

Introduction to connectivity conservation

Connectivity conservation is a socially inclusive approach to conservation that recognises that species, habitats, and ecosystems are dependent upon well-connected landscapes to survive, adapt and thrive.

Why is connectivity important?

In the past, landscapes were well connected and continuous. Today, loss and fragmentation of habitat have carved the land into isolated pockets of vegetation. This blocks the movement of animals, reduces available habitat, increases competition for food, and impacts on natural resources and processes.

Research shows that the traditional approach of focusing conservation efforts only within formal protected areas is

not sufficient on its own to ensure the long-term survival of species. Whilst private and public protected areas form the cornerstones of conservation, efforts also need to focus on the land that sits outside of these places.

Connectivity conservation solves this challenge by bringing people together across all tenures to protect, restore and reconnect habitats and support healthy ecosystems across entire landscapes, waterways and oceans.

Connectivity: Connectivity refers to the ability of plants and animals to move freely across a landscape, waterway, or ocean environment.

Gene flow: The movement of genetic material from one population to another.

Migration: the large-scale movement of animal species from one area to another. Many animals migrate to and across Australia or pass over our waters during their annual migration, such as the Shining Bronze Cuckoo and Channel-billed Cuckoo.

Nomadic: Species that move from place to place rather than spending their entire lives in one location.

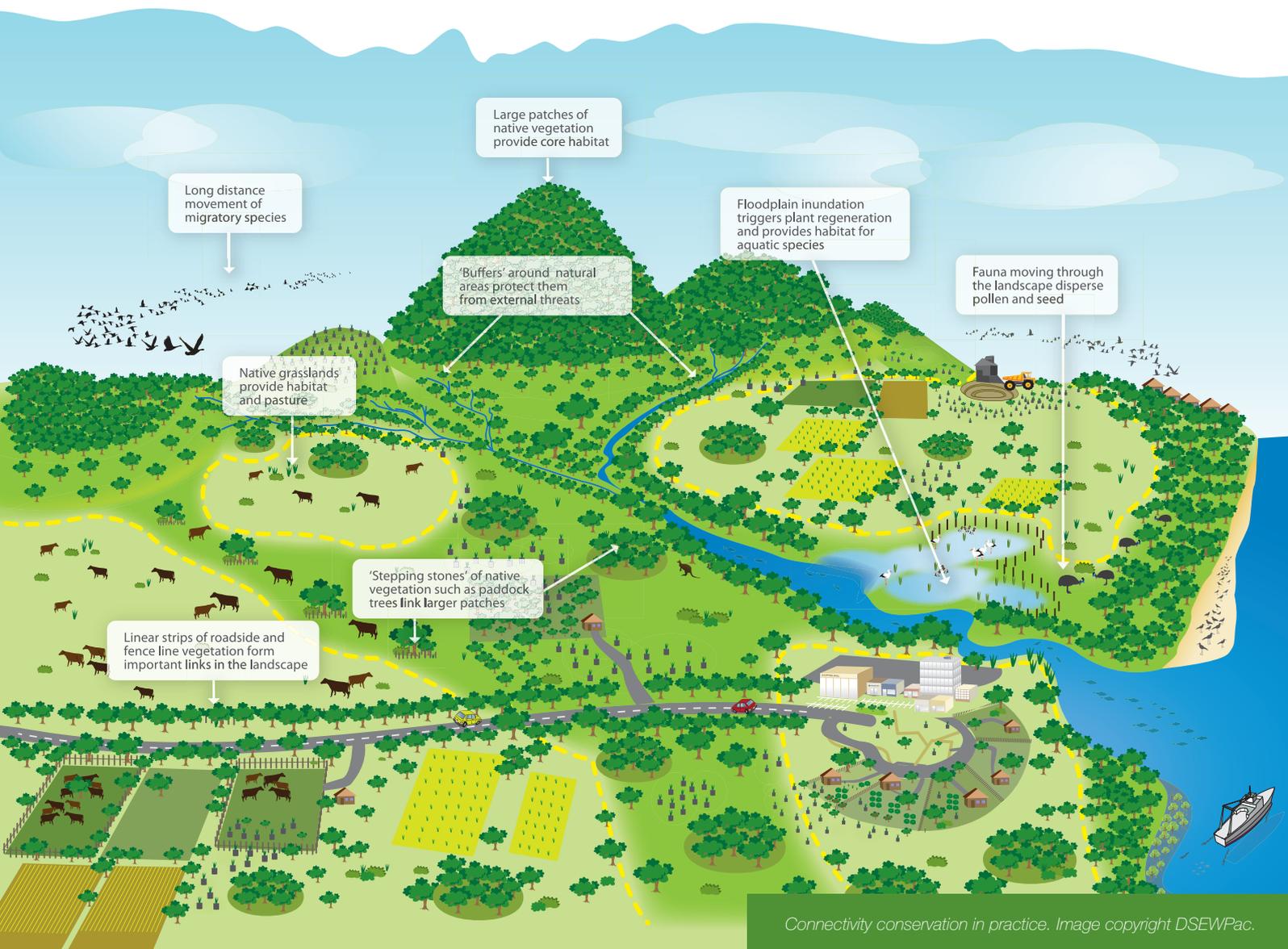
Dispersal: The movement of plants, fungi and animals from the area where they were born to a new place or between breeding sites.

Edge effects: Edge effects are the environmental and biological changes that occur at the boundary or transition between two significantly different habitats and are one of the major causes of species extinctions. The smaller the patch of habitat, the greater the edge effects.

Corridor: A continuous strip or 'stepping stones' of habitat which connect two or more patches, enabling animals to move more easily through a landscape. Corridors are not intended as a substitute for protected areas but rather as a complement to them.

Matrix: The matrix is a term used to describe any land cover type other than the type of interest. Matrix lands have the potential to function as marginal habitats but also have the capacity to serve as barriers to wildlife movement.

Buffer: Areas of natural vegetation retained around core habitats to help protect that habitat and the wildlife that depend on it. For example, trees planted along a creek line adjoining a paddock.



Connectivity conservation in practice. Image copyright DSEWPac.

The benefits

As well as supporting nature, connectivity conservation provides a multitude of health, social, cultural and economic benefits, such as:

- ➔ Creating more resilient and productive landscapes and communities by maintaining healthy natural processes and the many essential services they provide, such as water filtration, carbon storage, pollination of plants and crops, and reduced disease spread.
- ➔ Providing integrated natural solutions to the intertwined challenges of climate change, biodiversity loss, and declining human and environmental health.
- ➔ Providing vital refugia for wildlife enabling them to move and adapt in response to changing seasons, conditions, and climate change.

- ➔ Helping to reduce the impact of natural disasters, such as flooding and fires, and enabling communities to recover more rapidly from them.
- ➔ Helping to reconnect people with each other and with nature, country and culture.
- ➔ Building local capacity and creating new job opportunities.
- ➔ Providing green spaces for relaxation, recreation, exercise, and tourism.

