

# KEY HABITATS AND CORRIDORS –

## A LANDSCAPE FRAMEWORK FOR REGIONAL CONSERVATION PROGRAMS IN NORTH-EAST NEW SOUTH WALES



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### SUMMARY

- Habitat **loss** and **fragmentation** are primary threats to the conservation of biodiversity, ecological processes, and natural systems;
  - Habitat **gain** and enhanced habitat **connectivity** (preservation, restoration) are conservation priorities;
  - Current regional conservation programs require an integrated **landscape perspective** to meet community and government expectations;
  - The mapped Key Habitats and Corridors provide the only spatially complete, data driven, and systematically derived, synthesis of a **landscape conservation framework** for the region;
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### The Key Habitats & Corridors approach:

- Current regional programs will set the agenda for conservation on private lands, including vegetation clearing and restoration regimes, across the state's landscapes. These programs must be provided with practical, up to date and ecologically relevant information to facilitate their planning. A regional conservation framework, reflecting state-of-the-art biodiversity information, and mapped through a Geographic Information System (GIS), can provide the landscape perspective required for rational land-use decision making.
- Modelled species distributions are important conservation planning features. Their inherent character (ie. they are continuous probability surfaces, they assimilate environmental variation) provides a landscape perspective for conservation planning. They can be considered species by species but that is complex and unwieldy;
- This project has applied new GIS tools to consolidate and integrate priority fauna distributional models into a practical and ecologically relevant landscape framework for other conservation features (e.g., wetlands, vegetation communities, old growth forest).

### The process:

- A. Fauna **species assemblages** (combinations of priority species with similar predicted distributions) have been derived as conservation planning surrogates;
- B. Assemblage **key habitats** (cores, hot spots, centres of endemism) have been derived as focus areas for habitats protection and restoration;
- C. Landscape connectivity has been promoted through the identification and refinement of landscape linkages, or habitat **corridors**.

### The mapped key habitats and corridors provide:

1. The only current, consolidated regional depiction of high conservation value habitats for forest fauna across the landscapes of north-east NSW; and
2. The only spatially complete regional landscape conservation framework for north-east NSW, and an explicit basis for planning protected area networks.

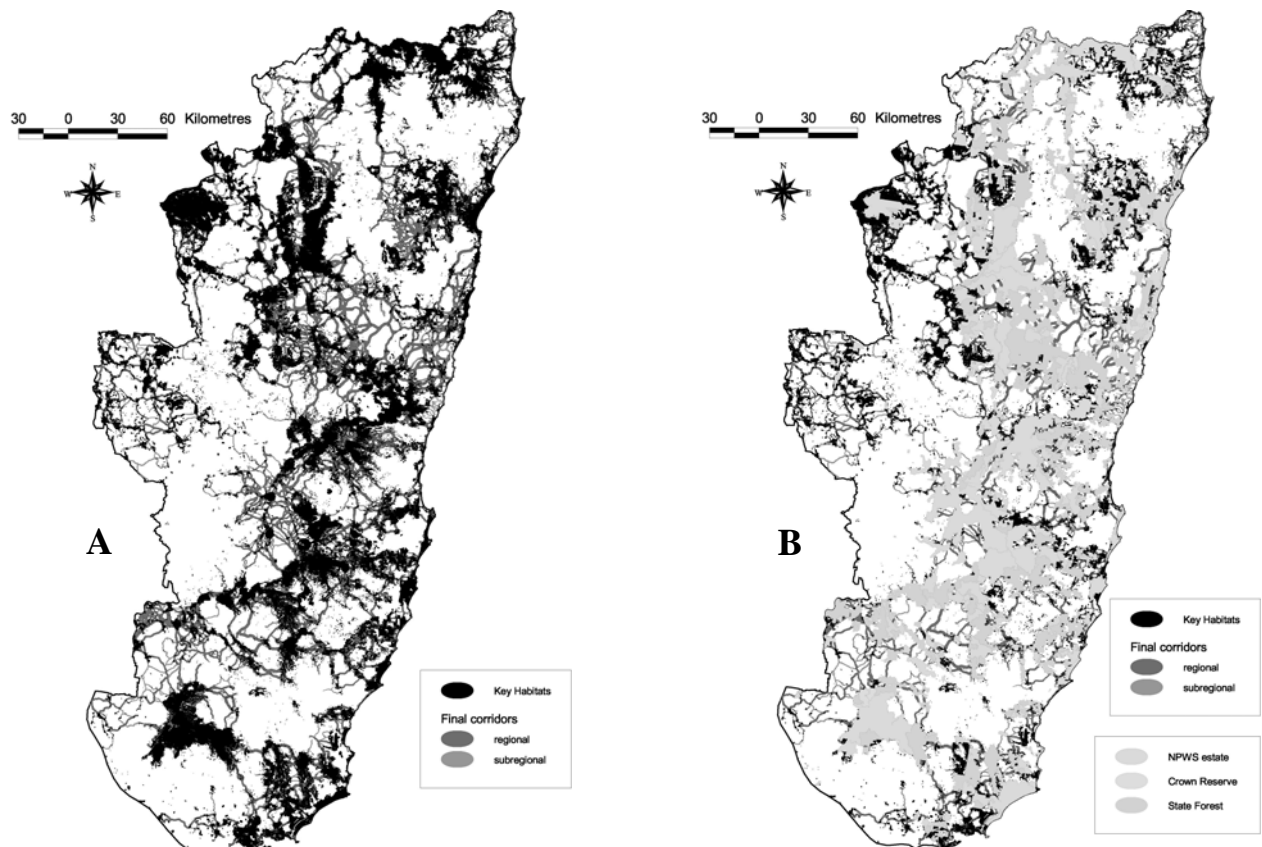
### Implementation of the key habitats and corridors framework

- Significant proportions of most landscapes will be needed for the targeted maintenance and restoration of vulnerable biodiversity elements and natural processes;
- Just as reserve selection is often biased to the least threatened environments, so too conservation efforts outside reserves can be ineffective unless they are strategically placed;
- The key habitats and corridors mapping provides a landscape conservation framework that will facilitate the integration of other mapped conservation features in deriving explicit, strategic protected area networks across north-east NSW landscapes.
- NPWS considers the key habitats and corridors mapping as complementary to on-going forestry, vegetation and water reform programs and promotes its application as a landscape feature and contextual framework in conservation planning, assessment and restoration programs;
- The entire key habitats and corridors network is a conservation priority but NPWS recognizes that protection mechanisms and regimes will vary according to localized practicalities, opportunities and emphases. A hierarchy of mapped regional key habitats and corridors has been developed to emphasize those parts of the network most vulnerable to threatening processes.

As a generalization:

The highest priority regional key habitats are mapped in the productive forests and woodlands of the coastal plain, foothills, and tablelands;

The highest priority regional corridors are mapped along natural gradients (e.g., altitudinal and latitudinal gradients), or as links between major public lands.



Key habitats and corridors across north-east NSW:

**A-** all tenures

**B-** NPWS, Crown Reserves, State Forest masked to emphasize freehold and other crown tenures