

Gills Bridge Creek Rehabilitation Project

Council recently developed and finalised a Rehabilitation Plan for the Gills Bridge Creek environment, south of Kempsey. The Plan aims to set a framework for preserving and enhancing existing assets of the creek, such as remaining segments of intact native riparian vegetation and aquatic habitats, and to rehabilitate degraded ecological assets, such as water quality and the extent of weed coverage.



On-ground works which have commenced, or are set to commence over the coming months, are essentially comprised of four main components:

1. Mapping and data gathering of current environmental indicators, such as water quality and extent of weed coverage and native riparian vegetation;
2. Environmental review & education program of commercial and industrial premises within the catchment targeting stormwater pollution, noise, air, water and energy management;
3. Weed removal and riparian re-vegetation with endemic tree, shrub & grass species; and
4. Community environmental education focusing on stormwater pollution, littering, water and biodiversity conservation.

What can you do to help conserve and manage biodiversity in your local area?

In rural areas:

- ✓ Fence off native vegetation, rivers, wetlands and streams from stock. This allows native plants to grow, and in turn these provide habitat for insects, animals and birds.
- ✓ Leave dead trees standing, particularly those with hollows, as these provide homes for birds and animals such as possums. Allow leaf litter, fallen logs and branches to accumulate in habitat areas.
- ✓ Report any unusual plants that appear to be invading native vegetation to Council.
- ✓ Control environmental weeds and feral animals, which compete with or eat native vegetation.

- ✓ Re-vegetation can enhance the biodiversity of an area if a range of the originally occurring species is used.

In urban areas:

- ✓ Plant native trees, shrubs and grasses in your garden. Most local nurseries have native seedlings for sale. Retain any old eucalypts with hollows and consider providing nesting boxes for native birds and animals.
- ✓ Do not plant species in your garden that are declared weed species for your area, or species that have the potential to become environmental weeds.
- ✓ Make sure that your pet cats are desexed, keep them inside at night and attach a bell to their collar to warn wildlife.
- ✓ Take care when using herbicides and fertilisers especially if you live next to or near bushland areas and streams to prevent damage to nearby vegetation.
- ✓ Encourage your school, work and neighbours to plant indigenous native vegetation and be active in keeping the area weed free.

References & Further Reading

- Australian Government (2007) Biodiversity, Department of the Environment, Water, Heritage and the Arts, <http://www.environment.gov.au/biodiversity/index.html>
- Kempsey Shire Council (2007) Kempsey Shire Ecologically Sustainable Development (ESD) Strategy, Kempsey Shire Council, June http://www.kempsey.nsw.gov.au/pdfs/ESDstrategy_final2007.pdf
- Kempsey Shire Council (2007) State of the Environment Report 2006/07 (Supplementary), Kempsey Shire Council November http://www.kempsey.nsw.gov.au/pdfs/SOE_Report_06-07_supp.pdf
- Government of South Australia (2004) Biodiversity – Native Vegetation, Government of South Australia, <http://www.environment.sa.gov.au/reporting/biodiversity/>

For further information and advice contact:

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What is biodiversity?

Biodiversity is the variety of all life forms - the different plants, animals and micro-organisms, the genes they contain, and the ecosystems of which they form a part.

The level of diversity is not fixed, but rather dynamic, increased by genetic changes and evolutionary processes, and decreased by extinction and habitat degradation (Australian Government 2007).

Why is biodiversity important?

Maintenance of biodiversity is essential to the health and function of environmental systems. Healthy ecosystems are necessary to maintain our atmosphere, climate, clean water and soils.

There are also aesthetic and cultural reasons for maintaining biodiversity. Native plants, animals and ecosystems help define our cultural identity. They contribute to our sense of place and a sense of spirit and are important for supporting our recreational pursuits. Our sweeping landscapes, diverse marine environments and unique ecosystems are essential to how we define our country, ourselves and how the rest of the world perceives us.

Conserving biodiversity is also important for ethical reasons - other species have as much right to the earth as humans.

Biodiversity is important economically, for controlling pests and diseases, pollinating

plants, recycling nutrients, as well as providing food, clothing and building materials, medicines and many other kinds of raw materials. Biodiversity is also a fundamental basis for tourism (Government of South Australia, 2007).



Australia's unique biodiversity



Australia is described as a 'mega diverse country'. In comparison with many other parts of the world we have a vast range of different species, many of which are endemic (species that are only found in Australia). Millions of years of isolation from the other continents have resulted in Australia's plants and animals evolving in ways different from elsewhere. As a result, a high percentage of Australian species occur nowhere else. At the species level, about 82% of our mammals, about 45% of our land birds, about 85% of our flowering plants, about 89% of our reptiles, and about 93% of our frogs are found only in Australia! (Australian Government 2007)

What factors create pressure and impact upon biodiversity?

Human activity has been changing Australian ecosystems for approximately 50 000 years, but the pace and extent of change has increased since European settlement, about 200 years ago. Australia's temperate zones and coastal ecosystems have been extensively altered, many wetlands have been degraded, and most other parts of the country have been modified to some extent by various factors, including:

- **Land Clearing & Development** – Population growth, particularly on the coast, continues to result in greater demand for development. This causes subsequent pressure on biodiversity due to land clearing for residential and rural residential developments. The associated need for greater services in region such as gas pipes, power lines, water supply, sewage and new roads causes further pressure on biodiversity.
- **Introduced Species** – Introduced plant and animal species have the potential to adversely impact upon biodiversity, particularly in Australia where native plants and animals have evolved over millions of years in relative isolation from other species. Introduced domesticated and feral animals,

particularly cats, dogs, rabbits, pigs and foxes, as well as exotic weed species, such as lantana, camphor laurel, willow and bitou bush continue to place added pressure on biodiversity within the Kempsey Shire.

- **Disease** - Diseases can have a significant impact on biodiversity, particularly when species are already under pressure from the previous two above mentioned factors. A typical example of this is the infection of koalas with the chlamydia organism. Scientists now believe that the chlamydia organism has been occurring amongst koala populations for many years, and has acted as a natural population control in times of stress. The organism is generally harmless in populations with unlimited resources, but manifests in times of stress, such as happens when habitat is reduced.

- **Climate Change** – An increasing pressure being placed on all the Earth's biodiversity (including humans) is that associated with the predicted impacts of climate change. Past changes in climate have proven to be one of the greatest, if not the greatest impact on biodiversity on Earth. Climate change, particularly if abrupt (occurring over decades to centuries, rather than over millennia) can cause catastrophic losses to biodiversity as the plants and animals do not have time to adapt to their new climate. Unfortunately, most scientists now agree that unless serious measure are taken to reduce greenhouse gas emissions, climate changes set in motion by human activities will alter the earth's climate significantly enough to cause the extinction of many plant and animal species alive today.

What is being done to assess and improve outcomes for biodiversity in the Kempsey Shire?

Council is committed to working with other government agencies, the corporate sector and community groups to conserve, protect and rehabilitate important areas of biodiversity within the Kempsey Shire. Some recent projects that have been completed and are underway include:

Broad-scale Vegetation Mapping

Using a mixture of recent satellite imagery and aerial photography Council (KSC) has recently

completed a broad scale vegetation mapping project for the entire Kempsey Shire Local Government Area (LGA). The mapping identifies areas of significant vegetation communities and potential areas of endangered ecological communities. Mapping of this nature has provided important baseline information for future environmental and strategic planning projects, including the preparation of a Comprehensive Koala Plan of Management.

Commencement of Comprehensive Koala Plan of Management

The Kempsey Shire provides areas of important koala habitat and has been identified in the draft Koala Recovery Plan, produced by the NSW National Parks and Wildlife, as a priority area for the development of a Comprehensive Koala Plan of Management.

In consultation with a Koala Advisory Group, Council is currently in the early stages of preparing such a Plan of Management for the Kempsey Shire. The aim of the Plan will be to encourage the proper conservation and management of areas of natural vegetation that provide important koala habitat, to ensure that viable, free living populations of koalas remain present in the Kempsey Shire for generations to come.

The Plan of Management is likely to include a detailed list of actions to be implemented over the short and longer term to reduce the pressures being placed on koalas, including:

- re-vegetation and enhancement of existing habitat areas and corridor linkages;
- management of domesticated and feral dogs in koala hot spot areas;
- community education on koala health and welfare issues; and
- provision of guidelines and development standards to protect koalas and koala habitat.

Nestle Community Vegetation Projects – Jerseyville & Smithtown

In partnership with Nestle and the local community, Council completed a riparian re-vegetation project on a section of Council managed road reserve, adjacent to Plummers Lane, near the Jerseyville Bridge. The project included planting of over 4,000 endemic trees species and construction of a walking path.

Also in partnership with Nestle and local community members, including school children, Council undertook a riparian rehabilitation project along a section of riverbank at Smithtown Park. The project included the removal of 23.25 tonnes of invasive weed species and planting of 1,000 locally endemic tree species.

