

# Executive Summary

Geographically, the Local Biodiversity Strategy (LBS) covers 32,410 ha including the coastal portion of the City of Greater Geraldton, the Shire of Chapman Valley and small portion of the Shire of Northampton. The area is approximately bounded by Coronation Beach Rd to the North, Devlin Pool Rd to the South and Moresby Range to the East.

Scientifically, the scope of the 'biodiversity' included in the LBS mainly focuses on vegetation communities (as opposed to taxa) in natural areas, with inclusion of some consideration of particularly rare or threatened species.

The Geraldton area is included in one of only 34 global biodiversity hotspots, being both very high biodiversity value, yet also under significant threat. The City of Greater Geraldton (CGG) and the Shire of Chapman Valley's (SCV) policies and strategies show a commitment to environmental values, and to halting and reversing the observed trends towards collapse of local ecosystems. Recent surveys and forums have also shown community support for strong commitments to conservation to preserve social, economic, cultural and intrinsic values and ecosystem services provided by natural areas.

The starting position for achieving the community and Local Government Associations' (LGA) vision for biodiversity conservation is that in area covered by this LBS only 6041 ha of vegetation remain, representing only 18% of pre-European extent of native vegetation, and well under the 30% threshold recognised at which species loss appears to accelerate exponentially at an ecosystem level (Del Marco *et al*, 2004, EPA, 2008). More than 30% of that remaining is land identified for future development and an additional 20% is land where potential future development could result in further vegetation clearing (Perth Biodiversity Project, 2011). Less than 1.8% of the original extent of vegetation in the study area has some level of protection.

Despite the high level of clearing, remaining vegetation shows high levels of diversity. An analysis of the state, regional and local vegetation

types shows that more than 17 distinct Plant Communities, with 83% of remaining vegetation being regionally significant. While not all this vegetation can practically be conserved, more than 10% of natural areas within Geraldton area have good opportunities to achieve protection or retention of native vegetation. Action now to protect this vegetation is more financially prudent than subsequent restoration or regeneration (estimate to cost \$250,000 per ha), and will likely yield measurable and popular social, economic and environmental benefits.

Achieving the vision will require stronger action from government in policy, planning and compliance, and business in natural area assessment, urban design, and use of offsets. Action towards the vision must also provide stronger support for: local community groups working on the coast, in the Moresby Range and in the Chapman River, planners working to implement innovative policies in areas such as Waggrakine, and for private landholders wanting to conserve their bushland.

The LBS takes all these trends, aspirations and trends into account and, using detailed spatial and policy analysis, suggests a prioritised list natural areas for conservation action and a comprehensive set of recommendations for mechanisms to achieve the vision for local natural areas.

The recommendations contribute towards 5 Goals:

**Goal 1: Retention** - Retain natural areas. E.g. Retention of at least 3472ha of the remaining 6041ha of natural areas remaining,

**Goal 2: Protection** - Protect natural areas and specific biodiversity features. E.g. Protection of at least 5% of the original extent of natural areas, and protection of an additional 1061ha of areas of conservation value.

**Goal 3: Management** - Manage protected natural areas for conservation. E.g. Active management of 100% of LGA natural areas of conservation value.

**Goal 4: Engagement** – Increased community contributions to biodiversity conservation. E.g. Decrease in behaviours identified as threats,

**Goal 5: Regeneration** - Ensure the rate of regeneration exceeds the rate of degradation. E.g. Restoration of more than 1500 ha of natural areas in CGG,

## Guide for Readers

Specific sections of the LBS, Appendices and Technical Reports are likely to be of more or less interest to different readers. Below is a short guide to the most relevant sections.

### **Policy-makers and planners**

- Map of Areas of Conservation Value and Ecological Linkages. Appendix A & C
- Recommended changes to local planning scheme and policy. Appendix D & E
- Biodiversity values and the prioritisation criteria. LBS Section 7
- Biodiversity features with legislative support for conservation. LBS Section 2.5

### **Land managers and conservationists**

- Biodiversity Conservation Management recommendations. Section 8.2, LBS Action Plan.
- Map of Areas of Conservation Value. Appendix A
- Specific Areas of Conservation Value and recommendations. Appendix B.

### **Landholders and developers**

- Biodiversity features with legislative support for conservation. LBS Section 2.5
- Map of Areas of Conservation Value. Appendix A
- Specific Areas of Conservation Value and recommendations. Appendix B.
- Incentives for conservation. Section 8.1
- Ecological linkages for development design. Appendix C

## Glossary

**Biodiversity** - The variety of life forms, the different plants, animals and micro-organisms, the genes they contain, and the ecosystems of which they form part. Biodiversity is usually considered at three levels: genetic diversity; species diversity; and ecosystem diversity.

**Degradation** – Any activity which reduces the quality, nature or usefulness of land. Degradation can be caused by salinity, soil acidification, soil compaction, waterlogging, siltation, soil erosion, eutrophication, flooding, and/or the removal or deterioration of natural or introduced vegetation.

**Flora** - Plants considered as a group, especially the plants of a particular country, region, or time.

**Local Natural Areas** - all natural areas within a Local Government boundary that are outside of the State Government's conservation estate.

**Native Vegetation** – Any local indigenous plant community containing throughout its growth the complement of native species and habitats normally associated with that vegetation type or having the potential to develop these characteristics. It includes vegetation with these characteristics that has been regenerated with human assistance following disturbance. It excludes plantations and vegetation that has been established for commercial purposes.

**Natural Area** - an area that contains native species or ecological communities in a relatively natural state and hence contains biodiversity. Natural areas can be areas of native vegetation, vegetated or open water bodies (lakes, swamps), or waterways (rivers, streams, creeks – often referred to as channel wetlands, estuaries), springs, rock outcrops, bare ground (generally sand or mud), caves, coastal dunes or cliffs (adapted from Environmental Protection Authority 2003). Note that natural areas exclude parkland cleared areas, isolated trees in cleared settings, ovals and turfed areas.

**Protection** - The highest level of conservation available meaning vesting lands in land tenure conducive to long-term protection in perpetuity, accompanied by an appropriately coordinated and funded management regime.

**Retention** - Any process of ensuring a natural area is retained but not necessarily afforded protection to ensure its continued existence and viability.

**Taxa** (singular taxon) – The named classification unit to which individuals or sets of species are assigned, such as species, genus and order.

## APPENDIX A

### Maps of Areas of Conservation Value

All GIS analysis and mapping was prepared by the Perth Biodiversity Project.



**Figure 19: Areas of Conservation Value – distribution of close up map titles**

**Figure 20: Areas of Conservation Value – Map 1 - Greenough River and Cape Burney**

**Figure 21: Areas of Conservation Value – Map 2 - Rudds Gully – Narngulu – Meru – Deepdale**

**Figure 22: Areas of Conservation Value – Map 3 – Geraldton City Centre – Deepdale**

**Figure 23: Areas of Conservation Value – Map 4 – Webberton – Glenfield – Waggrakine**

**Figure 24: Areas of Conservation Value – Map 5 – Buller – Parkfalls – Oakajee south**

**Figure 25: Areas of Conservation Value – Map 6 – Oakajee north**

## LEGEND - AREAS OF CONSERVATION VALUE (ACV's)

ACV's are those natural areas where analysis, based on current knowledge, shows that conservation efforts should be best directed to achieve the local biodiversity conservation objectives. The natural areas include areas with native vegetation, vegetated or open water bodies, waterways, springs, rock outcrops, coastal dunes or cliffs, bare ground or caves.

The ACV's boundaries are designed to be indicative only and include already cleared areas or even portions of areas where development has been approved. ACV's are not to be interpreted as areas where development is prohibited. They should be used to identify areas where any remaining vegetation is of conservation significance and its retention and protection should be a priority when deciding on future land use planning.

 GRFVS Study Boundary     Local Government Boundary     DEC Managed Lands

### Areas of Conservation Value

and a list of potential mechanisms to achieve biodiversity conservation outcomes within these areas


 Remnant Vegetation

 ACV's with good opportunities for protection of biodiversity

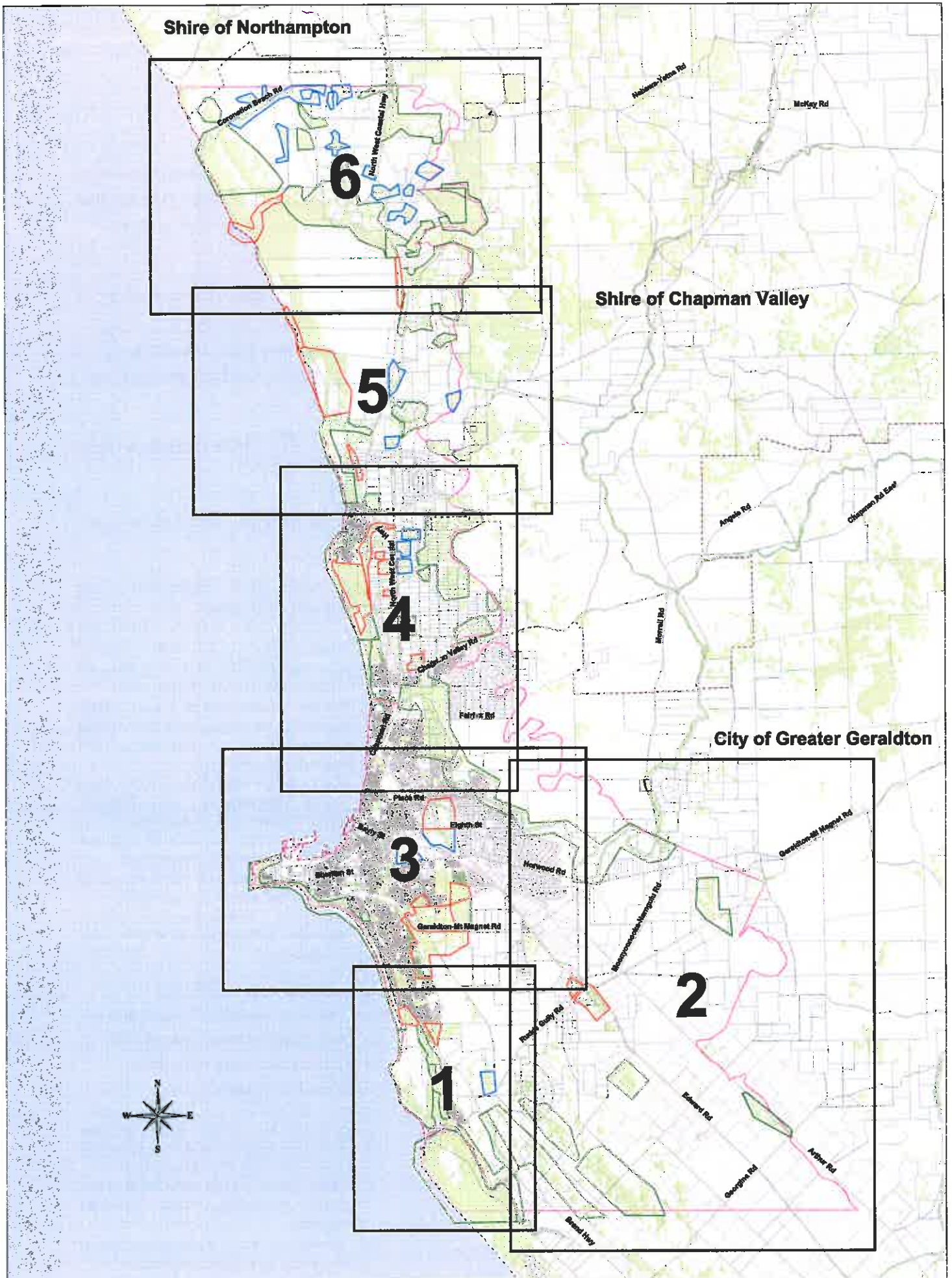
1. Review and implement existing management plans and conservation policies where they apply
2. Change zoning, vesting and reserve status to protection biodiversity values, where and when opportunities arise
3. Maximise the width of buffers and setbacks when re-zoning or planning for development
4. Strengthen regional and local linkages through protection, retention and revegetation
5. Design developments and apply conditions to development that achieve biodiversity conservation and management goals
6. Retain native vegetation in Public Open Space, streetscapes and transport corridors if development occurs
7. Direct recreational activities or facilities into cleared or severely degraded areas of Recreational reserves and fence and protect remnant vegetation
8. Develop and implement management plans for conservation areas
9. Continue or develop partnerships with community, private landholders and grant funders to implement conservation and regeneration
10. Develop support and incentive programs for private landholder conservation

 ACV's with good opportunities for retention of biodiversity

1. Maximise the width of buffer, setbacks and area of vegetation retained when re-zoning or planning for development
2. Design developments and apply conditions to development that achieve biodiversity conservation and management goals
3. Retain native vegetation in Public Open Space, streetscapes and transport corridors when development occurs
4. Develop support and incentive programs for private landholder conservation
5. Develop management plans and apply conservation policies where possible
6. Strengthen regional and local linkages through protection, retention and revegetation

 ACV's that have constraints for protection or retention of natural areas but they contain natural areas of high conservation value that need to be considered on decision making

1. Maximise the width of buffer, setbacks and area of vegetation retained when re-zoning or planning for development
2. Retain native vegetation in Public Open Space, streetscapes and transport corridors.
3. Develop support and incentive programs for private landholder conservation





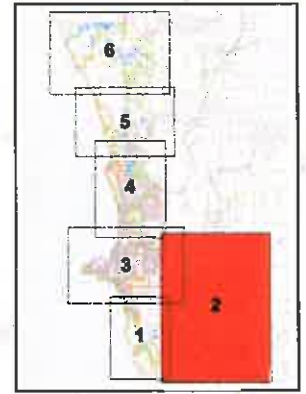
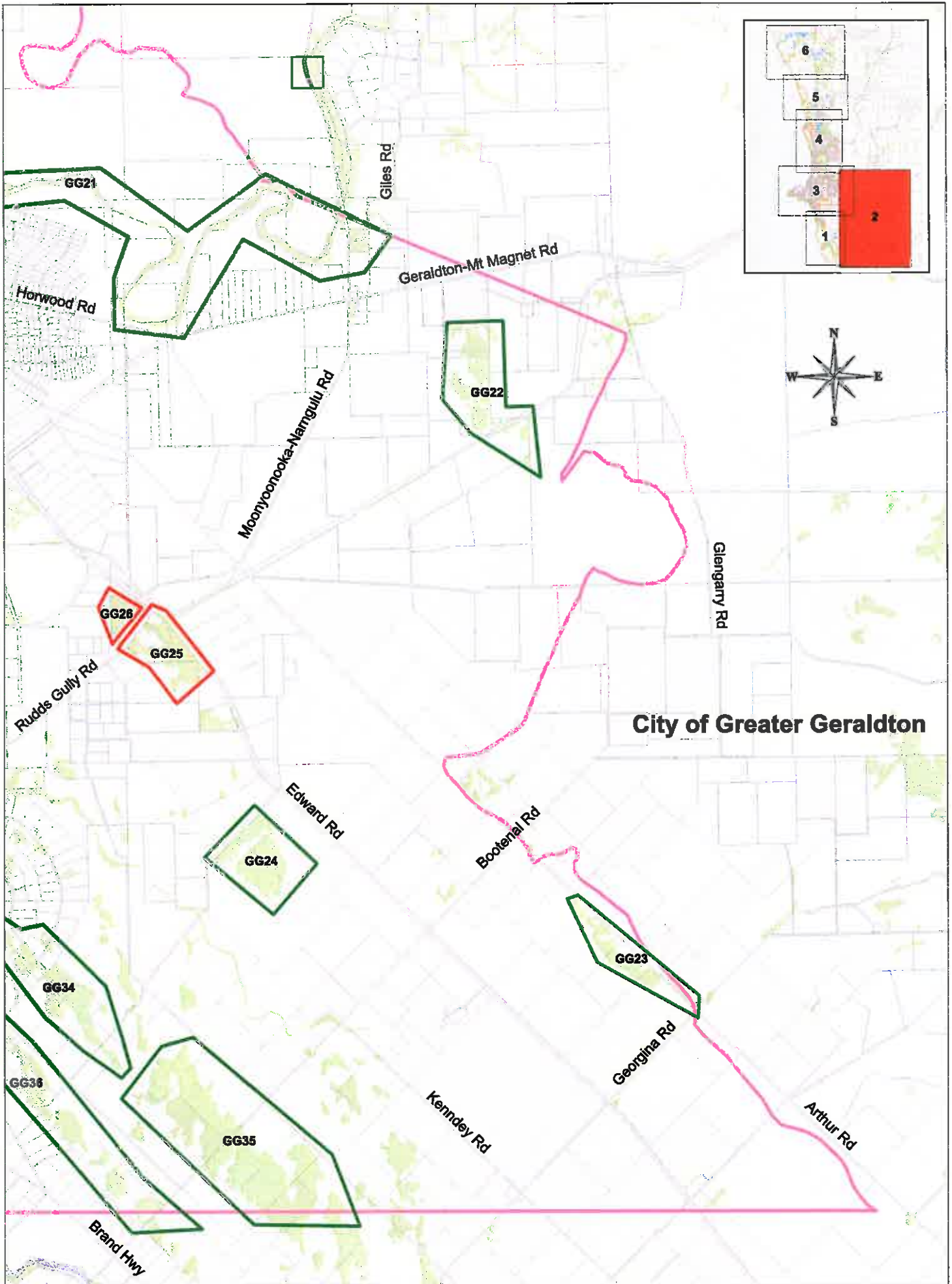
**City of Greater Geraldton**

**Local Biodiversity Strategy**

FIGURE 2: Areas of Conservation Value  
 - Map 1 (Greenough River & Cape Burney)  
 Scale 1:25,000 (A3)

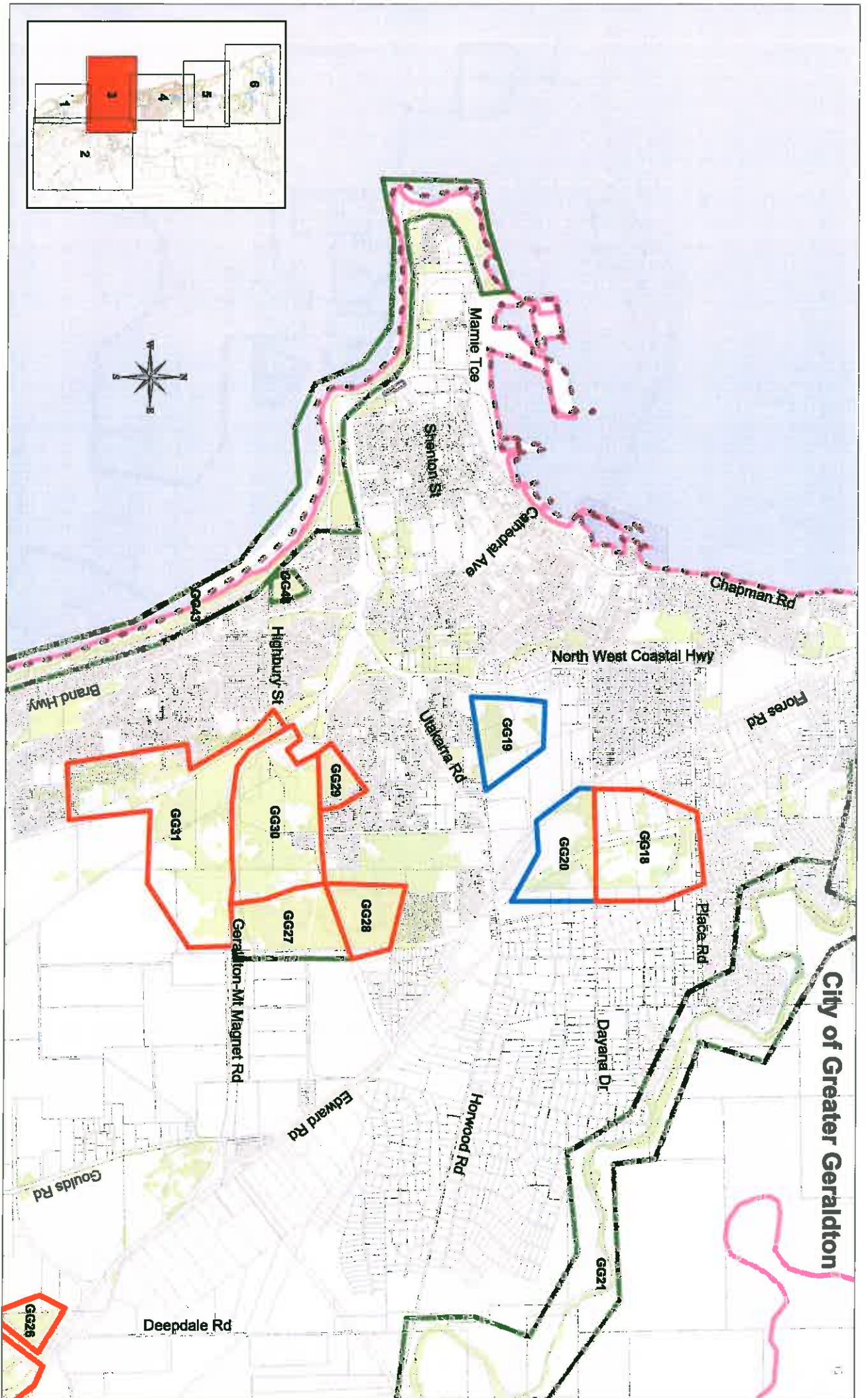


**Shire of Chapman Valley**  
*Love the Rural Life*



**City of Greater Geraldton**





City of Greater Geraldton

**Local Biodiversity Strategy**

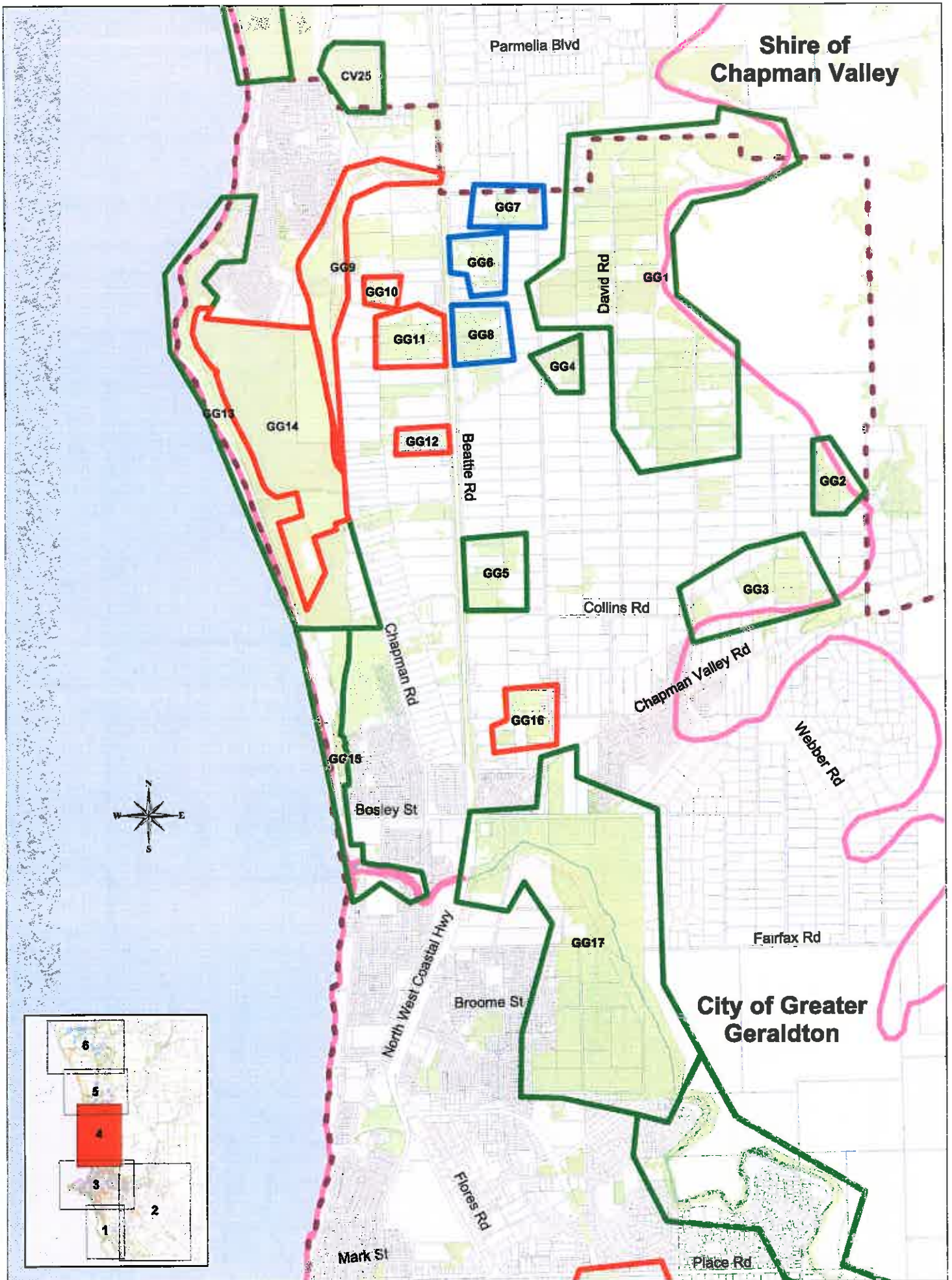
FIGURE 4: Areas of Conservation Value

- Map 3 (Geraldton City Centre & Deepdale)

Scale 1:35,000 (A3)



Shire of  
**Chapman Valley**  
*Love the Road Life*

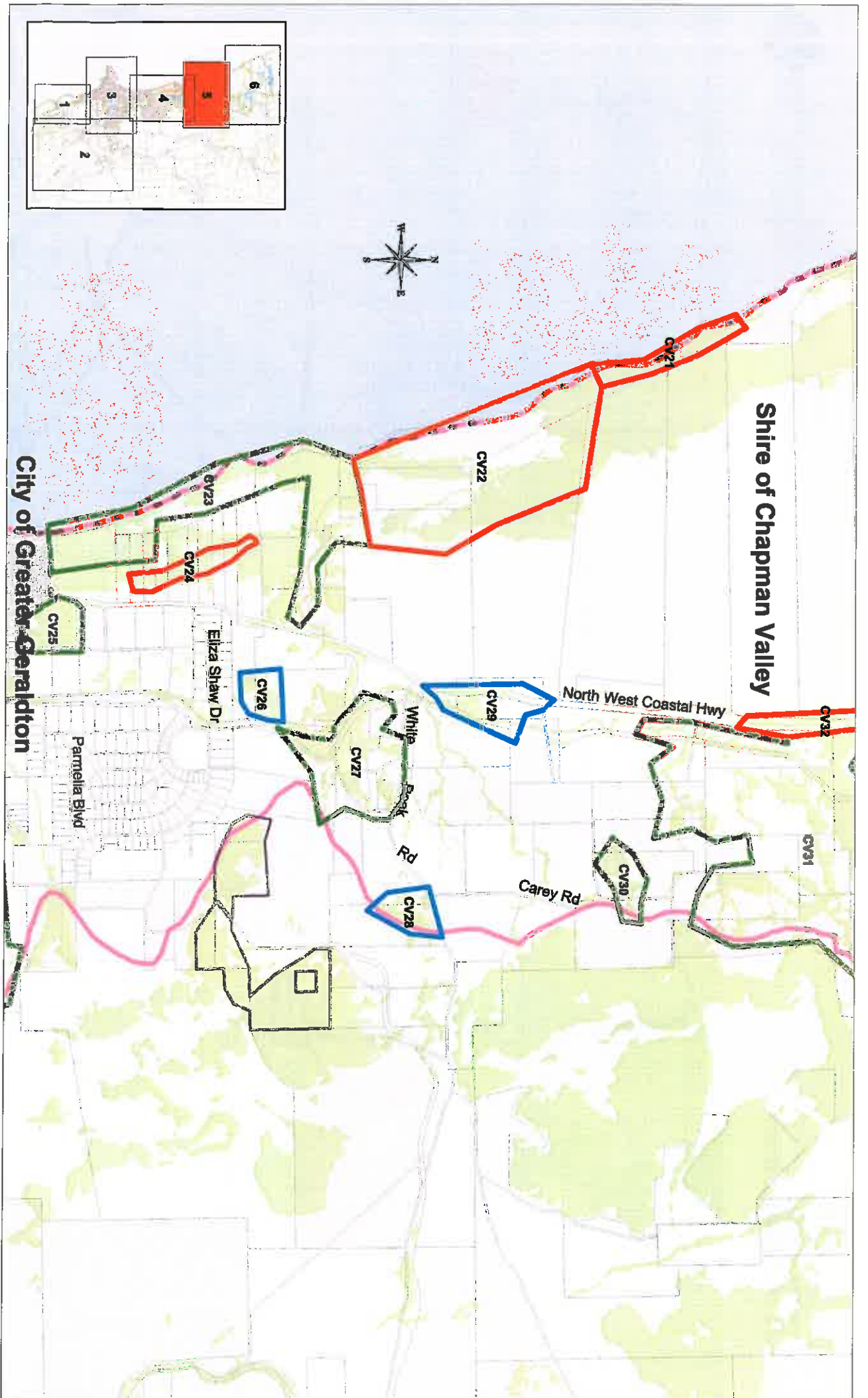


**Local Biodiversity Strategy**

FIGURE 5: Areas of Conservation Value  
 - Map 4 (Webborton, Glenfield & Waggrakine)  
 Scale 1:30,000 (A3)



Shire of  
**Chapman Valley**  
*Love the Rural Life*



**Shire of Chapman Valley**

**City of Greater Geraldton**

North West Coastal Hwy

Carey Rd

White Rock Rd

Eliza Shaw Dr

Parmelia Blvd

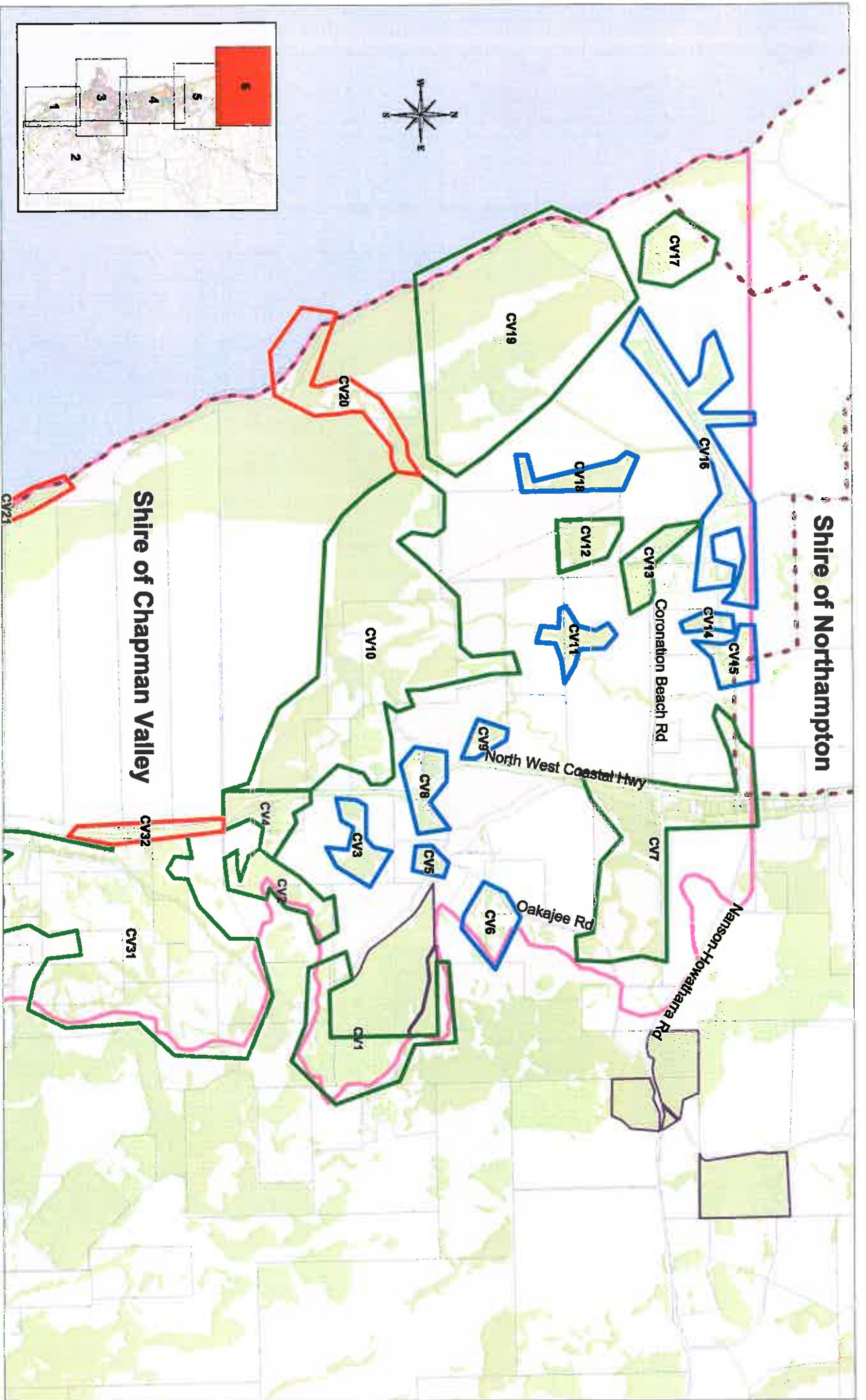


**Shire of Chapman Valley**  
*Love the Road Life*

**Local Biodiversity Strategy**

FIGURE 6: Areas of Conservation Value  
- Map 5 (Buller, Parkfalls & Orlajee South)

Scale 1:35,000 (A3)



**Local Biodiversity Strategy**

FIGURE 7: Areas of Conservation Value  
 - Map 6 (Oakajee North)  
 Scale 1:40,000 (A3)

