APPENDIX A

Vegetation Assessment and Draft Management Guidelines
Barwon River through Geelong
Prepared by Ecology Partners P/L for Corangamite Catchment Management Authority
July 2006
Vegetation Assessment and Draft Management Guidelines
Barwon River through Geelong for the Corangamite Catchment Management Authority

Ecology Partners were commissioned by Thompson Berrill Landscape Design Pty Ltd, on behalf of the Corangamite CMA, to undertake an assessment of indigenous vegetation along the Barwon River through Geelong, and to provide management guidelines which will contribute to the Barwon River Management Plan.

The study area generally consisted of land managed by the CCMA which fringed the Barwon River, between Queens Park Bridge and Boundary Road, and is located on the Otway Plain Bioregion. The study area was examined on foot by Andrew Hill, Director – Ecology Partners over three days on the 16th – 18th May 2006, focusing on locations where indigenous vegetation is present.

The following letter style report provides the results of the investigation and is to be read in conjunction with attached Dwg BTG-03 Existing Vegetation Communities. These include:

Barwon River ‘through Geelong’ Ecological Vegetation Classes (EVC)

1. – Brackish Lignum Swamp - EVC 947

Description: Relatively open shrubland vegetation dominated by Tangled Lignum, with a small range of semi-aquatic herbs, grasses and sedges in gaps, including Small Spike-sedge, Australian Salt-grass *Distichlis distichophylla*, Common Blown-grass *Lachnagrostis filiformis*, Common Reed and Lance-leaf Groundsel *Senecio pinnatifolius* var. 3. Introduced species are also prominent including, Prairie Brome, Aster-weed, Fennel, rye grass *Lolium* spp., Couch *Cynodon dactylon*, Brown-top Bent *Agrostis capillaris* and Water Couch.

Location: Extensive low-lying area immediately adjacent to the northern bank of the Barwon River in the vicinity of the Ovoid Sewer Aqueduct.

Significance: High - Due to relative intactness of the site, restricted distribution of community and clearance that has occurred across the State.
2. – *Brackish Wetland - EVC 656*

Description: Vegetation community dominated by a variety of semi-aquatic and aquatic herbs, grasses and sedges, including Small Spike-sedge, Australian Salt-grass, Common Blown-grass, Common Reed, Water Ribbons, Streaked Arrowgrass *Triglochin striatum* and Lance-leaf Groundsel. Introduced species are also prominent including, Toowoomba Canary-grass, Aster-weed, Sharp Rush *Juncus acutus*, Hastate Orache *Atriplex prostrata*, Couch and Water Couch.

Location: Smaller low-lying area immediately adjacent to the northern bank of the Barwon River to the east of the Ovoid Sewer Aqueduct.

Significance: High – Due to relative intactness of these sites and clearance that has occurred across the State.
Species List

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indigenous Species</strong></td>
<td></td>
</tr>
<tr>
<td><em>Bolboschoenus caldwellii</em></td>
<td>Salt Club-sedge</td>
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<tr>
<td><em>Calystegia sepium</em></td>
<td>Large Bindweed</td>
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<tr>
<td><em>Crassula helmsii</em></td>
<td>Swamp Crassula</td>
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<td><em>Distichlis distichophylla</em></td>
<td>Australian Salt-grass</td>
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<td><em>Eleocharis acuta</em></td>
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<td><em>Lachnagrostis filiformis</em></td>
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<td><em>Leptinella reptans</em></td>
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<td><em>Phragmites australis</em></td>
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<td><em>Sarcocnria quinqueflora</em></td>
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<td><em>Selliera radicans</em></td>
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<td><em>Senecio pinnatifolius</em> var. 3</td>
<td>Lance-leaf Groundsel</td>
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<tr>
<td><em>Typha</em> spp.</td>
<td>Cumbungi</td>
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<td><em>Triglochin procerum</em></td>
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<tr>
<td><em>Triglochin striatum</em></td>
<td>Streaked Arrowgrass</td>
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<tr>
<td><strong>Introduced Species</strong></td>
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<tr>
<td><em>Aster subulatus</em></td>
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<tr>
<td><em>Paspalum distichum</em></td>
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<td><em>Atriplex prostrata</em></td>
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<tr>
<td><em>Phalaris aquatica</em></td>
<td>Toowoomba Canary-grass</td>
</tr>
<tr>
<td><em>Lolium</em> spp.</td>
<td>rye grass</td>
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<tr>
<td><em>Cynodon dactylon</em></td>
<td>Couch</td>
</tr>
<tr>
<td><em>Juncus acutus</em></td>
<td>Sharp Rush</td>
</tr>
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3. **Brackish Herbland - EVC 538**

Description: Vegetation community dominated by a range of small semi-aquatic and aquatic herbs, grasses and sedges, including Small Spike-sedge, Australian Salt-grass, Common Blown-grass, Common Reed, Water Ribbons, Streaked Arrowgrass *Triglochin striatum* and Lance-leaf Groundsel. Introduced species are also prominent including, Toowoomba Canary-grass, Aster-weed, Sharp Rush, rye grass, Barley, Hastate Orache, Couch and Water Couch.

Location: Smaller low-lying areas adjacent to the northern bank of the Barwon River to the east and west of the Ovoid Sewer Aqueduct.
Significance: High – Due to relative intactness of these sites and clearance that has occurred across the State.

Species List

<table>
<thead>
<tr>
<th>Scientific Name</th>
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</tr>
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<tbody>
<tr>
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<tr>
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<tr>
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<td>Eleocharis acuta</td>
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<td>Selliera radicans</td>
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<td>Senecio pinnatifolius var. 3</td>
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<td>Triglochin procerum</td>
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<td>Triglochin striatum</td>
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<tr>
<td>Cynodon dactylon</td>
<td>Couch</td>
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<tr>
<td>Hordeum spp.</td>
<td>Barley</td>
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</table>

4. – Aquatic Herbland - EVC 653

Description: Vegetation community consisting of a range of aquatic herbs and sedges, including Salt Club-sedge *Bolboschoenus caldwellii*, Small Spike-sedge *Eleocharis acuta*, Slender Knotweed *Persicaria decipiens*, Common Reed and Water Ribbons. Introduced species are also prominent including, Kikuyu, Aster-weed *Aster subulatus*, and Water Couch.

Location: Confined to two permanent to semi-permanent pools of water within the terrace along the Barwon River in the west.

Significance: High - Due to relative intactness of these sites and clearance that has occurred across the State.
Species List

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<td>Small Spike-sedge</td>
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<tr>
<td>Muehlenbeckia florulenta</td>
<td>Tangled Lignum</td>
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<tr>
<td>Persicaria decipiens</td>
<td>Slender Knotweed</td>
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<tr>
<td>Phragmites australis</td>
<td>Common Reed</td>
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<td>Typha spp.</td>
<td>Cumbungi</td>
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<tr>
<td>Triglochin procerum</td>
<td>Water Ribbons</td>
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<td>Aster subulatus</td>
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<td>Beta vulgaris</td>
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<td>Pennisetum clandestinum</td>
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<td>Phalaris aquatica</td>
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<tr>
<td>Salix spp</td>
<td>willows</td>
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</table>

5. - Riparian Woodland - EVC 641

Description: Modified vegetation community, which now consists of scattered young to semi-mature River Red-gums and small to medium shrubs, including Hedge Wattle, Golden Wattle, Lightwood *Acacia implexa* and Sweet Bursaria, with a dense ground layer of semi-aquatic herbs, sedges and grasses, including Common Reed, Tangled Lignum, Cumbungi, Water Ribbons and Common Tussock-grass. Introduced species are also prominent including, Kikuyu, Cocksfoot, Galena, Toowoomba Canary-grass, Willows, Peppercorns, African Box-thorn, Rice Millet and Soursob.

Location: Primarily a narrow band (up to ~10 m) located along the steeper banks of the Barwon River.

Significance: Medium - Due to modification, the majority of this community is of medium significance, but any mature River Red-gums are of high significance.
<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
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<tbody>
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<tr>
<td><em>Acacia dealbata</em></td>
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<td><em>Acacia paradoxa</em></td>
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<td><em>Acacia pycnantha</em></td>
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<td><em>Austrostipa scabra ssp. falcata</em></td>
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<td><em>Bursaria spinosa</em></td>
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<td>Tangled Lignum</td>
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<tr>
<td><em>Phragmites australis</em></td>
<td>Common Reed</td>
</tr>
<tr>
<td><em>Poa labillardierei</em></td>
<td>Common Tussock-grass</td>
</tr>
<tr>
<td><em>Typha spp.</em></td>
<td>Cumbungi</td>
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<tr>
<td><em>Triglochin procerum</em></td>
<td>Water Ribbons</td>
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<tr>
<td><strong>Introduced Species</strong></td>
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<td><em>Ehrharta erecta</em></td>
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<td><em>Dactylis glomerata</em></td>
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<td><em>Fraxinus angustifolium</em></td>
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<td><em>Foeniculum vulgare</em></td>
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<td><em>Crataegeus monogyna</em></td>
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<td><em>Cirsium vulgare</em></td>
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<td><em>Bromus cartharticus</em></td>
<td>Prairie Grass</td>
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<tr>
<td><em>Galium aparine</em></td>
<td>Cleavers</td>
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<td><em>Paspalum distichum</em></td>
<td>Water Couch</td>
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<td><em>Pennisetum clandestimum</em></td>
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<td><em>Galena pubescens</em></td>
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<td><em>Phalaris aquatica</em></td>
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<tr>
<td><em>Schinus molle</em></td>
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<tr>
<td><em>Lycium ferocissimum</em></td>
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<tr>
<td><em>Piptatherum milliaceum</em></td>
<td>Rice Millet</td>
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<tr>
<td><em>Oxalis pes-caprae</em></td>
<td>Soursob</td>
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</tbody>
</table>

6. - Foodplain Riparian Woodland - EVC 56

Description: Modified vegetation community, which now consists of dense patches of aquatic and semi-aquatic herbs, sedges and grasses in the ground layer, including Common Reed *Phragmites australis*, Tangled Lignum *Muehlenbeckia florulenta*, Cumbungi *Typha* spp. and Water Ribbons *Triglochin procerum*, with scattered River Red-gums *Eucalyptus camaldulensis* and small to medium shrubs. Formerly this community would have consisted of an open eucalypt canopy with a moderately dense
shrub layer, and relatively dense ground cover. Introduced species are also prominent including, Kikuyu *Pennisetum clandestinum*, Galena *Galena pubescens*, Toowoomba Canary-grass *Phalaris aquatica*, Willows *Salix* spp., Elm sp, African Box-thorn *Lycium feroxissimum*, Rice Millet *Piptatherum milliaceum* and Soursob *Oxalis pes-caprae*.

Location: Primarily a narrow band (2 - 5m) located along the immediate bank of the Barwon River, but extending onto some of the alluvial terraces which are periodically inundated in the west.

Significance: Medium to High - Due to modification, the majority of this community is of medium significance, but the alluvial terraces and mature River Red-gums are of high significance.

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<table>
<thead>
<tr>
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<tr>
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<td><em>Acacia dealbata</em></td>
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<td><em>Triglochin procerum</em></td>
<td>Water Ribbons</td>
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<td><em>Ehrharta erecta</em></td>
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<td>willows</td>
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<tr>
<td><em>Schinus molle</em></td>
<td>Peppercorn</td>
</tr>
</tbody>
</table>
Barwon River ‘through Geelong’
Draft Vegetation Management Guidelines

Zone 1 – Queens Park Bridge to Shannon Ave - Stan Lewis Walk

Riparian Woodland/Floodplain Riparian Woodland

Aims

• Protect and rehabilitate Riparian Woodland/Floodplain Riparian Woodland Communities.

• Replace senescing shrubs

Issues

• Weed invasions – Kikuyu is becoming particularly rampant in places on the alluvial terrace, and willows, African Box-thorn and ash are dominant in places.

• Senescing planted shrubs above the walking path, particularly wattles.

• Preventing further weed invasions

Actions

• Control and eliminate invasive weeds (see list below), especially Kikuyu and Galena.

• Allow for natural regeneration of the woodland communities at these locations.

• Monitor and revegetate if natural regeneration is poor.

• Replace woody weeds with River Red-gums and indigenous shrubs (see list below).

• Maintain the walking path as a significant break between the higher quality vegetation down slope compared to up slope, by converting weedy edges of the sealed path to gravel.
• Undertake staged replacement of senescing planted shrubs, by removing the plants from strips (~ 5 m wide), which run parallel to the path and replacing with indigenous shrubs.

**Zone 2 - Queens Park Bridge to Shannon Ave - East bank opposite Stan Lewis Walk**

Riparian Woodland/Floodplain Riparian Woodland

Aquatic Herbland

**Aims**

• Protect and rehabilitate Riparian Woodland/Floodplain Riparian Woodland and Aquatic Herbland communities

• Maintain Yolingko Revegetation area

**Issues**

• Weed invasion- weeds limiting regeneration of indigenous species, and willows, African Box-thorn and ash are dominant in places.

• Disturbance- inappropriate disturbance from pedestrian access

• Rabbit burrows and grazing

• Relatively low floristic diversity amongst native vegetation remnants

**Actions**

• Control and eliminate invasive weeds, especially Kikuyu and Galena, and woody weeds.

• Replace woody weeds with relatively dense plantings of River Red-gums and indigenous shrubs (see list below).

• Conduct rabbit control and eradication.

• Undertake revegetation of indigenous shrubs on the alluvial terrace in small scattered clusters/zones, but also where rabbit control has occurred.

• Protect remnant vegetation, particularly Tangled Lignum remnants and Aquatic Herbland, by discouraging public access, and by not altering hydrological processes.
Zone 3 – Shannon Ave bridge to Swanston St – Northern Bank Rowing Mile

Floodplain Riparian Woodland

Aims

• Maintain Floodplain Riparian Woodland community and revegetation areas.

• Revegetate selected highly modified areas

Issues

• Maintain fringing areas of Floodplain Riparian Woodland

• Maintenance and expansion of revegetation areas.

• ‘Bank start’ for rowing mile

• Areas dominated by introduced species south of Pakington Street.

Actions

• Control and eliminate invasive weeds, especially Kikuyu, Hemlock Conuim maculatum and Galena, and any woody weeds, within both revegetation and remnant areas.

• Investigate an appropriate location for the ‘bank start’, and offset any vegetation losses with appropriate works

• Undertake revegetation of indigenous trees and shrubs in the area south of Pakington Street, and use aquatic species in any low-lying areas (see list below).
Zone 4 – Shannon Ave bridge to Swanston St – Southern Bank Rowing Mile

Floodplain Riparian Woodland

Aims

• Maintain Floodplain Riparian Woodland community and revegetation areas.

• Revegetate selected highly modified areas

Issues

• Maintain fringing areas of Floodplain Riparian Woodland.

• Maintain sight lines through some of the fringing Floodplain Riparian Woodland

• Maintenance and expansion of revegetation areas.

• Habitat for Darters

Actions

• Control and eliminate invasive weeds, especially Kikuyu, Hemlock and Galena, and any woody weeds, within both revegetation and remnant areas.

• Continue to reduce the height of the some of the fringing vegetation along the rowing mile, but only at defined spectator viewing locations.

• Undertake revegetation of indigenous trees and shrubs in selected areas, which can provide a series of habitat islands (see list below).

• Consider replacement of Elms downstream of Shannon Ave bridge with poles that are buried at one end, and that project out over the water at the other end providing temporary habitat for Darters until revegetation becomes established. Undertake revegetation of indigenous trees and shrubs at the base of the poles and along waters edge (see list below).
Zone 5 – Boat ramp – Breakwater Rd – Belmont Common

Floodplain Riparian Woodland

Aims

• Maintain Floodplain Riparian Woodland community and revegetation areas.
• Revegetate selected highly modified areas

Issues

• Maintain fringing areas of Floodplain Riparian Woodland.
• Plantings of non-indigenous natives and introduced species creating unnatural landscapes.
• Maintenance and expansion of revegetation areas.
• Future use of Motorcross land

Actions

• Control and eliminate invasive weeds, especially Kikuyu, Hemlock and Galena, and any woody weeds, within both revegetation and remnant areas.
• Replace non-indigenous natives and introduced species with revegetation of indigenous trees and shrubs, particularly between the path and Barwon River (see list below).
• Investigate compatible land uses to the local area for the Motorcross land, such as an opportunity to revegetate parts of the site.

Zone 6 – Swanston St – Breakwater Rd – Wal Whiteside Walk

Floodplain Riparian Woodland and Aquatic Herbland

Aims

• Maintain Floodplain Riparian Woodland and Aquatic Herbland communities and revegetation areas.
• Revegetate selected highly modified areas
Issues

- Maintain fringing areas of Floodplain Riparian Woodland and Aquatic Herbland.
- Plantings of non-indigenous natives and introduced species creating unnatural landscapes.
- Maintenance and expansion of revegetation areas.

Actions

- Control and eliminate invasive weeds, especially Kikuyu, Hemlock and Galena, and any woody weeds, within both revegetation and remnant areas.
- Replace non-indigenous natives and introduced species with revegetation of indigenous trees and shrubs (see list below).
- Maintain hydrological processes where Aquatic Herbland is located.

Zone 7 – Breakwater Rd - Boundary Rd – Ovoid Sewer Aqueduct

Floodplain Riparian Woodland, Brackish Lignum Swamp, Brackish Wetland, Brackish Herbland

Aims

- Maintain Floodplain Riparian Woodland, Brackish Lignum Swamp, Brackish Wetland and Brackish Herbland communities in the vicinity of the Ovoid Sewer Aqueduct.
- Protect riparian strip, particularly adjacent to water ski area, south of the Aqueduct.

Issues

- Maintain fringing areas of Floodplain Riparian Woodland.
- Maintain Brackish Lignum Swamp, Brackish Wetland and Brackish Herbland communities on the broad floodplain.
- Weed invasion- weeds limiting regeneration of indigenous species, and woody weeds are present in places.
- Disturbance- inappropriate disturbance from pedestrian access.
- Drainage - overflow of freshwater from stormwater drains.
• Rabbit grazing and burrows.

• Future management of Goat Island.

• River bank degradation adjacent to private land south of the Aqueduct

**Actions**

• Control and eliminate invasive weeds, especially Kikuyu, Fennel, Sharp Rush and Toowoomba Canary-grass, and any woody weeds, within remnant areas across the whole floodplain and any revegetation areas.

• Protect remnant vegetation by confining public access to a clearly defined path and by fencing off areas.

• Maintain current hydrological processes by preventing stormwater from the industrial estate from entering the brackish communities.

• Conduct rabbit control and eradication.

• Investigate and conduct environmental management on Goat Island.

• Fence off the river bank south of the Aqueduct, particularly adjacent to the water ski area.

**Revegetation List**

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Life form</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TREE SPECIES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus camaldulensis</td>
<td>River Red-gum</td>
<td>Tree</td>
</tr>
<tr>
<td>Eucalyptus ovata</td>
<td>Swamp Gum</td>
<td>Tree</td>
</tr>
<tr>
<td>Eucalyptus viminalis</td>
<td>Manna Gum</td>
<td>Tree</td>
</tr>
<tr>
<td><strong>SHRUB SPECIES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acacia dealbata</td>
<td>Silver Wattle</td>
<td>Large shrub</td>
</tr>
<tr>
<td>Acacia implexa</td>
<td>Lightwood</td>
<td>Large shrub</td>
</tr>
<tr>
<td>Acacia mearnsii</td>
<td>Black Wattle</td>
<td>Large shrub</td>
</tr>
<tr>
<td>Acacia melanoxylon</td>
<td>Blackwood</td>
<td>Large shrub</td>
</tr>
<tr>
<td>Acacia paradoxa</td>
<td>Hedge Wattle</td>
<td>Small shrub</td>
</tr>
<tr>
<td>Acacia pycnantha</td>
<td>Golden Wattle</td>
<td>Large shrub</td>
</tr>
<tr>
<td>Allocasuarina verticillata</td>
<td>Drooping Sheoak</td>
<td>Large Shrub</td>
</tr>
<tr>
<td>Bursaria spinosa var. macrophylla</td>
<td>Sweet Bursaria</td>
<td>Shrub</td>
</tr>
<tr>
<td>Callistemon sieberi</td>
<td>River Bottlebrush</td>
<td>Medium shrub</td>
</tr>
<tr>
<td>Coprosma quadrifida</td>
<td>Prickly Currant-bush</td>
<td>Small shrub</td>
</tr>
<tr>
<td>Dillwynia cinerascens</td>
<td>Grey Parrot-pea</td>
<td>Small shrub</td>
</tr>
<tr>
<td>Dodonaea viscosa</td>
<td>Giant Hop-bush</td>
<td>Medium shrub</td>
</tr>
<tr>
<td>Exocarpos cupressiformis</td>
<td>Cherry Ballart</td>
<td>Large shrub</td>
</tr>
<tr>
<td>Goodenia ovata</td>
<td>Hop Goodenia</td>
<td>Small shrub</td>
</tr>
<tr>
<td>Scientific Name</td>
<td>Common Name</td>
<td>Life form</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Gynatrix pulchella</td>
<td>Hemp Bush</td>
<td>Medium shrub</td>
</tr>
<tr>
<td>Melicytus dentata</td>
<td>Tree Violet</td>
<td>Medium shrub</td>
</tr>
<tr>
<td>Indigofera australis</td>
<td>Austral Indigo</td>
<td>Small Shrub</td>
</tr>
<tr>
<td>Kunzea ericoides</td>
<td>Burgan</td>
<td>Small Shrub</td>
</tr>
<tr>
<td>Leptospermum continentale</td>
<td>Prickly Tea-tree</td>
<td>Medium shrub</td>
</tr>
<tr>
<td>Leptospermum lanigerum</td>
<td>Woolly Tea-tree</td>
<td>Medium Shrub</td>
</tr>
<tr>
<td>Muehlenbeckia florulenta</td>
<td>Tangled Lignum</td>
<td>Medium shrub</td>
</tr>
<tr>
<td>Myoporum insulare</td>
<td>Sticky Boobialla</td>
<td>Medium shrub</td>
</tr>
<tr>
<td>Ozothamnus ferrugineus</td>
<td>Shrub Everlasting</td>
<td>Medium Shrub</td>
</tr>
<tr>
<td>Pomaderris racemosa</td>
<td>Pomaderris</td>
<td>Medium Shrub</td>
</tr>
<tr>
<td>Rhagodia parabolica</td>
<td>Fragrant Saltbush</td>
<td>Small Shrub</td>
</tr>
<tr>
<td>Senecio odoratus</td>
<td>Scented Groundsel</td>
<td>Large herb</td>
</tr>
<tr>
<td>Solanum laciniatum</td>
<td>Kangaroo Apple</td>
<td>Medium shrub</td>
</tr>
<tr>
<td>Viminaria juncea</td>
<td>Golden Spray</td>
<td>Large herb</td>
</tr>
</tbody>
</table>

**GROUNDCOVER SPECIES**

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Life form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dianella revoluta</td>
<td>Black Anther Flax-lily</td>
<td>Graminoid</td>
</tr>
<tr>
<td>Poa labillardierei</td>
<td>Tussock Grass</td>
<td>Graminoid</td>
</tr>
<tr>
<td>Themeda triandra</td>
<td>Kangaroo Grass</td>
<td>Graminoid</td>
</tr>
</tbody>
</table>

**AQUATIC PLANTS**

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Life form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolboschoenus sp.</td>
<td>Club Sedge</td>
<td>Graminoid</td>
</tr>
<tr>
<td>Carex appressa</td>
<td>Tall Sedge</td>
<td>Graminoid</td>
</tr>
<tr>
<td>Eleocharis acuta</td>
<td>Common Spike-sedge</td>
<td>Graminoid</td>
</tr>
<tr>
<td>Juncus bufonius</td>
<td>Toad Rush</td>
<td>Graminoid</td>
</tr>
<tr>
<td>Juncus subsecundus</td>
<td>Finger Rush</td>
<td>Graminoid</td>
</tr>
<tr>
<td>Marsilea sp.</td>
<td>Nardoo</td>
<td>Fern</td>
</tr>
<tr>
<td>Persicaria decipiens</td>
<td>Slender Knotweed</td>
<td>Herb</td>
</tr>
<tr>
<td>Phragmites australis</td>
<td>Common Reed</td>
<td>Graminoid</td>
</tr>
<tr>
<td>Schoenoplectus spp.</td>
<td>Club Sedge</td>
<td>Graminoid</td>
</tr>
<tr>
<td>Triglochin proceras.l.</td>
<td>Water Ribbons</td>
<td>Graminoid</td>
</tr>
</tbody>
</table>

**Summary of Serious Environmental Weeds**

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aster subulatus</td>
<td>Aster-weed</td>
</tr>
<tr>
<td>Atriplex prostrata</td>
<td>Hastate Orache</td>
</tr>
<tr>
<td>Conium maculatum</td>
<td>Hemlock</td>
</tr>
<tr>
<td>Cynodon dactylon</td>
<td>Couch</td>
</tr>
<tr>
<td>Epilobium hirsutum</td>
<td>Hairy Willow-herb</td>
</tr>
<tr>
<td>Foeniculum vulgare</td>
<td>Fennel</td>
</tr>
<tr>
<td>Fraxinus angustifolium</td>
<td>Desert Ash</td>
</tr>
<tr>
<td>Galena pubescens</td>
<td>Galena</td>
</tr>
<tr>
<td>Hordeum spp.</td>
<td>Barley</td>
</tr>
<tr>
<td>Juncus acutus</td>
<td>Sharp Rush</td>
</tr>
<tr>
<td>Lolium spp.</td>
<td>rye grass</td>
</tr>
<tr>
<td>Scientific Name</td>
<td>Common Name</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td><em>Lycium ferocissimum</em></td>
<td>African Box-thorn</td>
</tr>
<tr>
<td><em>Oxalis pes-caprae</em></td>
<td>Soursob</td>
</tr>
<tr>
<td><em>Paspalum distichum</em></td>
<td>Water Couch</td>
</tr>
<tr>
<td><em>Pennisetum clandestinum</em></td>
<td>Kikuyu</td>
</tr>
<tr>
<td><em>Phalaris aquatica</em></td>
<td>Toowoomba Canary-grass</td>
</tr>
<tr>
<td><em>Rubus fruticosus</em></td>
<td>Blackberry</td>
</tr>
<tr>
<td><em>Salix spp</em></td>
<td>Willows</td>
</tr>
<tr>
<td><em>Schinus molle</em></td>
<td>Peppercorn</td>
</tr>
<tr>
<td><em>Ulmus procera</em></td>
<td>English Elm</td>
</tr>
</tbody>
</table>
APPENDIX B

Barwon (through Geelong) Management Plan
Background Document Review
B Relevant strategies and studies

The following documents include recommendations to be considered in development of the management plan. A full list of related documents with other background information considered in development of the plan is contained in the bibliography.

B1 Barwon River Land Use and Open Space Corridor Plan, Thompson Berrill Landscape Design and ELM P/L, February 2003.

The Barwon River Land Use and Open Space Corridor Plan was jointly developed by the City of Greater Geelong and the Corangamite CMA to provide strategic guidance for future recreational use and landscape character of the river and adjoining open space in a manner that is compatible with its environmental values. The project area extended along the length of the Barwon through the City of Greater Geelong from Merrawarp Rd in the west at Ceres, to the Port of Barwon at Barwon Heads/Ocean Grove including the study area contained in this report. The project also considered adjoining land use and its visual and physical influence on the open space corridor and waterway values.

Key recommendations of this overall strategic plan include:

- Establish a linked open space corridor along the Barwon River through the existing and future urban areas.
- Reduce the visual and physical encroachment of urban development on the floodplain function and natural character of the waterway corridor.
- Recognise, protect and restore the environmental values along the Barwon River.
- Recognise, protect and enhance the Indigenous and European cultural heritage values of the Barwon River.
- Improve walking and cycling opportunities along the waterway open space corridor.
- Design of linear open space to improve the balance between passive recreational facilities and waterway values.
- Adjoining open space design to complement the waterway corridor values.
- Water-based recreational use to continue on the Barwon River at a level that is compatible with the environmental and land based passive recreational uses.

The report also contained a Strategic Landscape Masterplan for Belmont Common and the North bank of the Rowing Mile which will inform preparation of the management plan in these areas.

B2 State Watersports Facility Strategy – Executive Summary prepared for Sport and Recreation Victoria by Stratcorp Consulting (May 2001)

This study was undertaken by Stratcorp on behalf of Sport and Recreation Victoria to consider several initiatives considered by Government and other interested parties, in relation to the development of a State Watersports Centre capable of hosting International standard rowing, canoe and water-ski events along the Barwon River corridor. Key Recommendations from this study relevant to the Barwon River Plan include:

- No international standard watersports facilities be developed within Victoria.
- The existing watersports facilities be upgraded to a standard aligned with their level of usage, with priority of development being: 1. Lake Nagambie, 2. Carrum, 3. Lake Wendouree, 4. Geelong (Barwon River).
- Specifically for Geelong (Barwon River) the recommendation is that the Barwon River rowing and water-ski course be upgraded by deepening the rowing course to a uniform depth of 2.0m and construct new landing platforms at the start and finish.

B3 Study of Open Space Networks for City of Greater Geelong, CoGG & Parks Victoria, 2001

This report provides a broad strategic overview of the existing open space in the City and identifies potential future uses, provision opportunities and linkages to maximise the relevance and effectiveness of open space to the community. The study develops 10 categories for open space types and applies these across the City. The key elements of this strategy relevant to the study area are recommendations relating to present and future links to other linear networks and reserves identified in the plan.
This study focuses on ways to facilitate sustained participation in walking as a legitimate recreational, fitness or transport option. This is in response to identified community shifts away from participation in structured, competitive sport and recreation toward unstructured sport and recreation.

The national participation rate for walking is 59% while for residents in Geelong data indicates participation rates around 72%. The Barwon River corridor including the study area is identified as one of 5 major spines of quality open space across the city and trails through the study area.

B5  **Biodiversity Strategy, City of Greater Geelong, September 2003**
This strategy details the context of biodiversity in Geelong, its importance, value and legislative obligations for protection. It estimates that only 5% of former pre-European indigenous vegetation exists in the City of Greater Geelong and that which remains is often severely degraded.

Key targets for biodiversity include:
- No further species loss
- Application of net gain concept to areas undergoing redevelopment
- An increase of 20% cover of local indigenous vegetation from 2000 levels by 2010
- Increase in conservation reserves in the primary conservation network by 10% by 2010
- Increase in levels of specialised management and maintenance of conservation reserves
- A coordinated program of ecological burning for fuel reduction by 2005
- Reduction in environmental weeds on council managed conservation reserves by 50% by 2010
- Reduction of noxious weeds on all council reserves by 90% by 2010
- Offset greenhouse emissions by 10% from 2000-levels using revegetation projects.
- Appropriate maintenance and increase of native vegetation on road reserves.

B6  **Victorian River Health Strategy, 2002**
This Strategy has been prepared by the Department of Natural Resources and Environment. The purpose of the Victorian River Health Strategy is to enable the State Government, in partnership with the community, to make decisions on the management and restoration of Victoria's Rivers.

B7  **Corangamite River Health Strategy, Corangamite CMA 2006**
This Strategy addresses catchment-wide issues associated with the Barwon River including in the study area. The River Health Strategy sets river health for the region. It has identified the Barwon River as being a high value reach. A summary of the management direction from this Strategy will be included in the Draft Management Plan.

B8  **City of Greater Geelong Stormwater Management Plan, WBM Oceanics, 2004**
The Stormwater Management Plan has been prepared as part of the state-wide program to achieve Best Practice Environmental Management for Urban Stormwater. The plan was prepared in accordance with the principles outlined in the Urban Stormwater Best Practice Environmental Management Guidelines, CSIRO, 1999. The plan identifies priority management issues to be addressed in the future management of urban stormwater and the relevant findings of this study will be considered in the preparation of the management plan.

B9  **Aboriginal Cultural Heritage Management and Protection Development Planning Protocol, City of Greater Geelong and Wathaurong Aboriginal Co-operative, 2000**
This protocol developed in partnership with the Wathaurong Aboriginal Co-operative provides the basis for management, protection and enhancement of culturally significant Aboriginal sites.

The entire study area is considered of cultural significance and future development and major works within 500 metres of the major river systems require archaeological survey prior to finalisation of design, and to ensure all procedures adhere to the Aboriginal and Torres Strait Islander Heritage Protection Act 1984 and Archaeological and Aboriginal Relics Preservation Act 1972.
B10  
Outer Areas Heritage Study - City of Greater Geelong, Authentic Heritage Services, David Rowe and Lorraine Huddle, 1998-2000

The report developed in consultation with Heritage Victoria covers the suburban and outer rural areas of Geelong and identifies documents and makes heritage conservation recommendations for all post contact places and sites of cultural significance.

A total of 1158 heritage places were recommended for planning scheme protection including 15 larger more complex sites and 11 heritage precincts. Recommendations arising from this study and as included in the City of Greater Geelong Planning Scheme heritage Overlays will be considered in development of the plan.

B11  
City of Greater Geelong Planning Scheme

The entire Barwon River and Corangamite CMA managed land along the river is zoned for Public Conservation and Resources (PCRZ). Land managed by City of Greater Geelong adjoining the study area is zoned for Public Public Park and Recreation (PPRZ).

OVERLAYS
- There is an Environmental Significance Overlay (ESO2) that extends over Belmont Common.
- There is a Significant Landscape Overlay (SLO2) extending across the north bank of the rowing mile
- The majority of land through the study area is located within the Flood Overlay (FO) or covered under a Land Subject to Inundation Overlay (LSIO).
- There are heritage overlays in may areas along the river including the most of Belmont Common (HO1756), Barwon Bridge (HO1844), MacIntyre Bridge (HO1843), Breakwater Bridge (HO54), Sewer Aqueduct Bridge (HO56). Other precincts include properties along the north bank of the rowing mile and the Godfrey Hirst Precinct.
- There is a Public Acquisition Overlay (PAO2) for land at the end of Pakington Street.

B12  
Corangamite Regional Catchment Management Strategy, Corangamite CMA 2003-2008

This strategic document sets goals and targets as part of its 'blueprint' for achieving the integrated vision for the overall catchment.

Specific goals relevant to the Barwon through Geelong include:
- Willow removal as part of achieving the target of 100 km of Willow free streams by 2008.
- 100% eradication of known State prohibited weed infestations.
- Contain and reduce regional priority weeds.
- Increase priority areas under long term rabbit control by 30%.
- Ensure all high value public assets apply best practice to ensure protection from flooding and erosion.
- Ensure by 2007 66,000 ha of remnant vegetation on public and private land is managed to best practice management standards.
- Establish 2,225 ha of revegetation for targeted high priority EVCs.

B13  
Corangamite Rabbit Action Plan, 2001-2006

This document is currently being updated and sets out strategic priorities for rabbit management in the Region, to abate the detrimental impacts of rabbits on agricultural productivity, soil stability, native vegetation, biodiversity and water quality.

B14  
Corangamite Weed Action Plan, 2001-2004

This document is currently being updated and sets out a range of actions for the management of priority pest plants, amongst the 58 declared noxious weed species in the Region using a risk management approach.
B15 Floodplan Management Strategy, Corangamite CMA 2002
The report develops flood management strategies for reducing flood risk through implementation of planning controls, flood mitigation works and asset maintenance measures. Other activities include provision of early warnings and predicting the severity and impact of flood events.

Key recommendations for the Barwon through Geelong include the high priority for preparation of a Flood Preparedness Plan.

B16 Memorandum of Understanding between the Corangamite CMA and the Aboriginal Community Organisations, 2006
The core principles of the MOU between the Corangamite CMA and the Aboriginal Community Organisations in Corangamite are:
• To work together at all levels of land and water management to benefit the entire community;
• To achieve open, respectful and cooperative communication for the achievement of better NRM solutions;
• To work together appropriately and professionally to address NRM issues raised by the Aboriginal Community Organisations;
• To work together to seek funds for initiatives that will help protect and raise awareness of Aboriginal cultural heritage;
• To work together to improve communication through a variety of engagement mechanisms; and
• To work together to manage Aboriginal cultural heritage issues associated with all on-ground works funded by the Corangamite CMA.

Many Corangamite CMA funded activities pose a significant threat to Aboriginal cultural heritage sites because they involve disturbing soil in areas that are likely to have been frequented by Aboriginal people. Corangamite CMA activities that pose a significant threat include but are not limited to:
• Ground ripping used for direct seeding, erosion management and rabbit control along rivers and waterways;
• Engineering works along rivers and waterways; and
• Weed removal that disturbs soil profile.

2.3.17 Draft Barwon River Risk Assessment, Earthtech P/L October 2006
The report covers the river from Queens Park Bridge to Breakwater Road and a specific area around Buckley Falls between Baums Weir and Bunyip Pool.

The aim of the risk assessment is to:
• identify activities occurring in the study area
• identify environmental, health and safety risks associated with those activities
• review existing risk management measures
• evaluate and prioritise risks
• develop a risk reduction program

Recommendations where relevant will be incorporated into the Management Plan subject to ongoing review as part that separate project.

2.3.18 Barwon River Landscape Management Plan, Barwon Water and Corangamite CMA, 1996 and updated in 1999
This Landscape Management Plan was the guiding document for works undertaken on the Barwon River through this period and continues to provide a historical record of works undertaken on the river. The current Draft Management Plan has relied heavily on the plan for references of previous works, especially community related projects.
Barwon (through Geelong) Management Plan
Community Consultation
1.0 Description of the consultation undertaken at the Draft Masterplan Phase

The Draft Management Plan was available for public comment from 2nd July 2007 to 3rd August 2007. The launch of the Draft Management Plan was completed on 3rd July 2007. All local newspapers were invited along with the representatives of the Barwon River Users Group and Corangamite CMA Water Statutory Functions Committee. Notices were placed in the Geelong Advertiser on July 7th, 14th and 21st 2007 and in The Independent on July 7th 2007.

On site display boards with copies of the Information Leaflet/Questionnaire, Draft Works Plan and advertising the Community Information Night were places around the river for the consultation period. Display sites were located at the Queens Park Bridge, Highton/Yollinko Carpark, Barrabool Boat ramp, the Rowing Sheds and Geelong Canoe Club. There were also two radio interviews completed on the 3rd and 13th of July highlighting recommendations of the Draft Management Plan 94.7 Pulse FM.

Copies of the Draft Management Plan, Information Leaflet/Questionnaire and Draft Works Plan were available on the Corangamite CMA website, at the CMA Geelong Office and at the Chilwell, Geelong West or Belmont Libraries. Full colour copies of the Draft Management Plan were also available for all persons who attended the Community Information night on the 26th of July.

A total of 26 questionnaires were completed and returned. In addition to the questionnaires, 11 written submissions were received via mail and email including responses from the Geelong Rowing Association Inc, Barwon Valley Water Ski Club, Corio Bay Rowing Club, Geelong Field Naturalists, Geelong Cross Country Club Inc and Geelong Canoe Club.

2.0 Community Information Night

The following is an extract of the questions and feedback which were received on the Community Information Night held on July 26 2007 at the Geelong Heritage Centre and attended by 47 members of the community.

The following is a brief summary of the key points raised:

- Access under the Sewer Aqueduct Bridge is a high priority. Concern regarding the lack of action on this long-standing issue.
- Concern that there have been no restrictions on water skiing during the past summer. Low water levels in the river mean this activity is contributing to accelerated bank erosion in many areas downstream of the Sewer Aqueduct Bridge.
- Concerns about potential erosion during flood events after recent woody weed tree removal works completed downstream of Queens Park Bridge.
- Comments were made on the landscape amenity impact of these tree removal works downstream of Queens Park Bridge and concerns were raised that this may impact in other areas where works are proposed.
- Concerns regarding the time delays in establishment of revegetation following removal of woody weed species and potential erosion issues. Staging should be used to reduce these impacts.
- Questions relating to how priorities for revegetation works are decided e.g. for adjoining landholders.
- Is public access downstream of the Sewer Aqueduct being looked at? Concerns were raised by both landholders in this area and members of the public are interested access along the river.
- How does the lack of access under the Sewer Aqueduct Bridge tie in with overall objectives for access along the river as proposed in the Barwon River Parklands Project.
- How can I get access to the Corangamite CMA Crown land frontage area downstream of Sewer Aqueduct Bridge. There are no roads.
- Query on pesticide and herbicide use at the Barwon Valley Golf Course and potential impacts on the river. This would also apply at Queens Park Golf Course upstream of the study area.
- Consider the use of portable toilets to service remote areas such as the Belmont Common boat ramp.
• Rowing coaches use the south road access along the rowing mile to train rowing crews. Closure of this road will restrict access for older coaches who may not be able to cycle.
• Query on pre-indigenous vegetation along the river given that prior to construction of the lower breakwater the river was tidal with a higher salt content.
• Is there any improvement in overall salt levels in the river?
• Suggestion made to establish a new pedestrian/cycle path along the river between Latrobe Tce and Belmont Common boat ramp removing need to close vehicle access.
• Query raised to how many accidents have occurred on the road along the south bank of the rowing mile.
• Concerns raised by members of the Waterski Club regarding width of road and intersection at the market area which is proposed to become the only entry to the boat ramp following closure of the road there between Latrobe Tce and Moorabool St.
• Concerns raised about lack of access to toilets and condition (opening hours) for users of the Belmont Common boat ramp.
• Consider provision of change facilities at the Belmont Common boat ramp.
• Concern regarding erosion at St. Albans Park (downstream of Sewer Aqueduct) where trees are falling in the river.
• Rockwork at Ski Club not a natural feature and, while stopping erosion, it limits platypus access and opportunities for vegetation.
• Stormwater, what is happening for treatment? Queries raised regarding timing for fitting of litter traps on drains.
• What is the CCMA’s management role on the water?
• The Sewer Aqueduct Bridge is a beautiful structure; something should be done to provide access.
• Query regarding use of CCA treated timber. Should a more durable product like concrete be used e.g! higher upfront cost but increased longevity of infrastructure.
• The problem of large garbage collection and maintenance vehicles using the pedestrian/cycle path and damaging edges was raised.

3.0 Summary of Information Leaflet and Questionnaires

3.1 Age range

![Age range chart]

3.2 Where they live

![Where they live chart]
3.3 Summary of responses to proposed recommendations of the Draft Management Plan

Respondents were asked to indicate their views on the overall Draft Management Plan recommendations as well as the specific management zone recommendations and their allocated priority. Respondents were also asked if there were any additional comments they would like to provide on the specific management zone recommendations and space was provided so this could be done. Please note that the category of 'Don't Know' includes 'Not Completed'' as instances where respondents did not provide an answer were recorded as 'Don't Know'.

3.3.1 Overall recommendations

The following is a summary of overall comments from the returned leaflets:

- Agree with recommendations (2)
- Toilet facilities along the river should be maintained and kept open for public use
- Trees along the river have been vandalised
- Management Plan should ensure that a percentage of non-indigenous trees are left along the river
- CCMA to undertake maintenance work on the shared path before undertaking other work
- Shared path has broken edges, pot holes and root damage
- Maintenance of shared path needs improving
- Sealed paths to have smooth surface (not corrugated)
- Disappointing to see a lot of trees are being removed
- Retain some non-indigenous trees to provide colour and variety
- A strong approach regarding removal of exotics required with education and communication
- In some areas, removal of non-indigenous trees would mean removal of all trees
- Centre line marking on paths is a waste of time
- All sealed shared paths to be line marked
- Signage required on paths to indicate distances and times
- Shannon Avenue bridge carpark to be sealed
- Strongly disagree with recommendation to widen paths
- Something must be done about the amount of dogs off-lead
- Speed restrictions for cyclists as some ride too fast
- The safety of users to be a high priority
- Long term health of the river to be a high priority

3.3.2 Zone 1: Stan Lewis Walk

![Chart showing percentages of respondents]

Results indicate that over 80% of respondents agree with the draft recommendations for Stan Lewis Walk. Key issues raised include removal of exotic trees and maintenance/widening of the existing path.
Summary of specific comments regarding Stan Lewis Walk include:

- Shared path requires urgent maintenance
- Rubbish bin at the rotunda is required
- No line marking required
- Agree with recommendation to widen paths
- Strongly disagree with tree removal to make way for native plants
- Manage stormwater that floods and damages bank below Queens Park
- Use the disused Aqueduct Towers at Fyans Street to provide suspension bridge across the river for pedestrians
- When the path is widened, make it higher
- New trees to be established before removal of old ones
- Retain Ash, Weeping Willows, Poplars and Peppercorn trees as a high priority

3.3.3 Zone 2: Fyans Park/Newton Park

Results indicate that over 90% of respondents agree with the draft recommendations for Fyans Park/Newton Park.

Summary of specific comments include:

- No line marking required (2)
- Realigning the trail and carparking at West Fyans is a high priority
- Shared path requires maintenance
- Are recommendations at H2 and H3 necessary?
- Boxthorn bushes and branches to be cleared from the river edge
- Agree with recommendation to widen paths
- Strongly disagree with tree removal to make way for native plants
- Steep escarpment needs urgent attention
- Use disused Aqueduct Towers at Fyans Street to provide suspension bridge across the river for pedestrians
3.3.4 Zone 3: Rowing Mile North Bank

Results indicate that over 90% of respondents agree with the draft recommendations for the North Bank of the Rowing Mile. The main concerns were regarding potential removal of timber platforms.

Summary of specific comments include:
- Are timber platforms redundant?
- Retain Poplars
- Urgent weed removal from floodplains required
- Retain timber platforms

3.3.5 Zone 4: Rowing Mile South Bank

Results indicate that while a majority of respondents agree with the overall draft recommendations for the South Bank of the Rowing Mile the members of the Barwon Valley Water Ski Club are concerned about proposed changes in access to the Belmont Common boat ramp. Other issues raised include closure of road access along the south bank at Barwon Valley Park and staged removal of Elms at Frederick Moreton Reserve.

Summary of specific comments include:
- Retain Elms (2)
- Access via public road to be retained (2)
- Improve pedestrian access to McIntyre Bridge/Barrabool Road
- Maintain access to boat ramp
- Do not close public road access to boat ramp along river frontage
- Provide access from the Blue Club Rooms to Barrabool Road as Barwon Heads Road is too busy
- Access into Barwon Heads Road is difficult with a boat trailer
- Road to remain open
- Additional path for pedestrians and cyclists required
• Road too narrow as only one boat and trailer can fit at any one time
• Proposed access road too narrow for 8 foot wide boat trailers
• Exit point opposite K Mart very busy
• Agree with recommendations to separate cars and pedestrians
• Provide all-ability access
• Closure of Rowing Mile to cars
• Retain the 3 Weeping Willows at Barwon Valley Park as they provide shade in the summer
• Weeping Willows are a beautiful landscape amenity
• Provide vehicle access to south bank on race days
• Remove debris from shared path regularly

3.3.6 Zone 5: Belmont Common

Results indicate over 80% of respondents agree with the draft recommendations for Belmont Common. The main issues relate to the removal of Willows and access to the boat ramp. Refer 3.3.5.

Summary of specific comments include:
• Retain Willows (3)
• Maintain access to boat ramp
• Shared path requires maintenance
• Additional cycle path around Belmont Common required
• Additional picnic tables at Belmont Common required
• Denuding of banks is ridiculous and the river will be susceptible to erosion
• Entry and exit of proposed route to the boat ramp is dangerous
• Proposed road is too narrow
• Agree with recommendation to provide separate path for pedestrians

3.3.7 Zone 6: Wal Whiteside Walk
Results indicate that over 80% of respondents agree with the draft recommendations for Wal Whiteside Walk however there is concern that the existing path is proposed to remain unsealed.

Summary of specific comments include:
- Unsealed paths to be sealed (3)
- Existing unsealed pathways are not safe for bicycles in wet weather
- Interpretative signage is a high priority
- Strongly disagree with removal of avenue of exotic trees
- Sealing of new path to be high priority
- Path to remain unsealed

3.3.8 Zone 7: Sewer Aqueduct Bridge Area

100% of the respondents agree with the draft recommendations for the Sewer Aqueduct Bridge area. Access under the bridge was seen as the key issue.

Summary of specific comments include:
- Support recommendations
- Strongly pressure Barwon Water to maintain the bridge for public use
- Problem to be solved with the different levels of government

3.3.9 Zone 8: Rural Zone

100% of the respondents agree with the draft recommendations for the Rural Zone.

Summary of specific comments include:
- When river is low the use of power boats impacts on the river banks
- Support recommendations
- Existing grazing leases to be renewed
4.0 Summary of written submissions

4.1 Geelong Cross Country Club Inc (GCCC)

The Geelong Cross Country Club Committee applauds the Barwon through Geelong Management Plan and supports the recommendations for Sections 1 to 6 where much of its racing takes place with only the following concerns:

- The recommendation to centre line mark the Stan Lewis Walk and the Fyans Park/Newtown Park paths and the longer term plans to widen the paths to 2.5 metres are endorsed. The general philosophy to reduce risk by separating vehicle and pedestrian cyclist usage is commendable.

- A concern that the GCCC had was whether the vehicular infrastructure necessary for its Half Marathon would have access to the roadway between the James Harrison and the Moorabool Street bridges. The club will be requesting permission to have access to this area for a vehicle towing its caravan on five Sunday mornings during its season.

- A number of club members have asked the GCCC to raise the possibility of lighting along the Rowing Mile South Bank. The road is heavily patronised by members of the community walking, jogging, running or cycling. The provision of lighting would make the South Bank even more popular especially amongst those citizens whose work commitments mean exercising in the winter darkness.

4.2 Geelong Rowing Association Inc (GRA)

Geelong Rowing Association Inc endorses the key objective to support water-based recreational use on the Barwon River and have provided the following comments:

Comments on the Rowing Mile North

- The upgrade of vehicle control along the path west of Latrobe Terrace and removal of obstructions is endorsed.

- A two path closer to the river following the informal worn track for use by rowing coaches (and others) is suggested as it would enable coaches to see their crews and not interfere with the traffic on the existing road to the North.

- The timber platforms under the McIntyre Footbridge are a useful static point for the water rescue services.

- Would like to see the rowing boat shed area have a distinct name. The area at the mile finish where the crowd gathers west of Moorabool Street should be named ‘Bob Morell Reserve’ to honour a long time rowing identity, peacemaker and keeper amongst all those who use the river.

- Upgraded picnic facilities in the Richardson Reserve would be welcomed.

- Suggest an extension of the launching platform for rowing craft and some sites reserved for new boat sheds.

- The development of an alternative route for the shared pathway behind the boat sheds is supported, however, this area is used extensively for crew tents and they just fit without encroaching on the road.

- The bank of the east side of the Moorabool Street Bridge needs landscaping.

- Interpretive signage about rowing is supported.

- The CFA still use the Fireman’s track for training.

- The junction of CCMA and COGG interest along Barwon Terrace needs attention to ensure coordinated approach to road management and the long term parking of cars can cause congestion.

- Provide a drinking fountain for humans and dogs at the Judges Box outlet.

- It would be a good investment to upgrade and increase the power available to the event area to ensure future needs are met.

- The area adjoining the Geelong College of the Arts needs landscaping and traffic direction. This hump also restricts sight lines along the north bank and it would be beneficial to modify the trees on this site, lower the height and tidy the concrete barriers in the river so that a better view of lane one can be obtained.

- Due to increased use of the Boat Shed Precinct during the day by picnickers, a public toilet would be an asset in this area or in the Richardson Reserve.
• The Peter Brooks Memorial Boatshed is an attractive and useful storage space. It is used to house the reed cutter. Perhaps some arrangement can be made with CBRC as to its continued existence.
• The launching platform in the Boat Shed Precinct can become slippery during some weather conditions.

Comments on the Rowing Mile South
• Concern that closure of the public road sections along the river will impact on older coaches who use the road to coach crews from their cars, as they are unable to cycle.
• Suggest a Copenhagen style shared pathway and car lanes could be used in this area and judicious planting made to soften the landscape. The banks either side of the rowing mile have the highest density of coaches of anywhere on the river.
• The proposed entry for cars to the Barwon Valley Playground is a sound idea but there should be no connection to the retained section of road along the river.
• The ski access lane needs even more distinct signage of the kind provided by the large speed buoy in the river.
• It is good to note that clear and open views to river are seen as necessary as this is desirable on both banks along the rowing mile.

Comments on Belmont Common
• Although it is not the policy of the CRA at present to seek a 2000m rowing course in Geelong, views change as members and circumstances change and one could foresee in the future yet another drive to develop the Belmont Common as a water sports park thus making logical use of the flood plain.

Comments on the Rowing Course
• Distance markers at 100m intervals along the length of the rowing mile need to be labelled for viewing from the river and the bank.
• Permanent but unobtrusive distance markers from Queens Park to the break will assist in the conditioning of row crews. These need to be at 500m intervals determined from the mile start and finish.
• The lane numbers on the McIntyre, Harrison and Moorabool Street bridges need to be realigned with the realigned course.
• The GRA agrees with Section 5.5.7 but in 5.5.7.2 would like to see consideration given to the launching of rowing craft at the Fyans Park ramp.

4.3 Barwon Valley Water Ski Club (BVWSC)

The Barwon Valley Water Ski Club provided specific comment regarding recommendations for changes to access at the Belmont Common boat ramp in Zone 4: Rowing Mile South Bank. The BVWSC support the segregation of pedestrian and vehicular traffic, however, believe the current access proposal is flawed and creates further safety issues. Concerns raised include:
• The turn into the existing Belmont Common access road is an extremely busy one with heavy traffic on the Barwon Heads Road and constant additional traffic from K Mart.
• The access is quite a sharp angle which presents difficulties for boat trailers and the beginning of the access road is very narrow at 5.9 metres.
• The proposed access road is heavily used by pedestrians on a Sunday when the market is in operation, creating hazards between vehicles and pedestrians.
• The unsealed part of the road is not in a suitable condition for the proposed amount of traffic.
• Concern at the lack of proposals to address the lack of toilets/change rooms any where near the boat ramp area and suggests there are ways around building in the flood plain such as building it up on a levy or building it on beams above the flood line. Their club members would be more than willing to help build them as much as possible.

4.4 Corio Bay Rowing Club (CBRC)

• Additional reference should be made to the land allocations via leases to the off water infrastructure that is provided to support the on water recreation activities.
• Is Barwon Water also responsible for maintaining the rowing timber landings. If so, it would be useful to have these listed so that the Clubs are clear about whom they should liaise with in the future.
Further clarification on the Rowing Club leases should indicate the difference between the status of these sheds and the Canoe Club buildings. These buildings are lease holder improvements under the terms of the proposed Crown Land Lease but the CCMA retains an interest in them through its role in approving/endorsing works and maintenance and compliance of the buildings on behalf of the State Government. This role needs to be identified in the Management Plan, as it will require resourcing the CCMA over the long term.

Add another dot point to Section 4.3.2 Community Use and Recreation regarding a number of parcels of land are leased to schools and community sporting clubs upon which they have constructed significant buildings from which to conduct their rowing activities.

Recommendation R2/3: This landing is also used by rowing crews as a stop off point for coaching and to make changes to crews and should be retained in consultation with rowing clubs. Add rowing clubs for consultation.

Recommendations R3/3: Support the retention of track beside the river in this section.

Recommendation R9/3: Use of temporary fencing on event days needs to discuss this in detail with event managers to ensure that there is a clear understanding of the financial impacts of this action.

Recommendation R11/3: In addition to usage zones, indications of the directions, lanes and use of appropriate boat lights in winter would be useful on signage. This should be in the rowing and canoe launch areas. Add rowing clubs for consultation.

Recommendation R14/3: Richardson Reserve is also utilised for boat storage and competitor meeting areas during major regattas. Any additional works to this reserve should not eliminate the option to access and use this space during these peak regatta times. Any additional works undertaken in this area should include consultation with the rowing clubs. Add rowing clubs for consultation.

Recommendation R19/3: The small platform upstream of McIntyre Bridge is used on regatta days as a waiting/launch area for the rescue boat (a requirement for OH&S on event days). Any action to remove this platform needs to be discussed with the GRA to ascertain that their safety requirements can be met. Add rowing clubs for consultation.

Recommendation R1/4: Support additional speed reduction methods and note a number of our elderly coaches (70+ years) coach crews from their cars using this track. For the medium term this would still be a requirement. Add rowing clubs for consultation.

Recommendation 5.1.1.3 Toilet block leases: Toilet block opening hours should be determined by the needs of river users not only restricted to event days. Anti-social behaviour needs to be addressed using a variety of strategies not just closing the toilets.

Add new item regarding leases with rowing clubs/schools. Provisions of the Crown Land Lease 17D indicate that the CCMA is required to approve and endorse all building maintenance and improvements to the leasehold improvements. At this stage leases have been offered to the Clubs and some have agreed to sign. If the CCMA is required to undertake the role, one they have not played in the past, additional resources will be required to support the schools and clubs in their building maintenance, compliance and improvement activities for the life of the lease.

Recommendation 5.1.1.3 Event Management Plans: The need for this is acknowledged but some financial support and additional expertise to document and develop additional requirements may be required to support event managers (especially volunteers) to respond to this need.

Recommendation 5.1.1.4 Private Functions: Some additional information that distinguishes between events of this nature and events being conducted by sporting bodies and community groups.

4.5 Geelong Field Naturalists Club (GFNC)

Congratulate the CCMA on the report which is very thorough and addresses many management issues in the CCMA managed land adjoining the Barwon River from Queens Park to the Lower Breakwater.

The policy of replacing exotic and native vegetation, even that not of local provenance needs to be implemented very slowly. Earlier plantings may not today be regarded as ideologically correct but they provide habitat for birds and animals including invertebrates as well as shade and variety for the general public.

Platypus have been observed on the Barwon River at Queens Park and have been seen swimming downstream in the early morning. Since platypus use riverbanks for constructing nest burrows, bank disturbance should be kept to a minimum. Eastern Water Rats also use this stretch of river and also prefer well vegetated river banks. They build a burrow in dense cover close to water.

Black Wallabies are reported regularly from the Stan Lewis Walk.
• Management Zone 1: Liaison with the Geelong Field Naturalists Club to confirm habitat values and timing should be undertaken not only here but in all cases where wildlife habitat may be threatened by potential weed removal.

• Management Zone 2: It is essential that control be undertaken immediately and that replacement vegetation is put in place as soon as possible. Not only is habitat replacement needed but also a weedy wilderness presents a bad public image.

• Recommendation E6/2 Aquatic herbland communities of high significance: The possible river access and boat hire at Rivers Edge Restaurant would adversely impact on this wetland. An invertebrate sampling and frog survey would add to our knowledge of this area.

• Management Zone 3: It is important when removing exotic vegetation from the areas below Pakington Street to be aware of its heritage significance. William Roadknight had a large garden that included plum trees, many of those seedlings are growing by the river today.

• Recommendation E1/4 Severe Elm infestation at Frederick Moreton Reserve: It is essential to liaise with GFNC before any more Elms are removed. Already there may not be enough roosting/nesting sites for the growing colony of Darters.

• Recommendation R2/4 Carpark at Frederick Moreton Reserve: From personal observation this carpark is filled to capacity each morning and is not necessarily used by walkers proceeding down river.

• Recommendation E4/5 Liaison: The correct environmental bodies for liaison are GFNC and Friends of Belmont Common.

• Recommendation R7/5 Close vehicle access south of Breakwater Road: This would result in a dangerous pedestrian road crossing. Fishermen will continue to use the area. A long-term solution would be to upgrade the whole area. Some attempts have been made in the past to revegetate it and form a walking track.

• Recommendation LU3/5 Motocross site: If motocross does not leave this site, evrey attempt should be made with the club to improve the area both environmentally and aesthetically. It is noisy and dusty and detracts from the peaceful environment of the walking track.

• Recommendation E7/6 Aquatic herbland: With sufficient rain, this becomes more than a small pool. It is a flowing stream that enters the Barwon upstream of the Breakwater. Its source is outside the CCMA managed land, so liaison is needed with the managing body. A bridge linking Fellmongers Road with Breakwater Road would severely impact on it. Parts are severely weed infested but there are remains of lignum beds as well as aquatics. The area would be highly visible from a new bridge and it is overlooked by the railway. It has great potential for wetland restoration.

• Management zone 7: This is perhaps the most significant area of vegetation along the whole of this stretch of the Barwon River. A vegetation management plan and its implementation is essential to protect this area.

• Recommendation LU1/8 Cropping and grazing on leased land: Fully support this decision and the others relating to this land.

4.6 Geelong Canoe Club (GCC)

The Geelong Canoe Club provided a specific submission for the upgrading of the second boat landing at the south end of Balliang Sanctuary. The Geelong Canoe Club request that the CCMA provide assistance with upgrading the landing as:

• The south end landing is of major importance to the function of the club.

• The river area between both landings offers calm conditions for our beginner programs.

• When races are conducted, the landing is used for re-entering the river after a portage (portages during races are required to comply with International Canoe Federation standards).

• At this time of the year, the landing is extensively used by rowers as most of the junior crews rest, change seats and turn in this area.
5.0 Other Written Submissions

The following is a summary of other written submissions received from landholders and the general public.

General comments

- Concern regarding surface of path (trip hazards) along the Stan Lewis Walk. Repair and upgrade to 2.5 metres in width should be higher priority.
- Concern that the report recommends maintaining the existing levels of water skiing activities. Their actions would have to be one of the most destructive on the river e.g. bank erosion, weed destruction, increasing turbidity of the water, increased hydrocarbons, noise pollution, inability to perform other river activities while present and impact on fauna. To improve the quality of the river in the Geelong area, water skiing should be prohibited but they should be allowed to ski in another suitable location.
- Disappointed to see no plan to stock any fish species into the Barwon River to improve recreational fishing. Any fish species that are present in the river that are worthwhile angling targets are introduced and considered pest species e.g. Carp, Redfin, Tench, Roach and Trout. Respondent's fishing club raised $2,000 to buy fish (e.g. Cod, Golden Perch) to stock the river but the DNRE refused.
- Cars parked in Barwon Terrace and the Rex Gorell buildings detract from the beauty of the area.
- Concern that private landholders along the river should have been made aware of the Draft Management Plan and given the same opportunity to provide input as recreational users.
- Overall plan is very good and support all works to improve the river and its environment in all zones.

Comments on the Sewer Aqueduct Bridge area

- The aqueduct has been closed to the public for many years and support plans to resolve the problem.
- Respondents have two small dinghies which travel at walking pace and it seems unreasonable that the area of water from downstream of the aqueduct to upper breakwater is inaccessible to low speed watercraft.
- Support the plan to manage stormwater input in this area. There is a large and often offensive open drain running parallel to Boundary Road which discharges into the river. Much of what enters the drain is probably not stormwater.

Comments on the Rural Zone area

- Concerns regarding litter from the stormwater drain carrying water from a large area of St. Albans Park to the river through private property. Request that it be properly maintained and the litter problem be attended to.
- Recommend that the current levels of water skiing be reviewed and controlled not maintained especially during periods of low water level when erosion is even more of a problem.
- Concern regarding bank erosion even on areas of river banks which are not bare.
- Have not seen any private landings which actually encroach in a dangerous way on the water. Request that landings be permitted.
- Retention of river frontage is critical to provide stock water access and irrigation access to the river. The river bank is also the highest ground in the flood plain which is used for a stock escape route before and after flooding.
- Many Red Gums have been planted along the river bank. Some were planted in the reeds on the edge of the river but most of these have succumbed to the undermining of the bank caused by European Carp and boat wash.
- Flooding does not scour that land cropped along the river and the 1995 flood left a large deposit of sand silt to the benefit of the land.
- Stock can only access small areas of the river bank because of existing vegetation and steepness and therefore concentrate damage to those small areas. Damage is minor when you take into account several kilometres of river bank.
- Queries over title boundary and future management of the levee bank. Flood protection levee bank was built by the Harbour Trust in the early 1900s to protect Sparrovale and adjoining farms from flooding.
- Farmers are always blamed for the nutrient runoff into the rivers but wonder how much comes from gardens, parks and industries through Geelong. The blooms always seem to be below the Queens Park Bridge and not in the upper reaches of the Barwon River.
• Foxes have always been a problem but this year, with the drought, foxes have killed in excess of 40 lambs and foxes have been seen making their kill during daylight hours.
• Large populations of Hares have always been in residence and they can cause severe damage to plantings of young trees and crops.
• Bathurst Burr is a major problem in rural areas. The seed not only floats down the river to grow on the river flats but also gets into the sheep's wool downgrading its value. Other weeds included Serrated Tussock, Box Thorn and Wide Teasel are also a problem.
• Management of the flood gates on the lower breakwater has been undertaken by landholders on a voluntary basis for over 35 years. The lowering of gates gives some easing in minor floods but is of little advantage in large flooding.
• Stock are not the primary cause of failure in the fish race. The major problem is siltation behind the breakwater with the build up of floating debris such as cumbungi and reeds which then grow and reduce the flow of water through the fish race.
• Ongoing protection of the significant bird life.
• Farmers, water users, controlling bodies and the general public have done a good job in protection and management of the river over the years.

6.0 Response to the comments and summary of changes to the Draft Management Plan arising from Community Consultation

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<th>Submission Comment</th>
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<tr>
<td>GEN</td>
<td>Provision of toilets and opening hours</td>
<td>Public toilets along the river are owned and managed by CoGG and Barwon Water. There are no new toilet facilities proposed and in general number terms the study area is well served by toilet facilities. <strong>Recommendation</strong> Add note to 5.5.2 page 79 to include direct liaison with CoGG to ensure concerns raised by Stakeholder Groups such as the Barwon Water Ski Club and other users of CMA managed reserves about opening hours/days and conditions are considered in Council management of these facilities. Subsequent discussions with CoGG confirm the issuing of keys to River Health Officers to increase opening times for public toilets in popular picnic areas along the river. Refer SB.</td>
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<td>2</td>
<td>Concerns regarding stormwater discharge to the river</td>
<td>Refer Recommendations at 5.2.3 page 76 and 77 regarding stormwater management all of which are High or Ongoing priorities. <strong>Recommendation</strong> No change to plan.</td>
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<td>3</td>
<td>What is CMA's management role on water?</td>
<td>Existing role is as the responsible water authority under Schedule 7 of the Water Act 1989 as noted on page 5 Existing Land Management Plan. Review and change of on-water management is outside the scope of this management plan. <strong>Recommendation</strong> No change to plan.</td>
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<td>4</td>
<td>Impact on landscape amenity of removal of invasive woody weeds such as Willows, Elms, Ash and Poplars</td>
<td>5.2.1.4 page 74 recommends that on sites with extensive areas of woody weeds staging of works be considered to minimise impact on both habitat and landscape amenity values. Large areas of woody weeds remaining along the river include downstream of Shannon Avenue at Frederick Moretan Reserve. Recommendations for staging of removal works in this area are contained at E1/4 page 46. Removal works below Packington St will need to be completed in one go to enable establishment of the proposed water quality treatment wetland (subject to confirmation of heritage values). Removal of other high profile groups of invasive woody weeds such as the Geelong Arts Centre frontage, Richardson Reserve and Fyans Park are recommended to be staged to enable establishment of equivalent indigenous species prior to removal. Note a short term decline in landscape amenity is however unavoidable and while staging is considered for isolated groups with no other trees in general removal works needs to occur before revegetation can commence.</td>
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| 5   | Use of CCA treatment of timber or concrete for new boardwalks and bridges | **Recommendation**  
No change to plan.  
5.5.4 page 81 notes that future siting design and management of fishing platforms, stair access, boardwalks and other recreational infrastructure is to utilise among other things 'ecologically sustainable materials and principals'.  
Use of CCA (Copper Chrome Arsenate) treated timber is not recommended for new structures due to potential public safety issues with dislodgement of arsenic from treated surfaces during contact. Refer to the Australian Pesticides and Veterinary Medicines Authority Review March 2005 for further details.  
In addition, as the study area is contained within the flood plain of the river, there is potential for dislodgement of arsenic traces into the river over time.  
**Recommendation**  
Use of ACQ treated timber (CCA equivalent with no arsenic) to be used for in-ground purposes as appropriate. No change to overall infrastructure design recommendations. |
| 6   | Large vehicles using path for maintenance and rubbish collection damaging path edges | The path is only 2.1m wide in most areas and collection of rubbish at existing bin locations frequently requires use of the path which does damage edges of asphalt paths.  
5.6.2.6 page 84 recommends rubbish bins are removed from along the path and new rubbish and recycling bins located at vehicle accessible points such as car parks and main entries at road level. Longer term upgrade of paths to 2.5m will also minimise this issue for other required maintenance vehicle access. **Recommendation**  
No change to plan. |
| 7   | Maintenance of shared path needs improving             | 5.6.2.1 page 84 outlines ongoing maintenance requirements and longer term replacement and widening where appropriate is indicated in the individual reach sections. **Recommendation**  
No change to plan. |
| 8   | Centre line marking on paths is a waste of time        | An ongoing conflict between different recreational users including pedestrians, cyclists and dog walkers is a key issue. Line marking is proposed to improve separation of traffic flow especially where the path access is constrained and only 2.1m wide. This is however only one of the measures proposed to improve the function and safety of the path network. Refer 5.5.1.1 page 78. **Recommendation**  
No change to plan. |
| 9   | Signage required on paths to indicate distances and times | 5.5.6.1 page 82 recommends preparation of an integrated signage strategy including distances to key destinations. **Recommendation**  
No change to plan. |
| 10  | Speed restrictions for cyclists as some ride too fast   | Control of cyclist speed is difficult as speed control measures can potentially increase risk of accidents. There are specific standards for shared trails. Refer Austroads Part 14. 5.5.1.1 page 79 recommends liaison with Council and the Barwon Regional Bicycle Council to develop code of conduct signage and implementation of an education campaign to address the various issues of cyclists and others on shared trails. **Recommendation**  
No change to plan. |
| 11  | Permanent but unobtrusive distance markers from Queens Park to the break will assist in the conditioning of row crews. These need to be at 500m intervals determined from the mile start and finish. | The potential installation of additional markers should be addressed in the recommended signage strategy. Refer 5.5.6.1 page 82 to ensure integrated signage outcomes. **Recommendation**  
No change to plan. |
| 12  | Additional reference should be made to the land allocations via leases to the off water infrastructure that is provided to support the on water recreation activities. | **Recommendation**  
Add note regarding boat sheds, landings and other infrastructure at 2.4.2 page 10. |
<p>| 13  | Is Barwon Water also                                   | CCMA is responsible for maintaining the rowing timber platforms and other |</p>
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| 14  | Further clarification on the Rowing Club leases should indicate the difference between the status of these sheds and the Canoe Club buildings. | These leases were not directly reviewed as part of the draft management plan. The Rowing Club leases are 25 year/7D leases with DSE which commence in 2007 through to 2032. The Canoe and Outrigger Clubs are on standard commercial leases with the CCMA and are reviewed on an ongoing basis. **Recommendation**
Add additional details on the differences between the Rowing Club and Canoe/Outrigger Club leases for inclusion in the management plan at Section 2.4.1 page 10. |
| 15  | Private Functions: Some additional information that distinguishes between events of this nature and events being conducted by sporting bodies and community groups. | 5.1.1.4 page 72 provides recommendations for evaluating applications for private functions in open space along the river. These recommendations would apply to private functions held by sporting groups also. **Recommendation**
No change to plan. |
| 16  | Concern that the report recommends maintaining the existing levels of water skiing activities. | On water use of the river has not been directly reviewed in development of this management plan. Existing levels were supported by the most recent review completed as part of the Barwon River Land Use and Open Space Study (BRLUP) 2002. **Recommendation**
No change to plan. |
| 17  | Disappointed to see no plan to stock any fish species into the Barwon River to improve recreational fishing. | Direct water management and fish stocking is outside the scope of this plan. All proposals are to be referred to DSE. **Recommendation**
No change to plan. |

**REACH 1 STAN LEWIS WALK - West Bank Queens Park Bridge to Shannon Ave**

| 1A  | Used the disused Aqueduct Towers at Fyans Street to provide suspension bridge across the river for pedestrians | Refer R5/2 page 28. BRLUP 2002 confirmed provision of pedestrian bridges along the river and no new crossings were proposed in this area. The structural condition of the pylons also appears unsuited to potential re-use. **Recommendation**
No change to plan. |

**REACH 2 NEWTOWN AND FYANS PARK - East Bank Queens Park Bridge to Shannon Ave**

| 2A  | Concerns that removal of Willows both downstream at Queens Park Bridge and in other areas in the future will contribute to erosion during flood events. | CMA undertakes Willow removal works in accordance with established guidelines for best practice removal of invasive woody weeds in riparian environments. Retention of stump and root structure during establishment of revegetation minimises potential erosion. **Recommendation**
No change to plan. |

**REACH 3 NORTH BANK ROWING MILE - Shannon Ave to Landy Feild**

| 3A  | The timber platforms under the McIntyre Footbridge are a useful static point for the water rescue services | This platform and one other was recommended for removal due to poor condition and lack of general use. Refer R19/3 page 39. **Recommendation**
Add note to R19/3 page 39 to liaise with GRA to confirm appropriate alternative location for static rescue point prior to removal of this platform. |
| 3B  | The CFA still use the Fireman's track for training | Refer R13/3 page 39 recommends short term retention of the track with longer term liaison with other major event users to confirm multi-use all weather surface requirements when condition of the track deteriorates and requires replacement. **Recommendation**
No change to plan. |
| 3C  | Provide a drinking fountain for people and dogs at the Judges Box outlet | **Recommendation**
Add recommendation at R20/3 to this effect. |
| 3D  | The Peter Brooks Memorial Boatshed is an attractive and useful storage space. It is used to house the reed cutter | H6/3 page 40 recommends removal of the boat shed which is in poor condition and is too small to provide effective storage area to warrant the major repairs required. **Recommendation**
No change to plan. |
### Submission comment

1. **3E** The launching platform in the Boat Shed Precinct can become slippery during some weather conditions

   **Response**
   
   **Recommendation**
   Add note regarding this issue at R11/3 page 36.

2. **3F** Distance markers at 100m intervals along the length of the rowing mile need to be labelled for viewing from the river and the bank.

   **Response**
   
   Refer R16/3 page 39 which recommends this.

3. **3G** The lane numbers on the MacIntyre, Harrison and Moorabool Street bridges need to be realigned with the realigned course.

   **Response**
   
   The MacIntyre bridge is managed by Barwon Water. James Harrison and Moorabool Street bridges are managed by VicRoads.

4. **3H** In addition to usage zones, indications of the directions, lanes and use of appropriate boat lights in winter would be useful on signage. This should be in the rowing and canoe launch areas also.

   **Response**
   
   Refer R11/3 page 36.

5. **3I** It is important when removing exotic vegetation from the areas below Pakington Street to be aware of its heritage significance. William Roadknight had a large garden that included plum trees, many of those seedlings are growing by the river today.

   **Response**
   
   E4/3 page 36 notes the removal of woody weeds from this area to enable establishment of a water quality treatment wetland. The issue of potential heritage associations for some of this planting is noted at H4/2 page 40.

   **Recommendation**
   Add note to H4/2 page 40 regarding prior confirmation of any potential plantings associated with William Roadknight.

6. **3J** The Geelong Canoe Club provided a specific submission for the upgrading of the second boat landing at the south end of Balliang Sanctuary. This was also supported by information from the Rowing Clubs.

   **Response**
   
   This structure is poor condition. R2/3 page 37 recommends liaison with the Canoe Club to confirm design and cost of any replacement structure.

   **Recommendation**
   Add GRA to Agency Stakeholders in proposed review and replacement of this facility.

7. **3K** Cars parked in Barwon Terrace and the Rex Gorell buildings detract from the beauty of the area.

   **Response**
   
   Refer LU4/3 page 40 which recommends additional screen planting.

   **Recommendation**
   No change to plan.

### REACH 4 SOUTH BANK ROWING MILE - Shannon Ave to Belmont Common

8. **4A** Concerns about closure of the southern bank access road along the river at Barwon Valley Park and potential impact on rowing coaches and people with limited mobility.

   **Response**
   
   The intent of the road closure is to improve pedestrian and cyclist safety and connection of open space at Barwon Valley Park to the river. Refer Figure 3 and Figure 4 page 51 and 52.

   Vehicle access (and all-ability access) is to be retained at the primary stopping points including at the car park near the playground and at Barrabool Road, however, driving access along the entire rowing mile is not required to achieve this.

   Rowing coaches watching crews on the river while driving on this shared road is a key safety issue and one of the reasons why confined shared use is not recommended.

   Potential establishment of a new separate pedestrian cyclist path on the river side of the road would also require continuous vehicle control to restrict car access and the proximity to the road would still present some risk to users of the path and adjoining open space. The retention of the road and establishment of a new path would also further alienate the large open space and natural floodplain at Barwon Valley Park from the river and limit opportunities for proposed formal avenue tree planting to improve landscape amenity and habitat values along the river. Refer E4/4 page 46.

   **Recommendation**
   No change to plan.

9. **4B** Closure of road along the river

   **Response**
   
   Refer Figure 5 page 53. Provision of two access roads to the boat ramp is not
between Latrobe Tce and Moorabool St and use of the existing access road to Belmont Common playfields as the only vehicle access route to the Belmont Common boat ramp. Concerns raised by Barwon Valley Water Ski Club include:

- width of access road (5.9m) behind the recreation centre
- difficulty to turning in and out at Barwon Heads Road while towing a boat
- condition of road surface

required or recommended. The proposed route via the recreation centre will always be required to provide access to the Belmont Common playing fields and recreation centre. The route was nominated in the Strategic Landscape Plan prepared for Belmont Common as part of the Barwon River Land Use and Open Space Strategy 2002 and in conjunction with the proposed new section of path east of Moorabool St will significantly improve pedestrian/cyclist safety and off road shared trail access along the river and from the boat ramp picnic area to existing toilet facilities between Moorabool St and Latrobe Terrace. The proposed boat ramp access road route is managed by CoGG. R7/4 page 48 recommends liaison with CoGG to investigate improvements to this road which as noted above will continue to provide the primary access into Belmont Common.

There are slip lanes for right hand turns in both directions on Barwon Heads Road, however, the entry is busy due to high traffic volumes generated by Belmont Plaza and right hand turn out and back to Moorabool Street with or without a boat is difficult. Given these high volumes, especially with existing Sunday market and recreation centre use, CoGG are investigating potential installation of traffic lights at this access. This could also be developed to improve access to Belmont Common in this area as part of the Home of Cycling concept currently being considered by Council.

The width behind the recreation centre is sufficiently wide for two lane traffic except in instances where cars are illegally parked. This is a CoGG enforcement issue only as the road is signed ‘No Standing’.

The last section of road adjacent to the river is unsealed, however, the road is in reasonable condition and could be spray sealed relatively easily.

**Recommendation**

Subsequent to preparation of the Draft Plan, the access was reviewed by CCMA and CoGG Engineering Services who confirmed the access road meets current standards.

CCMA to actively support upgrading of this road access (including potential funding for sealing the last section to the boat ramp) and confirm priorities for works with CoGG.

---

### 4C Retain the 3 Weeping Willows at Barwon Valley Park as they provide shade in the summer

Refer to Item 4.

**Recommendation**

Change E4/4 to indicate retention of Weeping Willows in the rowing mile until establishment of new avenue of Red Gums.

---

### 4D Lighting along the Rowing Mile South Bank

This suggestion has not been raised previously but as noted could increase use of the path during winter without unduly impacting on environmental values. The lighting would also be highly visible from the James Harrison Bridge at night.

**Recommendation**

Add new note at R12/4 regarding investigation of lighting along this section of the path. Priority would however be long term subject to cost evaluation.

---

### 4E The Frederick Moreton Reserve carpark is filled to capacity each morning and is not necessarily used by walkers proceeding down river.

R2/4 page 47 recommends closure of this carpark

**Recommendation**

Undertake carpark counts to confirm actual use of this car park prior to confirmation of closure.

---

### REACH 5 BELMONT COMMON

#### 5A Potential impacts of herbicide and pesticide use at Barwon Valley Golf Course on the river

The golf course is owned/managed by City of Greater Geelong and leased to a private operator. The details of use of chemicals at this golf course (and Queens Park) are unknown.

**Recommendation**

CCMA to request details of herbicide and pesticide use at the golf course (and Queens Park) through CoGG if available. Add note to report at LU1/5 regarding monitoring of any potential impacts.

---

### 5B Lack of facilities at the Belmont Common boat ramp. Concerns regarding lack of toilets and change facilities and opening hours of existing toilets and Council managed change facilities.

Refer R9/4 page 48. This area is contained within the floodplain and there are no services currently provided to this location aside from the recently constructed shelters and tables. Existing toilets between Moorabool St and Latrobe Tce and the other facility at McKay Field are within 300m of the picnic area however there is currently no off road path access. Recent security concerns have led to changes in Council opening times/days for these facilities which are now frequently locked.
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|      | No new toilets are proposed, however, improving access to the existing facilities is a high priority. Refer Figure 5 page 53. LU3/4 page 49 recommends liaison with Council to ensure opening hours and operational requirements of these toilets are consistent with high levels of use at the boat ramp and picnic area.  
**Recommendation**  
Provision of a small change room could be considered in this, however, given ongoing security and management issues both in this area and at the existing toilet block, this type of facility is not recommended at this time. Liaise with Council to supply keys to River Health Officers and clubs to ensure toilets are open to the public during peak periods. |
| 5C  | BBQ at Belmont Common boat ramp | Refer R9/4 page 48. Investigation of solar BBQs was included at CCMA request. Subsequent investigation of these has not found an appropriate commercially available unit. There is currently no 3-phase power on site which limits options for electric hot plates and gas facilities are not recommended in this remote location.  
**Recommendation**  
Remove note regarding investigation of BBQs at R9/4. |
| 5D  | Poor surface under picnic tables at Belmont Common boat ramp | This issue is noted at R9/4 page 48 and improvement of existing unsealed surface is recommended given high levels of barefoot use around the boat ramp and boardwalk area.  
**Recommendation**  
Extend note at R9/4 to consider use of artificial turf over a concrete base. This will reduce potential incidence of broken glass and blend well with surrounding grass areas to provide a durable all weather surface. |
| 5E  | Additional cycle path around Belmont Common required | CCMA only manage the river frontage and path through Belmont Common. Additional paths within Belmont Common away from the river are to be developed and maintained by CoGG when required.  
**Recommendation**  
No change to plan. |
| 5F  | Closure of vehicle access south of Breakwater Road would result in a dangerous pedestrian road crossing. Fishermen will continue to use the area. A long-term solution would be to upgrade the whole area. | R7/5 page 57 recommends closure of informal carparking on this side as there is an existing formal carpark on the north side and the area is not visible from Breakwater Road which contributes to illegal dumping and after hours activities. There are reasonable sightlines for pedestrians crossing informally at this area. However traffic volumes are high (possibly until completion of the new Fellmongers Road bridge) and the amount of "legal" fishing is unknown at this point.  
**Recommendation**  
Change R7/5 to include retention of small area of carparking on this side visible from Breakwater Road. |
| 6A  | Unsealed paths to be sealed | R1/6 page 62 recommends retention of the Wal Whiteside path as unsealed due to lower levels of use and improving environmental values.  
**Recommendation**  
Add note for review of this recommendation as part of the Barwon River Parklands Project currently being completed by Parks Victoria. If projected use of this section of path is expected to increase, the path should be sealed at 2.5m wide. |
| 7A  | Access under the Sewer Aqueduct Bridge | The bridge and surrounds are owned and managed by Barwon Water. Access is currently restricted by fencing on land and a series of buoys and floating booms on water due to structural safety concerns. 4.7.5 page 65 notes an overall management objective of "Liaison with Barwon Water and Heritage Victoria to confirm long-term future for the bridge".  
R1/7 page 67 recommends a short-term option for investigating establishment of restricted public access under the bridge on the north bank adjacent to the river.  
**Recommendation**  
Options for access (short-term) as outlined at R1/7 page 67 be further investigated as part of Barwon River Parklands Project and CCMA to again request for status update of long-term future of the bridge be forwarded to Barwon Water and Heritage Victoria. No change to plan. |

**REACH 6 WAL WHITESIDE WALK**

| 6A  | Unsealed paths to be sealed | R1/6 page 62 recommends retention of the Wal Whiteside path as unsealed due to lower levels of use and improving environmental values.  
**Recommendation**  
Add note for review of this recommendation as part of the Barwon River Parklands Project currently being completed by Parks Victoria. If projected use of this section of path is expected to increase, the path should be sealed at 2.5m wide. |

**REACH 7 SEWER AQUEDUCT BRIDGE AREA**

| 7A  | Access under the Sewer Aqueduct Bridge | The bridge and surrounds are owned and managed by Barwon Water. Access is currently restricted by fencing on land and a series of buoys and floating booms on water due to structural safety concerns. 4.7.5 page 65 notes an overall management objective of "Liaison with Barwon Water and Heritage Victoria to confirm long-term future for the bridge".  
R1/7 page 67 recommends a short-term option for investigating establishment of restricted public access under the bridge on the north bank adjacent to the river.  
**Recommendation**  
Options for access (short-term) as outlined at R1/7 page 67 be further investigated as part of Barwon River Parklands Project and CCMA to again request for status update of long-term future of the bridge be forwarded to Barwon Water and Heritage Victoria. No change to plan. |
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| 8A  | Accelerated erosion of banks due to water skiing during extremely low water levels  | R1/8 page 71 notes the issue of bank erosion especially in ski boat turn around areas recommending CCMA liaison with adjoining landholders to undertake stabilisation works. The issue of restriction of water ski use during drought conditions was not covered.  
**Recommendation**  
Add additional note to report at R1/8 page 71 recommending review of bank condition during extreme drought conditions and investigation of potential restrictions on waterski use in some areas to minimise potential accelerated bank erosion at this time. |
| 8B  | Request for access to CCMA Crown land frontage downstream of sewer aqueduct bridge | Currently the only public access to this area is via boat. There are no existing CoGG or CCMA proposals to purchase or acquire private land upstream to provide access to this very narrow frontage and this area is of limited recreational value. LU1/8 page 71 recommends removal of grazing (and cropping) from these lease areas to extend riparian revegetation/regeneration along the river.  
**Recommendation**  
No change to plan. |
| 8C  | Concern that private landholders along the river should have been made aware of the Draft Management Plan and given the same opportunity to provide input as recreational users. | The plan is still at the draft stage and this part of the project is about receiving input from stakeholders including landholders.  
**Recommendation**  
No change to plan. |
| 8D  | Support the plan to manage stormwater input in this area. There is a large and often offensive open drain running parallel to Boundary Road which discharges into the river. Much of what enters the drain is probably not stormwater. | Boundary Road drain is a Council drain and the issue of stormwater discharge here and from other industrial areas along Leather Street is noted at LU2/7 page 67.  
**Recommendation**  
No change to plan. |
| 8E  | Concerns regarding litter from the stormwater drain carrying water from a large area of St. Albans Park to the river through private property. Request that it be properly maintained and the litter problem be attended to. | This drain is managed by CoGG and complaints regarding litter should be directed to Council.  
**Recommendation**  
No change to plan. |
| 8F  | Have not seen any private landings which actually encroach in a dangerous way on the water. Request that landings be permitted. | Refer LU4/8 page 71. While not suggesting that these structures are illegal, their status is unknown. The report notes that permit requirements for existing structures are to be confirmed with Southern Rural Water. The use of the river for water skiing and other water sports means that the licensing and maintenance of these structures and any new ones are an important safety issue.  
**Recommendation**  
No change to plan. |
| 8G  | Retention of river frontage is critical to provide stock water access and irrigation access to the river. | LU2/8 page 71 recommends liaison with landholders as part of the Healthy Rivers Support Fund and Urban Stream Restoration Fund.  
**Recommendation**  
Add note to include investigation of offline stock watering points to reduce bank erosion. |
| 8H  | Flood protection levee bank was built by the Harbour Trust in the early 1900s to protect Sparrovale and adjoining farms from flooding. Queries over title boundary and future management of the levee bank. | This issue is being investigated as part of the ongoing Council Armstrong Creek Project. Confirmation of preferred long term requirements and management of the levee will be completed as part of this project.  
**Recommendation**  
Add new note to LU5/8. |
| 8I  | Foxes have always been a problem but this year, with the drought, foxes have killed in excess of 40 lambs and foxes have been seen making their kill during daylight hours. | 5.2.2.5 page 76 recommends liaison with DPI and CoGG to monitor and control foxes.  
**Recommendation**  
No change to plan. |
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| 8J  | Management of the flood gates on the lower breakwater has been undertaken by landholders on a voluntary basis for over 35 years. The lowering of gates gives some easing in minor floods but is of little advantage in large flooding. | This issue is not noted and requires further investigation by the CCMA as part of ongoing plans to upgrade this structure.  
**Recommendation**  
Add new note at M3/8 page 71.                                                                 |
| 8K  | Stock is not the primary cause of failure in the fish race. The major problem is sitting behind the breakwater with the build up of floating debris such as cumbungi and reeds which then grow and reduce the flow of water through the fish race. | E3/8 page 71 recommends review of the design and construction of the fishway to improve function and long term management.  
**Recommendation**  
No change to plan.                                                                                                       |
The public open space along the Barwon River between Queens Park Bridge and the lower breakwater is managed by Corangamite CMA. The area has many popular recreation facilities including paths, bridges, car parks, fishing platforms, boat ramps and picnic areas. There are sites of Aboriginal cultural and archaeological significance as well as other cultural heritage values associated with the early settlement and industrial development of Geelong, and recreational use of the river for rowing. The Barwon River is also a critical habitat link and the land along the river has areas of significant indigenous remnant vegetation and extensive revegetation has been undertaken with the assistance of many community groups and volunteers.

Why was the Management Plan developed?

The intent of the project is to prepare a management plan for the Corangamite CMA managed land along the Barwon River from Queens Park Bridge to the lower breakwater. In 2002 the Corangamite CMA, in conjunction with the City of Greater Geelong, developed the Barwon River Land Use and Open Space Corridor Plan, which provided strategic recommendations for the entire waterway corridor, and adjoining open space through Geelong and surrounds. This current project is to implement recommendations of this overall Strategic Plan and update the existing Land Management Plan prepared by Barwon Water in 1996. It provides detailed on-ground management recommendations and priorities to guide ongoing management of the land along the river for the next 10-15 years.

Where is the project up to?

The draft management plan has been guided by a Project Working Group comprising agencies who manage land along the river including City of Greater Geelong, Parks Victoria, Dept. of Sustainability and Environment (DSE), Dept. of Primary Industries (DPI), Barwon Water and the Wathaurong Aboriginal Co-Operative and in consultation with key community stakeholder groups including the Geelong Environment Council, Geelong Field Naturalists, Geelong Cross Country Club, Geelong Rowing Association, Geelong & District Angling Clubs Association, Barwon Valley Waterski Club, Barwon Regional Bicycle Council, Geelong Canoe Club, Geelong Waterski Club and several community representatives. The draft management plan is now available for community review and comment.

Where can you see the draft report and plans?

A small sized plan summarising the key draft recommendations and priorities is attached to this leaflet. Copies of the full draft report including detailed recommendations and plans are available for review on the Corangamite CMA website at www.ccma.vic.gov.au and at:

**CCMA (Geelong Office)**
265 Pakington St
Newtown Vic 3220
Geelong West library
Belmont library
Chilwell library

If you have further queries or require additional information please contact Mark Schirmer on 5232 9100 or e-mail mschirmer@ccma.vic.gov.au

How can you be involved?

- Please look at the draft management plan and fill in the questionnaire on the back of this form and return comments and feedback to the Corangamite CMA via the free post address by: **Friday 3rd August 2007** and

- Attend the community information night

  Thursday 26th July 2007 at Geelong Heritage Centre
  51 Little Malop St from 7.00 till 9.00pm.

Comments and feedback received by 3rd of August will be reviewed by the Corangamite CMA. If you would like to be advised in writing of final amendments to the Draft Plan from consultation please complete your name and address and send back with your completed questionnaire.

NAME ____________________________________________________________

ADDRESS __________________________________________________________

POSTCODE ___________ EMAIL _______________________________________

The personal information requested on this leaflet is to enable us to send you further information in relation to the Management Plan. The personal information will be used solely by CCMA for that primary purpose or directly related purposes and will only be disclosed to the consultants undertaking the project. Please contact CCMA on 5232 9100 if you have any further questions.
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Thank you for spending the time to fill in this questionnaire (If space is inadequate for general comments please attach an extra sheet and fold according to diagram).
Please fold in accordance with the diagram below, secure with some tape and return free of charge by 3rd August 2007.
(H) Improve all ability path access from picnic area to existing CoGG toilet facilities at Fyans Park.
(H) Short term retain established avenue of Ash trees, establish additional indigenous trees in between to retain landscape character when, in the longer term, their health declines and they require removal.
(M) Laise with adjoining landholders to improve management and maintenance of steep escarpment areas adjoining the river including erosion control, removal of weeds and revegetation with indigenous species.
(Q) Protect significant remnant indigenous floodplain vegetation continuing weed and rabbit control programs.

7. SEWER AQUEDUCT BRIDGE AREA
Breakwater Road to Boundary Road (north bank)
The Sewer Aqueduct Bridge and surrounding land are owned and managed by Barwon Water. The CCMA manage the river and frontage only in this area.
(H) Laise with Barwon Water to prepare a Vegetation Management Plan for protection of significant remnant indigenous floodplain vegetation communities. Issues include public access, rabbits and impacts of stormwater discharges from adjoining industrial development in Leather Street.
(H) Barwon Water and Heritage Victoria to confirm long-term future of the heritage listed Sewer Aqueduct Bridge. Short term support investigation of opportunities for restoration of restricted public access for canoeists/pedestrians along the river under the bridge on the north bank potentially using a canopy structure to protect users from falling debris.

8. RURAL ZONE
Boundary Road to Lower Breakwater (Reddye Lake)
(H) Laise with adjoining private landholders to investigate partnerships as part of existing funding opportunities for weed species removal, fencing, off-line water points and riparian revegetation along the river to improve environmental values and minimise erosion.
(H) Upgrade the existing breakwater and fish race. Install permanent canoe landing and warning signage.
(H) Laise with Southen Rural Water and landholders to review existing water allocation permits for structures along the river.
(L) Review existing grazing leases of CCMA land along the river and commence active revegetation of public land to improve environmental links and minimise erosion.
(J) Maintain existing levels of water skiing use and monitor ongoing environmental impacts.