



New South Wales Government  
**Growth Centres Commission**

# **Growth Centres Biodiversity Certification**

Report on  
Consistency of Proposed North Kellyville Precinct Plan  
with the Biodiversity Certification Order

November 2008



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## Executive Summary

Biodiversity Certification was conferred upon the *State Environmental Planning Policy (Sydney Region Growth Centres) 2006* (“the Growth Centres SEPP”) on 14 December 2007 via the gazettal of a Biodiversity Certification Order (“the Order”) signed by the Minister for Climate Change and the Environment (“the Minister”).

Condition 35 of the Order requires that during the preparation of future precinct plans the Growth Centres Commission (the “GCC”) must undertake and make publicly available an assessment of the consistency of the proposed precinct plan with the conditions of biodiversity certification. Condition 35 also requires that this occur during or before any public exhibition of future draft precinct plans.

The purpose of this report is to address the requirements of Condition 35 by providing an assessment of the North Kellyville Precinct Plan against the conditions of biodiversity certification. Consistent with the requirement of Condition 35, this report is to be included as part of the exhibition package and made publicly available.

Section 126K of the *Threatened Species Conservation Act 1995* (“TSC Act”) and Explanatory Note B of the Order require that following any rezoning of land to which the SEPP applies, the Minister is to reassess the grant of biodiversity certification to determine whether it should be maintained or modified. In the event that a rezoning occurs, the GCC will write to the Minister providing details of this assessment and invite the Minister to undertake such a reassessment consistent with Section 126K of the TSC Act.

The North Kellyville Precinct Plan (“the SEPP Amendment”) ensures that over 34ha of existing native vegetation is protection for conservation within the precinct and that the two threatened flora species of regional significance that occur within the precinct and require protection (*Hibbertia superans* and *Eucalyptus* sp. *Cattai*) have adequate protection measures in place to conserve them in the long term.

The recommendation that the Minister for the Environment and Climate Change uses condition three to amend the certified and non-certified boundaries and delete the black hatched boundary (Condition 17) is warranted on the basis that the proposed amendments to the North West Growth Centre Biodiversity Certification Order Map are not considered to detract from the ability of the SEPP Growth Centres SEPP to lead to the overall improvement or maintenance of biodiversity values.

This report concludes that compliance with Conditions 3, 6, 7, 8 and 17 of the Order has been demonstrated. Principal requirements, outcomes, and the assessed consistency of these outcomes with the requirements are summarised in the table overleaf.



General Requirements	North Kellyville Requirements	Proposed Precinct Planning Outcomes	Assessed Consistency
<ul style="list-style-type: none"> <li>▪ 2,000 ha of existing native vegetation (ENV)* retained across the Growth Centres.</li> <li>▪ Any clearance of existing native vegetation within Non-Certified Areas required to be offset.</li> </ul>	<ul style="list-style-type: none"> <li>▪ 34 ha of ENV retained within Non-Certified Areas or otherwise offset.</li> </ul>	<ul style="list-style-type: none"> <li>▪ 30.7 ha of ENV to be retained within Non-Certified area.</li> <li>▪ The 3.3 ha shortfall of ENV to be offset by the protection of 5.06 ha of ENV within the certified area</li> <li>▪ Protection mechanisms include development controls in the SEPP to protect existing native vegetation as shown on the Native Vegetation Protection Map.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Outcome considered to lead to an overall maintenance and improvement of biodiversity values.</li> <li>▪ The proposed off-set areas are consistent with Clause 8a.</li> <li>▪ Proposed offsets are considered to be consistent with the definition of “existing native vegetation” as defined in the Growth Centres Biodiversity Certification Order.</li> <li>▪ The proposed protection mechanisms are considered to be consistent with the definition of “protection” in the Order.</li> <li>▪ Overall, subject to the Minister’s approval of the proposed offsetting approach under Condition 3, the proposed precinct plan is considered to be consistent with the conditions in the Order.</li> </ul>
<p>-</p>	<ul style="list-style-type: none"> <li>▪ Investigation of known or potential populations of certain threatened species identified in the Order and protection of those species to the satisfaction of DECC.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Threatened flora species of regional significance that occur within the precinct and require protection (<i>Hibbertia superans</i> and <i>Eucalyptus</i> sp. <i>Cattai</i>) have adequate protection measures in place to conserve them in the long term.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Threatened species protected to the satisfaction of DECC.</li> <li>▪ Outcome considered to lead to an overall maintenance and improvement of biodiversity values.</li> </ul>

\*Existing Native Vegetation (ENV) as defined in the Biodiversity Certification Order



## 1 Introduction

Biodiversity Certification aims to balance the protection and management of conservation values with the efficient supply of land for urban development in Western Sydney. In essence, it 'switches off' threatened species assessment requirements in defined Certified Areas, while threatened species assessment requirements continue to apply in Non-Certified Areas, that is, they are not 'switched off'. A *Guide to Biodiversity Certification* was prepared to help the community understand the Biodiversity Certification, and is included as **Annexure A**.

Condition 35 of the Order requires that during the preparation of future precinct plans the Growth Centres Commission ("GCC") must undertake and make publicly available an assessment of the consistency of the proposed precinct plan with the conditions of biodiversity certification. Condition 35 also requires that this occurs during or before any public exhibition of future draft precinct plans.

The purpose of this report is to address the requirements of Condition 35 by providing an assessment of the North Kellyville Precinct Plan against the conditions of biodiversity certification. Consistent with the requirement of Condition 35, this report was publicly exhibited from 30 May 2008 to 4 July 2008 and has been amended based on consultation with the Department of Environment and Climate Change (DECC).



## 2 Biodiversity Certification Requirements

The Order outlines 41 conditions that need to be addressed in the Sydney Region Growth Centres. These conditions have been developed to ensure that there is an overall improvement or maintenance of biodiversity values within the Growth Centres.

The conditions relevant to this report are 3, 6, 7, 8 and 17 of the Order with two principle requirements that need to be satisfied in the North Kellyville Precinct:

- “existing native vegetation” (ie ‘green’ areas mapped in the *Draft Conservation Plan*) within Non-Certified Areas (also called “Protected Lands” in the *Draft Conservation Plan*) need to be retained or otherwise offset; and
- Known or potential populations of certain threatened species specified in the Order need to be identified and, if found, protected to the satisfaction of DECC.

ENV is defined in the Order as areas of indigenous trees (including any sapling) that:

- had 10% or greater over-storey canopy cover present;
- were equal to or greater than 0.5 hectares in area; and
- were mapped as “vegetation” (green areas) in Figures 4 and 5 of the Draft Conservation Plan.

A total of 34 hectares of existing native vegetation (ENV) was mapped within Non-Certified Areas / Protected Lands in the *Draft Conservation Plan*. This is the minimum area of existing native vegetation that would need to be retained in order to meet the certification requirements. Any existing native vegetation proposed to be cleared within Non-Certified Areas must be offset either by the protection of ENV in Certified Areas, or by re-vegetation / restoration works elsewhere in the Growth Centres.

An assessment of consistency of the North Kellyville SEPP Amendment with the conditions of the Order is provided in **Annexure B**.



## 3 Summary of Precinct Planning Outcomes

### Background

The primary organising principles for the North Kellyville Precinct are derived from the Metropolitan Strategy and *State Environmental Planning Policy (Sydney Region Growth Centres) 2006 - North West Structure Plan Map*. These documents set the planning outcomes to be achieved in North Kellyville as follows:-

- 4500 dwellings and population of 12,600 persons
- 3 - 4 neighbourhood centres
- Large lot housing near creeks and environmentally sensitive areas
- Transitional Lands – Managed through detailed Precinct Planning
- Consistency with Development Code

To adequately plan for the future population of North Kellyville, provision for a diverse mix of housing types, services and public open spaces is required. In addition, public utilities and other infrastructure is required to service the future needs of residents. The Precinct Planning process has sought to balance the needs of existing and future residents with the requirement to protect biodiversity values across the Growth Centres.

Furthermore, existing statutory requirements under various Acts requires that matters such as bushfire risk, riparian values, flood impact and water quality are appropriately addressed or mitigated. The protection of biodiversity values in this planning context therefore requires a planning outcome that is both equitable and sustainable.

### Precinct Planning Response

The North Kellyville Precinct Plan (**Annexure C**) which is consistent with the guiding principles outlined above proposes to:

- Maintain a majority of existing native vegetation within Non-Certified areas;
- Make areas of existing native vegetation within Non-Certified areas available for development based on detailed analysis of development constraints and achievement of the principles outlined above; and
- Identify areas to be classified as “Non-Certified” based on development constraints such as vegetation on land that is steep, flood affected or within a riparian corridor.



To clearly identify the areas of protected native vegetation in North Kellyville, a Native Vegetation Protection Map has been prepared and forms a mapping layer of the North Kellyville SEPP Amendment. The map shows areas of remnant vegetation and existing native vegetation to be protected by Clause 6.3 and 6.4 of the SEPP as shown in **Annexure D**.

A breakdown of the extent of each vegetation type proposed to be protected is provided in Table 1, which identifies that a total of 35.06ha of existing native vegetation is proposed for protection across the precinct. In addition, 131.32 ha of remnant native vegetation is also proposed to be retained.

The protection of more than 34 ha of existing native vegetation in North Kellyville satisfies the requirement of Condition 6 of the Order.

**Table 1 Proposed Vegetation Protection as shown in the Native Vegetation Protection Map**

Total Retained	Category	Inclusions
<b><i>Proposed Protection of Existing Native Vegetation (ENV) as mapped in the Draft Conservation Plan*</i></b>		
35.06 ha	Non-Certified Area	<ul style="list-style-type: none"> <li>▪ 30.7 ha               <ul style="list-style-type: none"> <li>– Protection mechanism is through the Native Vegetation Protection Map and Clause 6.4 of SEPP Amendment No.3</li> </ul> </li> </ul>
	Certified Area	<ul style="list-style-type: none"> <li>▪ 5.06 ha               <ul style="list-style-type: none"> <li>– Protection mechanism is through the Native Vegetation Protection Map and Clause 6.4 of SEPP Amendment No.3</li> </ul> </li> </ul>
<b><i>Proposed Protection of Native Vegetation mapped as Native Vegetation Retention Area</i></b>		
131.32 ha	High Conservation Value	<ul style="list-style-type: none"> <li>▪ 91.54 ha</li> </ul>
	Medium Conservation Value	<ul style="list-style-type: none"> <li>▪ 0.73 ha</li> </ul>
	Low Conservation Value	<ul style="list-style-type: none"> <li>▪ 39.03 ha</li> </ul>





## 4 Ecological Investigation Studies

The assessment of consistency with the requirements of the Order has been informed by two separate ecological investigations. In 2007, the GCC engaged a suitably qualified contractor (CE, 2007) to undertake a detailed ecological investigation to inform preparation of the North Kellyville Precinct Plan. The investigation involved undertaking a flora and fauna assessment and mapping areas of high, moderate or low ecological value.

Following exhibition of the North Kellyville Precinct Plan, a further study (CE, 2008) was prepared to inform post exhibition amendments to the North Kellyville SEPP (Amendment No.3). The objective of this study was to:-

- Undertake a detailed condition assessment of existing native vegetation previously protected under the exhibited SEPP Amendment;
- Prepare a Threatened Species Flora Report to address the requirements of Condition 17 of the Order; and
- Reassess the “improve or maintain assessment” to support the proposed amendment to the North West Growth Centre Biodiversity Certification Map.

The definition of Improve or Maintain according to the Growth Centre’s Conservation Plan is “Improve or Maintain is achieved if the species is likely to persist at the sub-regional level” (refer to page 44 and 53 of the Growth Centres Conservation Plan for full details and definitions). Consistency of the proposed amendment to the Biodiversity Certification Map with the Improve or Maintain Assessment for relevant threatened flora and fauna is detailed in Section 5.5 of this report.



#### **4.1 Vegetation Communities**

As noted, conditions relevant to this report are 3, 6, 7, 8 and 17 of the Order. A principal requirement is that 34 hectares of existing native vegetation as mapped in the *Draft Conservation Plan* needs to be retained within the North Kellyville precinct.

A total of 30.7 ha of existing native vegetation is proposed to be retained within the existing Non Certified Area of the precinct. This represents a shortfall of 3.3 ha. A shortfall is possible under Condition 7 of the Order, which states:

*“During the precinct planning process, the GCC may determine to make areas of existing native vegetation within Non-Certified Areas available for development if it is considered necessary for either the provision of essential infrastructure or to meet required development parameters specified in the Growth Centres Development Code”.*

The key development parameter for the North Kellyville Precinct (as defined in the Explanatory Notes accompanying the North West Structure Plan) is to achieve 4,500 dwellings. To achieve this dwelling target, it was not possible to retain all 34 hectares of existing native vegetation as mapped in the Draft Conservation Plan.

Condition 8 requires that:

*“In making a determination under Condition 7, the GCC must demonstrate by way of information provided during the public exhibition of the precinct plan that the clearing of any existing native vegetation in the Non-Certified Areas will be offset either by (a) the protection of an equal or greater area of existing native vegetation elsewhere in the Growth Centres; and/or (b) the re-vegetation and/or restoration of an area of land elsewhere in the Growth Centres (subject to satisfying criteria described in the Order)”.*

Pursuant to Condition 7 and 8a, the proposed clearing of existing native vegetation within the existing Non-Certified area and offsetting arrangements of the SEPP Amendment are detailed will be offset by the protection of 5.06 ha of certified existing native vegetation as shown in the Native Vegetation Protection Area SEPP Map. An expanded rationale for the proposed offset arrangements are detailed in Section 5.



## 5 Consistency with Certification Requirements

### 5.1 Protection of existing native vegetation

The North West Growth Centre Biodiversity Certification Map shows the extent of certified and non-certified land. Pursuant to Conditions 3, 7 and 8a of the Order, it is proposed to amend the certified and non-certified land boundary based on the protection of vegetation as shown in the Native Vegetation Protection Map (SEPP Amendment No.3). The location and extent of native vegetation identified within this mapping layer has been determined through detailed constraint mapping and condition assessment of selected existing native vegetation areas within the North Kellyville Precinct.

The exhibited North Kellyville Precinct Plan made provision for the protection of 26.91ha of existing native vegetation, contained within riparian, flood prone and constrained land. To simplify identification of protected vegetation, the exhibited Retained Native Vegetation Map has been renamed and amended to include the following mapping layers:

- Existing Native Vegetation to meet the requirements of the Order
- Remnant native vegetation considered to be of conservation value and mapped as Native Vegetation Retention Area.

The proposed Native Vegetation Protection Map now provides 35.06 ha of existing native vegetation. This includes an additional 8.156ha of existing native vegetation based on post exhibition surveys of the following areas:

- ENV within non-certified land that has now been verified for protection in the Native Vegetation Protection Map (3.796 ha); and
- ENV within certified land that has now been verified for protection in the Native Vegetation Protection Map (4.360 ha) as an offset under Condition 8(a) of the Biodiversity Certification Order.

The location, method and assessment of condition is provided in **Annexure E**.

This assessment in conjunction with detailed precinct planning resulted in the identification of protected existing native vegetation deemed suitable for development. In summary, 3.294ha of existing native vegetation within non-certified areas are proposed to be made available for development.



## 5.2 Protection Mechanism Requirements

“Protection” is defined in the Order as:

*“land that is protected by a land use zoning under an environmental planning instrument or public ownership arrangements that provide for the protection of biodiversity values as a priority, or another arrangement that provides in-perpetuity security for biodiversity on the subject land.”*

The North Kellyville SEPP Amendment provides for the protection of existing native vegetation required to ensure consistency with Condition 6 of the Order.

It is noted that the principal protection mechanism for vegetation identified in the Draft Conservation Plan applied to Flood Prone and Major Creeks Land and Transitional Lands in the SEPP. The Flood Prone and Major Creeks Land development control overlay has been maintained and refined, while the Transitional Lands overlay is proposed to be deleted where it applies within North Kellyville.

## 5.3 Protection Mechanisms

Overall, it is considered that the proposed protection mechanisms within Appendix 2 of the SEPP (Amendment No.3) provide a level of security that is consistent with the definition of “protection” as defined in the Order. A summary of the relevant protection mechanisms is provided below:

SEPP Amendment No.3:

- Vegetation controls in Part Appendix 2 of the SEPP which apply to Native Vegetation Retention Areas as shown in the Native Vegetation Protection Map;
- Vegetation controls in Part 6 Appendix 2 of the SEPP which apply to Existing Native Vegetation as shown in the Native Vegetation Protection Map.
- Vegetation controls in Part 6 Appendix 2 of SEPP which apply to riparian areas as shown in the Riparian Protection Area Map; and
- Environmental Management Plan referenced in Part 6, Appendix 2 of SEPP Amendment No 3.

Land to which the above protection mechanisms apply is generally zoned E3 Environmental Management, E4 Environmental Living.

The objectives of the Environmental Management E3 Zone are:

- To protect, manage and restore areas with special ecological, scientific, cultural or aesthetic values; and



- To provide for a limited range of development that does not have an adverse effect on those values.

The objectives of the Environmental Living E4 Zone are:

- To provide for low-impact residential development in areas with special ecological, scientific or aesthetic values; and
- To ensure that residential development does not have an adverse effect on those values.

North Kellyville DCP:

- Objectives and controls which apply to subdivision within the Environmental Living E4 Zone in Section 3.6 of the DCP;
- Objectives and controls which apply to Riparian Corridors in Section 6.8 of the DCP; and
- Environmental Management Plan in Appendix F of the DCP.

Further details about each proposed protection mechanism are provided in Table 2 overleaf.



**Table 2 Proposed Vegetation Protection Mechanisms**

Instrument	Mechanism	Comments / Relevance
SEPP	Vegetation Controls	<ul style="list-style-type: none"> <li>▪ To ensure that the current vegetation controls under Part 6 of the State Environmental Planning Policy (Sydney Region Growth Centres) 2006 are carried over into Baulkham Hills Local Environmental Plan 2005, it is proposed to exclude the operation of this part to the North Kellyville Precinct. Instead, controls for the clearing of vegetation will be inserted within Appendix 2 of the SEPP with additional provisions to address the protection of existing native vegetation consistent with the requirements of the Biodiversity Certification Order.</li> </ul>
	Riparian Protection Area	<ul style="list-style-type: none"> <li>▪ Riparian Protection Areas were defined as an outcome of the precinct planning process in consultation with the Department of Water and Environment.</li> <li>▪ The SEPP Amendment incorporates a provision to enable the vegetation controls of the SEPP to apply to Riparian Protection Areas. A separate amendment to the Water Management (General) Regulation (2004) will reference the Riparian Protection Area Map under the Water Front Land Strategy for North Kellyville.</li> </ul>
	Flood Prone and Major Creeks Land	<ul style="list-style-type: none"> <li>▪ Flood Prone and Major Creeks Land was refined as an outcome of the precinct planning process.</li> <li>▪ The SEPP Amendment incorporates a provision to enable the vegetation controls of the SEPP to apply to Riparian Protection Areas.</li> </ul>
	Development on land Zoned E3 Environmental Management.	<ul style="list-style-type: none"> <li>▪ Clause 6.2 (Development on land in Zone E3 Environmental Management) provides protection to land identified within the Native Vegetation Protection Map as provided in part below:               <ol style="list-style-type: none"> <li>2) <i>Despite any other provision of this Precinct Plan, the consent authority must not grant development consent for development on land to which this clause applies unless it is satisfied that the proposed development:</i> <ol style="list-style-type: none"> <li>a) <i>will be undertaken in a manner that is not inconsistent with the North Kellyville Precinct Environmental Management Plan, and</i></li> <li>b) <i>will not result in the clearing of native vegetation shown as Native Vegetation Retention Area or Existing Native Vegetation on the Native Vegetation Protection Map.</i></li> </ol> </li> </ol> </li> <li>▪ Retained native vegetation protected within the Environmental Management E3 Zone includes species identified under Condition 17 of the Order.</li> </ul>



Instrument	Mechanism	Comments / Relevance
	Environmental Management Plan (EMP)	<ul style="list-style-type: none"> <li>▪ An EMP for the North Kellyville Precinct is included as Appendix to the DCP. The EMP outlines appropriate rehabilitation methods, principles for weeding and replanting, and requirements for ongoing maintenance, management, monitoring and reporting.</li> <li>▪ For subdivision within the Environmental Management E3 Zone and Environmental Living E4 Zone, a vegetation management plan (for vegetation shown in the Native vegetation Protection Area Map) that implements the recommendations of the EMP is required.</li> </ul>
<b>Development Control Plan (DCP)</b>	Riparian Corridors	<ul style="list-style-type: none"> <li>▪ A Riparian Corridor map is provided as Figure 43 in the DCP. A relevant objective of the DCP is to protect, restore and enhance the environmental qualities of water courses. A relevant control is that all Core Riparian Zones (CRZs) are to be rehabilitated and revegetated with appropriate native vegetation having regard to its drainage function and vegetation management for bushfire protection. More specific objectives and controls are provided with reference to the different categories of riparian corridors in Table 21 of the DCP.</li> </ul>
	Environmental Management Plan	<ul style="list-style-type: none"> <li>▪ As noted above, an EMP is included as Appendix to the DCP.</li> <li>▪ The EMP is triggered under Part 6, Appendix 2 of the SEPP, (Amendment No 3) and Section 3.6 of the North Kellyville DCP relating to subdivision of land within the Environmental Living E4 Zone.</li> </ul>



## 5.4 Retention of Threatened Species

Condition 17 of the Order requires the investigation and/or protection of certain known or potential threatened flora species. A detailed report prepared by a suitably qualified contractor has been prepared to address the requirements of the Order and is provided in **Annexure F**. The following is a summary of the report.

Within the Native Vegetation Area Protection Map, the majority of the threatened species populations listed in the Order are proposed to be protected as detailed in Table 3 below.

**Table 3 Threatened Flora Species**

Flora Species	Comments
<ul style="list-style-type: none"><li>▪ <i>Eucalyptus spp Cattai</i></li><li>▪ <i>Epacris purpurascens</i></li><li>▪ <i>Hibbertia superans</i></li></ul>	<ul style="list-style-type: none"><li>▪ Population of <i>Eucalyptus spp Cattai</i> considered to be regionally significant. The majority of the identified known extent of is proposed to be protected within the former Heath Road Reserve.</li><li>▪ Population of <i>Epacris purpurascens</i> occurs within Category 1 riparian watercourse. No impact from development is proposed and therefore does not require consideration of significance.</li><li>▪ Population of <i>Hibbertia superans</i> considered to be regionally significant. The majority of the identified known extent of is proposed to be protected within the former Heath Road Reserve.</li></ul>
<ul style="list-style-type: none"><li>▪ <i>Darwinia biflora</i></li></ul>	<ul style="list-style-type: none"><li>▪ The majority of the known population is proposed to be protected within the former Heath Road Reserve.</li><li>▪ Some limited areas of the known populations are proposed as being developable.</li><li>▪ It is noted that the species is considered to be widespread and well represented within the Precinct.</li></ul>
<ul style="list-style-type: none"><li>▪ <i>Leucopogon fletcherii</i> <i>subsp. fletcherii</i></li></ul>	<ul style="list-style-type: none"><li>▪ Surveys outside of the former Heath Road Reserve located two species in approximately the same location as originally mapped by Theresa James in 2007.</li><li>▪ Population is not considered regionally significant and is expected to be retained on site as no changes to the rural residential land use in this area is proposed.</li></ul>
<ul style="list-style-type: none"><li>▪ <i>Persoonia hirsute</i></li></ul>	<ul style="list-style-type: none"><li>▪ No populations were identified during surveys undertaken as part of the precinct planning process targeting the potential population location.</li><li>▪ Has historically been recorded near the former Heath Road Reserve, however this population was recorded destroyed by fire.</li></ul>





Flora Species	Comments
	<ul style="list-style-type: none"><li>As this species no longer occurs within the Precinct, no additional conservation outcomes are required.</li></ul>

North Kellyville SEPP Amendment zones a majority of the former Heath Road Reserve for E3 Environmental Management and sets an appropriate minimum subdivision size to ensure protection of the site. Protection of threatened species flora within or in proximity to the former Heath Road Reserve is achieved via Clause 6.3 and 6.4 of the SEPP Amendment.



## **5.5 Maintain or improve re-assessment**

The existing Non-Certified Area boundary was partially derived from the Transitional Lands development control overlay in the SEPP, which is proposed to be deleted. The proposed boundary adjustment is possible under Condition 3 of the Order subject to achieving an overall improvement or maintenance of biodiversity values.

An Improve or Maintain assessment was undertaken in the exhibited Growth Centres Conservation Plan for vegetation, threatened flora and threatened fauna. Due to the proposed amendment of the certified and non-certified boundary, it is necessary to reassess the Improve or Maintain assessment carried out in the Conservation Plan as detailed below.

### **5.5.1 Threatened Flora**

Several threatened flora species were identified in the Conservation Plan as occurring within the Growth Centres. As only 6 of these species are relevant to the North Kellyville Precinct, the Improve or Maintain assessments in the Conservation Plan for the remaining species still apply.

The Improve or Maintain assessments for the 6 relevant flora species have been reassessed in the Threatened Flora Report (2008) by Cumberland Ecology. As these species primarily occur within or adjacent to the former Heath Road Reserve (CE, 2008a), the assessment focuses on this area.

The DECC have considered the implications of the Draft North Kellyville ILP and concluded that they have no concerns about all but two species. The two species of concern to the DECC - *Eucalyptus sp Cattai* and *Hibbertia superans* - have more restricted and lesser known populations within the Region but occur in substantial numbers in the former Heath Road Reserve. Consequently, they were the subject of further field surveys by Cumberland Ecology (CE 2008b) to verify that the adjustments could be made without significant impacts to both species. The latest field assessments by Cumberland Ecology have confirmed the viability of the populations to be retained in the former Reserve. In both cases, sizeable numbers of plants will be conserved in appropriately sized areas of heathland and woodland that are to be managed long term for conservation (CE 2008b). Therefore, the Improve or Maintain assessment carried out in the Threatened Flora report determined that plans for the North Kellyville Precinct remain consistent with the Improve or Maintain assessment.



### **5.5.2 Threatened Fauna**

The North Kellyville Precinct provides potential habitat for a number of bird, microchiropteran bat, mammal and reptile species. Several threatened fauna species have been recorded within the North Kellyville Precinct and the wider locality (CE, 2007). The majority of good quality fauna habitat occurs within the riparian areas and the adjacent remnant vegetation (CE, 2007 – refer to this report for detailed fauna habitat assessments). Habitat for threatened bird species exists within the Precinct in the form of dense vegetation, large hollows and floral resources. A large portion of this habitat can be found in the riparian zones of Cattai Creek and Smalls Creek. Suitable habitat is likely to exist in the precinct for many of the threatened microbat species recorded from the locality (including the Eastern Freetail Bat (*Mormopterus norfolkensis*) and the Eastern Bent-wing Bat (*Miniopterus schreibersii oceanensis*) as it offers a wide range of resources utilised by these species including tree hollows, caves, dense vegetation and waterways.

Habitat for threatened mammal species occurs in the form of hollows and floral resources and areas within the riparian zones, gully forests and sandstone outcrops. Suitable habitat exists in the Kellyville Precinct for threatened amphibian species recorded from the locality (the Giant Burrowing Frog and the Red-crowned Toadlet). These species occur in sandstone environments close to water bodies (NSW Scientific Committee 2004e, NSW Scientific Committee 2004a) and are unlikely to be affected by the proposed boundary changes as a variety of aquatic habitats are present in protected riparian zones, including flowing water, pools and ephemeral drainage lines.

Fauna habitats in the North Kellyville precinct will remain largely unchanged under the proposed amendment to the certified and non-certified land boundary. Potential habitat for threatened fauna species will be secured within the riparian and native vegetation protections areas. The loss of some fauna habitat within the former Heath Road Reserve is not considered likely to have a significant effect on threatened fauna as the majority of the former Reserve is being retained in the long term. A majority of riparian areas will also be managed for conservation. Therefore it is considered that the proposed amendment to the Biodiversity Certification Map is consistent with the Improve or Maintain assessments for threatened fauna that were carried out in the exhibited Growth Centres Conservation Plan.

A map identifying the proposed amendment to Certified and Non Certified Areas in North Kellyville is provided in **Annexure G**.



## 6 Conclusion

Vegetation mapping and threatened flora surveys have been carried out by GCC contractors on two separate occasions during the 2007 and 2008 to meet the requirements of the Biodiversity Certification Order for North Kellyville, with regard to existing native vegetation and threatened flora.

Post exhibition amendments to the SEPP Amendment now ensures that over 34ha of existing native vegetation is protected for conservation within the precinct and that the two threatened flora species of regional significance that occur within the precinct and require protection (*Hibbertia superans* and *Eucalyptus* sp. *Cattai*) have adequate protection measures in place to conserve them in the long term (refer to Cumberland Ecology's threatened flora species report). This report concludes that compliance with Conditions 3, 6, 7, 8 and 17 of the Order has been demonstrated.

Due to the protection of 35.06ha of existing native vegetation which is greater than the recommended 34ha, the protection of and potential future management of the former Heath Road Reserve, it is concluded that the proposed adjustments to the certified and non-certified boundary continue to comply with the Improve or Maintain assessment.

Although some areas of known habitat for threatened flora species will be removed, known and potential habitat within the former Heath Road Reserve will be retained. The retention of threatened flora populations within the former reserve and other areas of protected vegetation within the North Kellyville Precinct, should ensure long-term security of these species to enable them to persist at a sub-regional level.

In addition to the protection of threatened flora species, the protection of the majority of the former Reserve will allow for the retention of habitat for some threatened fauna species occurring within the North Kellyville Precinct. The threatened fauna species are most likely to utilise riparian zones and areas of high quality remnant vegetation, which are both found within the former Reserve and other areas of vegetation to be protected within the Precinct.

The recommendation that the Minister for the Environment and Climate Change uses condition three to amend the certified and non-certified boundary and delete the black hatching (North West Growth Centres Biodiversity Certification Map) in relation to the North Kellyville Precinct are warranted because they can be achieved without jeopardising the primary aims of the draft Growth Centres Conservation Plan 2007 for persistence of threatened species. The proposed amendments to the Certification Map will not detract from the ability of the SEPP Amendment to lead to the overall improvement or maintenance of biodiversity values.

## 7 References

CE (2008a) **Biodiversity Assessment: North Kellyville Precinct.** Produced by Cumberland Ecology Pty Ltd. for the Growth Centres Commission.

CE (2008b) **Threatened Flora Report: North Kellyville Precinct** Produced by Cumberland Ecology Pty Ltd. for the Growth Centres Commission.

GCC (2007) **Growth Centres Conservation Plan. Draft Exhibition.** Growth Centres Commission.

# **Annexure A**

## **Guide to Biodiversity Certification**

**Annexure B**  
Assessment of Consistency with Certification Conditions

## ASSESSMENT OF CONSISTENCY COMPLIANCE TABLE

	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
<b>General</b>				
1	In the event of any inconsistency between the draft Growth Centres Conservation Plan, the Report on Public Submissions and the conditions of biodiversity certification, the conditions of biodiversity certification shall prevail.	The conditions of biodiversity certification have been met for the precinct.	Yes	
2	This biodiversity certification order does not affect any consent or approval granted under Part 3A, Part 4 or Part 5 of the <i>Environmental Planning and Assessment Act 1979</i> before the order took effect, or any development or activity carried out in accordance with such a consent or approval.	On current data, the biodiversity certification order does not affect consents or approvals guaranteed under the <i>Environmental Planning and Assessment Act 1979</i> before the order took effect.	Yes	
3	The Minister, from time to time and as considered appropriate, may amend the conditions of biodiversity certification in accordance with the Act to address anomalies, errors, boundary revisions and/or to take into account new information, but only if the Minister is satisfied that any amendments will not detract from the ability of the SEPP, and other relevant measures, to lead to the overall improvement or maintenance of biodiversity values. Amendments may include, but are not limited to, boundary revisions to reflect updated flood mapping and the outcomes of the assessments completed under conditions 14, 17 and 18. The Minister may, but is not required to, provide for any such amendments to be exhibited for public comment.	<p>The GCC has proposed boundary revisions within the precinct to ensure that sufficient ENV is conserved to meet the requirements of the Biodiversity Certification.</p> <p>The proposed certified and non certified boundary is based on the Native Vegetation Protection Map and Clause 6.3 of SEPP Amendment No.3</p>	Yes	<p>The proposed amendment to the Certification Map takes into account updated constraint mapping, biodiversity assessments and detailed urban design analysis within areas previously nominated as transitional land and mapped non-certified.</p> <p>To ensure the proposed amendment leads to the overall improvement or maintenance of biodiversity values, the adjustments to the boundary have been assessed in terms of the requirement to retain 34ha of Existing Native Vegetation (ENV) within the Precinct and persistence of species as defined in Pages 44 and 53 of the Growth Centres Conservation Plan.</p>



	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
				<p>The proposed amendment to the Certification Map will result in the protection of 35.06ha of ENV, thus surpassing the minimum requirement.</p> <p>In addition to protected ENV, the Native Vegetation Protection Map identifies additional vegetation to be protected by Clause 6.3 of the SEPP. This vegetation coincides with environmentally sensitive areas such as riparian corridors, steep land and flood affected land.</p> <p>The protection of more than 34ha of ENV, and protection of vegetation on environmentally sensitive land is considered to lead to the overall maintenance and improvement of biodiversity values within the North Kellyville Precinct.</p>
4	Copies of all final reports, maps, reviews, plans and monitoring data referred to in the conditions of biodiversity certification must be held by the GCC and made publicly available, either on request and/or by a mechanism that is broadly publicly accessible. This does not apply to material that is commercially sensitive or contains sensitive information regarding the location of threatened species, populations or ecological communities or their habitat.	All material that is non-sensitive will be made publicly available following gazettal of the North Kellyville Precinct Plan.	Yes	Exhibition of all relevant (non-sensitive) material during public exhibition period confirmed with Department of Environment and Climate Change
<b>Areas subject to biodiversity certification</b>				
5	Pursuant to section 126H of the Act, the biodiversity certification of the SEPP is limited to the certified areas.	The current amendments to the certified land within	Yes	

	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
	<b>Note:</b> Pursuant to section 126I of the Act, developments or activities proposed to be undertaken within the certified areas do not need to undertake assessment of impacts on threatened species, populations and ecological communities, or their habitats, that would normally be required by Part 4 or 5 of the Environmental Planning and Assessment Act 1979.	Kellyville are consistent with this Clause.		
6	A minimum of 2,000 hectares of existing native vegetation must be retained and protected within the Growth Centres, either within the certified areas and/or the non-certified areas, subject to conditions 7 to 13 below.	A total of 34ha of ENV is required to be retained in the North Kellyville Precinct.	Yes	The required 34ha and an additional 1.06 ha of ENV will be retained within the Precinct. Additional information is provided in the Consistency Report.
<b>Retention of existing native vegetation during precinct planning</b>				
7	During the precinct planning process, the GCC may determine to make areas of existing native vegetation within the non-certified areas available for development if the clearance of such vegetation is considered necessary for either the provision of essential infrastructure and/or to meet the required Development Parameters specified in the Growth Centres Development Code.	Based on detailed Precinct Planning, 4ha of protected existing native vegetation are proposed to be made available for urban development to achieve the development parameters specified in the Growth Centres Development Code.  Suitable offset areas are detailed in the response to Condition 8.	Yes	Detailed constraints analysis of environmentally sensitive land has identified areas suitable for urban development. It is proposed that land adjoining environmentally sensitive areas be zoned E4 Environmental Living or E3 Environmental Management for large lot subdivision.  The North Kellyville Precinct Plan (SEPP Amendment No.3) and Development Control Plan contain suitable provisions to ensure that protected existing native vegetation is conserved and managed.
8	In making a determination under condition 7, the GCC must demonstrate by way of information provided during the public exhibition of the precinct plan (where that exhibition occurs after this order takes effect) that the clearing of any existing	The proposed clearing of existing native vegetation in the non-certified area	Yes	Under the proposed certified and non-certified boundary, areas previously located outside the original transitional

	<b>Relevant Biodiversity Measure</b>	<b>North Kellyville Precinct - Comment</b>	<b>Consistent with Ministerial Order / TSC Act 1995</b>	<b>Justification</b>
	<p>native vegetation in the non-certified areas will be offset by:</p> <p>(a) the protection of an equal or greater area of existing native vegetation elsewhere in the Growth Centres; and/or</p> <p>(b) the revegetation and/or restoration of an area of land elsewhere in the Growth Centres, subject to satisfying the following,</p> <p>(i) that the clearance of existing native vegetation in the non-certified areas will not affect the capacity to achieve overall improvement or maintenance of biodiversity values for threatened species, populations and ecological communities and their habitats,</p> <p>(ii) the revegetated and/or restored areas will be protected,</p> <p>(iii) the extent of revegetation and/or restoration compared to clearing of existing native vegetation must be undertaken at a ratio of at least 3:1 (to reflect the greater ecological risks relative to retaining existing native vegetation),</p> <p>(iv) areas subject to revegetation and/or restoration must be of a suitable boundary configuration and design to support long-term management,</p> <p>(v) revegetation and/or restoration of the proposed areas would not be undertaken under another scheme or regulatory requirement already in operation at the time that the clearing is approved (this includes but is not limited to any approvals, and associated conditions of such approvals, that may be required under the Rivers and Foreshores Improvement Act 1948 and Water Management Act 2000),</p> <p>(vi) revegetation and/or restoration will be undertaken by suitably qualified and experienced persons using indigenous plant stock, and</p> <p>(vii) sufficient resources will be made available to undertake the revegetation and/or restoration and any necessary follow-up maintenance and monitoring for a minimum period of 5 years following the commencement of the revegetation and/or restoration.</p>	<p>will be offset by the protection of a slightly greater area within the North Kellyville Precinct.</p> <p>The loss of 4ha within protected lands will be offset by 5.06 ha of existing native vegetation.</p>		<p>lands will be included as offsets. Provisions are made within the SEPP and Development Control Plan to protect and manage these areas as part of the subdivision process.</p> <p>Areas of existing native vegetation to be protected as non-certified vegetation are shown on the Growth Centres SEPP Amendment No.3 – Native Vegetation Protection Map as Existing Native Vegetation. The North Kellyville Development Control Plan requires subdivision of land containing protected vegetation to prepare a vegetation management plan consistent with the requirements of the North Kellyville Environmental Management Plan.</p>

	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
9	<p>Revegetation and/or restoration may be partly counted towards meeting the overall requirement to protect 2,000 hectares of existing vegetation required in condition 6. The amount that may be counted shall be calculated by dividing the total area of revegetation and/or restoration required under condition 8b (iii) by 3.</p> <p><b>Note:</b> for example, if 9 hectares of revegetation is undertaken then 3 hectares may be counted.</p>	<p>No revegetation and/or restoration is required within the North Kellyville Precinct to meet the 34ha offset requirement. However some protected lands will be managed in accordance with the Environmental Management Plan for the Precinct.</p>	Yes	
<b>Retention of existing native vegetation during development</b>				
10	<p>In the non-certified areas, proposals to clear existing native vegetation shall be subject to the relevant development controls in the SEPP and Sydney Regional Environmental Plan No. 31 – Regional Parklands, and the requirements of the Environmental Planning and Assessment Act 1979.</p>	<p>The North Kellyville SEPP (Amendment No.3) contains development controls for the protection of native vegetation as shown on the Native Vegetation Protection Map.</p>	Yes	<p>The North Kellyville SEPP (Amendment No.3) requires that a consent authority must not grant development consent unless satisfied that the proposed development will not result in the clearing of Existing Native Vegetation as shown on the Native Vegetation Protection Map.</p> <p>Proposals to modify the area of non-certified existing native vegetation would require a rezoning that triggers assessment under Division 4 of the EP&amp;A Act.</p>
11	<p>Where there are essential infrastructure proposals, including but not limited to proposals under Part 3A of the Environmental Planning and Assessment Act 1979, that involve clearing of existing native vegetation in the non-certified areas and that do not require development consent under the SEPP, such clearing must be offset by applying the same requirements specified in condition 8 above.</p>	<p>No offsets for essential infrastructure are proposed for North Kellyville as a result of detailed precinct planning.</p>	Yes	

	<b>Relevant Biodiversity Measure</b>	<b>North Kellyville Precinct - Comment</b>	<b>Consistent with Ministerial Order / TSC Act 1995</b>	<b>Justification</b>
	In this case the offsets may be located outside of the Growth Centres (but within the Cumberland Plain of Western Sydney, as defined in condition 32) if the GCC is satisfied that there are no practicable offset options within the Growth Centres and all other requirements of condition 8 will be met. However, any offsets outside the Growth Centres cannot be counted towards meeting the requirements of condition 6.			
<b>Retention of existing native vegetation shown in areas marked with red hatching</b>				
12	Notwithstanding any other conditions of biodiversity certification, in the lands marked by a red hatching on the biodiversity certification maps existing native vegetation must not be cleared unless it is in accordance with a plan of management or unless such clearance has been agreed to by the DECC.	N/A	Yes	
<b>Ground-truthing of existing native vegetation</b>				
13	If new information becomes available after the biodiversity certification order took effect that demonstrates that the vegetation within an area does not otherwise meet the definition of existing native vegetation, then for the purposes of conditions 7 to 8 and condition 11 to 12 only the area of confirmed existing native vegetation shall be considered.	The assessment of existing native vegetation undertaken to address conditions 7 and 8 has sought to identify existing native vegetation that meets the definition of ENV under the Order.	Yes	
<b>Additional conservation actions within the Growth Centres – native vegetation</b>				
14	During or before the preparation of the relevant precinct plan(s) under the Growth Centres Development Code, a further detailed assessment must be undertaken of the areas adjoining or proximate to the Shanes Park Air Services Australia site marked in blue hatching on the biodiversity certification maps.	N/A	Yes	
15	The assessment referred to in condition 14 must examine whether the areas meet the criteria specified in Schedule 3.	N/A	Yes	
16	Based on the outcomes of the assessment the DECC shall provide advice to the Minister on whether the areas should be included within the certified areas or the	N/A	Yes	

	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
	non-certified areas shown on the biodiversity certification maps.			
<b>Additional conservation actions within the Growth Centres – plants</b>				
17	<p>During or before the preparation of the relevant precinct plan(s) under the Growth Centres Development Code relating to the areas referred to in the table below, the following actions must be undertaken:</p> <p><b>Species</b></p> <p><b>Required action</b></p> <p>Acacia pubescens</p> <p>Potential populations at Cross Street, Kemps Creek and Thirty-second Avenue, Austral – as shown in black hatching on the biodiversity certification maps:</p> <ul style="list-style-type: none"> <li>survey to confirm the presence of the species, and</li> <li>if the species is present, provide for the protection of the area of suitable habitat for the species to the satisfaction of the DECC.</li> </ul> <p>Pimelea spicata</p> <p>Potential populations at Denham Court Road - as shown in black hatching on the biodiversity certification maps:</p> <ul style="list-style-type: none"> <li>survey to confirm the presence of species, and</li> <li>if the species is present, provide for the protection of the area of suitable habitat for the species to the satisfaction of the DECC.</li> </ul> <p>Persoonia hirsuta</p> <p>Potential populations at North Kellyville – as shown in black hatching on the biodiversity certification maps:</p> <ul style="list-style-type: none"> <li>survey to confirm the presence of the species, and</li> <li>if the species is present, provide for the protection of the area of suitable habitat for the species to the satisfaction of the DECC.</li> </ul>	<p>Relevant species to the North Kellyville Precinct are: <i>Darwinia biflora</i>, <i>Epacris purpurascens</i> var <i>purpurascens</i>, <i>Eucalyptus</i> sp Cattai, <i>Hibbertia superans</i>, <i>Leucopogon fletcheri</i> subsp. <i>fletcheri</i> and <i>Persoonia hirsuta</i>. The outcome of a meeting between DECC and GCC in February 2008 was that the DECC requested that only <i>Hibbertia superans</i> and <i>Eucalyptus</i> sp. Cattai be surveyed within the Precinct, due to their regional significance.</p>	Yes	<p>Targeted surveys have been undertaken within the previously mapped habitat of <i>Hibbertia superans</i> and <i>Eucalyptus</i> sp Cattai. The targeted surveys confirmed the presence of both species. Onsite protection measures include establishing a 50m buffer around the habitat areas to be retained for conservation. Additional information is provided in the Threatened Flora Report prepared by Cumberland Ecology.</p> <p>The North Kellyville SEPP (Amendment No.3) addresses the protection of species identified under Condition 17 of the Order by zoning the former Heath Road Reserve as E3 – Environmental Management. The vegetation controls under Clause 6.2 (Development on land in Zone E3 Environmental Management) require that the consent authority must not grant development consent that will involve the clearing of any native vegetation shown as Native Vegetation Retention Area of Existing Native Vegetation on the Native Vegetation Protection Map.</p>

	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
	<p>Leucopogon fletcheri      Known population at North Kellyville - as shown in black hatching on the biodiversity certification maps:</p> <ul style="list-style-type: none"> <li>• survey to confirm the extent of the population, and</li> <li>• provide for the protection of the population to the satisfaction of the DECC.</li> </ul> <p>Darwinia biflora      Known populations at North Kellyville - as shown in black hatching on the biodiversity certification maps:</p> <p>Hibbertia superans      - survey to confirm the extent of the populations, and var purpurascens - provide for the protection of the population to the satisfaction of the DECC</p> <p>Epacris purpurascens</p> <p>Eucalyptus sp "Cattai"</p> <p>Note: On completion of the above actions the Minister may decide that it is appropriate to amend the boundaries of the area subject to biodiversity certification, in accordance with condition 3.</p>			
<b>Additional conservation actions within the Growth Centres – animals</b>				
18	<p>During or before the preparation of the relevant precinct plan(s) under the Growth Centres Development Code relating to the area referred to in the table below, the following actions must be undertaken:</p> <p><b>Species</b>                      <b>Required action</b></p> <p>Green and Golden Bell Frog      Potential population at Riverstone - as shown in black hatching on the biodiversity certification maps:</p> <p><b>Option 1</b></p> <ul style="list-style-type: none"> <li>• survey to confirm the presence of the species, and</li> <li>• if the species is present, provide protection of the area of suitable habitat for the species to the satisfaction of the DECC.</li> </ul>	N/A	Yes	

	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
	<p><b>Option 2</b></p> <ul style="list-style-type: none"> <li>• if the species is present at Riverstone but cannot be adequately protected to the satisfaction of the DECC, then: <ul style="list-style-type: none"> <li>(a) undertake targeted survey to confirm the presence of the species elsewhere in the Growth Centres, and</li> <li>(b) if the species is present elsewhere in the Growth Centres, provide for the protection of an area(s) of suitable habitat for the species to the satisfaction of the DECC.</li> </ul> </li> </ul> <p>Note: On completion of the above actions the Minister may decide that it is appropriate to amend the boundaries of the area subject to biodiversity certification, in accordance with condition 3</p>			
<b>Additional conservation actions within the Growth Centres – development sites</b>				
19	<p>Within twelve months of the biodiversity certification order taking effect, the GCC (in consultation with the DECC) must put in place procedures so that all future precinct plans (excluding any plans that were publicly exhibited before the biodiversity certification order took effect), where practicable, provide for the appropriate re-use of:</p> <ul style="list-style-type: none"> <li>(a) native plants (including but not limited to seed collection) and the re-location of native animals from development sites, prior to development commencing; and</li> <li>(b) top soil from development sites that contain known or potential native seed bank.</li> </ul> <p>For the purposes of condition 19a and 19b appropriate uses may include, but are not limited to, application in revegetation or restoration works and landscaping in</p>	<p>The North Kellyville Precinct Development Control Plan provides development controls consistent with the requirements of Condition No.19.</p>	<p>Yes</p>	<p>The North Kellyville Environmental Management Plan prescribes an appropriate methodology for revegetation and restoration of protected vegetation that implements these principles.</p> <p>For all other vegetation within North Kellyville, Clause 4.6 (Tree and Bushland Protection) has been amended to include the requirements of Condition 19.</p>



	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
	the Growth Centres.			
<b>Conservation Fund</b>				
20	For the purposes of the conditions of biodiversity certification, references to dollar values are taken to be 2005/2006 values. All values shall be indexed in accordance with the "land index" to be published by the GCC, as detailed in the Special Infrastructure Contribution Practice Note.	Noted.	Yes	
21	Over the life of the development of the Growth Centres funding shall be provided to establish a Conservation Fund of at least \$530 million to be used for biodiversity conservation and regional open space purposes. \$397.5 million of the Conservation Fund is planned to be used to acquire lands and/or enter into conservation agreements over lands that are outside of the Growth Centres for the primary purpose of biodiversity conservation.	Noted.	Yes	
<b>Timing and delivery of conservation funding</b>				
22	<p>For that portion of the Conservation Fund that is to be used to fund the purchase and/or entering into conservation agreements over lands that are outside the Growth Centres, the following conditions apply:</p> <p>(a) commencing in the 2008/2009 financial year, and continuing every financial year thereafter until the Conservation Fund is exhausted, the GCC must work with DECC to arrange for the provision of an annual contribution to fund these actions outside the Growth Centres in accordance with an indicative ten-year timetable of payments to be submitted by the GCC for approval of the Minister within six months of the date of this certification order. Once approved, the indicative timetable shall be incorporated as Schedule 4 of the biodiversity certification order in accordance with condition 3;</p> <p>(b) the indicative ten-year timetable of payments is to be generally prepared by determining the proportion of total remaining lot production in the Growth Centres that is expected to occur within a given financial year and to then allocate for that financial year the same proportion of the remaining amount of the planned \$397.5 million funding that has not been previously allocated;</p>	N/A	Yes	The required conservation outcomes are able to be met within Kellyville Precinct and there is no requirement for <i>ex situ</i> conservation areas to be purchased using the Conservation Fund.

	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
	<p>(c) to ensure adequate tracking of payments against the planned \$397.5 million allocation, the GCC must ensure that the indicative ten-year payment timetable identifies the payments in both current and equivalent 2005/06 dollar values;</p> <p>(d) an updated indicative ten-year payment timetable (to provide details of the payments for the subsequent ten years) must be provided annually (by June of each financial year) by the GCC to the DECC;</p> <p>(e) the annual contributions must be used for the purposes detailed in conditions 23 and 24 below;</p> <p>(f) notwithstanding conditions 22a to 22e inclusive, if requested by the DECC the GCC must use its best endeavours to support the provision of additional funding contributions to accelerate land acquisition and/or conservation agreements over land outside the Growth Centres in any given financial year. The following conditions also apply,</p> <p>(i) if an additional contribution is obtained in a given financial year, the GCC and DECC shall determine how subsequent annual contributions are to be reduced to account for the additional contributions in that financial year, and</p> <p>(ii) if, despite best endeavours, an additional contribution is not obtained, the provisions of condition 27 will not be triggered with respect to this additional amount</p>			
	<b>Use of conservation funding</b>			
23	As stated in condition 21, \$397.5 million of the Conservation Fund is planned to be used by the DECC to arrange for the purchase and/or establishment of conservation agreements over lands outside the Growth Centres for the primary purpose of biodiversity conservation. This portion of the Conservation Fund must be allocated in accordance with the preferences for location and conservation values that are detailed in conditions 32, 33 and 34.	Noted.	Yes	

	<b>Relevant Biodiversity Measure</b>	<b>North Kellyville Precinct - Comment</b>	<b>Consistent with Ministerial Order / TSC Act 1995</b>	<b>Justification</b>
24	As part of the use of funds under condition 23, the DECC may arrange for allocation of a reasonable proportion towards the administration costs of purchasing land and/or entering into conservation agreements, and for the initial management costs of purchased land. However, from the commencement of the 2012/2013 financial year any such allocations must not exceed 5% of the annual contribution from the Conservation Fund for the purchase and/or establishment of conservation agreements over lands outside the Growth Centres in any single financial year.	Noted.	Yes	
25	Funding that is planned to be allocated from the Conservation Fund within the Growth Centres shall be used to fund the purchase of lands as identified in the SEPP (as gazetted in July 2006), or the establishment of conservation agreements over an area or areas of land within the Growth Centres.	Noted.	Yes	
<b>Timing of expenditure</b>				
26	The DECC must use its best endeavours to ensure that funds allocated within a financial year for the purchase and/or establishment of conservation agreements over lands outside the Growth Centres are allocated for those purposes as expeditiously as possible.	Noted.	Yes	
<b>Non-delivery of funding</b>				
27	Despite the requirements of condition 22, if in any financial year ("the first financial year") the full annual contribution is not provided then: <ul style="list-style-type: none"> <li>(a) the Minister must consult with the Minister for Planning regarding the continued operation of section 126l of the Act in relation to the certified areas; and</li> <li>(b) based on the outcomes of that consultation, if the Minister is satisfied that appropriate arrangements have been put in place to rectify the funding shortfall then section 126l shall continue to have effect for the certified areas; or</li> </ul>	Noted.	Yes	

	<b>Relevant Biodiversity Measure</b>	<b>North Kellyville Precinct - Comment</b>	<b>Consistent with Ministerial Order / TSC Act 1995</b>	<b>Justification</b>
	(c) the Minister shall determine whether to suspend or revoke the biodiversity certification order in accordance with the Act.			
28	<p>If no decision has been made in accordance with conditions 27b or 27c within six months of the end of the relevant financial year, then the provisions of section 126l of the Act are taken to no longer have effect in relation to the certified areas, until such time as the outstanding contribution is provided or the Minister is satisfied that appropriate arrangements have been put in place to rectify the funding shortfall. This condition does not affect any consent or approval granted under Part 3A, Part 4 or Part 5 of the Environmental Planning and Assessment Act 1979 before the condition took effect, or any development or activity carried out in accordance with such a consent or approval.</p> <p>For the purposes of condition 27 and 28, “rectify” means amending the indicative timetable referred to in condition 22 to ensure that within four financial years of the first financial year the level of funding provided will be at least equal to the amount of funding that would otherwise have been provided by that time under the provisions of condition 22, or achievement of a comparable or better conservation outcome to the satisfaction of the Minister.</p>	Noted.	Yes	
29	Conditions 27 and 28 do not have effect where the annual contribution required under condition 22 has not been provided because the balance of unspent funding being held in the Conservation Fund for the purchase and/or establishment of conservation agreements over lands outside the Growth Centres has reached a limit to be determined by the Minister.		Yes	
<b>Reporting</b>				
30	<p>Commencing at the end of the 2008/2009 financial year, and at the end of every financial year thereafter until the Conservation Fund is exhausted, the GCC must provide the following information to the DECC within 2 months of the end of the relevant financial year:</p> <p>(a) an estimate of the amount of existing native vegetation, specified by vegetation community type, that has been cleared within the Growth Centres. This may be based on, but is not limited to, the use of information on subdivision development approvals as a surrogate</p>	Noted.	Yes	Data to be provided to Growth Centres Commission prior to the issue of an Occupation / Subdivision Certificate. Once data provided to Growth Centres Commission, this data would be collated and forwarded to Department of Environment and Climate Change.

	<b>Relevant Biodiversity Measure</b>	<b>North Kellyville Precinct - Comment</b>	<b>Consistent with Ministerial Order / TSC Act 1995</b>	<b>Justification</b>
	measurement for clearing, or some other basis agreed between the GCC and DECC.			
31	<p>Commencing at the end of the 2008/2009 financial year, and at the end of every financial year thereafter until the Conservation Fund is exhausted, the DECC must arrange for the publication of a report detailing the following matters:</p> <p>(a) the information provided in condition 30;</p> <p>(b) the amount of funding provided from the Conservation Fund in the financial year for the purchase and/or establishment of conservation agreements over lands outside the Growth Centres;</p> <p>(c) the amount expended in the financial year, including the amount spent on land purchase, conservation agreements, administration and initial management costs for purchased land;</p> <p>(d) a summary of the conservation outcomes achieved by that expenditure; and</p> <p>(e) the predicted funding provision for the program for the next 10 years.</p>	Noted.	Yes	Data to be provided to Growth Centres Commission prior to the issue of an Occupation / Subdivision Certificate. Once data provided to Growth Centres Commission, this data would be collated and forwarded to Department of Environment and Climate Change.
<b>Location of expenditure of funds</b>				
32	<p>The funding identified in condition 23 must be spent within the following locations in the order of preference identified below:</p> <p>First Preference: Priority areas within the Cumberland Plain</p> <p>(a) First preference shall be allocated every financial year to the purchase of land</p>	Noted.	Yes	

	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
	<p>and/or entering into conservation agreements over land that is:</p> <ul style="list-style-type: none"> <li>identified as “Regional Biodiversity Corridors” and “Western Sydney Priority Areas” on the map labelled “Regional Biodiversity Corridors and priority fauna habitats” in the Hawkesbury Nepean Catchment Action Plan; AND</li> <li>also occurs within the Cumberland Plain of Western Sydney; AND</li> <li>generally meets the criteria specified in condition 33.</li> </ul> <p>Where there is insufficient available land, or the cost-effectiveness of purchasing and/or entering into conservation agreements over lands in the above category is considered by the DECC to be too low, or the criteria in condition 33 cannot be met, then the funding may be allocated by DECC to be used on lands in accordance with condition 32b below.</p> <p>Second Preference: Priority areas within the Hawkesbury Nepean Catchment</p> <p>(b) As second preference, funding shall be allocated every financial year to the purchase of land and/or entering into conservation agreements over land that is:</p> <ul style="list-style-type: none"> <li>identified as “Regional Biodiversity Corridors” and “Western Sydney Priority Areas” on the map labelled “Regional Biodiversity Corridors and priority fauna habitats” in the Hawkesbury Nepean Catchment Action Plan; AND</li> <li>is not identified in condition 32a; AND</li> <li>generally meets the criteria specified in condition 33.</li> </ul> <p>Where there is insufficient available land, or the cost-effectiveness of purchasing and/or entering into conservation agreements over lands in the above category is considered by the DECC to be too low, or the criteria in condition 33 cannot be met, then the funding may be allocated by DECC to be used on lands in</p>			

	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
	<p>accordance with condition 32c below.</p> <p>Third Preference: Grassy Woodlands within the Hawkesbury Nepean Catchment</p> <p>(c) As third preference, funding shall be allocated every financial year to the purchase of land and/or entering into conservation agreements over lands that:</p> <ul style="list-style-type: none"> <li>• contain grassy woodlands within the Hawkesbury Nepean Catchment; AND</li> <li>• are not identified in conditions 32a or 32b; AND</li> <li>• generally meets the criteria specified in condition 33.</li> </ul> <p>Where there is insufficient available land, or the cost-effectiveness of purchasing and/or entering into conservation agreements over lands in the above category is considered by the DECC to be too low, or the criteria in condition 33 cannot be met then the funding may be allocated by DECC to be used on lands in accordance with condition 32d below.</p> <p>Fourth Preference: Grassy Woodlands within the Sydney Basin</p> <p>(d) As fourth preference, funding shall be allocated every financial year to the purchase of land and/or entering into conservation agreements over lands that satisfy the following criteria:</p> <ul style="list-style-type: none"> <li>• land containing grassy woodlands within the Sydney Basin; AND</li> <li>• that is not identified in conditions 32a, 32b or 32c; AND</li> <li>• generally meets the criteria specified in condition 33.</li> </ul> <p>Where there is insufficient available land, or the cost-effectiveness of purchasing and/or entering into conservation agreements over lands in the above category is considered too low, or the criteria in condition 33 cannot be met, then the funding may be allocated by DECC to be used on lands in accordance with condition 32e</p>			

	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
	<p>below.</p> <p>Fifth Preference: other lands identified by the DECC</p> <p>(e) As fifth preference, funding shall be allocated every financial year to the purchase of land and/or entering into conservation agreements over land that is:</p> <ul style="list-style-type: none"> <li>• within the Sydney Basin; AND</li> <li>• is not identified in conditions 32a, 32b, 32c or 32d; AND</li> <li>• generally meets the criteria specified in condition 33.</li> </ul> <p>For the purposes of condition 32:</p> <ul style="list-style-type: none"> <li>• “cost-effectiveness” means a consideration of the conservation objectives that would be achieved by purchasing or entering into a conservation agreement for a parcel of land and the cost of the purchase and/or conservation agreement, relative to the cost of achieving the same or similar conservation objectives on other parcels of land within the Sydney Basin.</li> <li>• “Cumberland Plain of Western Sydney” means the geographic area by that name as identified in National Parks and Wildlife Service (2000), The native vegetation of the Cumberland Plain, Western Sydney – Technical Report, NSW NPWS, Hurstville.</li> <li>• “grassy woodlands” mean the vegetation formation by that name as defined in Keith, D. (2004), Ocean shores to desert dunes: the native vegetation of New South Wales and the ACT. NSW Department of Environment and Conservation. Hurstville, NSW.</li> <li>• “Hawkesbury Nepean Catchment” means the area of land described in the Hawkesbury Nepean Catchment Action Plan.</li> <li>• “Hawkesbury Nepean Catchment Action Plan” means the Hawkesbury-Nepean Catchment Action Plan 2007-2016 published by the Hawkesbury-</li> </ul>			



	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
	<p>Nepean Catchment Management Authority (October 2006).</p> <ul style="list-style-type: none"> <li>“Sydney Basin” means the areas as defined by Environment Australia (2000), Revision of the Interim Biogeographic Regionalisation for Australia (IBRA) and development of Version 5.1 – Summary Report. Department of Environment and Heritage, Canberra.</li> </ul>			
<b>Conservation values to be protected through the expenditure of funds</b>				
33	<p>Within each area specified in condition 32, the lands to be targeted for purchase and/or conservation agreement outside the Growth Centres shall be guided by consideration of the following criteria:</p> <ul style="list-style-type: none"> <li>large remnants of intact native vegetation with the greatest potential for retaining biodiversity values over time;</li> <li>vegetation communities that are under-represented in the protected area network;</li> <li>areas of equivalent or better conservation value to that which are to be cleared within the Growth Centres;</li> <li>areas that contain habitat for threatened species, including but not limited to species to be affected by development of the Growth Centres;</li> <li>areas that have the highest cost effectiveness;</li> <li>conservation reserve design principles, such as size, boundary configuration and landscape context;</li> <li>previous land uses;</li> <li>likely threats (such as existing or future adjoining land uses); and</li> <li>availability (including the willingness of landowners to either sell land or place it under a conservation agreement). For the purpose of clarification, no land is intended to be compulsory acquired in order to meet any of the conditions of</li> </ul>	Noted.	Yes	

	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
	<p>biodiversity certification.</p> <p>For the purposes of this condition, and the avoidance of doubt, the above attributes are to be considered and applied as a guide only.</p>			
34	<p>The lands to be targeted for purchase and/or conservation agreement outside the Growth Centres must include a known population(s) or suitable habitat for the plant species <i>Cynanchum elegans</i>.</p> <p><b>Note:</b> this action is required to ensure an appropriate improve or maintain outcome for this species, which occurs in the Growth Centres but is not currently protected by measures under the Growth Centres SEPP</p>	Not applicable	Yes	
<b>Future precinct plans</b>				
35	<p>During the preparation of future precinct plans (excluding any precinct plans already publicly exhibited before this order took effect) the GCC must undertake and make publicly available an assessment of the consistency of the proposed precinct plan with the conditions of biodiversity certification. This may occur during or before any public exhibition of future draft precinct plans.</p>	<p>This assessment of consistency was prepared and exhibited concurrently with the North Kellyville Precinct Plan (SEPP Amendment No.3). Based on comments received during exhibition, the draft SEPP and Consistency Report have been amended.</p>	Yes	<p>This assessment addresses all <i>Relevant Biodiversity Measures</i> related to biodiversity certification conferred on the Growth Centres State Environmental Planning Policy and identifies consistency with precinct planning for the Kellyville Precinct.</p>

	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
<b>Future threatened species listings or discoveries</b>				
36	<p>Where a preliminary determination is made under the Act to list a species, population or ecological community, and that species, population or ecological community may or is known to occur within the Growth Centres, then the Growth Centres Commission must (as soon as practicable) provide advice to the DECC on whether:</p> <p>(a) the species, population or ecological community is known or likely to be present in the Growth Centres;</p> <p>(b) it was considered during the preparation of the draft Growth Centres Conservation Plan by the GCC; and</p> <p>(c) whether the SEPP, and related measures, provides adequate protection for the species, population or ecological community.</p>	The Department of Environment and Climate Change have not advised of any additional species proposed for listing on the <i>Threatened Species Conservation Act 1995</i> within the context of the North Kellyville Precinct.	Yes	Should additional species become listed and are likely to be located within the Kellyville Precinct, DECC will advise GCC of this listing and GCC will advise of whether assessments undertaken have identified occurrences.
37	Based on the information provided in accordance with condition 36, and any other relevant matters, the DECC shall advise the Minister on whether to formally review, maintain, modify, suspend or revoke the biodiversity certification of the SEPP if the species, population or ecological community is listed under the Act.	Noted	Yes	This is a reporting requirement of the DECC.
<b>Review</b>				
38	A review of the biodiversity certification of the SEPP must be undertaken by the DECC every four years after the biodiversity certification order takes effect (to be completed within two months of each four year anniversary). The timing of the review may be adjusted by DECC to coincide with any planned review of the operation of the Special Infrastructure Contribution within the Growth Centres.	Noted	Yes	This is a reporting requirement of the DECC.
39	The purpose of the review is to assess progress in achieving an overall improvement or maintenance of biodiversity values, including review of the arrangements for the provision of funds to the Conservation Fund and the allocation of those funds within and outside of the Growth Centres.	Noted	Yes	Growth Centres Commission will provide supporting material and data to identify overall performance of the biodiversity certification and comment on any amendment to funding and allocation provisions of the Ministerial Order. It is expected that any

	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
				amendment to the biodiversity certification or provisions of the <i>Threatened Species Conservation Act 1995</i> impacting on the certification would be in consultation with the Growth Centres Commission.
40	<p>To assist in the review required under condition 38, the GCC must provide the following information to the DECC in a timely manner:</p> <ul style="list-style-type: none"> <li>(a) an estimate of the amount of existing native vegetation, specified by vegetation community type, that has been cleared within the Growth Centres, including maps of known locations, within the four year period (or adjusted period);</li> <li>(b) progress in achieving the requirements of condition 6, including the following, <ul style="list-style-type: none"> <li>(i) the amount of existing native vegetation that has been retained and protected within planning precincts,</li> <li>(ii) the amount of revegetation and/or restoration that has occurred (or is planned to occur) within planning precincts,</li> <li>(iii) an indicative estimate of the amount of existing native vegetation, and the amount of revegetated and/or restored areas, planned to be protected in the remaining precincts within the Growth Centres that are yet to be released;</li> </ul> </li> <li>(c) an overview of any amendments to the SEPP or related measures that have occurred within the four year period (or adjusted period);</li> <li>(d) any recommendations that would improve the operation of the conditions of biodiversity certification including, but not limited to, any modifications or revisions to the conditions themselves and the arrangements for management and allocation of funds from the Conservation Fund; and</li> <li>(e) any other information that is considered relevant by the DECC to assist in reviewing whether the SEPP, and any other relevant measures, will continue</li> </ul>	This data will be collected at the Occupation/Subdivision Certificate stage to accurately identify clearing rates and locations.	Yes	The Growth Centres Commission will provide data and supporting material to Department of Environment and Climate Change to satisfy review requirements and would comment on required amendments to the operation of the Growth Centres State Environmental Planning Policy and/or biodiversity certification.

	Relevant Biodiversity Measure	North Kellyville Precinct - Comment	Consistent with Ministerial Order / TSC Act 1995	Justification
	to lead to the overall improvement or maintenance of biodiversity values.			
41	Based on the information provided under condition 40, and any other relevant matters, the DECC shall advise the Minister on whether biodiversity certification should be maintained, modified, suspended or revoked.	Noted	Yes	This is a reporting requirement of the DECC.

**Note:** Where Precinct Planning is inconsistent with Relevant Biodiversity Measures, justification for departure is provided as part of the ecological assessment provided for the Kellyville Precinct.

# **Annexure C**

## **Indicative Layout Plan**



**Annexure D**  
Native Vegetation Protection Map

**State Environmental Planning  
Policy (Sydney Region Growth  
Centres) 2006**

**North West Growth Centre  
Retained Native Vegetation Map**

**LEGEND**

**Protected Vegetation**

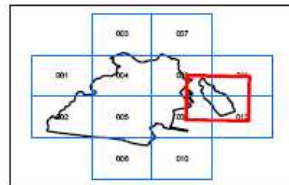
-  Existing native vegetation
-  Native vegetation retention area

**Growth Centres Boundaries**

-  North West Growth Centre Boundary
-  North West Growth Centre Precinct Boundary

**Cadastral**

-  Cadastral 14/11/08 © Dept of Lands

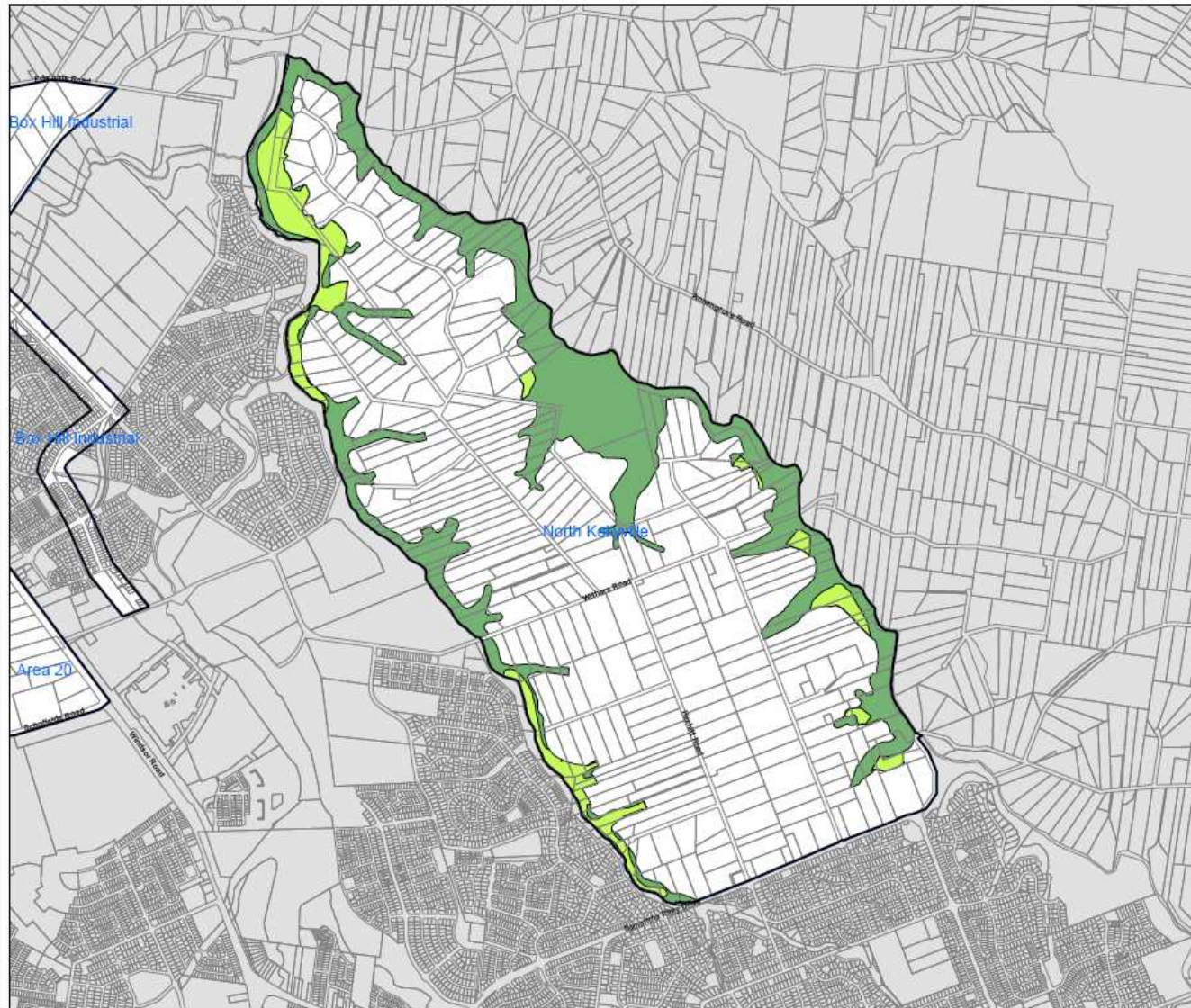


0 0.1 0.2 0.3 0.4 Kilometres

Scale: 1:20,000 @ A3

Projection: GDA 1994  
Zone 56

Map Identification Number





**Annexure E**  
Existing Native Vegetation Assessment Report



**North Kellyville Biodiversity Certification**

**Existing Native Vegetation Assessment Report**

For:

**GROWTH CENTRES COMMISSION**

December 2008

**Cumberland Ecology**

PO Box 2474, Carlingford Court 2118

**Report No. 8088RP1**

The preparation of this report has been in accordance with the brief provided by the Client and has relied upon the data and results collected at or under the times and conditions specified in the report. All findings, conclusions or recommendations contained within the report are based only on the aforementioned circumstances. The report has been prepared for use by the Client and no responsibility for its use by other parties is accepted by Cumberland Ecology.

Approved by: David Robertson

Position: Project Director

Signed: \_\_\_\_\_

Date: 17 November, 2011

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3.1 UPDATED NATIVE VEGETATION PROTECTION MAPPING

# Executive Summary

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Vegetation mapping and threatened flora surveys were carried out by Cumberland Ecology in September and October 2008 to meet the requirements of the Biodiversity Certification Order for North Kellyville, with regard to retained native vegetation and threatened flora. In particular, this report refers to Conditions 3, 6, 7, 8 and 17 of the Order.

Areas of existing native vegetation (ENV) within the North Kellyville Precinct that would be affected by the revised boundary changes were subject to detailed mapping to verify their status as ENV and their condition. Threatened flora surveys were also carried out and are subject to a separate report (Threatened Flora Report by Cumberland Ecology.)

The vegetation re-mapping ensures that over 34ha of ENV is retained for conservation within the precinct and that the two threatened flora species of regional significance that occur within the precinct and require protection (*Hibbertia superans* and *Eucalyptus* sp. *Cattai*) have adequate protection measures in place to conserve them in the long term (refer to Cumberland Ecology's threatened flora species report). Due to the retention of 35.06ha of ENV, which is greater than the recommended 34ha, the retention of and potential future management of the former Heath Road Reserve, it is concluded that the proposed adjustments to the certified and non-certified boundary continue to comply with the Improve or Maintain assessment.

Although some areas of known habitat for threatened flora species will be removed, known and potential habitat within the former reserve will be retained. The retention of threatened flora populations within the former reserve and other areas of protected native vegetation (as shown in the Native Vegetation Protection Area Map) within the North Kellyville Precinct, should ensure long-term security of these species to enable them to persist at a sub-regional level.

In addition to the protection of threatened flora species, the protection of the majority of the former Reserve will allow for the retention of habitat for some threatened fauna species occurring within the North Kellyville Precinct. The threatened fauna species are most likely to utilise riparian zones and areas of high quality remnant vegetation, which are both found within the former Reserve and other areas to be retained within the Precinct.

The recommendation that the Minister for the Environment and Climate Change uses condition three to amend the certified and non-certified boundaries and delete the black hatched boundary (Condition 17) are warranted because they can be achieved without jeopardising the primary aims of the draft Growth Centres Conservation Plan 2007 for persistence of threatened species. The proposed amendments to the North West Growth Centre Biodiversity Certification Order Map are not considered to detract from the ability of the SEPP Amendment to lead to the overall improvement or maintenance of biodiversity values.

This report concludes that compliance with Conditions 3, 6, 7, 8 and 17 of the Order has been demonstrated.



# 1 Introduction

## Introduction

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### 1.1 Purpose

The purpose of this report is to provide supporting information for the amendment of the *Report on Consistency of Proposed North Kellyville Precinct Plan with the Biodiversity Certification Order*, prepared by the Growth Centres Commission in 2008. Information is provided regarding certified and non certified boundary adjustments, fulfilment of existing native vegetation requirements and additional threatened flora assessments within the North Kellyville Precinct.

Specifically, the objectives of this report are to:

- Provide rationale to support the proposal recommending the use of Condition 3 to amend the North West Growth Centre Certification Map in relation to North Kellyville ;
- Review the extent of the “Native Vegetation Retention Area” SEPP (Amendment No.3) mapping layer to have regard to on-ground conditions;
- Identify opportunities to make up the shortfall of existing native vegetation within non-certified areas to comply with Conditions 6 and 8 of the Biodiversity Certification Order;
- Map the revised location of non-certified and certified existing native vegetation; and
- Assess the impact of amending the certified and non-certified boundary on the overall improvement or maintenance of biodiversity values in the Growth Centres.

A separate Threatened Flora Species Report has been provided to cover the threatened species issues that are the subject of Condition 17. Therefore, this Condition is only discussed briefly within this report.

## 1.2 Terms and Abbreviations

**DECC:** Department of Environment and Climate Change;

**ENV:** Existing Native Vegetation;

**NVRA:** Native Vegetation Retention Area

**GCC:** Growth Centres Commission; and

**Precinct Plan** refers to the North Kellyville Precinct Plan.

## 1.3 Background

On 11 December 2007 the Minister Assisting the Minister for Climate Change, Environment and Water signed an order (“the Order”) to confer Biodiversity Certification on the State Environmental Planning Policy (SEPP) (Sydney Region Growth Centres) 2006 for the purposes of the *Threatened Species Conservation Act 1995* (TSC Act). The certification of the SEPP is subject to a number of conditions (refer to Appendix A). In May 2008, the GCC prepared a report outlining the consistency of the North Kellyville Precinct Plan with the conditions in the Order.

Cumberland Ecology has since been engaged to conduct further surveys of the existing native vegetation and threatened flora species within the precinct in order to update the consistency report. Compliance with Conditions 3, 6, 7, 8 and 17 of the Order is discussed in this report. Appendix A details the compliance table, which illustrates how the Conditions attached to the Order have been met and demonstrates compliance with Conditions 3, 6, 7, 8 and 17.

## 1.4 Conditions

The Order outlines 41 conditions that need to be addressed. These conditions have been developed to ensure that there is an overall improvement or maintenance of biodiversity values within the Sydney Region Growth Centres. The conditions relevant to this report are detailed below.

### 1.4.1 Condition 3

Condition 3 relates to adjustments of the certified and non-certified areas. Condition 3 states:

*The Minister, from time to time and as considered appropriate, may amend the conditions of biodiversity certification in accordance with the Act to address anomalies, errors, boundary revisions and/or to take into account new information, but only if the Minister is satisfied that any amendments will not detract from the*

*ability of the SEPP, and other relevant measures, to lead to the overall improvement or maintenance of biodiversity values. Amendments may include, but are not limited to, boundary revisions to reflect updated flood mapping and the outcomes of the assessments completed under conditions 14, 17 and 18. The Minister may, but is not required to, provide for any such amendments to be exhibited for public comment.*

#### **1.4.2 Condition 6**

Condition 6 relates to native vegetation to be retained within the Growth Centres. Condition 6 states:

*A minimum of 2,000 hectares of existing native vegetation must be retained and protected within the Growth Centres, either within the certified areas and/or the non-certified areas, subject to conditions 7 to 13 below.*

To comply with the Order at least 34ha of existing native vegetation must be retained within the North Kellyville Precinct. Existing native vegetation has been defined in the conditions as ‘areas of indigenous trees (including any sapling) that:

- a) have 10% or greater over-storey canopy present,
- b) are equal to or greater than 0.5ha in area, and
- c) are identified as “vegetation” on maps 4 and 5 of the draft Growth Centres Conservation Plan,

at the time the biodiversity certification order took effect, subject to condition 13.

#### **1.4.3 Condition 7**

Condition 7 relates to the retention of ENV during precinct planning. Condition 7 states:

*During the precinct planning process, the GCC may determine to make areas of existing native vegetation within the non-certified areas available for development if the clearance of such vegetation is considered necessary for either the provision of essential infrastructure and/or to meet the required Development Parameters specified in the Growth Centres Development Code.*

The GCC has revised the original boundary between the certified and non-certified areas to take into account to the key development parameter of achieving 4,500 dwellings within the North Kellyville Precinct.

#### 1.4.4 Condition 8

Condition 8 relates to the retention of ENV during precinct planning. Condition 8 states:

*In making a determination under condition 7, the GCC must demonstrate by way of information provided during the public exhibition of the precinct plan (where that exhibition occurs after this order takes effect) that the clearing of any existing native vegetation in the non-certified areas will be offset by:*

- a. the protection of an equal or greater area of existing native vegetation elsewhere in the Growth Centres; and/or*
- b. the revegetation and/or restoration of an area of land elsewhere in the Growth Centres, subject to satisfying the following,*
  - i. that the clearance of existing native vegetation in the non-certified areas will not affect the capacity to achieve overall improvement or maintenance of biodiversity values for threatened species, populations and ecological communities and their habitats,*
  - ii. the revegetated and/or restored areas will be protected,*
  - iii. the extent of revegetation and/or restoration compared to clearing of existing native vegetation must be undertaken at a ratio of at least 3:1 (to reflect the greater ecological risks relative to retaining existing native vegetation),*
  - iv. areas subject to revegetation and/or restoration must be of a suitable boundary configuration and design to support long-term management,*
  - v. revegetation and/or restoration of the proposed areas would not be undertaken under another scheme or regulatory requirement already in operation at the time that the clearing is approved (this includes but is not limited to any approvals, and associated conditions of such approvals, that may be required under the Rivers and Foreshores Improvement Act 1948 and Water Management Act 2000),*
  - vi. revegetation and/or restoration will be undertaken by suitably qualified and experienced persons using indigenous plant stock, and*
  - vii. sufficient resources will be made available to undertake the revegetation and/or restoration and any necessary follow-up maintenance and monitoring for a minimum period of 5 years following the commencement of the revegetation and/or restoration.*

### 1.4.5 Condition 17

Condition 17 provides for additional conservation actions for plants within the Growth Centres. Condition 17 states:

*During or before the preparation of the relevant precinct plan(s) under the Growth Centres Development Code relating to the areas referred to in the table below, the following actions must be undertaken:*

<b>Species</b>	<b>Required action</b>
<i>Acacia pubescens</i>	<p>Potential populations at Cross Street, Kemps Creek and Thirty Second Avenue, Austral – as shown in black hatching on the biodiversity certification maps:</p> <ul style="list-style-type: none"> <li>• survey to confirm the presence of the species, and</li> <li>• if the species is present, provide for the protection of the area of suitable habitat for the species to the satisfaction of the DECC.</li> </ul>
<i>Pimelea spicata</i>	<p>Potential populations at Denham Court Road - as shown in black hatching on the biodiversity certification maps:</p> <ul style="list-style-type: none"> <li>• survey to confirm the presence of species, and</li> <li>• if the species is present, provide for the protection of the area of suitable habitat for the species to the satisfaction of the DECC.</li> </ul>
<i>Persoonia hirsuta</i>	<p>Potential populations at North Kellville – as shown in black hatching on the biodiversity certification maps:</p> <ul style="list-style-type: none"> <li>• survey to confirm the presence of the species, and</li> <li>• if the species is present, provide for the protection of the area of suitable habitat for the species to the satisfaction of the DECC.</li> </ul>
<i>Leucopogon fletcheri</i>	<p>Known population at North Kellyville - as shown in black hatching on the biodiversity certification maps:</p> <ul style="list-style-type: none"> <li>• survey to confirm the extent of the population, and</li> <li>• provide for the protection of the population to the satisfaction of the DECC.</li> </ul>
<p><i>Darwinia biflora</i>  <i>Hibbertia superans</i>  <i>Epacris purpurascens</i> var <i>purpurascens</i>  <i>Eucalyptus</i> sp  “Cattai”</p>	<p>Known populations at North Kellyville - as shown in black hatching on the biodiversity certification maps:</p> <ul style="list-style-type: none"> <li>• survey to confirm the extent of the populations, and</li> <li>• provide for the protection of the populations to the satisfaction of the DECC.</li> </ul>

*Note: On completion of the above actions the Minister may decide that it is appropriate to amend the boundaries of the area subject to biodiversity certification, in accordance with condition 3.*

Discussions were held between the GCC, DECC and several other parties on the 27<sup>th</sup> February 2008 to consider Condition 17 and resolve an outcome to satisfy DECC's requirements regarding threatened species issues. The DECC were of the opinion that on-site protection is warranted for *Hibbertia superans* and *Eucalyptus* sp. Cattai due to their regional significance. These two species have more restricted and lesser known populations within the Region but occur in substantial numbers in the former Heath Road Reserve. Consequently, they were the subject of further field surveys by Cumberland Ecology (CE 2008b) to verify that boundary adjustments could be made without significant impacts to both species.

## 2 Methodology

### Methodology

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#### 2.1 Determining Survey Sites

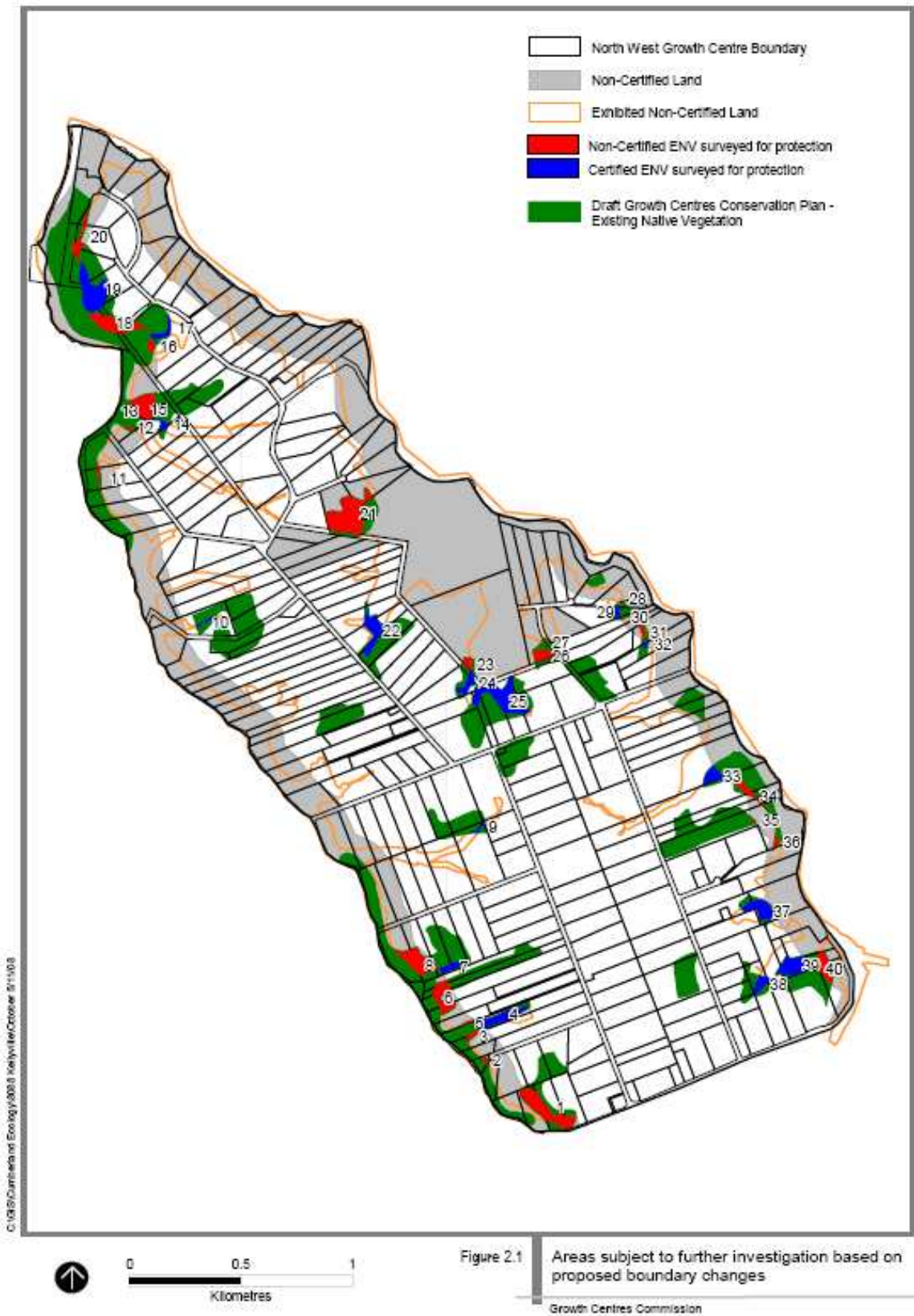
The GCC provided Cumberland Ecology with the exhibited revised boundary for the certified and non-certified areas within the North Kellyville Precinct. Using geographic information systems (GIS) software (MapInfo), the revised boundary was overlain on the original boundary in order to show which areas were proposed to change from certified to non-certified and from non-certified to certified. Any areas of ENV falling into these categories were then subject to vegetation assessments to identify which ones should be retained based on a number of criteria including the percent cover of native species, canopy cover, quality of vegetation and planning or other constraints as detailed below. The areas that were the subject of further investigations are illustrated in Figure 2.1.

#### 2.2 Existing Native Vegetation

Each of the survey sites were assessed to determine whether they should be classified as ENV. In order to be classified as ENV, each site was required to form an area of indigenous trees (including saplings) that conformed to the following criteria:

- a) had 10% or greater over-storey canopy present;
- b) was equal to or greater than 0.5ha in area; and
- c) was identified as “vegetation” on maps 4 and 5 of the draft Growth Centres Conservation Plan.

GIS software was used to determine the area of each survey site and any adjoining non-certified ENV. The survey sites were then compared to the mapped areas of vegetation identified in the draft Growth Centres Conservation Plan. Sites that conformed to b) and c) above were then subject to detailed vegetation mapping which included assessing the percentage cover of each stratum and conducting a condition assessment for each site (see below).





## 2.3 Condition Assessments

A condition assessment was undertaken within each of the survey sites that potentially met the ENV criteria. Each survey site was assessed for:

- Dominant flora species;
- Stratum height;
- Percentage foliage cover in each stratum;
- Percentage of exotic species within each stratum; and
- Percentage bare ground and rock cover.

Sites were then allocated a category of 1, 2 or 3, with 1 being good condition native vegetation subject to little or no impacts; 2 being moderate quality native vegetation (subject to or potentially subject to impacts such as edge effects, nearby development, weed encroachment etc); and 3 being low quality native vegetation (for example, containing high proportions of weeds or partly cleared).

## 2.4 Reassessment of the Improve or Maintain Assessment

A reassessment of the "improve or maintain assessment" was undertaken to address the proposed amendment to the North West Growth Centre Biodiversity Certification Map.. The definition of Improve or Maintain according to the Growth Centre's Conservation Plan is "Improve or Maintain is achieved if the species is likely to persist at the sub-regional level" (refer to page 44 and 53 of the Growth Centres Conservation Plan for full details and definitions). Consistency of the proposed boundary amendments with the Improve or Maintain Assessment for relevant threatened flora and fauna is examined in Chapter 4.

## 3 Results

### Results

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#### 3.1 Existing Native Vegetation Sites

A total of 40 sites (ENV patch) within the precinct were identified as being affected by the proposed boundary changes, totalling 17.775ha (refer to Figure 2.1 in the previous chapter and Table 3.1 below). This meant that these areas were proposed to change from certified to non-certified or vice versa. Of these areas, 30 were considered suitable for protection within non-certified land based on their patch size and connectivity to existing protected areas. These sites qualified for further investigation, including a condition assessment.

#### 3.2 Condition Assessment

The condition of the selected existing native vegetation patches assessed varied greatly. Some areas contained relatively undisturbed vegetation in good condition, other areas had the canopy layer intact but the remaining vegetation had been “underscrubbed”. A number of patches of ENV had previously been developed with only a small curtilage containing vegetation. Many of the creek lines were heavily infested with exotic species primarily in the understorey and ground stratum.

Thirty sites were considered to contain ENV of varying quality, totalling 12.455ha, of these 8.156ha were considered to be suitable for inclusion in the updated Native Vegetation Protection Area SEPP Map, based on the quality of the vegetation, ecological impacts and any related planning requirements. Table 3.1 below outlines the results for the mapping exercise.

**Table 3.1 BREAKDOWN OF SURVEYED EXISTING NATIVE VEGETATION AREAS**

Polygon number	Total Area (Ha)	Potentially keep?	Area Surveyed as ENV (Ha)	ENV Condition 1	ENV Condition 2	ENV Condition 3	Area to be Protected	Comment
1	1.389	No	0.000				0.000	Land ownership issues
2	0.052	No	0.052				0.000	Condition good but between road and house
3	0.127	Yes	0.127		0.127		0.127	Adjacent to weedy creekline
4	0.712	Yes	0.712			0.489	0.489	Weedy creekline, shape adjusted to accommodate constructed wetland
5	0.036	Yes	0.036			0.036	0.036	Partly cleared, contiguous with riparian corridor to be publicly acquired.
6	0.790	Yes	0.790	0.288	0.115		0.403	Good condition
7	0.198	Yes	0.198			0.127	0.127	Weedy creekline, shape adjusted to accommodate constructed wetland.
8	1.070	Yes	1.070		0.319		0.319	Patches of good condition and patches with mown ground layer, polygon amended to address bushfire development constraints on adjoining development.
9	0.061	No	0.000				0.000	Patch size < 0.5ha
10	0.080	No	0.000				0.000	Patch size < 0.5ha
11	0.071	No	0.000				0.000	Weedy - behind what appeared to be a chicken slaughterhouse
12	0.033	No	0.033				0.000	Weedy creekline
13	0.070	No	0.000				0.000	Patch size < 0.5ha

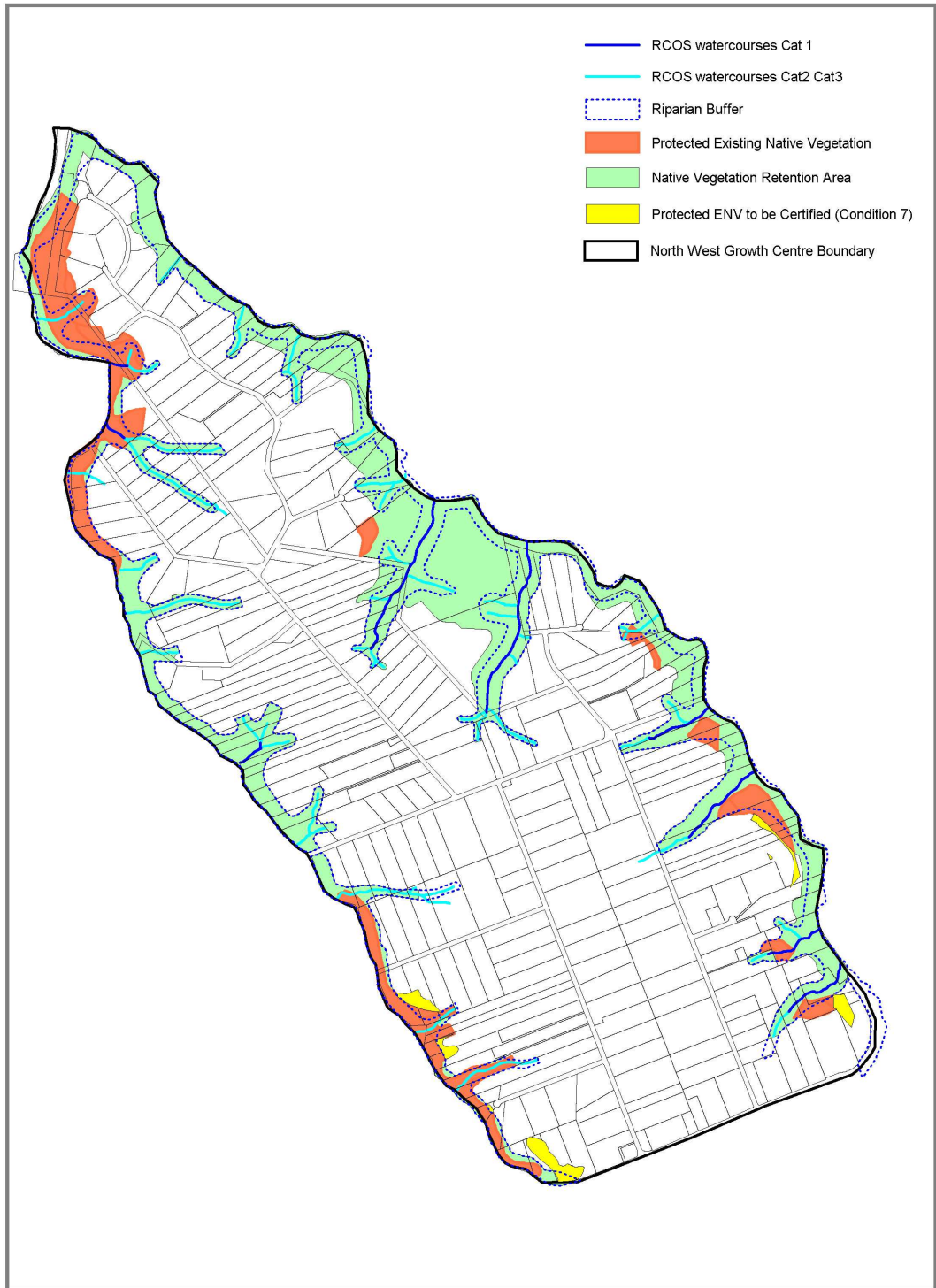
Polygon number	Total Area (Ha)	Potentially keep?	Area Surveyed as ENV (Ha)	ENV Condition 1	ENV Condition 2	ENV Condition 3	Area to be Protected	Comment
14	0.142	No	0.000				0.000	Patch size < 0.5ha
15	0.865	Yes	0.865	0.865			0.865	Good condition
16	0.127	Yes	0.127			0.127	0.127	Single tree with mown grass beneath, contiguous with adjoining ENV
17	0.228	No	0.000				0.000	Patch size < 0.5ha
18	0.864	Yes	0.864	0.864			0.864	Good condition
19	1.671	Yes	1.671	1.671			1.671	Good condition
20	0.375	No	0.280				0.000	Good condition but planning issues
21	2.081	Yes	1.040	0.772			0.772	Planning constraints - retain where possible
22	0.760	No	0.527				0.000	Moderate condition, patches with weed infestations
23	0.144	No	0.000				0.000	Patch size < 0.5ha
24	0.303	No	0.000				0.000	Patch size < 0.5ha
25	1.680	No	1.329				0.000	Moderate condition
26	0.326	No	0.000				0.000	Regenerating monoculture of shrubs
27	0.012	No	0.000				0.000	Patch size < 0.5ha
28	0.007	Yes	0.007		0.007		0.007	Moderate condition, adjacent to existing ENV
29	0.137	Yes	0.137		0.094		0.094	Moderate condition, adjacent to riparian corridor

Polygon number	Total Area (Ha)	Potentially keep?	Area Surveyed as ENV (Ha)	ENV Condition 1	ENV Condition 2	ENV Condition 3	Area to be Protected	Comment
30	0.012	Yes	0.012		0.012		0.012	Moderate to low condition, adjacent to riparian corridor
31	0.097	No	0.000				0.000	Backyard
32	0.037	No	0.000				0.000	Patch size < 0.5ha
33	0.407	Yes	0.407	0.407			0.407	Good condition
34	0.283	No	0.283	0.283			0.283	Good condition, narrow linear shape
35	0.016	No	0.000				0.000	Slashed understorey
36	0.071	No	0.000				0.000	Slashed understorey
37	0.653	Yes	0.653		0.653		0.653	Generally good condition except in creekline where weeds dominate
38	0.288	No	0.000				0.000	Patch size < 0.5ha
39	0.900	Yes	0.900	0.900			0.900	Good condition
40	0.600	No	0.325				0.000	Could not carry out close inspection but good condition vegetation adjacent to house and surrounding hard paved grounds.
<b>Total</b>	<b>17.775</b>		<b>12.455</b>	<b>6.050</b>	<b>1.327</b>	<b>0.779</b>	<b>8.156</b>	

Note: ENV 1,2 and 3 refers to the condition of the vegetation. 1 = Good quality, 2 = moderate quality and 3 = low quality (refer to methods for details)

### **3.3 Proposed Certified – Non-certified Boundary**

The proposed amendment to the exhibited certified and non-certified boundary has been revised based upon updated constraint mapping and surveys carried out in both the North Kellyville Biodiversity Assessment (CE, 2007) and the current assessment. An additional 8.156ha of ENV is proposed for retention within the Precinct. The proposed boundary changes and the additional areas proposed for inclusion in the Native Vegetation Protection Area SEPP Map are shown in Figure 3.1 below.



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Figure 3.1 Final retained and existing native vegetation

Growth Centres Commission

## 4 Discussion

### Discussion

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#### 4.1 Proposed Boundary Revision

An amendment to North West Growth Centre Biodiversity Certification Map is proposed by the GCC. The exhibited certified and non-certified boundary has been amended to consider the persistence of species that is referred to on pages 44 and 53 of the draft Growth Centres Conservation Plan and detailed investigation of constraint mapping, creek mapping and vegetation assessments carried out within the North Kellyville Precinct.

The aim of the current vegetation assessments was to refine the exhibited boundary between certified and non-certified areas and to provide more detailed mapping to enable the protection of better quality areas of native vegetation, whilst enabling the objectives of the Metropolitan Strategy for the North Kellyville Precinct to be achieved. The refined boundary has status under the SEPP (Sydney Region Growth Centres) 2006 and is based on the Native Vegetation Protection Area Map.

A minimum of 34ha of ENV is required to be retained within the North Kellyville Precinct. The exhibited consistency (30 May 2008 – 4 July 2008) report only identified 26.91ha of ENV to be retained within non certified areas.

Post exhibition amendments to the SEPP now provide 35.06ha of ENV. This includes an additional 8.156ha of ENV based on post exhibition surveys of the following areas:

- ENV within non-certified land that has now been verified for protection in the Native Vegetation Protection Area Map (3.796ha); and
- ENV within certified land that has now been verified for protection in the Native Vegetation Protection Area Map(4.360ha) as an offset under Condition 8(a) of the Biodiversity Certification Order.



## 4.2 Improve or Maintain Assessment

An Improve or Maintain assessment was undertaken in the exhibited Growth Centres Conservation Plan for vegetation, threatened flora and threatened fauna. Due to the proposed amendment of the certified and non-certified boundary, it is necessary to reassess the Improve or Maintain assessment carried out in the Conservation Plan. To comply with the Improve or Maintain assessment, the loss of habitat for a species is required to be offset by securing habitat within the Growth Centres protected areas or potential investment areas, thus allowing each species to persist at a sub-regional level.

### 4.2.1 Threatened Flora

Several threatened flora species were identified in the Conservation Plan as occurring within the Growth Centres. As only 6 of these species are relevant to the North Kellyville Precinct, the Improve or Maintain assessments in the Conservation Plan for the remaining species still apply.

The Improve or Maintain assessments for the 6 relevant flora species have been reassessed in the Threatened Flora Report (2008) by Cumberland Ecology. As these species primarily occur within or adjacent to the former Heath Road Reserve (CE, 2008a), assessments have focussed on this area.

DECC have considered the implications of proposed boundary adjustments to these species and concluded that they have no concerns about all but two species. The two species of concern to the DECC - *Eucalyptus sp Cattai* and *Hibbertia suberans* - have more restricted and lesser known populations within the Region but occur in substantial numbers in the former Heath Road Reserve. Consequently, they were the subject of further field surveys by Cumberland Ecology (CE 2008b) to verify that the adjustments could be made without significant impacts to both species. The latest field assessments by Cumberland Ecology have confirmed the viability of the populations to be retained in the former Reserve. In both cases, sizeable numbers of plants will be conserved in appropriately sized areas of heathland and woodland that are to be managed long term for conservation (CE 2008b). Therefore, the Improve or Maintain assessment carried out in the Threatened Flora report determined that plans for the North Kellyville Precinct remain consistent with the Improve or Maintain assessment.

### 4.2.2 Threatened Fauna

The North Kellyville Precinct provides potential habitat for a number of bird, microchiropteran bat, mammal and reptile species. Several threatened fauna species have been recorded within the North Kellyville Precinct and the wider locality (CE, 2007). The majority of good quality fauna habitat occurs within the riparian areas and the adjacent remnant vegetation (CE, 2007 – refer to this report for detailed fauna habitat assessments). Habitat for threatened bird species exists within the Precinct in the form of dense vegetation, large hollows and floral resources. A large portion of this habitat can be found in the riparian zones of

Cattai Creek and Smalls Creek. Suitable habitat is likely to exist in the precinct for many of the threatened microbat species recorded from the locality (including the Eastern Freetail Bat (*Mormopterus norfolkensis*) and the Eastern Bent-wing Bat (*Miniopterus schreibersii oceanensis*) as it offers a wide range of resources utilised by these species including tree hollows, caves, dense vegetation and waterways.

Habitat for threatened mammal species occurs in the form of hollows and floral resources and areas within the riparian zones, gully forests and sandstone outcrops. Suitable habitat exists in the Kellyville Precinct for threatened amphibian species recorded from the locality (the Giant Burrowing Frog and the Red-crowned Toadlet). These species occur in sandstone environments close to water bodies (NSW Scientific Committee 2004e, NSW Scientific Committee 2004a) and are unlikely to be affected by the proposed boundary changes as a variety of aquatic habitats are present in protected riparian zones, including flowing water, pools and ephemeral drainage lines.

Fauna habitats in the North Kellyville precinct will remain largely unchanged under the proposed deletion of the Transitional Lands Layer and replacement with a revised certified – non-certified boundary. Potential habitat for threatened fauna species will be secured within the riparian and retained native vegetation areas. The loss of some fauna habitat within the former Heath Road Reserve is not considered likely to have a significant effect on threatened fauna as the majority of the former Reserve is being retained in the long term. Some riparian areas will also be managed for conservation. Therefore it is considered that the boundary amendments are consistent with the Improve or Maintain assessments for threatened fauna that were carried out in the exhibited Growth Centres Conservation Plan.

## 5 Conclusion

### Conclusion

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Vegetation mapping and threatened flora surveys were carried out by Cumberland Ecology in September and October 2008 to meet the requirements of the Biodiversity Certification Order for North Kellyville, with regard to existing native vegetation and threatened flora. Post exhibition amendments to the SEPP Amendment now ensures that over 34ha of ENV is retained for conservation within the precinct and that the two threatened flora species of regional significance that occur within the precinct and require protection (*Hibbertia superans* and *Eucalyptus* sp. *Cattai*) have adequate protection measures in place to conserve them in the long term (refer to Cumberland Ecology's threatened flora species report). This report concludes that compliance with Conditions 3, 6, 7, 8 and 17 of the Order has been demonstrated.

Due to the retention of 35.06ha of ENV, which is greater than the recommended 34ha, the retention of and potential future management of the former Heath Road Reserve, it is concluded that the proposed adjustments to the certified and non-certified boundary continue to comply with the Improve or Maintain assessment.

Although some areas of known habitat for threatened flora species will be removed, known and potential habitat within the former reserve will be retained. The retention of threatened flora populations within the former reserve and other areas of protected vegetation within the North Kellyville Precinct, should ensure long-term security of these species to enable them to persist at a sub-regional level.

In addition to the protection of threatened flora species, the protection of the majority of the former Reserve will allow for the retention of habitat for some threatened fauna species occurring within the North Kellyville Precinct. The threatened fauna species are most likely to utilise riparian zones and areas of high quality remnant vegetation, which are both found within the former Reserve and other areas to be retained within the Precinct.

The recommendation that the Minister for the Environment and Climate Change uses condition three to amend the certified and non-certified boundary and delete the black hatching (North West Growth Centres Biodiversity Certification Map) in relation to the North Kellyville Precinct are warranted because they can be achieved without jeopardising the primary aims of the draft Growth Centres Conservation Plan 2007 for persistence of threatened species. The proposed amendments to the Certification Map will not detract from the ability of the SEPP Amendment to lead to the overall improvement or maintenance of biodiversity values.



## References

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CE (2008a) **Biodiversity Assessment: North Kellyville Precinct.** Produced by Cumberland Ecology Pty Ltd. for the Growth Centres Commission.

CE (2008b) **Threatened Flora Report: North Kellyville Precinct** Produced by Cumberland Ecology Pty Ltd. for the Growth Centres Commission.

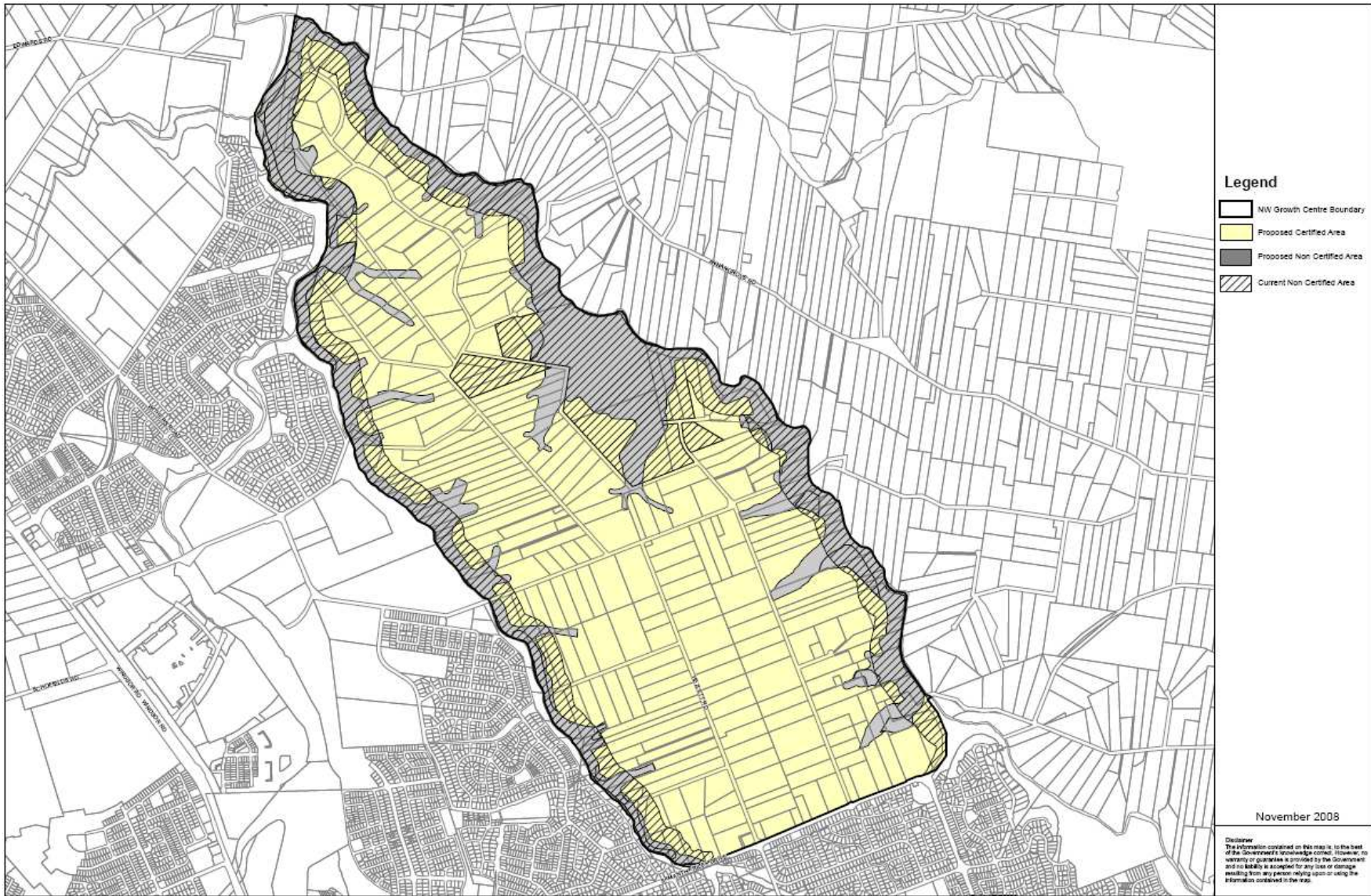
GCC (2007) **Growth Centres Conservation Plan. Draft Exhibition.** Growth Centres Commission.

NSW Scientific Committee (2004a) **Giant burrowing frog - vulnerable species listing** Department of Environment and Conservation (NSW), Hurstville.

NSW Scientific Committee (2004b) **Red-crowned toadlet - vulnerable species listing** Department of Environment and Conservation (NSW), Hurstville.

**Annexure F**  
Threatened Species Report

**Annexure G**  
Proposed Non Certified and Certified Areas



**Legend**

-  NIV Growth Centre Boundary
-  Proposed Certified Area
-  Proposed Non Certified Area
-  Current Non Certified Area

November 2008

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**North Kellyville - Proposed Certification Map**

