New South Wales

THREATENED SPECIES CONSERVATION ACT 1995 No 101

Notice of Final Determination and Amendment of Schedule 1 to Act

The Scientific Committee established under the *Threatened Species Conservation Act 1995* has, in pursuance of Division 3 of Part 2 of that Act, made a final determination to insert the following community in Part 3 of Schedule 1 to that Act (Endangered ecological communities) and, accordingly, that Schedule is amended as set out in Annexure "A" to this Notice:

Part 3 Endangered ecological communities

Shale/Sandstone Transition Forest (as described in the final determination of the Scientific Committee to list the ecological community)

The final determination to insert this community in Schedule 1 has been made because the Scientific Committee is of the opinion that this community is likely to become extinct in nature in New South Wales unless the circumstances and factors threatening its survival or evolutionary development cease to operate.

Copies of the final determination may be inspected at:

The Information Centre (Level 1)
National Parks & Wildlife Service
43 Bridge Street
HURSTVILLE NSW 2220

and at all District Offices of the National Parks and Wildlife Service during business hours.

Signed at Sydney. this 4th day of September 1998.

Dr Chris Dickman
Chairperson
Scientific Committee

Annexure "A"

Schedule 1 to the *Threatened Species Conservation Act 1995* is amended by inserting in Part 3 in alphabetical order the matter:

Shale/Sandstone Transition Forest (as described in the final determination of the Scientific Committee to list the ecological community)

NSW SCIENTIFIC COMMITTEE

Final Determination

The Scientific Committee, established by the Threatened Species Conservation Act, has made a Final Determination to list the Shale/ Sandstone Transition Forest in the Sydney Basin Bioregion as an ENDANGERED ECOLOGICAL COMMUNITY on Part 3 of Schedule 1 of the Act. The listing of endangered ecological communities is provided for by Part 2 of the Act.

The Scientific Committee has found that:

1. Shale/Sandstone Transition Forest (SSTF) is the name given to the plant community characterised by the species assemblage listed in paragraph 4, which occurs on areas transitional between the clay soils derived from Wianamatta Shale and the sandy soils derived from Hawkesbury Sandstone on the margins of the Cumberland Plain. All sites are within the Sydney Basin Bioregion. (The community is identified and discussed in UBBS (1997) under the name Western Shale/Sandstone Transition Forest. Most of the UBBS Eastern Shale/ Sandstone Transition Forest is attributable to Cooks River Clay Plain Scrub Forest.)
2. SSTF occurs or has occurred in the Bankstown, Baulkham Hills, Blue Mountains, Campbelltown, Hawkesbury, Liverpool, Parramatta, Penrith. and Wollondilly Local Government Areas (LGAs).
3. The floristic composition of the community includes species otherwise characteristic of, or occurring in, either sandstone or shale habitats. The structure of the community is forest or woodland.
4. SSTF is characterised by an assemblage of species:

Acacia brownii	*Acacia decurrens*	*Acacia falcata*
Acacia implexa	*Acacia parramattensis*	*Acacia parvipinnula*
Allocasuarina littoralis	*Allocasuarina torulosa*	*Angophora bakeri*
Angophora costata	*Angophora floribunda*	*Aristida vagans*
Arthropodium milleflorum	*Astrotricha latifolia*	*Banksia spinulosa*
Bossiaea obcordata	*Bossiaea prostrata*	*Bracteata bracteantha*
Breynia oblongifolia	*Bursaria spinosa*	*Calotis cuneifolia*

Cheilanthes sieberi	*Chenopodium carinatum*	*Corymbia eximia*
Corymbia gummifera	*Corymbia maculata*	*Cryptandra amara*
Cymbopogon refractus	*Danthonia tenuior*	*Daviesia ulicifolia*
Dianella prunina	*Dodonaea triquetra*	*Einadia hastata*
Entolasia stricta	*Eragrostis brownii*	*Eremophila debilis*
Eucalyptus agglomerata	*Eucalyptus beyeriana*	*Eucalyptus crebra*
Eucalyptus eugenioides	*Eucalyptus fibrosa*	*Eucalyptus globoidea*
Eucalyptus haemastoma	*Eucalyptus moluccana*	*Eucalyptus notabilis*
Eucalyptus oblonga	*Eucalyptus paniculata*	*Eucalyptus pilularis*
Eucalyptus punctata	*Eucalyptus resinifera*	*Eucalyptus sclerophylla*
Eucalyptus siderophloia	*Eucalyptus sparsifolia*	*Eucalyptus squamosa*
Eucalyptus tereticornis	*Euchiton sphaericus*	*Exocarpos cuppressiformis*
Exocarpos strictus	*Glycine clandestina*	*Gompholobium grandiflorum*
Goodenia hederacea	*Grevillea mucronulata*	*Hakea dactyloides*
Hakea sericea	*Hardenbergia violacea*	*Hibbertia aspera*
Hibbertia diffusa	*Hypericum gramineum*	*Indigofera australis*
Kunzea ambigua	*Lasiopetalum parviflorum*	*Lepidosperma laterale*
Leptospermum trinervium	*Leucopogon juniperinus*	*Leucopogon lanceolatus*
Leucopogon microphyllus	*Leucopogon muticus*	*Lomandra filiformis*
Lomandra longifolia	*Lomatia silaifolia*	*Melaleuca thymifolia*
Microlaeana stipoides	*Microlaeana stipoides*	*Olearia microphylla*
Ozothamnus diosmifolius	*Persoonia linearis*	*Phyllanthus gasstroemii*
Phyllanthus hirtellus	*Pimelea linifolia*	*Plarylobium formosum*
Poa labillardieri	*Poa sieberiana*	*Pomax umbellata*
Pratia purpurascens	*Pultenaea flexilis*	*Pultenaea Villosa*
Siegesbeckia orientalis	*Solanum prinophyllum*	*Sporobolus creber*
Stackhousia muricata	*Stellaria flaccida*	*Styphelia laeta*

Syncarpia glomulifera	*Themeda australis*	*Vernonia cinerea*
Wahlenbergia gracilis		

Not all these species will be present in every single stand, and the total species list from all stands of the community is considerably larger than that listed above. Depending on the disturbance history of a particular site a proportion of the species may be present only in the soil seed bank.

5. Characteristic tree species in SSTF are; *Eucalyptus punctata, Eucalyptus resinifera,* one of the stringybarks *(Eucalyptus globoidea, Eucalyptus eugenioides, Eucalyptus sparsifolia, Eucalyptus agglomerata).* One or more ironbarks *(Eucalyptusfibrosa, Eucalyptus crebra. Eucalyptus paniculata, Eucalyptus beyeriana)* may be locally important.

6. SSTF has an understorey which may be either grassy and herbaceous or of a shrubby nature. In areas that have not been burnt for. an extended period of time the understorey may be dense.

7. Species composition varies between sites depending on geographical location and local conditions (e.g., topography, relative influence of sandstone or shale).

8. SSTF provides habitat for a number of plant species recognised as being of national, state or regional conservation significance in UBBS (1997). These include:

Acacia irrorata	*Acacin leiocalyx*	*Acacia lunata* (formerly part of *A. buxifolia*)
Arthropodium milleflorum	*Bossiaea prostrata*	*Bothriochloa decipiens*
Bothriochloa macra	*Calotis dentex*	*Centaurium spicatum*
Chamaesyce dallachyana	*Cyperus laevis*	*Danthonia racemosa*
Darwinia biflora	*Dichelachne crinita*	*Digitaria ramularis*
Einadia trigonos	*Entolasia stricta var hirsuta*	*Epacris purpurascens var purpurascens*
Eucalyptus globoidea	*Eucalyptus pilularis*	*Eucalyptus squamosa*
Glycine microphylla	*Gompholobium huegelii*	*Gonocarpus longifolius*
Lasiopetalum ferrugineum	*Lepidium pseudohyssopifolium*	*Leucopogon juniperinus*
Leucopogon juniperinus	*Mentha satureioides*	*Oxalis perennans*

Persoonia hirsuta	*Phyllanthus similis*	*Platylobiumformosum*
Polymeria calycina	*Prostanthera incisa*	*Pterostylis saxicola*
Pultenaea scabra var biloba	*Scaevola albida*	*Senecio hispidulus*
Solenogyne bellioides	*Sporobolus creber*	*Stackhousia muricata*
Tetratheca glandulosa	*Thysanotus juncifolius*	*Thysanotus tuberosus*
Viola betonicifolia		

9. SSTF generally occurs on soils derived from **a** shallow shale or clay material overlying sandstone, or where shale-derived materials has washed down over sandstone-derived substrate. Such sites are generally close to the geological boundary between the Wianamatta Shale and the Hawkesbury Sandstone.

10. SSTF occurs on plateaux and hillsides and at the margins of shale cappings over sandstone.

11. Many occurrences of SSTF are as linear stands, which may be as narrow as 20 metres. The small size and scattered distribution of the remnant stands of the community makes provision of a comprehensive map of occurrences impractical. Details of the distribution of many stands are provided in UBBS (1997).

12. Adjacent communities on shale soils are generally Cumberland Plain Woodland. while adjacent communities on sandstone soils are generally part of the Sydney Sandstone Complex ***(sensu*** Benson & Howell 1990).

13. Small areas of SSTF are presently included in only three conservation reserves, Blue Mountains National Park, Cattai National Park and Gulguer Nature Reserve.

14. A large proportion of the area where SSTF occurred in the past has been cleared for agriculture and urban development. Remnants are small and scattered. Identified threats include: clearing, physical damage from recreational activities, rubbish dumping, grazing, mowing and weed invasion.

15. In view of the small size of existing remnants the threat of further clearing and other threatening processes, the Scientific Committee is of the opinion that SSTF in the Sydney Basin Bioregion is likely to

become extinct in nature unless the circumstances and factors threatening its survival cease to operate and that listing as an endangered ecological community is warranted.

Dr Chris Dickman
Chairperson
Scientific Committee

References

UBBS (1997)—Urban Bushland Biodiversity Survey, National Parks and Wildlife Service Benson, D.H. and Howell, J. (1990), Taken for granted: the bushland of Sydney and its suburbs (Kangaroo Press, Kenthurst)