# Cessnock Biodiversity Management Plan

This poster provides an overview of current priorities for threatened species conservation across the valley floor region of the Cessnock local government area. The strategies, priorities and projects in this plan are dynamic and may change over time.

We hope it encourages landholders, individuals, community groups, schools and other government agencies to initiate and become involved in threatened species recovery projects.

## Interpreting the Cessnock Biodiversity Management Plan

The Cessnock Biodiversity Management Plan includes three main components: the **Landscape Conservation Strategy**, **Local Focus Areas** and **Landscape Facilitation Projects**.
A technical report outlining project methodology will be made available at http://www.environment.nsw.gov.au/biodiversity/biomangmntplanning.htm.

The **Landscape Conservation Strategy** map below identifies:

1. **Conserve value of vegetated lands.** The conserve value is a measure of the potential loss to biodiversity if an area was to be cleared. The loss of areas of moderate to very-high conserve value would have the greatest impact on biodiversity. These areas are referred to as '**priority conserve areas**'.
2. **Landscape conservation corridors.** Five landscape conservation corridors have been identified. These connect priority conservation areas across the landscape. Appropriate habitat rehabilitation and revegetation will strengthen and support the conservation of these areas.
3. **Opportunities for rehabilitation.** Areas of **degraded vegetation** within the landscape conservation corridors and near Werakata National Park, including areas with mostly only a native 'canopy' or 'regrowth', provide opportunities for habitat rehabilitation.
4. **Opportunities for revegetation.** Areas **cleared of vegetation** within the landscape conservation corridors and near Werakata National Park, offer opportunities for revegetation.

An expert panel determined that if the Landscape Conservation Strategy was successfully implemented, **7 of the 9** threatened ecological communities, **7 of the 10** threatened plants, and **all 46** threatened fauna would be adequately conserved within the project area.

This leaves only five threatened entities requiring targeted action:

- Lower Hunter Valley Dry Rainforest
- *Cynanchum elegans*
- Singleton Mint
- North Rothbury Persoonia
- Quorrobolong Scribbly Gum Woodland

The conservation needs of these five entities are addressed through **Local Focus Areas**, with two **Landscape Facilitation Projects** assisting protection and restoration of the landscape corridors.

For the **Landscape Conservation Strategy** to be successful, all priority conserve areas need to be protected, their threats managed, and have appropriate rehabilitation and revegetation.

Successful implementation of the plan is dependent upon many players.

## Objectives of the Plan

The native vegetation of the lower Hunter Valley has been extensively cleared since European settlement with less than 30% left. The remaining vegetation is subject to a range of ongoing threatening processes. The area covered by this Plan supports at least 65 threatened entities, including nine ecological communities, 46 animal species and ten plant species (see reverse).

With many threatened species and threatening processes, the challenge is to identify where best to focus recovery efforts. The objective of the Cessnock Biodiversity Management Plan (BMP) is to address the conservation needs of all 65 threatened entities by:

1. identifying a landscape conservation strategy highlighting priority areas for conservation across the landscape and also opportunities for rehabilitation and revegetation (see Landscape Conservation Strategy and Interpreting the Cessnock Biodiversity Management Plan)
2. building upon existing threatened species recovery projects and complementing other protection mechanisms
3. identifying 'local focus areas' where the landscape conservation strategy may not adequately address the conservation needs of particular threatened species (see Landscape Conservation Strategy and Local Focus Areas)
4. facilitating implementation of the landscape conservation strategy through landscape facilitation projects (see Landscape Facilitation Projects below).

### Identifying Priorities

Through identifying clear priorities and providing sound advice, the Office of Environment and Heritage hopes to encourage and facilitate landholders, individuals, community groups, schools and other government agencies in implementing successful threatened species recovery projects.

## What Can You Do?

Effective management and conservation of biodiversity, particularly threatened species, within the project area is dependent upon the involvement and collaboration of many players. Everyone has a role:

**State and local government** can use the priorities identified in this BMP to ensure sound decision making, develop projects, and to target funding for on-ground works.

**Landholders** can become aware of the significance of bushland on their property, and take measures to protect and manage that bushland. This plan may help some landholders secure funding for on-ground works.

**Community Groups** can raise awareness of the significant biodiversity values present in the region and contribute to existing projects or initiate new projects.

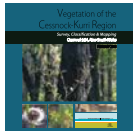
**Schools** can help by ensuring students understand the value and importance of local bushland. A teacher resource kit on threatened species of the project area is available to assist teachers. Schools can request a copy of the Kit and register interest in attending future school field lessons (details below).

**Individuals** can get to know local bushland, join a local community group, and be involved in hands-on conservation activities. Join the Hunter Threatened Species email list to be notified of upcoming local threatened species conservation activities (details below).

**Any of these stakeholders** can seek more information and guidance by contacting the Office of Environment and Heritage (details below).

### Available Resources

Resources can be requested by contacting the Office of Environment and Heritage (details below).


### For more information and guidance contact the Office of Environment and Heritage

* General information on threatened species: **http://www.threatenedspecies.environment.nsw.gov.au**
* Further information on the Cessnock Biodiversity Management Plan, including information on past projects and resources: **http://www.environment.nsw.gov.au/biodiversity/biomangmntplanning.htm**
* Coordinator of the Cessnock Biodiversity Management Plan: 4908 6800 or **newcastlerequests@environment.nsw.gov.au**
* Subscribe to the project email list for updates on events and activities by sending an email with the subject line: 'Subscribe to Hunter Threatened Species email list' to **newcastlerequests@environment.nsw.gov.au**

## Threatening Processes in the Hunter Valley

### Habitat loss and fragmentation

A major threat to the persistence of threatened species in the lower Hunter Valley is continued habitat loss and fragmentation due to clearing, which directly decreases population size and area of occupancy of threatened species and consequently decreases resilience and long-term viability.

Habitat fragmentation has many potential consequences:

- reduction in species diversity
- increased susceptibility to habitat degradation through increased edge-to-area ratios
- changes in the fluxes of radiation, wind, water and nutrients across the landscape
- genetic isolation of populations which may result in the loss of genetic diversity and decrease the ability of populations to adapt to environmental change.

### Habitat degradation

The remaining vegetation and the threatened species it supports are threatened by habitat degradation. Some of the main causes in the region include:

- inappropriate fire regimes, particularly frequent fire
- mowing, slashing and grazing
- weed invasion
- physical damage and/or erosion from trail bike riding, vehicles, and rubbish dumping
- changes to drainage conditions and nutrient levels due to clearing of adjacent lands.

### Other threats

Other threats include pest animals and diseases.

Additional information on these and other threatening processes can be found at http://www.threatenedspecies.environment.nsw.gov.au.

## Landscape Facilitation Projects

### Woodland Birds

**Objective:** Identify & facilitate protection & restoration of priority woodland bird habitat.

There are a number of threatened woodland birds occurring in the study area, including the Regent Honeyeater, Swift Parrot, Brown Treecreeper, Grey-crowned Babbler, and the Turquoise Parrot. The effective conservation of these species is dependent upon effective implementation of the landscape conservation plan.

**Broad actions required:**

Targeted survey, community awareness and education, liaise with landholders, implementation of on-ground threat abatement and habitat restoration.

**Sample existing and recent recovery action:**

*NSW Nature Conservation Trust collaboration project with Birds Australia covenanting private properties that provide habitat for threatened and declining woodland birds.

*Hunter-Central Rivers CMA collaboration with Hunter Bird Observers Club on an educational program focussing on threatened and declining woodland birds of the Cessnock-Kurri area.

*Birds Australia national recovery efforts for woodland birds via the "Woodland Birds for Biodiversity" program, including surveys for the nationally endangered Swift Parrot and Regent Honeyeater.

### Habitat Rehabilitation and Revegetation

**Objective:** To build capacity and understanding of how to most effectively rehabilitate and revegetate threatened ecological communities in the Lower Hunter.

Success of the Landscape Conservation Strategy is dependent upon effective rehabilitation of degraded areas and revegetation of strategic cleared areas. Current approaches to revegetation of threatened ecological communities is generally ad hoc, and there is little insight into the most efficient or effective methods to revegetate these communities. Nor is it known if these communities can effectively be 'reconstructed' across cleared landscapes.

**Broad actions required:**

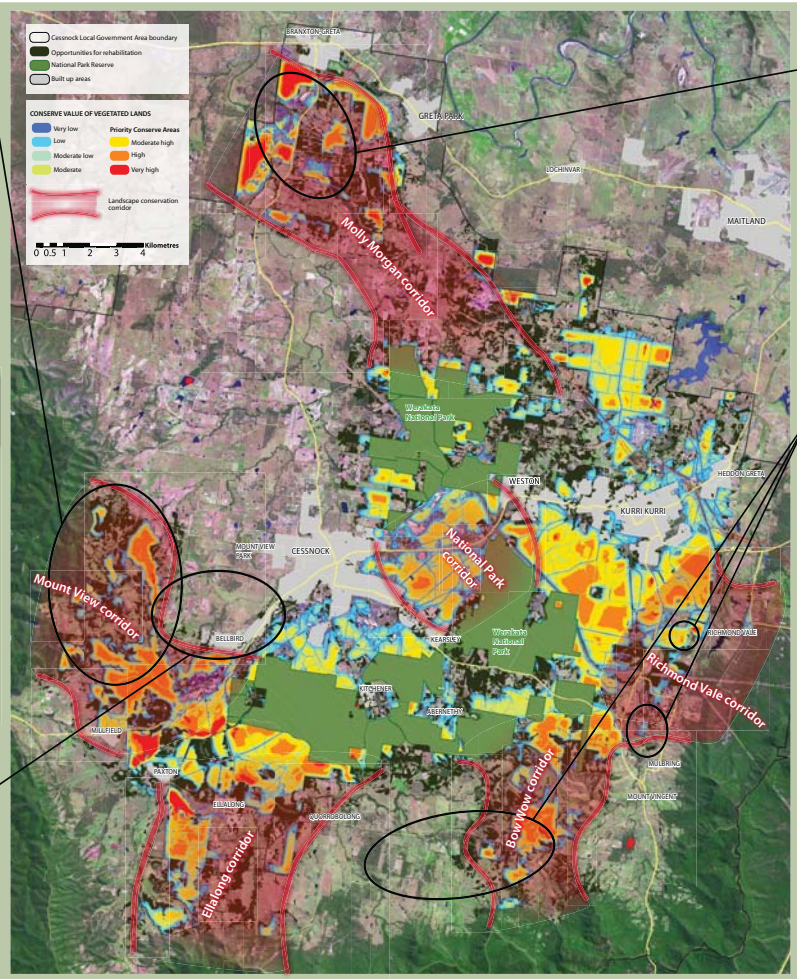
Experimental revegetation projects; education and awareness activities; hands-on involvement in on-ground projects.

**Sample existing projects:**

*An Office of Environment and Heritage and the University of Newcastle partnership is undertaking a large-scale experimental restoration of threatened ecological communities, investigating efficient and cost effective methods for revegetation and rehabilitation.

*Habitat restoration works within the Stanford Merthyr Crown Conservation Reserve include community and school education and involvement activities. Project partners include Hunter-Central Rivers CMA, Office of Environment and Heritage, Future Harvest, Cessnock City Council and Friends of Werakata.

## Landscape Conservation Strategy




### Hunter Valley Dry Rainforest and *Cynanchum elegans* Local Focus Area

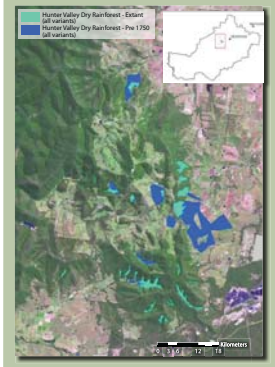
**Objective: Facilitate protection and restoration of Hunter Valley Dry Rainforest and *Cynanchum elegans* habitat on private property.**

Within the project area, the vulnerable ecological community Hunter Valley Dry Rainforest is restricted to the sheltered and easterly slopes and gully lines running off Mt View and Mt Bright. This community also provides the only known habitat within the project area for the endangered climbing plant, *Cynanchum elegans*.

Many of the now-cleared gullies and slopes around Mt View and Mt Bright would have once supported thickets of this vegetation type, with less than 30% of the communities' original distribution remaining. Current threats include further loss and fragmentation of habitat, particularly through clearing for agriculture, and rural-residential development; and also habitat degradation primarily from weed invasion, grazing, and altered fire frequency.

**Broad actions required:**

Community awareness and education; liaise with landholders; implementation of on-ground threat abatement and habitat restoration; targeted survey for *Cynanchum elegans*.




### Singleton Mintbush Local Focus Area

**Objective: Gain insight into distribution & status of the Singleton Mintbush**

The Vulnerable Singleton Mintbush (*Prostanthera cineolifera*) is known from very few locations and its distribution is uncertain. Within the project area, it has been recorded only from around Bellbird, to the immediate west of Cessnock Township. The current status of this population is unknown.

**Broad actions required:**

Targeted survey of the known population location and also of potential habitat across the project area.

### North Rothbury Persoonia Local Focus Area

**Objective: Implement the draft North Rothbury Persoonia Recovery Plan.**

The critically endangered shrub the North Rothbury Persoonia (*Persoonia pasciflora*) is restricted to private property and public road verges in the North Rothbury area. Much of the species' habitat has been cleared for rural-residential development and it is estimated less than 350 individuals remain across a linear range of only 4.3 km. The main immediate threats to its persistence include continued habitat loss and fragmentation due clearing for residential and rural-residential development; illegal clearing and picking; and habitat degradation resulting from grazing and slashing.

A Recovery Plan has been prepared, outlining actions required to ensure the long-term survival of the North Rothbury Persoonia in the wild.

**Broad actions required:**

Sample actions from the recovery plan include: formalise protection of crown 'paper roads'; community education, awareness and involvement; facilitate habitat management and protection on private property; ongoing survey and monitoring; ongoing propagation research and implementation of experimental translocation.

**Sample existing recovery action:**

*Mount Annan Botanic Garden is conducting research into propagation.

*Office of Environment and Heritage is coordinating a NSW Environmental Trust funded project that is facilitating habitat protection and rehabilitation across private and public lands. Project partners include Hunter-Central Rivers Catchment Management Authority, Cessnock City Council, Sweetwater Action Group, Department of Primary Industries, and Trees In Newcastle.

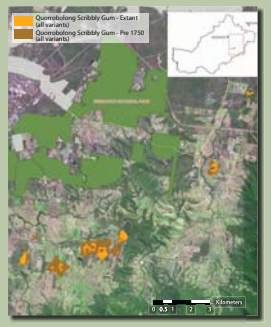
### Quorrobolong Scribbly Gum Forest Local Focus Area

**Objective: Facilitate protection and restoration of Quorrobolong Scribbly Gum Forest across private property.**

The endangered Quorrobolong Scribbly Gum Forest is restricted to fewer than 100 hectares within the south-east of the project area, particularly in the Quorrobolong area and also at Mulbring. Around 70% of the communities' original distribution has been cleared for agriculture and rural-residential development, with remaining habitat restricted to private property. Current threats include further loss and fragmentation of habitat, particularly through clearing for agriculture and rural-residential development; and also habitat degradation primarily from weed invasion, grazing, and altered fire frequency.

**Broad actions required:**

Community awareness and education, liaise with landholders, implementation of on-ground threat abatement and habitat restoration.

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