

Assessment of consistency between Relevant Biodiversity Measures of the Biodiversity Certification Order and Alex Avenue and Riverstone Precincts

**Annex D**

**Green and Golden Bell Frog Assessment Report and Proposed Protection Mechanisms**



## Riverstone precinct Green and Golden Bell Frog Survey

### Growth Centre Biocertification

Prepared for  
**Growth Centres Commission**

23 March 2009







# Riverstone precinct Green and Golden Bell Frog Survey

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**GROWTH CENTRE BIOCERTIFICATION**

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**PREPARED FOR**      **Growth Centres Commission**

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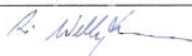
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## Abbreviations

ABBREVIATION	DESCRIPTION
GCC	Growth Centres Commission
DECC	Department of Environment and Climate Change NSW
BCO	Biodiversity Conservation Order
AEP	Annual Exceedance Probability
SEPP	State Environmental Planning Policy

# 1 Introduction

## 1.1 BACKGROUND

This survey report has been prepared to satisfy one of the environmental requirements related to the release of developable land in the North West Growth Centre of Sydney.

Requirements for such development include that appropriate biodiversity outcomes are achieved within a strategic approach that streamlines the planning and development approval process. One biodiversity element that has been identified as requiring further consideration in this process is the Green and Golden Bell Frog *Litoria aurea* (GGBF), listed under both NSW and Commonwealth threatened species protection legislation.

Under more traditional development approval pathways, assessments on a case by case basis would have to take into consideration the NSW Threatened Species Legislation and its interaction with NSW Planning legislation. However biocertification of planning instruments is a new approach provided for under recent legislative changes allowing biodiversity outcomes to be achieved outside the regular DA by DA approach.

Consequently the Growth Centres Commission (GCC – now the Department of Planning) has sought to have the GCC State Environmental Planning Policy (SEPP), undergo Biodiversity Certification.

In seeking biocertification, the GCC has had to develop an overarching conservation strategy and with this, has achieved partial biocertification of the GCC SEPP via gazettal of a Biodiversity Certification Order (BCO). At least one component of the Riverstone Precinct has been identified as 'non-certified' under this BCO and requires further investigation. This report documents the findings of further investigations in the non-certified area of the Riverstone precinct and endeavours to inform the process so that biocertification can be finalised for the deferred area and planning for the Precinct can be finalised.

Further details of the regulatory framework and requirements of the survey report are expanded on in sections 1.1.1 and 1.1.2 below.

### 1.1.1 Legislative Framework

The Green and Golden Bell Frog (GGBF) is listed as an Endangered species under Schedule 1 of the NSW *Threatened Species Conservation Act, 1995* (TSC Act) and as Vulnerable under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). A draft Recovery Plan has been prepared under both state and commonwealth legislation it identifies key populations as important conservation units and provides a series of actions and a strategic framework to recover the species. The NSW Priorities Action Statement (PAS) for the GGBF more or less reiterates the Recovery Plan actions required to recover the species.

Section 69 of the TSC Act requires that Ministers and Directors General of Public Authorities take actions available to them to implement measures included in a recovery plan, for which they are responsible, and are also not to make decisions that are inconsistent with the provisions of a recovery plan.



In summary, the GGBF Recovery Plan identifies that the species has undergone major declines in its distributional extent from its formerly state wide distribution. The current status of the species is that it persists as 43 more or less isolated Key Populations. The recovery plan also identifies a number threatening processes considered to be operating and that continue to reduce the viability of the species in nature. Among these are: loss of habitat; ongoing fragmentation of habitat; the impacts of frog chytrid disease; and predation by a number of introduced species (including the Plague Minnow *Gambusia* and Carp *Cyprinus carpio*).

One of the Key Populations identified in the draft Green and Golden Bell Frog Recovery Plan is a western Sydney population believed to be operating as a 'meta-population', with population elements transiently identified at St Marys, Mt DrUITt and Riverstone. These 'satellites' are all the population elements known to remain of what would have been a widespread more or less contiguous population occurring across much of the Hawkesbury Nepean, their tributaries and floodplains, in western Sydney.

The TSC Act interacts with the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) and requires that consent authorities assessing developments give appropriate consideration to activities and their potential to impact on listed threatened species. However recent amendments to the TSC Act have provided alternative, more strategic, approaches to providing conservation outcomes for threatened species that include options for Biocertification of environmental planning instruments (EPI).

The effect of Biocertification, once granted by the NSW Minister for the Environment, is to remove the development by development approach to considering biodiversity outcomes (including threatened species) and provide an opportunity for more strategic planning to gain similar or perhaps better conservation outcomes. The fundamental test for EPIs to be biocertified is the 'maintain or improve' standard for relevant conservation outcomes.

The steps taken by the NSW Government to streamline the development assessment and approval process through strategic approaches to the Growth Centres has included:

- The Sydney *Metropolitan Strategy 2005* to provides a broad direction for the planned release of urban and employment lands in the Sydney Region.
- State Environmental Planning Policy – (*Sydney Region Growth Centres 2006*) - hereafter Growth Centres SEPP, a Planning Instrument developed in response to the Metropolitan Strategy to identify land capability and provide for the coordinated release of suitable lands.
- *Growth Centres Development Code 2006* – produced to support the Growth Centres SEPP, with details that guide the planning and urban design of individual precincts.
- *Growth Centres Conservation Plan 2007* – developed to support an application to the Minister for Environment and Climate Change, seeking Biodiversity Certification of the Growth Centres SEPP to further streamline the approval process and provide greater development outcome certainty.
- Biodiversity Conservation Order 2007– Minister Assisting the Minister for Environment and Climate Change, by order, confers biodiversity certification on the Growth Centres SEPP, subject to certain general and other, species specific, conditions. One of the conditions, (Condition 18), requires that the Green and Golden Bell Frog gains specific attention via additional targeted assessment to ensure that a standard of 'maintain or improve' is attained for the key population element occurring at Riverstone. See Biodiversity Conservation Order – (BCO) Gazetted December 2007 at Appendix A.

This targeted GGBF survey report endeavours to satisfy this condition and provide the information needed to allow for certification of the non-certified area and finalise indicative layout areas (ILA) of the Riverstone Precinct Plan.

Consequently, the project brief fulfilled here, was developed to satisfy DECCs requirements that:

- an adequate level of assessment is undertaken in relation to the GGBF;
- a standard of 'maintain or improve' is achieved in relation to any measures taken to conserve GGBFs and their habitat; and
- actions undertaken are consistent with the actions of the GGBF Recovery Plan (PAS).

[see BCO Condition 18 - Appendix A]

Other Legislative requirements that may require consideration in Growth Centre Planning and which may have secondary relevance to this assessment include:

#### **Water Management Act 2000**

The NSW *Water Management Act 2000* has replaced the provisions of the *Rivers and Foreshores Improvement Act 1948*. The *Water Management Act 2000* and *Water Act 1912* control the extraction of water, the use of water, the construction of works such as dams and weirs and the carrying out of activities in or near water courses and water bodies in New South Wales. These 'Water sources' are defined very broadly and include any river, lake, estuary, place where water occurs naturally on or below the surface of the ground as well as coastal waters.

If a 'controlled activity' is proposed on 'waterfront land', an approval is required under the Water Management Act (s91).

'Controlled activities' include:

- the construction of buildings or carrying out of works;
- the removal of material or vegetation from land by excavation or any other means;
- the deposition of material on land by landfill or otherwise; or
- any activity that affects the quantity or flow of water in a water source.

'Waterfront land' is defined as the bed of any river or lake, and any land lying between the river or lake and a line drawn parallel to and forty metres (40m) inland from either the highest bank or shore (in relation to non-tidal waters) or the mean high water mark (in relation to tidal waters). It is an offence to carry out a controlled activity on waterfront land except in accordance with an approval.

Guidelines have been provided for the protection of core riparian areas/zones (CRZs) under the Act are as outlined in Table 1 below.

**Table 1 Water Management Act CRZ Widths**

Types of Watercourses	CRZ Width
Any first order <sup>1</sup> watercourse and where there is a defined channel where water flows intermittently	10 metres
Any permanent flowing first order watercourse, or any second order <sup>1</sup> watercourse where there is a defined channel where water flows intermittently or permanently	20 metres
Any third order <sup>1</sup> or greater watercourse and where there is a defined channel where water flows intermittently or permanently. Includes estuaries, wetlands and any parts of rivers influenced by tidal waters.	20 – 40 metres <sup>2</sup>

<sup>1</sup> as classified under the Strahler System of ordering watercourses and based on current 1:25,000 topographic maps.

<sup>2</sup> merit assessment based on riparian functionality of the river, lake or estuary, the site and long-term land use.

This application for riparian areas under the WM Act replaces the former Department of Infrastructure Planning and Natural Resources (DIPNR) categorisation of watercourses (ie: Category 1, 2 and 3 which was based on a Riparian Corridor Management Study (DIPNR, March 2004) produced for the Wollongong LGA and the Calderwood Valley of the Shellharbour LGA).

Similar to biodiversity certification, it is understood that the intention within the Growth Centres is for an 'order' under the WM Act to be obtained for the precinct that exempts or streamlines future development assessment, providing the development is consistent with the strategic framework and planning controls identified. The riparian corridors that exist within the Riverstone Precinct have been mapped according to watercourse classification along with the identified 1% AEP level (see Figure 6) but are not further discussed other than in relation to their potential as likely GGBF habitat areas. Proposed works and other management plan requirements need to give due consideration to this. The NSW Department of Water and Energy now administers the WM Act.

#### **Fisheries Management Act 1994**

The *Fisheries Management Act 1994* (FM Act) aims to conserve, develop and share the fishery resources of NSW for the benefit of present and future generations. The FM Act defines 'fish' as any marine, estuarine or freshwater fish or other aquatic animal life at any stage of their life history. This includes insects, molluscs (eg. oysters), crustaceans, echinoderms, and aquatic polychaetes (eg. beachworms), but does not include other aquatic/marine vertebrate groups such as mammals (whales and dolphins), reptiles (turtles and sea snakes), birds, amphibians or other species specifically excluded (eg some dragonflies are protected under the TSC Act instead of the FM Act due to aquatic versus terrestrial life cycle stage differences). The FM Act also protects a range of aquatic and marine vegetation such as marine algae and sea grasses. Under this Act, activities that will block fish passage or impact on fish habitat may require a permit under this Act. Similar to the TSC Act the FM Act provides for the listing of threatened aquatic animal and plant species and also operates by interacting with the EP&A Act when considering the impact of developments. Surveys and other investigations or initiatives undertaken in relation to FM Act related issues should note their likely implications for the GGBF where there is an overlap in habitat.

### **Environment Protection & Biodiversity Conservation Act 1999**

The Commonwealth *Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act) establishes a process for assessing the significance of environmental impact of actions and developments where matters of 'national environmental significance' (NES) may be affected. The EPBC Act lists endangered ecological communities, threatened and migratory species as well as some other natural and cultural values that are considered to be NES matters.

The Green and Golden Bell Frog is listed as a Vulnerable species under the EPBC Act and so is considered an NES matter. The presence of other NES matters in the NW Growth Centre and Riverstone precinct in particular (eg Cumberland Plain Woodland), may require referral and assessment by the Commonwealth whereby potential impacts on all NES matters may be considered.

It is understood however, that the Growth Centre Commission (GCC) and other relevant NSW Government agencies are currently in discussions with the Commonwealth Department of the Environment, Water, Heritage and the Arts (DEWHA) regarding the possibility of a strategic assessment of the Growth Centres SEPP. A bilateral agreement with respect to assessment under Part 3A, 4 or 5 of the NSW EP&A Act is in place between NSW and the Commonwealth however this has not been extended to cover some of the more recent NSW strategic development approval approaches (eg Biocertification and Biobanking).

A strategic assessment would remove the need for individual referrals under the EPBC Act for agreed development areas within the Growth Centres. If the strategic approach is not agreed to by the Commonwealth then development by development referrals may still be necessary.

A decision on acceptance or otherwise by the Commonwealth of strategic assessment approaches to development approval should be known June/July 2009.

#### **1.1.2 Scope**

The Biocertification Order, condition 18, is highly prescriptive and is set against the backdrop of the legislative, planning and approval framework outlined above.

Consequently the Growth Centres Commission (now a division of the NSW Department of Planning as an outcome of recent organisational restructure), required the following services to be provided.

- Review an earlier study undertaken in relation to the GGBF at Riverstone by GHD Pty Ltd.
- Develop a survey methodology with reference to the recommended survey methods outlined in the draft Green and Golden Bell Frog Recovery Plan so as to maximise the likelihood of confirming presence of the species on the specified land within the Riverstone precinct and, in the process, adapt this methodology (where necessary) to also satisfy Option 1 and/or Option 2 of Condition 18 of the Biocertification Order. If the GGBF is present/detected, identify areas of suitable habitat for the protection of the population or if not possible within the specified non scheduled area, identify what other areas may be required to secure the local population and its habitat.
- Submit a draft/proposed methodology to the NSW DECC and the GCC for review and approval prior to the commencement of the field work.
- Undertake the required survey fieldwork in accordance with the approved methodology.
- Guarantee that a suitably qualified frog herpetologist with a good knowledge of the Green and Golden Bell Frog directs the survey and ensures that the approved methodology is applied/performed.
- Ensure that the appropriate methods for detection are utilised during surveys to maximise the likelihood of detection during the available survey period. These methods will include (but not

necessarily be limited to): targeting calling males, focusing on previously known locations and other potential breeding sites, (whilst noting that breeding sites are not the only habitat utilised/required by the GGBF), but where calling males are most likely to be detected.

- Prepare a draft report that identifies existing/known habitat(s) and potential habitats if required; detail recommended protection measures; and provide detailed maps/drawings to enable the updating of relevant notices and other documentation within a timeframe to be agreed by DECC and the GCC based on the detailed (approved) methodology.
- Submit a final report within a timeframe to be agreed, based on the detailed methodology. The deadline for completion of the work will be determined with regard to the GCC planned date of Gazettal of the Riverstone Precinct Plan as well as the temporal requirements of applying the approved survey methodology (temperature and rainfall). As a guide the GCC is aiming for gazettal of the precinct plan around March/April 2009.