

Lake Eildon

Recreational Boating Facilities Improvement Plan



Disclaimer

In undertaking the formulation of the Lake Eildon Recreational Boating Improvement Plan, Opal Project Solutions have attempted to ensure the accuracy and relevance of the information utilised and presented. Recommendations made in the Plan are done in good faith however, Opal Project Solutions take no responsibility for how this information and the plan are subsequently used by others. The plan site locations are estimates based on aerial and on site photography not on detailed survey. Estimates of costs are based on industry averages and may vary substantially subject to site survey data, geographical location and condition reporting. Costs are therefore provided as estimates and a full Quantity Survey should be undertaken following detailed design. Any future action based on this concept plan should be in conjunction with ongoing research, consultation and professional technical assistance.

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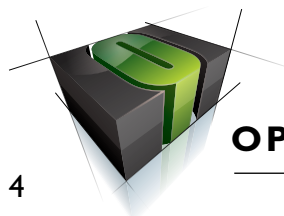
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*“The boating industry
represents an industry worth
\$ 4 Billion to the economy.
And provides over
17,700 FTE jobs”*

**Source: Boating Industry Association
of Victoria.**

Introduction



LAKE EILDON

Acknowledgement of Traditional Owners of the Lake Eildon Catchment

This Plan acknowledges and pays its respect to the Taungurung people as the Traditional Owners of the Lake Eildon catchment. The Plan recognises and acknowledges that the Traditional Owners and their Nations have a deep cultural, social, environmental, spiritual and economic connection to their lands and waters. The Plan understands the need for recognition of Traditional Owners knowledge and cultural values during the implementation of actions set out in this Plan.

History

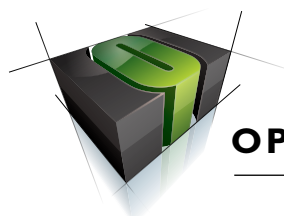
Lake Eildon is one of Victoria's most popular holiday destinations. It has over 500 kilometres of shoreline and stores six times as much water as Sydney Harbour at full supply level. Abutting the lake is the Lake Eildon National Park. The park manages 27,750 ha of rugged hills with open woodlands through dense forest.

Construction of what is now Lake Eildon began in 1915 by the flooding of rivers and valleys within Victoria's high country. Lake Eildon is an important supplier to downstream irrigation and environmental users as well as urban water authorities. The lake has been a popular holiday destination for many years and is home to a substantial houseboat fleet. There are also a number of camping grounds and caravan parks surrounding the lake. Water sports are very popular at Lake Eildon due to its large surface area and extensive shoreline. Other popular activities include boating, bushwalking, trail bike riding, swimming and fishing.

The millennium drought had a significant impact on the Lake at multiple levels. Apart from the obvious loss of irrigation supply impacting severely on the agricultural community, the low lake levels had a severe impact on the tourism economies of the areas surrounding the Lake.

Whilst Lake Eildon has since refilled following heavy and consistent rains from 2010 through to 2013, the memory of the lake at levels of less than 5% remain strong within the community.

The prospect of droughts returning more frequently due to climate change forecasts provides a barrier to entry for economic development and investment in the tourism market.



LAKE EILDON

Strategic Vision

Lake Eildon is valued as Victoria's premier inland water storage. By providing essential water resources to downstream communities it enables widespread economic benefit, while its outstanding natural features, through a coordinated management approach, provide world class recreation, tourism and lifestyle opportunities.

Background and Context

The aim of the Lake Eildon Recreational Boating Facilities Improvement Plan (LERBFIP) is to:

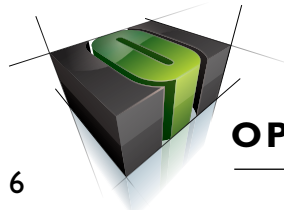
- Develop a detailed audit of current facilities that provide for recreational boating;
- Identify the shortcomings of existing facilities;
- Establish gaps in infrastructure that future budget allocation considerations and funding applications should be directed at;
- Ensure a coordinated approach by all agencies for the provision of facilities; and
- Improve recreational Boating Safety and accessibility for all user groups.

The Lake Eildon Recreational Boating Facilities Improvement Plan should be read in conjunction and as a supplement to the Lake Eildon Land and On-Water Management plan 2012.

The LERBFIP addresses the following actions within the Land and on Water Management Plan 2012 in Appendix F.

- o 7 – Conduct an audit of existing boat ramps, reviewing access at different supply levels, location, safety and parking availability;
- o 8 – Establish consistent signage at all boating access points to improve awareness of boating safety issues, location of ramps and public access options;
- o 10 – Goulburn-Murray Water, Parks Victoria, Mansfield Shire Council and Murrindindi Shire Council to develop a unified approach to traffic management at boat ramps to improve traffic flow and improve safety;
- o 18 – Undertake regular audits of public access points to assess the safety, infrastructure and environmental issues associated with access at varying lake levels;

- o 19 – Consider upgrading or rationalising access points based on the audit findings to improve the overall quality of public infrastructure and facilities;
- o 20 – Establish an inter-agency agreement for the management of recreational uses of the lake (including managing camping, access points and use of the exposed lake bed when water levels are low);
- o 21 – Ensure there is consistent signage at specified access points with a specific Lake Eildon brand;
- o 26 – Estimate current and future levels of demand for camping to inform camping management, including the possible establishment of new camping areas;
- o 28 – Review the adequacy of current of current designated areas for camping, including an evaluation of amenities at each camp site;
- o 31 – Audit existing infrastructure and service provision in and around Lake Eildon in order to prioritise infrastructure investment;
- o 32 – Identify the scale and type of infrastructure upgrades and additional infrastructure and services required;
- o 33 – Clarify and formalise the roles and responsibilities for upgrade and maintenance of infrastructure.
- o 34 – Estimate the long-term resident and visitor demand on and around the lake and ensure that infrastructure provision is aligned with estimated demand;
- o 41 – Investigate the potential for the introduction of traffic management in risk-prone areas, for example, around boat ramps; and
- o 44 – Commission a study to estimate the long term resident and visitor demand on and around the lake in order to inform decisions about future developments.



LAKE EILDON

“There are 172,805 registered boats and 996,000 boating participants in Victoria”

Source: Morgan Poll 2012.

Executive Summary

Ramps and surrounding areas

The evaluation of the 11 Public Boat ramp areas and associated infrastructure indicates that none of the current boat ramps complies with the Australian Standard (AS 3962-2001) Guidelines for On- Shore Boat Facilities.

Alliance Boat Ramp, Goughs Bay no 2 Ramp and Jerusalem Boat Ramp are the only ramps that comply with the critical categories of width and gradient.

Generally the infrastructure associated with each of the ramp areas is minimal with limited support amenities such as toilets, jetties and hardstand areas. The facilities that do exist are predominantly aged and or classified as poor. In most cases the facilities are adhoc and or non-existent.

The standard of boat ramps and in particular the lack of facilities relating to car parking, boat parking toilets and camping sites acts as an impediment to maximising the economic impact of the Lake on the surrounding area.

Adoption and Implementation of a Hierarchy of Boat Ramp Facilities

There is no co-ordinated approach to assessing and or developing the facilities around the Lake by the 3 major stakeholders.

There is a need to develop facilities in a hierarchy and define the intention to develop facilities in accordance with a clearly articulated plan.

This plan recommends the adoption of a hierarchy based on establishing three clear categories.

Regional facilities are proposed to attract and retain tourists, to maximise yield, provide quality, value for money and are the first facilities designated for redevelopment.

District facilities are designed for the day tripper and will be upgraded primarily with improved amenities.

Local facilities will cater for the launch of smaller water craft and will have minimal intervention except for maintenance where necessary.

Funding and User Pays Principles

All facilities are currently predominantly publically funded through Council Rates, Goulburn Murray Water Operating Funds and some grants for works. This creates an imbalance as more than 60% of the users of the facilities both land and on water are not from the local rate paying area.

Consideration should be given to addressing the imbalance of local funding vs user funding as new facilities are developed through the adoption of a set of user pays guidelines/principles. These guidelines should incorporate fee charges for elements such as car parking, trailer parking automatic wash bays and ramp use.

A rationalisation of boat ramps should be considered to enable focus on developing a smaller number of higher quality facilities. Any decommissioning of local ramps could be done in conjunction with their privatisation to local committees/users under long- term leasing/licencing arrangements.

Concept Plans for the three recommended Regional Facilities should commence as soon as possible.

Opportunities for Economic Development

Extensive opportunities exist for business attraction for on water activities and support business. eg Lake Cruises, Jetski Hire, Paragliding, Ski and Wakeboard lessons if supported by suitable access and amenity facilities.

Substantial revenue opportunities to reduce reliance on Rates and operating funds exist through user pays, review of leasing and business licencing for on water activities and

The commercial hire of houseboats has reduced dramatically due to the fleet of hire boats dropping from a peak of 70 to less than 20. Many of the remaining hire boats in the fleet are older in nature and may not be as competitive with similar operations on the Murray River. This loss of supply can have a dramatic impact on the local economy. Action to

There is potential for significant economic growth through security and length of tenure of leased land and businesses on and around the foreshore.

GMW underutilised land should be considered for sale or lease with a proportion of funds utilised for recreational boating facilities.

Water front/water view dining and entertainment is limited at the Bonne Doon end of the Lake and planning/licencing considerations should give consideration to enabling such facilities both at Bonnie Doon and at Eildon.

Threats to development

The impact of the millennium drought on new investment by small business remains a barrier to business confidence.

The significant competitive advantage Lake Eildon and in particular Eildon Township currently enjoys as a result of the houseboat industry is under threat due to facilities such as slipways and road and bridge access. This key area is to be addressed in the Eildon Structure Plan, however urgent action on developing slipway facilities is required to ensure the capacity of the area to cope with expected increases in slipping requirements in the coming years.

New regulations relating to houseboats will place the industry under pressure over the next 5 years and existing slipway facilities are unlikely to be able to cope both in terms of demand and capacity to take the new Class 5 boats.

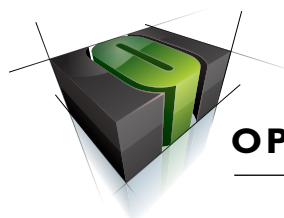
Management and Administration

A single point of contact and streamlined licencing and planning approval process would assist new business development around the Lake.

The management and administration of the Local Ramps should be reviewed to determine if these ramps can be managed by Local Community Groups or become private ramps under a lease arrangement.

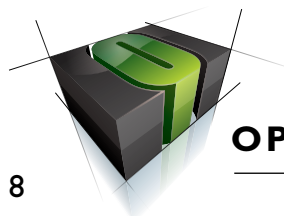
Safety

The prime concern regarding safety around the Lake was the need to remove regrowth trees that surround the edge of the Lake and have become submerged following rains and the refilling of the Lake.



Recommendation Summary

Recom. #	Description	Classification	Category	Estimated Cost
General Recommendations				
1	Update GMW and Council 'standard' drawings for ramps to meet Australian Standard requirements	Planning	Administrative	\$10,000
2	Upgrades to regional facility status should incorporate as part of the design concept planning process a requirement for ramp and road access facilities to be developed to enable slippage facilities for houseboats.	Planning	Administrative	TBC
3	As part of the Eildon Structure Plan consideration should be given to developing dedicated on water and land based slippage facilities supported by co-located commercial maintenance, repair, inspection and construction facilities.	Planning	Administrative	TBC
4	Council support the development of additional sites at current private facilities eg Jerusalem Creek.	Planning	Administrative	In house
5	Councils and GMW continue their policy of no camping at public boat ramp sites unless a revenue and cost analysis is undertaken.	Planning	Administrative	In house
6	Camping be trialled as part of a wider development of the regional facilities at Hutchison's Road ramp in accordance with principles of cost recovery and reasonable return on investment. (see also management of regional facilities)	Planning	Administrative	In house
7	Links to the Parks Victoria web site for camping be made on the Council web sites.	Planning	Administrative	In house
8	All Regional and District facilities upon being upgraded adopt a user pays principle for the purposes of capital and operating cost recovery.	Planning	Administrative	In house
9	Investigate the potential to link all fees and charges to Lake levels as an incentive for business investment and to place a value on the recreational element of the Lake.	Planning	Administrative	\$15,000
10	A review of all licences and leases around the Lake to ensure reasonable market return and opportunity for revenue growth.	Planning	Administrative	\$25,000
11	Identification and sale of underutilised assets and land around the Lake.	Planning	Administrative	\$25,000
12	Call for Expressions of Interest (EOI) for licences to conduct activities on the Lake.	Planning	Administrative	\$2,000
13	Broaden the role of the Lake Eildon Management Plan Implementation Committee to include recommendations from the LERBFIP	Planning	Administrative	In house
14	An Expression of Interest be developed for potential operators of a water sports park facility on the Lake incorporating activities such as canoe hire, water ski and wakeboard lessons, paragliding, pontoon & BBQ boat hire and inflatable water parks.	Planning	Administrative	\$2,000
15	Murrindindi Shire, Mansfield Shire and GMW actively support and assist LEHIA as the peak body for the houseboat industry.	Planning	Administrative	In house
16	Investigate demand levels, quality and barriers to entry for an upgraded houseboat hire fleet.	Planning	Administrative	\$10,000
17	Conduct a joint GMW/Murrindindi Shire Economic Lake Eildon Development forum incorporating planning, building, licencing and economic support options to support current proposals for the Lake.	Planning	Administrative	\$1,000
18	A review of all leases with less than 10 years to expiry take place and a policy review relating to an appropriate framework for renewal be developed.	Planning	Administrative	\$15,000
Sub-Total				\$105,000
Hutchinson's Road (Regional Facility)				
1	Preparation of Development Plan	Planning	Administrative	\$15,000
2	Improve Boat Holding Facilities	New	Marine	\$125,000
3	Amenity Building Minor Upgrades	Renewal	Building	\$15,000
4	Carpark / Hardstand Construction	Upgrade	Civil	\$325,000
5	Trial Camping Lease	Planning	Administrative	\$10,000
6	Picnic, BBQ and Playground	New	Building	\$150,000
7	Ramp / Carpark Lighting	New	Civil	\$25,000
8	Parking Fee Arrangements	New	Administrative	\$25,000
Sub-Total				\$690,000
Goughs Bay Ramp Precinct (Regional Facility)				
1	Improve Boat Holding Facilities	New	Marine	\$125,000
2	Carpark / Hardstand Construction	Upgrade	Civil	\$225,000
3	Ramp / Carpark Lighting	New	Civil	\$25,000
4	Parking Fee Arrangements	New	Administrative	\$25,000
Sub-Total				\$400,000
Jerusalem Creek (Regional Facility)				
1	Preparation of Development Plan	Planning	Administrative	\$15,000
2	Improve Boat Holding Facilities	New	Marine	\$125,000
3	Amenity Building Replacement	Renewal	Building	\$300,000
4	Manoeuvring Area Marking and Construction, provision of Wash-Down area	Upgrade	Civil	\$75,000
5	Ramp / Carpark Lighting	New	Civil	\$25,000
6	Parking Fee Arrangements	New	Administrative	\$25,000
7	Houseboat Handling Facility	New	Marine	*Note Only
Sub-Total				\$565,000



Recommendation Summary

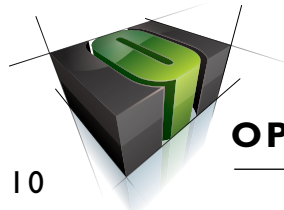
Recom. #	Description	Classification	Category	Estimated Cost
Bridge Ramps Bonnie Doon (District Facility)				
1	Preparation of Development Plan	Planning	Administrative	\$15,000
2	Improve Boat Holding Facilities	New	Marine	\$125,000
3	Amenity Building Replacement	Upgrade	Building	\$275,000
4	Carpark / Hardstand Construction	Upgrade	Civil	\$225,000
5	Rehabilitation of lower soft and slippery carparking	Upgrade	Civil	\$15,000
6	Trial Commercial Leasing	Planning	Administrative	\$10,000
7	Picnic and BBQ areas	New	Building	\$75,000
8	Ramp / Carpark Lighting	New	Civil	\$25,000
9	Parking Fee Arrangements	New	Administrative	\$25,000
			Sub-Total	\$790,000
Alliance Ramp (District Facility)				
1	Boat Holding Facility	New	Marine	\$125,000
2	Toilet Upgrade	Renewal	Building	\$300,000
3	Line marking	Renewal	Civil	\$5,000
4	Carpark Rehabilitation	Renewal	Civil	\$250,000
5	Parking Fee Arrangements	New	Administrative	\$25,000
			Sub-Total	\$705,000
Coller Bay Area (District Facility)				
1	Toilet Upgrade/Maintenance	Renewal	Building	\$85,000
2	Lighting Installation	New	Civil	\$25,000
3	Signage Review	Renewal	Civil	\$10,000
4	Onsite Cabin Study	Planning	Building	\$10,000
5	Parking Fee Arrangements	New	Administrative	\$25,000
			Sub-Total	\$155,000
Hutchinson's Deep Water (Local Facility)				
1	Solar Lighting	New	Civil	\$15,000
2	Maintenance Increases	Renewal	Civil	*Note Only
			Sub-Total	\$15,000
Kennedy Point (Local Facility)				
1	Amenity Repairs or Decomissioning	Renewal	Building	\$50,000
2	Solar Lighting	New	Civil	\$15,000
3	Erosion Repairs and stabilisation	Renewal	Civil	\$15,000
			Sub-Total	\$80,000
Goughs Bay Ramp # 1 (Local Facility)				
1	Decommissioning/Rationalisation of Ramp	Renewal	Civil	\$15,000
			Sub-Total	\$15,000
Jamieson Ramp (Local Facility)				
1	Solar Lighting	New	Civil	\$15,000
2	Signage Replacement	Renewal	Civil	\$5,000
			Sub-Total	\$20,000
Reardon's Reserve (Local Facility)				
1	Solar Lighting	New	Civil	\$15,000
			Sub-Total	\$15,000
			Total Development Cost	\$3,555,000



*“There are currently 268,336
current Marine Licences,
172,805 registered boats and
996,000* boating participants
in Victoria”*

**Source: Morgan Poll 2012 – Victorian
and Tasmanian.**

Key Issues and recommendations



LAKE EILDON Houseboat Industry



“The introduction of new regulations will place considerable strain on existing ramps”



“New regulations allow for houseboats to be larger, resulting in transport and slippage difficulties within the current infrastructure.”

Houseboat Industry

A detailed review of the houseboat industry is not required within the scope of this project however houseboats form an integral part of the tourism and construction economy of the Lake Eildon area and it is considered appropriate to report on the issues that are affecting the industry as they impact substantially on the whole economy and operation of the Lake.

The recommendations therefore focus on solely on the scope of the project relating to audit and recommendations of the public facilities. However, there are critical issues that are interrelated to the potential issues to be addressed relating to facilities.

The first is the integration of the Private Eildon Boat Club Facilities and Eildon Boat Harbour/Marina facilities into any future plans for the development of facilities in the Eildon township. The Eildon Boat Club is a key stakeholder and has substantial facilities with high levels of membership and mooring. Further consultation with the club should take place to determine likely demand levels and the capacity for shared facilities.

The second element that will impact on demand is the current status of the hire fleet. Presently the fleet has diminished to under 20 boats. A focus on growing the fleet to levels previous to the drought (approximately 70) should be made. The issuing of licences specifically for houseboat hire business should be reviewed immediately to enable new investment in the industry.

Impact of Regulations

Lake Eildon is the only inland waterway in Victoria where houseboats are permitted to operate and it's Goulburn-Murray Water's (GMW) role to manage the water quality and other management issues associated with over 700 houseboats to ensure that allocated water is available for irrigators and other downstream users when required.

Houseboat numbers and operations are regulated in accordance with the Water (Lake Eildon Recreational Area) (Houseboats) Regulations 2013 in accordance with the powers of the Water Act 1989.

The adoption of the regulations has resulted in a number of consequences impacting on the industry. In terms of facilities the requirements of the regulations relating to the following areas will impact on boat ramps:

1. **Requirement for slipping every 5 years for inspection purposes.** All houseboats must be slipped every 5 years for inspection

of the sewerage system, compliance with the regulations and general condition. With 750 houseboats this equates to an average of 150 boats required for slippage every year. This equates to a houseboat requiring slippage less than every two working days per year. This will place considerable strain on both the boat and surrounding road infrastructure.

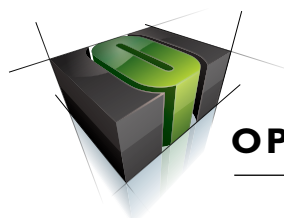
2. **Fitting of grey water treatment systems on all houseboats by July 1 2020.** This requirement will result in a high level of demand for slippage services over the next 5 years and there is concern in the industry that on top of normal inspections for houseboats that in the final year as many as 300 houseboats may require slippage services. This element alone would potentially result in significant damage through wear and tear to the current facilities and surrounding road infrastructure.

3. **New categories of houseboats allowed to operate on Lake Eildon.** New size for length, width and height have had the positive effect of introducing new houseboats to the fleet that have predominately been built locally, are of high quality and high value. The concern is that the new houseboats can weigh up to 70 tonnes and the ramp infrastructure is not of sufficient width, gradient or strength to cope with the size of the new boats. In addition during the consultation period we were witness to damage done to the road network transporting the large boats from the Jerusalem ramp to the Eildon Township. Some of the damage could be minimised through re-design of the Jerusalem Creek Ramp and the road entry/exit points.

4. **Potential for new licences.** Current licences are capped and a one-on-one off rule applies to the purchase of any new licence. However it is anticipated that up to a further 100 licences could be issued in the coming years. This level is subject to Ministerial approval however new licences will also place additional strain on the current infrastructure.

In general terms it is anticipated that the new regulations will have a positive effect on the industry improving the environmental credentials, allowing new larger boats and ensuring safety. New employment will be created to service these needs and the construction of new houseboats and there are signs of major construction projects taking place.

The primary concern is that the industry may falter as the ramps and



LAKE EILDON Houseboat Industry

Houseboat Industry

access infrastructure are not likely to cope with the requirements of the new regulations and the benefits they bring.

In 2019 and 2020 it is anticipated that there may be up to 400 individual boat slippages required as owners seek to comply prior to the 2020 deadline.

Members of the Lake Eildon Houseboat Industry Association are fully aware of these issues and the Association which was formed in 2013, have raised these concerns internally.

Houseboats are the only commercial operation on the Lake (as opposed to those that operate on the shore through leases and licences) and through the sale of new houseboat licences, annual licence fees, inspections and mooring fees they provide the primary source of revenue to offset costs incurred for authorities. In addition without a vibrant houseboat industry revenue from licences and leases of shore based businesses would decline significantly, there would be a loss in economic activity and the whole industry would not be fulfilling its potential.

This report recommends that the nominated regional facilities including those at Bonnie Doon have the ramp and road infrastructure capability to enable houseboat slippage, however there is strong argument to go beyond the current facilities and consider new purpose built facilities that enhance the capability of the industry as a whole and cement the region as the pre-eminent houseboat facility construction and maintenance site in Australia.



"The houseboat industry represents a significant economic development opportunity- if supported with suitable infrastructure."

Purpose built houseboat facilities could operate on a commercial basis given that up to 200 single movements are expected on average in any year. (Given that most will require both slippage in and out of the water- ie a double movement- the total could exceed 400 movements per year.) A fees structure could be established to support both the capital and operating costs of dedicated facilities.

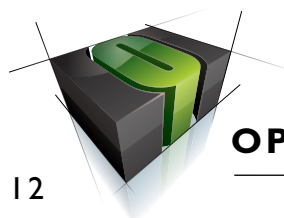
Providing dedicated houseboat facilities would result in structural change to the industry, and for example if a new site close to the Eildon Township was identified and ramp facilities constructed such a site should also seek to minimise traffic movement by incorporating construction and maintenance facilities. It is recognised that this structural change may have initial short term impacts on existing business and their location however in the long run would prove both more efficient and sustainable.

Consideration should also be given to a floating slippage/dock for repairs, inspections and maintenance services. Such a facility could be hired together with a floating service workshop on daily rate to both owners and trades and would provide minimal impact on the need for transport infrastructure.

The issue of ramp and road infrastructure for the development and growth of the houseboat industry is critical and due to the impact of the new regulations has a defined time limit. Current access places significant stress on the surrounding road facilities. The size of new houseboats in terms of length and weight create pressure on road widths, surfaces and new height regulations result in difficult access due to power lines. These issues need to be addressed as part of the Eildon Structure Plan in order to grow and develop the industry.

Recommendations

1. Upgrades to regional facility status should incorporate as part of the design concept planning process a requirement for ramp and road access facilities to be developed to enable slippage facilities for houseboats.
2. As part of the Eildon Structure Plan consideration should be given to developing dedicated on water and land based slippage facilities supported by co-located commercial maintenance, repair, inspection and construction facilities.



LAKE EILDON Camping



“Camping around the Lake is integral to the tourism product offer in the region.”



“New camping sites are proposed as part of the development of District Facilities.”

Camping

The provision of camping is a contentious issue around Lake Eildon. Whilst there are undoubted benefits in terms of tourism and economic development and the area is known for its natural beauty, the provision of public camping has a significant number of issues to address in order to maximise wide community benefit.

Issues

Currently there is no camping allowed around the Lake except in the designated Parks Victoria sites.

There are 9 formal designated camping grounds in the Lake Eildon National Park operated by Parks Victoria. The sites are:

- Blue Gum Flat Camping Area
- Coopers Point Camping Area
- Mountaineer Creek Camping Area
- O’Toole Flat Camping Area
- Taylors Creek Camping Area
- Candlebark Camping Ground
- Devil Cove Camp Ground
- Lakeside Campground
- Jerusalem Creek Campground.

These sites operate a fee system based on seasons and an on line booking system. An analysis of the costs and revenue from these sites is outside the brief however should be further investigated.

Guidance on revenue, based on occupancy rates and total number of campsites that could be developed at proposed regional facilities using the National Parks Fee structures may be obtained as part of concept planning for each regional facility.

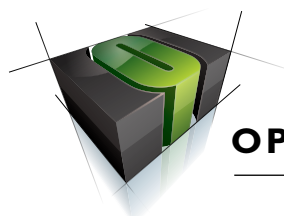
For Council’s and GMW designating sites will require managing the following issues:

- Limited amenities may result in a poor environmental impact;
- The capital cost of establishing permanent amenities such as toilets and showers may be prohibitive;
- Waste disposal and collection will be an added cost to Councils;
- Enforcement of camp sites will require additional resources and cost;
- Any new sites may be in commercial competition with current private sites;
- The amenity of the area needs to be taken into account for neighbours of the site particularly in regard to noise and waste disposal;
- The booking and administration systems to allow for paid camping will require additional resources and cost.

These issues require significant management and investment and as such the recommendations reflect a staged approach to increasing the availability of camping sites. In order to alleviate the burden of cost on ratepayers and transfer the cost to users all camp sites that are developed need to be established on a user pays cost recovery basis.

Recommendations

1. Council support the development of additional sites at current private facilities eg Jerusalem Creek.
2. Councils and GMW continue their policy of no camping at public boat ramp sites unless a revenue and cost analysis is undertaken.
3. Camping be trialled as part of a wider development of the regional facilities at Hutchison’s Road ramp in accordance with principles of cost recovery and reasonable return on investment. (see also management of regional facilities)
4. Links to the Parks Victoria web site for camping be made on the Council web sites.



LAKE EILDON

Revenue Streams and Management Options



Alliance Boat Ramp is the only ramp with parking fees

Revenue Streams and Management Options

Revenue Streams

In general terms the capacity to generate revenue from assets on and around Lake Eildon has not been maximised. With the exception of the houseboat industry there is no established, consistent and regulated fees and charges policy existing for the use of facilities on the Lake.

A car parking ticketing system is in operation at Alliance Boat Ramp. The fees for this parking facility are extremely low and it is doubtful that the revenue covers either the collection or enforcement costs.

The total asset base of all facilities, leases, licenses, ramps, amenities and public access land at replacement value is estimated in the tens of millions. Costs associated with maintenance, repairs and improvements plus servicing for waste and enforcement on this level of assets is significant.

Currently the costs for all of these services is borne by the ratepayers of Mansfield and Murrindindi Shires and by licence fees from the houseboat industry, and any general revenue provided by GMW.

The results of the survey indicate that over 60% of the recreational users of the Lake are from outside the two shires and are predominantly from metropolitan Melbourne.

For the two Councils and GMW there is an imbalance between the impact of the costs in providing a public facility and the impost on ratepayers within their community. Effectively visitors to the area are receiving a free service.

Correcting the imbalance can be achieved through the introduction of a suitable user pays principle and fee structure.

On- line and mobile technology now makes the collection of fees and charges for recreational services a lower cost and accessible proposition. The use of QR codes and mobile applications provides the user with easy payment options and lowers the cost of collection.

There are a wide range of other efficiency improvements that could be undertaken to generate revenue whilst at the same time promoting economic development and tourism.

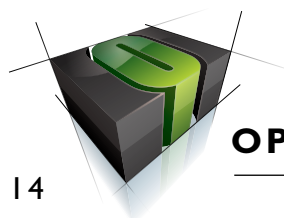
The following is a summary of potential revenue sources that may should be reviewed in order to provide a greater levels of revenue to both develop the capital and establish operating costs.

- Entry fees to all constructed regional and district facilities to cover costs of boat ramps and associated amenities.
- Licencing fees for operators of proposed commercial activities such as watersports parks, on water tours and entertainment
- An immediate review of all licences and leases that operate on and around the Lake.
- The issuing of new houseboat Licences ie increasing the number available from the current 750 to 850. At current rates of licensing this would generate up to \$6 Million. (100 additional licences at a cost of \$60,000 per licence.)
- Licencing operators to run new seasonal camping sites at the regional facilities.
- Establishing an annual membership to use the Lake facilities and amenities. Such a membership may also be linked to other services in the region to provide additional benefits. This would benefit the high percentage of people who use the Lake in excess of 20-30 times per year.
- Reviewing the value of all leases currently held by GMW to ensure that they reflect market rent taking into account levels of public benefit.
- The sale or lease of surplus land in and around the Lake. (It is expected that the Eildon Structure Plan will identify vacant underutilised by GMW in the Pondage area).
- The leveraging of funds through the application of grants.
- The licencing of private boat ramps.

It is recognised that the introduction of any new fees and charges will meet resistance in some quarters, however at a local level it should result in a transfer of costs away from ratepayers to users.

In addition the efficient use and or disposal of underutilised assets for investment into higher yielding economic assets is regarded as good public policy.

Policy and operating procedures will need to be developed for each of these areas and consistency in the application and enforcement of the policies coupled with minimising collection costs will be critical to their success.



LAKE EILDON

Revenue Streams and Management Options



Costs of rubbish collection and general maintenance are borne predominantly by Councils and local ratepayers, however over 60% of users are from outside the region.

Revenue Streams and Management Options

Placing a value on recreational Lake levels

One of the key platforms of Lake Eildon is that it is first and foremost an irrigation reservoir and as such the pricing mechanisms and the availability of water reflect this. Moving towards a more robust user pays pricing principle on the Lake will also have the effect of valuing the asset for its economic value to the stakeholders. Currently with limited revenue from recreational users management decisions are focused on financial returns from use of the water for irrigation purposes. If however fees and charges across the Lake for all users and licence holders were linked to water levels then consideration of lost revenue from low water levels would also need to be taken into account. This would effectively place a value on the recreational opportunity cost of the Lake. The calculation of such a system and whether it would make any difference to the decision making process (due to the likely percentage of revenue being very low against water sales) needs to be addressed.

Linking all fees and charges to Lake levels would also assist in decisions regarding Capital Investment. If investors were aware that their cost structures would reduce or increase with the levels of the Lake it provides a more certain business operating environment.

It is recognised that such a process may be complex and may also result in a reduction in efficiency due to the administration of such a system. Accordingly further investigation is recommended prior to any formal adoption of such a structure.

Management Structures

Establishing a capital and operating regime that is based on user pays principles that is both consistent and enforceable will require a robust management structure.

Currently there are a mix of management structures around the Lake. Some areas such as Alliance Boat ramp are operated by Section 86 Committees of Council. Other areas are operated and serviced directly by Council and others directly by GMW.

This multi layered management structure is difficult to manage at a range of levels. Consistency and application of policy across the key

stakeholders, differing marketing approaches, enforcement, capital expenditure capability and political differences/priorities are just a few of the areas that require constant management.

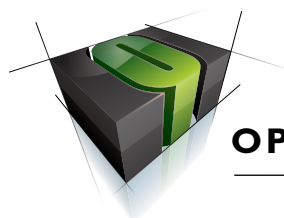
There are a number of management options available ranging from continuing with the current system to establishing a new entity to oversee all policy and development decisions.

At this stage it is not considered appropriate to move significantly from the current management system as it would require as major cultural change within each organisation, however there are actions that will enable the projects, program and recommendations listed within this report to be implemented in a constructive manner. As progress is made a further evaluation of the management structure could be made.

The key stakeholders have already established the Lake Eildon Management Plan Implementation Committee. This Committees oversight role could be expanded to include monitoring and implementation of recommendations of this report. Larger joint projects could be funded and implemented on a joint basis auspiced by the Committee. This structure has the advantage of not creating additional structures/organisations in the short terms and consolidating all the actions for the development of Lake Eildon under one banner.

Recommendations

1. All Regional and District facilities upon being upgraded adopt a user pays principle for the purposes of capital and operating cost recovery.
2. Investigate the potential to link all fees and charges to Lake Levels as an incentive for business investment and to place a value on the recreational element of the Lake.
3. A review of all licences and leases around the Lake to ensure reasonable market return and opportunity for revenue growth.
4. Identification and sale of underutilised public assets and land around the Lake.
5. Call for Expressions of Interest (EOI) for licences to conduct activities on the Lake.
6. Broaden the role of the Lake Eildon Management Plan Implementation Committee to include recommendations from the LERBFIP.



LAKE EILDON Economic Development



“Investment in private facilities on the Lake has recommenced over the past year with further major investment planned by operators.”



“The houseboat hire fleet is currently less than a third of the size it was at its peak”

One of the key areas for feedback throughout the consultation period was the potential for development in and around the Lake. The primary areas for potential development fell under the following headings:

1. Commercial opportunities for activation of the Lake.

Site visits and discussions with operators indicated that unless a person had their own vessel (boat, houseboat, PWC canoe etc) that it was difficult to participate in the many water based activities the lake could potentially offer. The result being that it was difficult to introduce a wider range of people to the recreation opportunities that exist without outlaying large sums for capital equipment. Apart from the hire of a houseboat, hiring equipment or obtaining lessons in activities is difficult. Operators indicated that the varying height levels of the Lake contributed to this issue however varying height issues are not unique to Lake Eildon. In fact varying height issues are more the norm than the exception. For example along the Murray River, heights vary significantly from season to season. In areas such as Lake Hume, Echuca and Mildura, Greens Lake and Lake Eppalock there are varying height levels. On the Murray River towns there are a multitude of businesses that adapt to the varying heights of the river. There are of course critical points when due to drought or low flows that the activities cannot take place regardless of location.

Activities that could enhance the activation include:

- Water sports parks operating from the Regional Sites. These parks may include commercial operators hiring vessels such as canoes, jet skis and BBQ boats. The parks would also offer services such as ski and wake board lessons, paragliding and guided tours on houseboats/pontoons. Additional water based activities such as inflatable water parks would provide added vibrancy and attraction to the area.

Such parks could initially be licensed on a sliding scale subject to levels of investment. Higher levels of investment and attractions resulting in lower licence fees for a longer period of time.

- Floating entertainment vessels such as floating restaurants, paddle steamers, floating camps or floating motels could be licenced. Such

vessels operate successfully along the Murray providing tours and entertainment. Licence fees for their operation could be established to provide new income streams.

2. Expanded houseboat hire fleet.

The current houseboat fleet is considered aged and may not be presenting the area in the most positive light. Some operators indicated the fleet is not to the standard of its competitors on the Murray River. There are exceptions with approximately 5 of the fleet (out of 17) considered to be of sufficient standard. Discussions with operators indicating that demand levels for the more luxurious of the fleet is high.

At its peak the houseboat hire fleet was up to 70 vessels however it has been reduced to under 20. Investments in houseboats can be very costly and represent a barrier to entry. Coupled with annual licence fees and maintenance for regulatory purposes the costs may be prohibitive. A review of licence fees for new houseboats for hire and linking the ongoing fees to water levels may provide an impetus for the fleet to be renewed.

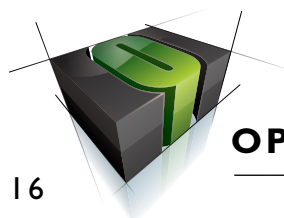
The Houseboat Industry has now established its own association. (Lake Eildon Houseboat Industry Association - LEHIA). The LEHIA is addressing a wide range of issues including; impact of regulations, ramp access, licence fees, new licence applications, training and development of staff.

Issues relating to the private houseboat fleet are addressed under their own heading.

3. Fast tracking existing operator proposals/developments.

During the consultation phase a number of the operators advised of major upgrade plans to their facilities. With recent Lake Levels at above 70% for a number of years in a row there is a renewed sense of confidence within the industry. Some operators have already successfully reinvested in their business and have been rewarded accordingly. A number of operators confided in major projects that they have either ready or on the drawing board.

A number of the potential developments identified were in the Eildon area. Murrindindi Shire have recently appointed a consultancy to



LAKE EILDON
Economic Development

Economic Development

establish the Eildon Structure Plan. The plan study area incorporates the major boat ramps both public and private and will address planning and infrastructure issues within the Eildon area.

The consultation that took place with the houseboat industry alone indicates that there is substantial opportunity to capitalise on the houseboat industry and the supporting ancillary businesses.

Actions in regard to capturing the opportunities particularly in the Eildon area for Economic Development are expected to arise from the Eildon Structure Plan. In the interim Councils Economic Development Units should have discussions through the LEHIA and individual operators to determine an initial list of proposals that may be supported.

4. Business confidence.

Discussions with operators indicated that the impact of the millennium drought had a significant impact on business confidence in the region. In recent Years Lake levels have returned to capacity and business confidence has also risen.

In order to enhance business confidence there is a need to ensure that business invest in a structurally sound environment particularly for the purposes of raising capital for business reinvestment.

There would appear to be a number of licences for operators that have either expired or are nearing the end of their lease period.

Action to address renewal or extension of these leases and licences should be undertaken as a matter of priority.

A policy on establishing value of licences/leases subject to factors such as Lake Levels, investment, job creation and identified need should be developed between all parties in order to provide an informed, sustainable investment framework for operators.

Recommendations

1. An Expression of Interest be developed for potential operators of a water sports park facility on the Lake incorporating activities such as canoe hire, water ski and wakeboard lessons, paragliding, pontoon & BBQ boat hire and inflatable water parks.
2. Murrindindi Shire. Mansfield Shire and GMW actively support and assist LEHIA as the peak body for the houseboat industry.
3. Investigate demand levels, quality and barriers to entry for an upgraded houseboat hire fleet.
4. Conduct a joint GMW/Murrindindi/Mansfield Shires Lake Eildon economic Development forum incorporating planning, building, licencing and economic support options to support current proposals for the Lake.
5. A review of all leases with less than 10 years to expiry take place and a policy review relating to an appropriate framework for renewal be developed.
6. A review of the licencing options and structures to support the expansion of the houseboat hire fleet be undertaken



“Opportunities to activate through on water activities such as floating water parks should be seized”



Existing Infrastructure Audit



LAKE EILDON

Lake Eildon Recreational Boating Infrastructure Matrix (RBIM)

The requirements within the specification relating to the scope of the project are extensive. In order to address each of these requirements site visits to the most significant public ramps were undertaken and assessments carried out.

Following the assessment process a matrix was established in order to provide a consistent and weighted scoring system that would drive the recommendations. This Recreational Boating Infrastructure Matrix (RBIM) has been developed specifically for the purpose of complying with the requirements of the project scope for Lake Eildon however is adaptable to all inland boating infrastructure facilities.

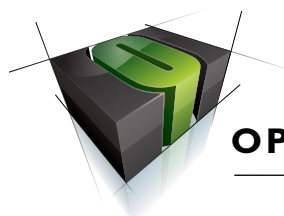
A full copy of the RBIM for each assessed area is included in Appendix C.

The following areas were reviewed.

1. Ramp Infrastructure (25%)
 - a) Width
 - b) Grade
 - c) Surface
 - d) Edge treatment
 - e) Water Level Availability High
 - f) Water Level Availability Low
 - g) Water Level Availability Range
 - h) Boat Holding Structures
 - i) Lane Markings
 - j) Speed Zone Areas
2. Infrastructure affecting Health Amenity and Environmental Sustainability (15%)
 - a) Overall Condition
 - b) Male Toilet Availability
 - c) Female Toilet Availability
 - d) Accessible Toilets Availability
3. Vehicle Parking- Capacity, Location, Access and Egress (20%)
 - a) Car Parking capacity
 - b) Trailer Parking
 - c) Vehicle Manoeuvring areas
 - d) Trailer Rigging and De-rigging
 - e) Surface

4. Development Potential (15%)
 - a) Terrain
 - b) Vegetation
 - c) Demand
 - d) Utility Supply
 - e) Capacity to Expand
 - f) Proximity to Neighbours
 - g) Planning considerations
 - h) Quality of access to site
5. Signage (5%)
 - a) Traffic Control- Condition
 - b) Traffic Control – Content
 - c) Boating Information – Condition
 - d) Boating Information- Content
6. Impacts of use on Adjoining Land Owners (10%)
 - a) Traffic Control
 - b) Waste
 - c) Camping
7. Vehicle based and non-vehicle based at shore recreation availability (expansion, Improvement, rationalisation) (10%)
 - a) Facilities- BBQ's
 - b) Facilities –Playgrounds
 - c) Facilities –Picnic areas
 - d) Facilities –Retail

The weightings are a reflection of the survey results and have been developed to ensure that the most critical elements for user satisfaction are weighted higher than elements considered to have less impact on use levels.



LAKE EILDON Ramp Hierarchy



Jerusalem Creek is recommended to be developed as a Regional Facility.



Bonnie Doon Bridge Ramp is recommended to be upgraded to achieve District facility Status.



Minimum works are proposed for Local Facilities beyond repairs and maintenance.

Ramp Hierarchy

For the purposes of future development a boating facilities hierarchy is recommended.

The hierarchy has been established based on the following elements:

- The RBIM score applied to the facility;
- Geographic Location and
- Development Potential.

There are three levels to the hierarchy. In descending order are:

1. Regional facilities.

These facilities are designed and developed to attract and retain tourists to maximise yield, provide quality value for money and are the first facilities designated for redevelopment.

Regional Facilities have the following characteristics:

- 2 Lanes compliant with AS 3962 standards for width, gradient and surface.
- Sufficient Boat holding structures eg floating jetties for access and egress of passengers.
- Trailer rigging, derigging (wash-down areas) and queuing areas
- Vehicle manoeuvring areas
- Parking areas for boats and trailers (40-50 recommended for each lane)
- Toilet facilities
- Café style facilities
- Public BBQ's
- Camping areas
- Picnic and Playground areas.
- At least one site capable of slipway launch and retrieve facilities for houseboats to enable compliance with new regulations and dimension allowances.
- Lighting facilities

2. District facilities.

These facilities are designed and developed to cater for the day tripper, provide quality value for money and will be upgraded predominantly with amenities.

District Facilities have the following characteristics:

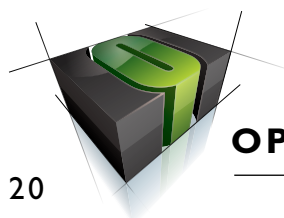
- Minimum of 1 Lane compliant with AS 3962 standards for width, gradient and surface.
- Sufficient Boat holding structures e.g. floating jetties for access and egress of passengers.
- Trailer rigging, derigging (wash-down areas) and queuing areas
- Vehicle manoeuvring areas
- Toilet Facilities
- Parking areas for boats and trailers (40-50 recommended for each lane)

3. Local facilities

Local facilities cater to a market for launching smaller water craft by day trippers. Some local facilities may be rationalised or converted to private ownership under a licence or lease arrangement for use by community groups or local organisations. There is minimal intervention in terms of maintenance or development of these sites.

- Minimum of 1 Lane compliant with AS 3962 standards for width, gradient and surface.

Each ramp area assessed during the development of this plan has now been categorised under this hierarchy.



LAKE EILDON

Alliance Boat Ramp

Alliance Boat Ramp

1.1 General Description and Location

This ramp is located adjacent to the Eildon Dam wall at Eildon. Refer locality map opposite.

The Alliance Boat Ramp is a relatively new two lane ramp. Construction method is slab on ground, with multiple pours. The ramp appears to have been placed on filled ground, and local knowledge (GMW staff) advice is that the ramp was constructed by the contractor as part of a legacy project when the Eildon Dam upgrade works were undertaken. There is evidence of multiple concrete pours, with a broom finish surface, this is in contrast to what is typical of other ramps around the lake, which have generally had an exposed aggregate surface.

A number of smaller single lane ramps are constructed at lower levels for use when the Lake Levels drop at the time of inspection these were not visible.

A small carpark exists at the ramp itself, with a larger fully constructed carpark (known as the 'kidney bowl' due to its shape) is available a short distance (approx. 300m) from the ramp area. The car parking at the ramp is showing significant signs of pavement distress, and the numerous pavement patches in place are evidence of ongoing stability issues.

A large, unformed gravel area (former quarry site) is available approximately 1km away from the site for overflow parking during peak times.

The car parking at the ramp is the only Lake Eildon site at which a payment system is in place, with a ticket machine installed at the head of the ramp.

1.2 Supply Level Access

Based on data provided by Goulbourn Murray Water, the top of Alliance boat ramp is at an AHD of 289m. The ramp remains operational until the lake level drops to 277m AHD, or 59.3% of Lake Capacity.

1.3 Ramp Suitability

The Alliance facility is reasonably new, and is almost fully compliant with the guidelines included within AS3962. As such, it is suitable for most vessels, with the exception of large houseboats.

1.4 Current Use Levels

As would be expected, Lake Eildon's usage pattern is highly seasonal, with peak usage over the summer months (Nov – Feb). During this time, demand at Alliance often outstrips the capacity of the constructed carparks. At these times, the gravel area at the former quarry site, approximately 750m from the ramp is used to cater for overflow demand.



Results of the Consultation Survey indicate that the Alliance facility is the 5th most commonly used ramp around the lake.

1.5 RBIM Score

Alliance Boat Ramp	
Ramp Infrastructure	4.37
Health, Amenity and Environment	0.60
Parking	1.42
Signage	0.45
Use Impacts	0.97
Ancillary Recreation	0.10
Development Potential	0.92
Overall Ramp Rating	8.82



LAKE EILDON Alliance Boat Ramp

Alliance Boat Ramp

1.6 Infrastructure Affecting Health, Safety and Amenity

A large skip bin is provided at the ramp, and amenities which are old, but in generally good state of repair exist at the kidney bowl parking area. The amenities building is of grouted rock work, and has provision for three female pans, two male pans and a 3 person urinal. Lighting and CCTV cameras are installed at the ramp itself (not known whether it is functional), and power is available at all areas.

1.7 Trailer Vehicle Parking Capacity, Location, Access and Egress

Car parking at the facility is a sealed hard stand area at the ramp itself, with provision for ten cars and trailers. Short term (10 minute) bays also exist to allow for vessels to be launched and manoeuvred into to position whilst the vehicle is left. Parking within this area is controlled by a ticket machine, costing \$2 per day.

This would appear to be administered by Goulbourn Murray Water, however needs to be clarified. Generally the layout of this parking area works well, however considerable signs of pavement distress are evident towards the eastern end of the park, and will need some attention. Anecdotal advice from GMW staff indicate that this area, and the access road, have been an issue for some time and are believed to have been caused by a lack of attention to compaction methods when original construction occurred.

In addition to this park, there is further 'overflow' parking at the top of the hill (300m away), which provides boat and trailer spaces of an additional 11 cars and trailers, plus 40 cars. There is also 2 'accessible' bays marked, however these do not meet current standards. This area, known as the 'kidney bowl' is ticketed, and is generally considered in excellent shape. Some minor update work on the bays marked as 'accessible' in order to update them to current standard may be advisable. Furthermore, there is a park known as the 'quarry car park' which is an unsealed gravel area which serves as yet more overflow parking.

1.8 Signage

Signage consists of several way finding signs on the main route through town, as well as the standard GMW hazard signage at the ramp itself. There is additional signage present to outline parking ticket requirements, and also some additional way finding signage to indicate presence of overflow parking.

1.9 Impacts of Use on Adjoining Land Owners

The Alliance facility is purpose built, and not in a built up area. The impacts on adjoining residents is considered minimal. Due to the high profile nature of the site, and its proximity to the Eildon Township and GMW infrastructure, it is more readily patrolled for unwanted activities such as illegal camping, parking, etc. These patrols serve to further reduce the impact on adjoining neighbours.

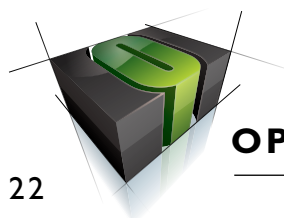
The geographical location, terrain and proximity to the dam wall make further expansion or development of the site difficult. Any expansion is likely to be an improvement of existing facilities within the existing footprints.

1.10 Ancillary Recreational Availability

Ancillary recreation at the Alliance site is focussed primarily to the 'sightseeing' type recreation. Its location at the top of the Eildon Dam, and higher in the hills overlooking the Eildon Township makes for spectacular views of the valley, and also the dam infrastructure (spillway, etc.). A scenic lookout has been constructed at the top of the Kidney Bowl carpark for this purpose.

The Eildon Township is located approximately 3km away, and offers recreational facilities such as playgrounds and retail outlets.

Addition of further ancillary recreation will be at the sacrifice of existing facilities (such as car parking) due the limitations of the terrain, and the need to keep within the existing footprint.



LAKE EILDON

Alliance Boat Ramp

Alliance Boat Ramp

1.11 Recommendations

Under the proposed ramp hierarchy, it is recommended that the Alliance Facility be developed into a ‘District Facility’.

Description	Existing	Required
Minimum of 1 Lane compliant with AS 3962 standards for width, gradient and surface	✓	
Sufficient Boat holding structures e.g. floating jetties for access and egress of passengers		✓
Trailer rigging, de-rigging and queuing areas	✓	
Vehicle manoeuvring areas	✓	
Toilet Facilities, including compliant ‘Accessible’ facilities		✓
Parking Areas for boats and trailers (40 – 50 recommended for each lane)	✓	
Adequate Lighting for Carpark and boat ramp	✓	

Based on the results of the inspection, the following recommendations are made:

1. A boat holding facility (jetty) be constructed at the ramp

This should be a floating type facility to allow for the queuing of vessels awaiting the ramp. A jetty structure is seen as the only feasible option due the lack of suitable beach area upon which vessels can be parked. On-water queuing is considered important as this facility, as the ramp is a single lane only.

2. Existing toilets be upgraded to provide an ‘accessible’ facility

Existing amenities are considered to be in reasonable condition, however consideration should be given when planning future replacement of the facility to include fully compliant ‘accessible’ options for patrons.

3. Repainting of car parking line work to allow for compliant ‘accessible’ parking bays

The existing accessible car parking bays within the kidney bowl area do not meet current Australian standard. These should be remarked to bring into line with current requirements.

4. Rehabilitation of existing carpark at ramp to repair pavement issues

The existing carpark is showing signs of pavement distress and instability. The pavement should be rehabilitated and drainage upgrade works be carried out to repair stability issues.

5. Parking fee arrangements

The methodology and fee structure for the alliance facility should be reviewed, with a standardised fee structure and enforcement arrangement being adopted for similar facilities across the lake.

1.12 Indicative Costs

Recommendation #	General Description	Indicative Cost
1	Boat Holding Facility	\$125,000
2	Toilet Upgrade	\$300,000
3	Line marking	\$5000
4	Carpark Rehabilitation	\$250,000
5	Parking Fee Arrangements	\$25,000



LAKE EILDON

Alliance Boat Ramp



The Alliance car park is the only ticketed car park around the Lake.



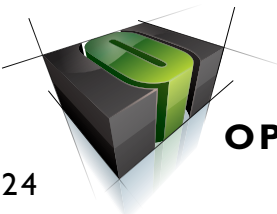
The Alliance Boat Ramp is one of the few that in in good condition and such is popular year round



The existing car park adjacent to the ramp is showing signs of pavement distress.



Photo showing Alliance Boat Ramp Signage and parking/ticket machine.



LAKE EILDON

Alliance Boat Ramp



The Kidney Bowl car park from the scenic lookout.



The kidney bowl car park has well defined trailer parking for boats.



The Alliance Boat Ramp Toilet Block is in need of upgrade to meet community expectations.



The Quarry car park provides overflow capacity for peak periods.



LAKE EILDON

Hutchinson's Rd Ramp

Hutchinson's Rd Ramp

1.1 General Description and Location

The Hutchinson's Rd Ramp is located on the Eastern side of the Bonnie Doon Bridge. The ramp site accessed from Hutchinson's Road, which is a sealed road connected to the Maroondah Highway. Refer locality map opposite.

The ramp itself is constructed using a slab on ground technique, with an exposed aggregate finish. This is typical of ramp construction surrounding the lake. The ramp could be considered a two lane facility, although the width is approximately 160mm narrower than the guidelines indicate as desirable for a two lane ramp. The grade of the ramp is considerably shallower than desirable (1 in 14 as opposed to 1 in 8). Whilst not ideal, shallow grades and narrow ramps are typical of Lake Eildon, due to the lake being freshwater it is not considered as significant an issue as would be the case for a coastal salt water environment.

1.2 Supply Level Access

Based on data provided by Goulbourn Murray Water, the top of Hutchinson's Rd ramp is at an AHD of 289m. The ramp remains operational until the lake level drops to 270m AHD, or 41.6% of Lake Capacity.

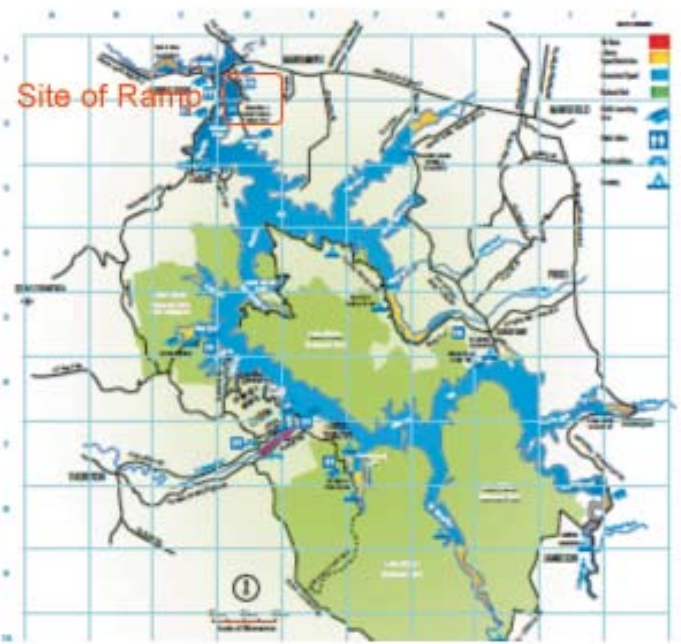
Anecdotal evidence provided by boat ramp users indicate that siltation of the ramp becomes an issue once the lake level starts to drop. This is possibly due to the location of the ramp being on a corner within the lake, where there is an obvious change in direction of current.

1.3 Ramp Suitability

The ramp is just off the sealed road, which is 1km off the main highway. The sealed road means it is very easily accessed by the public. The ramp opens out into a wide area of the lake, and provides plenty of room to dock boats in the shallow shoreline waters. This area of the lake is popular for all lake users, particularly skiers, wakeboarders and PWC's.

1.4 Current Use Levels

At the time of inspection there is 9 cars parked with trailers, mainly either smaller boats or jet skis, but two larger boat trailers. Based on the consultation survey results, the Hutchinson's road ramp is the 4th most frequented ramp.



1.5 RBIM Score

Hutchinson's Road Ramp		
Ramp Infrastructure		4.17
Health, Amenity and Environment		0.75
Parking		0.76
Signage		0.43
Use Impacts		0.19
Ancillary Recreation		0.20
Development Potential		0.89
Overall Ramp Rating		7.37



LAKE EILDON

Hutchinson's Rd Ramp

Hutchinson's Rd Ramp

1.6 Infrastructure Affecting Health, Safety and Amenity

The Hutchinson's Road site has a large amenities building located approx. 50m above the top of the boat ramp itself. This building is a brick structure in a reasonable state of repair. The Male toilet has a Urinal and two pans, whilst the female has three pans. The layout of the building also has large open areas in both male and female sections. An Accessible toilet is available and is in good condition, however needs some minor upgrade works to bring into line with the latest revision of the accessibility standards and DDA. There is no obvious evidence of clean drinking water available. Power is available at the site.

1.7 Trailer Vehicle Parking Capacity, Location, Access and Egress

Car parking at the site is informal, and scattered amongst the existing, significant native trees. The site is quite open, and has large expanses of gravelled open areas which are above the full supply level. These open areas make the site less susceptible to parking restrictions once the lake level is high, as would be case at the Bonnie Doon bridge ramps on the opposite side of the lake.

Capacity of the parking is hard to judge due to the informal nature, but is estimated to be at least 30 cars and trailers close to the ramp, with more available at various open areas within the vicinity of the site. Anecdotal evidence from ramp users indicate that the informal parking arrangements cause traffic management issues and affect neighbouring properties at peak times.

There is no Waste bins at the site. Historically, Council has provided skip bins for the Bonnie Doon region during peak times, however it was found these were being consistently treated as 'Tip Sites' by local residents, and this practice has therefore been stopped. Waste management at these high use sites will continue to be an issue, and consideration as part of a regional facility upgrade should be given as to the correct strategy.

1.8 Signage

Signage at the site is consistent with other signage across the lake. Signage indicating the relevant safety information and lake information (such as 'you are here') is located at the ramp. There is a 5 Knot buoy located roughly 150m off the water's edge. Some traffic control signage will be required as part of carpark upgrade works into the future.

1.9 Impacts of Use on Adjoining Land Owners

The Hutchinson's road site is in close proximity to both the Bonnie Doon Township, and to neighbouring residential properties. It is also a highly frequented site on the lake. These factors mean that the impacts upon neighbouring properties is going to be more noticeable that would be the case for similar uses at a remote site.

Evidence provided from neighbouring property owners suggest that the primary issues experienced are borne from issues such as:

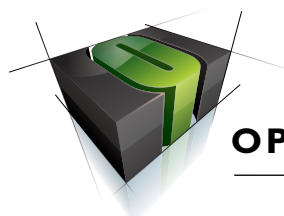
- Traffic Management and Parking;
- Waste; and
- Illegal Camping.

It is anticipated that these issues could be significantly reduced, and a large increase in the efficiency of site use be gained through the upgrade and formalising of the area into a regional type facility. This would provide some structure and management into the traffic and parking, and provide some buffer and strategic management between private and public properties.

1.10 Ancillary Recreational Availability

Recreation at the actual ramp site is limited. There are no formalised picnic areas, BBQ's or playground facilities. The site is within close proximity to the Bonnie Doon Township, and as such retail facilities are available within town. Despite the restricted formal recreation sites, the area is popular with day travellers and particularly the water-ski/ wakeboard users due to the large expanses of open areas, and long shoreline upon which lake users can beach their vessels.

Camping is not allowed at the site, anecdotal evidence suggests that illegal camping remains a problem in this area, which impacts upon local residents at peak times. Commercial accommodation options exist nearby, with caravan park style accommodation, motels and residential house rentals available nearby in Bonnie Doon and along Hutchinson's Road.



LAKE EILDON
Hutchinson's Rd Ramp

Hutchinson's Rd Ramp

1.1.1 Recommendations

Under the proposed ramp hierarchy, it is recommended that the Hutchinson's Road ramp be developed into a 'Regional Facility'.

Description	Existing	Required
Minimum Two Lanes compliant with AS 3962 standards for width, gradient and surface	✓	
Sufficient Boat holding structures e.g. floating jetties for access and egress of passengers		✓
Trailer rigging, de-rigging, wash down and queuing areas		✓
Vehicle manoeuvring areas		✓
Toilet Facilities, including compliant 'Accessible' facilities		✓
Parking Areas for boats and trailers (40 – 50 recommended for each lane)		✓
Adequate Lighting for Carpark and boat ramp		✓
Café Style facilities at/or in close proximity	✓	
Public BBQs		✓
Camping Areas in close proximity	✓	
Picnic and Playground Areas		✓
Optional – Site Capable of slipway, launch and retrieval facilities for houseboats to enable compliance with new regulations and dimensional allowances		✓

Based on the results of the inspection, the following recommendations are made:

1. Prepare a Regional Facility Development Plan

An overall site development plan should be prepared for the Hutchinson's road site. This development plan will allow for the area to be strategically developed, in stages into a regional boating hub. The plan should address infrastructure upgrade requirements surrounding aspects such as ramp location and orientation (to minimise siltation issue), parking, traffic management, boat mooring/holding, etc. It should also review management/operational opportunities such as trial leasing of open areas to commercial operators, and waste management options.

2. Improve Boat holding facilities

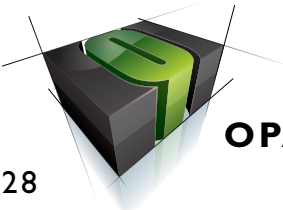
In accordance with the development plan recommendations, Additional boat holding facilities should be provided at the site to allow for increased demand. As there is significant 'beach' type areas, a combination approach to both structure type (fixed and floating jetties) and simple beach mooring areas should be allowed for.

3. Existing toilets be provided with minor upgrade works to provide a fully compliant 'accessible' facility

Existing amenities are considered to be in reasonable condition, however minor maintenance and improvement works are required to make fully compliant with existing accessibility standards and the DDA.

4. Construction of formal car parking, queuing and rigging/de-rigging Areas

To facilitate the site as a regional facility, fully constructed and sealed car parking and manoeuvring areas should be constructed, in accordance with the development plan. A review of traffic signage and management should be undertaken to ensure the maximum car parking efficiency, whilst minimising the impact on native vegetation and unwanted impacts on adjoining properties.



LAKE EILDON
Hutchinson's Rd Ramp

Hutchinson's Rd Ramp

5. Trial Camping to privatised/commercial operator

Subject to the facility being upgraded to a 'regional' level facility, and the detailed findings of the development plan, a trial of leasing an adjacent camping area to privatised commercial operator should be undertaken. This will allow closer management/control of illegal camping at the site, and minimise impacts of illegal camping on adjoining properties

6. Provide Picnic, BBQ and Playground areas

The provision of ancillary use facilities is critical at a regional facility, as such, the overall site should be provided with formal, shore based recreation options such as BBQ facilities, Picnic Shelters and a playground. These should be provided in accordance with an overall development plan.

7. Provide Ramp Lighting

Increased lighting for both parking areas and for marine users on the ramp should be provided as car parking areas are constructed and formalised.

8. Parking fee arrangements

The methodology and fee structure for the alliance facility should be reviewed, with a standardised fee structure and enforcement arrangement being adopted for similar facilities across the lake.

1.12 Indicative Costs

Recommendation #	General Description	Indicative Cost
1	Preparation of Development Plan	\$15,000
2	Improve Boat Holding Facilities	\$125,000
3	Amenity Building Minor Upgrades	\$15,000
4	Carpark / Hardstand Construction	\$325,000
5	Trial Camping Lease	\$10,000
6	Picnic, BBQ and Playground	\$150,000
7	Ramp / Carpark Lighting	\$25,000
8	Parking Fee Arrangements	\$25,000



LAKE EILDON

Hutchinson's Rd Ramp



Hutchinson's Boat Ramp is proposed to be developed into a Regional Facility.



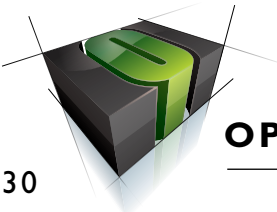
Informal parking at Hutchinson's Boat Ramp would be formalised and sealed as a regional facility.



Photo showing Hutchinson's Road Boat Ramp Signage.



Hutchinson's Road Ramp foreshore could be developed to provide increased activation of the Lake for water sports.



LAKE EILDON

Hutchinson's Rd Ramp



Hutchison's Road Ramp is a critical piece of tourism infrastructure that is currently underutilised.



As a Regional Facility camping at the site would be formalised and appropriate fees charged.



The current informal traffic management system would be replaced by a formal traffic management system to minimise impact on neighbours.



Amenity buildings on the site will require upgrade to become a regional facility.



LAKE EILDON

Hutchinson's Deep Water Ramp

Hutchinson's Deep Water Ramp

1.1 General Description and Location

Hutchinson's Deep Water Ramp is located at the end of Hutchinson's Rd roughly 5km of the main highway, 2km of which is a narrow winding 'fire access track'.

The ramp is a specific 'low level' ramp, constructed to be only used when the lake level is exceptionally low. At the time of inspection, the lake level was such that the entire ramp structure was under water, and unable to be physically assessed.

During what would be considered 'typical' lake levels, it is simply one of the many informal ramps located around Lake Eildon, where the slope of the ramp is determined by the natural gradient of the surface. Anecdotal evidence provided, the survey results and observations of use indicate that the primary users of the ramp at these 'typical' lake levels are predominately locally based recreational anglers.

1.2 Supply Level Access

Based on data provided by Goulbourn Murray Water, the Hutchinson's deep water ramp area is available for use at an AHD of 289m (natural surface only). The ramp remains operational until the lake level drops to 261.66m AHD, or 25.47% of Lake Capacity.

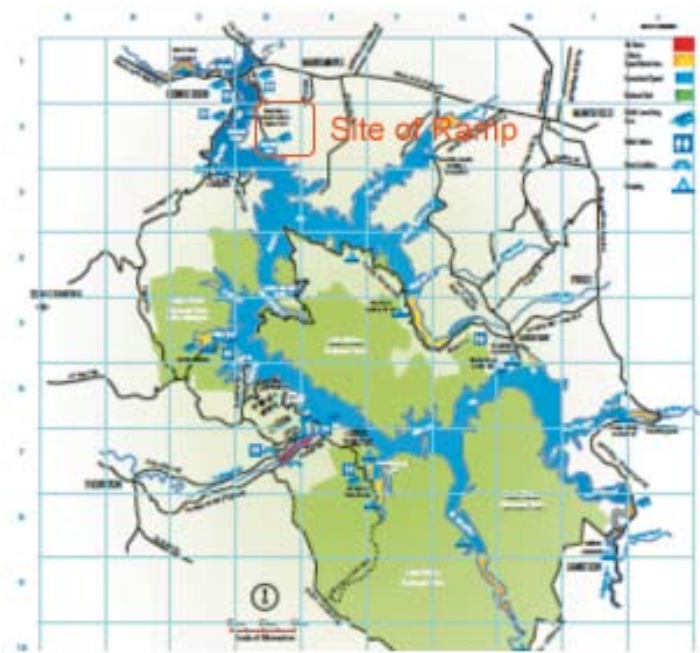
The ramp's main purpose is to cater for the lake when it is at low levels, there is a large open area for multiple boats to be put in as well as plenty of room to dock boats up against the shore.

1.3 Ramp Suitability

The access to the ramp is via an unsealed and narrow gravel road. The Mansfield shire Council's road hierarchy indicate that this road is a 'fire access track', and as such is not highly maintained. This access issue, and the fact that normal use conditions involve launching from a natural surface type ramp, tend to make the ramp site more suited to smaller fishing type vessels. The use observations, survey results and anecdotal evidence support these assumptions.

1.4 Current Use Levels

At the various times of inspection there was no one using the ramp, but considering that the ramp is designed for low lake levels, and at time of inspection the Lake was quite high, there is no real reason for many users to choose this ramp over Hutchinson's Road ramp, which is located closer to the highway, and accessed from a sealed road.



1.5 RBIM Score

Hutchinson's Deep Water Ramp		
Ramp Infrastructure		4.10
Health, Amenity and Environment		0.00
Parking		0.72
Signage		0.33
Use Impacts		0.27
Ancillary Recreation		0.24
Development Potential		0.10
Overall Ramp Rating		6.22



LAKE EILDON

Hutchinson's Deep
Water Ramp

Hutchinson's Deep Water Ramp

I.6 Infrastructure Affecting Health, Safety and Amenity

There are no amenities or waste management facilities at the site.

I.7 Trailer Vehicle Parking Capacity, Location, Access and Egress

Car parking at this location is informal. The area consists of large open areas that provide adequate room for car and trailer parking for over 80 cars.

I.8 Signage

There is limited signage around the ramp, much less than other ramps. It is unknown whether signage exists on the formal ramp itself, as it was below water level, however it would seem unlikely.

A 'Deep Water' Sign has been installed on the highway, however the access track leading into the ramp makes unfamiliar users question whether this is the correct route. A repeater sign could be considered.

I.9 Impacts of Use on Adjoining Land Owners

The site is located remotely from residential/Built-up areas. The impacts of the site are considered negligible during typical lake levels due to the low use nature of the site.

During low lake levels, where the ramp is likely to see significant usage increases, some impacts from increased traffic flow along the access road may occur. During these limited periods, Council may need to increase its routine patrol and traffic maintenance activities on the fire access track accordingly.

I.10 Ancillary Recreational Availability

No formal ancillary recreation facilities are installed at the site. Bonnie Doon Township is approximately 7km away.



LAKE EILDON

Hutchinson's Deep
Water Ramp

Hutchinson's Deep Water Ramp

1.11 Recommendations

Under the proposed ramp hierarchy, it is recommended that the Hutchinson's Deep Water Facility be maintained as a 'Local Facility'.

Description	Existing	Required
Minimum of 1 Lane compliant with AS 3962 standards for width, gradient and surface	✓	
Adequate Lighting for Carpark and boat ramp		✓

Based on the results of the inspection, the following recommendations are made:

1. Installation of Solar Lighting at the site

Consideration should be given to the installation of a Solar light at the ramp site to assist with vessel navigation.

2. Council increase of Maintenance Patrols during peak use times

During low lake levels, when ramp site is in peak demand, Council may need to increase maintenance activities on gravel access track to the ramp site.

1.12 Indicative Costs

Recommendation #	General Description	Indicative Cost
1	Solar Lighting	\$15,000
2	Maintenance Increases	*Note Only



LAKE EILDON

Hutchinson's Deep
Water Ramp



Photo showing Hutchinson's Deep Water Ramp Foreshore.



Photo showing Hutchinson's Deep Water Ramp Foreshore.



Photo showing Hutchinson's Deep Water Ramp Informal Parking Area.



Photo showing Hutchinson's Deep Water Ramp Access Road.



LAKE EILDON
Kennedy Point Ramp

Kennedy Point Ramp

1.1 General Description and Location

The Kennedy Point Boat Ramp is located near Bonnie Doon. Features uniformed, natural surface ramps. At the time of inspection there was evidence of three separate areas that are used as launching sites, all of which were shallow grade natural surface areas.

During wet conditions there is possibility that access to the site will be difficult due to slippery conditions. There is evidence that erosion and rutting have taken place.

1.2 Supply Level Access

There are multiple launching options at Kennedy Point. Based on data provided by Goulbourn Murray Water, the tops of the various Kennedy Point Ramp options are available from AHD heights of 279m, down to 270.20m. Based on this data, the site remain operational until the lake level drops to 264m or a Lake Capacity of 30.4%.

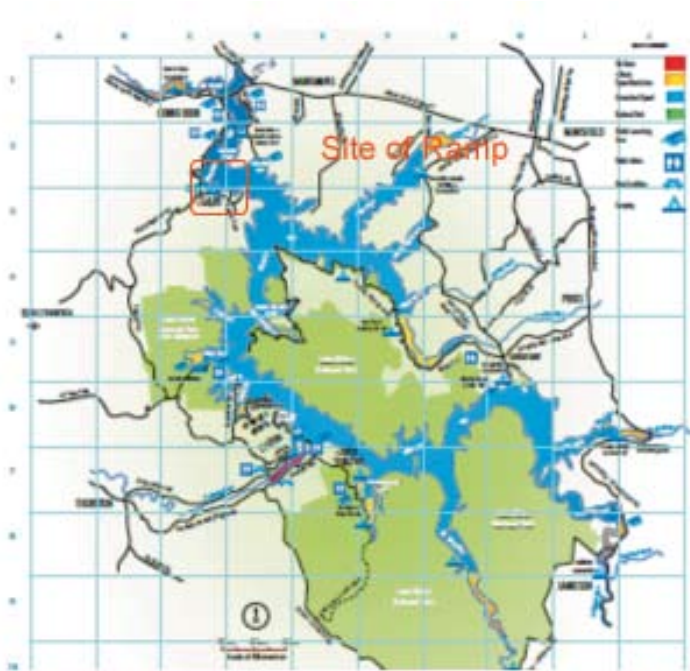
1.3 Ramp Suitability

This area is only suitable for small vessels and light watercraft, not houseboats or ski vessels. A Steeper grade natural surface ramp is available from the access road (near amenities), however the use of this ramp involves a reversing a trailer down a steep narrow access track, which also has large amounts of cross fall. Furthermore, no turning points exist near ramp head. This mean ramp users are forced to then reverse the trailer up the slope, creating safety issues.

1.4 Current Use Levels

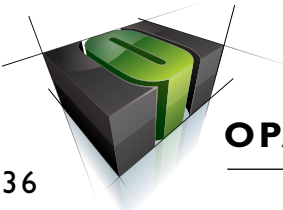
As would be expected, Lake Eildon’s usage pattern is highly seasonal, with peak usage over the summer months (Nov – Feb).

Results of the Consultation Survey indicate that the Kennedy Point area is ranked 8 out of 12 for the most frequently used launching site.



1.5 RBIM Score

Kennedy Point Ramp		
Ramp Infrastructure	<div></div>	2.80
Health, Amenity and Environment	<div></div>	0.44
Parking	<div></div>	0.58
Signage	<div></div>	0.41
Use Impacts	<div></div>	0.24
Ancillary Recreation	<div></div>	0.06
Development Potential	<div></div>	0.40
Overall Ramp Rating	<div></div>	5.33



LAKE EILDON Kennedy Point Ramp

Kennedy Point Ramp

1.6 Infrastructure Affecting Health, Safety and Amenity

An amenities building exists at the site. The facility is constructed of brick and supplied with power from an overhead connection from the main road. A Water tank and a header tank exist next to the building. The toilet block is a septic system, no sewer exists at the site.

The Male toilets include one WC and a wall urinal wall with capacity for two users. The Female toilets include two WC's. No accessible toilets are provided.

A plant room divides the block and has a water pump installed within. It is assumed that this pump is either for either pressure or to feed header tank.

Signage exists on the building to indicate that water is not for human consumption, however at date of inspection, water was not functional in any case, whether this was due to lack of availability or because of pump issues is unknown.

Generally, toilet block needs maintenance.

1.7 Trailer Vehicle Parking Capacity, Location, Access and Egress

Car parking is available at the site in an informal nature only. Whilst there is a large amounts of informal parking areas at lake levels around 85%, it becomes limited during higher lake levels.

1.8 Signage

Signage at the site is typical of Lake Eildon, with safety and boating information signage being in good state of repair, consistent across the lake and generally up to date.

1.9 Impacts of Use on Adjoining Land Owners

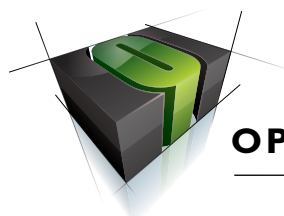
The Kennedy Point site is relatively remote from residential properties. The nearest neighbours are approximately 450m away from the site, and are a private boating club. The club type holiday season nature of these neighbours would suggest that they are not likely to be concerned with seasonal boat user impacts.

Impacts associated with the traffic flow along the roads leading to the site are considered negligible both because of the low usage of the site, but also because of the traffic volume handling capacity of the access roads (sealed dual lane collector roads).

1.10 Ancillary Recreational Availability

No formal picnic areas or BBQ's are installed at the site. The Bonnie Doon Township is located approximately 5km away and caters for retail needs.

A private canoe and kayak hire operator has been allowed to operate from the Kennedy Point site, and has established a small lockable compound in which hire vessels are stored at the site. At the time of inspection this outlet was closed.



LAKE EILDON
Kennedy Point Ramp

Kennedy Point Ramp

1.11 Recommendations

Under the proposed ramp hierarchy, it is recommended that the Kennedy Point Area be maintained as a ‘Local Facility’.

Description	Existing	Required
Minimum of 1 Lane compliant with AS 3962 standards for width, gradient and surface	✓	
Adequate Lighting for Carpark and boat ramp		✓

Based on the results of the inspection, the following recommendations are made:

1. Upgrade/Maintenance works on existing amenities

The existing amenities should be urgently repaired and/or upgraded to provide water, repair vandalism and broken septic system. Consideration should be given to replacing the existing building with a low cost pump out facility similar to that installed at the Gough’s Bay Ramp Precinct.

2. Installation of Solar Lighting at the site

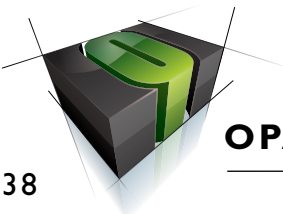
Consideration should be given to the installation of a Solar light at the ramp site to assist with vessel navigation.

3. Repairs to eroded and rutted gravel surfaces

The erosion and rutting of the ramp surface should be repaired. Consideration could be given to installing some form of erosion protective surface on launching ramps, such as a geotextile (geo-web or similar).

1.12 Indicative Costs

Recommendation #	General Description	Indicative Cost
1	Amenity Repairs	\$50,000
2	Solar Lighting	\$15,000
3	Erosion Repairs and stabilisation	\$15,000



LAKE EILDON
Kennedy Point Ramp



Looking back at Kennedy Point Foreshore.



Erosion at Kennedy Point will require maintenance.



Kennedy Point is recommended to remain as a local facility.



Hire Boats Business at Kennedy Point may benefit from the potential to lease or commercialise the local facilities.



LAKE EILDON
Kennedy Point Ramp



Kennedy Point Launching Ramp.



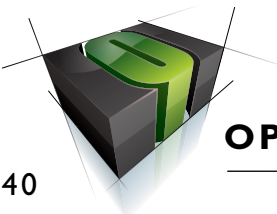
Kennedy Point Access Road.



One of the many informal boat ramps that exist around the Lake.



The amenities block will require maintenance and upgrade.



LAKE EILDON

Bridge Ramp Bonnie Doon

Bridge Ramp Bonnie Doon

General Description and Location

Hutchinson's Deep Water Ramp is located at the end of Hutchinson's Rd roughly The Bonnie Doon Bridge Ramps are located off Maintongoon Road, to the West of the Bonnie Doon Township. Maintongoon Road is a sealed road, with direct access to the Maroondah Highway.

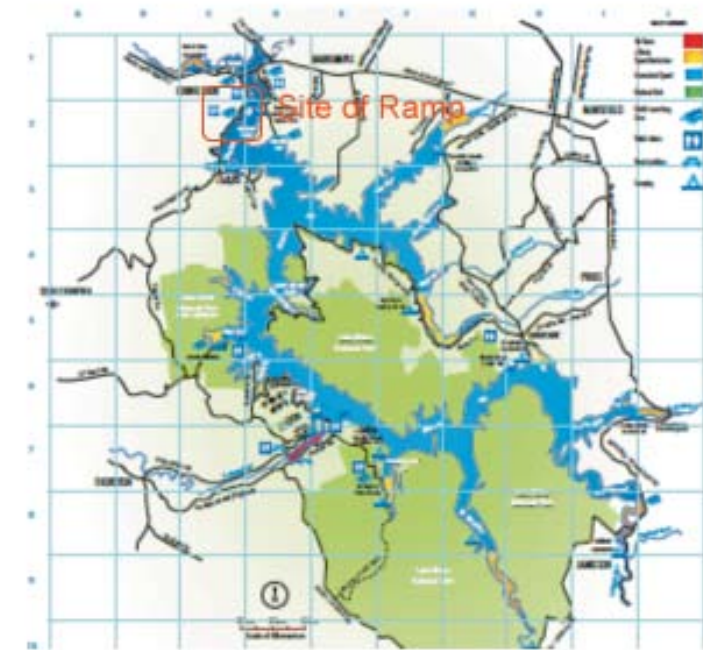
The area includes two single lane concrete ramps, a high lake level and a lower lake level ramp. Both ramps appear to have been constructed using a 'slab on ground method', and have an exposed aggregate finish, typical of the ramp construction around the Lake. The ramps are made of several different concrete pours, with the high water ramp being 5 separate pieces, and the low level having at least three that were visible at the time of inspection. Neither the high or low level ramps have kerbs on ramp edges. The low level ramp has some rock beaching placed along its edges. The high water ramp was completely dry on day of inspection.

The general condition of the ramps is sound, finished slab thickness varies due to the slab on ground construction, and potholing along the ramp edges indicate a concrete thickness of between 100-200mm. No evidence of reinforcing is evident, although the lack of cracking in slabs would indicate that reinforcement has been utilised. Some differential settling has occurred between slabs, however this is minor in nature

A boat launching from the ramp was observed and appeared to have no issues. Boat was a 5.5m, single axle runabout, launched using a Mazda BT-50 AWD Ute. Vehicle reversed into the water up to the centreline of rear wheels. This indicates a slightly shallow grade compared to the Australian Standard, which adopt a grade recommendation which allows vessels to float off the trailer when rear vehicle wheels are at the waterline.

Supply Level Access

There are two separate concrete ramps constructed within the Bonnie Doon bridge area. Based on data provided by Goulbourn Murray Water, the top of the high level ramp is at an AHD of 289m. The low level ramp remains operational until the lake level drops to 276.4m AHD, or 57.6% of Lake Capacity.



Ramp Suitability

The ramps are used and suitable to most vessel categories, with the exception of houseboats. Car parking will be an issue however at high lake levels.

Current Use Levels

At time of inspection, one passenger vehicle with small trailer and launcher. One individual was fishing from shore.

Results of the Consultation Survey indicate that the this area is the most commonly used launching around the lake, which is supported by its geographical location as the first launching facility seen by Melbourne based user groups.



LAKE EILDON

Bridge Ramp Bonnie Doon

Bridge Ramp Bonnie Doon

Bonnie Doon Bridge Ramps		
Ramp Infrastructure	<div></div>	3.66
Health, Amenity and Environment	<div></div>	0.40
Parking	<div></div>	0.70
Signage	<div></div>	0.40
Use Impacts	<div></div>	0.24
Ancillary Recreation	<div></div>	0.08
Development Potential	<div></div>	0.40
Overall Ramp Rating	<div></div>	6.32

Infrastructure Affecting Health, Safety and Amenity

An older style, brick veneer amenities building is established at the site. The building is mains water supplied, and appears to be connected to a septic system. Power is available through an underground supply provided from off the overhead power lines running on the far side of Maintongoon Road. The Male amenities provide one WC, a double wall urinal and one hand basin. The female amenities provide two WC's and a hand basin. There are no provision for accessible amenities. Overall the building is in average to poor condition, and showing its age.

The overall amenity of the area is reduced through the informal, natural surface nature of the car parking areas. Muddy and slippery areas are an issue for both safety and efficiency of the traffic management. This becomes a significant issue once lake levels rise, as the higher water levels severely reduce the availability of free space.

Waste facilities are not provide at the site.

Trailer Vehicle Parking Capacity, Location, Access and Egress

Vehicle parking in the area is informal, natural surface parking. Vehicles are simply parked within clearings amongst the existing trees.

Access to the site is via Maintongoon Road, which is a sealed collector road. The small access tracks leading into the site have been gravelled, but are now significantly potholed and in need of further maintenance.

Some attempts have been made to gravel several areas of car parking, but this is obviously difficult due to the frequent inundation of major areas with rising lake levels. Muddy areas are quite prevalent.

The availability of parking is highly dependent on the lake level, as at higher water levels, the majority of open flat and accessible areas are predominately under water.

Signage

Boating safety signage is in good repair, and contains up to date and consistent information, as is the case for most sites around the lake.

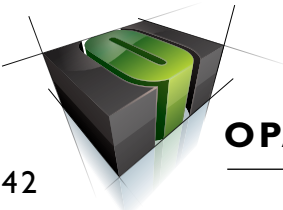
Traffic management signage around the site is limited, but is adequate for the informal nature of parking and vehicle movement within the site. Some additional traffic management signage could be used to further designate the ramp area itself, to reduce the impact of people spreading out along the wider foreshore area.

Impacts of Use on Adjoining Land Owners

The Bridge Ramp site is in close proximity to both the Bonnie Doon Township, and to neighbouring residential properties. It is also a highly frequented site on the lake. These factors mean that the impacts upon neighbouring properties is going to be more noticeable that would be the case for similar uses at a remote site.

Evidence provided from neighbouring property owners suggest that the primary issues experienced are borne from issues such as:

- Traffic Management and Parking;
- Waste; and
- Illegal Camping.



LAKE EILDON

Bridge Ramp Bonnie Doon

Bridge Ramp Bonnie Doon

It is anticipated that these issues could be significantly reduced, and a large increase in the efficiency of site use be gained through the upgrade and formalising of the area into a district type facility, as well as through the development of an alternative high quality ‘regional’ facility at Hutchinson’s Road.

By creating a high quality regional facility at Hutchinson’s Road, it will reduce the demand and overflow parking issues currently placing pressure on the limited infrastructure.

Ancillary Recreation Availability

Recreation at the actual ramp site is limited. There are no formalised picnic areas, BBQ’s or playground facilities. The site is within close proximity to the Bonnie Doon Township, and as such retail facilities are available within town. Despite the restricted formal recreation sites, the area is popular with day travellers and particularly the water-ski/wakeboard users due to the large expanses of open areas, and long shoreline upon which lake users can beach their vessels.

Camping is not allowed at the site, anecdotal evidence suggests that illegal camping remains a problem in this area, which impacts upon local residents at peak times. Commercial accommodation options exist nearby, with caravan park style accommodation, motels and residential house rentals available nearby in Bonnie Doon and along Hutchinson’s Road.



LAKE EILDON

Bridge Ramp Bonnie Doon

Bridge Ramp Bonnie Doon

1.11 Recommendations

Under the proposed ramp hierarchy, it is recommended that the Alliance Facility be developed into a ‘District Facility’ which supports the proposed regional facility across the lake at the Hutchinson’s Road site.

Description	Existing	Required
Minimum of 1 Lane compliant with AS 3962 standards for width, gradient and surface	✓	
Sufficient Boat holding structures e.g. floating jetties for access and egress of passengers		✓
Trailer rigging, de-rigging and queuing areas	✓	
Vehicle manoeuvring areas	✓	
Toilet Facilities, including compliant ‘Accessible’ facilities		✓
Parking Areas for boats and trailers (40 – 50 recommended for each lane)	✓	
Adequate Lighting for Carpark and boat ramp	✓	

Based on the results of the inspection, the following recommendations are made:

1. Prepare a District Facility Development Plan

An overall site development plan should be prepared for the site. This development plan will allow for the area to be strategically developed, in stages into a district boating hub. The plan should address infrastructure upgrade requirements surrounding aspects such as providing overflow capacity for the new regional facility at Hutchinson’s Road, parking, traffic management, boat mooring/holding, etc. It should also review management/operational opportunities such as trial leasing of open areas to commercial operators for other recreation such as canoes and kayaks, and waste management options.

2. Improve Boat holding facilities

In accordance with the development plan recommendations, Additional boat holding facilities should be provided at the site to allow for increased demand. As there is significant ‘beach’ type areas, a combination approach to both structure type (fixed and floating jetties) and simple beach mooring areas should be allowed for.

3. Existing toilets be replaced to provide an ‘accessible’ facility

Existing amenities are considered to be in average to poor condition. Consideration should be given to planning a replacement of the facility, which should include fully compliant ‘accessible’ options for patrons.

4. Construction of formal car parking, queuing and rigging/de-rigging Areas

To facilitate the site as a district facility, fully constructed and sealed car parking and manoeuvring areas should be constructed on the higher level areas, in accordance with the development plan.

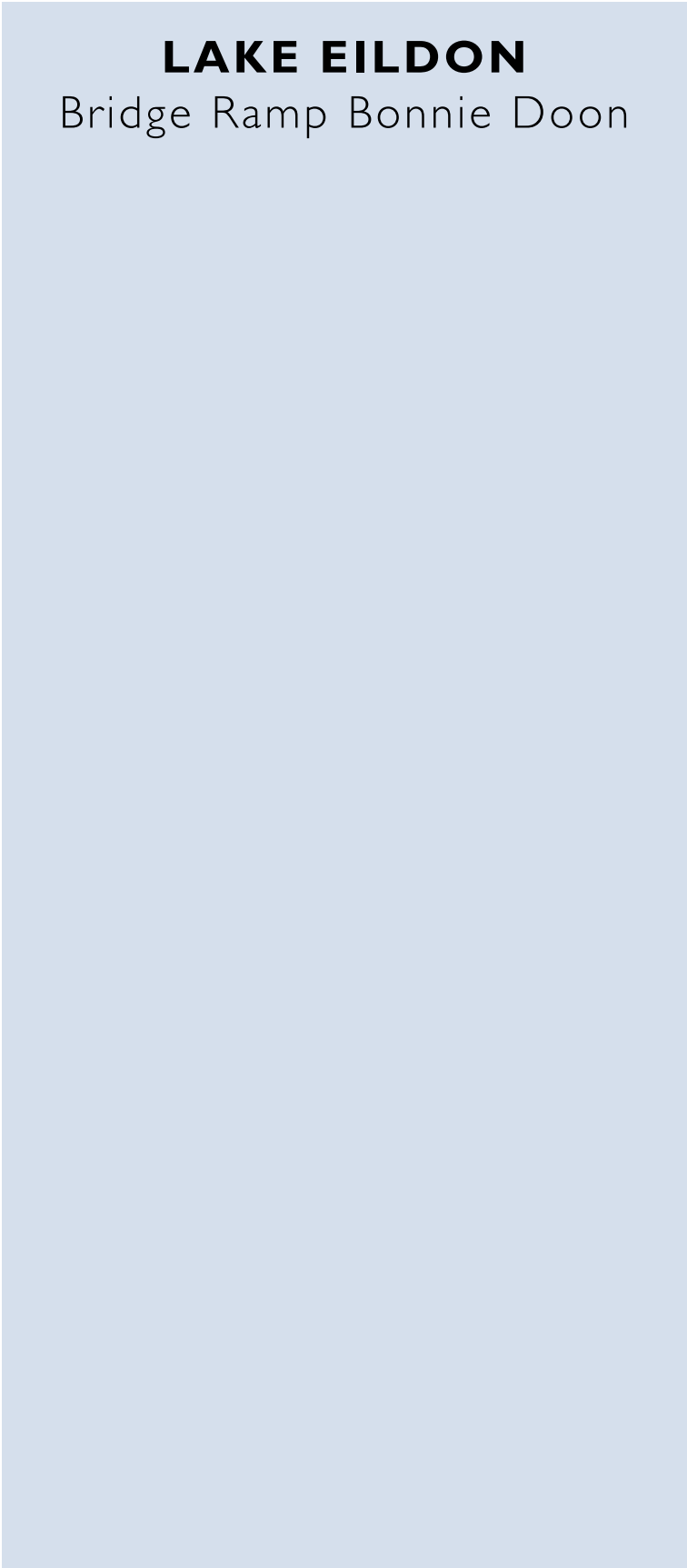
5. Rehabilitation of existing soft and slippery carpark areas

The existing carpark has numerous soft and/or slippery areas. These should be gravelled and repaired.

6. Trial Leasing to privatised/commercial operator

Subject to the facility being upgraded to a ‘district’ level facility, and the detailed findings of the development plan, a trial of leasing an adjacent open areas to privatised commercial operators should be undertaken. This will allow closer management/control of illegal activities at the site, and allow for increased recreation options for users, whilst offering some additional revenue streams to stakeholder authorities.





LAKE EILDON

Bridge Ramp Bonnie Doon

Bridge Ramp Bonnie Doon

7. Provide Picnic, BBQ and Playground areas

The provision of ancillary use facilities is critical at this type of facility, as such, the overall site should be provided with formal, shore based recreation options such as BBQ facilities and Picnic Shelters. These should be provided in accordance with an overall development plan.

8. Provide Ramp Lighting

Increased lighting for both parking areas and for marine users on the ramp areas should be provided as car parking areas are constructed and formalised.

9. Parking fee arrangements

The methodology and fee structure for the facility should be reviewed, with a standardised fee structure and enforcement arrangement being adopted for similar facilities across the lake.

I.12 Indicative Costs

Recommendation #	General Description	Indicative Cost
1	Preparation of Development Plan	\$15,000
2	Improve Boat Holding Facilities	\$125,000
3	Amenity Building Replacement	\$275,000
4	Carpark / Hardstand Construction	\$225,000
5	Rehabilitation of lower soft and slippery carparking	\$15,000
6	Trial Commercial Leasing	\$10,000
7	Picnic and BBQ areas	\$75,000
8	Ramp / Carpark Lighting	\$25,000
9	Parking Fee Arrangements	\$25,000



LAKE EILDON

Bridge Ramp Bonnie Doon



The Bonnie Doon Bridge Ramp is one of the highest used facilities around the Lake.



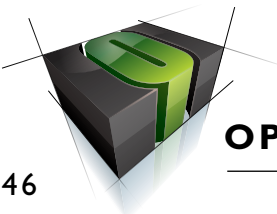
Edging treatment for safety needs to be maintained.



Amenities and all sites can be improved to enhance the visitor experience.



A proposal to light up the bridge is outside the scope of this project however would add a unique tourist attraction the region.



LAKE EILDON

Bridge Ramp Bonnie Doon



The Bonnie Doon Bridge Ramp is proposed to become a District Facility primarily due to the lack of space and terrain preventing it becoming a Regional facility.



Photo showing Bonnie Doon Bridge Ramp Top.



Signs at the site are mostly in good condition.



The Bonnie Doon Ramp informal car park can become crowded and overflow into the surrounding area causing concern for neighbours and traffic issues in peak periods.



LAKE EILDON

Gough's Bay Ramp # 1

Gough's Bay Ramp # 1

1.1 General Description and Location

There are numerous informal ramps located intermittently within the Gough's Bay area. The infrastructure investigations conducted focus on the GMW and Mansfield Shire Council 'constructed' ramps that were clearly marked as boat launching ramps.

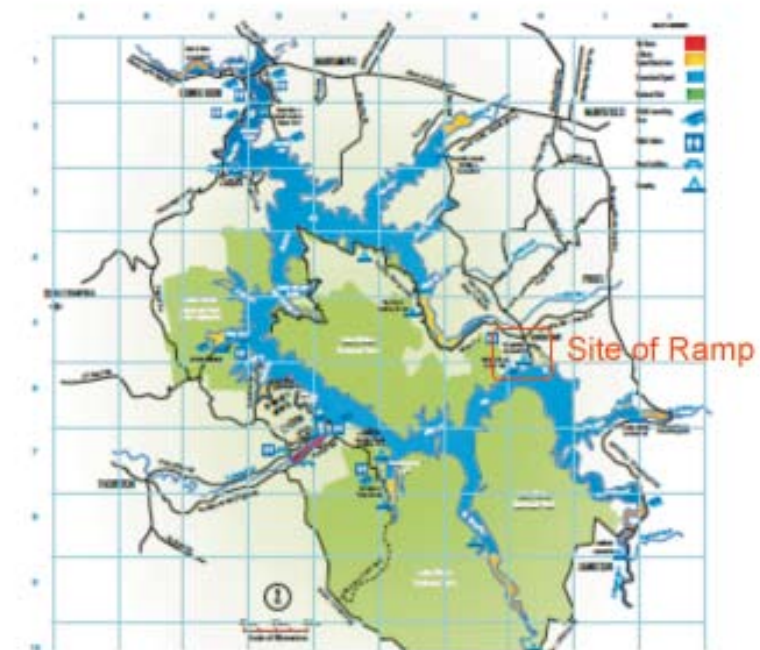
Gough's Bay Ramp #1 is a single lane concrete ramp. Whilst it is of a 'slab on ground' construction, it appears the ramp itself has been constructed on filled ground, and significant beaching has been placed to minimise erosion. A number of separate slabs have been used to form the ramp. A date stamp at the head of the ramp indicates an original pour date of 1966, although the differing quality concrete and finish standards across areas indicate there has obviously been several pours and maintenance patches since that time. Several significant areas have cracked off, especially at the edges. A number of internal cracks have appeared in the middle of the ramp itself, and areas of cracked concrete have subsided. This indicates that the subsurface of the ramp (fill) has eroded. It is likely therefore that this subsidence will continue. Generally the ramp is in disrepair, and is a prime candidate for rationalisation.

In the area surrounding the ramp toe, numerous small trees have grown from the lakebed, presumably during extremely low lake levels. These trees are currently half submerged, and pose a navigation hazard to vessels using the ramp. They are likely to become more hazardous at full lake levels, as they will be almost completely submerged.

1.2 Supply Level Access

There are many access points at Gough's Bay. The GMW Public Ramps range in accessibility of a top level AHD from 281.52 - 289m. The ramps remain operational until the lake drops to around 277.16 - 284.47m or between 59.7% - 86.7%. The Shire Public Ramps range in accessibility of a top level AHD from 259.25- 287.5m. The ramps remain operational until the lake drops to around 285.5 - 270m or between 21.2% - 41.6%.

The Goughs Bay #1 ramp is available from 289m AHD (100% supply level), down to 283.15m AHD (78.5% supply level).



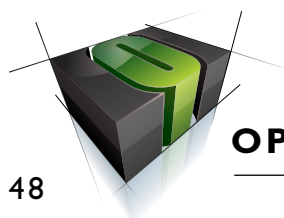
1.3 Ramp Suitability

The width, grade and surface of the ramp make it suitable for most vessel types (with the exception of houseboats), however the generally poor condition, the significant underwater vegetation hazards, and the development of the main Gough's Bay ramp precinct have reduced the demand on this ramp significantly.

1.4 Current Use Levels

The results of the consultation indicate that the wider Gough's Bay region is the third most popular boat launching area on Lake Eildon.

With the development of the main Gough's Bay ramp precinct, demand on this original ramp has been significantly reduced. Anecdotal evidence suggests that the primary users of this ramp are now locally based anglers.



LAKE EILDON

Gough's Bay Ramp # 1

Gough's Bay Ramp # 1

I.5 RBIM Score

Gough's Bay Ramp # 1		
Ramp Infrastructure	<div></div>	3.78
Health, Amenity and Environment		0.00
Parking	<div></div>	0.66
Signage	<div></div>	0.41
Use Impacts	<div></div>	0.50
Ancillary Recreation	<div></div>	0.11
Development Potential	<div></div>	0.40
Overall Ramp Rating	<div></div>	5.92

I.6 Infrastructure Affecting Health, Safety and Amenity

Amenities are not provided, and no evidence of other services have been identified.

I.7 Trailer Vehicle Parking Capacity, Location, Access and Egress

Car parking at the facility is a formed gravel area which serves as an entry road, turning bowl and car parking area. The area itself is sloped, with limited flat area for parking. It is estimated that approximately 20-25 small vehicles or trailers could be parked.

I.8 Signage

Way finding signage is installed on the main road and at strategic locations around the Gough's Bay town ship, which make it quite easy to find the ramp location.

Safety signage is installed at the ramp head, and is generally similar and consistent with that used around the Lake.

I.9 Impacts of Use on Adjoining Land Owners

The site is located close to town and within a residential/Built-up area. Despite this, the impacts of the site are considered negligible during typical demand levels due to the low use nature of the site.

I.10 Ancillary Recreational Availability

No formal ancillary recreation facilities are installed at the site. The site is within the Gough's Bay town ship, which provides adequate recreation and shore based activities.



LAKE EILDON

Gough’s Bay Ramp # 1

Gough’s Bay Ramp # 1

1.11 Recommendations

Under the proposed ramp hierarchy, it is recommended that the Gough’s Bay Ramp #1 be rationalised and that the focus be on the development of the main Gough’s Bay launching site as a ‘Regional’ Facility. The standard of the current ramp, the growth of vegetation and the low use of the site reduce its capacity to be developed in the future.

Description	Existing	Required
Minimum of 1 Lane compliant with AS 3962 standards for width, gradient and surface	✓	
Adequate Lighting for Carpark and boat ramp		✓

Based on the results of the inspection, the following recommendations are made:

1. **Gough’s Bay # 1 Ramp be rationalised, with focus being on the development of the main Gough’s Bay launching ramp as a regional facility.**

1.12 Indicative Costs

Recommendation #	General Description	Indicative Cost
1	Decommissioning/Rationalisation of Ramp	\$15,000



LAKE EILDON

Gough's Bay Ramp # 1



Trees present a major problem to safety and need to be cleared from the vicinity of ramps.



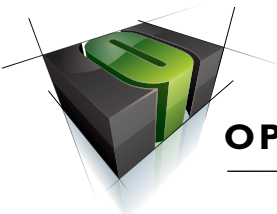
The Goughs Bay ramp has good edge treatments.



Maintenance of ramps is an increasing cost to Council's budget.



Focus should be on the development of Goughs Bay No2 ramp as a regional facility.



LAKE EILDON
Gough's Bay Ramp Precinct

Gough's Bay Ramp Precinct

1.1 General Description and Location

There are numerous informal ramps located intermittently within the Gough's Bay area. The infrastructure investigations conducted focus on the GMW and Mansfield Shire Council 'constructed' ramps that were clearly marked as boat launching ramps and visible at the time of inspection.

The Gough's Bay main ramp is a relatively new two lane ramp. Construction method is slab on ground, consisting of multiple pours. The ramp follows the natural surface of the bank, and thus changes in both gradient and cross fall. No beaching or other erosion protection is evident. There are also no kerbs on either side of ramp.

Adjacent to the site there is a formalised picnic/BBQ area, complete with playground.

1.2 Supply Level Access

There are many access points at Gough's Bay. The GMW Public Ramps range in accessibility of a top level AHD from 289m down to 281.52. The ramps remain operational until the lake drops to heights ranging from 284.47 down to 277.16 - or between 86.7% and 59.7%.

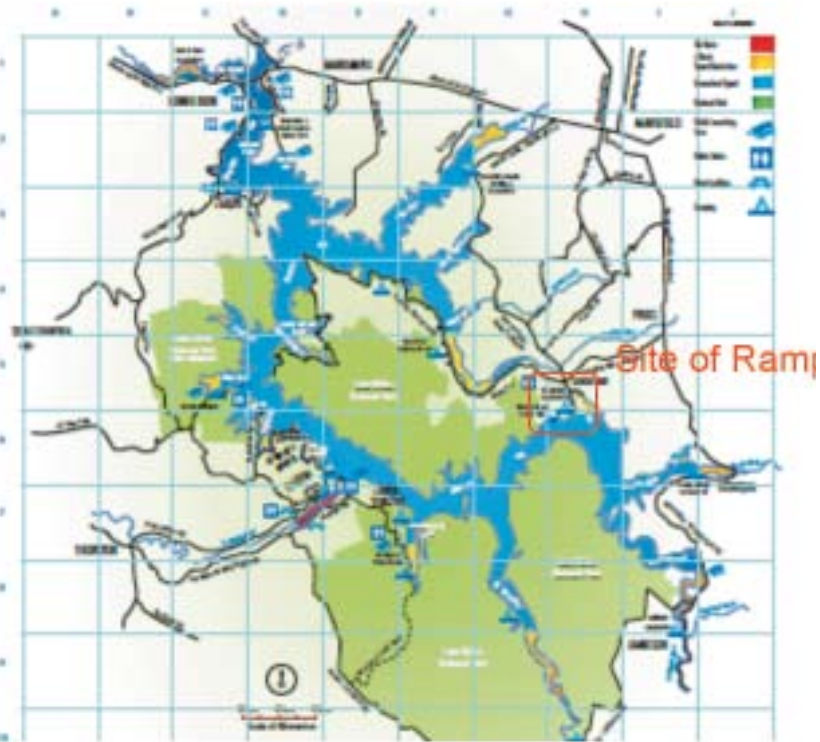
The Shire Public Ramps range in accessibility of a top level AHD from 287.5m down to 259.25m. The ramps remain operational until the lake drops to heights ranging from 285.5m down to 270m - or between 41.6% and 21.2%. The extremely low level ramps are at the Gough's Bay Boat club, and until times of drought are considered 'private ramps'. During the millennium drought, some maintenance responsibility was assumed by Mansfield Shire for these ramps and they were utilised by the general public. It is considered that this approach would be similar should a major drought occur in the future.

1.3 Ramp Suitability

The Gough's Bay Ramp precinct is a newly developed facility and suitable for all vessel types except for houseboats.

1.4 Current Use Levels

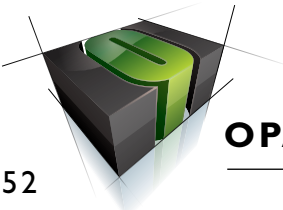
As would be expected, Lake Eildon's usage pattern is highly seasonal, with peak usage over the summer months (Nov – Feb).



Results of the Consultation Survey indicate that the Gough's Bay area is the 3rd most commonly used ramp around the lake.

1.5 RBIM Score

Gough's Bay Ramp # 2		
Ramp Infrastructure		3.36
Health, Amenity and Environment		0.72
Parking		0.76
Signage		0.41
Use Impacts		0.50
Ancillary Recreation		0.57
Development Potential		0.40
Overall Ramp Rating		7.10



LAKE EILDON

Gough's Bay Ramp Precinct

Gough's Bay Ramp Precinct

1.6 Infrastructure Affecting Health, Safety and Amenity

Amenities have obviously been previously provided, however have now been demolished. It is unclear whether this was connected to sewer or not, as only the floor slab remains. A new public toilet facility and BBQ area is available for use approximately 200m away from the launching ramp. These amenities are composting toilets in excellent condition. They include an accessible toilet, plus an ambulant male and female. Also at this upgraded picnic area is a small playground, numerous picnic tables and a twin unit electric BBQ and shelter. According to a memorial plaque at the site, these were installed as part of an area development project funded jointly through government grants and Mansfield Shire Council in 2009.

1.7 Trailer Vehicle Parking Capacity, Location, Access and Egress

Car parking at the facility is an unconstructed and informal gravel areas of quite good quality.

Space for approximately 25 -30 vehicles and/or trailers is available in a high level (above the top of ramp) area to the south of the ramp, whilst additional space for approx. 35 - 40 cars and/or trailers is available in a lower gravelled area. Additional parking can be found along the lake foreshore surrounding the ramp when lake levels permit.

The availability of car parking will be somewhat dependant on lake level, as the lower areas are subject to inundation.

1.8 Signage

Signage consists of several way-finding signs on the main route through town, as well as the standard GMW hazard signage at the ramp itself. Generally, signage is considered to be adequate, with safety information being displayed at the ramp and consistent with that installed elsewhere surrounding the lake.

1.9 Impacts of Use on Adjoining Land Owners

The Gough's Bay ramp precinct is a purpose built facility in excellent overall condition.

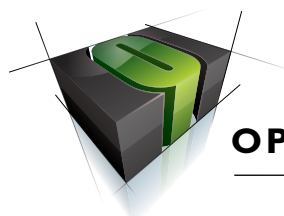
Whilst the facility is close to town and in a reasonably built up area, impacts on land owners is considered negligible, as the recreational use nature of the site is considered complementary to the nearby tourist facilities such as caravan park and commercial/retail operations.

Traffic Management is reasonably well structured, and parking considered ample for demand. There was no anecdotal evidence suggesting illegal camping and antisocial behaviours were a significant issue.

1.10 Ancillary Recreational Availability

The ramp precinct is located within the Gough's Bay township zone. The proximity to town offers ancillary recreation opportunities through retail outlets and accommodation.

Further to this, the picnic area approximately 200m from the ramp was upgraded in 2009 to include BBQ facilities, Picnic Area's and a small playground. According to a memorial plaque at the site, these were installed as part of an area development project funded jointly through government grants and Mansfield Shire Council in 2009.



LAKE EILDON
Gough's Bay Ramp Precinct

Gough's Bay Ramp Precinct

1.11 Recommendations

Under the proposed ramp hierarchy, it is recommended that the Gough's Bay Ramp Precinct be developed into a 'Regional Facility'.

Description	Existing	Required
Minimum Two Lanes compliant with AS 3962 standards for width, gradient and surface	✓	
Sufficient Boat holding structures e.g. floating jetties for access and egress of passengers		✓
Trailer rigging, de-rigging, wash down and queuing areas		✓
Vehicle manoeuvring areas		✓
Toilet Facilities, including compliant 'Accessible' facilities	✓	
Parking Areas for boats and trailers (40 – 50 recommended for each lane)		✓
Adequate Lighting for Carpark and boat ramp		✓
Café Style facilities at/or in close proximity	✓	
Public BBQs	✓	
Camping Areas in close proximity	✓	
Picnic and Playground Areas	✓	

Based on the results of the inspection, the following recommendations are made:

1. Improve Boat holding facilities

In accordance with the development plan recommendations, Additional boat holding facilities should be provided at the site to allow for increased demand. As there is significant 'beach' type areas, a combination approach to both structure type (fixed and floating jetties) and simple beach mooring areas should be allowed for.

2. Construction of formal car parking, queuing and rigging/de-rigging Areas

To facilitate the site as a regional facility, fully constructed and sealed car parking and manoeuvring areas should be constructed. A review of traffic signage and management should be undertaken to ensure the maximum car parking efficiency, whilst minimising the impact on native vegetation and unwanted impacts on adjoining properties.

3. Provide Ramp Lighting

Increased lighting for both parking areas and for marine users on the ramp should be provided as car parking areas are constructed and formalised.

4. Parking fee arrangements

The methodology and fee structure for the facility should be reviewed, with a standardised fee structure and enforcement arrangement being adopted for similar facilities across the lake.

1.12 Indicative Costs

Recommendation #	General Description	Indicative Cost
1	Improve Boat Holding Facilities	\$125,000
2	Carpark / Hardstand Construction	\$225,000
3	Ramp / Carpark Lighting	\$25,000
4	Parking Fee Arrangements	\$25,000



LAKE EILDON

Gough’s Bay Ramp Precinct



Goughs Bay is proposed as a Regional Facility.



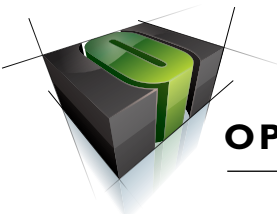
Goughs Bay Car Parking would be formalised and constructed as a regional facility.



Existing facilities and amenities are conducive o further development of the site.



Tree hazards in the vicinity need to be addressed for safety purposes.



LAKE EILDON

Gough’s Bay Ramp Precinct



The Gough’s Bay designated BBQ undercroft area.



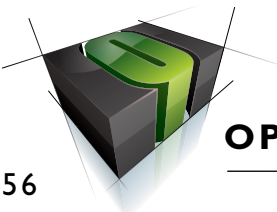
Goughs Bay Playground has the potential to be developed in conjunction with commercial facilities..



Gough’s Bay Amenity Block is functional and low maintenance.



The car parking area would be further developed under the Regional Facility Proposal.



LAKE EILDON
Jamieson Ramp

Jamieson Ramp

8.1 General Description and Location

This ramp is located at ‘Goulbourn Inlet’, near the township of Jamieson. Goulbourn Inlet is towards the Southern End of Lake Eildon, and as the name would suggest, is the area in which the Goulbourn River flows into the Lake.

The area is in close proximity to the Lake Eildon National Park, and is generally where the natural bush area meets with the more open and settled farmland area surrounding the Lake.

The ramp is a single lane, concrete ‘slab on ground’ construction. It follows the natural surface of the foreshore, and there is a clear gradient change (steepening towards the lake) along its length. At least three separate concrete sections are present, and these sections also have a number of significant (at least 50% depth) lateral cracks. Some beaching has been placed along either side of ramp, obviously in an attempt to minimise erosion. The ramp surface is exposed aggregate, and is showing some signs of polishing.

8.2 Supply Level Access

Based on data provided by Goulbourn Murray Water, the top of Jamieson ramp is at an AHD of 289m. The ramp remains operational until the lake level drops to 283.2m AHD, or 78.6% of Lake Capacity.

8.3 Ramp Suitability

The ramp is a single lane, constructed ramp and as such is suitable for most vessel types, with the exception of Houseboats. Despite this, the more isolated nature of the area, and the lake setting in which vessels are launched make the ramp more utilised by fisherman than water skiing or wake boats.

8.4 Current Use Levels

At the time of inspection, no vessels had been launched at the ramp. Based on the consultation survey results, the Jamieson road ramp is the 4th least frequented ramp, meaning it is a very low demand facility.



8.5 RBIM Score

Jamieson Ramp		
Ramp Infrastructure		3.61
Health, Amenity and Environment		0.00
Parking		0.52
Signage		0.34
Use Impacts		0.53
Ancillary Recreation		0.06
Development Potential		0.35
Overall Ramp Rating		5.74



LAKE EILDON
Jamieson Ramp

Jamieson Ramp

8.6 Infrastructure Affecting Health, Safety and Amenity

There are no amenities or waste management facilities at the site.

Overhead power lines follow the Jamieson road, and would be available for use for lighting, etc.

8.7 Trailer Vehicle Parking Capacity, Location, Access and Egress

Car parking at the facility is unformed, with car parking areas being open grassed areas to the north of the ramp itself. These areas generally are a 'high' area, and a 'low' area. It is estimated that at least 50 small vehicles and trailers could be accommodated, however the natural grassed surface would soon become boggy under traffic, and thus become a maintenance and access issue. The access into the ramp is via a gravel track off the sealed Jamieson Road. This gravel track is widened near the head of the ramp to allow for manoeuvring of trailers.

8.8 Signage

Signage consists of a 'boat launching ramp' sign on Jamieson road, which is showing signs of environmental damage (faded and cracking paint) and should be replaced.

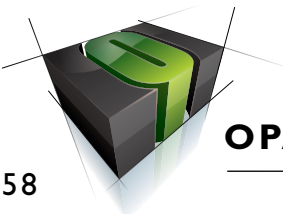
The standard GMW safety signage at the ramp itself is in place, and is generally consistent with that across the Lake.

8.9 Impacts of Use on Adjoining Land Owners

The site is located remotely from residential/Built-up areas. The impacts of the site are considered negligible during typical lake levels due to the low use nature of the site.

8.10 Ancillary Recreational Availability

No formal ancillary recreation facilities are installed at the site. Jamieson Township is approximately 4km away.



LAKE EILDON
Jamieson Ramp

Jamieson Ramp

1.11 Recommendations

Under the proposed ramp hierarchy, it is recommended that the Jamieson Ramp facility be maintained as a ‘Local Facility’.

Description	Existing	Required
Minimum of 1 Lane compliant with AS 3962 standards for width, gradient and surface	✓	
Adequate Lighting for Carpark and boat ramp		✓

Based on the results of the inspection, the following recommendations are made:

1. Installation of Solar Lighting at the site
Consideration should be given to the installation of a Solar light at the ramp site to assist with vessel navigation.
2. Replacement of Faded and Damaged Signage
Existing Signage that is faded and/or damaged should be replaced.

1.12 Indicative Costs

Recommendation #	General Description	Indicative Cost
1	Solar Lighting	\$15,000
2	Signage Replacement	\$5,000



LAKE EILDON
Jamieson Ramp



Limited Changes are proposed for this local facility.



Jamieson Access Road.



Jamieson signage is consistent with those around the Lake.



Local ramps are to primarily service day trippers and local residents and therefore wminmal intervention is proposed.



LAKE EILDON

Jamieson Ramp



Jamieson Access Point Sign is faded and should be replaced.



The Jamieson foreshore area should be cleared of trees.



Dirt Road access to the ramp is to remain.



The ramp surface is showing some signs of polishing.



LAKE EILDON

Jerusalem Creek Boat Ramp

Jerusalem Creek Ramp

1.1 General Description and Location

Jerusalem Creek Ramp is located on the outskirts of Eildon. The Ramp itself is located off the Jerusalem Creek Road.

At the time of inspection only one formally constructed ramp was visible. The Jerusalem boat ramp is a concrete dual lane ramp. Typical of Lake Eildon, the ramp is extremely long. The construction method appears to be the standard lake Eildon method of a slab on ground construction, and the ramp has a number of grade changes as it follows the natural contour of the lakebed.

Whilst not observed at the time of inspection, historically this facility has often been used to launch and retrieve houseboats for inspection and maintenance.

Adjacent to the site, a major houseboat marina, boat storage and retail facilities (including café) have been developed by private operators.

Parks Victoria also allow camping in the nearby natural bush setting.

The new GMW on water sewer pump out facility is also placed at Jerusalem Creek, which allows for houseboats to pump out waste. At the time of this report, GMW are undertaking the planning phase for a sewer extension project to Jerusalem Creek.

1.2 Supply Level Access

Based on data provided by Goulbourn Murray Water, the top of Jerusalem Creek ramps range from an AHD of 289m down to 272.5m. The ramps in the area remain operational until the lake level drops to 248.2m AHD, or 8.8% of Lake Capacity.

1.3 Ramp Suitability

The Jerusalem facility is considered to be one of the major facilities around Lake Eildon, and is suitable for all vessels.

Historically, houseboats have been launched and retrieved at the site, however the infrastructure at the site has not been specifically designed to cater for the large loadings associated with these vessels, especially the newer classifications, which can approach 70 tonne.



1.4 Current Use Levels

At the time of inspection there are no members of the public at the ramp or parked nearby. The Houseboat marina adjacent to the site, at the time of inspection had roughly 50 houseboats moored.

Based on the Consultation survey, the Jerusalem Creek facility is the second most frequented ramp on Lake Eildon.



LAKE EILDON

Jerusalem Creek Boat Ramp

Jerusalem Creek Ramp

I.5 RBIM Score

Jerusalem Creek Ramp	
Ramp Infrastructure	5.02
Health, Amenity and Environment	0.68
Parking	1.74
Signage	0.48
Use Impacts	0.70
Ancillary Recreation	0.14
Development Potential	0.35
Overall Ramp Rating	9.69

I.6 Infrastructure Affecting Health, Safety and Amenity

An amenities building is provided within the carpark at the site. The overall condition of this facility is poor, and in need of replacement.

The building provides two male WC's, a male wall urinal for three, and three female WC's. No accessible facilities are provided.

At this stage it would appear the amenities are on a septic system. No power is available to the building at present.

I.7 Trailer Vehicle Parking Capacity, Location, Access and Egress

Sealed and constructed car parking is available at the ramp. Overall this is in reasonable condition.

Line marked vehicle parking spaces are provided for 64 trailers and cars.

The car parking bays vary in size, and some of the smaller 'trailer parking' bays are only small in nature and suitable for vessels such as jet-skis or small recreational fishing vessels.

Access to the Jerusalem creek facility is via a sealed road, with clear signage from the main Eildon road.

Informal overflow parking is available via a large gravelled area either side of the ramp edge. Historically this area is also used for launching of vessels during peak times.

I.8 Signage

Signage at the site is consistent with other signage across the lake. Signage indicating the relevant safety information and lake information (such as 'you are here') is located at the ramp. There are extra signs to indicate rules around houseboat launching, as well as maps of the lake and surrounding area.

There is a 5 knot speed limit inside the marina area, and is signalled to an end by the buoys 600m out.

I.9 Impacts of Use on Adjoining Land Owners

The Jerusalem Creek facility is purpose built, and not in a built up area. There are no adjoining full time residents nearby, and commercial operators adjacent to the site would consider the facility complementary to their operations. Because of the usage of the site, regular patrols for unwanted and illegal activities are conducted by the various agencies during peak times.

The geographical location, terrain and location within the National Park make further expansion or development of the site footprint difficult. Any expansion is likely to be an improvement of existing facilities within the existing footprints.

I.10 Ancillary Recreational Availability

Ancillary Recreation options at the site are limited to the commercial facilities (café, retail, etc.) being developed at the marina adjacent to the site. The Eildon Township is located close by, which provides additional recreational facilities.

Addition of further ancillary recreation will be at the sacrifice of existing facilities (such as car parking) due the limitations of the terrain, and the need to keep within the existing footprint.



LAKE EILDON

Jerusalem Creek Boat Ramp

Jerusalem Creek Ramp

1.11 Recommendations

Under the proposed ramp hierarchy, it is recommended that the Jerusalem Creek Ramp area be developed into a 'Regional Facility'.

Description	Existing	Required
Minimum Two Lanes compliant with AS 3962 standards for width, gradient and surface	✓	
Sufficient Boat holding structures e.g. floating jetties for access and egress of passengers		✓
Trailer rigging, de-rigging, wash down and queuing areas		✓
Vehicle manoeuvring areas	✓	
Toilet Facilities, including compliant 'Accessible' facilities		✓
Parking Areas for boats and trailers (40 – 50 recommended for each lane)	✓	
Adequate Lighting for Carpark and boat ramp		✓
Café Style facilities at/or in close proximity	✓	
Public BBQs	✓	
Camping Areas in close proximity	✓	
Picnic and Playground Areas	✓	
Optional – Site Capable of slipway, launch and retrieval facilities for houseboats to enable compliance with new regulations and dimensional allowances		✓

Based on the results of the inspection, the following recommendations are made:

1. Prepare a Regional Facility Development Plan

An overall site development plan should be prepared for the Jerusalem Creek site. This development plan will allow for the area to be strategically developed, in stages into a regional boating hub. The plan should address infrastructure upgrade requirements surrounding aspects such as ramp location and construction requirements (to cater for houseboats), parking, traffic management, boat mooring/holding, etc. It should be developed in accordance with the strategic review of houseboat operations being considered as part of the Eildon Structure Plan.

2. Improve Boat holding facilities

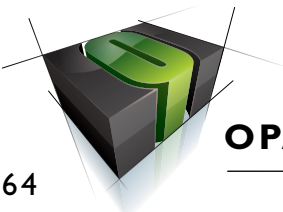
In accordance with the development plan recommendations, Additional boat holding facilities should be provided at the site to allow for increased demand. As there is significant 'beach' type areas, a combination approach to both structure type (fixed and floating jetties) and simple beach mooring areas should be allowed for.

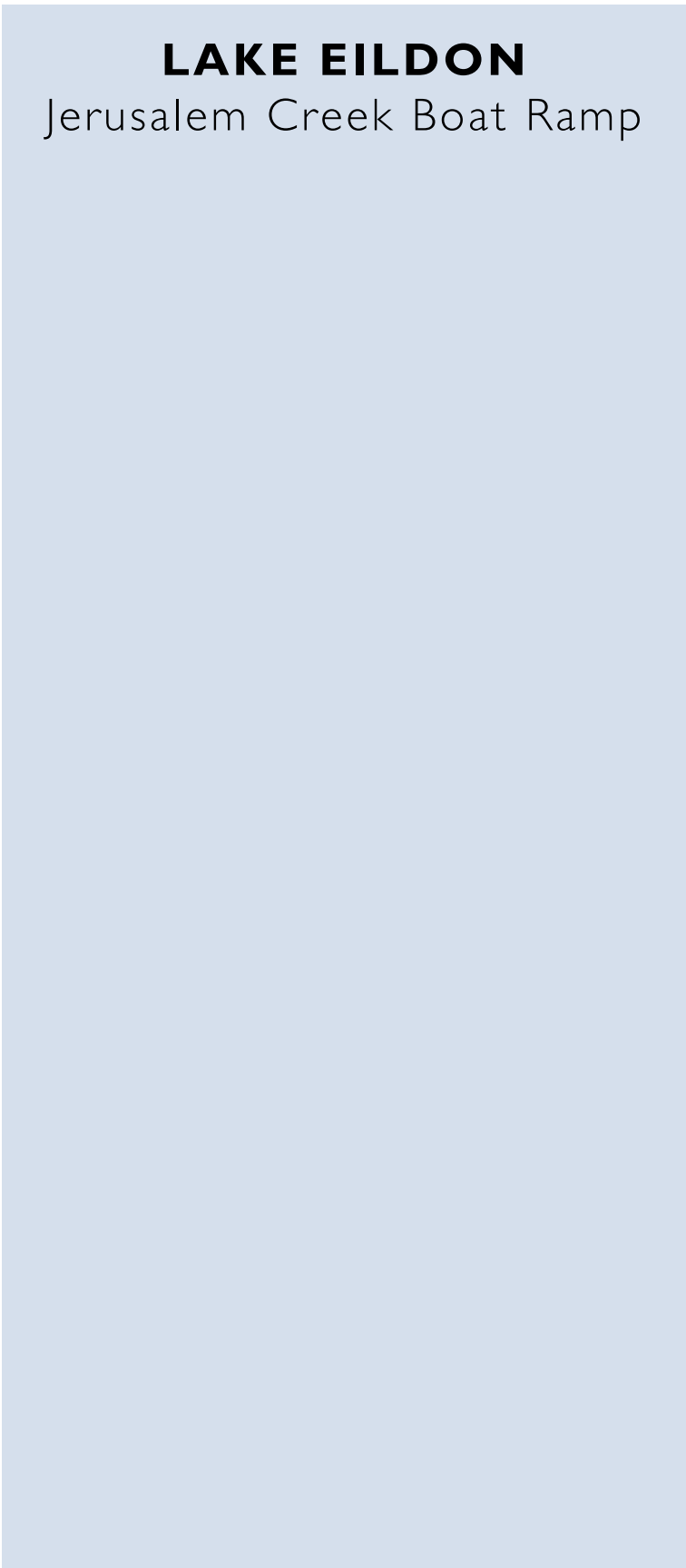
3. Construction of rigging/de-rigging and wash-down areas

To facilitate the site as a regional facility, fully constructed and sealed rigging and de-rigging areas should be constructed and marked. A vehicle/vessel was-down bay should be provided.

4. Existing toilets be replaced and expanded to provide a fully compliant 'accessible' facility

Existing amenities are considered to be in poor condition and should be replaced. The amenities should be connected to the sewer once installed.





LAKE EILDON

Jerusalem Creek Boat Ramp

Jerusalem Creek Ramp

5. Provide Ramp Lighting

Increased lighting for both parking areas and for marine users on the ramp should be provided.

6. Parking fee arrangements

The methodology and fee structure for the facility should be reviewed, with a standardised fee structure and enforcement arrangement being adopted for similar facilities across the lake.

7. Houseboat Handling Facility

Subject to the outcome of the Houseboat review and structure plan, consideration should be given to the facility being able to cater for Houseboats. This may involve either the reconstruction of the ramp to handle the launching and retrieval of large mass houseboats (i.e. 70 tonne), or simply to cater for the on-water maintenance of such vessels once they have been launched at another purpose built facility. On Water maintenance options may include such things as floating dry-docks or slipways permanently moored at the site. Such facilities are now available in modular form at relatively low cost compared with construction of a large scale launching ramp.

I.12 Indicative Costs

Recommendation #	General Description	Indicative Cost
1	Preparation of Development Plan	\$15,000
2	Improve Boat Holding Facilities	\$125,000
3	Amenity Building Replacement	\$300,000
4	Manoeuvring Area Marking and Construction, provision of Wash-Down area	\$75,000
5	Ramp / Carpark Lighting	\$25,000
6	Parking Fee Arrangements	\$25,000
7	Houseboat Handling Facility	*Note Only



LAKE EILDON

Jerusalem Creek Boat Ramp



Investment in improved amenities both public and private will enhance the visitor experience.



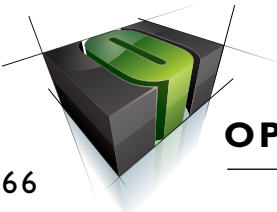
The steep terrain requires innovative solutions to infrastructure.



Jerusalem Creek café has recently been expanded and is an example of investment in the area.



Houseboats at Eildon are an integral part of the economy.



LAKE EILDON

Jerusalem Creek Boat Ramp



Jerusalem Creek Camping Grounds may benefit from private investment expansion by the current operator.



The Jerusalem Creek Private Access Point may be replicated at other regional sites to enable user pays principles to be implemented.



Photo showing Jerusalem Creek Ramp.



Slipping facilities will be critical to the houseboat industry as a result of new regulations and growth potential.



LAKE EILDON

Coller Bay Area

Coller Bay Area

1.1 General Description and Location

The Coller Bay area is located within Fraser Park (Eildon National Park). A number of launching ramps and options exist within the area, and are known locally as 'devil's cove' ramp, main ramp and lakeside.

Anecdotal evidence suggest that the area is popular with local residents from Alexandra, as it is the closest launching facility to the town.

Devil's Cove and Main Ramp are constructed concrete ramps, whilst lakeside is a shoreline area upon which vessels are beach launched.

The area is surrounded by several large camping areas and ancillary passive recreation facilities such as picnic shelters and electric BBQ areas. These facilities are administered and maintained by Parks Victoria.

Parks Victoria also have a substantial administrative presence in the area, with a small maintenance facility/depot and ranger base in the area.

1.2 Supply Level Access

The Coller Bay area has numerous launching options, including both formal and informal ramp areas.

Based on data provided by Goulbourn Murray Water, the top of the formal ramps around Coller Bay are at an AHD of 289m, and remain operational until the lake level drops to 269m AHD, or 39.4% of capacity.

For users able to beach launch their vessels, the informal 'lakeside' launching area is available until the lake drops to 250.8m AHD, or 11.2% of Lake Capacity. This makes the lakeside launching area one of the lowest level launching areas on Lake Eildon.

1.3 Ramp Suitability

With a mix of both formal and informal ramps in the area, the launching facilities are suitable for a wide mix of vessel types and sizes. With the exception of Houseboats, all recreational boating types would be able to successfully launch at one of the ramp sites in the area.



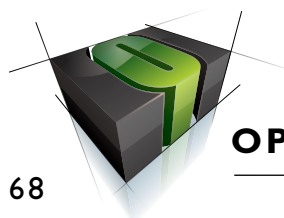
All ramps have plenty of clear access onto the lake, however some small trees are present within the water at some sites, and could become hidden hazards at higher lake levels.

Whilst initially it was considered that the lakeside area was suitable only for smaller recreational fishing vessels due to the beach launch requirement, at the time of second inspection there are a number of vessels launched from the area, including small ski boats, PWC's and a larger 21ft 'supra' wake boat. This would indicate that the area is considered acceptable for use by vessels ranging in size.

1.4 Current Use Levels

Facilities at time were well utilised by fisherman, skiers/wakeboarders and also by Parks Victoria patrol/administration vessels. It is likely that the majority of the users were from the adjacent camp area, as opposed to single day trip patrons.

The results of the Consultation Survey indicate that the Coller Bay ramps were the least used public facilities surrounding Lake Eildon. This was not supported by anecdotal evidence from Murrindindi Shire Council, and it is likely that survey results have been skewed by the greater percentage of respondents coming from the Mansfield side of Lake Eildon.



LAKE EILDON
Coller Bay Area

Coller Bay Area

I.5 RBIM Scores

Coller Bay Constructed Ramps	
Ramp Infrastructure	3.88
Health, Amenity and Environment	0.90
Parking	0.64
Signage	0.38
Use Impacts	0.36
Ancillary Recreation	0.58
Development Potential	0.15
Overall Ramp Rating	7.38

Coller Bay - Lakeside	
Ramp Infrastructure	4.35
Health, Amenity and Environment	0.00
Parking	0.58
Signage	0.43
Use Impacts	0.36
Ancillary Recreation	0.58
Development Potential	0.15
Overall Ramp Rating	6.94



LAKE EILDON
Coller Bay Area

Coller Bay Area

1.6 Infrastructure Affecting Health, Safety and Amenity

Parks Victoria administer and manage several major camping areas within the Coller Bay area. These camping areas are provided with substantial brick amenities buildings.

These amenities are generally in reasonable condition, although beginning to show signs of age. They are of a 'standard' design, and whilst they provide accessible amenities, these facilities no longer meet current standards.

At the time of inspection, one toilet block was locked for maintenance, and the other in need of cleaning.

Signage is present at the site to indicate that generally water is unsuitable for drinking, with a potable supply available at each amenities building labelled as 'drinking water'.

Each campground has a fire service installed, however some hose reels were in a state of disrepair and may not be functional.

1.7 Trailer Vehicle Parking Capacity, Location, Access and Egress

Car parking in the area is generally informal. The constructed ramps have sealed hardstand areas, however these are not line marked.

The car parking availability at the sites is considered adequate given the level of demand and 'natural' setting of the area. It is considered that major construction of hardstand areas would detract from this natural setting.

1.8 Signage

Signage is not consistent with other sites around the Lake. This is likely due to the area being administered by Parks Victoria as opposed to the two Councils and GMW. There is limited signage around the ramps, much less than other sites.

10.9 Impacts of Use Adjoining Land Owners

Being positioned within the National Park, the Coller Bay area is remote to adjoining residential properties. Impacts upon neighbouring properties is considered negligible.

10.10 Ancillary Recreational Availability

As the area is remote from any townships, ancillary recreational options are limited.

Significant camping and day trip infrastructure has been installed in the area, including the establishment of large camping areas and the construction of formalised BBQ Shelters and Picnic Areas.

Constructed at the camping grounds were what appeared to be onsite accommodation cabins. These were in a state of disrepair and not able to be accessed, but may present another accommodation option for visitors not wishing to camp.



LAKE EILDON
Coller Bay Area

Coller Bay Area

1.11 Recommendations

Under the proposed ramp hierarchy, it is recommended that the Coller Bay region be developed into a ‘District Facility’.

Description	Existing	Required
Minimum of 1 Lane compliant with AS 3962 standards for width, gradient and surface	✓	
Sufficient Boat holding structures e.g. floating jetties for access and egress of passengers	✓	
Trailer rigging, de-rigging and queuing areas	✓	
Vehicle manoeuvring areas	✓	
Toilet Facilities, including compliant ‘Accessible’ facilities		✓
Parking Areas for boats and trailers (40 – 50 recommended for each lane)	✓	
Adequate Lighting for Carpark and boat ramp		✓

Based on the results of the inspection, the following recommendations are made:

- 1. Existing toilets be upgraded to provide an ‘accessible’ facility**
Existing amenities are considered to be in reasonable condition, however consideration should be given when planning future replacement and/or major maintenance of the facility to include fully compliant ‘accessible’ options for patrons.
- 2. Installation of Solar Lighting at the site**
Consideration should be given to the installation of a Solar light at the ramp sites to assist with vessel navigation.
- 3. Review of Signage for consistency and form with other launching facilities across the lake.**
A review and updating of signage in the area to be consistent with other launching facilities around the lake should be conducted in conjunction with Parks Victoria.
- 4. Review of Accommodation and Onsite Cabin options within camping areas**
A review and assessment of the opportunities to provide onsite cabins in the area should be conducted with Parks Victoria. One option may include the leasing of the cabin management to a private operator. Alternatively, cabins should be removed.
- 5. Parking fee arrangements**
The methodology and fee structure for the region should be reviewed, with a standardised fee structure and enforcement arrangement being adopted for similar facilities across the lake.

1.12 Indicative Costs

Recommendation #	General Description	Indicative Cost
1	Toilet Upgrade/Maintenance	\$85,000
2	Lighting Installation	\$25,000
3	Signage Review	\$10,000
4	Onsite Cabin Study	\$10,000
5	Parking Fee Arrangements	\$25,000



LAKE EILDON

Coller Bay Area



The Coller Bay foreshore and parking is generally unformed.



Bottom Photo- Greater efficiency in parking and trailer locations will lead to improved customer experience when using the boat ramps.



LAKE EILDON
Coller Bay Area



Typical Camping Area Amenities at Coller Bay- Upgrades will provide and enhanced user experience.



There may be commercial opportunities at Coller Bay with the development of Lakeside eco cabins to provide alternate accommodation to camping.



Camp Ground Fire Services.



BBQ and picnic facilities will require maintenance and upgrade in the next few years.



LAKE EILDON

Reardon's Reserve

Reardon's Reserve Ramp

1.1 General Description and Location

Reardon's Reserve is located at the end of Pap's Lane just West of the Mansfield Township.

At the site is a constructed concrete ramp, as well as several informal beach launching options. The area is popular with local users as it is the closest facility to the major town of Mansfield.

Construction of the ramp itself is typical of the standard techniques used around the Lake, with a the ramp being a single lane (albeit slightly narrower than the Australian Standard), slab on ground construction. The surface is the typical exposed aggregate finish. No kerbs have been included on the ramp.

1.2 Supply Level Access

Based on data provided by Goulbourn Murray Water, the top of the Reardon's Reserve Ramp is available for use at an AHD of 289m. The ramp remains operational until the lake level drops to 283.15m AHD, or 78.50% of Lake Capacity.

This makes the ranp itself a high level only ramp, however the area can continue to utilised by users content to beach launch until well below this level.

1.3 Ramp Suitability

The ramp is suitable for the majority of vessel types, with the exception of houseboats. Once the Lake level drops below 78%, and beach launching is required, larger vessels tend to seek alternative formal ramps such as Hutchinson's Road or the Bonnie Doon Bridge Area.

1.4 Current Use Levels

The area is popular with users local to Mansfield, as it is the closest lake access point to the township. It is unlikely that users from out of town are highly familiar with its existence, as it is not well signed or marked.



1.5 RBIM Score

Reardons Reserve Ramp		
Ramp Infrastructure	<div></div>	3.72
Health, Amenity and Environment		0.00
Parking	<div></div>	0.76
Signage	<div></div>	0.36
Use Impacts	<div></div>	0.49
Ancillary Recreation		0.12
Development Potential	<div></div>	6.40
Overall Ramp Rating	<div></div>	6.40



LAKE EILDON
Reardon's Reserve

Reardon's Reserve Ramp

I.6 Infrastructure Affecting Health, Safety and Amenity

There are no amenities or waste management facilities at the site.

I.7 Trailer Vehicle Parking Capacity, Location, Access and Egress

Car parking at this location is informal. The area consists of large open areas that provide adequate room for car and trailer parking for over 80 cars.

The last several hundred of metres of the access road is unsealed and has recently been re-sheeted with gravel. Some deep spoon drains have been established in the narrow access road leading to the ramp, which may pose a hazard to vehicles.

I.8 Signage

Way finding signage is installed on the main road and at strategic locations along the route to the ramp.

Safety signage is installed at the ramp head, and is generally similar and consistent with that used around the Lake.

I.9 Impacts of Use on Adjoining Land Owners

The site is the closest ramp site to the Mansfield Township. An adjoining property shares a fence line with Reardon's Reserve.

Despite this, the impacts of the site are considered negligible during typical demand levels due to the low use nature of the site.

I.10 Ancillary Recreational Availability

No formal ancillary recreation facilities are installed at the site. Reardon's Reserve is situated halfway between the Mansfield and Bonnie Doon Townships, which provides alternative recreation and shore based activities.



LAKE EILDON
Reardon's Reserve

Reardon's Reserve Ramp

1.11 Recommendations

Under the proposed ramp hierarchy, it is recommended that the Reardon's Reserve site be maintained as a 'Local Facility'.

Description	Existing	Required
Minimum of 1 Lane compliant with AS 3962 standards for width, gradient and surface	✓	
Adequate Lighting for Carpark and boat ramp		✓

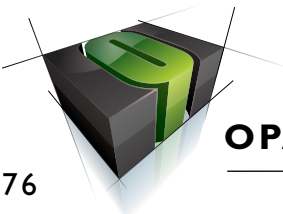
Based on the results of the inspection, the following recommendations are made:

1. Installation of Solar Lighting at the site

Consideration should be given to the installation of a Solar light at the ramp site to assist with vessel navigation.

1.12 Indicative Costs

Recommendation #	General Description	Indicative Cost
1	Solar Lighting	\$15,000



LAKE EILDON

Reardon's Reserve



Reardon's Reserve Access road is unmade.



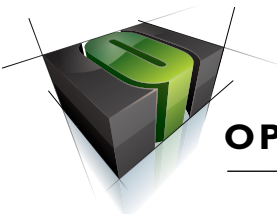
Reardon's Reserve Car parking is unformed but substantial and caters well to local residents.



Reardon's Reserve car parking areas.



The Reserve has recently been upgraded resulting in greater use by Mansfield residents.



LAKE EILDON

Reardon's Reserve



Reardon's Reserve Boat ramp is only accessible with the Lake Levels are above 78.5%.



Access issues below 78.5% result in informal access the Lake by users.



New Signs at Reardon's Reserve.



The bush setting of the reserve will appeal to people seeking a short trip as there are no amenities at the site.

