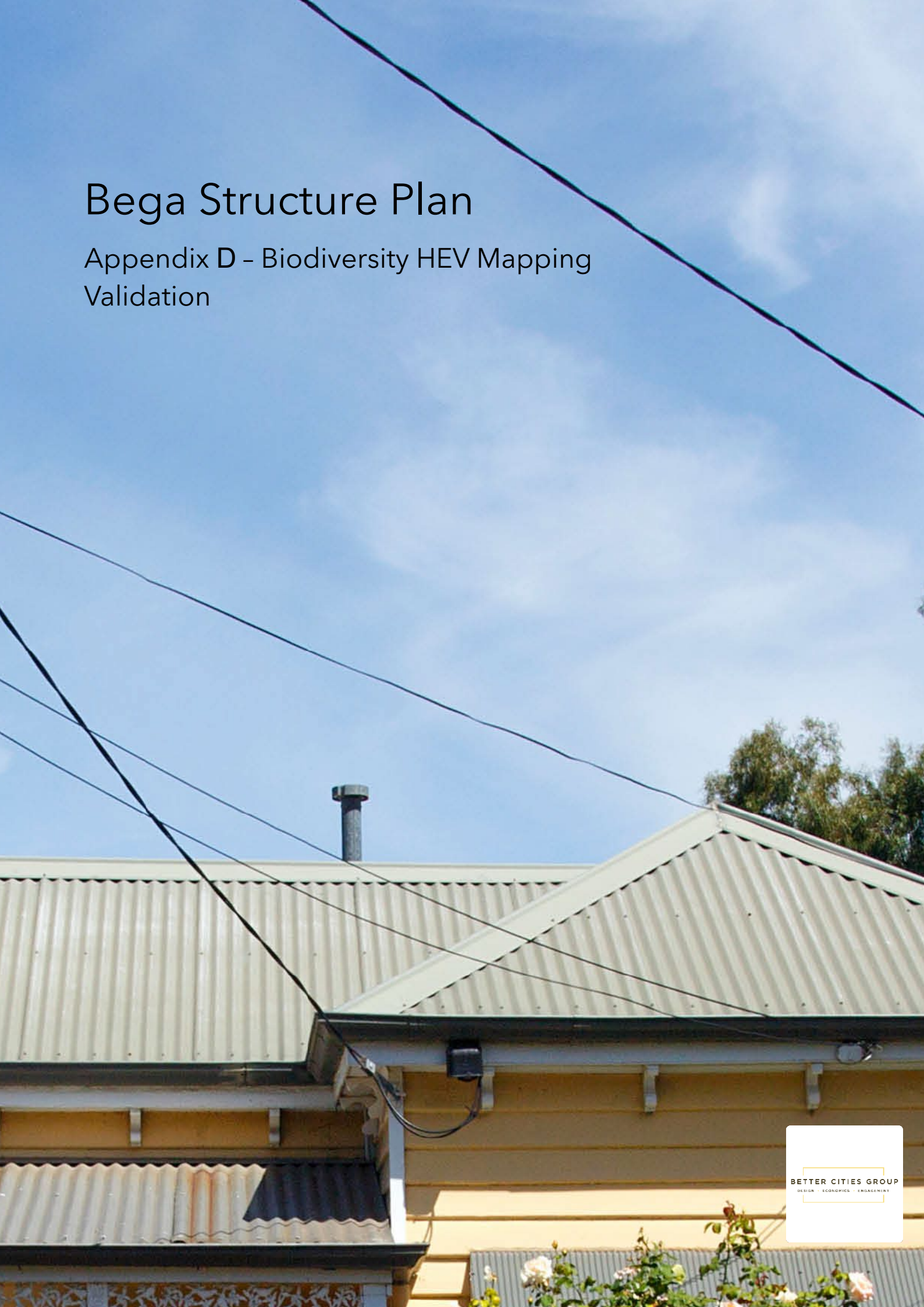
Bega Structure Plan

Appendix D – Biodiversity HEV Mapping Validation



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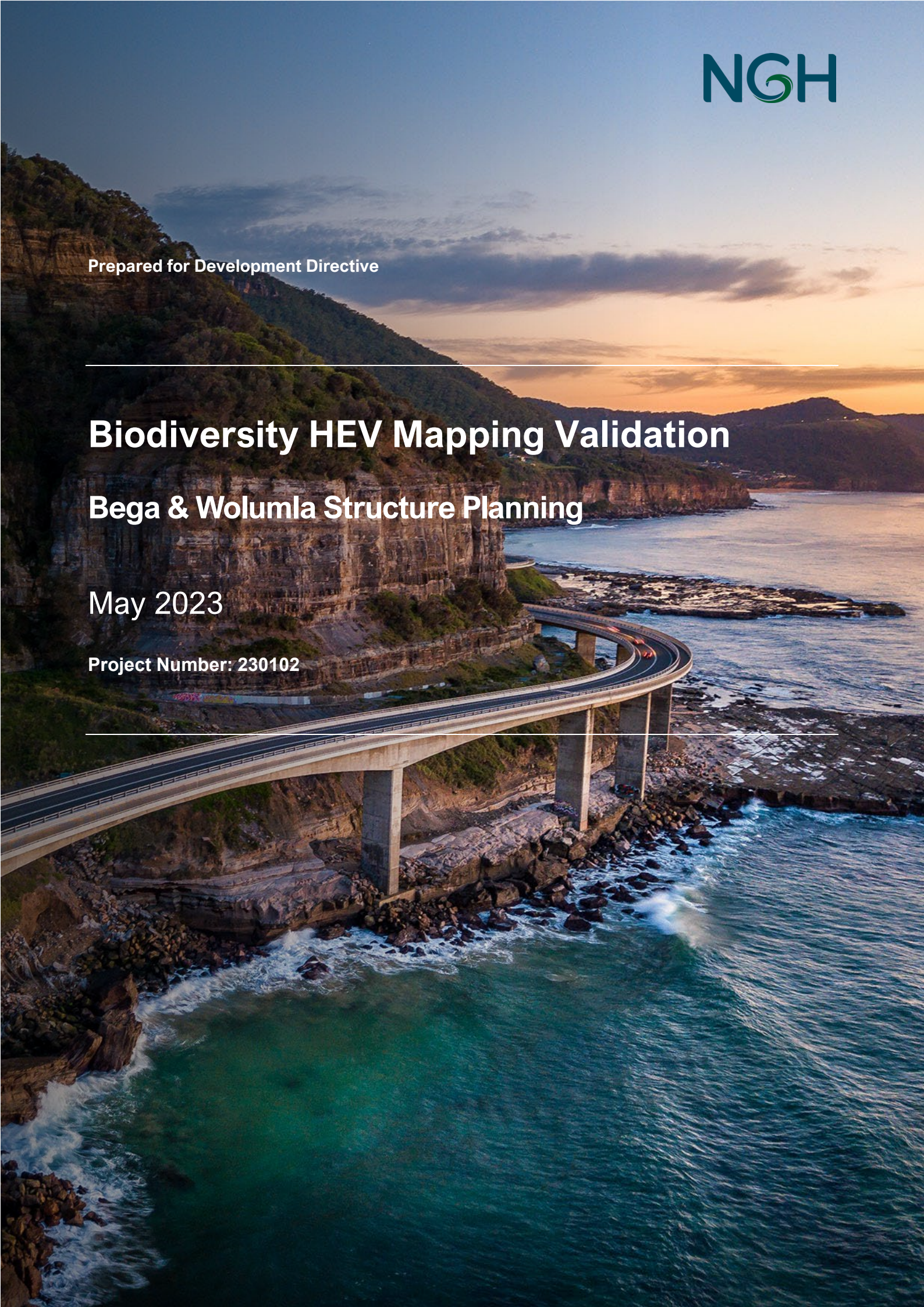

Prepared for Development Directive

Biodiversity HEV Mapping Validation

Bega & Wolumla Structure Planning

May 2023

Project Number: 230102

Document verification

Project Title:	Bega & Wolumla Structure Planning
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Revision	Date	Prepared by	Reviewed by	Approved by
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1. Introduction

The forecasted population growth within the Bega Valley Shire strongly suggests the need to increase availability of housing locally. It is estimated that in the next 14 years an additional 1070 homes will be needed to service the increase in population. The need to prioritise planning for urban release areas has brought about the requirement for Bega Valley Shire Council (BVSC) Bega and Wolumla Structure Plans that will facilitate the development of existing and new urban release areas. The purpose of this report is to assess the environmental values of urban release areas around Bega. The report analyses existing data and modelling to indicate the environmental constraints on development within the planning areas.

The Project Planning Area (Project Area) is comprised of two designated areas to the south of the existing Bega township within the Bega Valley Shire local government area.

1) **Bega Urban Investigation Area (BUIA)** – This land comprises 658 ha where an estimated 2600 dwellings may be built. The BUIA includes three rural residential subdivisions approved but not completed and BVSC will work with potential proponents of these parts of the Project Area to provide options that will increase dwelling yield.
2) **Opportunity Areas -** This land comprises 206 ha which adjoins the BUIA and may provide additional opportunities for future approval of residential subdivisions.

This report presents the preliminary findings from a desktop assessment that reviewed existing ecological data for the Project Area and the surrounding 10km. The analysis of the desktop assessment informs the preliminary mapping of biodiversity values in the Project Area, indicating which parts of the Project Area should be further investigated to confirm areas of high biodiversity value that should be avoided and the most suitable areas for urban residential development. A map showing the location of the Project Area is provided in Figure 4-1 below.

2. Methods

2.1. Desktop Assessment

This biodiversity constraints assessment (CA) is a preliminary review of existing biodiversity values in the Project Area. Biodiversity values were identified through a desktop assessment that involved background searches which occurred on the 24th May 2023 of State and Commonwealth biodiversity databases. Findings of the desktop assessment results of the database searches informed the mapping of the existing environment in the Project Area based, including:

- Hydrology including wetlands and Protected Riparian Land, Aquatic Groundwater Dependent Ecosystems (GDE)
- Matters of National Environment Significance (MNES)
- NSW Landuse Map (2017)
- NSW State Vegetation Type Map (SVTM)
- Biodiversity Values Mapping
- NSW BioNet Atlas
- Native Vegetation Regulatory Mapping

- High Environmental Values of the South East Tablelands Planning Region 2022.
- Native Vegetation Extent
- Category 2 vulnerable Land (Steep or highly erodible land)
- Key Fish Habitat
- DPI Fisheries threatened species distribution maps

Findings from the desktop assessment were then used to map biodiversity values on the site.

Preliminary biodiversity constraints, identified through the desktop assessment, were classified into four constraint ratings and mapped in the Project Area where possible (Figure 4-3).

3. Limitations

At this preliminary stage these results should be considered as high-level guidance only and will require detailed field assessment to verify the data. For example, areas currently classified as higher constraint may move to a lower category of constraint once validation and ground truthing confirms the condition and extent of Threatened Ecological Communities (TECs) and threatened species habitat.

It is important to note that through desktop assessment only, those areas mapped as having no value or not classified, require field validation and ground truthing to gain a more accurate understanding of the biodiversity constraints.

4. Results

4.1. Background Searches

Database searches for threatened entities were conducted using two search tools. The Protected Matters Search Tool (PMST) for MNES listed under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the NSW BioNet Atlas search tool for threatened entities listed under the *Biodiversity Conservation Act 2016* (BC Act). The BioNet search is conducted for a 10 km radius surrounding the project area and the PMST search encompasses a broader regional area approximately 10-20 km surrounding the project area.

The PMST search was conducted on May 24th, 2023, and returned 83 threatened entities (including 43 birds, 11 mammals, 13 plants, 5 reptiles, 4 frog and 7 fish species) and 5 threatened communities within the search area. Several marine and migratory species were returned in the search due to project proximity to the ocean, for the purpose of this assessment marine and migratory species will not be considered.

The BioNet search was conducted on the 24th of May 2023 and returned 57 threatened entities (including 36 birds, 16 mammals and 5 plant species). A total of 12 records occur within the project area and include four birds, one plant and six mammals (see Appendix B).

Table 4-1 Table showing species with existing BioNet records within the project area.

Species Name	Common Name	Number of records	BC Status	EPBC Status	Record Date
Artamus cyanopterus cyanopterus	Dusky Woodswallow	1	Vulnerable	Not Listed	2019
Calyptorhynchus lathami	Glossy Black-Cockatoo	1	Vulnerable	Vulnerable	1981
Tyto novaehollandiae	Masked Owl	1	Vulnerable	Not Listed	2011
Haliaeetus leucogaster	White-bellied Sea-Eagle	1	Vulnerable	Not Listed	2001
Eucalyptus nicholii	Narrow-leaved Black Peppermint	1	Vulnerable	Vulnerable	2010
Micronomus norfolkensis	Eastern Coastal Free-tailed Bat	1	Vulnerable	Not Listed	2010
Falsistrellus tasmaniensis	Eastern False Pipistrelle	1	Vulnerable	Not Listed	2010
Scoteanax rueppellii	Greater Broad-nosed Bat	2	Vulnerable	Not Listed	2011
Miniopterus orianae oceanensis	Large Bent-winged Bat	1	Vulnerable	Not Listed	2010
Myotis macropus	Southern Myotis	1	Vulnerable	Not Listed	2010
Phascolarctos cinereus	Koala	1	Endangered	Endangered	1989

4.1.1. Plant Community Types (PCTs) associated with TECs

The PCTs indicated to be present in the Project Area by the SVTM are shown in Figure 4-2. The PCTs associated with TECs are identified in Table 4-2. Table 4-2 is the result of NSW SVTM data mapped and clipped to the Project Area with TECs and benchmarks identified through the use of the NSW DPE Bionet Vegetation Classification database.

Table 4-2 PCTs associated with TECs

PCT	Name	Threatened Ecological Community comments
3181	Bega Wet Shrub Forest	(Comment TEC1) Relates to the NSW River-Flat Eucalypt Forest on Coastal Floodplains TEC where it occurs on floodplain alluvium and within stated elevation range as per paragraph 1 of the Final Determination. (Comment TEC2) Relates to the Commonwealth River-flat Eucalypt Forest on Coastal Floodplains TEC where it occurs at elevations below 250 m asl and satisfies condition thresholds as per section 5.2 of the Conservation Advice.
3185	Far South River-Flat Wet Forest	(Comment TEC1) Relates to the NSW River-Flat Eucalypt Forest on Coastal Floodplains TEC where it occurs within stated elevation range as per paragraph 1 of the Final Determination. (Comment TEC2) Relates to the Commonwealth River-flat Eucalypt Forest on Coastal Floodplains TEC where it occurs at elevations below 250 m asl and satisfies condition thresholds as per section 5.2 of the Conservation Advice.
3332	Southeast Lowland Grassy Woodland	(Comment TEC1) Relates to the NSW Lowland Grassy Woodland TEC. (Comment TEC2) Relates to the Commonwealth Lowland Grassy Woodland in the South East Corner Bioregion TEC where it occurs within the stated area south of (and including) the Clyde River catchment primarily within the South East Corner bioregion (IBRA Version 7.0) and satisfies condition thresholds as per the Conservation Advice.
3975	Southern Lower Floodplain Freshwater Wetland	(Comment TEC1) Relates to the NSW Freshwater Wetlands on Coastal Floodplains TEC.

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4.2. Mapping

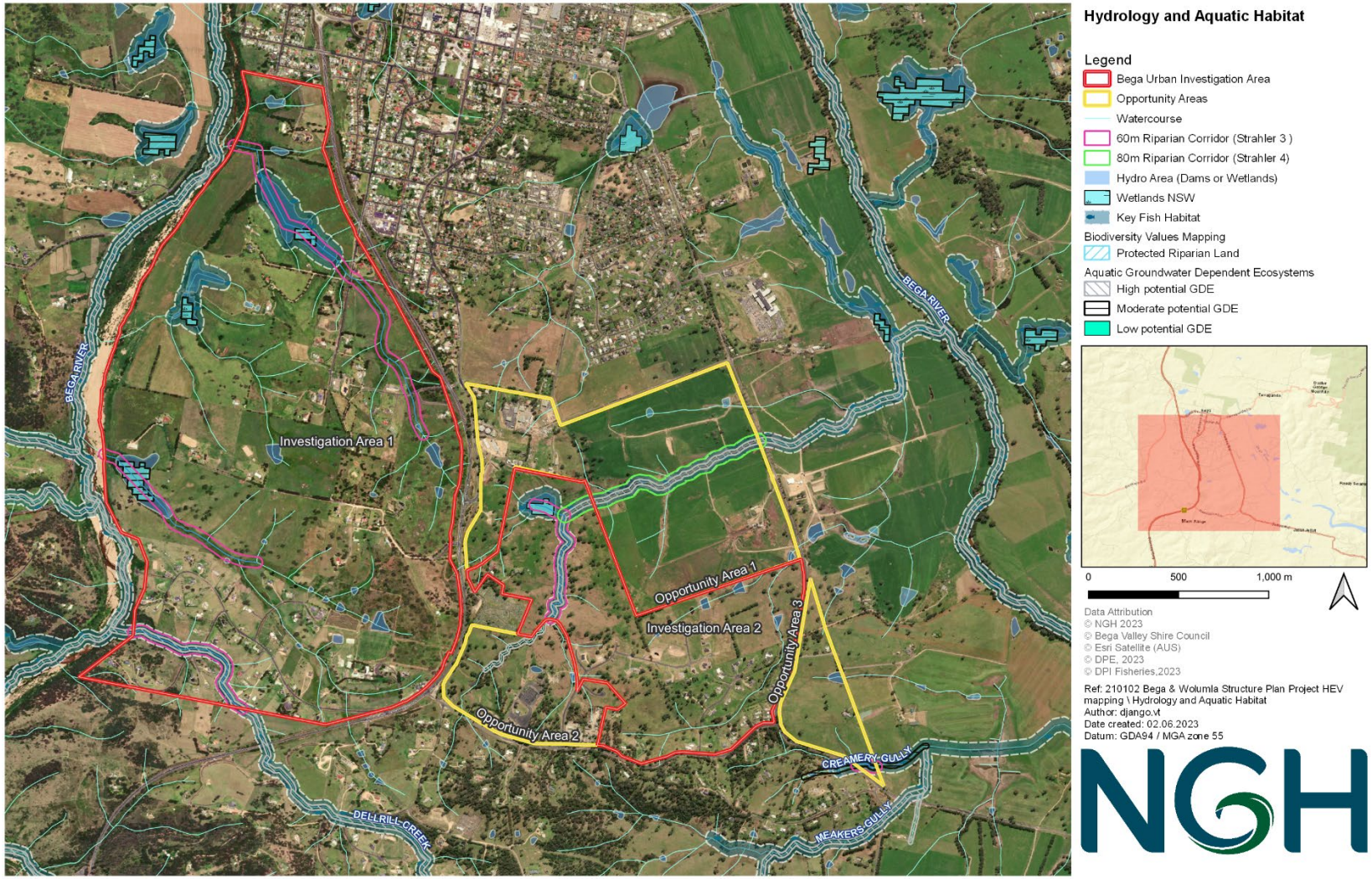

Figure 4-1 Map showing Project Area locations and the following hydrological features: wetlands, dams, riparian buffers, Riparian Protected Land, Key Fish Habitat, GDEs and other aquatic areas

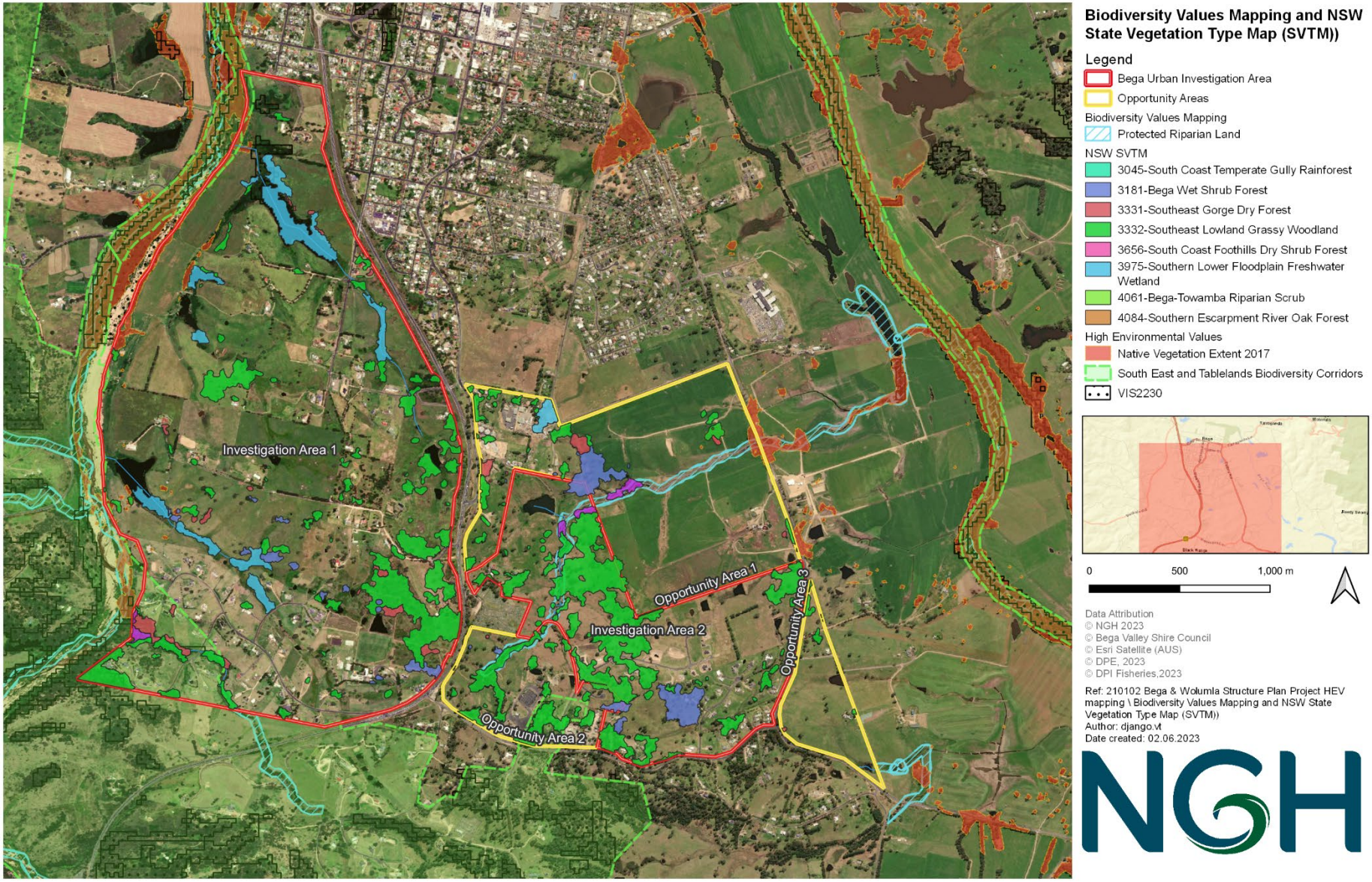

Figure 4-2 Biodiversity Values, High Environmental Values and NSW SVTM

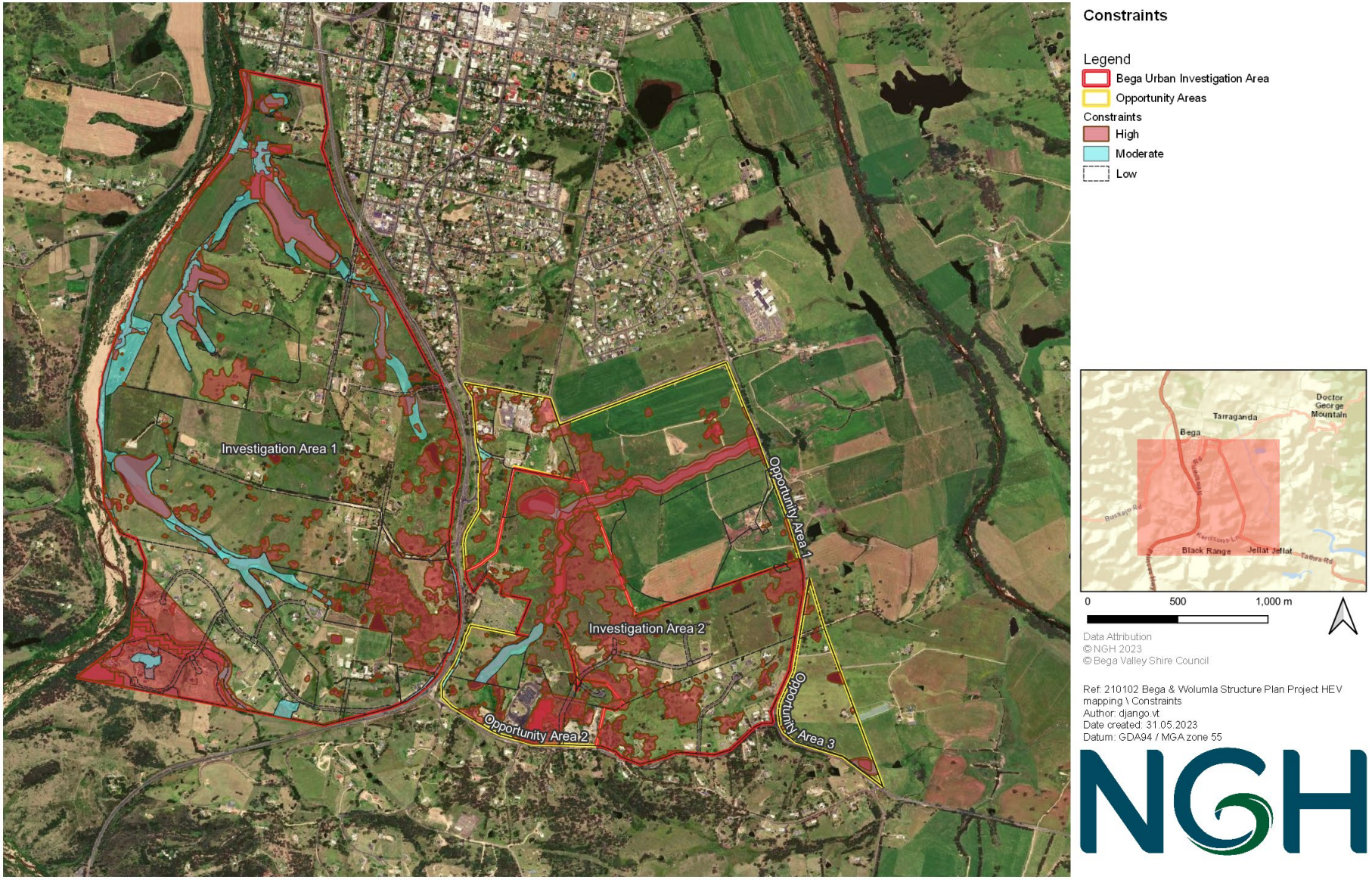

Figure 4-3 Preliminary biodiversity constraints mapped as high, moderate or low.

4.3. Preliminary Biodiversity Constraints

High and moderate constraints should be considered as areas for protection and enhancement through structure planning. The biodiversity constraints mapped in Figure 4-3 builds on mapping undertaken in Figure 4-1 and Figure 4-2 by rating those constraints identified through the process of spatial background searches. The identified constraints in Figure 4-3 include those environmental aspects or biodiversity values listed below within each constraint rating subsection. An exception here is that unknown constraints where not identified in Figure 4-3 specifically and may be assumed present across the planning area, its acknowledged that this also may correspond with area of low constraint. Low constraints are mapped across most of the site.

4.3.1. Higher Constraints

- Threatened Ecological Communities
- Threatened Species Presence
- Protected Riparian Land
- Wetlands
  Riparian Corridor buffers in accordance with Strahler
- Native Vegetation Extent
- Category 2 vulnerable Land (Steep or highly erodible land)
- Key Fish Habitat

4.3.2. Moderate Constraints

Mapped areas including:

- Grazing native vegetation
- Dairy sheds and yards (possible microbat habitat)

4.3.3. Low Constraints

Established and historic:

- Public roads and farm access tracks that do not contain any live groundcover
- Exotic dominated rural and residential with agriculture paddocks including historically grazed or cultivated areas with low potential for threatened species occurrence. This includes planted exotic and cultivated areas and Grazing on irrigated and unirrigated modified pastures.
- Service areas

4.3.4. Unknown Constraints

It is important to note that through desktop assessment only, those areas mapped as having no value or not classified, require field validation and ground truthing to gain a more accurate understanding of the biodiversity constraints.

5. Discussion

The findings from the CA found the following biodiversity values within the planning area:

- Threatened Ecological Communities
- Protected Riparian Land
- Key Fish Habitat
- Aquatic habitat for a range of fauna and flora species (some threatened – Australian Grayling, *Prototroctes maraena*)
- Scattered trees and wooded vegetation, providing threatened species habitat and the possibility of hollow-bearing trees.

Potential planning triggers will require that a Biodiversity Development Assessment Report (BDAR) be prepared in accordance with the BAM pursuant to the BC Act. The BDAR in this case will demonstrate how impacts have been avoided, mitigated and offset as a last resort. The constraints mapping provided in this report and other logistical factors should be scrutinised to ensure that the final impact areas presented have avoided the higher quality site aspects, to avoid impacts on key biodiversity constraints as much as possible, namely:

- Threatened species habitat
- Watercourses and ephemeral lakes
- Biodiversity Values Mapped areas
- Consider prescribed impacts which are impacts that cannot be quantified through the BAM calculator, resulting from the proposed development.

As part of the BAM process, detailed ecological surveys and further investigation and assessment would be undertaken including:

- Field validation of PCTs
- Vegetation integrity plots (to confirm the PCTs, TECs, their condition and distribution)
- Targeted surveys for candidate threatened species (generated by the SEARs and BAM process)
- Bird and bat baseline collision risk surveys (as per the prescribed impact process of the BAM)
- Consideration of collision risk in the strong wind and fog prone landscape of the Monaro Tablelands
- Water bird collision risks with the presence of small ephemeral lakes onsite
- Recommendations to avoid and minimise impacts
- Offset calculations to determine the offset obligation of the final proposal
- Offset planning, to ensure the offset obligation can be met.

Further assessment under the *Fisheries Management Act 1994* and EPBC Act may be necessary for those impacts to aquatic and/or commonwealth listed species and communities

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Appendix A Protected Matters Search Tool

Appendix B Project Site Bionet Results

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