Commonwealth of Australia

Amendment to the list of threatened ecological communities under section 181 of the *Environment Protection and Biodiversity Conservation Act 1999*

I, PETER ROBERT GARRETT, Minister for the Environment, Heritage and the Arts, pursuant to paragraphs 184(1)(a) and (b) of the *Environment Protection and Biodiversity Conservation Act 1999*, hereby amend the list referred to in section 181 of that Act by:

deleting from the list in the **endangered** category

Cumberland Plain Woodlands; and

including in the list in the **critically endangered** category

Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest

as described in the Schedule to this instrument.

Dated this….....Seventeenth.....day of….....November.....2009

Peter Robert Garrett

Minister for the Environment, Heritage and the Arts

s181/EPBC/2009/03

SCHEDULE

Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest

The Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest is an ecological community that is endemic to New South Wales, with occurrences in and around the Cumberland Plain, west of Sydney. Its distribution is limited to the Sydney Basin Bioregion.

The ecological community mostly occurs on flat to undulating or hilly terrain, generally at elevations up to 350 metres above sea level with some occurrences extending onto locally steep sites and at slightly higher elevations. The ecological community is predominantly associated with clay soils derived from Wianamatta Shale geology with minor occurrences present on other soil groups, which occur on the plains and in the vicinity of shale outcrops. Part of the ecological community also is associated with shale soils with high concentrations of iron-indurated gravel or overlain by Tertiary Alluvium and those sites are marked by the shale-gravel transition forest component of the ecological community.

The Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest is a type of eucalypt woodland to forest with an understorey (i.e. the ground plus shrub layers) that varies from predominately grassy to predominately shrubby.

The upper tree layer is typically dominated by *Eucalyptus moluccana* (Coastal Grey Box) and *E. tereticornis* (Forest Red Gum). A range of other tree species commonly occur in association with Coastal Grey Box and Forest Red Gum and may be locally dominant, including: *E. crebra* (Narrow-leaved Ironbark), *E. eugenioides* (Thin-leaved Stringybark) and *Corymbia maculata* (Spotted Gum). In the shale-gravel transition forest component of the ecological community, the tree layer may be locally dominated by *E. fibrosa* (Red Ironbark), with Coastal Grey Box and Forest Red Gum occurring less frequently.

The lower tree layer is absent to sparse, when present. This layer may include younger individuals of the upper tree layer species. Other small trees typically present in this layer include: *Acacia implexa* (Hickory Wattle), *A. parramattensis* (Parramatta Wattle), *A. decurrens* (Black Wattle, Green Wattle), *Exocarpos cupressiformis* (Native Cherry) and *Melaleuca decora* (Paperbark). Paperbark frequently occurs in the shale-gravel transition forest component of the ecological community.

The understorey may include shrub and ground layers of variable development and composition. The understorey is typically dominated by the ground layer. However, the ground layer may be reduced where a well developed shrub layer is present. The shrub layer is often dominated by *Bursaria spinosa* (Blackthorn) but other shrub species may also be present. The ground layer is typically dominated by a range of native grasses and other herbs and shows considerable variation in floristic composition across remnant patches.

The key diagnostic attributes for the Cumberland Plain Shale Woodlands and Shale-Gravel Transition Forest ecological community are as follows:

- Distribution is limited to the Sydney Basin Bioregion with most occurrences in the Cumberland Sub-region. This covers a geographic area commonly known as the Cumberland Plain, a rainshadow coastal valley in western Sydney.
- Most occurrences are on clay soils derived from Wianamatta Group geology, with limited to rare occurrences on soils derived from Tertiary Alluvium, Holocene Alluvium the Mittagong Formation, Aeolian Deposits and Hawkesbury Sandstone.

- Upper tree layer species must be present with these features:
    - The minimum projected foliage cover of canopy trees is 10% or more; and
    - The tree canopy is typically dominated by *Eucalyptus moluccana* (Coastal Grey Box), *E. tereticornis* (Forest Red Gum) and/or *E. fibrosa* (Red Ironbark). Other canopy species may occur in association with the typical dominants and may be locally dominant at some sites.
- A sparse lower tree layer may be present, typically with young eucalypts of upper tree canopy species and species of *Acacia*, *Exocarpos* and *Melaleuca*.
- The understorey typically is dominated by the ground layer and shows these features:
    - The ground layer typically comprises a variety of perennial native graminoids and forbs;
    - Native graminoid species that are often present include: the grasses *Aristida ramosa* (Purple Wiregrass), *A. vagans* (Threeawn Speargrass), *Cymbopogon refractus* (Barbed Wire Grass), *Dichelachne micrantha* (Plumegrass), *Echinopogon caespitosus* var. *caespitosus* (Tufted Hedgehog Grass), *Eragrostis leptostachya* (Paddock Lovegrass), *Microlaena stipoides* subsp. *stipoides* (Weeping Grass), *Paspalidium distans* and *Themeda triandra* (Kangaroo Grass), and other graminoids *Carex inversa* (Knob Sedge), *Cyperus gracilis* (Slender Sedge), *Lomandra filiformis* subsp. *filiformis* (Wattle Mat-rush) and *L. multiflora* subsp. *multiflora* (Many-flowered Mat-rush);
    - Native forbs and other herb species present include: *Asperula conferta* (Common Woodruff), *Brunoniella australis* (Blue Trumpet), *Cheilanthes sieberi* (Poison Rock-Fern), *Desmodium varians* (Slender Tick-trefoil), *Dianella longifolia* (Blue Flax-Lily), *Dichondra repens* (Kidney Weed), *Glycine* spp., *Hardenbergia violacea* (Native Sarsparilla), *Opercularia diphylla* (Stinkweed), *Oxalis perennans*, *Pratia purpurascens* (Whiteroot) and *Wahlenbergia gracilis* (Australian Bluebell); and
    - A shrub layer may be present, to variable extent, and is often dominated by *Bursaria spinosa* (Blackthorn) while other species include: *Daviesia ulicifolia* (Gorse Bitter Pea), *Dillwynia sieberi*, *Dodonaea viscosa* subsp. *cuneata* (Wedge-leaf Hop-bush), *Indigofera australis* (Native Indigo) and *Lissanthe strigosa* (Peach Heath).