoil into the former depression. The original fence line was parallel with the walls of the quarters.
Source: Ellsmore 2008

Grass lawns are maintained outside the paved areas on the flat and gently undulating parts of the site. An apron of mowed grass is maintained outside the perimeter fences.

Views of the exterior and interior of the former paint store
Source: Ellsmore 2008

The former paint store is a simple rectangular pavilion with a terra cotta tiled roof, similar in style and materials to the quarters. The interior is painted. The concrete block walls have no finish other than the paint. There are two windows with double hung sashes and a framed, ledged and braced entrance door. The ceiling has a new lining of TG&V timber boards. The floor is paved with herringbone-patterned brick paving.


Views of the concrete driveway (left) and the former garage/office (right) viewed from the north
Source: Ellsmore 2008

The area at the rear of the former Head Lightkeeper's quarters is a flat platform created by the initial retaining walls and now supported by crib-lock retaining walls and the toilet block below. The fences are a combination of light cream-painted arris-top timber fences with mid rails (on the southern side) and painted picket fences at the rear and northern side of the former Head Lightkeeper's quarters. Toilets have been constructed recently at the north-west corner of the former Head Lightkeeper's quarters below the grassed terrace. A gently graded boardwalk and steps with polished stainless steel railings provides access to these toilets from the central precinct suitable for people with disabilities.


Views of the of the area on the north side of the HLKQ from the lantern room and the west (right)
Source: Ellsmore 2008

The land on the north side of the former Head Lightkeeper's quarters that is now grassed was the private yard of the lightkeeper. A fence line and path were located formerly on the alignment of the direct route between the steps to the signal mast and the store at the rear of the former Head Lightkeeper's quarters. This provided a direct and easy route for lightkeepers who were screened from the private yard by a high paling fence.

On the southern side of the precinct, on the south side of the parking area adjacent to the former Assistant Lightkeepers' quarters where the Coastal Patrol is located in a former garage, there is a grassed yard enclosed by an arris-top fence. This area is used for informal parking and service activities. It is in a slightly degraded state due to the movement of vehicles across the grass and on the poorly maintained driveway strips. The garage itself is an intrusive element.


Views of the former garage used by the Coastal Patrol and (left) and the driveway (right)
Source: Ellsmore 2008

Condition

The condition of the central lightstation precinct is generally sound but with some degraded areas as noted above. The buildings and grounds are maintained well but this is not enough to compensate for the heavy traffic. The following aspects of condition are highlighted for rectification.

- The grassed terrace behind the former Head Lightkeeper's quarters is depressed due to settlement, possibly relating to migration of the fill which may require ground stabilisation in the future.
- The driveway to the former garage, now Coastal Patrol is degraded.
- The grass lawn in the adjoining area is worn.
- The communications compound at the rear of the Coastal Patrol is untidy.

Integrity

The integrity of the central lightstation precinct is moderate only. The structures and principal site features of the 1899 plans are intact and in near authentic condition but the grounds surrounding the former Head Lightkeeper's quarters have changed in ways that make interpretation difficult.

The following aspects of loss of integrity, which are relatively minor in themselves, are nevertheless highlighted.

- The area to the north of the former Head Lightkeeper's quarters is lacking in authentic elements (fences) that would serve to explain the original function.
- The hard surfaced area and grassed terrace behind the former Head Lightkeeper's quarters is underutilised and of no interpretative benefit in its current form.
- The former garage/office at the rear of the former Head Lightkeeper's quarters is a moderately intrusive element.
- The modern roadway and car parking around the former Paint Store is visually intrusive and, during peak times, chaotic.
- The yard between the car parking area and the former Assistant Lightkeepers' quarters is degraded and of no interpretative benefit.
- The former garage/Coastal Patrol at the north-west corner of the former Assistant Lightkeepers' quarters is a moderately intrusive element.
- The western fence line does not relate in form or position to the original.

Inventory Survey Date

2008. Survey undertaken by D. Ellsmore and P. Marquis-Kyle.

STATEMENT OF SIGNIFICANCE

Previous Assessments

Studies undertaken by Pratten and Irving (1991 and 1997); Clive Lucas Stapleton and Partners (1993); and Graham Brooks and Associates (2001). Various Research Projects on fences, services and others 2003 – 2006.

Current Heritage Recognition

Byron Shire Local Environment Plan

Comparative Significance

The Cape Byron Lightstation is not only outstanding in the group of comparable places, but also well represents the consistent quality and durability of all the lightstations in that group. The central precinct is an important component of the Lightstation precinct.

Assessment against NSW Heritage Criteria

Criterion a: The Cape Byron Lightstation is of high historical and contemporary cultural value.

Criterion b: The construction of Cape Byron Lightstation is directly associated with Charles Harding, acknowledged as the first and only specialist lighthouse architect in NSW, and his Engineer-in-Chief, Cecil Darley.

Criterion c: Cape Byron Lightstation has notable aesthetic values relating to its setting and location. The lightstation exemplifies handsome, competent architectural design with high aesthetic values.

Criterion d: Cape Byron, and the site of the Lightstation, has very high significance for the traditional owners, the Bundjalung of Byron Bay (Arakwal) people, and the wider community.

Criterion e: The potential archaeological resources are moderate.

Criterion f: The place is unusual in its intactness.

Criterion g: The lightstation is representative of a group of lightstations built between 1899 and 1903 using the precast (on-site) concrete block method of construction.

Statement of Significance

The Cape Byron Lightstation Precinct is significant because of:

- its historical significance as an important element in the establishment of critical navigational aids along the New South Wales coast
- its significance to the traditional owners, the Bundjalung of Byron Bay (Arakwal) people, who have a strong cultural and spiritual relationship with the place and a role it its management today
- its outstanding aesthetic values
- its considerable contemporary social and community values.

CONSERVATION POLICY

The aim of the conservation policies is to support the long-term conservation of the Cape Byron Lightstation Precinct, inform its day-to-day management, and ensure continuing best practice in management of its cultural heritage values

Conservation Policy Issues

The setting of the Cape Byron Lightstation Precinct is exceptionally important. The conservation of this setting requires a balanced but determined approach to ensure that new construction,

demolition or other changes would not have any adverse impacts on the setting of the Lightstation. The intrusion of modern features such as roads, parking and service clutter could diminish its values.

The high significance of the built form should be a foremost consideration in the management of the central precinct. The precinct is currently under stress due to traffic and pedestrian movements through it.

The precinct was originally built as a single operational working site; for safety reasons it was traditionally a fairly uncluttered functional site with the lighthouse as the principal focus. The Lightkeepers' quarters were enclosed by fences to provide privacy and enclosure; the character of the quarters was domestic, quite different from the central precinct today. The impacts of traffic on the amenity of the site are substantial now. Large numbers of tourists and local people visiting the site by cars, coaches, minibuses and motorbikes have a big impact on the visual amenity, site congestion, noise, and inconvenience.

It is felt that the removal of vehicles could have potential benefits for the amenity of the place. This is a recommendation in the CMP.

The enhancement of short stay facilities at the site by providing new refreshment facilities and appropriately placed rest stops for visitors would assist further in improving the visitor experience. The central precinct provides opportunities for this.

A whole-of-site, carefully considered, approach to interpretation would also enhance the visitor experience. In particular the aboriginal cultural significance needs to be explained better through more interpretive activities conducted by the Aboriginal education guides and by conventional interpretation panels and signage.

Recommended Conservation Policy

General

Policy 1 The Cape Byron Lightstation Precinct, a place of outstanding to high cultural heritage values, should be conserved through sound conservation practices to ensure its values are sustained for current and future generations.

Policy 3 The Cape Byron Lightstation Precinct should be managed in accordance with its high cultural heritage significance; its cultural heritage values should be conserved and clearly interpreted.

Policy 4 The Cape Byron Lightstation Precinct should be managed as a cultural tourism destination and its Indigenous and post-contact values should be explained and interpreted to the widest possible audience.

Policy 5 All decision-making and implementation of works and other activities should be guided by the conservation philosophy, principles, processes, practices and guidelines provided in the *Burra Charter*.

Aboriginal cultural significance

Policy 8 The Bundjalung of Byron Bay (Arakwal) people, through their involvement on the Cape Byron Trust, should continue to be consulted on all developments at the place, including the impact of any proposed changes on Aboriginal cultural values and their interpretation.

Lightstation setting

Policy 16 No new structure should be built at the Cape Byron Lightstation Precinct that would be visually intrusive when viewed from a distance, or that would adversely impact on views from the Lightstation.

Landscape and vegetation

Policy 19 No new landscape elements should be introduced that would visually overwhelm or detract from the essentially barren or open character of the Lightstation, or that would shield the place from view.

Policy 22 No new landscape elements should be introduced for which there is not an historical precedent or interpretative relevance.

Integrity of original design, built form and fabric

Policy 25 The functional character of the Cape Byron Lightstation Precinct as a place of work, and the original form of the lighthouse within an integrated and integral set of structures in relation to that function, should be preserved.

Policy 27 Any proposed additions or alterations to buildings should respect the pavilion forms of existing structures and be subservient to them in form, style, texture and colour.

Policy 28 The historic layout of the roads and fences should be preserved with the precinct kept as an uncluttered space defined by open perimeter fences and without any new enclosing structures or screenings—unless changes are required to meet identified public safety needs, and are planned and executed as part of the Maintenance Plan.

Policy 31 The formal, industrial and functional character of the common areas of the precinct should be preserved; no ornate plantings, hoardings, over-use of signage, clutter, or structures unrelated to this character should be permitted, except for the rear of the Assistant Lightkeepers' quarters and their yards that should retain a domestic setting different from the common areas, and with fences separating the domestic yards from the common areas.

Policy 33 Illumination at the site should be provided to ensure visitor safety and should be in keeping with the functional character of the place; however, no illumination should be directly on the tower or structures—the only light that should be visible from below the precinct should be the light itself.

Conservation of built fabric

Policy 34 The fabric of the various built elements of the Cape Byron Lightstation should continue to be maintained using the most appropriate materials and techniques consistent with the high standards employed in the original construction and in line with the Maintenance Plan.

Policy 40 All services at the place should continue to be maintained in a sound and safe condition in line with the Maintenance Plan.

Maintenance and replacement of services, fences, paths and roads

Policy 41 New services should be introduced only if they are needed to support existing uses, and their inclusion is consistent with the aims of conserving the place.

Policy 42 Wherever possible, services should be located underground; however, services that replicate the original services could be located above ground for interpretation purposes, provided their form and location is consistent with the aims of conserving the cultural heritage values of the Lightstation.

Policy 43 All fences and gates at the Lightstation should be maintained in a style and condition consistent with the original drawings and as shown in photographs taken around the time of opening of the Lightstation—unless changes are required to meet identified public safety needs or are required in areas where no fences existed previously, and are planned and executed as part of the Maintenance Plan.

Policy 50 Concrete kerbs and gutters should be considered for removal from the site, except where they have a vital function in preventing erosion and managing storm water.

New works and extent of change

Policy 50 Concrete kerbs and gutters should be considered for removal from the site, except where they have a vital function in preventing erosion and managing storm water.

Policy 55 New works should be planned to be subservient to the original Lightstation structures and other features of high significance.

Archaeological significance

Policy 62 There should be no avoidable disturbance of known or potential archaeological resources (areas located within Zones A and B in the *Archaeological Zoning Plan*). When archaeological resources are encountered unexpectedly, works should stop immediately and the Culture and Heritage Division of DECC should be notified.

Traffic management and methods of site access

Policy 80 Further changes to the existing roads and paths should be incrementally undertaken to return them to a form and condition that existed at the site in the 1960s, for example by removing kerbing and guttering and hard stand areas subject to any needs for stormwater management.

Recommended Policy Strategy

The clear priority in the management of the lightstation precinct is to manage it in accordance with its high values as they are established in the conservation management plan. This does not require any radical departure from current management practices which have been good throughout the history of the place and very good in recent years. The immediate challenge is to sustain the place under the ongoing pressure of high levels of visitation.

A small number of works to the central precinct are recommended for consideration by the Trust. They include new facilities for visitors and interpretation works. None of them are urgent or essential but they are proposed because of their potential to improve the visitor experience.

Some relatively minor works are proposed also to remove intrusive and inappropriate elements from the site. These elements have been introduced in recent times and they are considered to impact adversely, although not to a great extent, on the core significance of the place.

At the same time, steps should be taken to reduce the overall impact of the roads, paths and concrete paved surfaces at the site. The visual impact on the heritage values is not acceptable. Steps need to be taken now to diminish these impacts, starting with the removal of the hard stand car parking areas. This aspect can only be achieved by removing all private motor vehicles from the site, so is contingent on that. The policies and recommendations in the CMP provide some direction on the ways and means of achieving this. Some of the details are explained in the inventories for the Lighthouse Precinct, Central Precinct and Southern Precinct.

Recommended Strategy Implementation

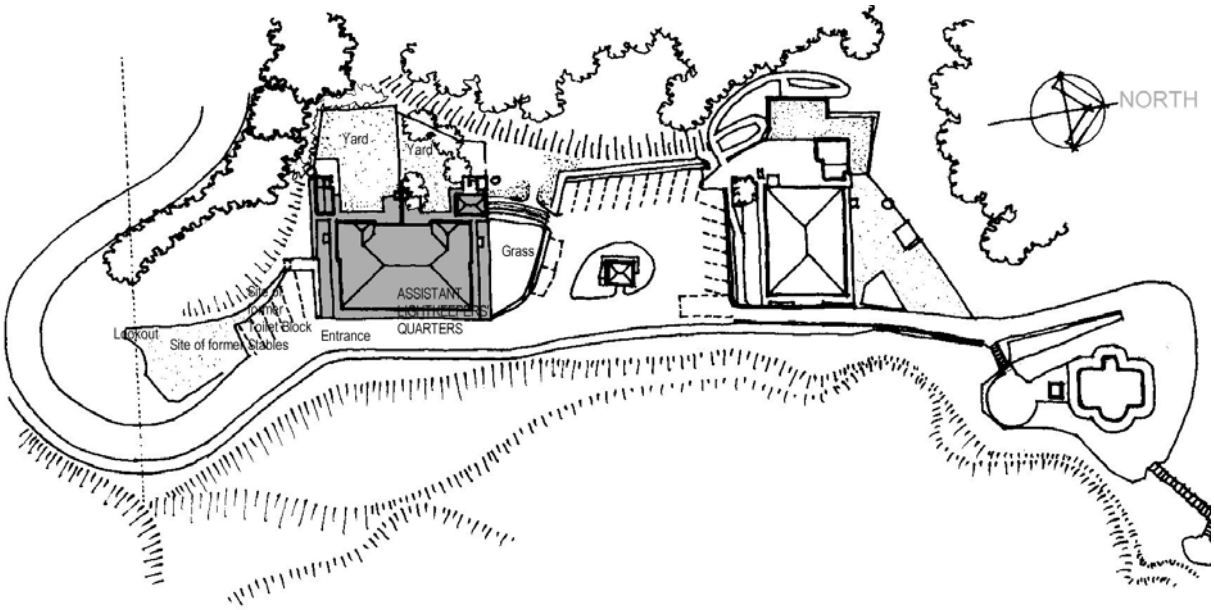
Four projects are proposed for the central precinct. They are

- the creation of a rest area combined with interpretation of the north side of the former Head Lightkeeper's quarters
- the creation of new refreshment facilities at the rear (west side) of the former Head Lightkeeper's quarters on the terrace
- reduction in car parking on the site
- management of the area between the car parking and the former Assistant Lightkeepers' quarters.

Site Name & Type	**FORMER ASSISTANT LIGHTKEEPERS' QUARTERS**
Place Number	**Inventory 6**
Place Name and Former Names	Assistant Keepers' Quarters
Type of Place	Built Heritage
Associated Items	Cape Byron Lightstation

LOCATION

Site Location



Plan of Lighthouse Precinct showing Former Assistant Lightkeepers' quarters shaded.
Source: Ellsmore 2008

DESCRIPTION

Construction Date 1900–1901

Construction of the Cape Byron Lightstation and associated buildings commenced 1900, completed 1901. Assistant Lightkeepers' quarters 1901 (assumed).

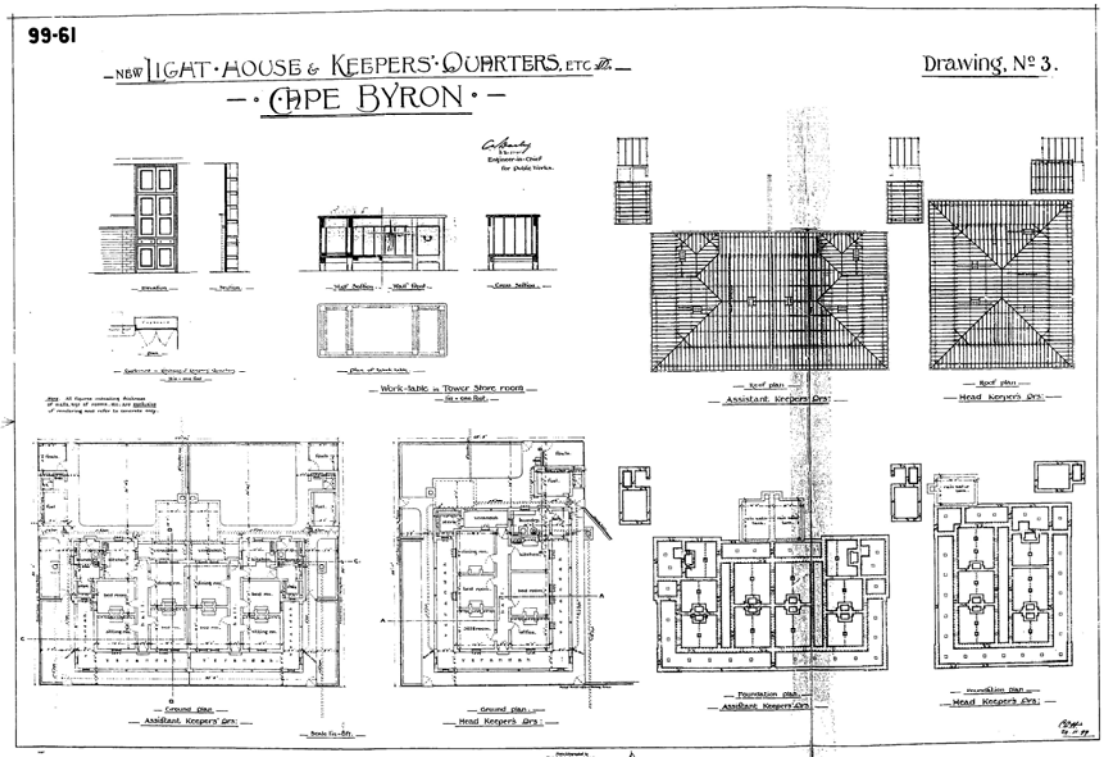
Modifications and Additions

c.1935	Roofs of keeper's quarters renewed with corrugated AC roof sheeting
c.1950	Outbuildings modified. Garage constructed
c.1965	Exterior walls and chimneys of' quarters and outbuildings painted for the first time
1992	Marseilles pattern terra cotta roof tiles reinstated to Keepers' quarters and outbuildings
2002	Major renovations to quarters and furnishing for holiday letting. All re-painted in 'heritage' colours Former garage altered. Doors removed and screen erected across opening with single door
2007	Former garage converted for Coast Guard. Adjacent fences renewed

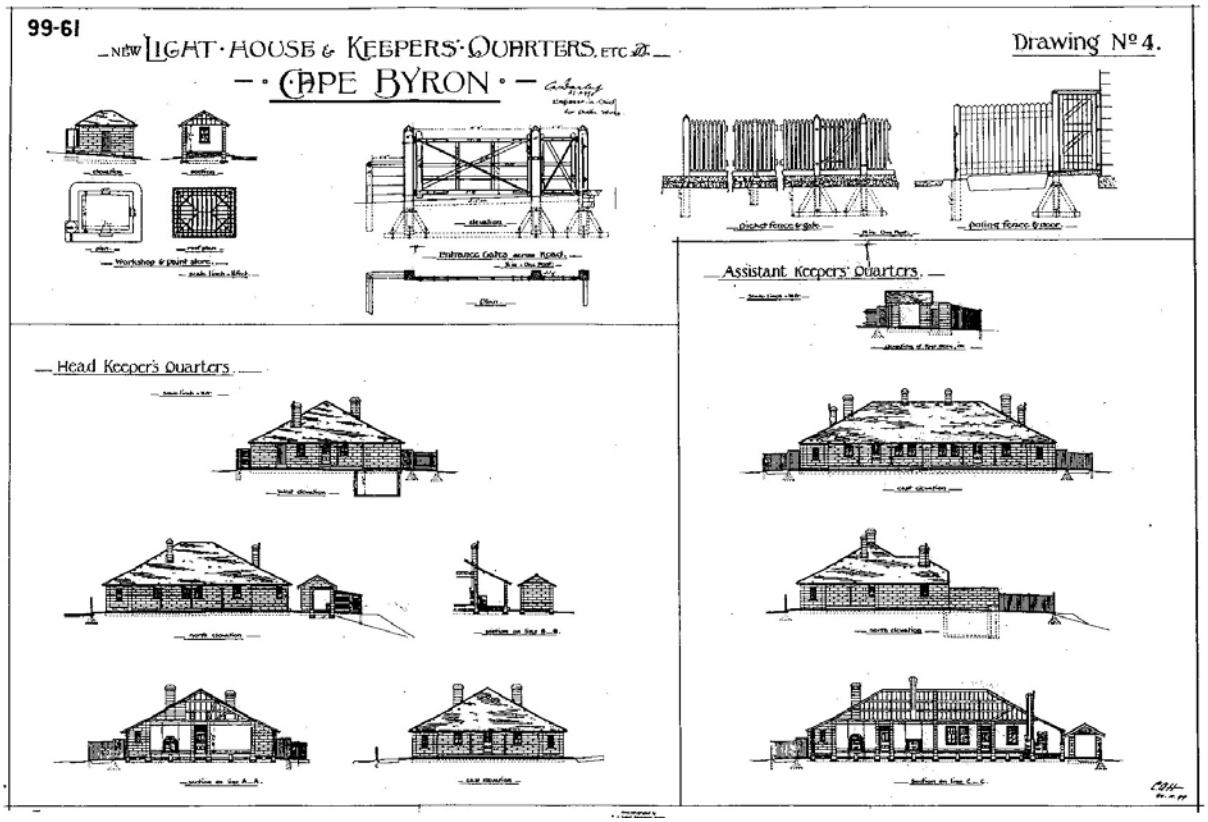
Historical Description

Preparation for the construction of the lightstation began in 1898 with the clearing of vegetation. In 1899, a road was constructed from the Byron Bay Township and the cleared site was levelled. Construction works commenced in July 1900 when the road was ready to convey building materials.

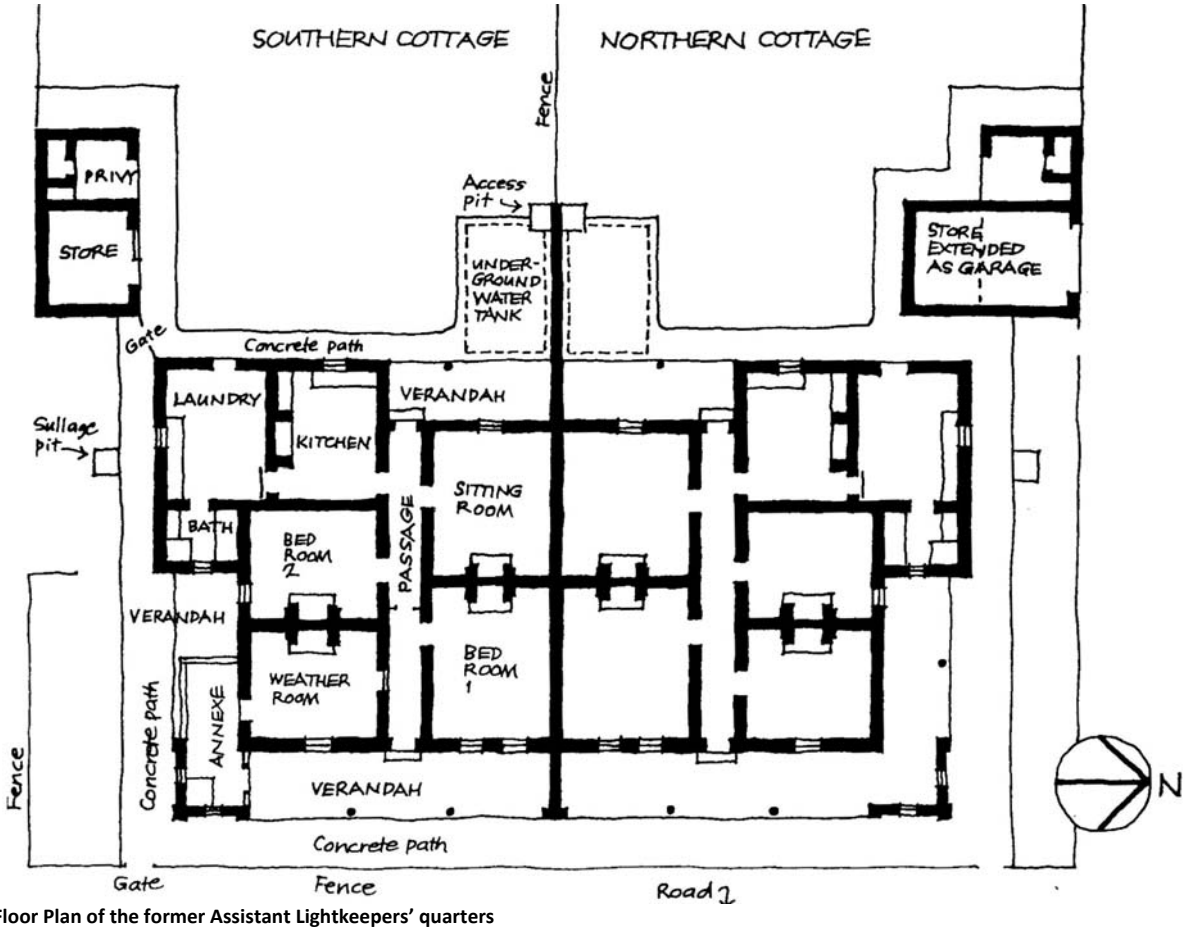
The lightstation officially opened on 1 December 1901. The Assistant Lightkeepers' quarters were included in the original construction contracts and were probably finished and occupied before the lighthouse. Construction is assumed to have been completed in 1901. Few changes occurred at the site during the first few decades. The site remained relatively stable and unchanged under the care of the lightkeepers whose daily routine included lighthouse duties and also maintaining and painting fences and structures.



Floor plans of the Keepers' quarters 1899
Source: ANN A10182/2 CN02047



Elevations of the Keepers' quarters 1899
Source: ANN A10182/2 CN02047



Floor Plan of the former Assistant Lightkeepers' quarters
Source: Pratten and Irving 1991

View of the quarters looking south in 1983 showing the radar tower on the south side of the former Assistant Lightkeepers' quarters.
Source: DEW Image number rt05468

View of the former Assistant Lightkeepers' quarters.
Source: Ellsmore 2008

Apart from technological changes at the site, including the erection of a radar tower on the southern side of the former Assistant Lightkeepers' quarter around 1945 and introduction of electricity in 1959, the place remained stable and unchanged as a manned lightstation until it was de-manned in 1989. Management was then transferred to the Cape Byron Headland Reserve Trust. The last Lightkeeper handed on the keys to the first manager of the Cape Byron Headland Trust in October of that year.

The plans on pages 2 and 3 above record the original uses of the rooms and their use in 1991 soon after the handover. Under the current holiday letting arrangement, the original domestic uses have been reinstated.

In recent times, works at the place have been directed towards conservation and improving the cultural tourism potential and visitor safety. Recent works have included new fencing, kerbing and guttering and refurbishment of the interiors. The formerly underutilised former quarters have been upgraded for holiday letting.

Physical Description

The former Assistant Lightkeepers' quarters occupy a site at the southern end of the lightstation precinct near the former site entrance. The pair of co-joined cottages is one of five principal structures of the lightstation. The plan of the main building is symmetrical around a party wall.


Views of the rear yards of the former Assistant Lightkeepers' quarters
Source: Ellsmore 2008

The former quarters have the appearance of a pair of duplex houses built of concrete blockwork like the lighthouse, with hipped Marseilles pattern terra cotta tiled roofs with tall chimneys and ogee pattern eaves gutters. The wide verandahs are continuous on the north, east and south sides divided by a party wall between the two quarters and a dividing wall and fence between their rear yards.


South side garden showing concrete pads of former radar tower (left) and north front yard
Source: Ellsmore 2008

Former fuel rooms, toilets and a former garage are located at their rear. There is an underground water tank and extensive concrete paving and picket fencing on the front sides and paling fences around the rear yards. The former fuel stores at the rear of each cottage have been converted to other uses. The northernmost fuel store has been reconstructed as a garage and it is now used by the Coastal Patrol as a command station. Communication equipment and aerials are mounted on a tower in a compound on the western side of the former garage in an area that was previously part of the rear yard of the Assistant Lightkeepers' quarters.

The former privies have been converted to WCs with flushing toilet connected formerly to septic tanks and now to town sewerage. The former fuel store of the southern quarters is largely empty now but used as a weather data collection room.


Views of the former garage, now coastal patrol (left) and brick paving in former southern fuel store
Source: Ellsmore 2008

The rooms in the quarters are still used for domestic purposes under a holiday letting system. This has not required any substantial modifications to the principal rooms although these rooms have been painted and furnished in a manner that acknowledges the heritage values whilst providing for the comfort needs of guests.


Views of the hallway of the southern Assistant Lightkeepers' quarters and a bedroom
Source: Ellsmore 2008

The kitchens, bathrooms and laundries have been modified and equipped with modern services and the yards have reverted to a domestic appearance complete with outdoor furniture and barbeques. The interiors are highly intact. The rooms are finished with solid plaster walls and lath and plaster ceilings with small timber coved cornices in the principal rooms and pressed metal ceiling roses. The Baltic pine floors are unpainted except for black japanned borders. The joinery is standard turn-of-century style and painted.

A recent survey of ceilings (Barr 2006) revealed information regarding the original lath and plaster and ripple iron ceilings and the asbestos cement sheet ceiling linings that were superimposed over them. The northernmost kitchen no longer has its original ceiling intact above the battened AC sheet ceiling. The timber boarded ceiling linings to the rear corner rooms and verandahs are original.

The building is now painted in a light stone colour with contrasting trim. The timber joinery is painted in two contrasting earth tones and the cast iron verandah posts are deep olive. The verandahs were finished originally with a grey bituminous topping on the concrete paving. This has been painted green and, more recently Indian red.

The blockwork was not painted when the quarters were constructed. The blockwork remained unpainted until the 1960s when the walls and chimneys were painted white, for the first time, like the lighthouse.


The original unpainted appearance of the stone blockwork (left) and front (east) verandah
Source: Ellsmore 2008

There are end screens to the verandahs at the fronts of the former quarters, complete with windows. The front and rear doors have decorative glass lights and fanlights (top panels). At the rear there are underground tanks for roof water. The expanses of concrete paving in the rear service yards and paths around the most of the perimeter of the building include original (darker) and more modern (lighter) concrete.

The rear yards are open lawn in the southernmost quarters and vegetated in the northernmost quarters. There are no formal garden plantings. There are no plantings at all in the early photographs. The fences around the former quarters are a combination of light cream-painted picket fences (to the cottage fronts); and unpainted and painted timber paling fences (providing some privacy at the rear). None of the original fences survive in situ and as far it is known there are no original, re-cycled components in the reconstructed fences.

Condition

The condition of the former Assistant Lightkeepers' quarters is sound. The exterior surfaces of the structure are painted. The fences have been painted regularly to maintain the fabric and their condition is generally sound. A major program of conservation works commenced in 2003 has addressed the fabric in an exemplary manner. The Marseille pattern terra cotta tiles were reinstated to the roofs prior to that date. The tiling represents the fourth roof covering on the building.

Over the past five years the cast iron columns and verandahs have been restored. The interior and exterior paint finishes have been renewed recently and their service areas upgraded. Research has been undertaken professionally in conjunction with these works and other planned works under a pro-active programme to conserve the building.

The following aspects of condition are highlighted for attention over the medium term.

- The Val de Travers bitumen verandah topping needs further conservation treatment. It has undergone some recent treatment following planning and assessment (McBeath 2007) but its condition remains unstable.
- The fences will need to be reconstructed to correct details and with appropriate paint finishes in the longer term.
- The front doors should be eased and adjusted to allow easy use. They should be fitted with self-activating weather strips to exclude wind driven rain whilst allowing for easy operation of the door.

Integrity

The integrity of the former Assistant Lightkeepers' quarters is high over all. However, the external paint finish on the concrete blockwork is not authentic and the replica terra cotta tiled roof covering is unconvincing as a reconstruction of the authentic tiled roof. The building was constructed with subtly mottled concrete blocks that had the appearance of natural stone. The joints were sealed with masons putty to complete the dressed stone masonry look. The painting of this blockwork for the first time in the 1960s was therefore not compatible with the aesthetic values. Nevertheless it would be unrealistic to now consider removing the paint, although it could be a long term goal.

The colour schemes within the building are too modern domestic in nature and they should also be reviewed with a view to reinstating an authentic colour scheme based on detailed research. Brief site research undertaken in conjunction with this study indicates that the original finishes were more sombre and utilitarian: based on predominantly stone colours.

The following brief list of works should be considered to address the losses of integrity.

- Research the original paint finishes, and reconstruct authentic colour schemes.
- Reconstitute the Val de Travers verandah finish and/or coat it with a grey flexible paint membrane to replicate the appearance of the original and monitor the condition.
- Reinstate the missing fireplace in the front bedroom of the southernmost Assistant Lightkeeper's quarters
- Remove inappropriate plantings as described in the CMP policies at section 9.4 and the recommendations at section 10.5.3 (and see figure 39 of the CMP).
- The slate floor tiles in the northernmost Assistant Lightkeeper's quarters are inconsistent with the values of the service areas and should be removed in the medium term to allow for reinstatement of the painted cement screed to the floor.
- The modern equipment in the rear yards (e.g. stainless steel barbeques and clothes lines are moderately intrusive and should be replaced in the medium term with more appropriate, low impact, fittings.
- The moisture that is evident in the party wall between the cottages should be fully investigated and the moisture should be treated in the appropriate manner when the cause is ascertained.
- The removal of the battened asbestos cement superimposed ceilings should be a medium term goal. The original lath and plaster ceilings could be stabilised. The missing ceiling could be reinstated in matching or like material.
- The signage should be reviewed and re-worked to allow for easy identification of the former quarters and their current use without encouraging trespassing.
- Interpretation around the quarters should be directed to general site visitors whereas interpretation within the quarters should be directed to engaging and informing holiday makers in an entertaining way.
- The base pads of the radar tower should be interpreted.
- The fence lines on the south side of the southern quarters have changed over time with changes in function. The original configuration should be reinstated together with the proposed reintroduction of entrance gates at the south east corner of the quarters.

- The etched glass lights in the hallway entrance doors should be reinstated over the longer term.

Inventory Survey Date

2008. Survey undertaken by D. Ellsmore.

STATEMENT OF SIGNIFICANCE

Previous Assessments

Studies undertaken by Pratten and Irving (1991 and 1997); Clive Lucas Stapleton and Partners (1993); and Graham Brooks and Associates (2001). Various Research Projects on bitumen, cast iron columns, gutters, fences, ceilings and services 2003 – 2006.

Current Heritage Recognition

Byron Shire Local Environment Plan.

Comparative Significance

The Cape Byron Lightstation is not only outstanding in the group of comparable places. It well represents the consistent quality and durability of all the lightstations in that group. The former Assistant Lightkeepers' quarters make up an essential component of the lightstation complex and contribute substantially to overall significance.

Assessment against NSW Heritage Criteria

Criterion a: The Cape Byron Lightstation is of high historical and contemporary cultural value.

Criterion b: The construction of Cape Byron Lightstation is directly associated with Charles Harding, acknowledged as the first and only specialist lighthouse architect in NSW, and his Engineer-in-Chief, Cecil Darley.

Criterion c: Cape Byron Lightstation has notable aesthetic values relating to its setting and location. Its architectural forms and details are evolutionary developments built on lessons from earlier examples. The Assistant Lightkeepers' quarters represent an early application of precast concrete units, in an evolutionary development from previous mass concrete lighthouse towers and quarters.

Criterion d: Cape Byron, and the site of the Lightstation, has considerable contemporary social value as the most highly visited tourism site in non-metropolitan NSW and the most highly visited lightstation. The former Assistant Lightkeepers' quarters are an essential component of the cultural place.

Criterion e: The potential archaeological resources of the site of the quarters have moderate potential to contribute to our understanding of the site in relation to its material history.

Criterion f: The Cape Byron Lightstation Precinct including the former Assistant Lightkeepers' quarters is unusual in its intactness.

Criterion g: The lightstation is representative of a group of lightstations built between 1899 and 1903 using the precast (on-site) concrete block method of construction.

Statement of Significance

The Cape Byron Lightstation Precinct including the former Assistant Lightkeepers' quarters is significant because of:

- its historical significance as an important element in the establishment of critical navigational aids along the New South Wales coast, and its association with Australian east coast shipping since the beginning of the twentieth century
- its outstanding aesthetic values

- its technical and historic significance as an unusually intact and representative example of an important class of lightstations, and its continuing use
- its considerable contemporary social and community values
- it is a pioneer example of the NSW Public Works Department's concrete masonry structural scheme of the period

CONSERVATION POLICY

The aim of the conservation policies is to support the long-term conservation of the former Assistant Lightkeepers' quarters, inform its day-to-day management, and ensure continuing best practice in management of its cultural heritage values.

Conservation Policy Issues

The high significance of design, built form and fabric of the Lightstation demands that the original design should be a foremost consideration in the management of the structures, including any new structures. The precinct layout was carefully planned to give prominence to the lighthouse by placing it at the highest point and by laying out the quarters and stores for functional efficiency and domestic amenity.

While the precinct is not well lit at night, illumination is required for visitor safety, including for special events and should be installed. The only light that should be prominent (i.e. seen from a distance) is the lighthouse light.

The Lightkeepers' quarters were enclosed by fences to provide privacy and enclosure; the character of the Assistant Lightkeepers' quarters was domestic, quite different to the functional areas around the lighthouse. This character should be retained. The reinstatement of fences and gates to their original detailing should continue as a means of recovering the integrity of the original design. In general changes should only be made if they are critically necessary for the ongoing viability and use of the Lightstation and no changes should be made that would have the potential to damage the heritage values.

Recommended Conservation Policy

General

Policy 1	The Cape Byron Lightstation Precinct, a place of outstanding to high cultural heritage values, should be conserved through sound conservation practices to ensure its values are sustained for current and future generations.
Policy 3	The Cape Byron Lightstation Precinct should be managed in accordance with its high cultural heritage significance; its cultural heritage values should be conserved and clearly interpreted.
Policy 4	The Cape Byron Lightstation Precinct should be managed as a cultural tourism destination and its Indigenous and post-contact values should be explained and interpreted to the widest possible audience.
Policy 5	All decision-making and implementation of works and other activities should be guided by the conservation philosophy, principles, processes, practices and guidelines provided in the *Burra Charter*.

Integrity of original design, built form and fabric

Policy 27	Any proposed additions or alterations to buildings should respect the pavilion forms of existing structures and be subservient to them in form, style, texture and colour.
Policy 31	The formal, industrial and functional character of the common areas of the precinct should be preserved; no ornate plantings, hoardings, over-use of signage, clutter, or structures unrelated to this character should be permitted, except for the rear of the Assistant Lightkeepers' quarters and their yards that should retain a domestic setting different from the common areas, and with fences separating the domestic yards from the common areas.

Policy 33 Illumination at the site should be provided to ensure visitor safety and should be in keeping with the functional character of the place; however, no illumination should be directly on the tower or structures—the only light that should be visible from below the precinct should be the light itself.

Conservation of built fabric

Policy 34 The fabric of the various built elements of the Cape Byron Lightstation should continue to be maintained using the most appropriate materials and techniques consistent with the high standards employed in the original construction and in line with the Maintenance Plan.

Policy 35 The Maintenance Plan should be periodically reviewed to ensure that no fabric is neglected or damaged for want of inspection and rectification.

Policy 36 The patina of the authentic fabric should be retained wherever it would be consistent with correct conservation practice over the medium and long term.

Policy 38 No material should be removed or replaced except where it is necessary to introduce new or better material for conservation in the medium or long term; retention of authentic fabric should be preferred over replacement, unless the authentic fabric is causing damage to adjoining fabric.

Policy 39 New and replacement materials should be selected on the basis of compatibility with the original materials.

Policy 40 All services at the place should continue to be maintained in a sound and safe condition in line with the Maintenance Plan.

Maintenance and replacement of services, fences, paths and roads

Policy 41 New services should be introduced only if they are needed to support existing uses, and their inclusion is consistent with the aims of conserving the place.

Policy 43 All fences and gates at the Lightstation should be maintained in a style and condition consistent with the original drawings and as shown in photographs taken around the time of opening of the Lightstation—unless changes are required to meet identified public safety needs or are required in areas where no fences existed previously, and are planned and executed as part of the Maintenance Plan.

New works and extent of change

Policy 53 Changes to built forms and fabric should be made in such a way that it should be possible to restore the fabric to its original form without damage; any changes made should be clearly visible, and not disguised as original work.

Policy 57 No parts of the original structures or other features of high significance should be removed to allow for the introduction of new structures or services, with the exception of services maintained under the Maintenance Plan.

Policy 58 The style of new works should be compatible with the Lightstation and cognisant of its significance, using compatible contemporary materials and forms.

Archaeological significance

Policy 62 There should be no avoidable disturbance of known or potential archaeological resources (areas located within Zones A and B in the *Archaeological Zoning Plan*). When archaeological resources are encountered unexpectedly, works should stop immediately and the Culture and Heritage Division of DECC should be notified.

Future use

Policy 105 The former Assistant Lightkeepers' quarters should continue to be used for short-term holiday residential accommodation.

Recommended Policy Strategy

The approach to managing the former Assistant Lightkeepers' quarters in accordance with values has been followed there in recent years and it should continue. When necessary, outside skills should be engaged to ensure informed decision making.

The current use is compatible with the conservation aims. There is no evidence to suggest that the conservation is compromised in any way by the current use. The use-related activities that are potentially in conflict, such as barbequing, are nevertheless relatively low impact activities. Therefore the current use should continue while it is financially viable.

The level of usage is such that some of the other conservation issues could be deferred. They include repairs to the Val de Travers bitumen and the removal of slate floor tiles from one laundry.

The replacement of fences may be more urgent. It is an unfortunate fact that modern paints of the type that have been used on the reconstructed fences are too efficient because that prevent the passage of moisture in both directions. The moisture that enters through assembly junctions and remains trapped in the wood creates a microenvironment that leads to the rapid decay of the wood. Future reconstructions of hardwood fences should involve priming and sealing all of the timber with oil-based paints before assembly.

The inappropriate plantings in the yards of the quarters should be removed and, where required for decoration or privacy, replaced with suitable species.

Recommended Strategy Implementation

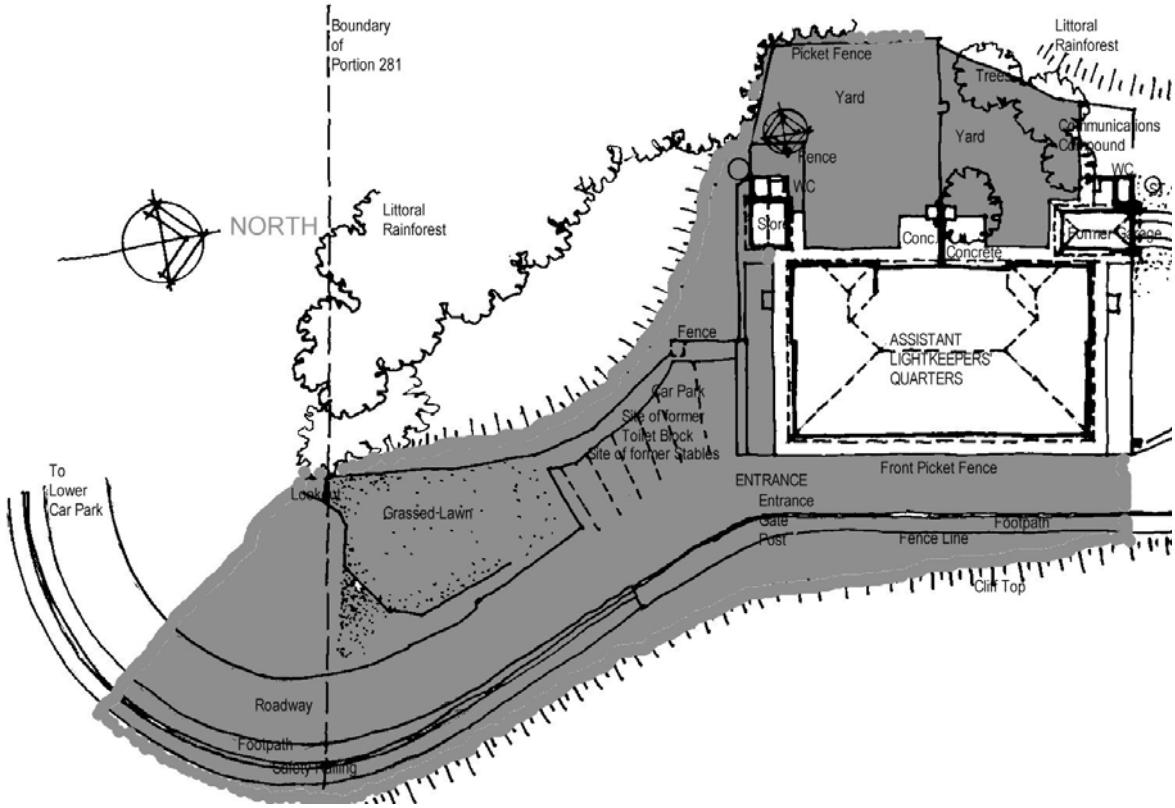
The use of the former Assistant Lightkeepers' quarters should continue. Some minor works identified above will improve the place. Other maintenance works as already undertaken and scheduled should continue in accordance with the maintenance program, including:

- monitoring the condition of the Val de Travers bitumen
- reconstructing fences to correct details and with appropriate paint finishes in the longer term
- installing self-activating weather strips to doors
- reinstating one fireplace in the front bedroom of the northernmost former Assistant Lightkeeper's quarters
- replacing floor rugs with similar coverings
- removing inappropriate plantings
- replacing barbeques and clotheslines
- removing slate tiles from one laundry
- treating moisture in party wall
- removing battened asbestos cement sheet lined ceiling and stabilising lath and plaster ceilings
- improving signage and interpretation
- reinstating fences in correct positions and in accordance with correct deals, including priming all surfaces with oil-based primers before assembly
- repairing and reinstating etched glass lights to hallway doors
- replacing gilt-framed mirrors (installed 2008) with plain timber-framed mirrors
- removing curtain swags (installed 2008) to simplify appearance of window dressings.

Site Name & Type	**CAPE BYRON LIGHTSTATION SOUTHERN PRECINCT**
Place Number	**Inventory 7**
Place Name and Former Names	Cape Byron Lighthouse and Lightkeepers' Quarters
Type of Place	Built Heritage
Associated Items	Cape Byron Headland Reserve

LOCATION

Site Location



Plan of the southern precinct
Source: Ellsmore 2008

DESCRIPTION

Construction Date 1899–1901

The Cape Byron Lightstation Precinct was constructed from 1899 (taken from when road construction commenced). In 1900 construction works of the buildings began, and the lightstation was opened in December 1901.

Modifications and Additions

1935	Timber-framed stables constructed at south end of site
c. 1950	Toilet block constructed by Byron Shire Council
c. 1965	Exterior walls and chimneys of Lightkeepers' quarters and outbuildings painted for the first time
1992	Marseilles pattern terra cotta roof tiles reinstated to Lightkeepers' quarters and outbuildings
1999	Public toilets at south end of site demolished
2006	Concrete path and safety fence erected on eastern boundary. Major renovations to former Assistant Lightkeepers' quarters and adaptation for holiday letting

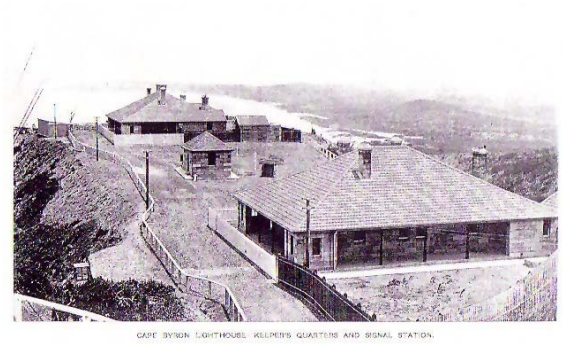
Historical Description

The Bundjalung of Byron Bay (Arakwal) people have had a continuing association with the lands and waters around Cape Byron for a long time before the lightstation was established there. Preparation for the lightstation began in 1898 with the clearing of vegetation from the site. In 1899, a road was constructed from the Byron Bay Township and the cleared site was levelled.

Construction works commenced in July 1900 when the road was ready to convey building materials—some of which were brought by ship to the Byron Bay jetty and transported from there to the site by horse-drawn vehicles. The lightstation officially opened on 1 December 1901. Few changes occurred at the site during the first few decades, apart from improvements to the operation of the light itself, whose power was incrementally increased with innovations in technology.

C.1940 view (left) and 1983 view (right) looking south from the lighthouse.
Source: nla.pic-an23206120 by Frank Hurley (left) and rt05468 Copyright DEW (right).

The site remained relatively stable and unchanged under the care of the lightkeepers. Amongst the few changes that occurred was the construction of stables in 1934. These can be noted in the photograph above near to, and just outside, the former entrance gate at the south-eastern corner of the former Assistant Lightkeepers' quarters.



Photograph reproduced in 1902 annual PWD report (left) and portion of c. 1935 view (right) showing the structure that existed briefly at the entrance and the stables and entrance gates.
Source: PWD Annual Report 1902 and nla.pic-an23206120 by Frank Hurley

In the late 1950s, tourism to the site began to grow at a time when people were also visiting to witness whaling from the vantage point of the lightstation. Changes began to occur in response to the tourism, including the construction of the first public toilets, adjacent to the site of the former stables.

The transfer of management to the Cape Byron Trust and creation of the Cape Byron Headland Reserve in 1989 brought about further changes. Since 1989, when the last Lightkeeper handed on the keys to the first manager of the Cape Byron Trust, the site has been progressively hardened in small incremental ways to withstand the rigours of increasing volumes of pedestrian and vehicular traffic. The small changes have incrementally transformed the site from a place of relative isolation with a

pervading industrial character, to a busy place with a strong tourism character. People now visit the site by day and night in all seasons and in large numbers.

The lightstation precinct was fully fenced when constructed. Impressive gates were located at the entry point at the south-eastern corner of the Assistant Lightkeepers' quarters on the alignment of the southern fence to the quarters. A gatepost, now substantially repaired and relocated, survives near to its original position.

In the past decade, works at the place have been directed towards the conservation of the structures and improving its cultural tourism potential and visitor safety. Recent works include new fencing; kerbing and guttering to most of the sealed areas, with markings for car and coach bays; the construction of a toilet block and the introduction of the footpath on the eastern side of the car parking area and realignment of the fence line.

The small area of land at the southern end of the lightstation precinct, outside the original fenced area, was the site of the stables and the public toilet block, both of which have since been demolished. It is now the area for parking 6 vehicles and at the extreme end, a lookout and small picnic area has been created.

Aerial view of the southern precinct. Note the fence line which was located at the site entry (where the blue car is entering the site. Source: Ashley Wilmont c. 2003

Physical Description

The road to the site arrives at the southern end of the precinct and extends to the lighthouse at the northern end where it terminates. Private vehicles are parked in the two designated areas. One of these is located just outside the former entrance gates. The roads are sealed with black-top bitumen with concrete pedestrian paths along the eastern boundary and across the fronts of the quarters.

Views of the southernmost portion of the site with car park 2008, and the former toilet block circa 1980
Source: Ellsmore 2008 and unknown c. 1980.

Grass lawns are maintained outside the paved areas on the flat and gently undulating parts of the site. An apron of mowed grass is maintained outside the perimeter fences.

Views of the fence with sign (left) and remaining gatepost (right) at the entrance to the lightstation
Source: Ellsmore 2008

The site entrance is no longer identified by entrance gates as it was originally. The original gates have been removed and one (only) gate post survives. It is much altered and not in its original position but it still serves to mark the former entry point.

The area around the former Assistant Lightkeepers' quarters is now heavily vegetated and somewhat degraded. Weed species are invading the area and the vegetation is beginning to screen the site in an undesirable manner. Recent works to remove a public telephone box associated services, and to install sewerage, has left the southern fringe of the precinct in a degraded state.


Views of the southern extremity of the lightstation looking west (left) and east (right)
Source: Ellsmore 2008

Integrity

The integrity of the southern lightstation precinct is moderate only. The principal site features of the 1899 plans are no longer intact, making interpretation of the area difficult. The removal of entrance gates to mark the historical point of entry to the lightstation has diminished the experience of entering what was once a secure site where an important was function was undertaken.

The following aspects of loss of integrity, which are relatively minor in themselves, are nevertheless highlighted.

- The entrance gates are missing.
- The fence on the south side of the former Assistant Lightkeepers' quarters is not consistent with the original details.
- The rear yard fences are not on their historical alignments.

Inventory Survey Date

2008. Survey undertaken by D. Ellsmore

STATEMENT OF SIGNIFICANCE

Previous Assessments

Studies undertaken by Pratten and Irving (1991 and 1997), Clive Lucas Stapleton and Partners (1993) and Graham Brooks and Associates (2001).

Current Heritage Recognition

Byron Shire Local Environment Plan

Comparative Significance

The Cape Byron Lightstation is not only outstanding in the group of comparable places, but also well represents the consistent quality and durability of all the lightstations in that group. The southern precinct is an important component.

Assessment against NSW Heritage Criteria

Criterion a: The Cape Byron Lightstation is of high historical and contemporary cultural value.

Criterion c: Cape Byron Lightstation has notable aesthetic values relating to its setting and location. The lightstation exemplifies handsome, competent architectural design with high aesthetic values.

Criterion d: Cape Byron, and the site of the Lightstation, has very high significance for the traditional owners, the Bundjalung of Byron Bay (Arakwal) people, and the wider community.

Criterion e: The potential archaeological resources are moderate.

Criterion f: The place is unusual in its relative intactness.

Statement of Significance

The Cape Byron Lightstation Precinct is significant because of:

- its significance to the traditional owners, the Bundjalung of Byron Bay (Arakwal) people, who have a strong cultural and spiritual relationship with the place and a role it its management today
- its outstanding aesthetic values
- its considerable contemporary social and community values

CONSERVATION POLICY

The aim of the conservation policies is to support the long-term conservation of the Cape Byron Lightstation Precinct, inform its day-to-day management, and ensure continuing best practice in management of its cultural heritage values

Conservation Policy Issues

The setting of the Cape Byron Lightstation Precinct is exceptionally important. The conservation of this setting requires a balanced but determined approach to ensure that new construction, demolition or other changes would not have any adverse impacts on the setting of the Lightstation. The intrusion of modern features such as roads, parking and service clutter could diminish its values.

The high significance of the built form should be a foremost consideration in the management of the central precinct. The precinct is currently under stress due to traffic and pedestrian movements through it.

The precinct was originally built as a single operational working site; for safety reasons it was traditionally a fairly uncluttered functional site with the lighthouse as the principal focus. The Lightkeepers' quarters were enclosed by fences to provide privacy and enclosure and the site was fenced to exclude uninvited public access. The fences are a major element of the significance.

The impacts of traffic on the amenity of the site are substantial now. Large numbers of tourists and local people visiting the site by cars, coaches, minibuses and motorbikes have a big impact on the visual amenity, site congestion, noise, and convenience.

It is felt that the removal of vehicles could have potential benefits for the amenity of the place. This is the subject of a recommendation in the CMP.

A whole-of-site, carefully considered, approach to interpretation would also enhance the visitor experience. In particular the aboriginal cultural significance needs to be explained better through more interpretive activities conducted by the Aboriginal education guides and by conventional interpretation panels and signage.

Daytime visits to the precinct are characterised by a constant turnover of vehicles and pedestrians—with most visits being of short duration. An area of formal parking for 6 cars is marked out at the

entrance just before the former entrance gates. The first ranger attendant is usually stationed at this point to collect entry fees from motorists and to supervise parking. This is not enough to satisfy current demand and as a consequence there usually some congestion at this point as the ranger is required to deal with motorists seeking entry when entry cannot be accommodated.

It is recommended that this point of entry should be more clearly defined by physical measures, including the reconstruction of the entrance gates, and by new management arrangements, including the future possible exclusion of non-essential motor vehicles.

Recommended Conservation Policy

General

Policy 1 The Cape Byron Lightstation Precinct, a place of outstanding to high cultural heritage values, should be conserved through sound conservation practices to ensure its values are sustained for current and future generations.

Policy 3 The Cape Byron Lightstation Precinct should be managed in accordance with its high cultural heritage significance; its cultural heritage values should be conserved and clearly interpreted.

Policy 4 The Cape Byron Lightstation Precinct should be managed as a cultural tourism destination and its Indigenous and post-contact values should be explained and interpreted to the widest possible audience.

Policy 5 All decision-making and implementation of works and other activities should be guided by the conservation philosophy, principles, processes, practices and guidelines provided in the *Burra Charter*.

Aboriginal cultural significance

Policy 8 The Bundjalung of Byron Bay (Arakwal) people, through their involvement on the Cape Byron Trust, should continue to be consulted on all developments at the place, including the impact of any proposed changes on Aboriginal cultural values and their interpretation.

Lightstation setting

Policy 16 No new structure should be built at the Cape Byron Lightstation Precinct that would be visually intrusive when viewed from a distance, or that would adversely impact on views from the Lightstation.

Landscape and vegetation

Policy 19 No new landscape elements should be introduced that would visually overwhelm or detract from the essentially barren or open character of the Lightstation, or that would shield the place from view.

Policy 22 No new landscape elements should be introduced for which there is not an historical precedent or interpretative relevance.

Integrity of original design, built form and fabric

Policy 25 The functional character of the Cape Byron Lightstation Precinct as a place of work, and the original form of the lighthouse within an integrated and integral set of structures in relation to that function, should be preserved.

Policy 27 Any proposed additions or alterations to buildings should respect the pavilion forms of existing structures and be subservient to them in form, style, texture and colour.

Policy 28 The historic layout of the roads and fences should be preserved with the precinct kept as an uncluttered space defined by open perimeter fences and without any new enclosing structures or screenings—unless changes are required to meet identified public safety needs, and are planned and executed as part of the Maintenance Plan.

Policy 32 The increased hardening of the site that has occurred over time should not be allowed to confuse or hide the core significance of the place as a functional lightstation, or its fundamental characteristics.

Policy 33 Illumination at the site should be provided to ensure visitor safety and should be in keeping with the functional character of the place; however, no illumination should be directly on the tower or structures—the only light that should be visible from below the precinct should be the light itself.

Conservation of built fabric

Policy 40 All services at the place should continue to be maintained in a sound and safe condition in line with the Maintenance Plan.

Maintenance and replacement of services, fences, paths and roads

Policy 41 New services should be introduced only if they are needed to support existing uses, and their inclusion is consistent with the aims of conserving the place.

Policy 42 Wherever possible, services should be located underground; however, services that replicate the original services could be located above ground for interpretation purposes, provided their form and location is consistent with the aims of conserving the cultural heritage values of the Lightstation.

Policy 43 All fences and gates at the Lightstation should be maintained in a style and condition consistent with the original drawings and as shown in photographs taken around the time of opening of the Lightstation—unless changes are required to meet identified public safety needs or are required in areas where no fences existed previously, and are planned and executed as part of the Maintenance Plan.

Policy 50 Concrete kerbs and gutters should be considered for removal from the site, except where they have a vital function in preventing erosion and managing storm water.

New works and extent of change

Policy 55 New works should be planned to be subservient to the original Lightstation structures and other features of high significance.

Archaeological significance

Policy 62 There should be no avoidable disturbance of known or potential archaeological resources (areas located within Zones A and B in the *Archaeological Zoning Plan*). When archaeological resources are encountered unexpectedly, works should stop immediately and the Culture and Heritage Division of DECC should be notified.

Traffic management and methods of site access

Policy 80 Further changes to the existing roads and paths should be incrementally undertaken to return them to a form and condition that existed at the site in the 1960s, for example by removing kerbing and guttering and hard stand areas subject to any needs for stormwater management.

Recommended Policy Strategy

The clear priority in the management of the lightstation precinct is to manage it in accordance with its high values as they are established in the conservation management plan. This does not require any radical departure from current management practices which have been good throughout the history of the place and very good in recent years. The immediate challenge is to sustain the place under the ongoing pressure of high levels of visitation.

A small number of works to the southern precinct are recommended for consideration by the Trust. They include new entry arrangements, reconstruction of the entrance gates, and changes outside the gates as a consequence of both.

Recommended Strategy Implementation

Four projects are proposed for the central precinct. They are

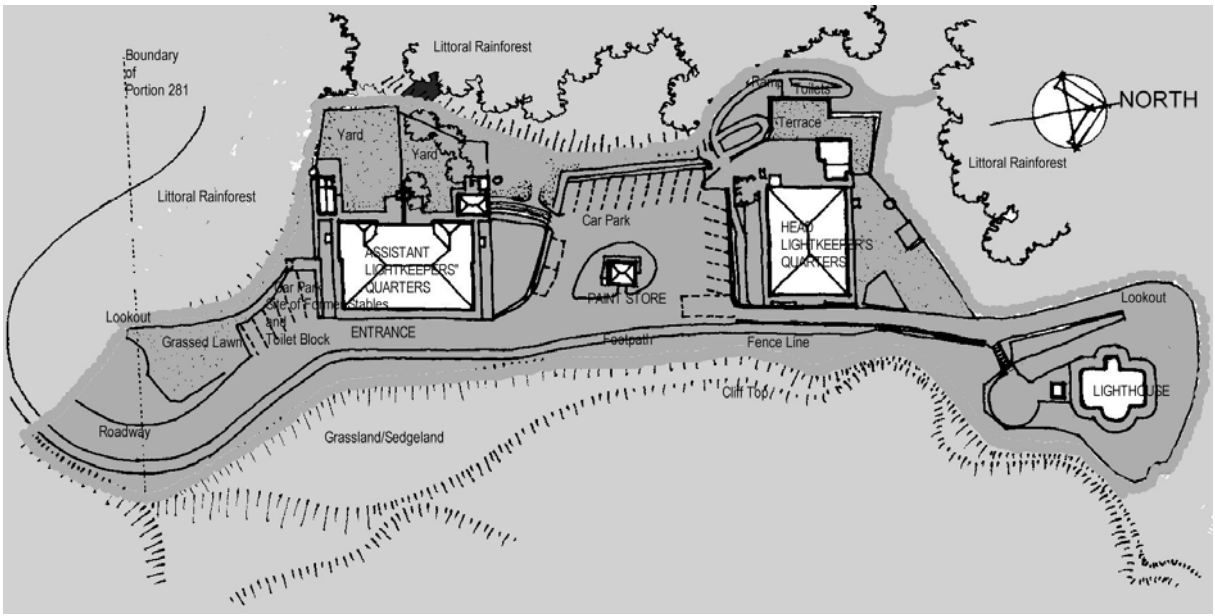
- the reconstruction of the entrance gates and southern fence of the quarters as detailed on the original construction drawings
- exclusion of non-essential vehicle (long term)
- new management arrangements at the entry including, possibly, the collection of site entry fees and a structure to protect the collector
- the investigation of a possible shelter for Visitor Services Officers to be built in the style and position of a structure that was built at the entrance gates in 1900 and removed after the Lightstation opened
- re-working of the area outside the gates as a result of the above with a view to reinforcing the historical enclosure of the lightstation and therefore differentiating between the space within and the space without.

Other benefits might be achieved within the general aims of the above, including rationalisation of signage, garbage receptacles, parking for cars and other vehicles (bicycles) and ultimately, also the roadway, footpaths, fences and other devices that exist largely because of the high volumes of tourist generated road traffic. The rationalisation of these would be ultimately linked to the measures recommended, but not specified, regarding the eventual reduction in motor vehicles at the site.

Site Name & Type	**GREATER CAPE BYRON LIGHTSTATION PRECINCT**
Place Number	**Inventory 8**
Place Name and Former Names	Cape Byron Headland
Type of Place	Built Heritage
Associated Items	Cape Byron Headland Reserve and Arakwal National Park

LOCATION

Site Location



Plan of the Greater Cape Byron Lightstation Precinct (approximate extent) with Lightstation Precinct shaded and principal structures unshaded
Source: Ellsmore 2008

DESCRIPTION

Construction Date 1899–1901

The Cape Byron Lightstation Precinct was constructed from 1899 (taken from when road construction commenced). In 1900 construction works of the buildings began, and the lightstation was opened in December 1901.

Modifications and Additions

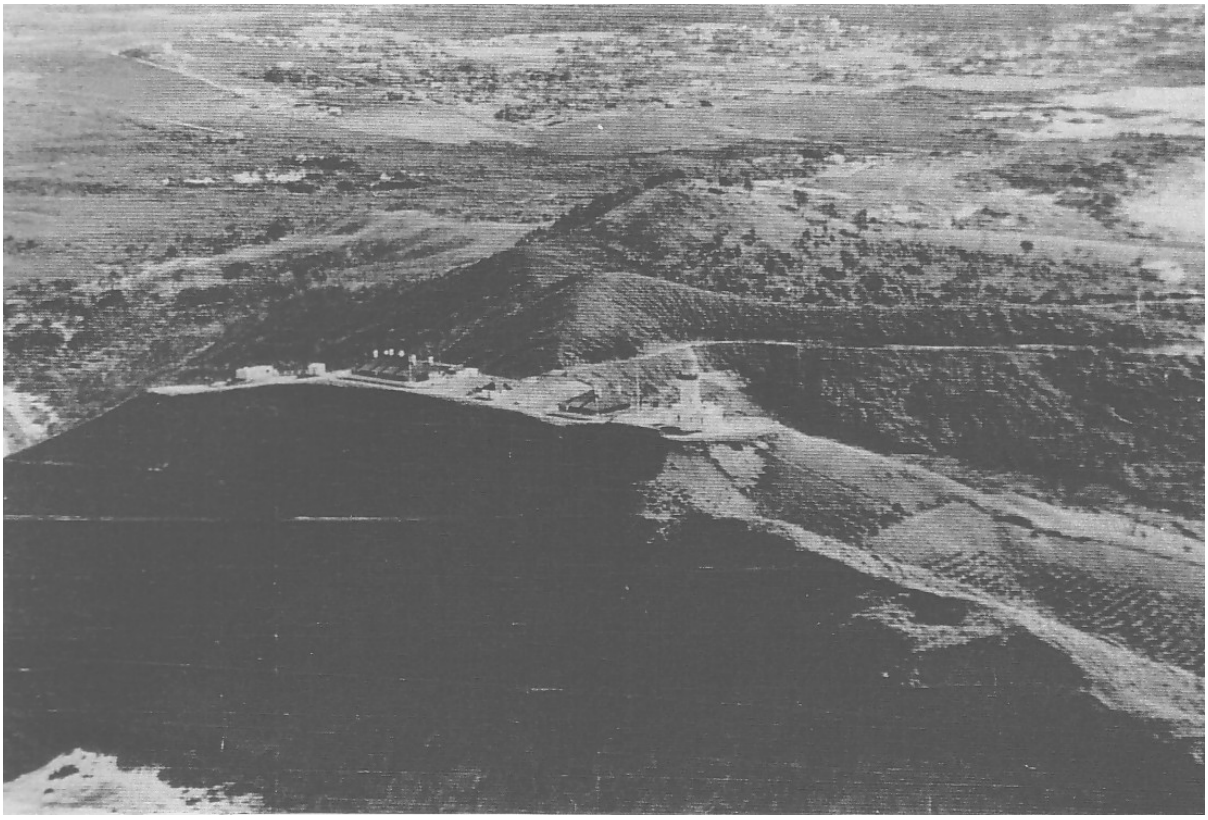
1982 Cape Byron walking track constructed by Dept Lands
2006 Concrete path and safety fence erected on eastern boundary

Historical Description

The Bundjalung of Byron Bay (Arakwal) people originally occupied the area that includes the site of the lighthouse. In 1885 a reserve (No. 53) was created by the NSW Government for public purposes. It covered more than 100 hectares of the Cape Byron Headland. Portion 281 of this reserve was later transferred to the Commonwealth for lighthouse purposes.

Preparation for the construction of a lightstation on the site began in 1898 with the clearing of vegetation. The lighthouse was designed in 1899 by Charles Harding, Architect-in-charge of lighthouse design, under the direction of Cecil Darley, Engineer-in-chief of public works in NSW. The design was a new standard involving the use of concrete block masonry. The blocks were cast at the site using aggregate mined nearby.

In 1899, a road was constructed from the Byron Bay township and the cleared site was levelled. A contract was let on 29 May 1900 for construction of the lighthouse. Construction works commenced in July 1900 when the road was ready to convey building materials—some of which were brought by ship to the Byron Bay jetty and transported from there to the site by horse-drawn vehicles. The lightstation officially opened when the light was exhibited on a regular basis for the first time on 1 December 1901.



View of the Greater Lightstation Precinct and surrounding landscape taken from the air in 1954
Source: Pratten & Irving 1991

Since that time, a small number of changes have been made to the lightstation and surrounding area of the Cape Byron Headland Reserve. They included the construction in 1934 of stables at the south end of the site just outside the entrance gates to the lightstation and a toilet block was built there by Byron Shire Council in 1950. These two structures can be noted in the aerial view above. In 1959 electricity was installed.

In the late 1950s, whaling was undertaken from Byron Bay and people began to visit the elevated site for the purpose of viewing the whalers in action. Whaling was discontinued in the 1960s. The lighthouse was de-manned in 1989 when the Cape Byron Lightstation was transferred to the Cape Byron Headland Reserve Trust.

Physical Description

The precinct that has been identified as the 'greater Lightstation precinct' for the purposes of this inventory, occupies an area of approximately 5 hectares on the elevated land formed at the summit of Cape Byron. The aerial land map below shows the area overlaid with the boundary of Portion 281 that was reserved for lighthouse purposes and transferred to the Commonwealth after the lightstation was established.

Southern end of the lightstation precinct showing 1950 toilet block (left) and same view in 2008
Source: Unidentified c.1980 (left) and Ellsmore 2008

Aerial photo with land portions overlaid in fine black line. Portion 281 is a three-sided rectangular portion.
Source: Byron Shire Council eView 2008

The surrounding area is composed of patches of littoral rain forest and grassland or sedgeland. The site of the lightstation is partly grassed and partly paved with concrete and bitumen; it has minimal plantings of native and introduced species, mainly in the rear yards of the Assistant Lightkeepers' quarters and on the margins.

Aerial View of the Greater Precinct with principal features marked
Source: Landmark 2008

The road to the lightstation arrives at the southern end and extends to the lighthouse at the northern end. A paved walking track rises up from the beaches at the northern end of the reserve, and meets the Cape Byron Lightstation Precinct at the northern end, beside the lighthouse.


Views of the gate above the lower car park and walking track from Wategos to the Lightstation
Source: Ellsmore 2008

The fences in the greater Lightstation precinct are a combination of unpainted arris-top timber fences with safety mesh near the lightstation precinct, treated pine posts and railings, and unpainted post and railing fences in the surrounding reserve. Various other traffic control devices including ARMCO railings, painted and unpainted bollards are located on the roadway and around the lower car park.


Views of southern end of the Lightstation precinct with fenced lookout on the elevated site
Source: Ellsmore 2008

The footpaths are brick paved with a small number of timber bench seats along the pathway on the ascent to the Lightstation.


Views of the pathway from the lower car park to the Lightstation precinct
Source: Ellsmore 2008

Condition

The condition of the greater Lightstation precinct is generally sound. The surrounding Reserve is under active management including bush regeneration to deal with invasive weed species. Some specific issues regarding the area of the greater precinct, outside the fenced area of the lightstation includes the following.

- The area of the lower car park and associated informal parking around it, and the road entrance to the site is degraded as a result of high levels of use.
- Invasive weed species exist in the Reserve.

Integrity

The integrity of the greater Lightstation precinct is moderate to high. The roadway occupies the historic alignment although it has been upgraded in recent decades and its margins have been hardened with safety railings and paving. The fencing that has been introduced in recent years to make the approaches to the Lightstation safer for visitors has caused a modification of the former, more barren landscape.

The following aspect of loss of integrity is beyond the control of the Cape Byron Trust.

- Encroachment of housing in the north-east.

Inventory Survey Date

2008. Survey undertaken by D. Ellsmore.

STATEMENT OF SIGNIFICANCE

Previous Assessments

Studies undertaken by Pratten and Irving (1991 and 1997); Clive Lucas Stapleton and Partners (1993); and Graham Brooks and Associates (2001).

Current Heritage Recognition

Byron Shire Local Environment Plan.

Comparative Significance

The Cape Byron Lightstation and surrounding portion of Cape Byron Headland Reserve, described here as the Greater Lightstation Precinct, is one of the most significant lightstation sites, and one of the most highly visited tourism sites in NSW.

Assessment against NSW Heritage Criteria

Criterion a: The Cape Byron Lightstation is of high historical and contemporary cultural value to the traditional owners and the wider community due to its former importance as a former ceremonial place, a viewing place, and an element in dreaming stories of the Arakwal cultural landscape. Construction of Lightstation in 1899-1901 was an important component of the final pre-federation phase of development in coastal navigation aids.

Criterion c: Cape Byron Lightstation has notable aesthetic values relating to its setting and location. It can be seen from a great many vantage points in the local area and from a great distance.

Criterion d: Cape Byron, and the site of the Lightstation, has very high significance for the traditional owners, the Bundjalung of Byron Bay (Arakwal) people, and the wider Bundjalung nation. It is a viewing place, from where Arakwal Country can be seen including many important spiritual and dreaming sites; in turn, the precinct itself can be viewed from many other parts of Arakwal Country.

The place has considerable contemporary social value as the most highly visited tourism site in non-metropolitan NSW and the most highly visited lightstation. It is well known as a key whale-watching spot, and as a vantage point for sighting rays, sharks, turtles, oceanic seabirds and dolphins. The lighthouse is a widely known and potent community symbol.

Criterion e: The potential archaeological resources of the Precinct have moderate potential to contribute to our understanding of the site in relation to its Indigenous use and material history.

Statement of Significance

The Cape Byron Lightstation Precinct is significant because of:

- its historical significance as an important element in the establishment of critical navigational aids along the New South Wales coast, and its association with Australian east coast shipping since the beginning of the twentieth century
- its significance to the traditional owners, the Bundjalung of Byron Bay (Arakwal) people, who have a strong cultural and spiritual relationship with the place as a fundamental element of their heritage, dreaming stories and Country, and for its vital contemporary Arakwal community role
- its outstanding aesthetic and adjacent natural values; it is dramatically located on the top of a high windswept cliff on Cape Byron—a place of great beauty—where it is a dominant landscape feature free of modern intrusions
- its considerable contemporary social and community values for the local Indigenous people, the local community, the wider community, and internationally—the precinct is significant for tourism and has a high level of recognition in the public imagination. It is well known as a key whale-watching spot and vantage point for viewing seabirds and other marine vertebrates, and affords unrivalled views of the coastline and the dramatic hinterland
- it is jointly managed by traditional owners, the Bundjalung of Byron Bay (Arakwal) people, through the Agreement in 1997 and the Arakwal Indigenous Land Use Agreement
- its Indigenous and historic archaeological features that have the potential to add to our knowledge, particularly in regard to the Indigenous use of the site, and the lives of those who resided there.

CONSERVATION POLICY

The aim of the conservation policies is to support the long-term conservation of the Cape Byron Lightstation Precinct, inform its day-to-day management, and ensure continuing best practice in management of its cultural heritage values.

Conservation Policy Issues

The Bundjalung of Byron Bay (Arakwal) people are involved in management of the place and through their involvement no damage or offence to Aboriginal cultural values should occur.

The setting of the Cape Byron Lightstation Precinct is exceptionally important. The conservation of this setting requires a balanced but determined approach to ensure that new construction, demolition or other changes would not have any adverse impacts on the setting of the Lightstation. Conservation of the natural values requires the replacement of some existing inappropriate and problematic plantings with plant species from locally important, low growing communities that, at the same time, maintain the panoramic views.

The impacts of traffic on the amenity of the precinct are substantial. Large numbers of tourists and local people visit the site by cars, coaches, minibuses and motorbikes and the impacts on the visual amenity, site congestion, noise, and inconvenience to others is substantial.

The precinct has only one access road and two small parking areas – not enough to cope with peak demand. Pedestrians access the site in numbers at all hours of the day and night. They arrive via the road and footpaths at the southern end of the precinct, or via the walking track from Wategos.

It is felt that the removal of vehicles could have potential benefits for the amenity of the place. The removal of private motor vehicles at least could only happen if a suitable alternative means of access could be provided. Alternatives should be investigated fully.

A whole-of-site, carefully considered, approach to interpretation would also enhance the visitor experience. In particular the aboriginal cultural significance needs to be explained better through more interpretive activities conducted by the Aboriginal education guides and by conventional interpretation panels and signage.

Recommended Conservation Policy

General

Policy 1 The Cape Byron Lightstation Precinct, a place of outstanding to high cultural heritage values, should be conserved through sound conservation practices to ensure its values are sustained for current and future generations.

Policy 3 The Cape Byron Lightstation Precinct should be managed in accordance with its high cultural heritage significance; its cultural heritage values should be conserved and clearly interpreted.

Policy 4 The Cape Byron Lightstation Precinct should be managed as a cultural tourism destination and its Indigenous and post-contact values should be explained and interpreted to the widest possible audience.

Aboriginal cultural significance

Policy 8 The Bundjalung of Byron Bay (Arakwal) people, through their involvement on the Cape Byron Trust, should continue to be consulted on all developments at the place, including the impact of any proposed changes on Aboriginal cultural values and their interpretation.

Lightstation setting

Policy 16 No new structure should be built at the Cape Byron Lightstation Precinct that would be visually intrusive when viewed from a distance, or that would adversely impact on views from the Lightstation.

Landscape and vegetation

Policy 20 The incursion of vegetation that could impact on the essentially barren or open character of the Lightstation and the views to and from it should be avoided.

Policy 22 No new landscape elements should be introduced for which there is not an historical precedent or interpretative relevance.

Policy 23 Weed species should be removed, and a weed control program implemented focused on invasive or environmental weed species.

Policy 24 Degraded weed-infested areas on the perimeter of the precinct (where the terrain starts to slope off and invasive weed species are present) should be restored in accordance with the vegetation and weed control strategies in the Cape Byron Headland Reserve Pest Management Plan (Cape Byron Trust 2003).

Integrity of original design, built form and fabric

Policy 28 The historic layout of the roads and fences should be preserved with the precinct kept as an uncluttered space defined by open perimeter fences and without any new enclosing structures or screenings—unless changes are required to meet identified public safety needs, and are planned and executed as part of the Maintenance Plan.

Conservation of built fabric and services

Policy 41 New services should be introduced only if they are needed to support existing uses, and their inclusion is consistent with the aims of conserving the place.

Policy 47 No new roads should be created at the Lightstation.

Policy 49 Any replacement road surfaces and paths should relate more closely to the traditional gravel and honey-coloured aggregate rich bitumen surfaces that appear in the photographs of the 1960s.

New works and extent of change

Policy 55 New works should be planned to be subservient to the original Lightstation structures and other features of high significance.

Archaeological significance

Policy 62 There should be no avoidable disturbance of known or potential archaeological resources (areas located within Zones A and B in the *Archaeological Zoning Plan*). When archaeological resources are encountered unexpectedly, works should stop immediately and the Culture and Heritage Division of DECC should be notified.

Traffic management and methods of site access

Policy 80 Further changes to the existing roads and paths should be incrementally undertaken to return them to a form and condition that existed at the site in the 1960s, for example by removing kerbing and guttering and hard stand areas subject to any needs for stormwater management.

Recommended Policy Strategy

The clear priority in the management of the greater Lightstation precinct is to manage it in accordance with its high values as they are established in the CMP. This does not require any radical departure from current management practices which have been good throughout the history of the place and very good in recent years. The immediate challenge is to sustain it under the ongoing pressure of high levels of visitation.

Steps should be taken now to reduce the overall impact of the roads, paths and concrete paved surfaces without compromising visitor comfort and safety. The visual intrusion and impact on the heritage values of some existing elements, including the area of the lower car park, is not acceptable. However it is felt that improvements could be achieved by removing private motor vehicles from the precinct and this is firmly advocated in the CMP. The policies and recommendations in the CMP provide some direction on the ways and means of achieving this. A key strategy will be to reduce the number of private road vehicles and ultimately to eliminate cars from the Lightstation. This would require strong resolve on the part of the Cape Byron Trust and cooperation by the community at many levels but the benefits would be substantial, with many flow-on benefits.

Recommended Strategy Implementation

As a matter of priority, the Cape Byron Trust should embark upon a long term project to research and resolve the issue of access to the site with a view to removing private motor vehicles within ten years. All other management activities should continue as they are now practised.

By way of providing shape to the vision for the future management of the site, in the context of fewer private motor vehicles at the Lightstation, the following aims and recommendations are offered.

- Private motor vehicles should be removed from the lightstation precinct. Only visitors with special needs should be allowed to access the Lightstation precinct by private motor vehicle.
- Alternative means of access should be provided for visitors and particularly those with special needs or limited mobility (e.g. electric shuttle vehicles)
- It is recommended in the CMP that an alternative system of access (e.g. electric shuttle vehicles) could be considered and managed by the Cape Byron Trust with the involvement of the traditional owners.
- If the above concept is adopted, it is recommended that the interpretation of the natural and cultural values should commence at the pick-up point and could be delivered en route to the site in an appropriate media (e.g. commentary by shuttle vehicle conductor).
- Alternative forms of interpretation (e.g. information panels) should be provided en route to the Lightstation for pedestrian visitors.

In conjunction with the removal of private motor vehicles from the Lightstation:

- a set down point with minimum standing bays could be provided at the summit outside the former (and proposed reconstructed) entrance gates
- entry fees could be collected and information provided at this point by a Ranger or volunteer
- the lower car park could be re-worked to provide a subsidiary set down point with a small number of short stay standing bays
- the safety railings, bollards, paths and other improvements of the lower car parking area could then be re-worked over the longer term with a view to eliminating unnecessary hard surfaces and vehicle-related intrusions
- the lower gates and fencing could be eliminated and the signage re-worked in line with the abovementioned changes.

Site Name & Type	**MOVEABLE HERITAGE ITEMS**
Place Number	**Inventory 9**
Place Name and Former Names	Moveable heritage items at Cape Byron Lightstation Museum Collection
Type of Place	Moveable heritage items
Associated Items	Lightstation equipment and archives

LOCATION

Site Location

Maritime Museum, Lighthouse and former Lightkeepers' quarters

DESCRIPTION

Construction Date 1901–2008

The collection of moveable items spans the period from 1901 (when the Cape Byron Lightstation and associated buildings were completed) until 2008.

Historical Description

The lightstation structures were erected between July 1900 and 1 December 1901. Various pieces of furniture, items of small plant, equipment and related material (moveable items) were brought to the site and have remained there.

Physical Description

The table below itemises the moveable items (Source: DECC Database).

Object Name	Object Description	Association or Provenance	Materials	Dimensions	Comments
Acetylene Gas Accumulator	AGA Acetylene Gas Accumulator		Mixed metals	270 x 330 x 240	
Acetylene Gas Flasher	Four burner AGA Acetylene Gas Flasher, Number 4491, red	1976	Mixed metals	350 x 210 x 210	
Acetylene Gas Flasher	Four burner AGA Acetylene Gas Flasher 1985, Number 8063, blue	1985	Mixed metals	395 x 250 x 250	
Acetylene Gas Flasher	Two burner AGA Acetylene Gas Flasher, number 526, red	1981	Mixed metals	380 x 160 x 160	
Acetylene Gas Flasher	AGA Acetylene Gas Flasher, DKDC 200, red		Mixed metals	440 x 165 x 165	
Barrel Lens	Barrel Lens, clear glass		glass	175 x 210 x 210	
Bible	Holy Bible, issued by Department of Shipping and Transport, hard cover		card, paper, thread	140 x 96 x 35	'Cambridge; printed at the University Press, Great Britain'
Binoculars	Binoculars		metal, glass, leather	57 x 127 x 166	
Book	Book, 'Naval Coast Watching Guide', soft cover book		Card, paper, twine	175 x 125 x 5	Department of Shipping and Transport, Australia
Book	'Course of Technical Construction: Heat, Magnetism and Electricity', book, soft cover		Card, paper, twine	245 x 200 x 8	Commonwealth Department of Shipping and Transport

Object Name	Object Description	Association or Provenance	Materials	Dimensions	Comments
Book	Book, soft cover, 'Commonwealth Department of Shipping and Transport Safety for Small Craft'		Paper	210 x 150 x 6	Commonwealth Department of Shipping and Transport
Book	Book, hard cover, 'Commonwealth of Australia, Department of Shipping and Transport Marine Services Division NSW Region. Instructions to Light Keepers'		Paper	358 x 230 x 20	Commonwealth Department of Shipping and Transport
Book	Book, hard cover, 'C of A'			285 x 225 x 27	
Book	Spiral bound book, 'Historic Lighthouse Preservation Handbook'		Plastic, card, paper	300 x 225 x 23	
Book	Spiral bound report, 'Lighthouses: Do we keep the Keepers?', Dec 1983		Paper, metal	298 x 210 x 12	
Book	Book, hard cover, 'Department of Shipping and Transport International Code of Signals' Department of Shipping and Transport 1969		Card, paper, thread	306 x 228 x 28	
Book	Book, soft cover, 'Navigational Aid Station log book. Norah Head Lighthouse', 1994 - 95	Navigational Aid Station log book, 1994 - 95	Card, paper, thread	355 x 250 x 5	Navigational Aid Station log book, 1994 - 95
Book	Book, hard cover, blue, 'Browns Flags and Funnels of British and Foreign Steamship Companies Compiled by John S. Styring'		Card, paper, thread	120 x 185 x 15	
Book	'Signal letters of United Kingdom and Commonwealth Ships', 1968, book, hard cover		Card, paper, thread	243 x 154 x 15	
Book	Book, hard cover, 'The Ship Captains Medical Guide'		Card, paper, thread	250 x 155 x 25	
Book	Book, hard cover, 'A guide for Scaffolders'		Card, paper, thread	270 x 213 x 8	
Book	Book, soft cover red, 'Furniture Removal Guidance Handbook'		Card, paper, thread	215 x 133 x 2	
Book	Book, hard cover, 'A Guide For Riggers'		Card, paper, thread	270 x 210 x 14	
Book	'Lighthouses of Australia, Images From the End of an Era' unpub. Australian Lighthouse Traders, 2001		Card, paper, twine	310 x 270 x 30	John Ibbotsen, 2001
Book	Soft colour. 'Time and Tide Again' Maurice Ryan and Robert Smith. Northern Rivers Press, Lismore, NSW		Paper		
Book	The International Code of Signals Book, (flags) – hard cover 'for all nations'		leather, cord, paper, thread	288 x 222 x 50	'SPOTTSWOODE and Co, 54 Gralech Street, London
Book	'Nursing' book, soft cover			181 x 118	
Bottle	Clear glass, 'Lismore Cordial'		Lismore Cordials	205 x 55 x 55	Found on Reserve
Bottle	Brown glass, 'Lismore Cordials Lemonade'		Lismore Cordials	225 x 59 x 59	Found on Reserve
Bottle	Clear, 'Pick Me Up'		Pick Me Up Condiment	270 x 74 x 74	Found on Reserve
Bottle	Brown glass with metal cap			312 x 110 x 110	Found on Reserve
Bottle	Ceramic, brown and white, blue label, with cork, 'Ginger Beer'		W E Balzer, Byron Bay	170 x 76 x 76	
Bottle of Port	'Australian Lighthouse Tawny Port' bottle, 750 ml, marked 'Roually Wines'	'Roually Wines'. '	Glass, alcohol	270 x 85 x 85	Roually Wines Letter from Mark Sheriff, 2002, explaining gift of 3 items to CBT says 'issued by the CLS to people of service in the 70's and 80's. Also issued or for a price was mugs and glasses

Object Name	Object Description	Association or Provenance	Materials	Dimensions	Comments
Bottle of Wine	'1998 Massoni Pinot Noir, Cape Byron Lighthouse, Celebrating 100 Years of Light, 1.5 l'	'.'	Glass, alcohol	335 x 95 x 95	Massoni Home Ltd
Bottle with lid	Clear glass jar with metal lid		glass and metal	69 x 50 x 38	
Box	Wooden box, grey, labelled '61/96(2) SUNVALVE'	AMSA		335 x 290 x 290	
Box	Wooden box, 'fragile', 4 stickers, PWD 0077. 'Sunvlave' 'S no. 6550'			454 x 225 x 220	
Box	Wooden box, labelled 'unserviceable Acetelyne Flasher No. 15 No 8077 Box No 2'			455 x 221 x 212	
Box	Wooden box, KMOC 13014. :Polly Woodside Flasher Lampchanger'			550 x 238 x 223	
Box and Flasher	Wooden box, swing tagged 'unserviceable'. Contains gas flasher	AMSA	Wood	460 x 220 x 210	
Box for Cigars	Wood box		wood	45 x 155 x 140	
Box for Flasher	Box possibly containing Acetylene flasher 'unserviceable'		wood, mixed metals	455 x 220 x 210	
Box for Signal Lamp	Aldis signal lamp and wooden box. 'Admiralty Pattern 5100D, Precision Engineering Co. Pty. LTD'. Elements; Mazda Lightbulb container, lightbulb, switch, 3 metal labels	'	wood, mixed metals, plastic	310 x 150 x 175. Bo x 280 x 555 x 250	Admiralty Pattern 5100D, Precision Engineering Co. Pty. LTD'
Box for Sunvalve	'B1/555 Sunvalve 61/96' Wooden box, blue		wood, mixed metals	480 x 225 x 220	
Box of ceramics and glass fragments and wholes	Box containing collection of fragments and wholes of objects dug up on Reserve				Found on reserve, primarily during retaining bush regeneration works west of Cottage 1, 1990's
Bucket	Bucket, galvanised iron, red, marked 'FIRE BUCKET', marked 'TOMIN'		Galvanised iron, acrylic paint	230 x 290 x 290	Marked 'TOMIN'
Bulb	Glass bulb '240v/2000w'		Glass, plaster, metal	190 x 65 x 22	
Buoy Light	Buoy light cut in half, red, 'AGA', accumulator, flasher lens missing. Marked 'Gas Accumulators, Stockholm, Patent Dalen No. 363, L-140.c'	AMSA	Mixed metals, glass	620 x 290 x 140	Gas Accumulators, Stockholm, Patent Dalen No. 363, L-140.c
Buoy Light	Buoy light, AGA Gas Accumulator and Flasher missing		mixed metals, glass, acrylic paint	650 x 280 x 280	
Calendar	'A Century of Light. Cape Byron Lighthouse 1901-2001' Stuart Owen Fox photographer		Paper	330 x 240	
Canister	Ceramic canister, containing 3 plain pencils		ceramic	71 x 53 x 53	
Canisters in Box	Commonwealth Lighthouse Service mercury canisters x 10 in wooden crate		Metal, wood	380 x 125 x 125. Box 350 x 760 x 437	'Hg Mercury Syd. Depot' Canisters marked 'ALMADEN', labelled 'made from Lightstation packing box' (poss. AMSA info)
Ceramic Fragment	Possibly from electricity pole		AS	80 x 77 x 77	Found on Reserve
Chain	Plastic crate containing a large, corroded chain				Purported to be chain from weight system in Lighthouse (not proven)
Chair	Chair from the SS Wollongbar		Wood, leather, metal, horse hair, fabric	830 x 460 x 460	salvaged from TSS Wollongbar in 1921(?). Loan from Byron Bay Historical Society (?)

Object Name	Object Description	Association or Provenance	Materials	Dimensions	Comments
Chimney Cleaners	Two Aladdin Chimneys in original boxes		Glass, card	310 x 75 x 75. Bo x 80 x 330 x 80	
Clockwork mechanism	winding mechanism, comprising gears, handle, cogs		mixed metals		Original, not in situ
Container	Glass, rubber lid		Pyrex, China	92 x 50 x 26	
Curtains and pole	Plastic Curtains and pole now folded on floor	Unsure	plastic, wood		final set of curtains from 1980's
Desk	Lightkeepers Writing Desk		wood, metal	757 x 1218 x 761	Donated (?)
Documents	Spiral Bound A4 ' Course Notes, Mechanic Aid and Training'		Card, plastic, paper	22 x 30 x 2	
Documents	Documents, stapled, 'Lightkeepers Newsletter', June 1986	June 1986	Paper, metal	296 x 210 x 1	
Documents	2 a4 documents, 'Aids to Navigation Schedule' regarding main light and auxiliary light	April 1997, April 1998	Paper	294 x 208	
Door and Door furniture	Door and Door furniture level 2		wood, glass, brass		Door possibly original, furniture partially altered
Door furniture and doors x 4	Door furniture vestibule		brass, wood, glass		Doors - original, furniture partially altered, possibly local cedar
Flags	International Signal Flags x 27 or 30??		cotton, rope, metal		Provenance to CB Lighthouse (?)
Folder	Folder, white, titled 'Cape Byron Lighthouse Celebrating 100 years of Light 1901-2001', including photographs and publicity	Produced for 2001 Lighthouse Centenary	Plastic, paper, metal	310 x 285 x 75	
Folder	Foolscap folder, white, titled 'Cape Byron Lighthouse Celebrating 100 years of Light 1901-2001', event folder including media releases and publicity	Produced for 2001 Lighthouse Centenary	Plastic, paper, metal	311 x 285 x 75	
Folder	Black, plastic A3 folder , '100 Stories for 100 years of Light', including laminated documents and pictures	Produced for 2001 Lighthouse Centenary	Plastic, paper, metal	440 x 350 x 10	
Folder	Black, plastic A3 folder , 'Register of Guests for the Official Opening of the Cape Byron Lighthouse Museum'	Produced for 2001 Lighthouse Centenary	Plastic, paper, metal	440 x 350 x 10	
Folder	Presentation Folder, 'AMSA and the Marine Environment Information Kit'		Card, paper	325 x 215 x 10	AMSA
Folder	Ring-binder folder containing documents, 'Equipment Handbook'				
Folder	A4 spiral bound blue plastic. 'Goats' Contains reproductions of newspaper articles about goats		Paper, plastic	240 x 310 x 5	Produced for CBHR in 2003 after removal of Goats form Cape
Folder	A4 blue spiral bound plastic. 'Byron Bay Jetty Engine 1923-1979'. Containing photos and photocopies		Paper, plastic	240 x 310 x 6	Produced for 2001 Lighthouse Centenary
Folder	A4 black spiral bound plastic folder. 'Where Australia First gets the Sun. Harold and Mary Goodwin, Eric Wright, Byron Bay'. Containing photocopies of tourism brochure and other historic documents about Byron Bay		Paper, plastic	240 x 310 x 7	Produced for 2001 Lighthouse Centenary
Folder	Black ring binder folder containing laminated photocopies of handwritten pages. A transcript of an oral history. 'A Treatise On Whaling at Byron Bay by Stan Nolan, Inspector of Whaling 1954-1962'		Plastic, metal, paper		
Folders	3 ring-binder folders, brown, 'Engineering Instructions'		Paper, plastic, metal	270 x 220 x 50	Commonwealth Department of Shipping and Transport

Object Name	Object Description	Association or Provenance	Materials	Dimensions	Comments
Fragment	Metal fragment, possibly iron, painted white		Iron	120 x 140 x 35	
Gas Flasher and Box	Wooden box with swing tag attached, 'unserviceable'. Sealed. Possibly contains flasher			46 x 22 x 21	
Hat	Keepers hat with badge and hatband		plastic, velvet	124 x 260 x 280	' Commonwealth Lighthouse Service, 15'
Ink Well	A glass jar of ink		Glass, ink	64 x 64 x 40	
Iron Plate	Iron Plate				
Jar	Ceramic jar portion, white, glazed		ceramic	29 x 58 x 58	
Lamp	Aldis signal lamp, predominantly black plastic, and wooden box, large black torch with handle and cord in wooden box, with various parts attached and separate		mixed metals, glass, wood	230 x 160 x 220. Bo x 270 x 320 x 200	
Lamp Base and Globe	Labelled: '1959 Original Cape Byron Electric Lamp Base globe and holder'	AMSA	Mixed metals, glass	460 x 110 x 110	Globe 'GE USA'
Lamp Changer and Box	Lamp changer box labelled '11', 'Wallace and Teirnan'. And Wallace and Tiernan 4 bulb automatic lamp changer		Wood, fabric. Brass, mixed metals, glass	Bo x 395 x 230 x 220. Lamp 7.5 x 7.5 x 20	'Massoni Home Ltd.'
Lamp Changer and Box	AGA two bulb automatic lamp changer		Brass, mixed metals, glass	420 x 260 x 260	'From a Victorian Lighthouse (a modern version of this is currently used for the Cape Byron Light)'
Lantern	Cast iron lantern pavilion, vents, cupola, stairs, widows walk and glazing		iron, glass, brass		Original with some alterations.
Life-vest	Life-vest, fabric, beige 'Standard Life Jacket'	AMSA	Fabric and rope filling	223 x 390 x 180	Made by Harry West Pty. Ltd. Sailmakers, Sydney
Light Cover	Light Cover, red glass??		Perspex, metal	164 x 220 x 195	Made for bench testing acetylene burners, information supplied by David Humphry of AMSA c. 2001
Map	'Lighthouses of Australia', colour map, dated 2002		Paper, laminated		John Ibbotsen 2002 and CartDeco Cartographics
Map	Colour Navigational map		paper	1175 x 730	'Clarence River to Danger Point' Commonwealth of Australia, 1662
Map	Laminated copy of 'Map Of Navigation Aids under the Control of the Commonwealth Lighthouse Service' in 1950 Papua New Guinea and Australia. Amended 1951, 1954, 1956, 1959		Paper	393 x 265	Gift of Mark Sheriff
Maps	Tracing paper plans from NSW Lightstations – 9 in total		paper		
Object	Another red and gold part of a flasher? Number 21707		Mixed metals	400 x 160 x 160	
Object	Door furniture				Not documented
Object	Workbench, portion of				Not documented
Object	scythe				Not documented
Optical Apparatus	Lens and pedestal, ladder, gears		iron, glass, brass		Original with some alterations. 'Societie des Establishment Henry-Lepaute de Paris'
Pen	Black nib pen		plastic, metal	119 x 13 x 13	'Olympus Made in Japan'

Object Name	Object Description	Association or Provenance	Materials	Dimensions	Comments
Photo	Photograph, black and white, framed, of man standing up the top of the lighthouse, possibly the Lightkeeper		Photographic paper, card, wood, glass	300 x 250 x 15	A photo of Peter Nicholl, Lightkeeper at Norah Head
Photo Album	Photo album and photos				Donated by Alexander Family (?) C. 2001
Photocopy	Reproduction of 99-61, Drawing No. 2, 22.11.99 of Signal House and Flagstaff, signed (Bailey?) Engineer in Chief for Public Works. Framed		Photocopy, wood, glass	410 x 520 x 10	Produced for 2001 Lighthouse Centenary
Photocopy	Reproduction of CN9-110, Drawing Number 7 of Lantern, Department of Transport Australian, Navigational Aids Branch, 2.2.82, redrawn from original drawing dated, 11.5.1900		Photocopy, wood, glass	410 x 520 x 11	Produced for 2001 Lighthouse Centenary
Photocopy	Reproduction of CN9-110, Drawing Number 5 of Cottage elevations, Department of Transport Australian, Navigational Aids Branch, 2.2.82, redrawn from original drawing dated, 11.5.1901		Photocopy, wood, glass	410 x 520 x 12	Produced for 2001 Lighthouse Centenary
Photocopy	Newspaper clipping titled 'Everything is costed, nothing is valued'			200 x 26	
Photocopy	Letter to the Editor – showing lightkeepers butchers bill in 1915 – original newspaper	Copy of 1915 original	Paper	293 x 209 x .5	Copy of 1915 original
Photocopy	A3 'General Instructions to Lightkeepers for the management of lamps and burners of dioptric lights, Chance Brothers and Co, Limited, 1896'			418 x 242	Produced for 2001 Lighthouse Centenary
Photocopy	Framed Reproduction of Lighthouse and Keepers Quarters, Drawing Number 6. 99-61, 22.22.99' Designs for Tower and Visitors Desk		Photocopy, wood, glass	390 x 570	Produced for 2001 Lighthouse Centenary
Photocopy, laminated	Photocopy, laminated, page of Northern Star 5/9/1952	Produced for 2001 Lighthouse Centenary	Paper, laminate	570 x 430	
Photocopy, laminated	Photocopy, laminated 'Register of Guests' for original opening of CB Lighthouse	Purchased from Stuart Devine for 2001 Lighthouse Centenary	Paper, plastic, photographic paper, newspaper, wood	520 x 350 x 20	
Photographs	Three photographs; Lighthouse, Cape and Cottages, black and white reprints, mounted and framed. '1949 - 1953, Photo by Devine'	Produced for 2001 Lighthouse Centenary. Originals belonging to Devine, 1949 - 1953	Photographic paper, card, wood, glass	780 x 490 x 23	
Photographs	5 colour photographs of Lighthouse and precinct; cottages, lighthouse, lantern, lighthouse from south, Lighthouse from carriageway mounted on white card	c. 1990s	Photographic paper, card, wood, glass	440 x 550 x 210	Possibly made by Stuart Owen Fox
Photographs	9 black and white photos of Byron Bay whaling station and whales		Photographic paper, card		Produced for 2001 Lighthouse Centenary
Plaque	Wooden plaque with Lighthouse symbol, 'Cape Byron NSW'			175 x 120 x 130	Bob Carter, ex Keeper
Playing Cards	'Waddingtons Number 1'		card	90 x 60 x 18	'Playing Cards Company Ltd, Leeds and London England'
Pulley Hook	hook and pulley		Metal	425 x 105 x 140	
Radio	Life Boat Radio Transmitter / Receiver		metal, wood, plastic, rope, rubber, chains	340 x 430 x 400	Bob Carter, ex Keeper

Object Name	Object Description	Association or Provenance	Materials	Dimensions	Comments
Radio Telephone	Radio telephone transmitting and receiving equipment, with booklet		wood and metal, plastic, rubber cord	223 x 355 x 233. Booklet 280 x 218 x 4	
Radio Transmitter	Halicrafter Radio Transmitter				
Sector Light	Single filament kerosene lantern inside chamber of horizontal prisms set in cast bronze frame, backed by arc of red glass and flanked by vertical polished glass prisms, mounted on cast iron pedestal. Marked 'CHANCE Bros. and Co limited, Lighthouse Engineers ad Constructors near Birmingham'	Original to Lighthouse, removed to Workshop. Restored to Museum inc. 2001. Repainted by Mark Sheriff	Iron, brass, polished glass, red glass	1820 x 970 x 430	CHANCE Bros. and Co limited, Lighthouse Engineers ad Constructors near Birmingham
Sector Light Cover	Auxiliary light		glass, Perspex, metal		
Shoes	Black leather lace up shoes		leather, cord, metal	80 x 100 x 280	
Sink	Lighthouse sink, wood housing, possibly tin/lead/copper basin? Sink possibly missing, wood splash back, metal splash back (poss. tin), covered with wood sitting in cupboard with vents and bolt.	Poss. original (?)	Wood, metal	880 x 980 x 670	
Spectacles	Glasses case – plastic, leather and velvet		metal, glass	400 x 100 x 100	mark illegible
Spectacles case	Glasses case		plastic, leather, velvet	10 x 127 x 48	'The Optical House of Chas, Sankey Fraser, Brisbane and Toowoomba'
Spoon	Stainless steel, partly painted blue			130 x 28 x .5	Made in Japan
Stair rail	Stair rail levels 1 - 3		brass		Original
Stair rail	Stair rail levels 3		brass		Original
Stamps	Framed first day covers with Lighthouse image envelopes		Paper, card, wood, glass, metal	155 x 304 x 14	'Issued for Commonwealth Service 75th Anniversary'
Sun Valve	Sun valve, central copper tube coated black, metal with glass casing.		Copper, glass, mixed metals	415 x 140 x 140	Labelled 'won Nobel Prize for Physics in 1912. Lidenbo, AGA, Sweden. VSA4.10, No 6811', tagged 'overhauled equipment'
Sun Valve and Hood	Sun Valve for acetylene gas 'out, entrance', brass hood		Glass, mixed metals, acrylic paint	230 x 210 x 210. Hood 150 x 140 x 140	Letter from Mark Sheriff, 2002, explaining gift of 3 items to CBT says 'the hood for the fancy squat sunvalve which is on display in the room. The hood is for testing purposes and this was taken away in November to be stopped and buffed and clear lacquered'
Tin for Ointment	'Doans Ointment' Tin, empty		metal	15 x 46 x 46	FOSTER McClellan Co, Sydney, NSW
Tin for Tobacco	'Temple Bar Sweet Slice Tobacco'		metal	20 x 80 x 56	'British .A. Sian Tobacco Co, Pty, Ltd., Melbourne, Australia'
Tin of Caulking Compound	Tin containing 'Sealproof Caulking Compound', marked 'Roof and Building Service, Brisbane'	Poss from last Lightkeeper (?)			Roof and Building Service, Brisbane
Tin of Grease	Tin containing 'ALVANIA GREASE 3, Net 1lb', marked 'Shell'	Poss from last Lightkeeper (?)	Metal, grease		Shell

Object Name	Object Description	Association or Provenance	Materials	Dimensions	Comments
Tin of Grease	Tin containing 'Multipurpose Grease Red, Net 1lb', marked 'Ampol'	Poss from last Lightkeeper (?)	Metal, grease		Ampol
Tin of Oil	A blue/grey tin container - tin		Tin	210 x 110 x 55	
Torch	Metal Hand torch		metal, glass	40 x 40 x 110	'Telephone Brand, Made in Hong Kong'
Trunk	Commonwealth Lighthouse Service Trunk Containing AMSA manuals – animal stickers, wooden, painted, metal casing, rope handle, metal latches			490 x 856 x 260	
Uniform	Lightkeepers uniform jacket with badge and buttons, and white shirt, and pants? Scottish 'Northern Lights' Badge and 2 Scottish brass buttons, 2 'FB' buttons, i.e. NSW Fire Brigade		fabric (wool) metal, enamel, cotton	775 x 450 x 70	c. 1970s. On loan from Mark Sheriff. Originally owned by: Jacket - Trevor Weatherstone; Shirt Rod Tilly; Pants - Max Bell.
Water Pump	1901 original lighthouse water hand pump mounted on wall, painted black, mechanism disabled. 'Billabong 4 - 1 – 50'	Poss. original (?)	Cast iron, acrylic paint, fixed to wood wall panel	1300 x 340 x 200	Billabong 4 - 1 - 50 marked
Weather Chart	Official Department of Transport Weather Chart from Sugarloaf Point Lighthouse. Laminated			370 x 252	
Weight	Iron weight		iron		Original
Whale Baleen	Part			160 x 120 x 70	
Whale Bone	Whale vertebrae part		bone		
Whale Bone	Whale vertebrae whole		bone		
Wicks in box	'Aladdin Lox-on wick, model 12, Aladdin Industries PTY LTD, Sydney, Wellington, Melbourne, Fremantle, manufactured under patents 1922'		cotton, card	80 x 45 x 40	
Wooden handle	Wood and metal handle.		Wood, metal	280 x 55 x 70	Part of Clock Mechanism
Working display for acetylene gas	Brass working display AGA Acetylene Gas single burner, flasher and Sunvalve 'System AGA Dallen'	AMSA	Mixed metals, glass, wood	870 x 610 x 450	
Writing Desk	Desk For Visitors book		wood, metal		'New Lighthouse Keepers Quarters etc, Cape Byron, Drawing no. 6'

Condition

The condition of items varies. Most are in sound condition

Integrity

The integrity of items varies. Some of the items have high integrity having originated at the lightstation. Found objects have lower integrity.

Inventory Survey Date

Not known.

STATEMENT OF SIGNIFICANCE

Previous Assessments

Survey undertaken by DECC. Reviewed by D Ellsmore 2008.

Current Heritage Recognition

N/A

Comparative Significance

The collection of moveable items at Cape Byron Lightstation is believed to be good by comparison with other lightstations.

Assessment against NSW Heritage Criteria

Criterion a: The Cape Byron Lightstation, including it fixed equipment and moveable contents is of high historical and contemporary cultural value - an important place in the state-wide system of coastal navigation in New South Wales.

Technically, the collection of moveable items illustrates aspects of lightstations from that time. The collection incorporates advanced technology.

Criterion f: The Cape Byron Lightstation Precinct is unusual in its intactness and having a collection of moveable items, many of which are related directly to the Lightstation and others that have value in understanding the place and also in interpreting its values.

Criterion g: Many of the items are representative of items and functions of lightstations in the broader maritime context.

Statement of Significance

The Cape Byron Lightstation collection of moveable items is significant because of its:

- association with Cape Byron Lightstation
- association with Australian east coast shipping since the beginning of the twentieth century
- technical and historic values, being a representative example collection of an important class of lightstations, and a functioning lightstation.

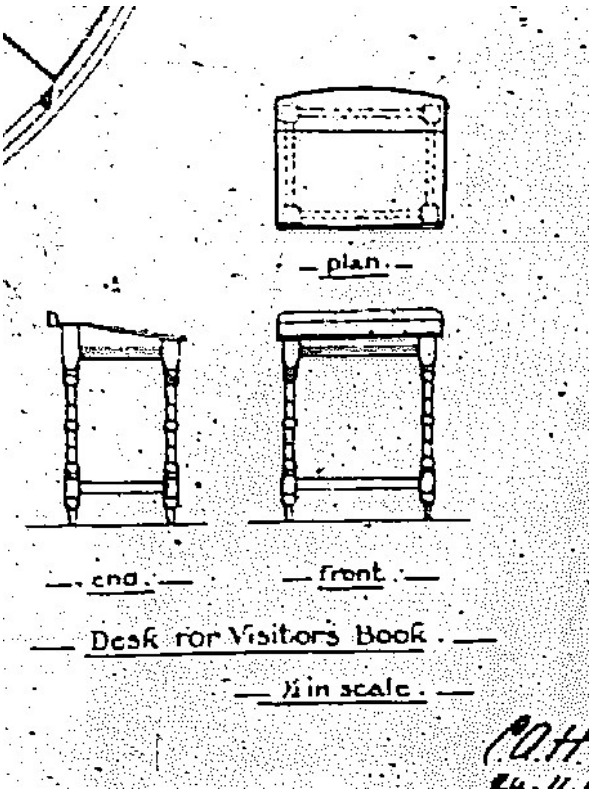
CONSERVATION POLICY

The policy for the management of the collection is laid out in the Draft Cape Byron Headland Reserve Collections Policy. This policy covers acquisitions, de-accessioning, access, loans and review. It clearly establishes how the collection should be managed in broad terms.

Conservation Policy Issues

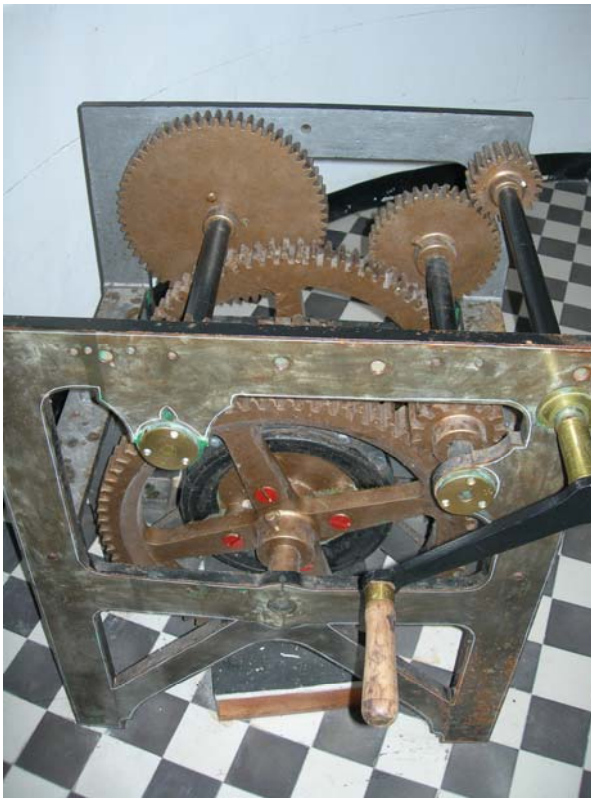
The CMP has been developed to support the long-term conservation of the Cape Byron Lightstation Precinct, inform its day-to-day management, and ensure continuing best practice in management of its cultural heritage values. The *Burra Charter* sets out a standard of practice for those who provide advice, make decisions about, or undertake works to places of cultural significance, including owners, mangers and custodians.

The diverse, informal collection of moveable items at the Lightstation forms an important part of the overall significance of the place. The collection includes some high value pieces that are unique to the place and of wider significance due to their ability to interpret aspects of lightstation and coastal shipping or maritime significance. Many of these items are displayed in the maritime museum in the base of the light tower (see table above). Others, like the visitors desk and clockwork mechanism, are displayed elsewhere within the lighthouse or in other buildings at the Lightstation.



Part of 1899 construction plan showing details of the visitor's desk and the item today
Source: Drawing no. 6 cn02-047-01[1] and Ellsmore 2008

The visitor's desk was detailed in the original construction drawings and was in place on the day of opening, when it was used to record the names of those who appeared for the official opening ceremony. It is still there today.




Clockwork mechanism (left) and red sector light (right)
Source: Ellsmore 2008

A small number of items are located in other buildings within the Lightstation Precinct. The most important moveable heritage items in the collection are those small items of equipment and paraphernalia that are related directly with early use there.

Several items on display in the maritime museum were used at the lighthouse before the light was upgraded and ultimately automated. They are highly significant in understanding the evolving function of the lighthouse; they include the clockwork mechanism for rotation of the lenses and the red sector light that was formerly orientated to the Julian Rocks as red warning to shipping.

The collection was catalogued and treated in 2000 with grant funding from the Maritime Museums of Australia. Since that time the collection has been augmented with unrelated items from other lightstations and from the local area. Some of these unrelated items, like the chair from the SS Wollongbar, have high significance in local maritime history.

Ideally the collection should be rationalised and displayed in a more meaningful way to enhance visitor experience, for example by allowing items to be viewed more regularly and by reorganising and interpreting the museum display more clearly. To achieve this ideal the strategy outlined in the Cape Byron Headland Reserve Collections Policy is commended.

The recommended approach includes transferring items that are unrelated to the site or unable to be interpreted and displayed there in a meaningful way, to more appropriate museums or de-accessioned. The acquisition of new items should be restricted to those items that can be provenanced to the Lightstation; and those that have the potential to enhance interpretation and visitor experience in accordance with the collections policy which is:

> *items which contribute to an understanding or appreciation of the customs, activities, historic episodes, or personalities associated with Cape Byron.*

Views of the Maritime Museum Display in the Lighthouse
Source: Ellsmore 2008

Since visitors will continue to be important in the future use of the place, the collection should be employed more fully in the interpretation of the lightstation for the delight of tourists. The CMP identifies the need for a whole-of-site, carefully considered approach to interpretation of the Cape Byron Lightstation Precinct including its moveable items.

The collection has the potential to illustrate stories including the important role of Cape Byron Lighthouse in coastal navigation as part of the NSW highway of lights. The further value of the collection includes its potential to:

- explain the unique and notable technical features of the lighthouse, and at a more basic level, how the lighthouse worked in the past and why it was needed (and even why and how it is still lit today)
- the functions of structures immediately associated with the lighthouse, such as the role of the signal room and signal mast, with the possibility of having the room open, perhaps with a Perspex door, and including interpretive devices in relation to the various flags used and their meanings
- dual interpretation as applicable—for example, the significance of the Julian Rocks to Aboriginal people and the meaning of the red light in the tower (warning shipping of the Julian Rocks)
- the work and roles of Lightkeepers in navigation safety—how they had to ensure the light kept burning and what they did on their shifts, including the day-time shift
- the everyday lives of Lightkeeper's families, including first hand accounts of interesting events in the time the Lightstation was manned.

Signal flags in pigeon holes in the Maritime Museum Display
Source: Ellsmore 2008.

Recommended Conservation Policy

General

Policy 1 The Cape Byron Lightstation Precinct, a place of outstanding to high cultural heritage values, should be conserved through sound conservation practices to ensure its values are sustained for current and future generations.

Policy 5 All decision-making and implementation of works and other activities should be guided by the conservation philosophy, principles, processes, practices and guidelines provided in the *Burra Charter*.

Moveable heritage and museum displays

Policy 64 The Cape Byron Trust *Collections Policy* should guide all actions regarding moveable heritage items at the Lightstation; it should be reviewed to ensure it is congruent with relevant provisions of this plan.

Policy 65 Moveable heritage items at the site should be studied in detail, catalogued (if not already) or rationalised; their status should continue to be monitored and recorded in accordance with the Collections Policy.

Policy 66 All moveable items of interest at the place should be displayed, used and stored in an environment secured in line with the level and potential type of risk; relevant items, including those that are precious, should be able to be appropriately viewed or used secure from potential damage or theft.

Policy 67 Items of moveable heritage that do not enhance interpretation of the place should be de-accessioned.

Policy 68 Acquisition of new items should be restricted to items that can be provenanced to the Lightstation or have the potential to enhance interpretation and the visitor experience; this could include items that interpret the story of other NSW lightstations, and could include items that are not from the site.

Policy 69 Non-core items should be used in school based educational activities at the Lightstation.

Policy 70 Non-core items of limited significance should be displayed in the former Lightkeepers' quarters if they would enhance the experience of staying in quarters formerly inhabited by lightkeepers and their families.

Policy 71 Items on display in the maritime museum should be reviewed and reorganised thematically to provide a more meaningful display complete with interpretation.

Policy 72 The maritime museum should be open regularly and as often as possible with supervision by staff or volunteers.

Policy 73 The Maritime Museums of Australia Project Support Scheme should continue to be accessed for funding and professional support in the development of the maritime museum displays.

Policy 74 Given that the former power house (generator store) in the lighthouse is part of the story of the place, the Cape Byron Trust and DECC should consider discussing with AMSA options for visitors to inspect this room from the doorway, and interpret this room (within the bounds of licence).

Policy 75 The Cape Byron Trust and DECC should consider discussing with AMSA options for enabling inspection of the ground level of the lighthouse tower during maritime museum opening hours, including mechanisms that will provide a secure barricade.

Policy 76 The lantern room, balcony and lantern should be available for inspection regularly in accordance with a schedule to be developed and expanded as resources permit.

Policy 77 The former signal house (flag room) should be available for viewing during the maritime museum opening hours and interpreted to explain its former function, including mechanisms to provide security for any contents that may be included.

Visitor management and access

Policy 82 Tourists and people from the local community should continue to be encouraged to visit the place to enjoy its many special attributes.

Policy 83 The numbers of visitors to the place should be monitored and impacts evaluated.

Policy 84 Visitor behaviour in relation to the place and its fabric should be monitored, and a system of response introduced to deal with any emerging problems.

Policy 87 The Cape Byron Trust should respond assertively to any changes in the patterns of visitor behaviour or if there is evidence of adverse impacts on cultural heritage values; limits on access should be set if the impacts begin to exceed the capacity of the site to withstand these.

Interpretation

Policy 88 Interpretation of the cultural heritage values of the Cape Byron Lightstation Precinct should continue to be provided using a range of approaches, and should involve a whole-of-site carefully considered approach linked with and supporting the Cape Byron Headland Reserve interpretation.

Policy 89 The draft *Cape Byron Headland Reserve Information and Interpretation Preliminary Concept Plan 2004* should be reviewed, amended and enhanced in line with the policies in this plan, adopted and implemented (at least for the precinct).

Policy 90 The interpretation themes recommended in Chapter 8 of this plan should be considered and, subject to further consultation, adopted for inclusion in the redrafted *Concept Plan* for the precinct.

Policy 91 Interpretive information and devices such as place signs, interpretative signs, identification signs and interpretative devices, and direct interpretation by guides, should be in keeping with the cultural heritage values of the place; interpretations should not dominate, but rather should assist in the maintenance of values.

Policy 95 The Cape Byron Trust and DECC should investigate the feasibility of reconstructing the former signal mast as it was originally constructed, and displaying appropriate flags on the signal mast daily.

Policy 98 The effectiveness of interpretation should be evaluated using a range of strategies, and the information used to improve interpretation at the place.

Policy 99 As applicable, names and terms that have meaning for the Bundjalung of Byron Bay (Arakwal) people should be used in the interpretation and signage.

Recommended Policy Strategy

The Collections Policy should be followed in all planning and decision-making regarding the collection. It provides sound advice for its management.

Further research should be undertaken when necessary and as required to inform decisions. The following avenues of further research were identified in the preparation of the CMP, but not pursued due to resource limitations. They are not critical to the plan but they may add value in the future.

- Acquire photocopy of the lighthouse visitors' book (1901-1924) from Australian National Archives.
- Examine (with view to acquiring copies) photographs of the lighthouse held in Australian National Archives (barcode 9689278).
- Examine CLS personnel records in Australian National Archives with view to compiling complete list of Cape Byron Lightkeepers.

The Lighthouse needs to be opened more regularly to enable visitors to have the enhanced experience provided by the Lighthouse and its collection. The aim should be to open the Lighthouse daily during site opening hours.

Recommended Strategy Implementation

The following steps are recommended to implement the strategy:

- Endorse the 2000 Draft *Collections Policy* and action the Policy including the recommendations that follow.
- Further the value of the collection in accordance with the CMP findings and recommendations generally.
- Rationalise and more clearly interpret the maritime museum displays to provide a more in-depth experience for unguided visitors.
- Review the collections at the site and potential objects at other related sites with a view to upgrading the integrity and value of the collection on display at Cape Byron Lightstation.
- Institute a system of monitoring of the environment and condition of the collection and displays, including a thermo-hygrograph to record temperature and relative humidity as a minimum.
- Institute environmental controls (e.g. de-humidifier) and undertaken preventive conservation treatments as necessary when conditions have been confirmed.
- Consider opening the former signal house and reinstating the signal mast as a means of interpreting the former signal function in maritime communication.
- Provide interim options for the former signal house and signal mast pending full re-instatement. Provide an interpretation panel with photograph of the signal mast dressed with flags. Provide interpretation for the former signal house.
- Consider means of making the former power house open for viewing by visitors to the Lighthouse from the doorway only.
- Consider opening the Lighthouse tower door for viewing from ground level. Provide a discrete safety barrier and/or electronic sensor to prevent unsupervised access to the tower and lantern room.