



LORD HOWE ISLAND WALKING TRACK STRATEGY



March 2017

© Lord Howe Island Board 2017

With the exception of photographs, the Lord Howe Island Board and State of New South Wales are pleased to allow this material to be reproduced in whole or in part for educational and non-commercial use, provided the meaning is unchanged and its source, publisher and authorship are acknowledged. Specific permission is required for the reproduction of photographs.

Disclaimer: Any statements made in this publication are made in good faith and do not render the LHIB liable for any loss or damage.

Lord Howe Island Board

PO Box 5 / Bowker Avenue

Lord Howe Island NSW 2898

Phone: +61 2 6563 2066

Fax: +61 2 6563 2127

Email: administration@lhib.nsw.gov.au

Website: <http://www.lhib.nsw.gov.au/>

For additional information or any enquiries regarding the Lord Howe Island Walking Track Strategy please contact the Lord Howe Island Board Administration Office at the above address.

ISBN 978-0-9807065-4-3

This document should be cited as follows: Lord Howe Island Board, 2017, *Lord Howe Island Walking Track Strategy 2017*. Lord Howe Island Board, Lord Howe Island, NSW.

Revision history

Revision	Revision Date	Details	Authorised
00	December 1997	Final	S Gorrel/Architect
01	09 - 11 - 2016	Draft for Lord Howe Island Board's consideration for public comment	D Kelly/Manager Environment and Community Services
02	14 - 03 - 2017	Final for Lord Howe Island Board's adoption	D Kelly/Manager Environment and Community Services

Photographs: LHIB (unless otherwise stated)

March 2017

1	Executive Summary.....	4
2	Vision, objectives and outcomes	5
2.1	Vision.....	5
2.2	Objectives.....	5
2.3	Outcomes.....	6
2.4	Scope of the Strategy.....	6
2.5	Interaction with other documents.....	6
3	Background	7
3.1	Management Context	7
3.2	Legislative, policy and standards	7
3.3	Recommendations from 1997 strategy	8
3.4	Developments since 1997	9
3.5	Walking track network.....	10
3.6	Demand for walking.....	15
4	Strategies	20
4.1	Risk Management	20
4.2	Asset Management.....	21
4.3	Track standards.....	22
4.3.1	Inspection and maintenance.....	22
4.3.2	Infrastructure	23
4.3.3	Information signs	23
4.3.4	Facilities.....	23
4.3.5	Classification	24
4.4	Environmental Assessment.....	30
4.5	Design approach	30
4.6	Information, Education, Promotion	32
5	Managing individual tracks	38
6	References	43
7	Appendices.....	44
7.1	Example Asset Maintenance System Map based on spatial data in GIS	44
7.2	Recommendations	45
7.3	Schedule of annual walking track activities.....	51
7.4	Relevant legislation, policy and standards.....	52

1 Executive Summary

The Lord Howe Island walking track network provides almost 24 km of walking on 23 tracks. The walks range from well-graded nature tracks through the settlement area to relatively steep and uneven routes in the remote southern mountains.

This Strategy proposes a 20-year program of works aimed at establishing and maintaining a stabilised, safe and diverse walking track network where walkers can learn about and appreciate Lord Howe Island's natural and cultural heritage values and enjoy a range of recreational and educational experiences.

The Lord Howe Island Board conducts regular audits of the walking track network and from this has compiled a database incorporating information on track and track infrastructure condition. This Strategy also recommends an ongoing monitoring program and the systematic maintenance of the entire track system.

2 Vision, objectives and outcomes

2.1 Vision

This walking track strategy proposes to create a high quality walking network where walkers can appreciate the Island's natural and cultural heritage values and enjoy a range of recreational and educational experiences.

2.2 Objectives

The principal objectives of the Walking Track Strategy are to:

- Create a coordinated management process and policy framework for the development and management of walking tracks on Lord Howe Island.
- Encourage the promotion of the Lord Howe Island walking track network to add to the visitor appeal and the economic benefit of the island community.
- Provide a network of diverse walking experiences, and unobtrusive interpretative information catering for the range of interests, capabilities and needs of the local community and visitors.
- Ensure all walks meet appropriate safety standards.
- Incorporate quarantine and pest species infrastructure at key track head locations to reduce the risk of introducing pests and diseases e.g. boot scrubbing stations and quarantine information.
- Provide walkers with high quality, easily accessible information about the diversity of walks.
- Establish a comprehensive asset management approach to the management of walking infrastructure which specifies maintenance or upgrading requirements.
- Identify the capital and recurrent financial resources needed to maintain a high quality network of walking experiences.
- Identify the human resources, skills and capacity required to maintain a high quality walking track network.
- Maximise and promote the social and economic benefits of walking.
- Minimise any adverse environmental impacts of the walking track system and walking track maintenance and construction.
- Ensure coordinated monitoring and research into the sustainable use of walking tracks, walker satisfaction and demand for diverse walking opportunities.

2.3 Outcomes

The outcomes prescribed for this Strategy were:

1. To review the recommendations of the previous Walking Track Strategy for Lord Howe Island (Gorrell, 1997).
2. To establish a database linked to GIS to capture and report information on the description, condition and maintenance needs of the walking track network.
3. To inform the Lord Howe Island Board's Strategic Asset Management Plan and Strategy.
4. To describe the methodology for assessing the condition of the walking track network.
5. To define the environmental impact assessment requirements for walking track works.
6. To define walking track network directional and interpretative signage standards.
7. To recommend works and other actions necessary for the long-term sustainable management of the walking track network.

2.4 Scope of the Strategy

The Walking Track Strategy deals specifically with defined tracks, marked and guided routes which are actively managed by the Lord Howe Island Board.

The strategy provides guidance on associated infrastructure such as stiles, boot scrubbing facilities, seats, and signage (directional and interpretation).

The strategy provides recommendations on interpretation of the environment through which the track traverses or overlooks. This strategy does not focus on interpretation of all natural and cultural values of the Lord Howe Island Group.

2.5 Interaction with other documents

This strategy:

- Is consistent with the Lord Howe Island Permanent Park Preserve Plan of Management, Lord Howe Island World Heritage Strategic Plan for Management and the Lord Howe Island Biodiversity Management Plan.
- Informs the Lord Howe Island Board's Strategic Asset Management Plan and Strategy and associated financial cycle.
- Is consistent with the Lord Howe Island Board's Signage and Publication Manual.

3 Background

3.1 Management Context

The Lord Howe Island Board has the responsibility for the care, control and management of the Lord Howe Island Group (LHIG) under the NSW *Lord Howe Island Act 1953*. Its responsibilities include protection of World Heritage values; development control; administration of all Crown Land including the island's Permanent Park Preserve; provision of community services and infrastructure; and the delivery of sustainable tourism.

3.2 Legislative, policy and standards

The legislation, policy and standards relevant to walking tracks on LHI are listed here and expanded upon in Appendix 2.

Commonwealth Government - legislation, plans and strategies

- Australian/New Zealand Risk Management Standard AS4360:2004
- Australian Standard AS 2156.1 – 2001 Walking Tracks Part 1: Classification and signage
- Australian Standard AS 2156.2 - 2001 Walking tracks - Infrastructure design
- Australian Walking Track Grading System 2010
- *Environment Protection and Biodiversity Act 1999*

New South Wales State Government - legislation, plans and strategies

- *Civil Liability Act 2002*
- *Environmental Planning and Assessment Act 1979*
- *Lord Howe Island Act 1953*
- *Lord Howe Island Regulations 2014*
- Parks Facilities Manual 2010
- *Threatened Species Conservation Act 1995*
- *Work Health and Safety Act 2011*

Lord Howe Island

- Biodiversity Management Plan (DECC, 2007)
- Biosecurity Strategy (LHIB, 2016)
- Destination Management Plan 2014-2017 (LHITA, 2015)
- Lagoon Foreshore Management Plan (LHIB 2015)
- LHIB Corporate Plan
- LHIB Operations Plan
- LHIB Total Asset Management Plan and Asset Strategy
- Permanent Park Preserve Plan of Management (DECCW, 2010)
- Signage and Publication Manual (LHIB, 2000)
- Strategic Plan for the Lord Howe Island Group World Heritage Property (LHIB, 2010)
- Walking Track Strategy (Gorrell, 1997)
- Dog importation and management policy (LHIB 2015)

3.3 Recommendations from 1997 strategy

The previous Lord Howe Island Walking Track Strategy (Gorrell, 1997) reviewed the standards and condition of walking tracks across LHI at the time and made various recommendations regarding track upgrades, re-routing and information for visitors.

The key recommendations and status of implementation are:

- Development of a walking track west of Lagoon Road along the foreshore to relieve pedestrian congestion on Lagoon Road has been implemented between the Aquatic Club and the Boat Sheds, refer to Figure 2.
- Directional signage implemented at track heads and intersections. Additional information on track difficulty and duration are discussed in section 4.6.
- High quality visitor information has been produced by the LHIB both on track (interpretive signage) and off track (walking track brochures and web based LHI visitor user guide), refer to section 4.6.
- Monitoring of track use, walker experience and impacts on the tracks has been obtained through surveys conducted in 2007, 2012/13 and 2016. On-site automatic counts of walking track usage are recommended in this strategy.
- The closure and diversion of the Max Nicholls Memorial track to North Bay via Dawsons Point. This project was endorsed however did not proceed due to reallocation of funding. The track diversion with no track closure is included in this draft strategy for consideration, refer to section 4.3.
- Construction of rock steps on the Goat House Track did not proceed as it was, and still is, deemed unnecessary.
- Upgrade of Stevens Reserve Track to ambulant standard was endorsed. Completion of this project is included in this strategy for consideration, refer to section 4.3.
- Permitting walking of dogs on leash on tracks within the Settlement, a portion of Little Island track and one track in the Permanent Park Preserve (Transit Hill) have been adopted as Lord Howe Island Board (LHIB) Policy.

3.4 Developments since 1997

Since the 1997 strategy was prepared there have been updates to policy, standards and practices relevant to walking tracks as well as upgrades to the walking track network (in addition to those listed above) including:

- 2001 revision of the AS 2156 series for the classification, signage and design of walking tracks.
- 2010 Australian Walking Track Grading System that provides a nationally consistent system to grade the level of difficulty of a track's walking experience and how to clearly communicate that information to walkers.
- 2011 and 2015 landslides on the Mutton Bird Circuit Track forcing the closure of the track until a long term management and maintenance plan is determined.
- 2011 establishment of 5-yearly audits of built structures by structural engineer.
- 2011 establishment of annual audit of Mt Gower ropes.
- Installation of seven boot scrub bays at track heads as a biosecurity preventative measure.
- 2012 establishment of regular auditing of the condition of the LHI Walking Track network in accordance with AS 2156.1.
- 2013 Mt Gower Walking Track risk assessment.
- 2015 mapping of all walking tracks and major infrastructure using GIS (example map in Appendix 1).
- 2015 construction of new elevated viewing platform on Intermediate Hill through a donation from Dick Smith AC and Pip Smith AO.
- 2016 The trial of recycled plastic molded products for steps and decking instead of timber to increase lifespan and decrease slip risk.

3.5 Walking track network

Although relatively small (11.8 km long and 2.8km wide) Lord Howe Island has 24 km of walking track which reach the northern, central and southern sections of the Island, including Mt Gower and parts of Mt Lidgbird. All these areas are accessible as day walks. The walking track network enables visitors and residents to experience the spectacular scenery and unique environments of the Island. Many visitors to the Island use the walking track system for the purposes of viewing the Island's spectacular landscape and for bird watching.

The walks range from well-graded nature walks through the settlement area to relatively steep and uneven tracks in the more remote southern mountains. The majority (77%) of the walking tracks on Lord Howe Island are situated within the LHI Permanent Park Preserve (PPP).

Due to the steep topography of the PPP and the remoteness of the Island from mainland Australia, visitor safety is a primary concern. Visitors to the Island are discouraged from remote country bushwalking and are not permitted to attempt the Mt Gower walk without a LHIB licensed guide.

LHI's walking track network is divided into three sections on the island, the North, Central and South. There are 19 main walks (*) and a number of ancillary walks (#). Table 1 lists the walks and their classification according to AS 2156.1 – 2001 Walking Tracks Part 1: Classification and signage.

Table 1: Lord Howe Island Walking Track Network		
Name of Track (destination in bold)	Class	One-way distance to destination (LHIB GIS to nearest 50m)
Northern walks		
North Bay to Mt Eliza*	4	750
North Bay to Old Gulch*	2	250
Max Nicholls Memorial Track: Old Settlement to North Bay*	3	1750
Neds Beach to Malabar/Kims Lookout*	4	1100 / 2100
Malabar to Dawsons Point Ridge* (Intersection with Max Nichols Memorial Track)	4	1700
Old Settlement to Catalina crash site*	3	350
Central Walks		
Stevens Reserve* Loop start/finish at The Pines	2	1300
Stevens Reserve access from nursery#	2	50
Anderson Rd to North Middle Beach*	2	450
South Middle Beach*	2	350
Clear Place* from Anderson Road	2	800
Valley of the Shadows* from Anderson Road	3	900
Transit Hill* from Bowker Ave	3	1200
Transit Hill to Blinky Beach	3	850
Lagoon Foreshore* Boat Sheds to Pine Trees Boat Shed	1	1050
Blackburn Island*	3	250
Middle Beach Rd to Anderson Rd#	3	200
Bowker Ave #	3	500
The Southern Walks:		
Lagoon Road to Intermediate Hill*	4	1250
Smoking Tree Ridge Road to Intermediate Hill	4	1450
Coastal Track* : Lagoon Road to Boat Harbour via Mutton Bird Point and Rocky Run to Smoking Tree Ridge Road	4	5550
Goat House*	4	1650
Mount Gower* from Little Island	5	3600
Little Island* Track	2	1400

There are 19 main walks (*) and a three ancillary walks (#)

Figure 1: Lord Howe Island Northern Walking Tracks

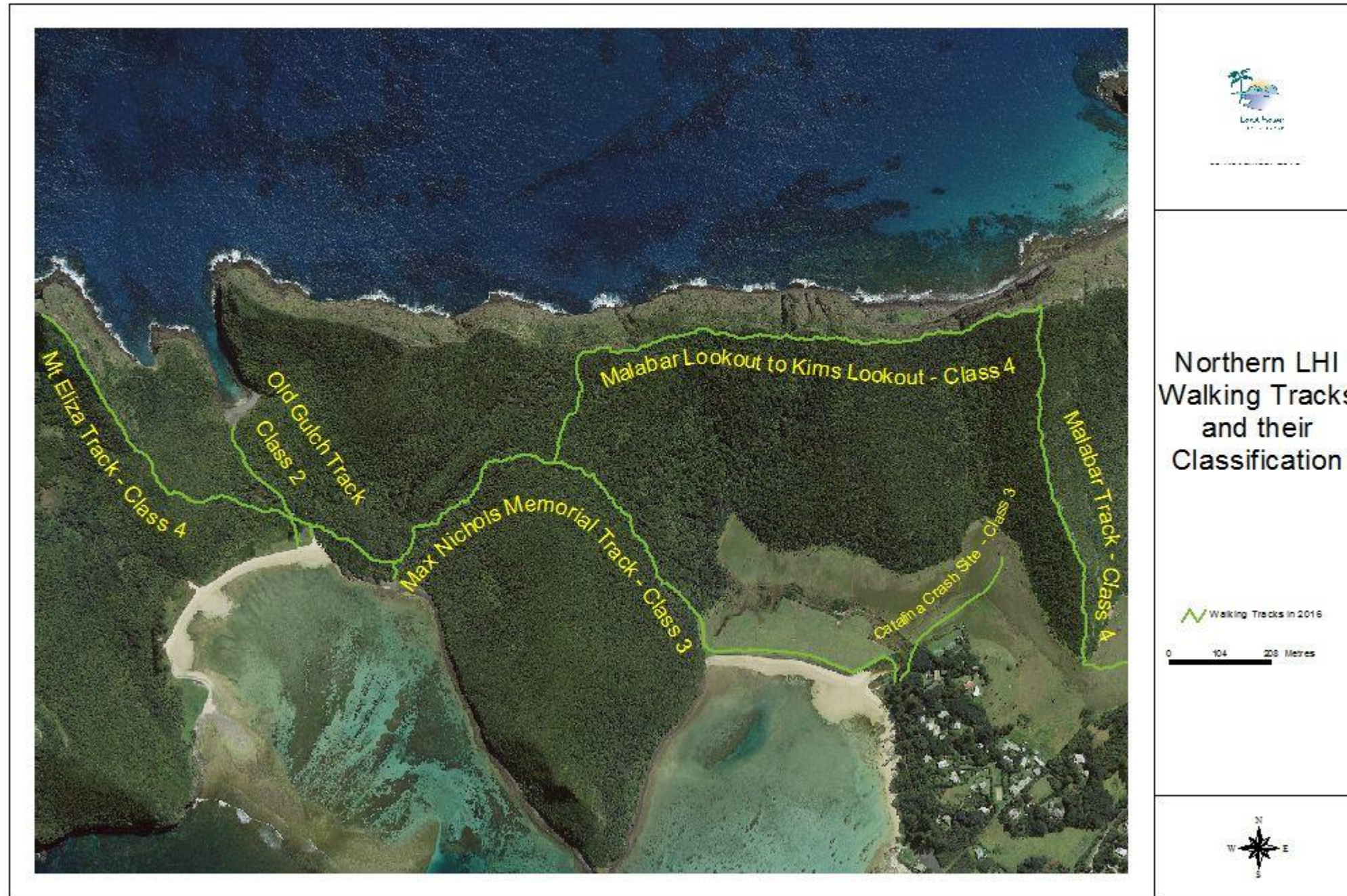


Figure 2: Lord Howe Island Central Walking Tracks



Figure 2: Lord Howe Island Southern Walking Tracks



3.6 Demand for walking

Walking is one of the primary activities associated with nature based tourism on LHI. It provides a popular means for visitors and the local community to enjoy and gain an understanding of LHI's unique natural and cultural values.

Walking provides people with the time, freedom and flexibility to interact intimately with LHI's environment. Walking plays a vital role in presenting LHI's World Heritage values. It can increase public awareness and understanding of the need for the conservation and protection of LHI's natural and cultural landscape.

Walking also provides social, recreational and educational benefits for all sectors of the community and caters for diverse interests and capabilities. It is a popular activity, undertaken by the majority of visitors, and contributes significantly to providing employment and economic benefits for LHI.

In March 2015, Destination NSW released data for the year ending September 2014 revealing that just over one in ten of all holiday trips in Australia (11%) includes bushwalking or rainforest walking, well over half (58%) of all holiday trips to NSW will involve a nature based activity and more than one in six of all holiday trips in NSW (16%) includes bush or rainforest walking (Destination NSW, 2015).

Destination NSW names the Mt Gower day hike as the number 1 "Ultimate Guided Walk" in NSW (Destination NSW, 2015).

Tourism is the foundation of Lord Howe Island's economy, directly injecting \$27m to the local economy, with flow on economic benefit to many non-tourism sectors (LHITA, 2014). The Lord Howe Island Tourism Association identifies the walking track network as major tourism infrastructure noting that ongoing maintenance and signage are two major issues (LHITA, 2014). The goals of LHI's Destination Management Plan include improving the range of product services for specialist interest groups (including walking) and identifying and correcting infrastructure gaps inhibiting destination growth (LHITA, 2014).

The Lord Howe Island Tourism Association has forecast visitor numbers of 22,000 in 2020 based on current annual growth rates of 5% per annum (LHITA, 2014).

There have been no on-site manual or automatic counts of walking track usage. However an indication of visitor walking track usage and feedback can be extrapolated from LHI's commercial walking guide records and three visitor surveys:

- LHIB Walking Track Survey (1995)
- Marine Parks Visitor and Expenditure Survey (2007)
- LHI Visitor Experience Card Data (2012/13)
- LHI Walking Track Survey (2016)

- LHI commercial operators that provide guided walks on the island include: Ron's Rambles; Wilson's Specialty Tours; Lord Howe Island Nature Tours; Sea to Summit Expeditions; Lord Howe Island Environmental Tours; Pinetrees Lodge.

The LHI walking track network is also an important recreation and cultural asset for residents.

2016 LHI Walking Track Survey

To assist with the preparation of this Strategy, a 168 question survey about the condition, signage, interpretation, infrastructure and alignment of all tracks on the island was conducted. Specific target groups were invited to complete the survey including on island tourism businesses, off island walking tour operators, residents who regularly use the tracks, the Permanent Park Preserve (PPP) Community Advisory Committee and regular visitors to the island.

Over 5 months, 87 responses were received.

General information about respondents include:

- 6% were walking guides.
- 26% were residents.
- 68% were visitors who had visited generally in March, April and May:
 - once (26%).
 - 1 – 5 times (26%).
 - 5 – 10 times (17%).
 - 10 – 20 times (17%).
 - 20 + times (14%).
- The age of respondents ranged from 16 to 85.

Resident track use:

- Of the 29 residents who responded to the survey 37% walk 2-4 times per week, 33% walk weekly and 19% monthly in warmer months; and 48% walk 2-4 times per week, 15% weekly and 15% monthly in the cooler months.
- The most frequently used tracks by residents are:
 - Daily: Foreshore Track; Stevens Reserve; Bowker Avenue; Transit Hill.
 - Weekly: Foreshore Track; Bowker Avenue; Transit Hill; Clear Place.
 - Fortnightly: Clear Place; Valley of the Shadows; Transit Hill; Bowker Avenue.
 - Monthly: Goat house; Old Settlement to North Bay to Old Gulch; Valley of the Shadows.
- Residents walk Mt Gower weekly (13%, guides); twice per year (31%); yearly (39%) and never (17%).
- The top five reasons residents frequently use the track network are: exercise (69%); to get close to nature (52%); for peace and quiet (36%); to walk the dog (25%) and sightseeing (17%).

Visitor track use:

- 79% of visitors took an unguided walk in the PPP during their last visit.
- 40% of visitors took a guided walk on the island during their last visit.
- 38% climbed Mt Gower.
- Visitors walk for getting close to nature (87%), sightseeing (83%), exercise (80%), bird watching (51%) and photography (44%).
- Most used tracks¹ were: Old Settlement to North Bay (Class 3); Malabar to Kim's Lookouts (Class 4); Transit Hill (Class 3); North Bay to Old Gulch (Class 2) and to the Clear Place (Class 2).
- All the tracks in the network are used.

Track user rating of the track:

The survey asked respondents to rate five aspects (condition, signage, interpretation, infrastructure and alignment) of each individual track as either poor, fair, good or excellent. The survey then asked for an overall rating for each track. The results revealed that:

- All tracks except Blackburn Island received a majority overall *good* rating.
- Goat House Track was the only track in the network which received only *good* and excellent ratings for all aspects as well as overall.
- No track or track aspect attracted a majority *poor* rating.
- No track or track aspect attracted a majority *excellent* rating.
- Of the five aspects rated all tracks returned a majority *good* rating except for the following tracks receiving majority *fair* rating:
 - Mutton Bird Point Circuit - infrastructure and condition.
 - Mutton Bird Point - condition.
 - Blackburn Island - directional and interpretative signage, condition and infrastructure.
 - Middle Beach Access tracks - interpretive signage.

Comments

258 unique comments were also made by respondents (excluding responses like "NA"). Most of these comments focused on:

- Upgrades to tracks (35%) including re-instatement of the Mutton Bird Point Track at the landslip site and realigning or elevating track to avoid wet areas.
- Improving interpretation for visitors (30%) with specific reference to more information about plants, sea birds, geology and cultural heritage.
- Improving directional signage (18%) with a clear message that the signage is subtle enough to blend in to the environment for residents but too subtle for visitors or first time track users.
- The importance of maintaining cyclic maintenance (16%).

¹ 56 respondents answered "Which walking tracks did you use during your last visit to Lord Howe Island?"

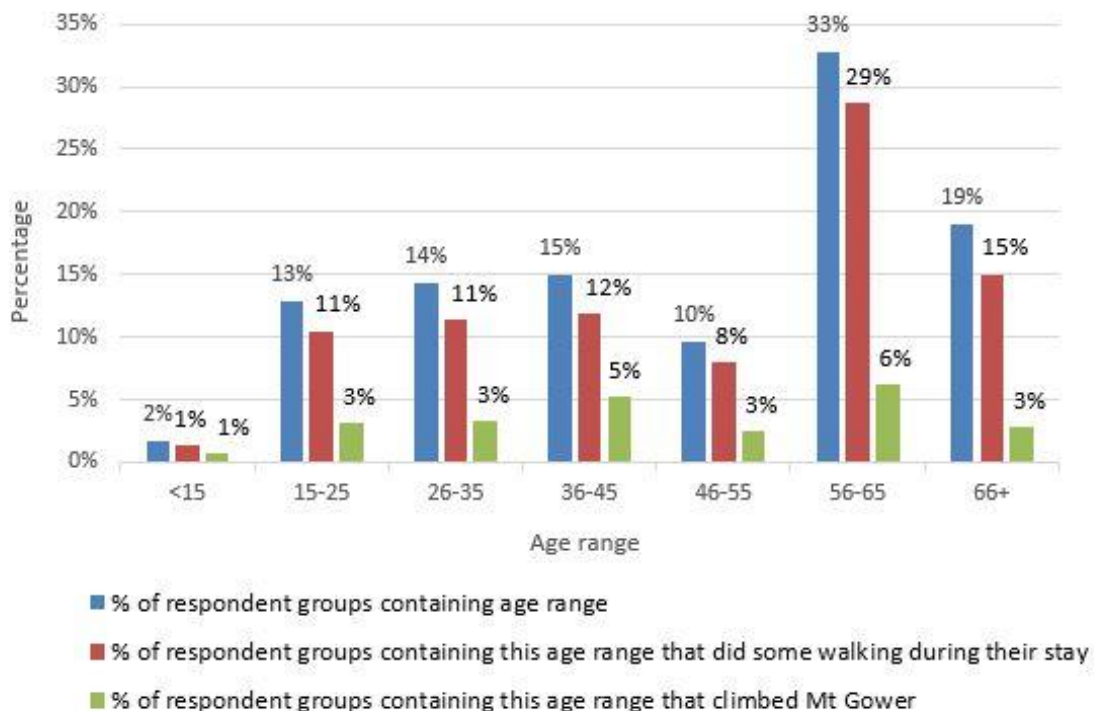
2012/13 LHI Visitor Experience Card Data

Over 18 months from late June 2012 until late December 2013, LHI visitor experience cards were placed in LHI lodge rooms. The cards asked a range of questions to gather valuable information about the demographic of visitors, their interests, what activities they undertook whilst on the island and what they enjoyed the most. 600 surveys were returned representing at least 2252 people (some respondents did not indicate the number in their group).

Relevant information for this strategy includes:

- The age group most represented in the visiting groups was the 56-65 year olds.
- 83% of all respondents did some walking during their stay and 24% climbed Mt Gower.
- Groups containing 56-65 year old respondents did the most walking.

2012/13 Visitor Experience Card Data



2007 Marine Parks Visitor and Expenditure Survey

Between late January and late April 2007, the LHI Marine Parks Authority conducted a survey to collect socio-economic information on domestic and international visitors to LHI which could be used in planning and managing the NSW Lord Howe Island Marine Park (LHIMP). The survey asked questions about visitor recreation activities - including guided and independent walking. 376 surveys were completed for 1476 individuals (average group size was 4 people). No demographic age information was asked in the survey. Relevant information for this strategy includes:

- Survey conducted January to April 2007 (120 days of almost half of high season).
- 35% visited for the natural areas in the marine environment, 23% for the natural areas on land, and 19% because of LHI's World Heritage status.
- There were 6556 net tourist arrivals during that period (Qantas passenger reports to LHIB) representing 22.5% of visitors which is considered statistically relevant²
- Walking and cycling for sight-seeing were the most popular land-based activities.
- 93% took at least one unguided walk on the island during their stay.
- 61% took at least 1 unguided walk in the Permanent Park Preserve during their stay.
- 25% of visitors took at least one guided walk on the island and PPP during their stay.
- 49% went for unguided walks daily during their stay.

1995 LHIB Walking Track Survey

A paper based walking track survey was conducted for the majority of 1995 and it returned 74 responses responding on behalf of a minimum of 2 people. Over 60% of the respondents were aged 40-59. As this survey was returned by visitors that used the walking track network it is unable to be used to estimate track usage by all visitors to the island during that time. However it does provide some interesting data on where those people walked and their general comments that is relevant for this strategy:

Table 2: 1995 LHIB Walking Track Survey results

Track	Usage	Track Network General Comments	Comments addressed?
North Bay to Malabar	45%	Indication of times required on all tracks	Not addressed.
Old Settlement Beach to North Bay	41%		
Clear Place and Valley of the Shadows	41%		
Blinky Beach to Mutton Bird Point	39%	Naming of trees alongside tracks needed	Partially, included on Stevens Reserve interpretive signs
Malabar to Kim's Lookout	38%		
Transit Hill	35%	More interpretive signs required at points of interest	Partially, nine interpretive signs installed since 1995.
North Bay to Mt Eliza	34%		
Steven's Reserve	31%	More zig-zag tracks required	NA, no new or rerouted tracks
Blinky Beach to Boat Harbour	26%		
Boat Harbour via Smoking Tree Ridge	24%	Present signs unclear/confusing/more trail markers needed	Partially, track head and intersection markers installed.
Goat House	24%		
Intermediate Hill	20%	Strenuous/dangerous, not aimed at target group	The only significant track change has been the Foreshore Walk
Catalina Crash Site	19%		
Mt Gower	16%		

Recommendation 1: Collect actual on-site data of usage of the walking track network in low and high season.

² The survey report does say that as respondents self-selected to complete the survey the group may not be representative of all visitors to LHI during that period.

4 Strategies

4.1 Risk Management

Risks associated with walking tracks can be divided into two broad categories, risk to the environment and risk to walkers.

Risks to the environment include:

- Loss or reduced quality of habitat e.g. tracks located within breeding habitat of fauna.
- Weed invasion via weed seed on walkers' boots, poles and clothes.
- Plant pathogen invasion such as *Phytophthora sp* and Myrtle Rust via walker and maintenance crew equipment.
- Erosion from walking off track and through wet areas.
- Waste in the environment, including human waste.
- Harm to fauna caused by un-controlled dogs.

Risks to the environment are managed through environmental impact assessment prior to determining to proceed with a new or re-routed track; sensitive design of tracks such as elevated boardwalks over waterways and sensitive habitat; education and awareness material and provision of boot scrub bays for preventing the spread of weeds and plant pathogens; provision of facilities such as bins and toilets at track heads and permitting dogs on-leash on a small number of tracks. Specific environmental protection measures for individual tracks are discussed in Section 5.

Risks to walkers include:

- Dangerous trees/limbs falling.
- Rock fall, cliff and slope instability.
- Slips, trips or falls due to unstable ground, exposed roots, creek crossing etc.
- Walkers becoming lost in a remote location.
- Failure of rope and anchor system.
- Failure of communications.
- Risk of injury or illness to walkers due to their skill, experience and health / fitness levels.
- Exposure of walkers to elements resulting in heat stroke, heat exhaustion, dehydration, or hypothermia.

Risks to walkers are managed by adopting the Australian Standards for walking track classification, signage and infrastructure; in particular maintaining a track's classification elements, and management intervention and risk management guidance, refer to section 4.2.

Both the LHI State Emergency Service and Rural Fire Service have a limited number of active members who are trained in rescue techniques, however there is no on island accredited Vertical Rescue capability. The Gower Wilson Memorial Hospital is a three-bed hospital which caters for the range of health care needs of both the Island's residents and tourists. The facility is currently used for acute

medical/surgical admissions. Complex cases are transferred to the mainland for ongoing or specialist care. Visitors attempting the Mt Gower walk are required to be supervised by a Board licensed guide who has specific responsibilities with respect to duty of care to clients, emergency and first aid response.

Specific hazard and asset management measures for individual tracks are discussed in section 5.

4.2 Asset Management

The current Lord Howe Island Walking Track Network is valued at \$5.2M based on replacement costs of the track, track infrastructure and facilities.

The Board's Total Asset Management Plan and Asset Strategy (TAM Plan LHIB, 2015) is a rolling 10-year plan that guides the capital procurement, maintenance and disposal of the island's assets. It is reviewed as new information is obtained and used to prepare detailed annual budget plans.

In the TAM Plan, the entire walking track network is included in the Permanent Park Preserve (PPP) category, which also includes items such as fencing and flora and fauna management. Twenty-three percent of current walking track length and associated infrastructure is located outside of the PPP, mostly in the main settled area. It is recommended to separate out the walking track network as a unique asset category to assist with budgeting and bidding for funding (capital expenditure and grants).

Recommendation 2: That Walking Tracks be listed as a unique capital and maintenance category in the LHIB TAM Plan to more accurately project capital procurement, replacements and cyclic maintenance of the entire network.

and

Walking track and infrastructure be divided proportionally between the PPP and the Public Open Space categories in the LHIB TAM Plan to more accurately project capital procurement, replacements and cyclic maintenance of the network and support access to funding for protected and settled areas.

The TAM Plan does not specify service levels for walking track infrastructure and refers to engaging with the community and industry to develop appropriate service standards. This strategy adopts the Australian Standards for walking tracks and infrastructure, see Section 4.3. A survey of walking track users and their opinion on track condition, alignment, infrastructure and signage is being conducted simultaneously with the preparation of this draft strategy and will provide important information for the further refinement of LHI service levels for walking tracks.

Recommendation 3: That the minimum service level for LHI walking tracks be guided by the classification, management intervention and risk management described in Australian Standards AS 2156.1 & 2.

Recommendation 4: That the results from the walking track user survey be used to refine service levels appropriate for Lord Howe Island.

4.3 Track standards

The walking track system will be designed and maintained in accordance with:

- Australian Standard AS 2156.1 - 2001 Walking Tracks Part 1: Classification and signage
- Australian Standard AS 2156.2 - 2001 Walking Tracks Part 2: Infrastructure design

These standards provide a classification and management intervention system for walking tracks; guidance for track markers and information signs; and specific requirements for the structural design of walking track structures to protect natural and cultural assets and for use as aids to recreation in outdoor areas where the environment is the focus of recreational activities.

4.3.1 Inspection and maintenance

Works on the track network are separated into regular (cyclic) and catch-up (ad hoc) maintenance, upgrades and new projects.

Category of works	Description	Example
Cyclic maintenance	Ongoing minor tasks scheduled into normal work program. Staff time and materials are funded from the recurrent budget. The tasks are exempt development, i.e. permitted to be undertaken without obtaining planning consent.	<ul style="list-style-type: none"> • Trimming trackside vegetation. • Weed control. • Clearing drains. • Repair isolated washouts. • Tightening loose bolts.
Ad hoc maintenance	More substantial works that are required less frequently and are of longer duration than regular maintenance. Normal work program needs to be suspended. Staff time and materials are funded from the recurrent budget. The tasks are exempt development, i.e. permitted to be undertaken without obtaining planning consent.	<ul style="list-style-type: none"> • Step replacement. • Treat elevated walkways with anti-mould and repaint. • Replacement of ropes and bolts.
Upgrades	Replacement of part of whole of existing track or infrastructure in the same location. Work is completed by staff or contractors as a one off project funded by the capital maintenance budget. These tasks require environmental assessment and development consent ³ .	<ul style="list-style-type: none"> • Replacement of bridges, stairs. • Stabilising. • Realignment of track within the disturbance corridor.
New projects	Construction of new tracks or infrastructure to provide new recreational activities. Work is completed by staff or contractors as a one off project funded by the capital procurement budget. These tasks require environmental assessment and development consent ⁴ .	<ul style="list-style-type: none"> • New viewing platform on existing track. • New track through undisturbed area.

^{3 & 3} Refer to section 4.4 for environmental assessment and development consent.

Inspections of track and infrastructure condition for *regular and catchup maintenance* requirements are carried out by field staff based on AS 2156.1 suggested frequencies. Adhoc inspections are also carried out post storm events.

An annual audit of track and infrastructure for identifying *upgrades* are identified through annual audits conducted by the Ranger or Field Supervisor. Environmental assessment, development consent and budget planning for upgrades is conducted between September and November.

Track and track infrastructure location, description and condition (as at last audit) have been captured in a GIS based database (see example map in Appendix 1). Improvements in digital capture of data during inspections and audits will enhance planning, budgeting and reporting.

Recommendation 5: Implement Asset Management System module into Authority and improve walking track data capture.

New projects are identified by the Walking Track Strategy (see Section 4.3.5) and are included and budgeted for in the LHIB TAM Plan (see Section 4.2). Environmental assessment, development consent and budget planning for new projects can be conducted as capital funding is secured.

Ideally, Catch-up maintenance, upgrades and new tracks would be undertaken outside the peak tourist season.

Appendix 7.3 list the annual schedule of activities for managing the maintenance and upgrade of the walking track network.

4.3.2 Infrastructure

Infrastructure is designed and certified to AS 2156.2. An assessment of the integrity of elevated structures on tracks is undertaken by a structural engineer every five years.

4.3.3 Information signs

Information signs are discussed in section 4.6.

4.3.4 Facilities

AS2156.1 also provides guidance for the provision of track head facilities. Those relevant for Lord Howe Island include car parking, toilets, picnic facilities and drinking water. The LHIB also provides bike racks, bins and boot scrub bays to prevent the spread of pathogens and weeds into the Permanent Park Preserve.

The walking track network is an identified high risk pathway for the spread of pathogens into the Permanent Park Preserve in the LHI Biosecurity Strategy (LHIB, 2016). The main pathogens of concern are *Phytophthora* sp and Myrtle Rust. There are currently two contained outbreaks of *Phytophthora* on the island and a Myrtle Rust incursion that has been treated and monitored aiming for eradication.

To prevent the spread of pathogen spores and weed seeds into the PPP, boot scrub bays are provided at track heads for walkers and Board employees to clean boots and poles before entering the track. The Biosecurity Strategy (LHIB, 2016) recommends supplementing these with personal equipment decontamination sprays e.g. Quatsan at all walking track heads.

Track heads are largely compliant with AS2156.1 given the proximity to accommodation and public toilets within the Settlement. However, biosecurity and walker experience could be enhanced for several tracks with the installation of the additional facilities as recommended below.

Recommendation 6: Install picnic facilities, toilets and drinking water at Blinky Beach.

Recommendation 7: Install toilets and drinking water at Little Island Track gate.

Recommendation 8: Complete the installation of boot scrub bays, for the prevention of spread of pathogens into the Permanent Park Preserve, at all relevant track heads:

- 8.1 Both ends of the Bowker Ave Track on Anderson Road and opposite the Board Offices.
- 8.2 At the start of the Transit Hill walk from Pine Trees lodge.
- 8.3 At the start of the Middle Beach North track.

Recommendation 9: Place personal equipment decontamination sprays e.g. with Quatsan at all walking track heads.

4.3.5 Classification

The current and proposed network classification according to AS 2156.1 is presented in section 4.2.

Visiting walkers could be divided into two main groups: beginner/family (class 1 and 2) and intrepid/experienced (class 3 and above).

Eighty percent of the current track network are classed 3 and above which means they include steep sections, rough surface and many steps.

Twenty percent of the tracks are suitable for beginner/ family walkers with no bushwalking experience, have gentle slopes and only occasional steps, and are the:

- Stevens Reserve Loop
- Lagoon Foreshore Track
- Little Island
- Middle Beach access tracks (north and south)
- North Bay to Old Gulch

There are no entire tracks suitable for someone requiring a walking aid such as a walking frame.

Table 4: 2016 LHI Walking Track Network Track Classification Mix		
AS2156.1 Class	% of network	Description of walking experience*
1	0	No bushwalking experience required. Flat even surface with no steps or steep sections. Suitable for wheelchair users with someone to assist them. No greater than 5 km.
2	20	No bushwalking experience required. Track is hardened or compacted surface. May have a gentle hill section or sections and occasional steps. No greater than 10 km.
3	24	Suitable for most ages and fitness levels. Some bushwalking experience recommended. Tracks may have short steep hill sections a rough surface and many steps. Walks up to 20 km.
4	41	Bushwalking experience recommended. Tracks may be long, rough and very steep. Directional signage may be limited.
5	14	Very experienced bushwalkers with specialized skills, including navigation and emergency first aid. Tracks are likely to be very rough, very steep and unmarked. Walks may be more than 20 km.
6		Unmarked route...

*Applying the Australian Walking Track Grading System 2010

The Lord Howe Island Destination Management Plan 2014-2017 calls for access to new locations in the Permanent Park Preserve, stating that it would help achieve the desired outcomes of providing more new experiences for visitors, and encouraging differentiation between operators. Specific locations nominated relevant to this Strategy include Red Point (east side of Mt Lidgbird); Scab Point (north east side of Mt Lidgbird); Grey Face (north face of Mt Lidgbird); Barro Flats and The Tablelands (south side of Mt Lidgbird); Little Slope (west side of Mt Gower) and North Head.

Given the popularity of walking, the demographics of visitors to LHI and the growth in visitor numbers and visitor segments projected there is likely to be an increasing demand for walking and for a range of walking experiences on the island. Enhancing the network to increase the range of walking experiences on offer will satisfy repeat and first-time visitors alike.

Recommendation 10: Increase the number and length of beginner/family walks (Class 1 and 2) on the island by:

- 10.1 Extension of the Lagoon Foreshore Walking Track through construction of a raised boardwalk from the Pine Trees Boat Shed to the concrete foot path at Windy Point, refer to Figure 4. This would relocate pedestrians and cyclists from a known blind spot along Lagoon Road. The entire length of the Foreshore Walking Track then be 1.5 km. Stage 1 would be to construct Boardwalk (class 1), stage 2 would be to achieve class 1 the entire length.
- 10.2 Upgrade of Stevens Reserve Loop Track to ambulant standard Class 1, refer to Figure 5.
- 10.3 Inclusion of the Little Waterfall Track in the network as a Class 2 walking track. Currently this track is not maintained by the Board. It is promoted as a wet weather activity by commercial providers such as Pine Trees, refer to Figure 6
- 10.4 Creation of a new Class 2 track from Old Settlement to North Bay via Dawsons Point as proposed by the 1997 Walking Track Strategy keeping the existing track from Old Settlement to the three ways intersection, refer to Figure 4
- 10.5 Creation of new Class 2 track from Neds Beach to intersect with the North Middle Beach Access Track, refer to Figure 4

Recommendation 11: Increase the number and length of intrepid/experienced walks on the island by establishment of a new Class 6 walking route for example on the Eastern Side of Mt Lidgbird. Similarly to the current Mt Gower walk, visitors would need to be accompanied by a LHIB licensed guide. There would be a group number and annual walker limit on this walk.

Implementation of Recommendations 10 and 11 would expand the network by 7 km and provide 47% of track as class 1 and 2, and 53% class 3 and above, including introducing 9% of new class 1 and 10% of new class 6. The mix of classes of walking tracks in this way would be as follows or is shown in Table 5:

Grade	2016		2026	
	% of tracks	km of track/route	% of track	km of track/route
1	0	0	9	3
2	20	5	20	6
3	24	6	18	6
4	41	10	33	10
5	14	4	11	4
6	0	0	9	3
Total		25		32

Figure 4: Proposed new or rerouted tracks for Northern LHI



Figure 5: Proposed new, upgraded or rerouted tracks for Central LHI

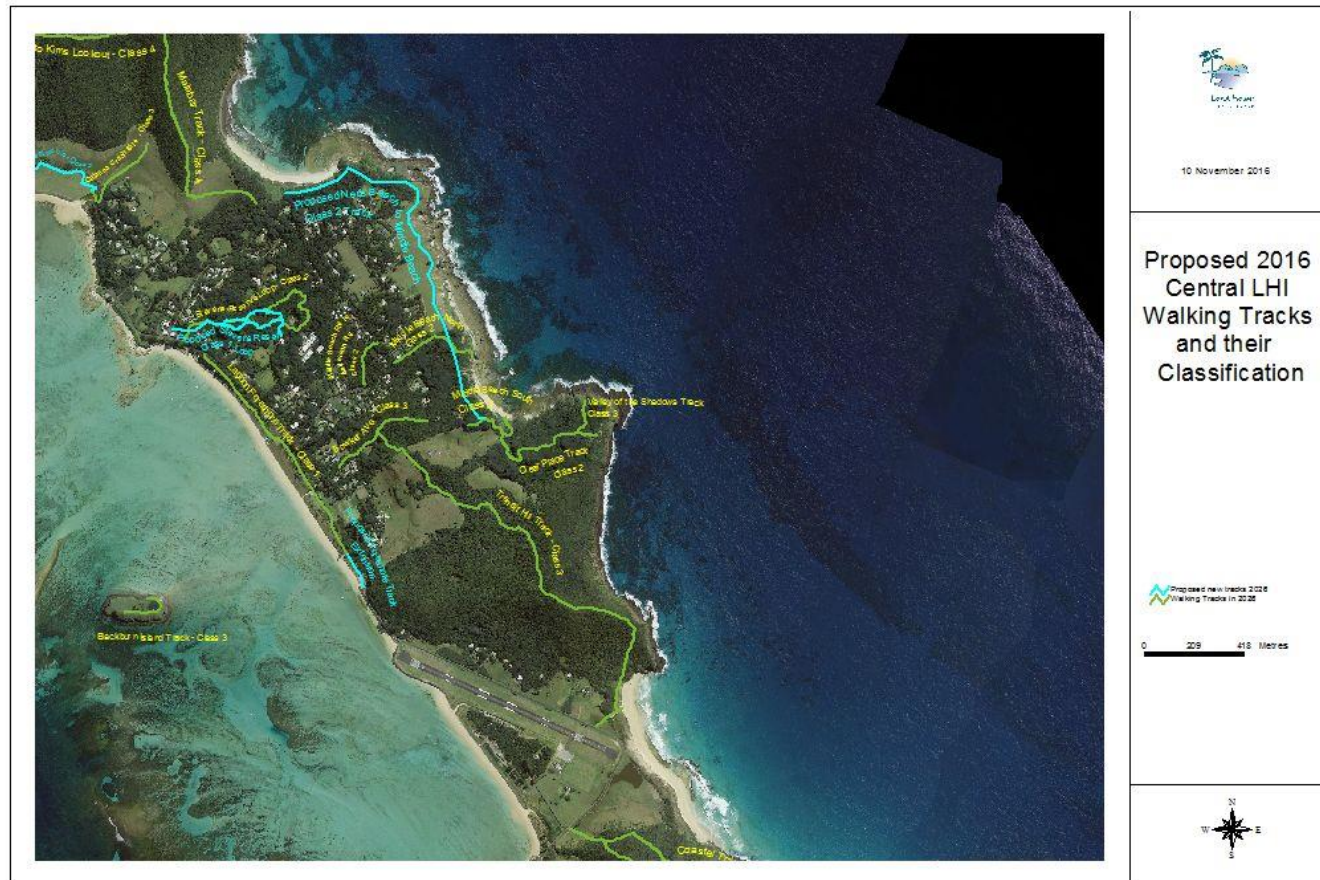
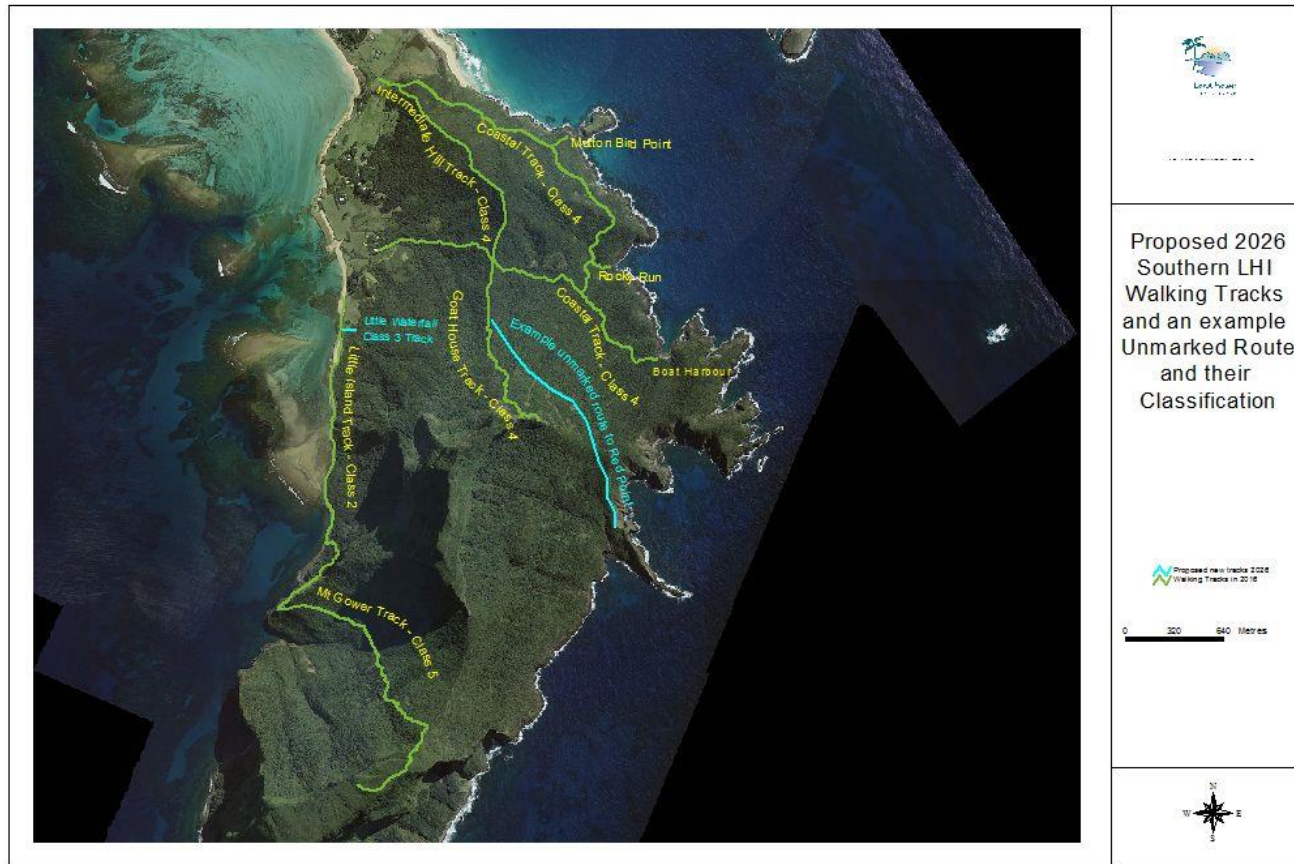


Figure 6: Proposed new tracks or unmarked routes for Southern LHI



4.4 Environmental Assessment

Routine and catch-up maintenance of an existing track can be conducted without obtaining prior development consent. These works are considered to have low environmental impact and are being conducted on an already approved track.

Upgrades that are consistent with the LHI PPP Plan of Management (LHIB, 2010) and objectives of the LHI Local Environmental Plan 2010, and are considered of low environmental impact will have a Conservation Risk Assessment (CRA) prepared for the LHIB's CEO to determine.

Upgrades and new projects that are consistent with the LHI PPP Plan of Management (LHIB, 2010) and objectives of the LHI Local Environmental Plan 2010, and are considered of more than low environmental impact will have a Review of Environmental Factors (REF) for the CEO to determine.

New tracks or new works on tracks outside of the PPP that require consent under the LHI LEP 2010 will submit a DA and threatened species assessment in accordance with the Environmental Planning and Assessment Act (1979).

4.5 Design approach

The guiding design principles for Lord Howe Island tracks include:

- Following the natural contour as much as possible avoiding straight lines.
- Maintain natural waterways and keep water away from track surfaces.
- Respect historic values, including the need to reflect applicable heritage construction techniques.
- Outside of the PPP, aim to locate tracks on already disturbed vacant Crown Land, gazetted roads and easements, or, special leases where no alternate is available.
- Aim for a consistent unobtrusive look and feel along the full length of a track.
- Make use of suitable local materials such as soil, stone and timber as much as possible.
- Where local materials are not available try to use recycled materials with a long design life.
- Use non-slip products.
- Avoid important habitat areas for threatened species, seabird nesting areas and endangered ecological communities.
- Use the Board's distinctive corporate colours for directional and interpretive signage.
- Consistently apply track class characteristics to establish clear expectation of track character and difficulty.

Guidance for design principles for elements such as tracks, drainage, steps, retaining walls, handrails, lookouts, foot bridges and boardwalks can be found in Australian Standard AS 2156.2 - 2001 Walking

Tracks Part 2: Infrastructure design and other land management agency documents such as the Park Facilities Manual (NSW DECC, 2010).

Recommendation 12: Review tenure of all walking tracks outside of the PPP and relocate to disturbed vacant Crown Land, gazetted roads and easements, or, special leases where no alternate is available, providing environmental assessment determines there would be no significant impact.

4.6 Information, Education, Promotion

Appropriate, accessible and consistent information about walks on Lord Howe Island is essential to:

- Promote LHI as a tourist walking destination.
- Help walkers choose walks which suit their abilities and interests.
- Ensure visitors are well prepared for safe walking prior to setting out on walks.
- Increase awareness of LHI biosecurity measures, e.g. plant/soil free packing and boot scrubbing.
- Enhance visitor walking experience through interpretation of LHI's natural and cultural values.

Promoting LHI as a tourist walking destination

The Lord Howe Island Tourism Association (LHITA) is primarily responsible for promoting Lord Howe Island as a walking tourist destination. The Board's role in supporting the promotion of walking is to:

- Ensure track infrastructure and signage are maintained to the standard appropriate for the classification of track.
- Provide a clear and consistent description of each walking track that can be used for promotional purposes.
- Advise operators and LHITA, in a timely manner, of operational issues that may influence timing and promotion of walking activities, e.g. closures of tracks due to maintenance, upgrades or natural events.
- Support development of new walking experiences, providing those experiences do not adversely impact on the natural and cultural values of the island or the Boards ability to manage those values.

Planning a walk

In 2010 the Australian Walking Track Grading System was developed and released to provide a nationally consistent two-step process for (1) grading the difficulty of a track and (2) communicating that grading in plain English. The System was introduced so that inexperienced walkers and walkers new to a track could clearly understand what to expect on that track prior to setting out.

The System recommends providing the full suite of information at the start of the track. Where that is not practical or desirable, the minimum information should be provided at the track head and the rest of a track's key information delivered via pre-visit brochures, websites, information boards or other means.

Minimum track information is the grade of walk (difficulty) and identifying symbol and the distance. The full suite of information includes gradient, quality of path and markings, experience required, time and steps.

Walk information on Lord Howe Island adopts the System's latter approach with unobtrusive signage provided at track heads and intersections, supported by a range of publications (paper and digital), visitor center and commercial tour staff.

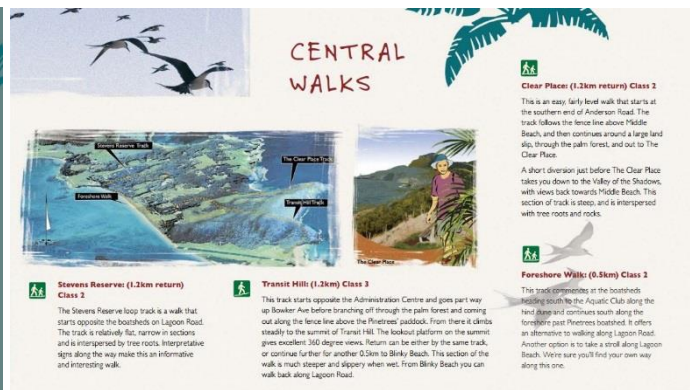
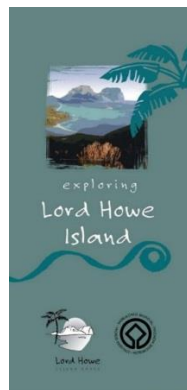
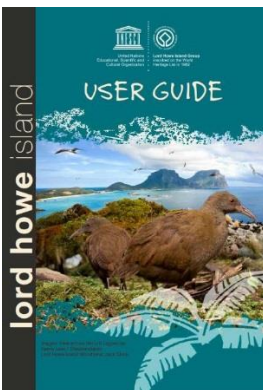


LHI walking track posts provide an orientation map and walking distance. Some posts include regulatory symbol signs such as dogs on leash, no dogs or no bicycles.

The Board provides additional information on tracks through three publications:

- The Board's Walking Track Brochure (2015). Available in print and on the internet <http://www.lhib.nsw.gov.au/services/tourism/walking-tracks>
- The Board's LHI on-line Visitor User Guide (2015) available for download prior to arriving from the mainland as well as from iPad kiosks at the airport and the visitors centre. <http://www.lhib.nsw.gov.au/services/tourism/user-guide>
- Steven Reserve Trail & Foreshore Walk Bush Trackers children's guide available in print on the island.

In 2015/16 the Walking Track Brochure and User Guide was downloaded 146 and 165 times respectively. Given the number of first time visitors to the island is estimated to be about 11,000⁵, the download frequency of the LHIB's two primary pre-visit information documents is far too low.



⁵ The Lord Howe Island Destination Management Plan (LHITA, 2014) estimates annual visitation at 15,500 with a repeat factor of 30%.

In addition, information on walking tracks and walking experiences is provided in the private sector via:

- LHITA's website <https://www.lordhoweisland.info/things-to-do/walking/>
- Individual operator websites.
- Ian Hutton's *A Rambler's Guide to Lord Howe Island* (2002).
- The Red Map, produced by Ron Matthews.
- Destination NSW's Lord Howe Island Arrival Guide (2016)
<http://www.arrivalguides.com/en/Travelguides/Oceania/Australia/LORDHOWEISLAND>

There is inconsistency between information sources. Basic information (e.g. time) is not provided in some publications and other features (e.g. track grading) differs between information sources. No one information source provides the full suite of information required by the 2010 the Australian Walking Track Grading System.

Recommendation 13: Update the LHI on-line User Guide (2015) to include all elements from the Australian Walking Track Grading System (2010).

Recommendation 14: Update the Board's Walking Track Brochure (2015) to have the same look and feel as the User Guide and publish as an interactive PDF. Only print paper brochures when current stock depleted. Liaise with LHITA to aim for a consistent branding of visitor documents.

Recommendation 15: Develop and implement a social media plan for increasing the download of the interactive User Guide and new Walking Track Guide.

Recommendation 16: Update the walking track page on the Board's website to include a text and image description of the entire walking track network. Also include links to external walking sites e.g. Wildwalks, Google Trekker.

Recommendation 17: Include track grade (difficulty) symbol and time on walking track posts.

Recommendation 18: Install orientation map signs for the northern, central and southern group of walks to present options for walk experiences that connect multiple tracks and include time, track grade and key features.

Recommendation 19: Liaise with the LHI museum to display an updated whole of network orientation map that presents walk options as connected and loop tracks, including time, track grade and key features.

Recommendation 20: Liaise with LHITA and island tourism operators to ensure that walking track descriptions are consistent across all media platforms.

Recommendation 21: Establish a LHIB Facebook page and use it to promote management of the walking track network; and share information and publications about the walking tracks.

Biosecurity

The walking track network is an identified high risk pathway for the spread of pathogens into the Permanent Park Preserve and raising awareness of visitors to this risk - pre-visit, on-arrival and at track heads - is recommended in the LHI Biosecurity Strategy (LHIB, 2016).

A Myrtle rust/Phytophthora brochure (LHIB, 2015) has been prepared for visitors and will be disseminated to lodges and be made available on the LHIB website.

The LHIB's User Guide (2015) contains biosecurity measures visitors can take before and after arrival. The website, User Guide and Walking Track Brochure (2015) described the purpose and use of the boot scrub bays. There is a biosecurity sign at the airport and some signage on the boot scrub bays.

Tourism operators can also provide their guests with pre-arrival biosecurity advice.

Recommendation 22: Provide tourism operators with biosecurity information they can share with clients before their visit to the island.

Recommendation 23: Use LHIB Facebook page to promote:

- Pre-arrival biosecurity messages particularly leading up to and during the peak tourist season.
- Use of boot scrub bays during stay.
- Visitor awareness and reporting of Myrtle rust and *Phytophthora*.

Recommendation 24: Install boot scrub signage at every boot scrub bay.

Interpretation

Interpreting Lord Howe Island's natural and cultural values improves visitor understanding of and connection with the Island, leading to an enhanced visitor experience (LHIB Permanent Park Preserve Plan of Management (POM), 2010).

The Lord Howe Island Board provides all interpretive signage and some interpretive publications for the island's terrestrial based values (LHIB Signage and Publication Manual, 2000). The Department of Primary Industries provides interpretation of the LHI Marine Park. Private operators offer guided tours catering for a wide range of specific interests. The LHIB and private commercial publishers have produced a variety of publications catering for those who want to learn more about the island's environment.

Providing an integrated multi-layered interpretation of all of the island's values (marine and terrestrial), within and without the Permanent Park Preserve, is outside the scope of this document and would best be presented in a LHI Group World Heritage Interpretation Plan required by the POM (LHIB, 2000).

The POM (LHIB, 2010) and Signage and Publication Manual (LHIB, 2000) recommend minimal interpretive signs within the PPP that are unobtrusive; harmonise with their surroundings; and be placed where possible on existing infrastructure. AS 2156.1 recommends decreasing the provision of interpretive signage as the classification (or difficulty) of the track increases.

Within the walking track network there are interpretive signs at:

- One of 16 track heads, (Lagoon Foreshore Track).
- En-route on three of the 23 tracks (Catalina Crash Site, Old Settlement and Stevens Reserve).
- Four of 18 destinations (Transit Hill; Mutton Bird Point Lookout; Little Island and North Bay).

The existing signs vary in appearance and the most recent have departed from the standards presented in the Signage and Publication Manual (LHIB, 2000). There is scope to increase interpretive signage to present more of the island's natural and cultural values and the management programs in place to conserve them.

Recommendation 25: Co-ordinate the preparation of a Lord Howe Island Group World Heritage Area interpretation plan for the LHIB, DPI and private sector to present the Island's values for visitors in an integrated way via a range of media and experiences, including interpretive signs on walking tracks.

Recommendation 26: For input into a LHI interpretation plan:

- Prepare for each walking track, a description of the natural and cultural values including key features through which the track traverses or overlooks.
- For each of the island's natural and cultural values identify the track best located to interpret that value e.g:
 - Heritage sites.
 - Intermediate Hill Track viewing platform and Balls Pyramid and the phasmid rediscovery/recovery.
 - Mutton Bird Point Track and a living geological landscape.
 - Transit Hill Track and recovery of native flora after weed management success.

5 Managing individual tracks

In addition to the regular and catchup maintenance of all tracks, there are unique maintenance and management strategies for individual tracks and these are discussed below.

Table 6: Managing Individual Tracks	
Name of Track(s)	Unique maintenance or management strategy
North Bay to Mt Eliza	<p>The track is closed each summer to exclude walkers and potential impact on the Sooty Tern breeding colony. Sooty Tern numbers have significantly increased.</p> <p>Experiencing the activity of a bird breeding colony in this location with the dramatic views of the island on offer would be an added attraction for residents and visitors alike. Bunting and disturbance successfully deters Sooty Terns from nesting on the Blinky Beach dune to reduce the risk of aircraft bird strikes. The Blinky Beach access track (with dogs allowed on leash) transects the Sooty Tern breeding colony with minimal impact on breeding behaviour.</p> <p>It is recommended to review seasonal closure of the Mt Eliza Track pending an environmental assessment of the LHI population and the decision on proceeding or not with rodent eradication</p>
Max Nicholls Track	<p>The section of the Max Nicholls Track at the location where Old Settlement Creek enters the lagoon is repeatedly at risk of encroachment or failure due to the coastal erosion of the embankment beneath. To rectify the problem the bank is to be stabilised with sand extracted from nearby, a new channel cut in the creek and the fence and track relocated away from the embankment edge.</p> <p>To avoid this cyclical repair and relocation, the walking track could be closed and walkers directed to used Old Settlement Beach, or, relocated by turning right once across the bridge (instead of left) and rerouted up the paddock and then alongside Old Settlement Creek to join the existing track. The track would offer walkers the opportunity to view the Endangered Ecological Community, the Sallywood Closed Swamp Forest. The walk would need to be on boardwalk through the wet areas. Walkers could still choose to start the Max Nicholls track by walking along Old Settlement Beach.</p> <p>About halfway along the section of track from the northern end of Old Settlement Beach and the vegetated canopy, the track traverses a population of the endangered <i>Calystegia affinis</i>. Walkers keeping to the</p>

Table 6: Managing Individual Tracks	
Name of Track(s)	Unique maintenance or management strategy
	<p>track eliminates trampling impact of the endangered species that grow right up to the track edge.</p> <p>Boardwalk in this location keeps walkers to the track (and not off track trampling vegetation). An interpretative sign informing walkers of their proximity to an endangered plant species would enhance walker experience and education.</p>
Malabar Lookout	<p>Malabar Lookout is located on the edge of a high steep cliff with few natural barriers. Warnings to stay on the track and supervise children are provided in the walking track brochure, user guide and on signs en route.</p> <p>Additional signage about cliff hazards is required at track heads. A seat located away from the cliff edge close to the track might encourage walkers to stay away from the edge and provide a more comfortable and safe position to rest after the steep climb.</p>
South Middle Beach; Transit Hill; Lagoon Foreshore track from The Pines to the Pine Trees Boat Shed; Little Island track from its start to where palm tree forest encloses the track; Stevens Reserve; Bowker Ave; Middle Beach to Anderson Road	<p>Dogs permitted on leash on Settlement walking tracks and on specifically identified walking tracks within the PPP as defined by the PPP POM and LHI Dog Importation and Management Policy (2015). Dogs on leash symbols are displayed at most track heads and intersections of tracks where dogs are permitted. There is no signage at the southern most end of the Little Island Track.</p> <p>The Walking Track Survey 2016 received suggestions that dogs on leash be permitted on more tracks in the PPP. This would require environmental impact assessment and a PPP POM amendment if deemed appropriate.</p>
Blackburn Island	<p>Each year before the breeding season for Wedge-tailed Shearwater, the single pathway through the rookery to the wind sock is cleared and remarked. There is existing interpretative signage on Wedge-tailed Shearwaters.</p> <p>Three threatened fauna species are found on Blackburn Island the LHI Gecko (<i>Christinus guentheri</i>), LHI Skink (<i>Oligosoma lichenigera</i>) and LHI Wood-eating Cockroach (<i>Panesthis lata</i>). Consider an interpretative sign informing walkers of their proximity to these endangered species.</p>
Goat House	<p>A specific rope audit is scheduled for August of every year.</p> <p>A large number of visitors walk around to the SE side of the destination to see views of Balls Pyramid. Improved safety will need to be considered</p>
Mount Gower	A specific rope audit is scheduled for August of every year.

Table 6: Managing Individual Tracks	
Name of Track(s)	Unique maintenance or management strategy
	<p>Visitors attempting the Mt Gower walk are required to be supervised by a Board licensed guide who has specific responsibilities with respect to duty of care to clients, emergency and first aid response. Residents are permitted to walk without a guide.</p>
<p>Malabar from Neds Beach to paddock stile; Middle Beach North</p>	<p>Almost the entire length of the Middle Beach North track and the start of the track to Malabar from Neds Beach Road to the stile at the paddock traverses a Muttonbird breeding site. Walkers need to choose their steps carefully to avoid injury from collapsing a burrow and possibly burying an egg, chick or adult (in breeding season). Currently there is no interpretation or guidance for walkers.</p> <p>This environmental and safety risk can be avoided by constructing a raised boardwalk to separate walkers from Muttonbird burrows. Interpretive signage could educate walkers on what to do if they collapse a burrow.</p>
<p>Middle Beach South</p>	<p>The section of the track from the boot scrub bay on Anderson Road to the point where the track turns south east above Middle Beach transects prime habitat for the critically endangered Lord Howe Island Placostylus (<i>Placostylus bivaricosus</i>).</p> <p>The habitat for the Placostylus could be improved by closing and rehabilitating this track and redirecting walkers to the alternate existing route around the LHI Power Station to join the Middle Beach South, Clear Place and Valley of the Shadows tracks. An interpretive sign educating visitors about the island's electricity generation could be installed in this location.</p>
<p>Coastal Track to Boat Harbour via Mutton Bird Point and Rocky Run</p>	<p>The track is currently closed between Mutton Bird Point Lookout and its intersection with the Intermediate Hill track (Lagoon Road end). Mutton Bird Point Lookout is open and accessible from the Smoking Tree Ridge track.</p> <p>The track remains closed following track damage caused by landslides in 2011 and 2015. A Quantitative Risk Assessment (QRA) completed in August 2016 recommended reinstating the track in the existing location; construction of upslope and within slip drainage works and closing the track for inspection after 50 mm rain falling in 24 hours.</p> <p>An REF for track works and management is in preparation that includes the following protocol for track closure and reopening:</p> <ol style="list-style-type: none"> 1. As soon as practical following the trigger rainfall event, a LHIB ECS representative will notify LHIB staff, lodges and LHI Tourism

Table 6: Managing Individual Tracks	
Name of Track(s)	Unique maintenance or management strategy
	<p>Association via email/fax and track users via a notice at either end of the track, that the track is closed.</p> <ol style="list-style-type: none"> 2. A LHIB representative will assess the condition of the track, drainage controls and immediate area within 2 business days of track closure. 3. The track will be reopened if its condition is assessed as satisfactory. A LHIB ECS representative will advise LHIB staff, lodges and LHI Tourism Association via email/fax the track is open and remove the closed notices at either end of the track. 4. The track will remain closed following an unsatisfactory condition assessment, until remediation works required to achieve a satisfactory condition have been implemented; e.g. clearing drainage controls <p>Interpretive signs will be placed at either end of the MBP walking track advising of the “living geology” of the track and that it may be closed following high rainfall events. Residents and businesses on the island will be formally advised of the protocol.</p>

Recommendation 27: Improve communication about Malabar cliff hazards by improving signage at track heads.

Recommendation 28: A seat located away from the cliff edge close to the track might encourage walkers to stay away from the edge and provide a more comfortable and safe position to rest after the steep climb..

Recommendation 29: Ensure the all tracks where dogs on leash are permitted have appropriate signage e.g. southern most point of the Little Island Track.

Recommendation 30: Consider the trialing the use of bunting to discourage Sooty Terns from nesting on the Mt Eliza Track and opening the track to walkers all year round.

Recommendation 31: Resolve the ongoing maintenance of the start of the Max Nicholls track where the embankment beneath the track is eroding.

Recommendation 32: For input into a LHI interpretation plan:

- Consider an interpretative sign on the Max Nicholls walking track educating walkers about the endangered *Calystegia affinis* growing next to the track.
- Consider an interpretative sign on Blackburn island educating walkers about the three threatened fauna species the LHI Gecko (*Christinus guentheri*), LHI Skink (*Oligosoma lichenigera*) and LHI Wood-eating Cockroach (*Panesthis lata*).
- Consider an interpretative sign at the Power House educating visitors about the island's electricity generation.
- Interpretive signage could educate walkers on what to do if they collapse a Muttonbird burrow.

Recommendation 33: The PPP Plan of Management prohibits dogs on walking tracks other than at Transit Hill. Consideration is to be given to whether it is appropriate to allow dogs on other tracks within the PPP as part of the plan of management review process.

Recommendation 34: Close and rehabilitate the Middle Beach South track from the boot scrub bay on Anderson Road to the point where the track turns south east above Middle Beach and redirect walkers to the alternate existing route around the LHI Power Station.

Recommendation 35: Reinstate Mutton Bird Point Walking Track as recommended by the August 2016 Jacobs Quantitative Risk Assessment including closing the track until after passing an inspection following rain events of 50 mm or more within 24 hours.

Recommendation 36: Construct a raised boardwalk to separate walkers from Muttonbird burrows between the start of the Malabar Walk at Neds Beach to the paddock and the Middle Beach North track. Interpretive signage could educate walkers on what to do if they collapse a burrow.

6 References

Destination NSW (2015) Media Release 30 March 2015 5.5 MILLION VISITORS SHOW NSW IS AUSTRALIA'S MOST POPULAR BUSHWALKING DESTINATION accessed on <http://www.destinationnsw.com.au/wp-content/uploads/2015/03/20150330-5-5-million-visitors-show-nsw-australias-most-popular-bushwalking-destination.pdf> 24 June 2016.

Gorrell, S. (1997) Walking Track Strategy Report for the Lord Howe Island Board.

Department of Environment and Climate Change (2007). Lord Howe Island Biodiversity Management Plan.

Department of Environment, Climate Change and Water (2010). Lord Howe Island Permanent Park Preserve Plan of Management.

Department of Sustainability and Environment, Victoria (2010). Users Guide to the Australian Walking Track Grading System.

Lord Howe Island Board (2000). Signage and Publication Manual.

Lord Howe Island Board (2010). Strategic Plan for the Lord Howe Island Group World Heritage Property.

Lord Howe Island Board (2014). The Lord Howe Island Board Corporate Plan 2014-2016.

Lord Howe Island Board (2015a). Dog Importation and Management Policy.

Lord Howe Island Board (2015b). Lagoon Foreshore Management Plan.

Lord Howe Island Board (2015c). Total Assessment Management Plan and Asset Strategy.

Lord Howe Island Board (2016). Lord Howe Island Biosecurity Strategy.

Lord Howe Island Tourism Association (2015). Destination Management Plan 2014-2017.

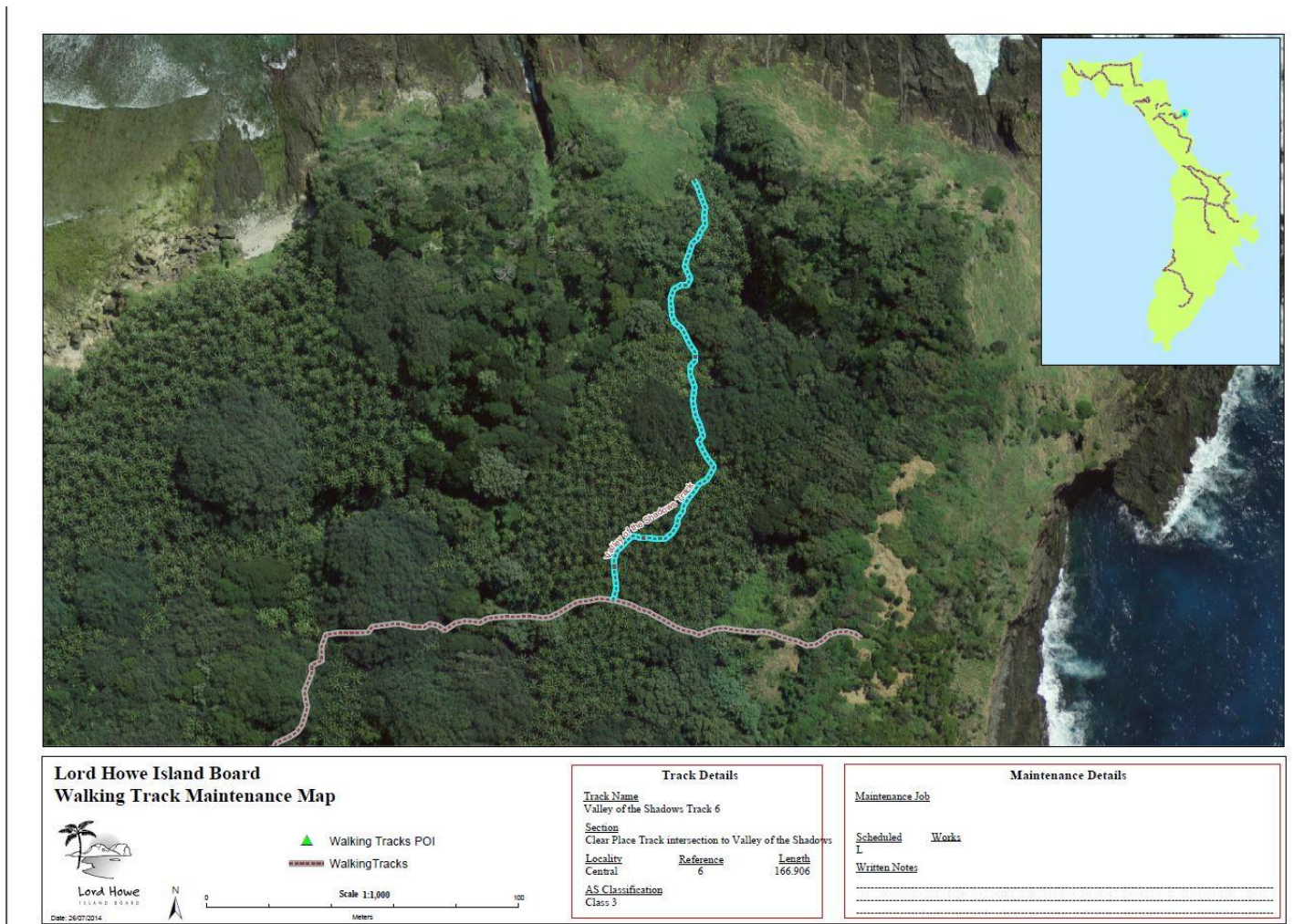
Standards Australia (2004). Australian/New Zealand Risk Management Standard AS4360:2004.

Standards Australia (2001). Australian Standard AS 2156.1 – 2001 Walking Tracks Part 1: Classification and signage.

Standards Australia (2001). Australian Standard AS 2156.2 - 2001 Walking tracks - Infrastructure design.

7 Appendices

7.1 Example Asset Maintenance System Map based on spatial data in GIS



7.2 Recommendations

Recommendation	Description	Category	Estimated Cost	Year of Strategy	Requires a PPP POM Amendment
1	Collect actual on-site data of usage of the walking track network in low and high season.	Walker data	\$8580 ⁶	1	No
2	That Walking Tracks be listed as a unique capital and maintenance category in the LHIB TAM Plan to more accurately project capital procurement, replacements and cyclic maintenance of the entire network. Or Walking track and infrastructure be divided proportionally between the PPP and the Public Open Space categories in the LHIB TAM Plan to more accurately project capital procurement, replacements and cyclic maintenance of the network and support access to funding for protected and settled areas.	Funding	LHIB officer time	1	No
3	That the minimum service level for LHI walking tracks be guided by the classification, management intervention and risk management described in Australian Standards AS 2156.1 & 2.	Asset Management	Not costed	1	No
4	That the results from the walking tracker user survey be used to refine service levels appropriate for Lord Howe Island.	Asset Management	LHIB officer time	1	No
5	Implement Asset Management System module into Authority and improve walking track data capture.	Asset Management	\$2000 ⁷	1	No
6	Install picnic table, toilets and drinking water at Blinky Beach.	Facilities	\$42,500 ⁸	2-3	Yes
7	Install toilets and drinking water at Little Island Track gate.	Facilities	\$31,500 ⁹	2-3	No
8	Complete the installation of boot scrub bays, for the prevention of spread of pathogens into the Permanent Park Preserve, at all relevant track heads:	Biosecurity		1-2	No

⁶ Based on quote of \$850 per track counter.

⁷ Based on software quote of \$1500 and allowance for training.

⁸ Based on replacement costs of current facilities.

⁹ Based on replacement costs of current facilities.

Recommendation	Description	Category	Estimated Cost	Year of Strategy	Requires a PPP POM Amendment
	8.1 Both ends of the Bowker Ave Track on Anderson Road and opposite the Board Offices. 8.2 At the start of the Transit Hill walk from Pinetrees lodge. 8.3 At the start of the Middle Beach North track.				
9	Place personal equipment decontamination sprays e.g. with 70% methylated spirits at all walking track heads.	Biosecurity	\$1,700	1	No
10	Increase the number and length of beginner/family walks (Class 1 and 2) on the island by:				
	10.1 Extension of the Lagoon Foreshore Walking Track through construction of a raised boardwalk from the Pine Trees Boat Shed to the concrete foot path at Windy Point, refer to Figure 4. This track would separate pedestrians and cyclists from vehicles at a known blind spot along Lagoon Road. The boardwalk would separate walkers from Muttonbird burrows. The entire length of the Foreshore Walking Track then be 1.5 km. Stage 1 would be to construct Boardwalk (class 1), stage 2 would be to achieve class 1 the entire length.	Track extension		2	No
	10.2 Upgrade of Stevens Reserve Loop Track to include 350 m ambulant standard Class 1 track as described in Gorrell (1997), refer to Figure 4.	Track upgrade	\$62,000 ¹⁰	3-5	No
	10.3 Inclusion of the Little Waterfall Track in the network as a Class 2 walking track. Currently this track is not maintained by the Board. It is promoted as a wet weather activity by commercial providers such as Pine Trees, refer to Figure 6.	Promotion and Asset management	Not costed	1	Yes
	10.4 Creation of a new Class 2 track from Old Settlement to North Bay via Dawsons Point as proposed by the 1997 Walking Track Strategy keeping the existing track from Old Settlement to the three ways intersection, refer to Figure 4.	New track	\$180,000 ¹¹	5-10	Yes
	10.5 Creation of new Class 2 track from Neds Beach to intersect with the North Middle Beach Access Track, refer to Figure 5.	New track		5-7	No

¹⁰ Based on Gorrell (1997) estimate increased by CPI to 2016 dollars.

¹¹ Based on Gorrell (1997) estimate increased by CPI to 2016 dollars.

Recommendation	Description	Category	Estimated Cost	Year of Strategy	Requires a PPP POM Amendment
11	Increase the number and length of intrepid/experienced walks on the island by establishment of a new Class 6 walking route for example on the Eastern Side of Mt Lidgbird. Similarly to the current Mt Gower walk, visitors would need to be accompanied by a LHIB licensed guide. There would be a group number and annual walker limit on this walk.	New guided route	Not costed	2-3	Yes
12	Review tenure of all walking tracks outside of the PPP and relocate to disturbed vacant Crown Land, gazetted roads and easements, or, special leases where no alternate is available, providing environmental assessment determines there would be no significant impact.	Land Tenure	Not costed	2	No
13	Update the LHI on-line User Guide (2015) to include all elements from the Australian Walking Track Grading System (2010).	Information	\$950	1	No
14	Update the Board's Walking Track Brochure (2015) to have the same look and feel as the User Guide and publish as an interactive PDF. Only print paper brochures when current stock depleted. Liaise with LHITA to aim for a consistent branding of visitor documents.	Information	\$1500	1	No
15	Develop and implement a social media plan for increasing the download of the interactive User Guide and new Walking Track Guide.	Promotion	\$4000 pa	1	No
16	Update the walking track page on the Board's website to include a text and image description of the entire walking track network. Also include links to external walking sites e.g. Wildwalks, Google Trekker.	Information	\$800	1	No
17	Include track grade (difficulty) symbol and time on walking track posts.	Information	\$3200 ¹²	1-2	No
18	Install orientation map signs for the northern, central and southern group of walks to present options for walk experiences that connect multiple tracks and include time, track grade and key features.	Information & Interpretation	\$3465 ¹³	2	No
19	Liaise with the LHI museum to display an updated whole of network orientation map that presents walk options as connected and loop tracks, including time, track grade and key features.	Information & Interpretation	\$1000	2	No
20	Liaise with LHITA and island tourism operators to ensure that walking track descriptions are consistent across all media platforms.	Promotion	Not costed	1	No

¹² Based on adding symbols to current 32 map posts.

¹³ Based on cost of existing interpretation signs.

Recommendation	Description	Category	Estimated Cost	Year of Strategy	Requires a PPP POM Amendment
21	Establish a LHIB Facebook page and use it to promote management of the walking track network; and share information and publications about the walking tracks.	Promotion	\$2000 + \$8000 pa	1	No
22	Provide tourism operators with biosecurity information they can share with clients before their visit to the island.	Promotion		1	No
23	Use LHIB Facebook page to promote: <ul style="list-style-type: none"> • Pre-arrival biosecurity messages particularly leading up to and during the peak tourist season. • Use of boot scrub bays during stay. • Visitor awareness and reporting of Myrtle rust and <i>Phytophthora</i>. 	Education	Not costed	1	No
24	Install boot scrub signage at every boot scrub bay.	Biosecurity	\$2000	1	No
25	Co-ordinate the preparation of a Lord Howe Island Group World Heritage Area interpretation plan for the LHIB, DPI and private sector to present the Island's values for visitors in an integrated way via a range of media and experiences, including interpretive signs on walking tracks.	Interpretation	Not costed	1-3	No
26	For input into a LHI interpretation plan: <ul style="list-style-type: none"> • Prepare for each walking track, a description of the natural and cultural values including key features through which the track traverses or overlooks. • For each of the island's natural and cultural values identify the track best located to interpret that value e.g: <ul style="list-style-type: none"> ○ Intermediate Hill Track viewing platform and Balls Pyramid and the phasmid rediscovery/recovery. ○ Mutton Bird Point Track and a living geological landscape. ○ Transit Hill Track and recovery of native flora after weed management success. 	Interpretation	Not costed	1-3	No
27	Improve communication about Malabar cliff hazards by improving signage at track heads.	Risk communication	\$400	1	No
28	A seat located at Malabar Lookout away from the cliff edge close to the track might encourage walkers to stay away from the edge and provide a more comfortable and safe position to rest after the steep climb.	Facilities	\$2000	2	No

Recommendation	Description	Category	Estimated Cost	Year of Strategy	Requires a PPP POM Amendment
29	Ensure the all tracks where dogs on leash are permitted has appropriate signage e.g. southern most point of the Little Island Track.	Information	\$300	1	No
30	Consider the trialing the use of bunting to discourage Sooty Terns from nesting on the Mt Eliza Track and opening the track to walkers all year round.	Change in track use	\$800 pa	1-2	Yes
31	Resolve the ongoing maintenance of the start of the Max Nicholls track where the embankment beneath the track is eroding.	Track upgrade	Not costed	2-3	No
32	For input into a LHI interpretation plan: <ul style="list-style-type: none"> Consider an interpretative sign on the Max Nichols walking track educating walkers about the endangered <i>Calystegia affinis</i> growing next to the track. Consider an interpretative sign on Blackburn island educating walkers about the three threatened fauna species the LHI Gecko (<i>Christinus guentheri</i>), LHI Skink (<i>Oligosoma lichenigera</i>) and LHI Wood-eating Cockroach (<i>Panesthis lata</i>). Consider an interpretive sign at the Power House educating visitors about the island's electricity generation. Interpretive signage could educate walkers on what to do if they collapse a Muttonbird burrow. 	Interpretation	Not costed	1-3	No
33	The PPP Plan of Management prohibits dogs on walking tracks other than at Transit Hill. Consideration is to be given to whether it is appropriate to allow dogs on other tracks within the PPP as part of the plan of management review process.	Dogs on tracks in PPP	Not costed	2-3	Yes
34	Close and rehabilitate the Middle Beach South track from the boot scrub bay on Anderson Road to the point where the track turns south east above Middle Beach and redirect walkers to the alternate existing route around the LHI Power Station.	Track relocation	Not costed	2-3	No
35	Reinstate Mutton Bird Point Walking Track as recommended by the August 2016 Jacobs Quantitative Risk Assessment including closing the track until after passing an inspection following rain events of 50 mm or more within 24 hours.	Track upgrade	Not costed	1	No

Recommendation	Description	Category	Estimated Cost	Year of Strategy	Requires a PPP POM Amendment
36	Construct a raised boardwalk to separate walkers from Muttonbird burrows between the start of the Malabar Walk at Neds Beach to the paddock and the Middle Beach North track. Interpretive signage could educate walkers on what to do if they collapse a burrow.	Track upgrade	Not costed	2	No

7.3 Schedule of annual walking track activities

Month	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
C1 inspect & maintain	Blue		Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue
C2 inspect & maintain					Blue			Blue			Blue	
C3 inspect & maintain								Blue				
C4 inspect & maintain												
C5 inspect & maintain												
Mt Eliza track closed			Yellow	Yellow	Yellow	Yellow	Yellow	Yellow				
Audit all tracks C1 – C5		Green										
Mt Gower & Goat House rope audit		Red										
EIA & Dev. Consent			Orange	Orange	Orange							
Upgrade/New tracks	Grey									Grey	Grey	Grey
Budget Planning						Purple				Purple		
Budget Planning	December - capital projects. April - detailed budget.											
Audit all tracks	Every 5 years the annual audit will include an engineering assessment of elevated structures.											
EIA & Dev. Consent	September to November conduct the environmental assessment (CRA or REF) and obtain development consent for upgrades identified from the annual audit. If a new project is identified in the TAM PLAN for the following year, conduct the REF or EIS and obtain development consent in September to November.											
Upgrade / New tracks	Following approval upgrade and/or construct new track and infrastructure.											

7.4 Relevant legislation, policy and standards

Level of Government	Act/Policy/Plan	Background/Purpose	Relevant Goals/Objectives/Actions	Links to the LHI Walking Track Strategy
National	<i>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i>	The EPBC Act is the Commonwealth's principal environmental legislation. It provides a national framework for environmental management, directing resources towards improved environmental protection.	With respect to threatened species and ecological communities, the EPBC Act provides for: <ul style="list-style-type: none"> • identification and listing of threatened species and threatened ecological communities • development of recovery plans for such species and ecological communities • recognition of key threatening processes • reducing these processes through threat abatement plans 	<p>Under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act), actions that have, or are likely to have, a significant impact on a matter of national environmental significance require approval from the Australian Government Minister for the Environment (the Minister).</p> <p>The following matters of national environmental significance are listed for Lord Howe Island: the World Heritage Property, Migratory species protected under international agreements and listed threatened species.</p> <p>Land clearing and die-back caused by root-rot fungus are identified as a key threatening processes under the EPBC Act</p> <p>Note: the LHI Biodiversity Management Plan constitutes the formal National and NSW Recovery Plan for threatened species and ecological communities listed in the EPBC Act and TSC Act</p>
National	<i>Australian Standard AS 2156 parts 1 and 2- 2001 for walking tracks</i>	As 2156.1 and 2 set out specifications designed to ensure walking tracks are provided in a safe, reliable and consistent way.	These standards provide a classification and management intervention system for walking tracks; guidance for track markers and information signs; and specific requirements for the structural design of walking track structures to protect natural and cultural assets and for use as aids to recreation in outdoor areas where the environment is the focus of recreational activities.	The walking track system will be designed and maintained in accordance with AS 2156.1 and 2.
National	<i>Australian Walking Track Grading System</i>	The grading system is essentially designed to assist people who are not regular	Track grading is a primary means of informing people about the features of walking tracks and assists in the	The technical grading and difficulty of a walk determined by applying AS 2156.1 – 2001

Level of Government	Act/Policy/Plan	Background/Purpose	Relevant Goals/Objectives/Actions	Links to the LHI Walking Track Strategy
		or confident bushwalkers to experience walking by providing helpful information about walking trails.	marketing and promotion of walking as a leisure activity. By providing a standardised level of difficulty or track grading users are able to gauge whether a particular track is suitable for them.	is communicated to the public in 'plain English language' using the Australian Walking Track Grading System.
NSW	Civil Liability Act (2002)	<p>The <i>Civil Liability Act 2002</i> (CLA) applies in most circumstances where negligence is alleged against a defendant</p> <p>As with common law negligence, in order to establish negligence under the Civil Liability Act, a plaintiff must prove that the defendant:</p> <p>owed the plaintiff a duty of care (Division 2)</p> <p>breached that duty of care caused the damage alleged (Division 3)</p>	<p>Under the Civil Liability Act 2002 (CLA), the LHI is not negligent in failing to take precautions against a risk of harm unless:</p> <p>(1) The risk was foreseeable (that is, it is a risk of which the LHI knew or ought to have known);</p> <p>(2) the risk was not insignificant; and</p> <p>(3) In the circumstances, a reasonable person in the LHI's position would have taken additional precautions to limit or remove the risk (s.5B).</p> <p>When determining what precautions a reasonable person in LHI's position would take in the circumstances, the CLA provides guidance. Section 5B (2) provides that when determining whether a reasonable person would have taken certain precautions, you should consider:</p> <p>(a) the probability of the harm occurring;</p> <p>(b) the likely seriousness of the harm;</p> <p>(c) the burden of taking the precautions; and</p> <p>(d) the social utility of the activity that creates the risk of harm.</p>	<p>The general position under common law is that the LHI will owe a duty of care to take care of the safety of those who enter on land (including walking tracks and routes) under its management.</p> <p>However, the LHI does not owe a duty for recreational activities where it has given warnings about the risks involved e.g. walking tracks along cliff or steep slopes, have many steps, rocks and roots or at heights.</p> <p>Further, by requiring walkers use a LHI licenced guide for the Mt Gower walk the LHI shares the responsibility for advising the public about the risks inherent with this class 5 walk.</p>
NSW	Environmental Planning and Assessment Act 1979 (EPA Act)	The EPA Act requires the relevant planning authority to take into consideration the impacts to the environment (both natural and built) and the community of proposed development or land-use change	<p>Part 5A (Significant effect on threatened species, populations or ecological communities, or their habitats) applies to LHI.</p> <p>Part 5 Objects: The relevant objects of this Act are:</p> <p>(a) to encourage:</p> <p>(i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,</p> <p>(vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats</p>	<p>The Board assesses development applications based on their merit with regard to the provisions of the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act), the LHI Local Environmental Plan, 2010 (LEP) and the LHI Development Control Plan, 2005 (DCP) and other relevant LHI policies.</p> <p>See LEP / DCP below.</p>
NSW	NSW Threatened Species	This Act provides for the conservation of threatened	The objects of this Act are:	Under the TSC Act, two plant species are listed as Critically Endangered, eight plant species are

Level of Government	Act/Policy/Plan	Background/Purpose	Relevant Goals/Objectives/Actions	Links to the LHI Walking Track Strategy
	Conservation Act 1995 (TSC Act)	species, populations and ecological communities of animals and plants, setting out a number of specific objects relating to the conservation of biological diversity and the promotion of ecologically sustainable development. The Act also provides for the listing of key threatening processes, and threatened species, populations and ecological communities, including the preparation and implementation of recovery plans and the identification of critical habitat	<ul style="list-style-type: none"> to conserve biological diversity and promote ecologically sustainable development to prevent the extinction and promote the recovery of threatened species, populations and ecological communities to protect the critical habitat of those threatened species, populations and ecological communities that are endangered to eliminate or manage certain processes that threaten the survival or evolutionary development of threatened species, populations and ecological communities to ensure that the impact of any action affecting threatened species, populations and ecological communities is properly assessed to encourage the conservation of threatened species, populations and ecological communities by the adoption of measures involving co-operative management. 	<p>list as Endangered, one ecological community is listed as Critically Endangered and two ecological communities are listed as Endangered.</p> <p>Threatened species impact assessment is an integral part of environmental impact assessment. Proponents must undertake an assessment of significance to determine potential impacts of proposed activities on threatened species, populations and ecological communities.</p> <p>Note: the LHI Biodiversity Management Plan constitutes the formal National and NSW Recovery Plan for threatened species and ecological communities listed in the EPBC Act and TSC Act</p>
NSW	Lord Howe Island Act 1953 (LHI Act)	Under the LHI Act, the Lord Howe Island Board is responsible for the care, control and management of the Lord Howe Island.	Under the Lord Howe Island Act 1953, the LHIB is charged with the care, control and management of the Island and of the affairs and trade of the Island. Its responsibilities include: protection of World Heritage values; development control; administration of all Crown Land including the island's Permanent Park Preserve; the provision of community services and infrastructure; and the delivery of sustainable tourism. The LHIB maintains and implements these values and these responsibilities in managing walking tracks on LHI.	<p>All land on Lord Howe Island is Crown land and may only be dealt with in accordance with the provisions of the LHI Act.</p> <p>Perpetual leases and special leases are subject to standard conditions and in the case of special leases a Property Management Plan which clearly identifies areas and appropriate land uses.</p> <p>See LHI Permanent Park Preserve Plan of Management below.</p>
NSW	Lord Howe Island Regulation 2014 (LHI Reg)			
Local	Lord Howe Island Biodiversity Management Plan 2007 (LHI BMP)	The LHI BMP: <ul style="list-style-type: none"> constitutes the formal National and NSW Recovery Plan for 	The relevant objectives and actions from the LHI Biodiversity Management Plan are: <p>10.1 Protect vegetation in the vicinity of walking tracks.</p> <p>10.1.1 Promote the importance of staying on walking tracks.</p>	The priorities identified in the BMP are reflected in this strategy including closure and relocation of tracks out of threatened species habitat; providing education and interpretation to avoid

Level of Government	Act/Policy/Plan	Background/Purpose	Relevant Goals/Objectives/Actions	Links to the LHI Walking Track Strategy
		<p>threatened species and ecological communities listed in the EPBC Act and TSC Act</p> <ul style="list-style-type: none"> addresses threats and management actions relevant to biodiversity of the LHI Group, in particular rare and significant species and communities 	<p>10.1.2 Establish and implement an appropriate hygiene protocol for access to the PPP.</p> <p>10.1.4 Encourage tourists, residents, seed collectors, researchers and management staff to adopt minimal impact bushwalking practices.</p> <p>13.1 Habitat of threatened flora must be protected from clearing.</p> <p>13.2.1 Undertake weed control in the habitat of threatened flora.</p> <p>13.5.1 Reduce adverse human impacts on threatened flora and communities.</p> <p>13.5.4 Implement a strategy that minimizes the risk of introduction of <i>Phytophthora cinnamomi</i> to threatened flora and community sites.</p> <p>13.6 Promote public awareness of threatened plants and communities.</p> <p>15 To protect and enhance threatened fauna habitat.</p>	<p>impact on threatened species (e.g. trampling); complete the roll out of boot scrub bays to prevent the spread of <i>Phytophthora</i>.</p>
Local	<p>Lord Howe Island Permanent Park Preserve Plan of Management 2010 (LHI PPP PoM)</p>	<p>Required under the Lord Howe Island Act 1953.</p>	<p>The actions within this plan are designed to achieve “Protection of native vegetation, biodiversity, land, rivers and costal waterways” and protecting the World Heritage values. The Plan also contains a number of actions to help achieve “More people using parks”, including maintaining the walking track network. The plan establishes a scheme of operations in accordance with the National Parks and Wildlife Act 1974.</p> <p>The Plan of Management (POM) discusses ongoing management concerns for the track system include:</p> <ul style="list-style-type: none"> fragmentation of the <i>Calystegia affinis</i> population by the Max Nicholls Memorial Track, and hence the potential for trampling of this species. access to part of the southern mountains may have detrimental impacts on <i>Coprosma inopinata</i> (Section 7 of the PPP POM). minimising erosion and wear, repair of tracks after landslips (Section 5.1 of the PPP POM), minimising impacts on nesting birds, particularly on Blackburn Island, Mutton Bird Point, King Point and the track to Mt Eliza (Section 4.4 of the PPP POM), and eliminating weed and pathogen incursions (Section 5.3 of the PPP POM). 	<p>Each of the specific PPP POM actions related to walking tracks has been either adopted unchanged or identified as currently prohibited and requiring consideration for amendment during the PPP POM review planned for 2017.</p>

Level of Government	Act/Policy/Plan	Background/Purpose	Relevant Goals/Objectives/Actions	Links to the LHI Walking Track Strategy
			<ul style="list-style-type: none"> • The following outcomes and strategies relating to walking tracks are identified in the POM: <p>Desired Outcomes</p> <ul style="list-style-type: none"> • Access to the preserve does not impact on the preserve's values. • The majority (77%) of the walking tracks on LHI are located within the LHI Permanent Park Preserve (PPP) (Figure 1). • Maintain the walking track network shown in Figure 1 in accordance with the designated standards in the Standards Australia (2001). • Where necessary to avoid impacts on native vegetation and populations of threatened species, or to replace tracks made impassable by landslips, divert existing tracks but only following a thorough assessment of the potential impacts of the new route. • Each year before the breeding season, re-mark the single pathway through the rookery at Blackburn Island. The markers should be spaced close enough so visitors do not lose the path. • Monitor the environmental impact of walking tracks, particularly in regard to erosion, endangered species, bird nesting areas, weeds and pathogens. • Ensure that the condition of fixed ropes and rock bolts along tracks is monitored at least every three months, and replaced where necessary to maximise safety. • Provide stiles to permit walkers to cross boundary fences. • Promote the importance of staying on marked walking tracks. i.e safety and plant disease • Protect populations of <i>Calystegia affinis</i> and <i>Coprosma inopinata</i> from trampling by restricting access to their locations in the southern mountains and by providing information in relation to visitors keeping to the defined path on the Max Nichols Memorial Track. • Monitor the process of erosion and wear on the walking tracks in the preserve, and repair and rehabilitate as necessary. 	

Level of Government	Act/Policy/Plan	Background/Purpose	Relevant Goals/Objectives/Actions	Links to the LHI Walking Track Strategy
			<ul style="list-style-type: none"> • Construct and maintain walking tracks to minimise erosion. Appropriate techniques to achieve this may include cross-drainage, re-alignment of short sections of track, and the use of boardwalks or steps. • Maintain discrete track marking and orientation signs at track junctions and trackheads in the preserve. 	
Local	Strategic Plan for the LHI Group World Heritage Property 2010 (SP LHIG WHP)	The SP LHIG WHP provides a ten year overarching framework for consistent and coordinated management of the LHIG World Heritage Property. It is intended to ensure that day-to-day management of the Property complies with Australia's obligations under the World Heritage Convention and that appropriate consideration is given to protection, conservation, presentation and transmission of World Heritage values.	<p>Natural resources are sustainably managed and resource use does not degrade World Heritage values.</p> <p>Any adverse impacts from tourist activities or tourism infrastructure are prevented or minimised.</p>	This strategy is consistent with the Strategic Plan for the LHI Group.
Local	Lord Howe Island Board Corporate Plan 2014-2016	The Corporate Plan sets the framework and direction for the LHI Board for 2014-16. The mission is <i>"to provide leadership, services and support which contribute to the wellbeing and sustainability of the LHI community and its environment"</i> . The plan is structured around 6 strategic directions: 1. Effective governance and leadership	<ul style="list-style-type: none"> • Strategic Direction 4: Outstanding Environment • Action 4.1.1 states "Protect threatened species, populations and ecological communities, and their habitats through implementation of the LHI BMP 2010." 	This strategy is consistent with the LHIB Corporate Plan

Level of Government	Act/Policy/Plan	Background/Purpose	Relevant Goals/Objectives/Actions	Links to the LHI Walking Track Strategy
		<ul style="list-style-type: none"> 2. Strong and sustainable economy 3. Sound infrastructure and services 4. Outstanding environment 5. Responsible land management 6. Strong and engaged community <p>Strategies, actions, KPI's and responsibilities are assigned within each Strategic Direction.</p>		
Local	Lord Howe Island Lagoon Foreshore Management Plan 2015 (FMP)	The FMP provides the framework within which the Board will manage the Foreshore for the next ten years	. It outlines the main values, issues, management directions and priorities of the Board for managing the LHI Lagoon Foreshore consistent with the values of the area and the resources available for management.	<p>This strategy is consistent with the Foreshore Management Plan.</p> <p>This strategy recommends implementation of the full Lagoon Foreshore Walk.</p>