

Bendigo, Stuart Mill, Geelong and Sebastian Water Supply Catchments

Crusoe Group Reservoirs (Bendigo)
Spring Gully Reservoir (Bendigo)
Teddington Reservoir (Stuart Mill)
Barwon Downs Wellfield Intake Area (Geelong)
Cockatoo Hill (Sebastian)

A Proposal for Proclamation

**Statement prepared for consideration by the Land
Conservation Council**

November 1988

Land Protection Division
Department of Conservation, Forests and Lands

CRUSOE GROUP RESERVOIRS (BENDIGO) WATER SUPPLY CATCHMENT

The catchment is in North Central Victoria on the south western outskirts of Bendigo. The catchment drains part of the headwaters of Bendigo Creek, which is a tributary stream to the Mount Hope Creek drainage system. The catchment areas has been extended beyond the topographic area, that could potentially contribute to the three reservoirs, to include the water supply channel and an area of public land related to the protection of the reservoirs from unregulated public access.

The catchment area (1,630 ha) can be defined approximately as the area draining to Crusoe Reservoir located on a tributary of Bendigo Creek and to points on adjacent tributaries of Bendigo Creek to the east all within the Parish of Mandurang.

The Catchment

The topography of these catchment consists of broken ridges, moderately steep with rounded crests on older thinly bedded sediments, with shallow to moderately deep gradational and duplex soils depending on topographic position. The vegetation type is predominantly open forest consisting of red ironbark associations with some open woodland consisting of a grey box and yellow gum association. The understorey is indicatively a generally dry moisture regime with various acacias (wattles) and variable shrub and herb layers.

Rainfall/Elevation

Bendigo	542 mm	225 m
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Land Tenure and Use

The catchment is entirely public land, predominantly used for water supply purposes (D20), while a small area is State Forest (E32).

The Land Conservation Council (LCC) recommendations for the use of public land in this area are contained in "Final Recommendations, North Central Area, 1981, LCC." LCC recommendations appear in brackets.

Water Supply Systems

Crusoe (1,520 ML), Big Hill (33 ML) and No. 7 (310 ML) Reservoirs are fed from the Coliban Main Channel and are three of the many service reservoirs which supply the City of Bendigo (65,000).

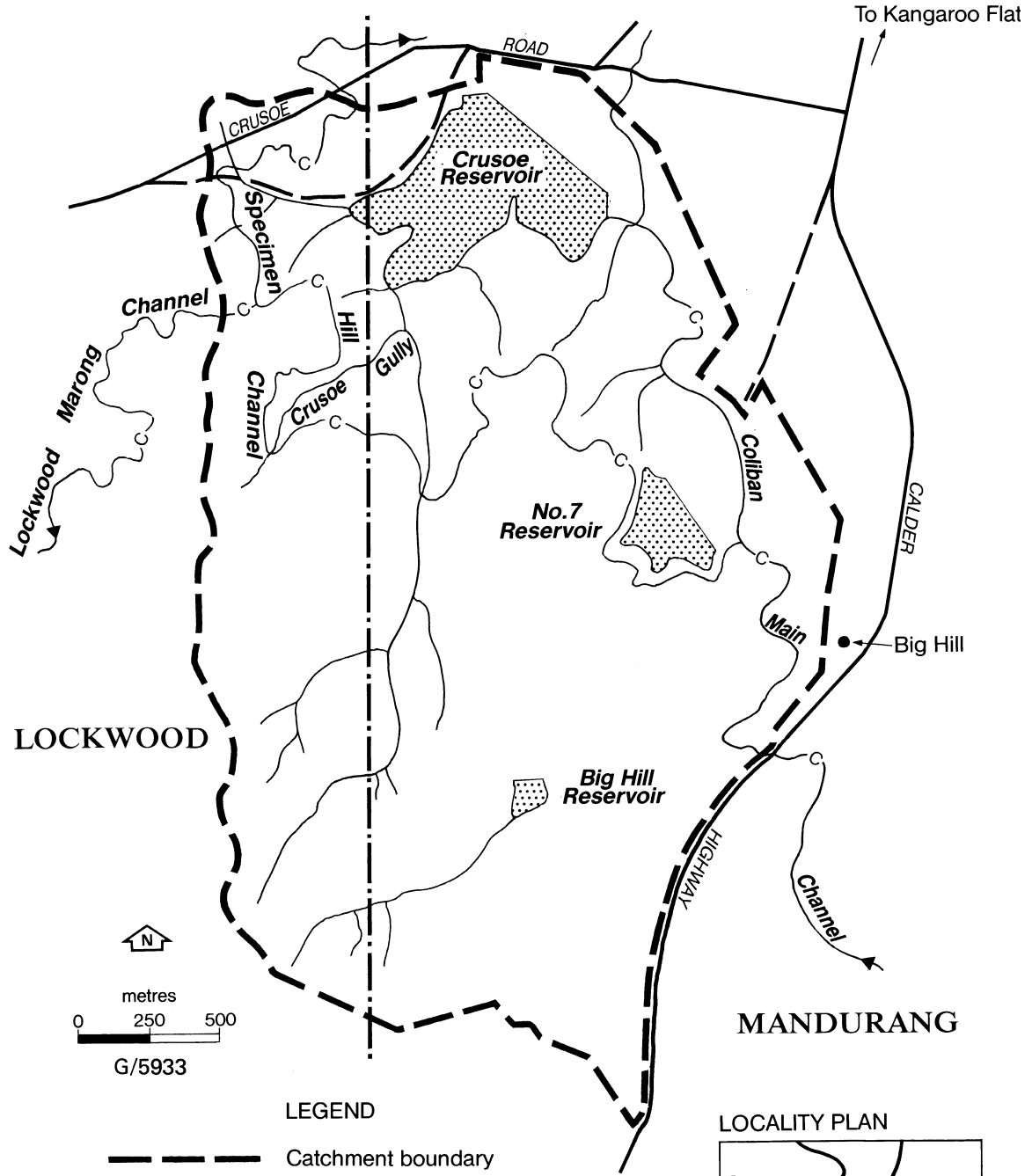
Administrative Areas

Parishes: Lockwood, Mandurang

Municipalities: Shire of Marong

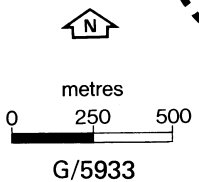
Initially this catchment area was excluded from consideration in the accelerated program on the basis that catchdrains around the storages provided sufficient protection to the reservoirs. As a result of discussions during field investigations of other reservoirs in the Bendigo area, the Crusoe group of reservoirs was reassessed. Using the same criteria and rating of the initial exercise, the group returned a total score of 14 giving a priority of one, making it top priority for investigations.

PLAN No. S-1480
CRUSOE GROUP RESERVOIRS
(BENDIGO) WATER SUPPLY CATCHMENT



LOCKWOOD

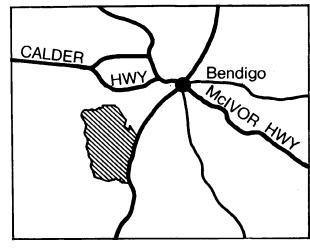
MANDURANG



LEGEND

- Catchment boundary
- . - . -** Parish boundary
- MANDURANG** Parish name
- c —** Water Supply Channel

LOCALITY PLAN



SPRING GULLY RESERVOIR (BENDIGO) WATER SUPPLY CATCHMENT

The catchment is in North Central Victoria on the southern outskirts of the City of Bendigo, on low undulating rises. The catchment drains part of the headwaters of Bendigo Creek, which is a tributary to the Mount Hope Creek system.

The wall of the Spring Gully Reservoir is located on Spring Gully within Section H of the Parish of Sandhurst. The catchment is approximately 289 ha.

The Catchment

The topography of the catchment consists of broken ridges, moderately steep with rounded crests on older thinly bedded sediments, with shallow to deep gradational and duplex soils depending on topographic position. The vegetation is predominantly a red ironbark-red box association with an indicatively dry moisture regime understorey.

Rainfall/Elevation

Bendigo 542 mm 225 m

Land Tenure and Use

The catchment is entirely public land, used primarily for water production purposes (D19) and a small areas reserve near Diamond Hill (J6). In the past, the area has undergone considerable gold mining activity. Areas affected by mining have re-generated naturally.

The Land Conservation Council (LCC) recommendations for the use of public land in this area contained in "Final Recommendations, North Central Area, 1981, LCC." LCC recommendations appear in brackets.

Water Supply Systems

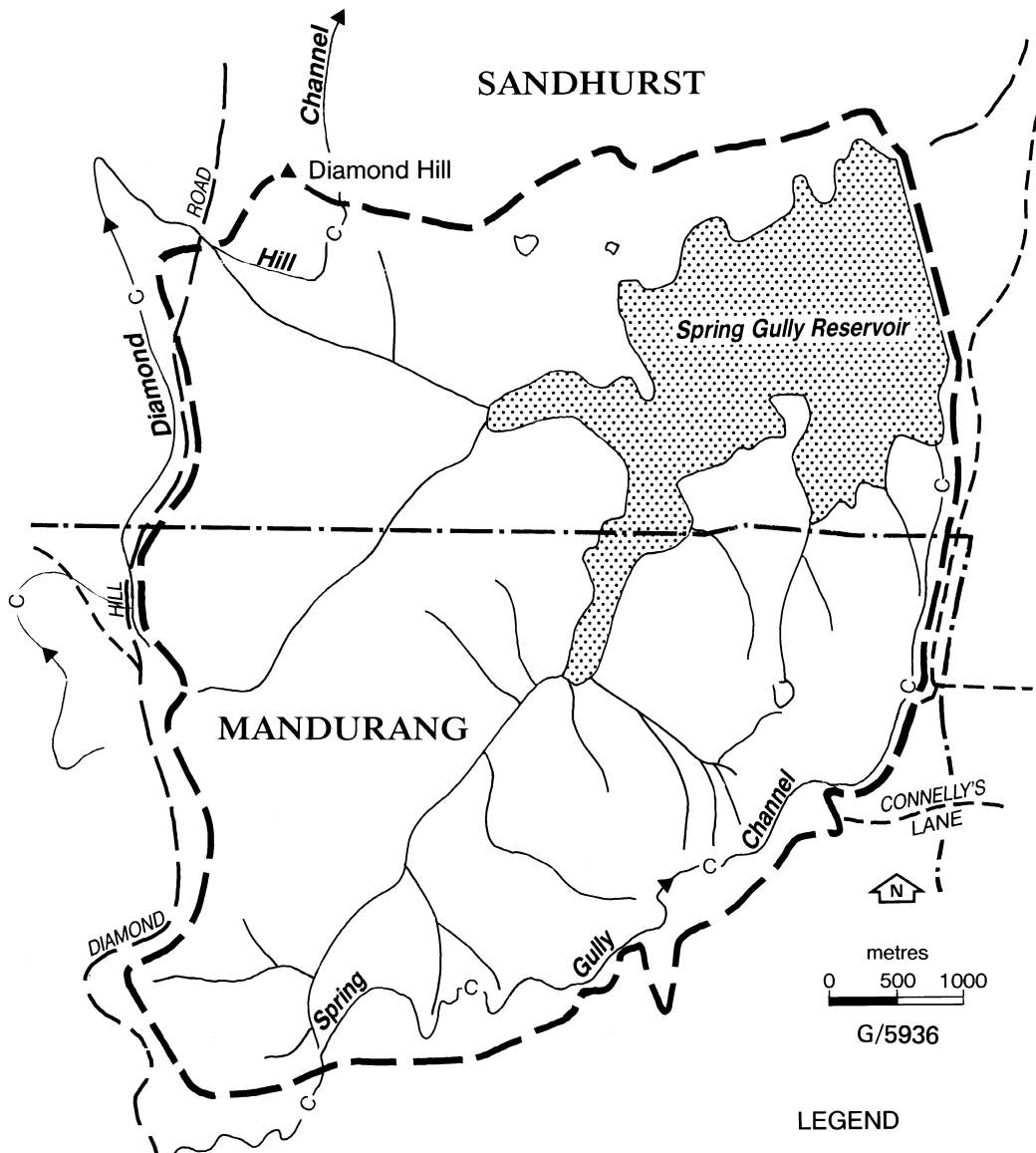
Spring Gully Reservoir (2,470 ML) is one of many service reservoirs which supply the City of Bendigo (population 65,000). Spring Gully is fed by pipeline from Lake Eppalock and the Coliban Main Channel. The water from this supply is treated (chlorinated).

Administrative Areas

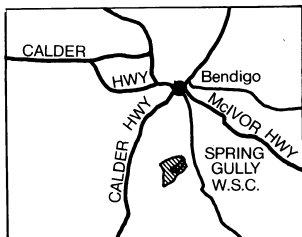
Parishes: Sandhurst, Mandurang



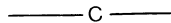
Municipalities: Shire of Strathfieldsaye

PLAN No. S-1479
SPRING GULLY RESERVOIR
(BENDIGO) WATER SUPPLY CATCHMENT



LOCALITY PLAN



- LEGEND**
-  Catchment boundary
 -  Parish boundary
 - MANDURANG** Parish name
 -  Water Supply Channel

TEDDINGTON RESERVOIR (STUART MILL) WATER SUPPLY CATCHMENT

The catchment in Western Victoria is part of the St Arnaud Range which are hills to the north of the Pyrenees Range. The catchment drains upper Strathfillan Creek, within the Avoca River Basin.

The total catchment to the lower reservoir is 2,730 ha in area, made up of 2,400 ha of natural catchment and 330 ha of an adjacent area above a catch-drain. The catchment extends upstream from the all of the lower reservoir, located in Crown Allotment 17 Section A, Parish of Boola Boloke.

The Catchment

The topography consists of prominent ridges, producing highly dissected terrain with steep slopes and narrow crests on older thinly bedded sediments and some Recent alluvium. Soils developed on this material are stony shallow to moderately deep gradational and duplex types depending on topographic position. The predominant vegetation is open forest consisting of a red stringybark association with an understorey of acacias and heaths. A messmate, blue gum association occupies the main drainage lines.

Rainfall/Elevation

St Arnaud	508 mm	239 m
Redbank	525 mm	259 m
Navarre	532 mm	228 m

Land Tenure and use

Public land accounts for 93% (2,533 ha) of the catchment. Kara Kara State park (A1) accounts for 83% of the total catchment area and State Forest (E7) accounts for 10%. Activities which currently occur in the catchment include camping, trailbike riding and light grazing (sheep).

Freehold land accounts for 7% (197 ha) of the catchment including a small area (approximately 32 ha), around and including the lower Teddington Reservoir, owned by Kara Kara Shire Council.

The Land Conservation Council (LCC) recommendations for the use of public land in this area are contained in "Final Recommendations, North Central Area, 1981, LCC." LCC recommendations are shown in brackets.

Water Supply Systems

There are two on-stream catchment reservoirs (805 ML and 832 ML) in close proximity. Two catch drains, one to each reservoir provide extra water to the reservoirs. However, only the (west) catch drain to the upper reservoir (805 ML) is currently functional.

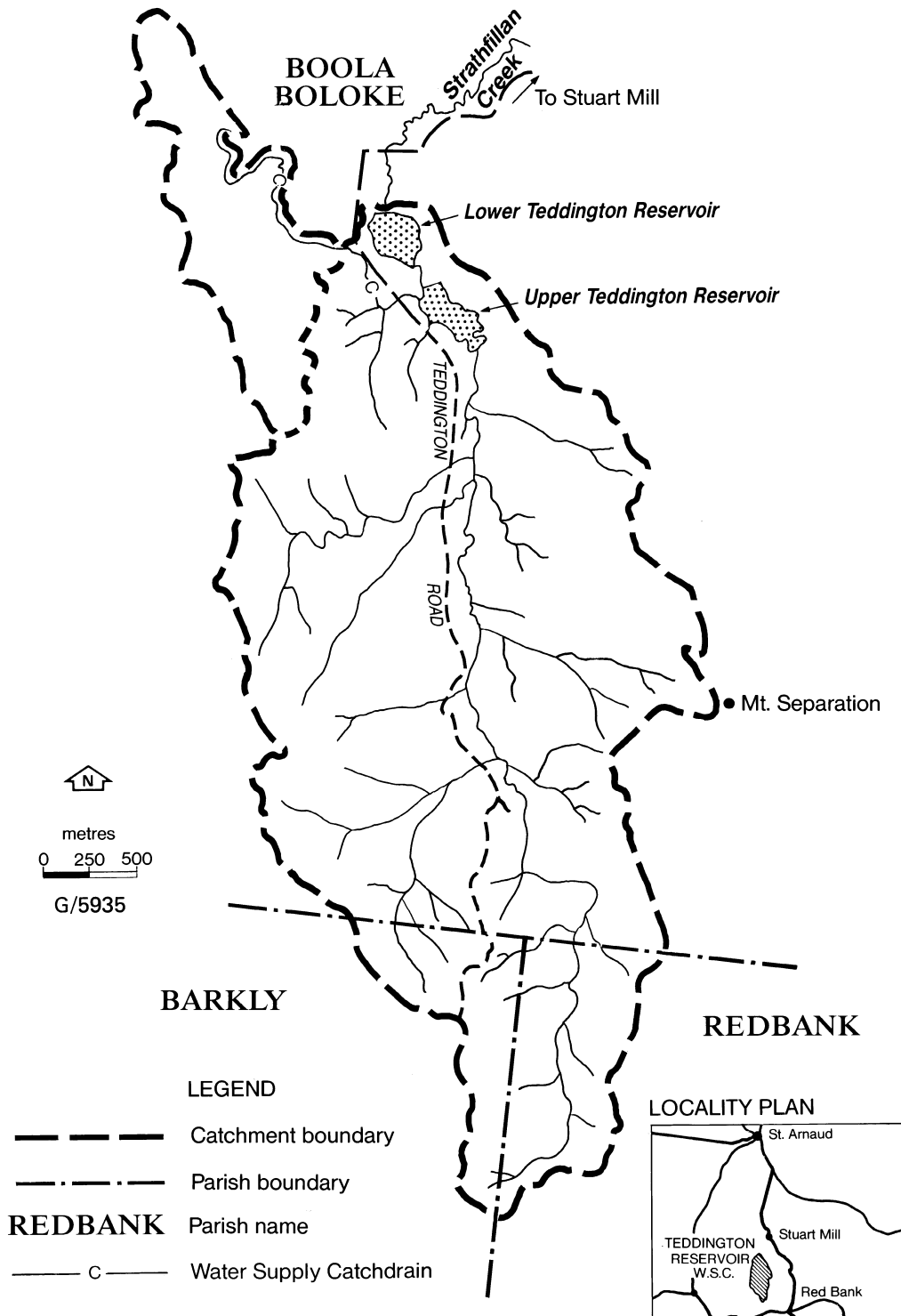
The lower reservoir supplies, via a gravity fed pipeline the township of Stuart Mill (permanent population 50), and the surrounding area. During drought periods the reservoir functions as an emergency supply when water is transported from the reservoir to a wider area. The lower reservoir water supply is supplemented from the upper reservoir as and when required.

Administrative Areas

Parishes: Boola Boloke, Barkley, Redbank

Municipalities: Shire of Kara Kara, Shire of Avoca.

PLAN No. S-1482
TEDDINGTON RESERVOIR
(STUART MILL) WATER SUPPLY CATCHMENT



BARWON DOWNS WELLFIELD INTAKE AREA (GEELONG) WATER SUPPLY CATCHMENT

The Barwon Downs wellfield forms an important part of Geelong and District Water Board's water supply system and further development of the resource is currently being investigated. The importance of this wellfield for water supply is reflected in the need for Proclamation of the relevant intake area, which has been identified by the Groundwater Branch of the Department of Water Resources (DWR).

The designated intake area is in South West Victoria, south of Colac and within the Barongarook hills. The surface drainage system of this area consists of part of the Boundary and Dividing Creek catchments which lead into the Barwon River and a smaller area north of Boundary Creek which is within the Corangamite Drainage Basin. The designated intake area catchment has an area of 7,680 ha. Part of the natural intake area is within the Gellibrand River Water Supply Catchment.

The wellfield, which is about 5 km from the intake area, is located near Gerangamete township within the Parish of Gerangamete.

The Catchment

The catchment topography consists of a dissected surface of rounded hills, moderately dissected, often with broad crests and gently foot-slopes on permeable younger sediments with sandy uniform and gradational soils. The vegetation consists of open forest (stringybark associations), some open woodland (stringybark associations with heath understorey) and cleared areas with pasture.

Rainfall/Elevation

Colac	721 mm	134 m
Forrest	1030 mm	192 m

Land Tenure and Use

Public land accounts for 31% of the designated intake area catchment and includes State Forest (U1), a small part of the Kawarren Regional Park (A6), a lakeside reserve (N60) and a stone extraction area-quarry (R5).

Freehold land accounts for 69% of the intake area catchment. The main land uses include grazing (dairy and beef, 56%) and some forestry (13%).

The Land Conservation Council (LCC) recommendations for the use of public land in this area are contained in "Final Recommendations Corangamite Area, 1978, LCC." LCC recommendations are shown in brackets.

Water Supply Systems

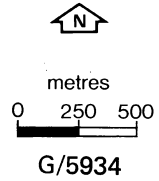
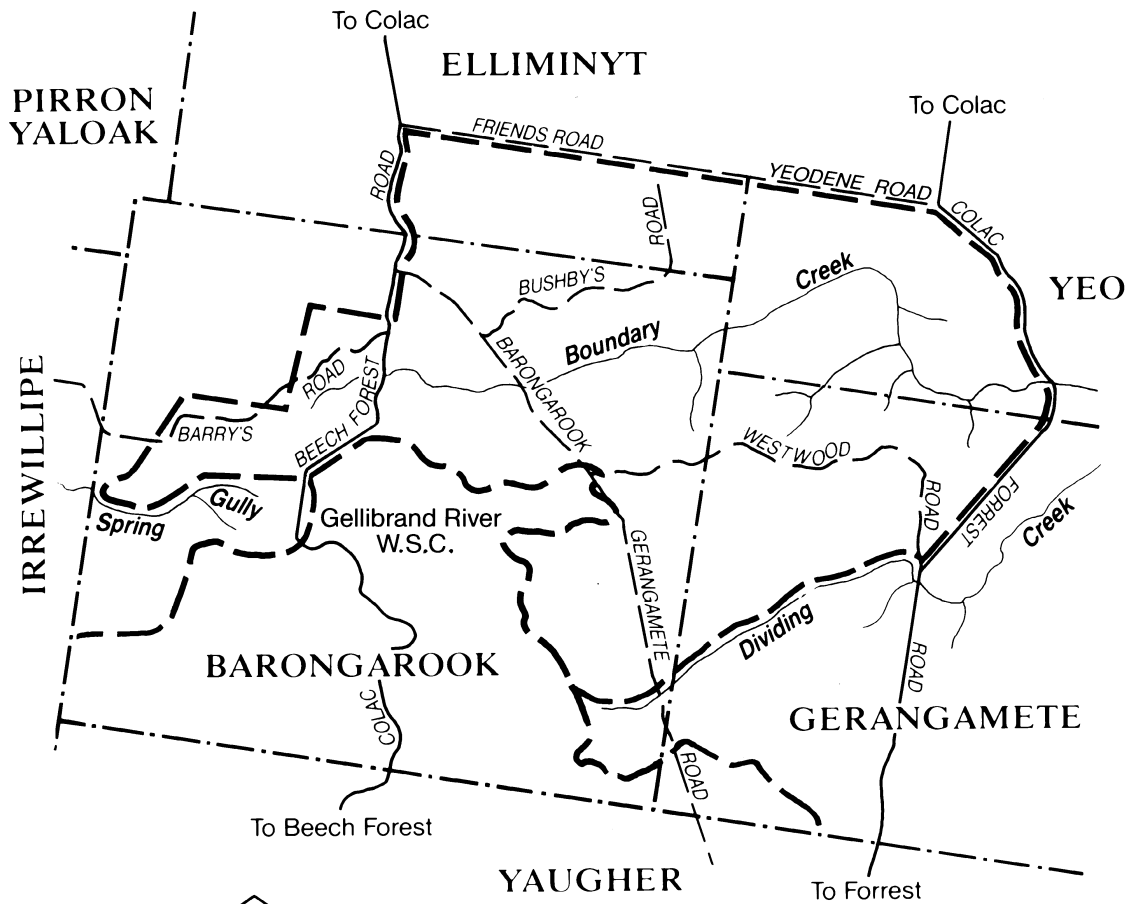
From the wellfield, water is pumped from a depth of between 315 - 615 m and following treatment to reduce iron levels, into the Wurdiboluc Inlet Channel for supply to the Geelong area (population 185,000).

Administrative Areas

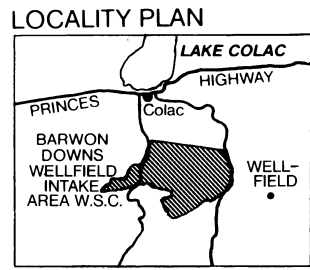
Parishes: Barongarook, Elliminyt, Yeo and Gerangamete

Municipality: Shire of Colac

PLAN No. S-1483
BARWON DOWNS WELLFIELD INTAKE AREA
(GEELONG) WATER SUPPLY CATCHMENT



- LEGEND**
- BARONGAROOK** Parish name
 - Catchment boundary
 - · - · - Parish boundary
 - Major road
 - - - - - Minor road



COCKATOO HILL RESERVOIR (SEBASTIAN) WATER SUPPLY CATCHMENT

The catchment is in North Central Victoria on low undulating terrain approximately 18 km north of the City of Bendigo. The catchment is part of the upper reaches of Myers Creek which leads into the Mount Hope Creek system but now forms part of the Raywood Race (channel) network.

The area of Cockatoo Hill Reservoir catchment (18.7 ha) under consideration is within Crown Allotment 53D Section H, Parish of Neilborough.

The Catchment

The catchment consists of undulating topography of gentle ridges of older thinly bedded sediments with shallow to moderately deep gradational and duplex soils, depending on topographic position. The vegetation is mainly open scrub (characterized by mallee species) and rough pasture.

Rainfall/Elevation

Bendigo	542 mm	225 m
Raywood	444 mm	127 m

Land Tenure and Use

The entire catchment is public land and is used for water supply purposes (D29) and eucalyptus oil production (G1). The immediate area around the reservoir has been fenced.

The Land Conservation Council (LCC) recommendations for the use of public land in this catchment is contained in "Final Recommendations, North Central Area, 1981, LCC." LCC recommendations are shown in brackets.

Water Supply Systems

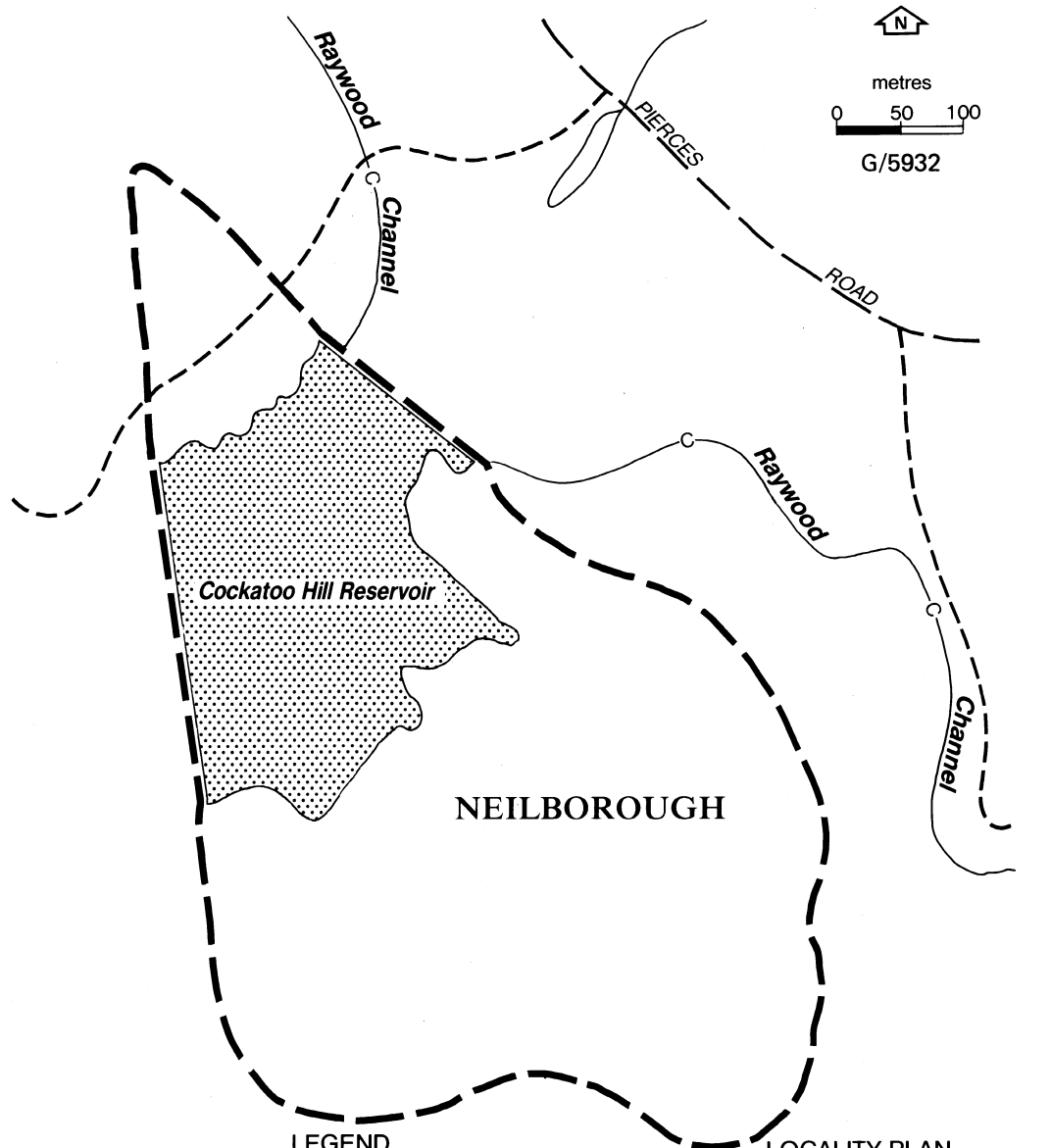
Cockatoo Hill Reservoir (D29) is a storage reservoir (capacity 56 ML) which supplies the township of Sebastian (population 50) via a pipeline and Raywood (population 240) via the Raywood Race (channel). The reservoir is fed from other service reservoirs to the south within the Coliban distribution network.

Administrative Areas



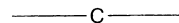
Parish: Neilborough

Municipality: Marong

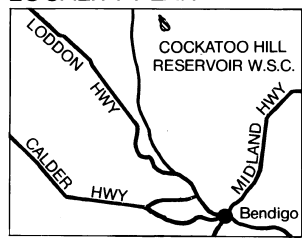
**PLAN No. S-1481
 COCKATOO HILL RESERVOIR
 (SEBASTIAN) WATER SUPPLY CATCHMENT**



LEGEND

-  Catchment boundary
-  Parish boundary
- NEILBOROUGH** Parish name
-  Water Supply Channel

LOCALITY PLAN



Recommendations

1. That
 - Cockatoo Hill Reservoir (Sebastian) Water Supply Catchment, Plan S-1481

Not be included in the list of catchments being recommended for proclamation because the small natural catchment makes only a small contribution to potential water quality problems in the storage in contrast with the water supply channel.

2. That the Land Conservation Council, under section 5(1)(b) of the *Land Conservation Act*, 1970 recommend to the Governor-in-Council that the following catchments be proclaimed under section 22(1) of the *Soil Conservation and Land Utilization Act*, 1958.
 - Crusoe Group Reservoirs (Bendigo) Water Supply Catchment, Plan No. S-1480.
 - Spring Gully Reservoir (Bendigo) Water Supply Catchment, Plan No. S-1479.
 - Teddington Reservoir (Stuart Mill) Water Supply Catchment, Plan No. S-1482
 - Barwon Downs Wellfield Intake Area (Geelong) Water Supply Catchment, Plan No. S-1483.