

Table 9-4 summarises the survey techniques undertaken during the fauna survey program at different sites.

■ **Table 9-4 Surveys Undertaken at each Fauna Survey Site**

Fauna Survey Site	Elliot traps	Cage traps	Harp traps	Pitfall traps	Hair tubes	Bird surveys	Spot-lighting searches	Anabat	Playback	Herp searches
1	X	X	X			X	X	X	X	X
2	X	X				X	X	X	X	X
3	X	X				X	X	X	X	X
4	X	X	X			X	X	X	X	X
5	X	X		X		X	X		X	X
6	X	X				X	X	X	X	X
7	X	X	X			X	X	X	X	X
A							X			
B					X	X				
C							X		X	
D						X				
E						X				
F						X		X		
G						X				
H							X		X	
I					X					
J			X		X	X	X	X	X	
K								X		
L						X		X		X

## 9.4 Existing Environment

### 9.4.1 Study Area

Details of the environment including topography, geology, soils and landuse are provided in **Sections 4 and 6**.

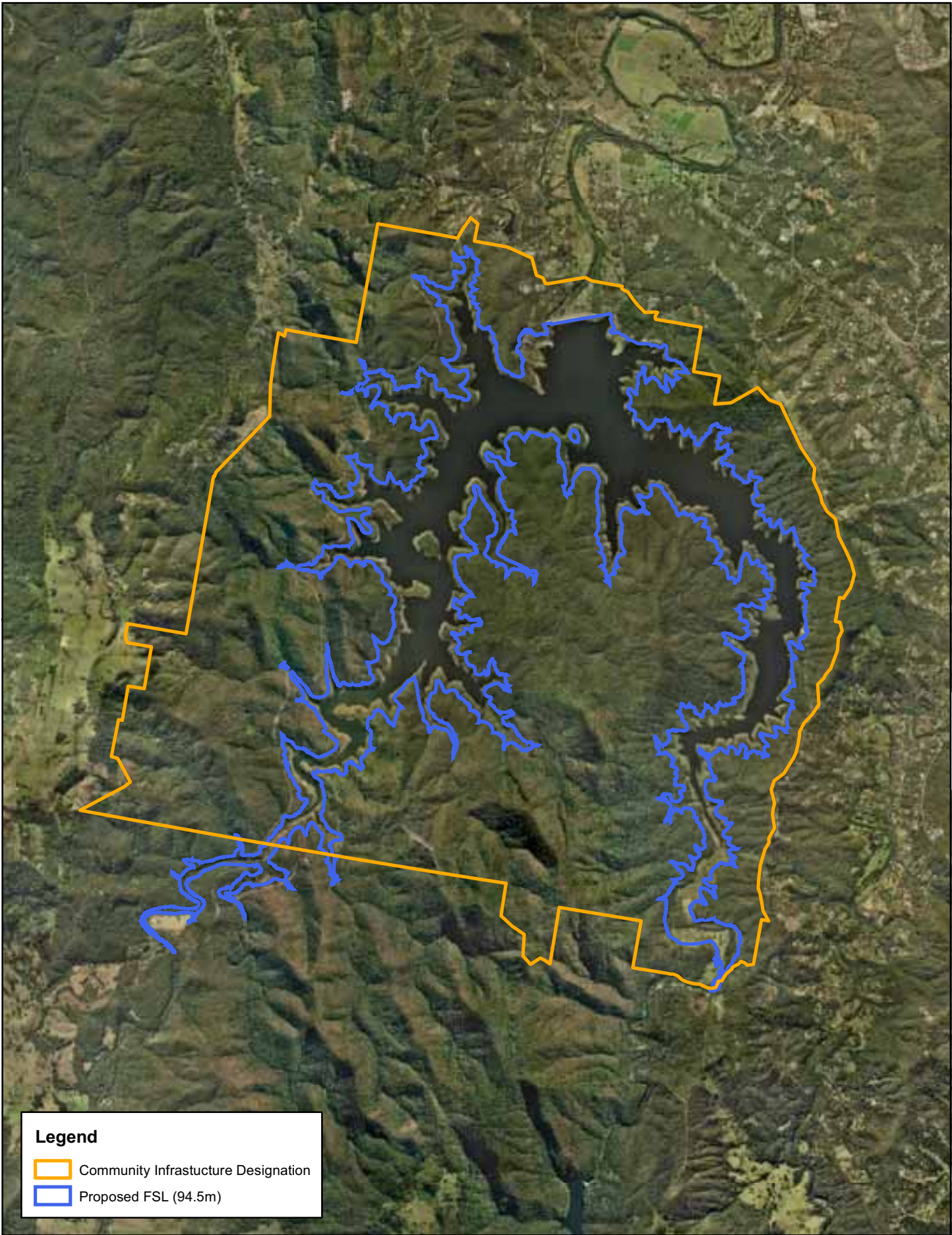
The extent of the study area for the purposes of this section is shown on **Figure 9-2**.

The ecology of the area surrounding the Hinze Dam spillway has been disturbed by the construction of the dam, and the development of the ancillary facilities. The remainder of the study area surrounding Advancetown Lake is moderately steep and hilly, and a number of small creeks and gullies drain directly into the lake. A dominant feature on the south-western side of the lake is Pages Pinnacle, an exposed pinnacle of igneous rock. The creeks and gullies that drain into the lake are steep and rocky in places, with small waterfalls on some of the gullies.



Remnant vegetation communities are dominant in the study area, comprising dry eucalypt open forests, with small areas of rainforest and wet sclerophyll forest within sheltered gullies. At the upper reaches of Nerang River and Little Nerang Creek, areas of non-remnant vegetation are present. These areas were previously cleared for agriculture and pastureland use before the dam, and are slowly regenerating.

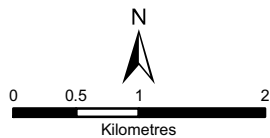
The study area is bordered by the Tallai Range to the east, Beechmont Road to the west, the urbanised area of Advancetown to the north, and Numbinbah Forest Reserve to the south. Remnant vegetation within the study area, forms part of a larger mosaic of highly diverse forests that are interconnected and includes Numinbah Forest Reserve, and the World Heritage listed forests of Springbrook National Park and Lamington National Park in the upper sections of the Hinze Dam catchment. Part of the study area is mapped as a declared State Wildlife Corridor by the State Government (EPA Biodiversity Assessment for Southeast Queensland 2005).

Photographs of the study area are shown in **Plates 9-1 to 9-6**.



**Legend**

-  Community Infrastructure Designation
-  Proposed FSL (94.5m)



Scale - 1:60,000  
Projection: MGA Zone 56

Figure 9-2

Extent of Study Area

Hinze Dam Stage 3 EIS



**Plate 9-1 View of Advancetown Lake from Hinze Dam**



**Plate 9-2 Open eucalypt forest surrounding majority of lake**



**Plate 9-3 Quarry immediately west of the dam wall**



**Plate 9-4 Rainforest within sheltered steep gullies surrounding lake**



**Plate 9-5 Koala feed tree plantation along Little Nerang Creek**



**Plate 9-6 Little Nerang Creek immediately upstream of the dam**

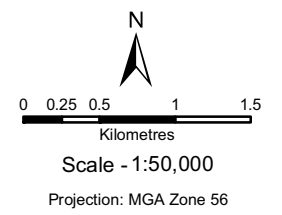
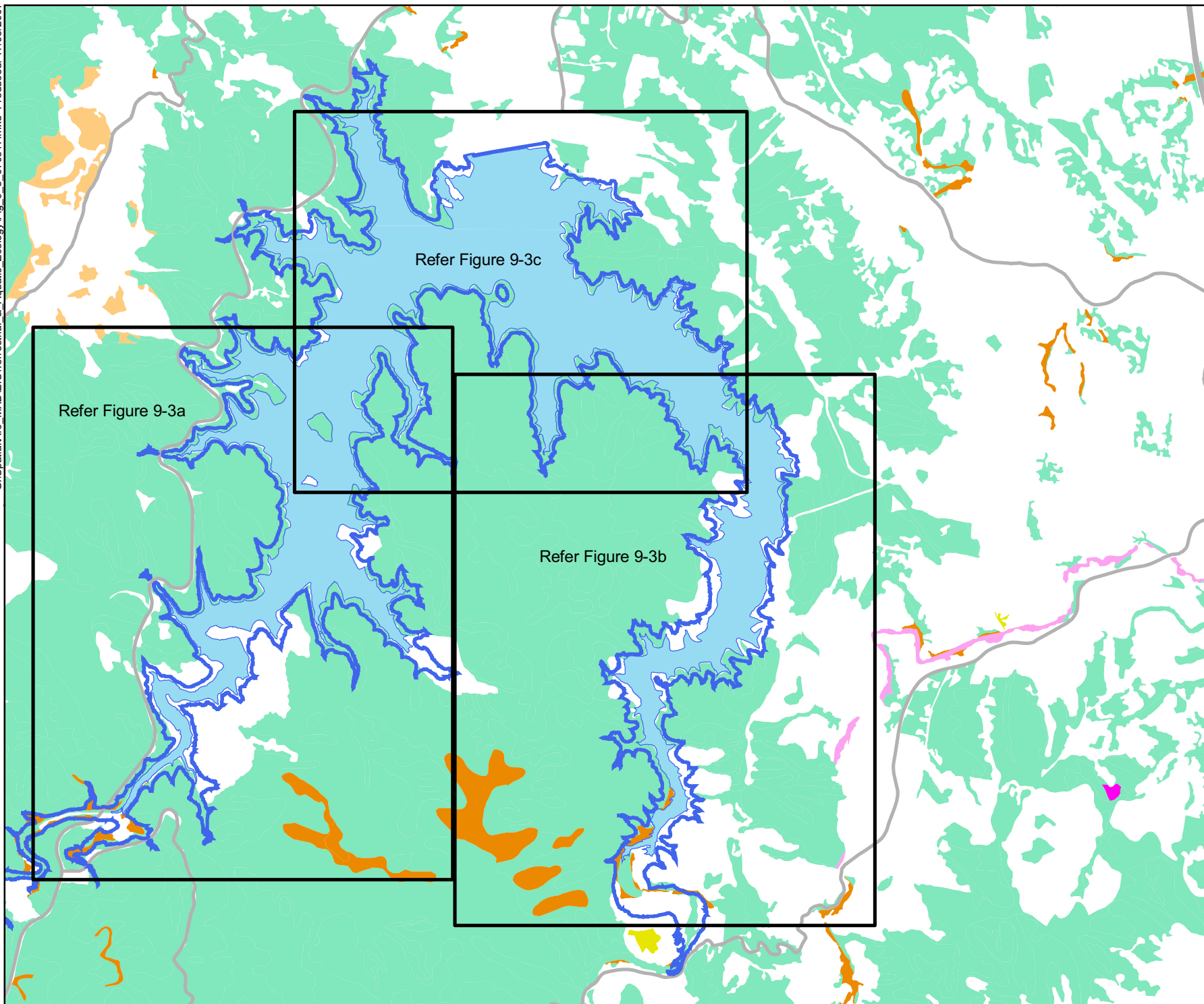
## 9.4.2 Terrestrial Flora

### Regional Ecosystem Mapping

The EPA's certified Regional Ecosystem (RE) mapping shows that the majority of the area surrounding the dam supports remnant vegetation. In terms of broad vegetation types, the dominant vegetation community is eucalypt forest, with small areas of rainforest within sheltered gullies. The RE's occurring within the study area, including their status under the VM Act is summarised in **Table 9-5**. The distribution and extent of these regional ecosystems is shown in **Figure 9-3** and **Figures 9.3a to Figure 9.3c**.

■ **Table 9-5 Regional Ecosystems in the Inundation Area**

Regional Ecosystem	Description	VMA Status
12.3.2	<i>Eucalyptus grandis</i> tall open forest on alluvial plains	Of concern
12.3.7	<i>Eucalyptus tereticornis</i> , <i>Callistemon viminalis</i> , <i>Casuarina cunninghamiana</i> fringing forest	Not of concern
12.3.11	<i>Eucalyptus siderophloia</i> , <i>E. tereticornis</i> , <i>Corymbia intermedia</i> open forest on alluvial plains usually near coast	Of concern
12.11.1	Simple notophyll vine forest often with abundant <i>Archontophoenix cunninghamiana</i> (gully vine forest) on metamorphics ± interbedded volcanics	Not of concern
12.11.3	Open forest generally with <i>Eucalyptus siderophloia</i> , <i>E. propinqua</i> on metamorphics ± interbedded volcanics	Not of concern
12.11.3-12.11.1	Open-forest of <i>Lophostemon confertus</i> with <i>Eucalyptus microcorys</i> and <i>E. propinqua</i> . Occurs in gullies and exposed ridges of Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics	Not of concern
12.11.5	Open forest of <i>Eucalyptus tindaliae</i> , <i>Eucalyptus carnea</i> ± <i>E. siderophloia</i> , <i>E. microcorys</i> , <i>E. racemosa</i> , <i>E. propinqua</i> . Occurs on Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics	Not of concern



- Legend**
- Main Roads
  - Current FSL (82.2m)
  - Proposed FSL (94.5m)
  - Non-remnant / regrowth
  - Endangered - Sub-dominant
  - Endangered - Dominant
  - Of Concern - Sub-dominant
  - Of Concern - Dominant
  - Not Of Concern
  - Plantation forest

Figure 9-3  
Regional Ecosystems  
Overview  
Hinze Dam Stage 3 EIS

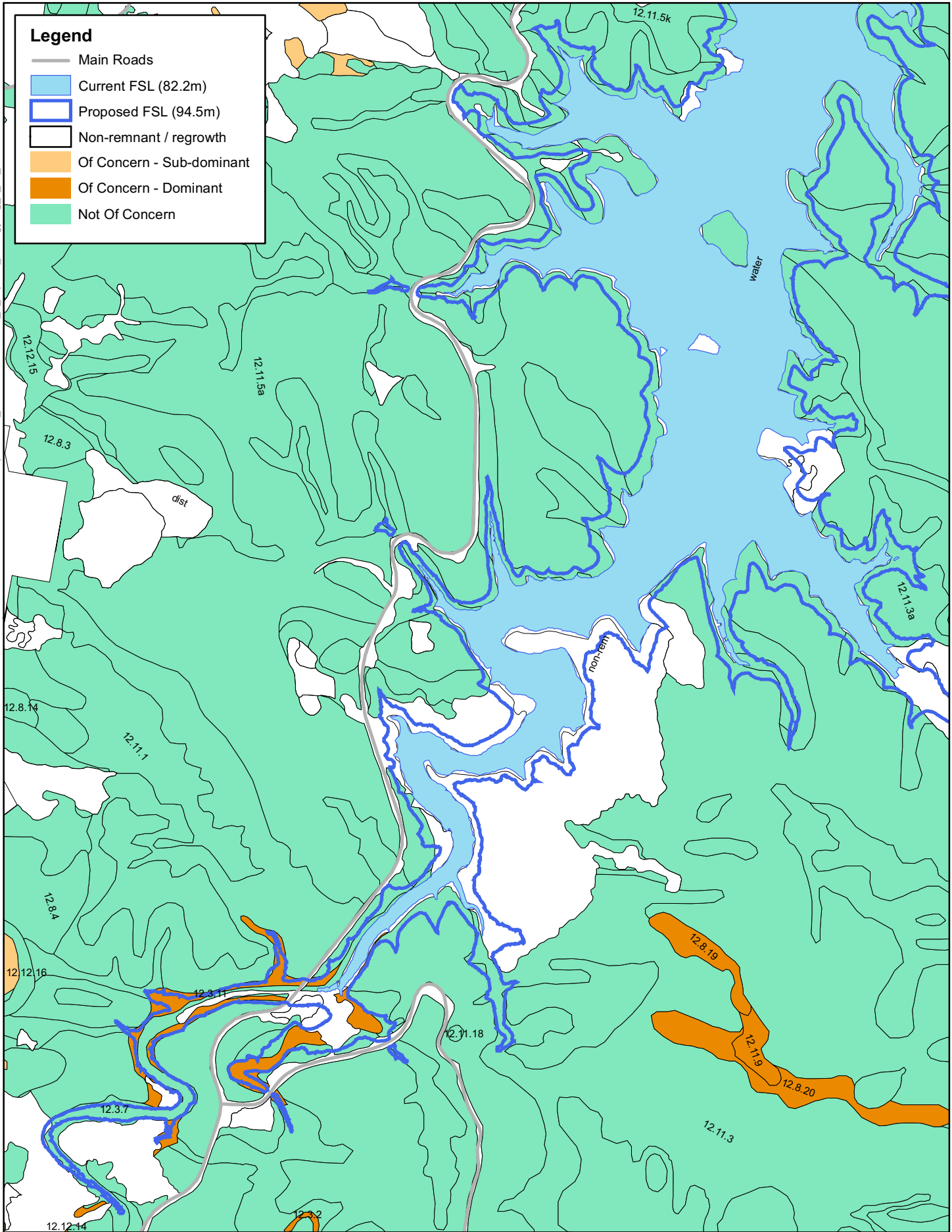
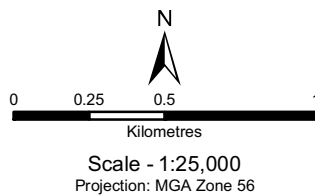
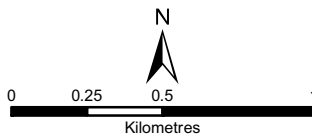
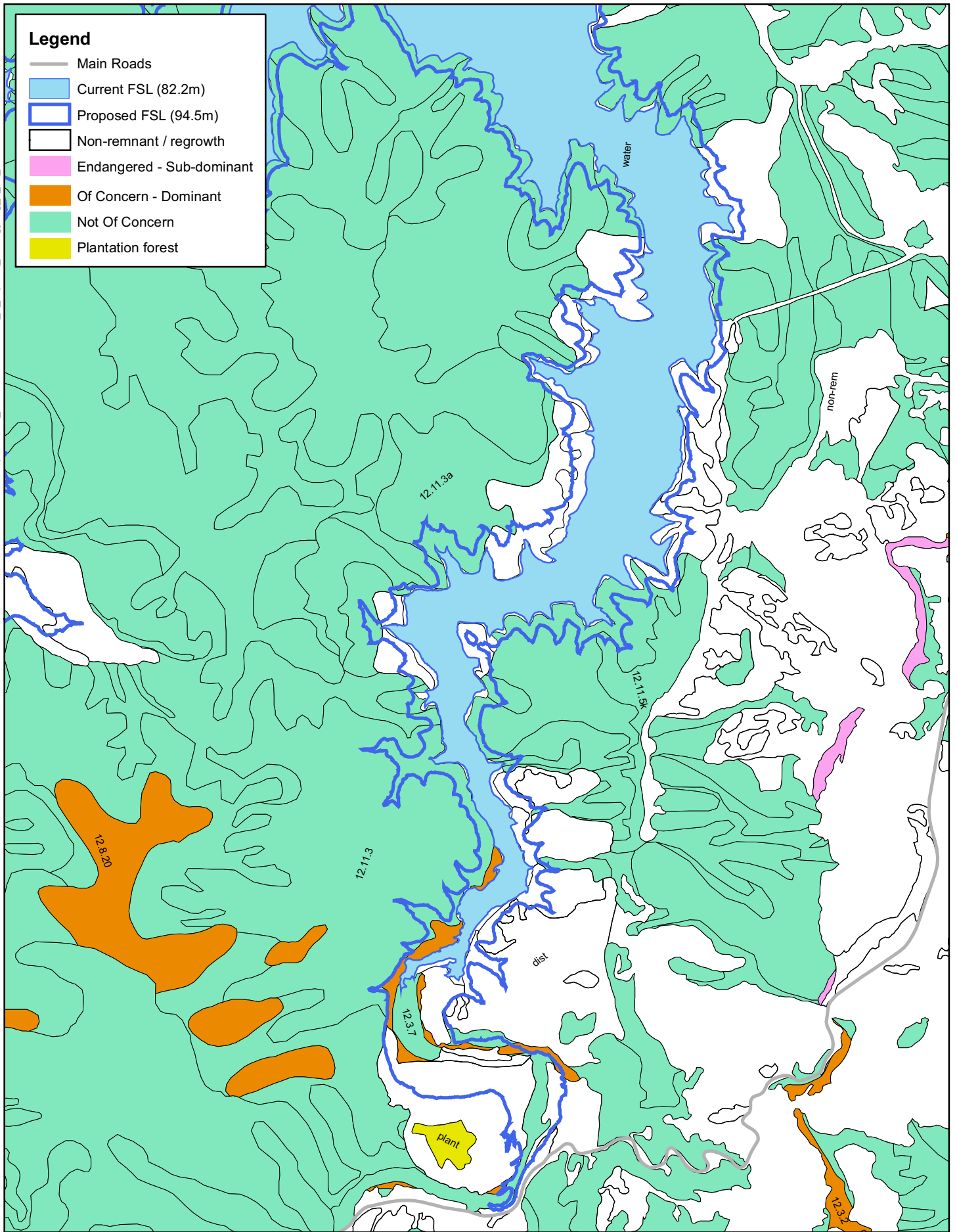


Figure 9-3a

Regional Ecosystems  
West Arm

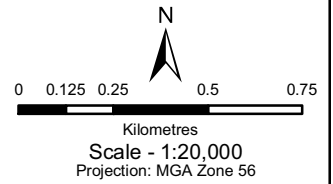
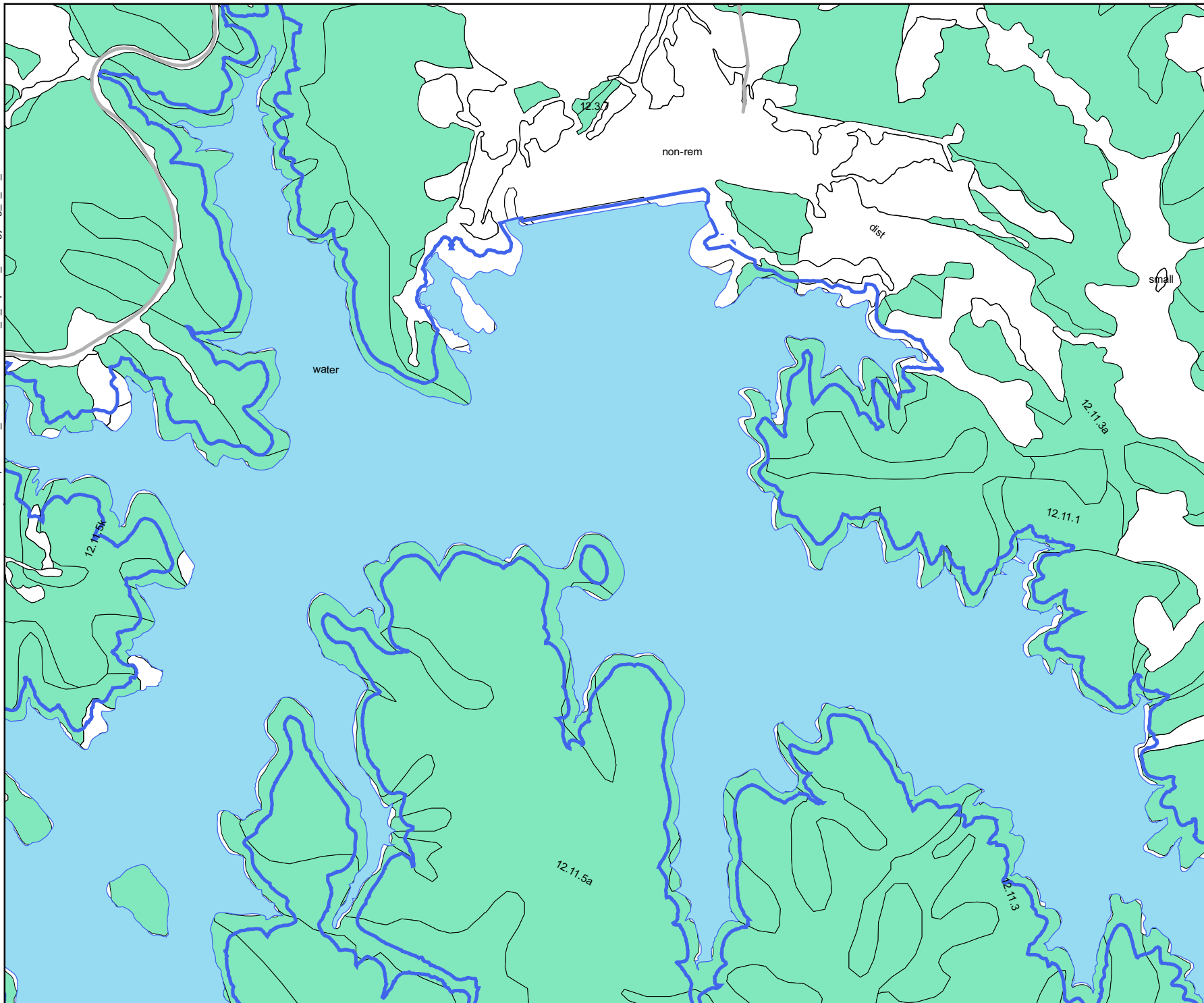
Hinze Dam Stage 3 EIS





Scale - 1:25,000  
Projection: MGA Zone 56

Figure 9-3b  
Regional Ecosystems  
East Arm  
Hinze Dam Stage 3 EIS



**Legend**






-  Main Roads
-  Current FSL (82.2m)
-  Proposed FSL (94.5m)
-  Non-remnant / regrowth
-  Not Of Concern

Figure 9-3c  
Regional Ecosystems  
North Section  
Hinze Dam Stage 3 EIS



### Essential Habitat Mapping

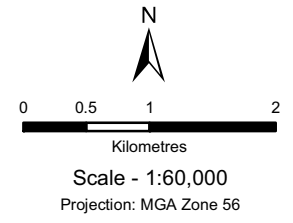
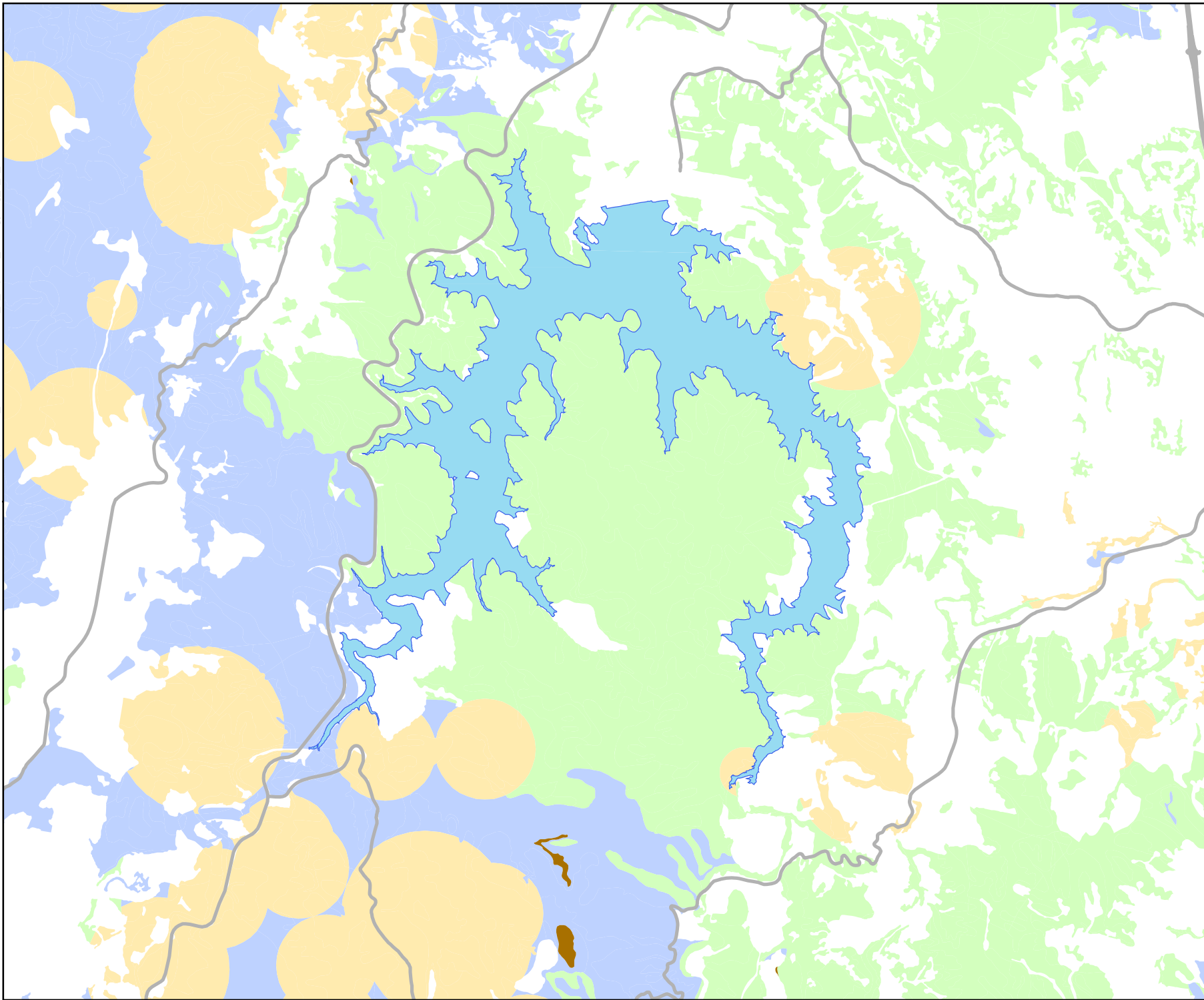
Essential habitat is defined by the EPA as vegetation in which a species of wildlife is known to occur that is listed as endangered, vulnerable, near threatened or rare under the NCA. The Essential Habitat mapping identifies ten essential habitats of rare or threatened species within the inundation area. A description of these, including the species name, its conservation status, and the associated essential habitat factors (regional ecosystems, vegetation communities etc.) is given in **Table 9-6**.

■ **Table 9-6 Essential Habitat in Inundation Area**

Species	Common Name	Status (NCA 1992)	Associated REs	Vegetation Community
<i>Phascolarctos cinereus</i>	Koala	V	12.3.2, 12.3.7, 12.3.11, 12.11.3, 12.11.5	Open, mixed eucalypt forest and woodland at lower altitude in undulating country on relatively deep and usually high nutrient soil. Main species – <i>E. tereticornis</i> , <i>E. fibrosa</i> , <i>E. propinqua</i> , <i>E. umbra</i> , <i>E. grandis</i> , <i>E. microcorys</i> , <i>E. tindaliae</i> , <i>E. resinifera</i> , <i>E. populnea</i> , <i>E. robusta</i> , <i>E. nigra</i> , <i>E. signata</i> .
<i>Plectranthus nitidus</i>		E	12.3.2, 12.8.3, 12.11.1	Open position in simple to complex notophyll vine forest
<i>Helicia ferruginea</i>	Rusty oak	R	12.3.1, 12.8.3, 12.8.5, 12.8.18, 12.11.1	Lowland subtropical rainforest on alluvium; simple to complex notophyll vine forest.
<i>Adelotus brevis</i>	Tusked frog	V	Many	In cavities, under debris in subtropical vine forest, tall open moist forest, heaths, Melaleuca swamp and pasturelands near puddles and streams.
<i>Pararistoclochia praevenosa</i>		R	7.11.12, 12.3.1, 12.3.2, 12.8.3, 12.9-10.16, 12.11.1, 12.11.3, 12.11.10, 12.12.1, 12.12.16	Simple to complex notophyll vine forest; gallery vine forest
<i>Rhodamnia maideniana</i>	Smooth scrub turpentine	R	12.8.3, 12.8.5, 12.8.9, 12.11.1, 12.11.2	Eucalypt open forest woodland; wet sclerophyll forest; simple to complex notophyll vine forest
<i>Cupaniopsis newmanii</i>	Long-leaved tuckeroo	R	12.8.3, 12.8.4, 12.8.8, 12.8.14, 12.11.1, 12.11.2, 12.11.3	
<i>Marsdenia hemiptera</i>	thozetia, rusty vine	R	3.5.20, 7.11.1, 8.12.2, 8.12.3, 12.2.2, 12.5.13, 12.11.1, 12.11.10, 12.12.3, 12.12.13, 12.12.16	
<i>Argophyllum nullumense</i>	Silver leaf	R	11.12.5, 12.3.2, 12.8.3, 12.8.5, 12.11.1, 12.11.2, 12.11.3, 12.12.1	
<i>Cassia marksiana</i>	Brush cassia	R	No essential habitat factors for this species.	No essential habitat factors for this species.
Status: E – endangered V – vulnerable R - rare				

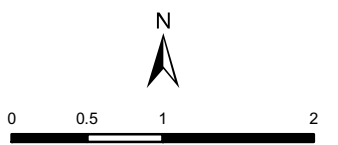
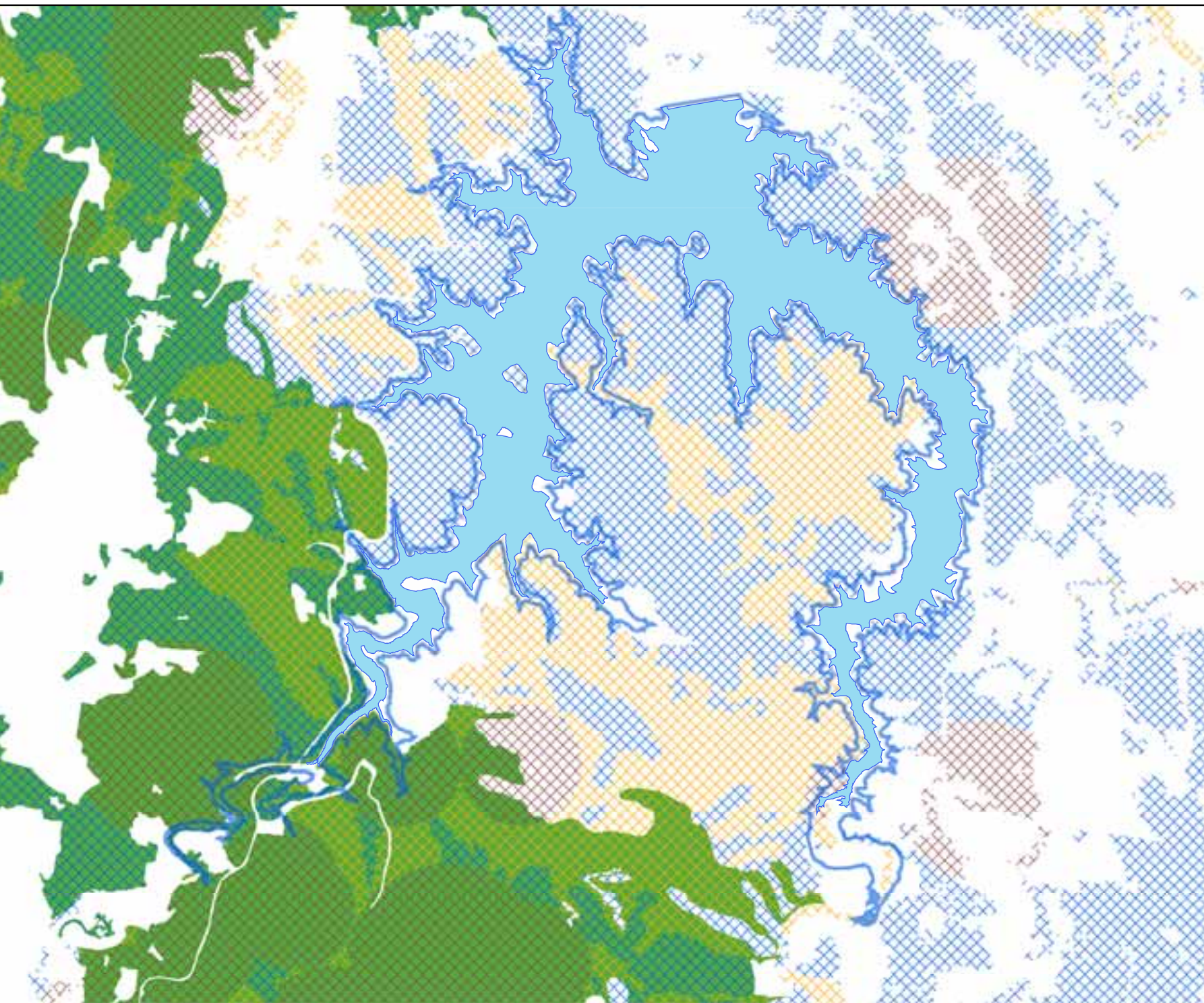
### Nature Conservation Strategy Mapping

A review of the Gold Coast City Council’s Nature Conservation Mapping shows that it generally complies with the regional ecosystem mapping. A description of the mapped vegetation communities in accordance with the descriptions provided in the Nature Conservation Strategy, and their conservation significance as defined by the Ecological Significance Mapping is provided in **Table 9-7**. The location of these vegetation communities is shown on **Figure 9-4**. The EPA Biodiversity Planning and Assessment Map for the study area is shown in **Figure 9-5**.



- Legend**
- Main Roads
  - State Habitat for Endangered, Vulnerable and Rare taxa
  - State
  - Regional
  - Local or Other Values
  - Current FSL (82.2m)

Figure 9.4  
GCCC NCS  
Veg Mapping  
Hinze Dam Stage 3 EIS



Scale - 1:50,000  
Projection: MGA Zone 56

- Legend**
- Current FSL (82.2m)
  - Proposed FSL (94.5m)
  - Regional-wildlife corridor
- Ecological Significance
- State
  - Regional
  - Local or Other Values

Figure 9-5  
EPA Biodiversity  
Planning Assessment  
Map for the Study Area  
Hinze Dam Stage 3 EIS