

Three Bays Walkway Green Head Management Plan 2010



a project by the Green Head Coastcare Group

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Three Bays Walkway, Green Head



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The NACC is the Region's peak body responsible for environmental protection and repair, and for raising awareness in the community about managing our precious natural resources.

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1 Introduction

1.1 Context

Green Head has had a long history. For thousands of years it was an important place for the Yued Aboriginal People who appreciated its bountiful land and sea environment and its sheltered bays and headlands. Since the 17th Century it was visited by European sailors. For many years it was a small isolated fishing village visited by hardy holiday makers who camped in the dunes. Over recent years it has undergone significant urban development with a number of houses being built by people who want to have Green Head as a holiday destination.

And the pressure on Green Head will continue into the future. With the completion of the Indian Ocean Drive Green Head will be readily accessible from Perth with its “Rottnest on the mainland” feel and will compete with the South West as a major tourist destination. The mining and industrial growth in the Mid West will make it an increasingly popular destination for weekend and retirement living.

The challenges facing Green Head are to ensure that it retains its feel as a relaxed and beautiful coastal community, while avoiding becoming a shuttered holiday house enclave that only comes alive during the annual holiday and that the natural assets of this coast become available for all to enjoy. This management plan is designed to protect the Three Bays area and enhance the experience of people who live in and visit Green Head.

As global warming continues to drive climate change at increasing rates, the vulnerability of Green Head’s coastline to extreme weather events, storm surges and sea level rise will increase.

This management plan was prepared by the Green Head Coast Care Group and the local community in association with the Shire of Coorow. It was funded and supported by the Northern Agricultural Catchments Council, West Midlands Group and Coastwest.

1.2 Placemaking

Every place has its own distinctive features. Green Head’s ‘Three Bays Walkway’ is designed to let people immerse themselves into the landscape, experience its natural beauty, learn about the Aboriginal and European history, give them an opportunity to engage in repairing the coastal ecosystems and provide access for recreation.

The Three Bays of Green Head were created by an extraordinary limestone cliff escarpment approximately 2 kilometres long being eroded by the Indian Ocean. It includes the sweeping South Bay, the picturesque Dynamite Bay, and the charming yet peaceful Anchorage Bay. The white sandy beaches, rocky inlets and headlands, and rich limestone reefs provide an unmatched habitat of coastal heath land and nesting sites for a wide range of native fauna. The southern half of the escarpment forms the northernmost section of the Jurien Bay Marine Park, emphasising the importance of this unique coastal environment on West Australia’s truly remarkable Turquoise Coast. The wildlife is abundant with visitors being able to see sea lions and dolphins in their natural habitat. The walk along the cliff will allow the visitor to see, at close proximity, white bellied sea eagles (*Haliaeetus leucogaster*), ospreys (*Pandion haliaetus*), pacific gulls (*Larus pacificus*), crested terns (*Sterna bergii*) and many other

intriguing bird species. During the spring the coast is covered with wildflowers.

To help the visitor better understand the area the Three Bays Walkway is divided into sections each with its own unique sense of place. Interpretive works and signage will be constructed that follow the ecological, Aboriginal and European themes as discussed in Section 4.

2 History

Green Head's Three Bays are in Yued country and contain ancient midden sites and hunting grounds, and formed an important environment for the livelihood of traditional owners. For thousands of years the Yued have seasonally visited the Three Bays to hunt and collect fish, other marine life and the natural foods of the surrounding coastal vegetation, and gathered in the cooling breeze to eat and access fresh water. The Yued have been extensively consulted to ensure proper recognition of the ancient Midden sites on the headlands and protection of the surrounding coastal environment. These midden sites are registered under the Aboriginal Heritage Act and during this consultation process the Yued have given full support to the project, engaging in important educative programs to raise awareness of the significance of the Three Bays and provide coastal management advice. In Yued language the name for Dynamite Bay is 'Cuencandjaa' meaning 'mouthful of sand', most appropriate for the natural form of the bay.

The earliest known European visitors to the Turquoise Coast were seafarers who visited while attempting to reach settlements in Indonesia. One of these voyages was by the Vergulde Draeck (Gilt Dragon), which in 1656, was wrecked on the WA coast and led to Abraham Leeman's two epic voyages in open boats to Java. There is a belief that the Gilt Dragon met its fate at Dynamite Bay.

A more recent shipwreck in the area was that of the SS Cambewarra which foundered in 1914 off Green Head and is commemorated in the naming of the northern headland of Dynamite Bay (Cambewarra Head).



South Dynamite Bay photo by Chiara Danese

During World War 2 the Australian Army was in the area for troop training and coastal surveillance for enemy seaborne activity. From the 1950's cray (rock lobster) fishing developed as an industry with Anchorage Bay providing a safe harbour for the fleet. This led to the fishermen living in 'squatters shacks' and in 1967 the gazetting of the town of Green Head.

3 Vision and Planning Framework

3.1 Vision

The vision for the 'Three Bays Walkway' was developed by the community in consultation with the Local Government. It is:

The Three Bays Walkway will be a quality facility for all community members and visitors to view a beautiful coastline and provide safe access to pristine beaches for swimming, snorkelling, fishing, leisurely beachcombing and contemplation. Their enjoyment will be enhanced by the provision of paths, lookout areas, rest areas, seating and informative signage.

The Three Bays Walkway will protect its natural coastal environment, showcasing the coastline and its unique native flora and fauna while educating visitors about its fragility and biophysical, traditional and European significance.

In order to achieve this outcome the project will involve the rehabilitation and repair of damage caused by past inappropriate human activity. By providing pathways and beach access points it will protect this very special area for future generations.

Everyone will have a place on the 'Three Bays Walkway' to experience and learn about this amazing coastal environment and its rich traditional and European history.

3.2 Planning Framework

The initiative to develop the Three Bays Walkway has been driven by the Green Head Coastcare Group, with assistance from the local Green Head community, the Local Government, the Northern Agricultural Catchments Council and the West Midlands Group.

It is also occurring within a formal planning context, particularly the 2008 Carnamah-Coorow Coastal Management Strategy (CCCMS) which identifies Green Head as the beginning of the Marathon Walkway. This strategy suggests a limestone pathway, primarily for hikers, walkers and joggers to link Green Head to Leeman. The CCCMS (2008) states "The intent of the pathway is to provide a smooth pathway as close to the coastline as practicable and sustainable" and recommends that route include seating, signs and strategically placed shelter for users.

The Central Coast Tourism Strategy anticipates that visitor numbers to the Central Coast (inclusive of Green Head)

will increase with construction of the Indian Ocean Drive. The Three Bays Walkway aims to foster sustainable recreational and tourist use of the coast through maintenance of public amenity and provision of safe and informative public access to the coast.

The Green Head Overview Foreshore Plan (2009)¹, developed throughout 2008 and 2009 in consultation with the community, has been used as the framework to develop this Site Management Plan.

In 2010 it is anticipated that the Shire of Coorow will be developing planning strategies for the Leeman and Green Head town sites. This management plan will serve as input to these planning strategies.



photo by Rachel Hunt



North Dynamite Bay photo by Chiara Danese

1 Vigilante Landscape Architects 2009

4 The Walkway

4.1 Introduction

The walkway has been designed² to provide good access along the coast so that people can experience a journey through different parts of the landscape and gain access to different kinds of beaches. In developing the route and access points to the beach the plan had to address

- Providing a north-south walking route that ran roughly parallel to the town
- Protecting areas of Aboriginal and European cultural significance
- Using the Walkway to explain the regions history and context
- Giving good and safe access to well loved beaches and headlands
- Providing good vantage points for viewing and resting
- Protecting ecologically sensitive areas and planning for the repair of degraded areas
- Protecting against risk from unstable coasts as defined in the Shire of Coorow Coastal Limestone Risk Study³.

To do this the plan identified a number of different treatment measures for coastal tracks, areas that should be rehabilitated and places where lookouts and resting points could be constructed. Where ever possible existing tracks were used to avoid destroying existing vegetation. The tracks and vantage points are shown below in Figure 4.1. Details of the construction of the paths, budgets and work descriptions are given in Appendix 1, details of the budget are provided in Appendix 2.

4.2 Issues to be addressed

There are a number of issues that had to be addressed as described in the introduction. These were summarised into five broad categories:

- Providing access to as wide a group of population as possible
- Maintaining and repairing the bushland along the coast
- Repairing highly eroded areas and minimising human impact
- Undertaking measures to reduce risk caused by unstable limestone cliffs⁴
- Recognising, protecting and enhancing the cultural heritage of the area

2 Vigilante Landscape Architects 2009

3 Landform Research Shire of Coorow Coastal Limestone Risk Study 2002

4 ibid



FIGURE 4.1 The Three Bays Walkway

Priority for addressing these issues was determined using a “risk management” approach. “Risk”, in this case, can be defined as “the requirement to take action” to undertake management activities to meet the project objectives described above. For example – repairing the environment, improving walktrails, protection of cultural heritage etc. to reduce the “risk” or “the requirement to take action”. Four categories for action were used as is shown in the table below.

	Extreme - immediate intervention is required
	High - immediate action is required which could be an administrative decision or a physical action
	Moderate - action is needed according to a set schedule
	Low - action can occur according to a routine management

4.2.1 Progress to Date

The Community has already begun restoration work on the walkway. As time progresses Figure 4.1 will be updated to show the progress that has been made towards finalising the project.

4.2.2 Access and Track Safety

The plan shown below upgrades access along the coast and provides lookouts and resting points for visitors. Figure 4.2A shows the condition of the existing paths that was determined by assessing the condition and type of the surface, steepness, unevenness and ease of walking. Figure 4.2B shows the upgrades proposed. These upgrades include significant access for disabled people. Where the ground is steep or unstable it is proposed to install boardwalks or steps.

There is one particular area that will need attention within any future planning strategy for the region. Figure 4.3 shows that the proposed walk track moves across an existing road and road reserve, which in turn is being threatened by a mobile dune system. In addition to this there is generally high quality bushland adjacent to this area which would make a valuable addition to coastal vegetation complexes in Green Head. It is recommended that this area should be considered in any future planning strategy to manage the potential impact of the dune blow out and, if possible, bring the bushland into the coastal reserve. It is recognised that this may not be possible with the current status of this land. Details of the treatments of the tracks can be found in Appendix 1.

4.2.3 Bushland

Figure 4.4 shows the vegetation types found along the coast in Green Head and its condition. Details of the vegetation types are explained further in Appendix 4. As can be seen the vegetation is generally in reasonable condition. The areas that are degraded can be, generally, relatively easily improved by limiting human access and allowing the bush to regenerate. A few coastal areas are active dune blowouts. While blowouts are often naturally occurring coastal processes, it is desirable that they be stabilised where there is limited coastal vegetation or the potential that they will encroach on human settlement. These areas are identified in the next section.

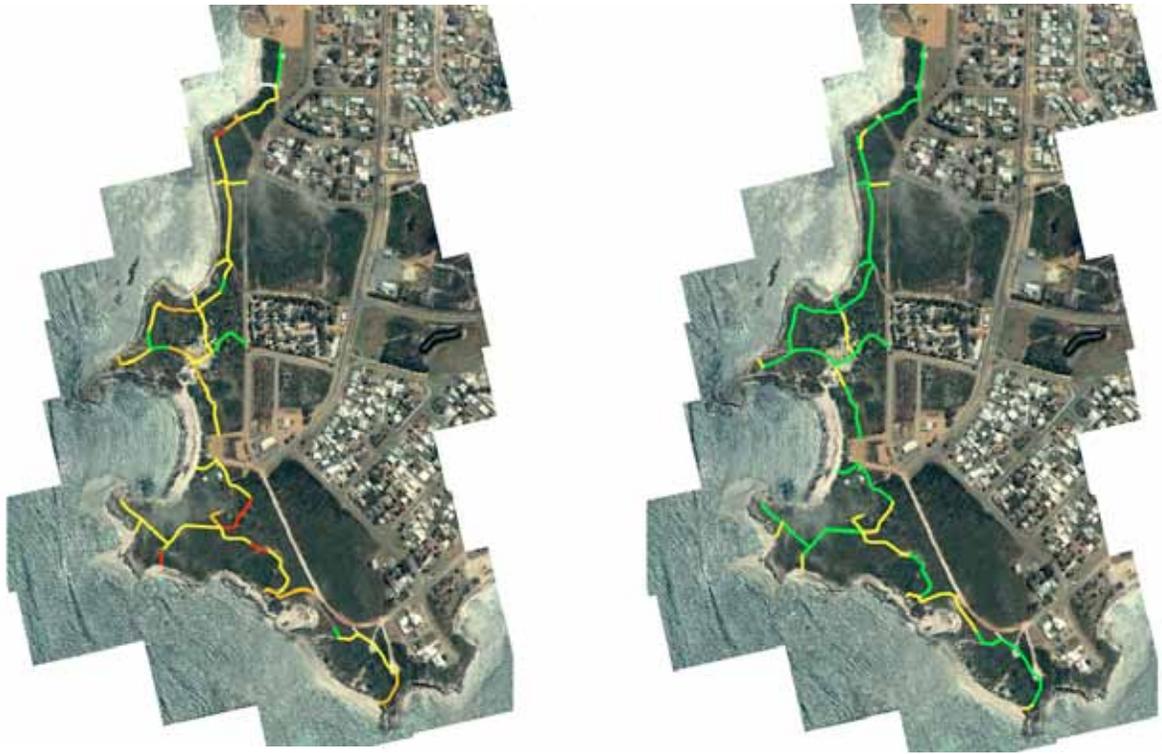


FIGURE 4.2A and B Track safety before and after changes to the access to the Green Head coast

Risk Rating Extreme  High  Moderate  Low 



FIGURE 4.3 Details of the location of the blowout, bushland and road reserve. Yellow arrow shows the direction of development of blowout

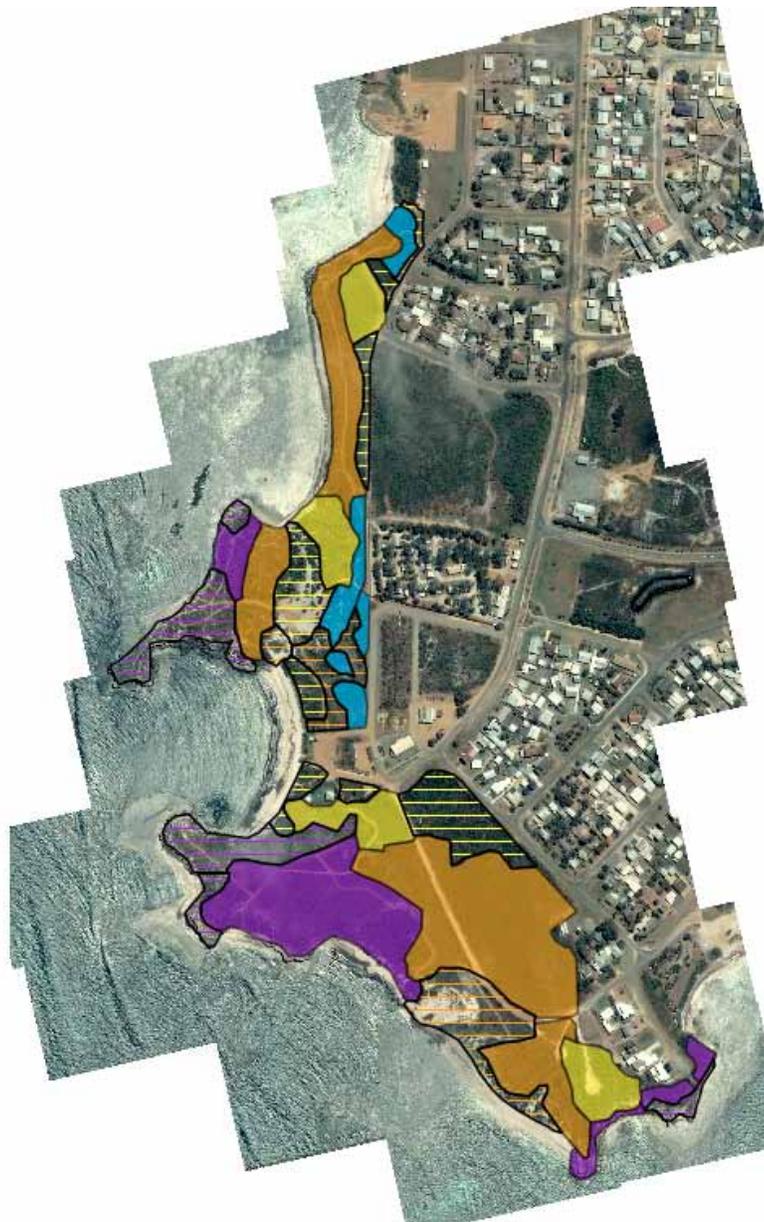


FIGURE 4.4 Vegetation types and condition - good condition shown as solid colour, degraded as hatched lines

Acacia shrublands
 Acacia and Melaleuca shrublands
 Open Acacia Shrublands
 Heathlands

4.2.4 Erosion and Environmental Damage

Figure 4.5A and B shows the current condition of the landscape and the future condition once this plan has been implemented. This plan proposes to limit access off the track network and to actively stabilise dune blowouts. Treatment procedures are shown in Appendix 2.



FIGURE 4.5A & B Level of environmental disruption before and after the management plan is implemented

Risk Rating Extreme  High  Moderate  Low 

4.2.5 Cultural Heritage

The Walkway goes through areas that have significance for people of both the Yued and European ancestry. Figure 4.6 shows the Theme areas. Each of the Theme areas will have an interpretive package developed to assist people appreciate and learn about these areas. The areas listed below:

Theme	Speciality
Ecology and Environment	Flora and Fauna Marine Park and Marine Ecology Coastal Geology and Geomorphology
Aboriginal Culture	Indigenous lifestyle and foods midden areas
European Culture	Fishing Industry history Shipwrecks – story of Cambewarra Shipwrecks – story of Gilt Dragon

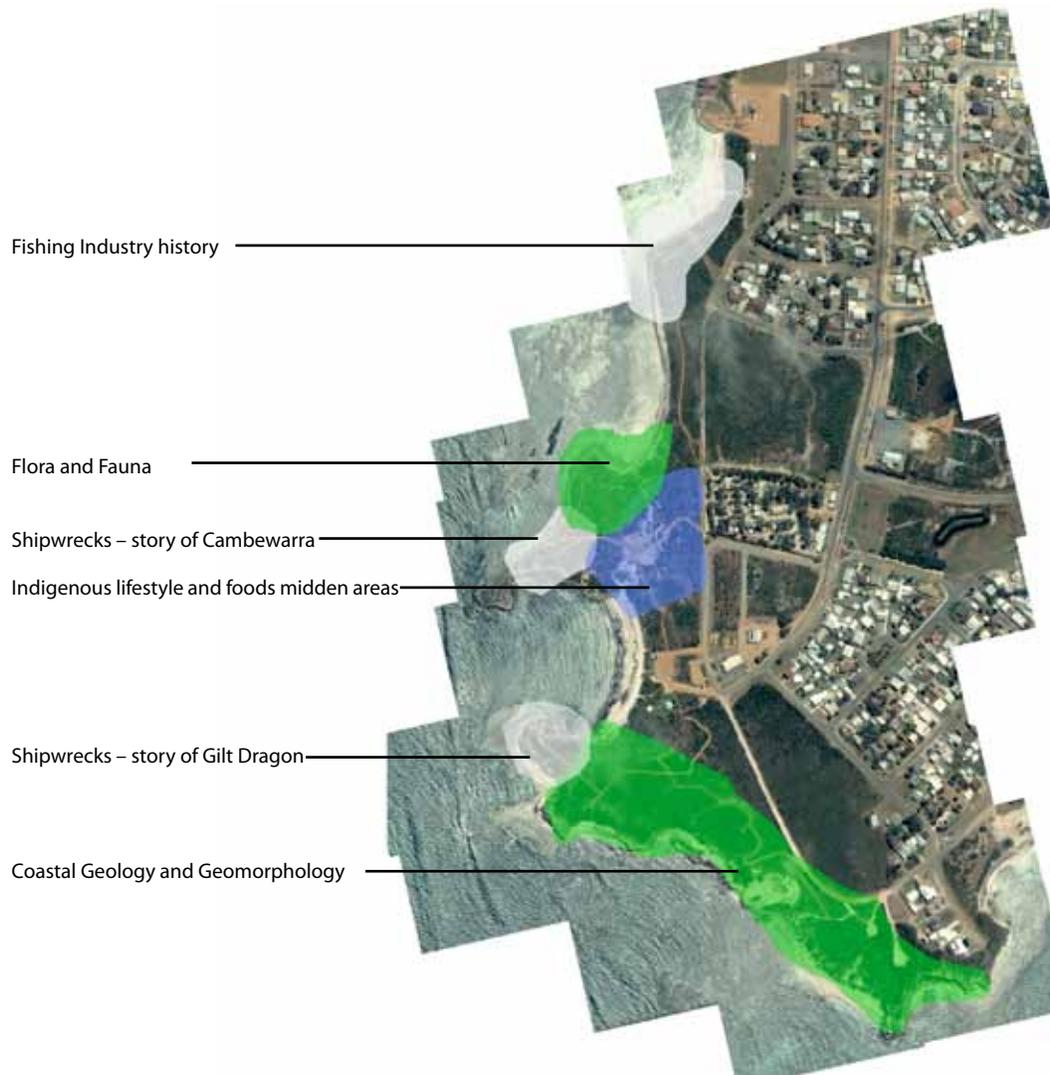


FIGURE 4.6 Theme areas along the Walkway

The Yued people have been consulted extensively about their heritage in the area⁵. A number of areas have been identified as being of particular cultural significance and in need of particular respect. The Yued have suggested that the midden areas over the headland north of Dynamite Bay, with its associated quondong and bush food area be made accessible to the public but respected for its cultural significance. A board walk will be constructed over this area with interpretive signs to allow people to visit the area without disturbing the landscape.

Figure 4.7A and B show the level of risk of disturbance to areas of cultural importance to both Aboriginal and European people before and after the implementation of the management plan.

⁵ South West Aboriginal Land and Sea Council Yued Boodja Environmental Audit of Cultural Spiritual Sites and Land Use Practices Project 2007



FIGURE 4.7A & B Level of risk of disturbance to areas of cultural importance before and after the implementation of the management plan



4.2.6 Limestone Risk

The geology of Green Head with numerous limestone cliffs makes the coast inherently unstable and potentially dangerous to visit. This plan has used a risk assessment approach to respond to the dangers identified in the Coorow Shires Limestone risk study⁶. This plan minimises the risk from these areas by:

- Removing existing access to areas of the coast with high limestone risk
- Placing fencing/barriers where necessary to control access if a planned path is close to a high risk area
- Placing warning signs in high risk areas
- Installing quality paths to encourage people to stay on safe routes
- Developing interpretive signage to educate visitors about the geological significance and fragility of the area.

Figure 4.8A and B show the changes to the limestone risk levels of the area before and after the implementation of the management plan.

6 Landform Research Shire of Coorow Coastal Limestone Risk Study 2002



FIGURE 4.8 A & B Limestone risk before and after the implementation of the management plan

Risk Rating Extreme High Moderate Low



photo by Chiara Danese



photo by Rachel Hunt

5 Implementation

This plan has been designed so that it can be implemented over time according to the source and availability of resources. The community considers that the resources will come from different sources. This plan is structured so that works can be planned and costs updated according to a:

- Theme area - for example, doing all the development of the Aboriginal Heritage area as one package
- Addressing limestone risk - for a particular section of the coast
- Access – improving access to a particular destination or installing disable access
- Experience – improving lookouts over a particular location
- Environmental Repair – selecting an area that is particularly degraded

The descriptions of various works are given in Appendix 1, this is supported by, and linked to, a spreadsheet budget that will enable costs to be updated as construction costs change or as the priorities for works on specific sections of the plan change. Indicative budgets according to 2010 costs are shown in Appendix 3.

Appendix 1 Work Prescriptions

Appendix 2 Budgets and Maps

Appendix 3 Risk Assessments

Appendix 4 Vegetation Survey

Appendices are provided in a separate document

