



# Konongwootong Reservoir Master Plan

Dated: July 2012

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## 1. Statement of Purpose

The primary purpose of this Master Plan is to set out Wannon Water's vision for the Konongwootong Reservoir and adjoining land managed by Wannon Water.

It addresses the future uses, recommended upgrades and management guidelines for the site.

The Plan is intended to guide actions that will offer local residents and visitors opportunities to recreate in natural and cultural landscapes, enhance local biodiversity values, and preserve the reservoir's primary function as a water supply.

## 2. Background

The Konongwootong Reservoir is 11 kilometres north of Coleraine. It is closely bounded by open farming land in an area not naturally forested.

Prior to European settlement, the site of the reservoir was characterised by three spring-fed waterholes linked by a creek (later named Den Hills Creek). Today, it is fed by three streams running across grazing land in a catchment area spanning some 11.5 square kilometres.

The reservoir, with a total storage capacity of 1920 Megalitres (ML), was built in 1926 to supply water to the townships of Casterton and Coleraine.

The urban water supply for Casterton and the smaller hamlets of Merino and Sandford shifted to the underground resources of the Tullich Aquifer some years ago. Supply of water to 60 existing rural customers connected to the Konongwootong transfer mains via 66 connections was maintained.

In 2008, Wannon Water canvassed options for the future ownership and management of the reservoir. These included decommissioning the dam, reducing the capacity of the dam or upgrading the dam to turn the reservoir to its full capacity.

After extensive consultation, Wannon Water resolved to retain ownership of Konongwootong Reservoir and reinstate its full storage capacity as a 'back-up' supply for Casterton and Coleraine residents, as well as a supply for rural customers along the transfer pipelines. This decision also reflected the importance of the precinct as a recreational resource for the community.

The need for an overarching Konongwootong Reservoir Master Plan was identified to provide a vision for the site as a whole. This final Plan has been developed in response to stakeholder issues and inputs obtained during initial consultation in spring 2011 and review of a draft Master Plan during autumn 2012.

### 3. Summary of Key Values

A range of key values was taken into account for the preparation of this draft Master Plan. These included Indigenous heritage values, social values and environmental values.

#### INDIGENOUS HERITAGE VALUES

The traditional owners of the land upon which the Konongwootong Reservoir is located are represented by the Gunditj Mirring Traditional Owners Aboriginal Corporation.

The reservoir has significant Aboriginal cultural heritage values and is currently registered on the Victorian Aboriginal Heritage Register. In 1840, it was the site of the 'Fighting Waterholes' massacre during which many old men, women and children were murdered. The location of their burial is unknown, although human remains were unearthed during a 1946 flood event.

In February 2011, the Gunditj Mirring Traditional Owners Corporation met with Wannon Water to explore the concept of a 'Quiet Zone' to recognise the area's Indigenous cultural values. This concept was agreed to by the community's Elders, and the "Quiet Place" has been included in the Master Plan.

The Quiet Place is intended to encourage informed visitor contemplation. Design concepts include three stone benches set into the ground at the top edge of a natural amphitheatre with a view over reeds and a small wetlands area.

#### SOCIAL VALUES

As a spring-fed water resource, Konongwootong Reservoir is more immune to the vagaries of drought than many other bodies of water. This makes it an important recreational resource for the community in a hinterland area with few public reserves and even fewer lakes.

Although there is no data to confirm how the community has used the reservoir over the decades, the local community has a strong attachment to the reservoir precinct.

Historically, Konongwootong has been an important fishing location. The reservoir has hosted the Victorian Fly Fishing championships on numerous occasions and was reportedly cited as one of the state's top trout fisheries during the 1940's or 50's. Local angling groups have expressed strong views about the need to protect the site as a fishing resource into the future.

Other passive recreational uses include kayaking and canoeing. Camping is not permitted.

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### ENVIRONMENTAL VALUES

The reservoir is an artificial construct that has interrupted stream flows for nearly a century, however, as a permanent body of water it provides important habitat for many species of migratory birds.

The site contains some remnant grasses and other indigenous species. There are examples of the Rough-barked Manna Gum or White Gum (*Eucalyptus viminalis*) and Australian Blackwood (*Acacia melanoxylon*).

The area is dominated by stands of mature Pine trees (*Pinus radiata*), most of which were planted during the 1920's.

The site has been identified as providing potential habitat for the critically endangered Golden Sun Moth (*Synemon plana*), although recent surveys conducted at the reservoir have not recorded the species at the site.

## 4. Community Consultation

Consultation to provide input to preparation of a draft Konongwootong Reservoir Master Plan was conducted during Spring 2011. It proactively sought the input of all stakeholders regarding the future management of the Reservoir.

Submissions were received from a range of community groups, government agencies and individuals. The suggestions received were broad ranging and, in some instances, conflicting. There were some suggestions for uses that are not currently permitted at the site which is a designated passive recreation area.

Responses to a draft Master Plan were sought from stakeholders during autumn 2012. Valuable additional input was obtained from this process, and has been incorporated into this final plan.

**The included map (Figure 1) depicts Wannon Water's vision for Konongwootong Reservoir.**

### **INCOMPATIBLE USES**

Konongwootong Reservoir's status as a back-up water supply for the townships of Casterton and Coleraine precludes certain activities. These include:

- power boating (petrol combustion engines), including water skiing; and
- motor cycle activities.

Aside from some issues with slightly elevated salinity, the water meets most water quality parameters, but falls short of satisfying the Safe Drinking Water Regulations (2005) and is therefore classed as "non-potable" (i.e. does not meet drinking water quality standards).

Wannon Water has previously indicated that camping is not permitted at the Konongwootong Reservoir. This is due to a range of factors, including fire risk, pollution, vandalism control and other ongoing management issues.

In addition to the activities outlined above, the following suggestions received during the consultation phase are deemed to be incompatible uses:

- **Fish cleaning table/s or bay**  
There are issues with vermin and cleaning the site after use.
- **Barbecue**  
Wood-fired barbecues may pose a fire hazard at the site. In addition, there is a scant supply of suitable wood in the vicinity, meaning visitors would be required to bring their own firewood. Picnic facilities without barbeques have been included in the Master Plan.
- **Jetty at the boat ramp**  
Due to fluctuating water levels, a fixed jetty is not recommended for this site. A floating pontoon has been included in the Master Plan.
- **Walking and bike tracks around the reservoir**  
Marshlands, swampy areas and the close proximity of the boundary fence to the high water mark at some points would make this difficult. Limited walking trails have been included in the Master Plan.

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- **Fishing platforms on all sides**

Platforms would need to be capable of rising and falling with the fluctuating reservoir water levels. Walking trails have been included to increase access to locations around the reservoir. A floating pontoon adjacent to the boat ramp has also been included in the Master Plan. Provision of one or more fishing platforms close to the main parking area will be considered for those with limited mobility. Fishing platforms on all sides are not considered to be cost effective at the site.

- **Water supply tap**

To avoid the need for installing pumps, any tap would need to be installed below the dam wall, which is an area not currently recommended for car parking or picnic areas. In addition, there are risks associated with the water, which is not treated and therefore unsuitable for drinking.

- **Quick fill point or stand pipe for CFA access**

A dedicated stand pipe is not considered cost effective for the site. Works included in the Master Plan to improve vehicular access to the reservoir would provide ready CFA access to water at the area designated as the boat ramp.

- **Footbridge over the water course**

This draft Master Plan recommends a walking track across the top of the dam wall rather than across the water course below the wall.

- **Open scour valve at the base of the reservoir during summer**

Wannon Water will manage the Reservoir water levels to maximise water storage and availability for its customers, while taking account of environmental considerations.

- **Toilets at northern access point.**

Access at the northern boundary is intended to provide a linkage via walking trails to the main facilities adjacent to the dam wall. Additional toilet facilities to the north would increase capital and ongoing maintenance costs, but could be reconsidered in the future subject to visitor requirements.

## 5. Recommendations

**Based upon the suggestions received during the consultation phase, the following activities and upgrades are recommended as part of the vision for Konongwootong Reservoir.**

Whilst this Master Plan provides a vision for Konongwootong Reservoir, implementation will be reliant on securing external funding for much of the works program. The recommendations are therefore listed by priority, rather than nominating particular timings.

Figure 1 shows an indicative layout plan of Konongwootong Reservoir including the activities and upgrades identified through consultation. Table 1, included with the Layout Plan, provides a list of recommendations and their priorities for implementation.

### **HIGH PRIORITY**

#### **1. Retain long-term water supply**

- Reinststate the reservoir's full storage capacity to 1920 ML (already in progress).
- Retain reservoir as a back-up urban water supply for Casterton, Coleraine, Merino and Sandford, and as a supply for rural customers connected to the transfer pipelines.
- Operate reservoir to maximise water storage and availability for its customers.

#### **2. Retain passive recreation**

- Retain current restriction to passive recreation (ie no boats with petrol combustion engines permitted on the reservoir).

#### **3. Upgrade main entrance and entry track**

- Relocate the existing western entrance approximately 50 metres to the east (downhill) of its current position to ensure a more even and safe gradient.
- This becomes the designated main entrance to the reservoir precinct.
- Main entrance track to be above the high water mark.
- Levelling earthworks required at the main entrance.
- Levelling earthworks and removal of some pine trees required along the entry track to ensure more even gradient.
- Entrance track sealed with crush rock (or similar).
- Signage to be installed at main entrance.

#### **4. Improve car parking**

- Levelling earthworks above the boat ramp to create a designated parking area.
- Create five designated car parks above the high water mark.
- One additional space for car and trailer parking (canoes, kayaks or electric power boats).
- Include consideration of access for those with limited mobility into design process.
- Install signage indicating designated car parking area.

### 5. Add directional signage

- Install directional signage on the Glenelg Highway.
- Install directional signage on the Edenhope-Coleraine Road.
- Install directional signage on the Coleraine-Nareen road.

### 6. Establish 'Quiet Place'

- Install a small car park (crushed rock or similar) at the existing eastern entrance.
- Unsealed walking tracks to follow natural contours from the car park to the Quiet Place.
- Include consideration of access for those with limited mobility into design process.
- Three stone benches to reflect the three stories to be told about the site (via interpretive signage).

### 7. Develop and implement landscape management plan

- A detailed Landscape Management Plan is required for this site. In association with relevant authorities and neighboring land holders, this should take account of routine maintenance programs, staged remove of pine trees, control of weeds and removal of non-Indigenous species. It should also take account of general aesthetics of the areas around the main car park, boat ramp and picnic area. Recommendations on revegetation with appropriate indigenous species will be included.

### 8. Improve safety of pine trees

- Assess the site with a view to determining which pine trees pose a safety risk and need to be removed, particularly in the boat ramp/car park/quiet place areas.

### 9. Establish 'Friends of Konongwootong Reservoir'

- Establish a Reference Group or advisory body such as a 'Friends of Konongwootong Reservoir' to advise Wannon Water in the ongoing management and use of this precinct.

### 10. Add eco-friendly toilets

- Install appropriately designed composting (or similar eco-friendly) toilets in the vicinity of the main picnic area adjacent to the dam wall.

## **MEDIUM PRIORITY**

### 11. Improve boat ramp

- Create a turning circle for vehicles (large enough to accommodate cars and trailers) above the boat ramp.
- Upgrade the boat ramp from its current state.

### 12. Add floating pontoon

- Install a floating pontoon at the boat ramp capable of adapting to changing water levels.
- Include consideration of fishing access for those with limited mobility into design process.

### 13. Add alternate access

- Create an alternate public access point on the northern boundary of the reservoir site from the Coleraine-Nareen Road.
- Install picnic table at this access point.
- Install a small car park (crushed rock or similar).
- Link a walking track along the reservoir's eastern edge towards the dam wall.
- Consider access for walkers-only through the Management Track gate on the northern boundary.

### 14. Establish walking tracks

- Create gravel walking tracks in areas indicated, including north from the east end of the dam wall and along the high water mark to the west.
- Create gravel walking track leading from the car park to the 'Quiet Place'.
- Include consideration of access for those with limited mobility into design process.
- Include consideration of public safety requirements into design process, particularly across the five metre-wide dam wall.

### 15. Add interpretative signage

- Interpretive signage near the access track to the 'Quiet Place'.
- Interpretive signage installed above the boat ramp near the car park acknowledging:
  - o the history of the reservoir precinct
  - o the fishing traditions associated with the reservoir
  - o the reservoir's role as a water supply to the surrounding communities.
- Interpretive signage at the western end of the walking trail identifying the various migratory and other bird species.
- Interpretive signage at the dam wall and at the boat ramp incorporating a site map.
- Incorporate signage that encourages removal of litter from the site.

### 16. Add seating

- Appropriate wooden bench seating to be installed at the outer reaches of the walking tracks.
- Wooden bench seating to be installed at the eastern end of the dam wall.

### 17. Add picnic facilities

- Install picnic two picnic tables above the high water level in the vicinity of the boat ramp.
- Picnic tables to be protected by wooden (or similar) picnic shelter.
- Signage to indicate rubbish must be taken away.
- Signage to indicate camping is not permitted.

## **LOW PRIORITY**

### **18. Staged removal of pine trees**

- Arborist assessment of the site with a view to creating a plan for the staged removal of mature and ageing pine trees and infill with appropriate indigenous species. (Immediate removal of all the pine trees is not recommended due to cost and also due to the negative impact this would have upon the aesthetics of the site.)
- It is further recommended that any professional arborist engaged to develop this plan be strongly encouraged to engage local people, some of whom have an invaluable knowledge of Indigenous plant species.

## **ONGOING**

### **19. Emergency Management Plan**

- Incorporate Konongwootong Reservoir into Wannon Water's emergency and contingency planning in conjunction with key stakeholders.

### **20. Perimeter fencing**

- The integrity of the perimeter fencing must be retained to prevent stock access to the reservoir precinct. This may require ongoing discussions between Wannon Water and adjoining landholders.

### **21. Continue fish stocking**

- Liaise with Department of Primary Industries to continue stocking the reservoir with appropriate fish species. Historically this has been with Rainbow and Brown Trout, and anglers have expressed a preference for Rainbow Trout in future.

# figure 1: konongwootong reservoir master plan layout



- F** Proposed CFA fill point
- A** Proposed public access point
- X** Proposed management access point
- Proposed directional signage

- Proposed interpretive signage**
- A** Bird life
  - B** Fishing traditions
  - C** Reservoir's role as a water supply
  - D** Quiet place
  - E** Site map

- Proposed walking track
- Proposed bench seating
- Proposed picnic table

# table 1: summary of recommendations

| MAP CODES   | ITEM/ACTIVITY   | HIGH PRIORITY | MEDIUM PRIORITY | LOW PRIORITY | ONGOING |
|---|---|---------------|-----------------|--------------|---------|
| ①   | <b>1. Retain long-term water supply:</b><br>Reinstate full storage capacity; retain as a back-up urban water supply.  | •             |                 |              |         |
| ②   | <b>2. Retain passive recreation:</b><br>Retain current restriction to passive recreation (ie no motorised boats).   | •             |                 |              |         |
| ③   | <b>3. Upgrade main entrance and entry track:</b><br>Relocate existing entrance 50m to east; levelling earthworks; removal of some pine trees; crushed rock track; signage at main entrance. | •             |                 |              |         |
| ④   | <b>4. Improve car parking:</b><br>Levelling earthworks above boat ramp; 5 car parks + car/trailer park; install signage.  | •             |                 |              |         |
| ⑤    | <b>5. Add directional signage:</b><br>Signage to direct visitors from main roads to reservoir.  | •             |                 |              |         |
| ⑥    | <b>6. Establish 'Quiet Place':</b><br>Designated area for quiet contemplation in reference to Indigenous cultural values.   | •             |                 |              |         |
| ⑦   | <b>7. Develop and implement landscape management plan:</b><br>Detailed Landscape Management Plan.   | •             |                 |              |         |
| ⑧   | <b>8. Improve safety of pine trees:</b><br>Assessment of dangerous pine trees to be removed, particularly in the boat ramp/car park areas.  | •             |                 |              |         |
| ⑨   | <b>9. Establish 'Friends of Konongwootong Reservoir':</b><br>Establish advisory body.   | •             |                 |              |         |
| ⑩  | <b>10. Add eco-friendly toilets:</b><br>Install appropriate eco-friendly toilets near picnic area.  | •             |                 |              |         |
| ⑪   | <b>11. Improve boat ramp:</b><br>Create vehicle turning circle; install floating pontoon; upgrade ramp area.  |               | •               |              |         |
| ⑫   | <b>12. Add floating pontoon:</b><br>Install a floating pontoon capable of adapting to the changing water levels.  |               | •               |              |         |
| ⑬  | <b>13. Add alternate access:</b><br>Northern edge access; install picnic table and small car park; link walking trail along eastern side of reservoir to dam wall.                          |               | •               |              |         |
| ⑭  | <b>14. Establish walking tracks:</b><br>Crushed rock walking trails.  |               | •               |              |         |
| ⑮  | <b>15. Add interpretive signage:</b><br>Installed in designated areas.  |               | •               |              |         |
| ⑯  | <b>16. Add seating:</b><br>Install wooden bench seating at outer reaches of walking trails and near dam wall.   |               | •               |              |         |
| ⑰  | <b>17. Add picnic facilities:</b><br>Install picnic tables with shelter structure; install signage.   |               | •               |              |         |
| ⑱   | <b>18. Staged removal of pine trees:</b><br>Arborist assessment; removal of pine trees and replacement with Indigenous species.   |               |                 | •            |         |
| ⑲   | <b>19. Emergency Management Plan:</b><br>Incorporate into Wannon Water Emergency Management and Contingency Planning.   |               |                 |              | •       |
| ⑳   | <b>20. Perimeter fencing:</b><br>Protect integrity of fencing to prevent stock access.  |               |                 |              | •       |
| ㉑   | <b>21. Continue fish stocking:</b><br>Liaise with relevant authorities to continue stocking the reservoir with appropriate fish species.  |               |                 |              | •       |