

ACRONYMS

AAV	Aboriginal Affairs Victoria, a division of the Department for Victorian Communities	GIS	Geographic Information System
ABS	Australian Bureau of Statistics	GL	Gigalitres
AIATSIS	Australian Institute of Aboriginal and Torres Strait Islander Studies	GMW	Goulburn–Murray Water
AEMP	Asset Environmental Management Plan (for The Living Murray Icon Sites)	GMZ	General Management Zone in state forests
ANZECC	Australian and New Zealand Environment and Conservation Council	IPCC	Intergovernmental Panel on Climate Change
ARIER	Arthur Rylah Institute for Environmental Research	IUCN	International Union for the Conservation of Nature and Natural Resources now generally referred to as the World Conservation Union
ATSIC	Aboriginal and Torres Strait Islander Commission	JANIS	Joint ANZECC / MCFFA National Forest Policy Statement Implementation Sub-committee
CAR	Comprehensive, Adequate and Representative (conservation reserve systems)	LCC	Land Conservation Council
CD	Census Collection District	LGA	Local Government Area
CFA	Country Fire Authority	LMEWP	Living Murray Environmental Watering Plan
CFI	Continuous Forest Inventory (forest survey plots)	Ma	Millions of years
CMA	Catchment Management Authority	MCMA	Mallee Catchment Management Authority
COAG	Council of Australian Governments	MDB	Murray-Darling Basin
CRG	Community Reference Group for the River Red Gum Forests Investigation	MDBC	Murray-Darling Basin Commission
CSIRO	Commonwealth Scientific and Industrial Research Organisation	MDB-IGA	Murray-Darling Basin Intergovernmental Agreement
DBH	Diameter at breast height	MDBMC	Murray-Darling Basin Ministerial Council
DCE	the former Department of Conservation and Environment	ML	Megalitres
DCFL	the former Department of Conservation, Forests and Lands	MLDRIN	Murray-Lower Darling Rivers Indigenous Nations
DCNR	the former Department of Conservation and Natural Resources	MSS	Municipal Strategic Statement
DEH	Department of Environment and Heritage (Federal Government)	NAP	National Action Plan for Salinity and Water Quality
DHS	Department of Human Services	NCCMA	North Central Catchment Management Authority
DIIRD	Department of Industry Innovation and Regional Development	NECMA	North East Catchment Management Authority
DIPNR	Department of Infrastructure, Planning and Natural Resources (New South Wales)	NHT	Natural Heritage Trust
DNRE	the former Department of Natural Resources and Environment recently split into DPI, DSE and DVC	NNTT	Natural Native Title Tribunal
DOI	Department of Infrastructure	NSW	New South Wales
DOJ	Department of Justice	NTSV	Native Title Services Victoria
DPI	Department of Primary Industries	PPA	Pest Plant and/or Animal
DSE	Department of Sustainability and Environment	PV	Parks Victoria
DVC	Department of Victorian Communities	QLD	Queensland
DWLBC	Department of Water, Land, Biodiversity and Conservation (South Australia)	RCS	Regional Catchment Strategy
ECC	Environment Conservation Council	RFA	Regional Forest Agreement
EPA	Environment Protection Authority	RMW	River Murray Water
ESD	Ecologically Sustainable Development	RRG	River Red Gum
EVC	Ecological Vegetation Class	SA	South Australia
EWA	Environmental Water Allocation	SAMLIV	Strategy for Aboriginal Managed Land In Victoria
EWG	Environmental Watering Group	SAP	Special Area Plan
EWR	Environmental Water Reserve	SEA	Significant Ecological Asset (under The Living Murray initiative)
FFG	Flora and Fauna Guarantee	SES	State Emergency Service
FMA	Forest Management Area	SFRI	State Forests Resource Inventory
FRB	Fuel Reduction Burning	SLA	Statistical Local Area
FSD	First Step Decision	SMZ	Special Management Zone in state forest
GBCMA	Goulburn Broken Catchment Management Authority	SQ	Site Quality (of areas in terms of forest growth capability)
		SPZ	Special Protection Zone in state forest
		TLM	The Living Murray
		TFN	Trust For Nature
		VCMC	Victorian Catchment Management Council
		VEAC	Victorian Environmental Assessment Council
		WUP	Wood Utilisation Plan

GLOSSARY

Adaptive management. Adaptive management is a systematic process of continually improving management policies and practices by learning from the outcomes of operational programs by employing management programs that are designed to compare selected policies and practices, by evaluating alternatives about the system being managed.

Aeolian. Wind blown sediments such as sand dunes.

Aggradation. Accumulation or raised level of sediment across a floodplain, river valley or stream bed.

Alluvial. Deposited by running water.

Anabranch. A secondary channel of a river or stream that leaves the main stream and re-joins it downstream.

Apiculture. The raising and tending of bees for commercial or agricultural purposes.

Aquifer. A rock, gravel or sand layer that holds water and through which water can move.

Aquatard. A rock layer that does not allow the flow of water.

Avulsion. A sudden change in a river course or cut-off of a meander, typically during a flood.

Bankfull. The capacity of a channel without spilling onto the surrounding floodplain.

Bank slumping. The falling or slumping of a riverbank into the river. May occur due to removal of riparian vegetation, erosion or bank destabilisation. The term is often used in connection with slumping resulting from a rapid decrease in river height, in which water drains more quickly from the river than it does from the banks, which then collapse under their own weight.

Bar. Well formed ridge or deposit of sand or gravel in a stream bed.

Barrage. A construction across the mouth of a river that prevents the entry of seawater; freshwater lies upstream of a barrage.

Basalt. Volcanic rock erupted onto the Earth's surface usually from volcanoes. Also known as blue metal when crushed into pebble or cobble size pieces as a construction material.

Baseflow. The sustained flow in a river, not the direct result of runoff from a rainfall event.

Base metals. Minerals extracted for resource use such as copper, lead and zinc.

Bedload. The soil mineral material transported on the bed of a river, usually during flood events, which may come from catchment slopes or channel banks.

Bedrock. Well consolidated rocks typically much older than overlying sequences. Sometimes also called basement.

Bendigo-style gold deposits. Orogenic gold mineralisation linked to the Benambran Orogeny, predominantly deposited along major structures such as the apex of folds (saddle reefs) and fault planes.

Benthic. Living on or near the bottom of a body of water.

Billabong. A backwater channel, often formed by a cut-off river bend, that forms an ox bow lake, lagoon or pool when river levels fall.

Biodiversity. The variety of all life: the different plants, animals and micro-organisms; the genes they contain; and the ecosystems they form. Biodiversity is usually considered at three levels: genetic diversity, species diversity, and ecosystem diversity.

Biodiversity Strategy. Victoria's *Biodiversity Strategy* fulfils commitments in the national *Strategy for the Conservation of Biodiversity* and requirements under the Victorian *Flora and Fauna Guarantee Act 1988*. It details strategic frameworks to prevent further loss of habitat, and a focus for better management of existing habitats and the continuation of natural ecological processes.

Biomass. The weight of living material in a unit volume or area at a given time.

Biolinks. See 'habitat links'.

Bioregion. A region determined by vegetation cover and the earth's physical features and climate.

Biota. All living things, including micro-organisms, plants and animals.

Blue-green algae. Naturally occurring, microscopic, primitive photosynthetic bacteria. Under certain conditions, including high nutrients, warm still water, strong sunlight into the water, they can bloom into a dense and visible growth and may become toxic.

Blue metal. See 'basalt'.

Buffer (strip). Under the terms of the Code of Forest Practices for Timber Production, a protective margin of vegetation abutting a stream, spring, wetland, body of standing water or swampy ground, which protects it from potentially detrimental disturbances in the surrounding forest. Buffer width is defined as the horizontal distance from which various harvesting operations are excluded.

Cap. An upper limit on the amount of water that maybe diverted from a river system for human uses. The most notable being the Cap introduced by the Murray Darling Basin Ministerial Council in 1995 for the entire Murray-Darling Basin.

CaLP Act. *Catchment and Land Protection Act 1994*. This Act establishes ten catchment regions and catchment management authorities across Victoria. Their role is to provide strategic advice on natural resource management through the development of a community based Regional Catchment Strategies.

CAR reserve system. A system of forest reserves established by agreement between Commonwealth, State and Territory governments to provide for biodiversity protection. The system is based on the principles of comprehensiveness, adequacy and representativeness.

Catchment. The area of land drained by a river and its tributaries.

Catchment Management Authority (CMA). Regional statutory authorities established under the *Land and Catchment Protection Act, 1994* and who are

responsible for the strategic planning and coordination of natural resources, including land water and biodiversity within their catchment region. Catchment management authorities also have floodplain management functions under the *Water Act 1989*.

Channel capacity. The volume of water that can pass along the river channel at a certain point and time without spilling over the tops of the banks.

Chert. Hard, fine-grained silicic sedimentary rock, formed by chemical or biological processes sometimes in nodules in other sediments and is known as flint.

Choke or Barmah Choke. A narrow section of the River Murray near Barmah, Victoria, that constrains the flow of the River Murray.

Clastic rock. Any rock or sediment that is composed of particles (clasts). Particle size is not important—examples include sandstone, mudstone and conglomerate.

Code of Forest Practice. A set of principles and minimum standards adopted by Government for the conduct of timber harvesting and associated works on public land in Victoria. The Code aims to ensure that impacts on environment and heritage values are minimised.

Commence to flow. Volume at which flow spills into a channel or wetland. For instance, commence to flow for a wetland is the volume at which water enters the wetland.

Competition. In the context of forest growth, the contest between plants of the same or different species for limited resources, such as water, nutrient and light, producing differential growth.

Connectivity. The extent of connection between the river and its floodplain and from the floodplain back to the river by overbank flows or through flood runners.

Confluence. The place where two or more streams flow together.

Conservation reserve system. The system of reserves based on public land that are managed primarily for nature conservation. This system aims to represent all vegetation types and land systems in permanently protected reserves via dedicated reserves, informal reserves and protection by prescription. In Victoria, the reserve system is generally considered to consist of national, state and wilderness parks, reference areas and nature conservation reserves (including flora, flora and fauna, and non-hunting wildlife reserves).

Conservation status. An assessment of the susceptibility of a biological entity (usually a species or ecological unit such as an ecosystem or vegetation type) to changes in abundance and extinction. In Victoria, the World Conservation Union (IUCN 2000) classification is used to describe the conservation status of vertebrates. In order to qualify for a threatened category, a taxon must meet one or more assessment criteria, based on features such as numbers of individuals and populations, previous or projected declines in numbers or habitat, extent of occurrence, area of occupancy and extreme fluctuations in numbers or habitat. The categories, in

descending level of threat are critically endangered, endangered and vulnerable. Other categories are extinct, near-threatened and data deficient (see Appendices 4 and 5).

Conversion: firewood cubic metres to tonne. 1 m³ of firewood equals about 700 kg (0.7 tonne) oven dry weight (weight would vary with the species and density of the particular sample of wood).

Conversion: railway sleeper volume. Sleepers usually measure 2.7 m x 25 cm x 13 cm, a volume of about 0.09 cubic metres. Eleven sleepers thereby equal about one cubic metre of sawn timber. However, conversion of round logs to sleepers produces waste.

Coupe. An area of forest of variable size, shape and orientation from which logs for sawmilling or other processing are harvested.

Coppice (ing). Regrowth (adventitious) stems originating from dormant buds on the stump or the base of the trunk of a damaged eucalypt; the process of removing coppice (usually to reduce the number of stems on a stump).

‘Country’. Indigenous people regularly refer to the land and natural resources of an area as ‘country’. The land and waters of Australia have sustained Indigenous peoples for many thousands of years. This long occupation has resulted in a profound cultural and spiritual relationship between indigenous people and country.

Crossing timbers. Large, 30 cm x 15 cm, sections in lengths from 2.7 m up to 8 m, used as sleepers to underpin converging or diverging rail tracks, such as at stations and passing places.

Crown land. At the time of European settlement, all lands in Victoria were claimed as Crown land. Crown land is a class of public land that includes unreserved land, land temporarily and permanently reserved under the *Crown Land (Reserves) Act 1978*, state forest within the meaning of the *Forests Act 1958* and park, within the meaning of the *National Parks Act 1975*. It is managed and held in trust by the Government for the benefit of the Victorian community. Crown lands may be licensed or leased or vested. Crown land does not include freehold land whether or not owned by a public authority.

Cultural heritage value. Historic, scientific, social or aesthetic value for past, present or future generations.

DBH (Diameter at breast height). The diameter of a tree trunk at 1.3 m above the ground.

Declared water supply catchment areas. Under the *Catchment and Land Protection Act 1994*, water catchments can be declared as ‘special water supply catchment areas’—a mechanism that identifies the importance of the area for water supply. ‘Special area plans’ can be prepared for such areas to guide land use.

Dedicated reserve. A term used in the CAR reserve system to describe reserves that are equivalent to the IUCN Protected Area Management Categories I, II, III or IV as defined by the International Commission for National Parks and Protected Areas (IUCN 1994) and

have secure tenure that requires action by a Parliament to be revoked. In practice such reserves include natural features reserves (such as bushland reserves and scenic reserves), historic and cultural feature reserves and regional parks, as well as national, state and wilderness parks, reference areas and nature conservation reserves. See also 'informal reserves'.

Deep leads. A miner's term for buried river gravels where mining is needed to win gold. They occur where ancient gold-bearing gravels are buried by younger river gravels, or by basalt flows.

Demographic. The description of communities and their population's social, economic and social characteristics.

De-snagging. The removal of fallen trees and dead branches from a watercourse.

Diversión. Transferral of water from a river, usually into a storage system or for direct use.

Diversión weir. A structure built across a river to enable water flow to be diverted into a water supply system.

Dry Sheep Equivalent (DSE). Level of stock grazing equivalent to a two-year old wether weighing 45 kilograms and maintaining its weight.

ECC – Environment Conservation Council. VEAC's predecessor from 1997 to 2001. See also 'Land Conservation Council (LCC)'.

Ecological Vegetation Classes (EVCs). Components of a vegetation classification system derived from groupings of vegetation communities based on floristic, structural and ecological features (see Appendix 6).

Ecologically Sustainable Development (ESD). Development which aims to meet the needs of Australians today, while conserving our ecosystems for the benefit of future Australians (see Introduction chapter).

Ecology. The study of the interrelationship between living organisms and their environment.

Ecosystem. A community of naturally co-occurring and interacting species and their physical environment in which they live and with which they also interact.

Ecosystem services. The services or benefits humans derive from the interactions of the elements of ecosystems. This might be in the form of production of goods, regeneration of services, stabilising services, life-fulfilling services (e.g., spiritual inspiration) or preservation of options.

Effluent creek. A creek that leaves a watercourse and does not return to it.

Endemic species. Species confined to a particular region or locality.

Environmental Water Entitlement. A water entitlement held by the Victorian Minister for Environment that permits the use of water in a river or storage for a purpose that benefits the environment.

Environmental flows. Any managed river flow pattern provided with the intention of maintaining or improving

river health. These flows ensure that the key chemical, geomorphological, and ecological processes necessary for healthy river ecosystems are kept functioning.

Environmental value. A particular value or use of the environment that is conducive to public welfare, safety or health.

Environmental Water Allocation. An amount of water allocated to the environment under an environmental entitlement.

Environmental Water Reserve. The share of water resources set aside to maintain the environmental values of a water supply system and other water services that are dependent on the environmental condition of the system.

Ephemeral stream. A stream that flows for only short periods and then dries up.

Eutrophication. Excessive levels of aquatic plant growth (including algae) resulting from raised levels of nutrients and other factors.

Evaporation. The process by which atoms or molecules in a liquid state gain sufficient energy to enter the gaseous state.

Evapo-transpiration. The process of water being transpired by vegetation.

Even-aged stand. A forest stand where all or most of the trees are of the same age, that is, they have regenerated from the same event (e.g. a particular flood or fire).

EVC complex. A vegetation unit where two or more EVCs are unable to be distinguished in an area but are known to exist discretely elsewhere.

EVC mosaic. A vegetation unit consisting of two or more discrete EVCs, which were unable to be distinguished in mapping processes because of the scale used.

Exempt Crown land. Crown land which, under the *Mineral Resources Development Act 1990*, is in a public land-use category in which exploration or mining is not permitted. Exempt Crown land includes national, state and wilderness parks, and reference areas. Exceptions to allow mining exist under Section 40 of the *National Parks Act 1975* which provides for the continuance of an exploration or mining licence current at the time the land is declared in one of those public land-use categories.

Exploration licence. A licence under the *Mineral Resources Development Act 1990*, issued by the Minister for Energy and Resources, entitling the holder to carry out exploration on the land covered by the licence, subject to satisfying the criteria for commencement of work.

Extant. Still existing.

Extraction. In the context of water, is where water is taken from rivers or streams for off-stream use or consumption.

Facies. The primary characteristic of a sedimentary rock.

Fault. A fracture in the Earth's crust accompanied by a

displacement of one side of the fracture.

Fold belt. A series of rocks formed during a mountain building tectonic episode or orogeny.

Filter strip. Under the terms of the Code of Forest Practices for Timber Production, a narrow strip of ground retained either side of a drainage line or temporary stream. In the strip, trees may be felled subject to certain conditions and machinery entry is only permitted in certain circumstances.

Fire protection plan. Plans prepared within the context of the Code of Practice for Fire Management on Public Land. They define fire protection strategies adopted to achieve those objectives. Each Fire Protection Plan has four main strategies: wildfire prevention, wildfire preparedness, wildfire suppression and wildfire recovery.

First Step Decision. A decision announced by the Murray–Darling Basin Ministerial Council in November 2003 to address the decline in health of the River Murray system.

Fish ladder or fishway. A structure designed to enable fish to move over a physical barrier (dam or weir) in a waterway.

Flood. Flows that are high enough at their peak to overrun river banks or cause flow through high-level anabranches, floodrunners or to wetlands.

Flood channel. A natural channel in a floodplain, which carries flowing water only during a flood.

Floodplain. Flat land beside a river that is inundated when the river overflows its banks during a flood.

Flora and Fauna Guarantee (FFG) Action Statement. Documents prepared for selected species, ecological communities and potentially threatening processes listed under the *Flora and Fauna Guarantee Act 1988*.

Flow regimes. The spatial and temporal pattern of flows in the main river bed and the floodplain areas surrounding the river. Natural flows refer to a flood regime unaffected by any form of flow modification. Regulated flow refers to artificial control of dams, weirs, diversions or other structures or practices.

Fluvial. A geomorphic process whereby sediments are transported and deposited by flowing water.

Forest. Vegetation formation with the tallest stratum comprising trees which project a foliage cover for greater than 30 percent of the site (cf. woodland).

Forest management area (FMA) plan. A plan developed to address the full range of values and uses in state forest, including nature conservation and timber production. There are 14 forest management areas in Victoria, and a plan is produced for each FMA.

Forest structure. The main physical features of the forest—such as the density and height of vegetation layers (e.g. canopy, shrub layer, ground layer), and size and density of trees.

Fresh. A flow pulse in a river which is higher than the median flow at that time of the year. It may occur naturally or be the result of a decision to release water

from a reservoir. A fresh can occur at any time of year. Also known as flush.

Fuel reduction burning (FRB). The use of low intensity fires as a management tool to remove the more flammable fuel from parts of forests and parks, with the purpose of reducing flame height, fire intensity and slower spreading patterns of any potential bushfire and making firefighting easier.

Geographic Information System (GIS). A system which holds spatially referenced data which can be classified, overlaid, analysed and presented in map, tabular or graphic form.

Geomorphology. The study of the arrangement and form of the Earth's crust and of the relationship between these physical features and the geologic structures beneath.

Geomorphological. Pertaining to the development of present landforms and the history of changes in the earth's structure as recorded by surface features.

Gigalitres. A measurement of water equivalent to one billion litres.

Glauconitic. Sediments containing a greenish micaceous mineral (glauconite).

Golden Triangle. Area of western and central Victoria encompassing the rich gold fields between Bendigo, Ballarat and Stawell.

Grey water. Household (including caravan and houseboat) water which has not been contaminated by toilet discharge and includes water from bathtubs, dishwashing machines, clothes washing machines and kitchen sinks.

Groundwater. Underground water filling the voids in rocks, often between mineral grains in sedimentary rocks. Water in the zone of saturation in the Earth's crust.

Group selection system. An uneven-aged silvicultural system, involving the felling of all trees in small patches (or groups) at intervals (generally every 10–15 years) over the rotation. The gaps created are scattered over the coupe. Gap size is usually no more than about two tree heights in diameter, so that seedfall from surrounding trees can be used to regenerate the gap. Deliberate seedbed preparation is generally required, involving soil disturbance or burning of slash.

Geographic Representation Units (GRU). Subdivisions created to help analyse the distribution of the reservation system across the region and the degree to which values are represented in that reserve system.

Gypsum/Gypseous. Mineral derived from evaporation of salty water ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$).

Habitat. The place or environment in which an organism naturally occurs.

Habitat links. Areas of often linear remnant or planted vegetation that connect two or more patches of vegetation. These links may be continuous or discontinuous strips and patches of vegetation. Often referred to as corridors.

Headwaters. The small streams on the higher ground of a catchment, which flow into a river.

Heavy mineral sands. Sediments that contain economic concentrations of heavy minerals such as ilmenite, rutile and zircon rich in the elements titanium and zirconium.

Heritage. All those things which we have inherited from previous generations and which we value. Heritage includes places, things (movable objects) and folklore (customs, songs and sayings).

Heritage River. Rivers or reaches of rivers designated under the *Heritage Rivers Act 1992*, managed primarily to protect their significant nature conservation, recreation, scenic or cultural heritage values.

Hinterland. The area within the sphere of influence of a large town, city, river or coastline.

Human settlement and patterns. Where and how people live and work in rural areas, towns and cities.

Hydraulic. Refers to the local dynamic aspects of flow, usually measured in terms of shear stress, water depth, flow velocity.

Hydrological system. Includes streams, wetlands, billabongs, floodplains, swamps, ground water recharge areas, ephemeral lakes, estuaries and the sea.

Hydrology. The science that deals with surface and groundwaters of the earth; their occurrence, circulation and distribution; their chemical and physical properties and their reaction with the environment.

Hydrological system. This includes streams, wetlands, billabongs, floodplains, swamps, groundwater recharge areas, ephemeral lakes, estuaries and the sea.

Igneous. Rock formed from crystallisation of molten magma either slowly at depth (granite) or rapidly at the surface (basalt, rhyolite).

Indigenous vegetation. Vegetation native to a particular location.

Industrial minerals. Minerals such as gypsum and clay that are largely used for construction and industrial purposes.

Informal reserve. A term used in the CAR reserve system to describe areas clearly identified in management plans suitable for and set aside for conservation purposes. See also 'dedicated reserves'.

Interpretation. Information, signage, nature trails and guided nature walks, aimed at providing insight and awareness of natural features, ecological systems, cultural heritage, and park management.

Introduced species. Species of plants or animals that are not native to Australia (also referred to as exotic or alien species).

Indigenous vegetation. Vegetation native to a specific location.

Inundation. To cover with water, usually by the process of flooding.

JANIS criteria. Criteria defined by the Joint ANZECC/MCFFA National Forest Policy Statement

Implementation Sub-committee for the establishment of the CAR system of forest reserves (see chapter 10).

Lacustrine. Pertaining to a lake; sediment formed at the base of a lake; organisms living or growing in a lake.

LCC – Land Conservation Council. VEAC's predecessor from 1971 to 1997. See also 'Environment Conservation Council (ECC)'.

Levee. A natural levee is a deposit of alluvium, which is raised above the general level of the banks of a stream and its floodplain. Man-made levees may be constructed along the course of a river or stream in order to contain flood waters.

Lignotuber. A woody swelling, partly or wholly underground at the base of the stem of many eucalypts. It is composed of food reserves and dormant shoots that can emerge for survival if the plant's aerial parts are destroyed.

Lithology. A physical characteristic of a rock formation or stratigraphic unit.

Lock. A rectangle chamber of concrete within a river with gates each end that enables boats to move from one water level to another.

Long-term sustainable yield. The theoretical rate of harvest that can be maintained in perpetuity; i.e. when the condition of the available forest is equal to the theoretical yield of the normal forest. It is a general goal for forest managers to work towards (cf sustainable yield).

Lunette. Crescent or semicircular shaped aeolian deposits of fine sediment located on the eastern (or lee) side of lake beds or playas in semi-arid areas.

Marls. A marine sediment consisting of calcareous mudstone.

Mature forest. Forest stands and/or individual trees where the tree crowns are well foliated and rounded. Trees have reached maximum height and crowns have reached full lateral development. Branch thickening can occur. The height and crown development of the trees has effectively ceased (compared with regrowth) but decline of the crown (loss of limbs, development of epicormic growth) has not yet significantly begun (as in the senescent or over-mature growth stage).

Meander. A curve in the course of a river, always present in a series.

Megalitre (ML). One million litres (one Olympic sized swimming pool is approximately 2 ML).

Merchantable. Used to describe trees suitable for processing into forest produce and for which a market exists.

Micaceous. Containing mica minerals.

Mineral sands. See 'Heavy mineral sands'.

Mining licence. A licence under the *Mineral Resources Development Act 1990*, issued by the Minister for Energy and Resources, entitling the holder to carry out exploration and mining on the land covered by the licence, subject to receiving an authority to commence work.

National Water Initiative. The Council of Australian Governments (29 August 2003) agreed to the establishment of a National Water Initiative to improve the security of water entitlements for ecosystem health and consumptive uses through expanding water trading practices, encouraging water conservation in cities, and improvements in irrigation practices.

Natural flow regime. The likely pattern of water flow before European settlement in Australia. Natural flow regime refers to the flow patterns without any regulation or water extraction.

Oceanic arc. A volcanic arc situated in an ocean setting. Indonesia is a modern example.

Old-growth forest. Forest that contains significant amounts of its oldest growth stage in the upper stratum—usually aging trees—and which has been not been disturbed or, only experienced disturbance the effect of which is now negligible.

Orogeny. A major mountain-building event.

Overmature. See 'senescent'.

Overwood. Trees left after harvesting that compete with regeneration for light, water and nutrients (may include trees retained for habitat or seed supply and unmerchantable trees).

Peri-urban. Low density development on the edge of urban areas. It is characterised by a mixture of rural and residential land uses and may be the location of commuters who live in a rural setting while travelling to work in the nearby urban centre.

Phytoplankton. Plant plankton, usually algae.

Planform. A bird's eye view of a river channel. In other words, the shape of a river from the air or as seen on a map.

Playa. A shallow, salty desert lake. May be predominantly dry and hold water only after prolonged or heavy rain.

Point bar. Deposit of sand or gravel on the inside of a meander or river bend.

POMA – Powerful Owl Management Area. Designated areas containing suitable habitat for powerful owls based on confirmed records of breeding sites, roosts and sightings.

Pool. A body of water in a river that is relatively deep and slow moving.

Pool-riffle morphology. A type of three dimensional stream bed morphology characterised by fairly regularly-spaced alternating pool and riffles. Not all streams have this morphology.

Porphyry. Igneous intrusive rock consisting of a fine grained matrix with larger crystals.

Potentially Threatening Process. A process that has the potential to pose a significant threat to flora or fauna and is listed under the *Flora and Fauna Guarantee Act 1988*. The Commonwealth equivalent is a Key Threatening Process.

Precautionary principle. The principle that the lack of scientific certainty should not be the reason to postpone preventative measures to avert threats of serious or irreversible damage.

Pre-1750 EVC. The extent of an ecological vegetation class (EVC) prior to the year 1750 as defined by existing vegetation supplemented by predictions and modelling of vegetation that has been cleared since European settlement.

Prior stream. The course of a former stream responsible for the nearby sediments that did not carry water other than local drainage. A low ridge built up from materials deposited by stream flow along a former stream channel.

Prospecting. The use of metal detectors, hand tools, pans or simple sluices to search for minerals, such as gold and gemstones.

Protected area. Park or reserve with the primary aim of biodiversity conservation.

Public land. Under the *Victorian Environmental Assessment Council Act 2000* public land refers to (a) any unalienated land of the Crown, including land temporarily or permanently reserved under the *Crown Land (Reserves) Act 1978*; (b) state forest within the meaning of the *Forests Act 1958*; (c) park, within the meaning of the *National Parks Act 1975*; (d) land under the ownership or control of Melbourne Parks and Waterways, established under the *Water Industry Act 1994*; (e) land vested in any public authority, other than—(i) a municipal council; or (ii) an Authority under the *Water Act 1989*, to the extent that the land vested in the Authority is within a sewerage district listed in column 3 of Schedule 12 of that Act.

Public land use categories. A classification of public lands into major land-use categories such as parks, nature conservation reserves, state forest and so forth. Each land-use category in essence defines the primary purpose of the land. For many of the land-use categories a range of additional purposes are also defined. Each land-use category is generally subject to particular legislation and management arrangements (see chapter 9).

Pugging. The compaction and rutting of soil through trampling by hard-hoofed animals, particularly during wet conditions, leading to reduced water infiltration into soils and damage to plants.

Rain rejection flows/floods. Water that is ordered but not used because rain subsequently falls. Currently this water is not debited on the water-user's account.

Ramsar convention. Lists of wetlands of international importance. To be placed on the register a wetland has to fulfil certain criteria such as being important to the survival of migratory birds or endangered animals and plant species.

Ramsar site. A wetland of international significance under the Ramsar Convention.

Reach. A relatively homogenous section of a river.

Recharge. Water that infiltrates through the soil surface to the watertable.

Regeneration (noun). The young regrowth of forest plants following disturbance of the forest such as timber harvesting or fire includes juvenile and sapling stages where the tree is very small and the crown exhibits apical dominance.

Regeneration (verb). The renewal of forest by natural or artificial means.

Regime. For water, the prevailing pattern of flows.

Regional Forest Agreement (RFA). An agreement between the Commonwealth and a State or Territory Government, for the long-term management and use of forests in a particular region.

Regional water authority. Statutory authority responsible for supplying water primarily to urban consumers and the disposal of waste-water from towns.

Regrowth. (a) a forest stand regenerated either naturally or by seeding following death or removal of the forest overstorey; (b) a growth stage of a forest stand or individual tree in which the tree is actively growing, has a well developed stem with crown and a narrow conical form of small branches, but is below the maximum height for the stand. Apical dominance is apparent in vigorous trees.

Regulated river/stream. Controlled flows within a river system resulting from the influence of a regulating structure such as weir or dam.

Regulator. Structural works that control water flow.

Residual logs. Produced as a by-product of sawlog harvesting and regrowth management operations. Comprises a log too small to meet sawlog or sleeper specifications or may meet sawlog specifications for size but with greater than 50 percent defect. Includes low quality logs suitable for conversion into sawn products or those unsuitable for sawing, such as firewood or pulpwood. Utilised for a variety of products where short lengths are suitable and the appearance and strength of the timber are less important. May be harvested under annual licence or tender from areas not required for production of commercial and domestic firewood.

Restricted Crown land. Land owned by the Crown upon which, under the *Mineral Resources Development Act 1990*, any exploration or mining requires the consent of the Minister for Environment; includes nature conservation reserves, regional parks and natural features reserves.

Retained trees. Trees retained on a coupe during harvesting operations to provide habitat for wildlife, or to grow on after thinning.

Riffle. A shallow area of a river in which water flows rapidly over stones or gravel.

Rill erosion. The development of numerous minute closely spaced channels resulting from the uneven removal of surface soil by running water.

Riparian. The area of land along the bank of a river or stream.

Riparian rights. The rights to water use possessed by a person owning land containing or bordering a water course or lake.

Riverine. Relating to a river.

Salinity. A measure of the total soluble salts in a soil. A saline soil is one with an accumulation of free salts at the soil surface and/or within the profile affecting plant growth and/or land use. It is generally attributed to changes in land use or natural changes in drainage or climate, which affects the movement of water through the landscape. Salinity levels of soil or water can be tested using Electrical Conductivity (EC). The concentration of various salts dissolved in a volume of water or soil.

Sediment load. The mass of sediment transported past a point in a river over a given time period.

Senescent. A growth stage of a forest stand or individual tree that is characterised by declining crown leaf area and crown diameter and irregular crown shape due to the loss of branches and epicormic growth. This term is interchangeable with overmature or veteran in timber-production terms, but from a nature conservation point-of-view the tree is regarded as a large old (habitat) tree.

Shales. Sedimentary rocks formed from muds and clays, usually with fine even layers.

Significant ecological asset (SEA). These assets are selected for their regional, national and international importance because of their ecological values, and the belief that they are at risk of ongoing environmental degradation because of changes in water flow regimes because of river regulation. The six significant environmental assets are: Barmah-Millewa Forest, Gunbower and Koondrook-Perricoota Forests, Hattah Lakes, Chowilla Floodplain, Murray Mouth, Coorong and Lower Lakes and the River Murray Channel.

Siltation. The process of deposition of material which can be clay, silt, or sand-sized material on the base of a river or lake.

Siltstones. Similar to mudstones but composed of slightly coarser grade of sediment.

Silviculture. The theory and practice of managing forest establishment, composition and growth, to achieve specified objectives (a harvesting and regeneration system).

Silvicultural system. A planned program of forest management that includes tending, harvesting and regeneration.

Site quality. A measure of the growth potential of a forest site (as determined by soils and climate). Often expressed in terms of the dominant height of trees at a particular age.

Snag. Large woody debris in rivers that impacts on human use of rivers. Provides habitat for plants and animals.

Source bordering dune. Sand and clay rich dunes formed on the downwind side of sandbars or wide river channels during dry or low water periods.

Southern 80. An annual high speed water-ski race held on the River Murray between Torrumbarry and Echuca.

Special area plan (SAP). A plan developed under the *Catchment and Land Protection Act 1994* that details specific conditions on land-use and land management practices. To date most Special Area Plans deal with land-use in declared water supply catchments.

Special Management Zone (in FMA plans).

Delineates an area that is managed to maintain specified values, such as flora and fauna habitat or catchment values, while catering for timber production under certain conditions.

Special Protection Zone (in FMA plans). Delineates an area that is managed for the conservation of natural or cultural values and where timber harvesting is excluded. It forms part of a network designed to link and complement conservation reserves. An informal reserve.

Species. A group of similar organisms generally capable of interbreeding only with each other to produce fertile offspring. For clarity, the term 'species' is frequently used in this Discussion Paper when, technically, 'taxon' or 'taxa' (see below) would more accurately.

Stand. A group of trees in a forest that can be distinguished from other groups by their age, species composition and condition.

Stand condition. The health, age and size-class distribution and stocking of a forest stand.

Statistical Local Area. A subdivision of a municipality used by the Australian Bureau of Statistics for the purposes of collection and analysis of census data.

Stratification. Distinct layers of water in a dam or weir pool, formed when there is little movement to cause intermixing, usually in summer when deeper layers of water become cold and deoxygenated.

Stressed river. An evaluation approach used in the assessment of appropriate management strategies for water allocation and flow management in uncontrolled streams. A classification based on environmental and water-use criteria, hence a stressed river is one that has high levels of water diverted and is often associated with declining water quality and biodiversity.

Stocking. Density of any given forest stand, usually expressed in terms of the number of trees per hectare.

Surface water. Water on the surface of the land, for example in rivers, creeks, lakes and dams.

Sustainable yield. Rate of harvest of timber that can be maintained for a defined period. This figure may increase in the future if the condition of the forest is improved but should not decrease except in the case of a catastrophic event such as fire (cf long-term sustainable yield).

Swale. A long, narrow trough or depression, often between sand dunes or ridges. May be a marsh or swamp when the depression carries water.

Taxon (plural: taxa). The named classification unit to which individuals or sets of species are assigned, such as subspecies, species, genus or family.

Terrane. Sections of rock with different geological histories that come together as a single landmass,

typically during orogenesis as fold belts.

Terrestrial. On land, pertaining to the earth and its dry land.

Timber production. Growing and harvesting of timber from native forests.

Thinning. The removal of a proportion of trees from a (usually even-aged) stand, with the aim of increasing the growth rate and/or health of the retained trees. No regeneration is required or implied.

Threatened community. An ecological association of plants and/or animals interacting within a common environment that is listed as threatened under the Victorian *Flora and Fauna Guarantee Act 1988* or Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

Threatened species. A term for a plant or animal generally listed under the *Flora and Fauna Guarantee Act 1988* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. Species may be further categorised depending on the level of threat (e.g. critically endangered, endangered, vulnerable). Species may also be classed as near threatened when they are close to qualifying for a threatened category, or data deficient when it is believed a species should be in a threatened category but sufficient data to make an assessment is lacking (see Appendices 4 and 5).

Tributary. A creek or river flowing into a larger river.

Trigger. In relation to water, triggers relate to when a flow of a particular size and duration is likely to initiate part or all of an ecological response to the environmental flow.

Turbidity. A measure of the light scattering properties of water, indicating how much silt, algae and other material is suspended in water. Highly turbid water looks muddy.

Ultra-mafic (also ultrabasic). Igneous rocks that consist mostly of iron, magnesium and chromium minerals and virtually no quartz or feldspars.

Uneven-aged (forest or stand). Forest or stand which contains a continuum of age classes resulting from more or less continuous regeneration over a number of years.

Unrestricted Crown land. Land owned by the Crown that, under the *Mineral Resources Development Act 1990*, can generally be prospected, explored or mined, but over which conditions may apply.

Veteran tree. Formerly used to describe a tree more or less at the senescent stage of growth.

Visitor days. Accumulated number of visits to a site including overnight stays.

Volcanogenic. Sediment derived in part from volcanic material.

Wake boarding. A sport similar to water-skiing based on a down-sized board, similar to a surf board. The rider is towed behind a boat and attempts to do tricks such as jumps and flips using the wake of the boat.

Water entitlement. The volume of water authorised to be taken and used by an irrigator or water authority.

Water entitlements include bulk entitlements, environmental entitlements, water rights, sales water, surface water and groundwater licences.

Water right. Rights to water held by irrigators in an irrigation district.

Watertable. The upper surface of a groundwater body.

Weir. A structure that transverses the river to regulate water flow and provide a relatively constant pool level to facilitate pumping or gravity feeding for irrigation and water supply purposes.

Weir pool. The water held back by a weir, forming a still pool.

Wetland. The Ramsar Convention has adopted the following definition of wetlands: *areas of marsh, fen, peatland, or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water at the depth of water at low tide does not exceed six metres.* It includes the community of plants and animals that lives in it.

World Conservation Union (IUCN). The World Conservation Union was created in 1948. It is the world's largest conservation-related organisation and brings together 76 states, 111 government agencies as well as a large number of non-government organisations, and some 10,000 scientists and experts, from 181 countries. Through various programs it supports the conservation of natural heritage—for instance the work of the IUCN World Commission on Protected Areas aims to promote the establishment and effective management of a worldwide, representative network of terrestrial and marine protected areas.

Yorta Yorta Co-operative Management Agreement. A formal agreement between Yorta Yorta Nation Aboriginal Corporation and the State of Victoria relating to management of Crown land and waters over a total area of approximately 50,000 ha in northern Victoria.

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APPENDIX 1: River Red Gum Forests Investigation Community Reference Group

River Red Gum Forests Investigation Government Contact Group	
Contact Person	Organisation
Ian Lobban	Victorian Farmers' Federation
Louise Anderson	Goulburn Valley Environment Group
Paul Madden	Victorian Association of Forest Industries
Euan Moore	Birds Australia
Faye Ashwin	Timber Communities Australia
Trevor Shard	Minerals Councils of Australia (Victorian Division)
Kelvin Trickey	Barmah Forest Cattlemen's Association
Stan Vale	Barmah Forest Preservation League
Rod Orr	Environment Victoria
Nick Roberts	Victorian National Parks Association
Nicholas Hunt	Tourism Alliance, Victoria
Steve Robertson	Federation of Victorian Walking Clubs (VicWalk)
Debbie Warne	Horse Riding Clubs Association of Victoria
Peter Ellard ¹	Australian Motorcycle Trail Riders Association
John Corbett	VRFish
Colin Wood	Sporting Shooters' Association of Victoria
Audrey Dickens ²	Bush Users' Group Victoria
Ian Cook	Confederation of Australian Motor Sport, Victoria
Zac Powell	Four Wheel Drive Victoria
Cr Neville Goulding	Gannawarra Shire Council
Cr Tom Crouch	Mildura Shire Council
Cr David McKenzie	Moir Shire Council
Cr Neil Repacholi	Shire of Campaspe
Joe Blake	Friends of Nyah Vinifera Forest
Rachel Rogers	Country Fire Authority
Wayne Webster	Murray Lower Darling Rivers Indigenous Nations

¹ until 1 September 2006

² until 25 August 2006

APPENDIX 2: River Red Gum Forests Investigation Government Contact Group

River Red Gum Forests Investigation Government Contact Group	
Contact Person	Organisation
Mr Pat Groenhout	VicForests
Mr Graeme Davis	Parks Victoria
Ms Chris White	Tourism Victoria
Ms Sharon MacDonnell	VicRoads
Mr Trent Wallis	Mallee Catchment Management Authority
Mr Jon Leever (Ms Emer Campbell)	North Central Catchment Management Authority
Mr Keith Ward	Goulburn-Broken Catchment Management Authority
Mr Geoff Robinson	North-East Catchment Management Authority
Mr Owen Russell	Lower Murray Urban & Rural Water Authority
Mr Nigel Binney	Grampians Wimmera Mallee Water Authority
Mr Pat Feehan	Goulburn-Murray Rural Water
Ms Sally-Anne Mason	Coliban Water
Mr Ken Ellis	Goulburn Valley Water
Mr Pat Feehan	Goulburn-Murray Water
Mr Aleksy Bogusiak	North East Water
Mr Brian Walsh	Regional Development Victoria, Department of Innovation, Industry & Regional Development
Mr Stewart Simmons	Aboriginal Affairs Victoria, Department for Victorian Communities
Dr Tim Cleary	Department of Primary Industries
Dr Ian Mansergh	Department of Sustainability & Environment
Ms Cathryn Pilioussis	Department of Sustainability & Environment
Mr Bernie Young	Department of Sustainability & Environment
Mr Mark Riley	Department of Sustainability & Environment
Dr Jane Doolan	Department of Sustainability & Environment
Mr Ian Miles	Department of Sustainability & Environment
Mr David Harvey	Department of Sustainability & Environment
Ms Joan Phillips*	Department of Sustainability & Environment
Mr Clive Smith	Department of Sustainability & Environment
Mr Mark O'Brien	Department of Sustainability & Environment
Ms Judy Goode	Department for Water, Land & Biodiversity (SA)
Ms Merridie Martin	Department of Environment & Heritage (SA)
Mr Michael Davis	Department of Infrastructure Planning & Natural Resources (NSW)
Mr Paul Packard (Michael Penny)	Department of Environment & Conservation (NSW)
Mr Mark Siebentritt	Murray-Darling Basin Commission (Cwth)
Ms Deb Callister	Department of Environment and Heritage (Cwth)

* until June 2006

APPENDIX 3: List of Submissions received in response to the Notice of Investigation

Organisation	Contact	Sub. No.
Arbuthnot Sawmills	Mr Paul Madden	271
Archard Laser & Hydraulics	The Manager	41
Australian Conservation Foundation	Dr Arlene Buchan	44
Australian Motorcycle Trail Riders Association	Mr Peter Ellard	3
Barham Koondrook Garden Club	Ms Lyn Smith	503
Barham Koondrook Historical Society	Ms Rhonda Frankling	544
Barham Progress Association Inc.	Ms Joy Eagle	15
Barmah Forest Cattlemen's Association Inc.	Mr Kelvin Trickey	364
Barmah Forest Preservation League	Mr Stan Vale	404
Benalla District Environment Group	Ms Christine Holmes	98
Bird Observers Club of Australia, Murray-Goulburn Branch	Mr Gary Deayton	339
Birds Australia, Victorian Regional Group	Mr Euan Moore	13
Bush Users Group, Indigo Region	Ms Win Morgan	384
Bush Users Group Victoria Inc.	Mr Bob Richardson	373
Central Murray Apiaries	Mr Peter Pigdon	14
Cohuna & District Progress Association Inc.	Mr Greg Peace	526
Cohuna Joinery & Building Supplies	Mr Alan Fletcher	177
Cohuna Trail Riding Club	Ms Audrey Dickins	81
Cohuna Uniting Church Shared Ministry Team	Ms Hazel Radley	541
Confederation of Australian Motor Sport, Victoria	Mr Gary Grant	523
Conservation Council of South Australia	Mr Peter Owen	200
Construction Material Processors' Association	Mr Grant Phillips	454
Daylesford Anglers Club	Mr Dale Whitehouse	524
Department of Infrastructure	Mr John Robinson	170
Ecosurveys Pty Ltd	Mr Rick Webster	95
Environment Victoria Inc.	Ms Sue Phillips	432
Federation of Victorian Walking Clubs (VicWalk) Inc.	Mr Steve Robertson	391
Field & Game Australia Inc.	Mr Rod Drew	456
Forest Action Trust	Ms Lauren Caulfield	428
Four Wheel Drive Victoria	Mr Barry Chare	460
Friends of Nyah Vinifera Forest Inc.	Mr John O'Bree	434
Friends of the Box-Ironbark Forests, Mount Alexander Region	Mr Bernard Slattery	340
Friends of the Earth	Mr Jonathon La Nauze	261
Gannawarra Shire Council, Kerang	Mr Des Bilske	525
Gondwana Canoe Hire Pty Ltd	Ms Lyn O'Brien	267
Goulburn Broken Catchment Management Authority	Mr Bill O'Kane	366
Goulburn Valley Environment Group	Dr Doug Robinson	199
Happy Horses Hoofcare	Ms Audrey Dickins	82
Institute of Foresters of Australia	Mr Ross Penny	398
J. & G. Coulter Pty Ltd	Ms Jeanette Coulter	389
Kerang & District Assembly of God Church Inc.	Ps Allan Jakobi	70
Kerang Environment Study Centre	Mr George Hardwick	537
Kingston Conservation & Environment Coalition Inc.	Mr Bill Hampel	310
Kyabram Field and Game	Mr Graham Jamison	399
Leitchville Bunyip Sporting Club	Mr L.J. Taylor	362
Mallee Catchment Management Authority	Mr Trent Wallis	435
Melbourne Bushwalkers Inc.	Mr Rod Novak	358

Organisation	Contact	Sub. No.
Mid Murray Landcare Network	Mr David Ellemor	57
Mid Northern Association of Angling Clubs Inc.	Mr Rob Loats	54
Mildura Rural City Council	Mr Phil Pearce	506
Minerals Council of Australia, Victorian Division	Mr Chris Fraser	314
Minister for Aboriginal Affairs	The Hon Mr Gavin Jennings MLC	79
Murrabit Advancement Association Inc.	Mr Stephen O'Donoghue	505
Murrabit Riding Club Inc.	Ms Jeanette Coulter	388
Murray Darling Association Inc.	Mr Adrian Wells	19
Murray Lower Darling Rivers Indigenous Nations	Mr Steven Ross	431
Murray River Horse Trails	Mr Graeme Padget & Ms Debbie Jackson	216
The Myer Foundation	Ms Christine Fraser	430
Nathalia Fire Brigades Group	Mr Phil Hawkey	85
National Association of Forest Industries		4711
National Parks Association of New South Wales	Ms Jacquie Kelly	421
Nature Conservation Council of NSW	Ms Madeline Hourihan	169
New South Wales Forest Products Association		4711
North Central Catchment Management Authority	Mr Gavin Hanlon	439
North-Eastern Apiarists' Association	Ms Elwyne Papworth	474
Plantations North East Incorporated	Mr Bernard Young	443
Prospectors & Miners Association of Victoria	Ms Rita Bentley	319
River Country Adventours	Mr Rob Asplin	74
River Redgum Furniture	Mr Dean Attwell & Mr Wayne Hall	370
Ryan & McNulty Sawmills	Mr Greg McNulty	313
Shepparton Adult Riding Club	Mr Chris Flynn	392
Shire of Campaspe	Mr Wayne Harvey	365
Sporting Shooters' Association of Australia (Victoria) Ltd	Mr Philip Brown	320
Sunraysia Bird Observers' Club	Ms Pauline Bartels	181
Surveyor-General Victoria	Mr David Boyle	24
Swan Hill Rural City Council	Cr Bruce Jones	348
The Timber Benders	Ms Sue Ewart	419
Timber Communities Australia	Mr Ray Hill	180
Timber Communities Australia, Central Murray Red Gum Branch	Ms Faye Ashwin	322
Timber Communities Australia, Victorian State Office	Ms Kersten Gentle	4711
Trust For Nature (Vic)	Dr Chris Williams	385
Victorian Association of Forest Industries	Mr Pat Wilson	4711
Victorian Farmers Federation, Nathalia Picola Branch	Mr Tom Tinkler	344
Victorian Farmers Federation, St James-Devenish Branch (incorporating Broken Boosey Landholders Group)	Ms Kathy Beattie	381
Victorian Forest Health Advisory Committee	Mr Ian Smith	451
Victorian National Parks Association	Mr Nick Roberts	311
Victorian Piscatorial Council Inc	Mr George Hardwick	217
Wangaratta Rural City Council	Ms Karen Jones	472
Wangaratta Urban Landcare Group	Ms Helen Curtis	16
Waterkeepers Australia	Mr Greg Hunt	120
Wildlife Profiles	Mr Peter Robertson	4
Yalca-Yielima Rural Fire Brigade	The Secretary	407
Yorta Yorta Nation Aboriginal Corporation; Council of Elders Yorta Yorta Nation	Ms Monica Morgan; Mr Henry Atkinson	450

¹ joint submission

Name	Sub. No.	Name	Sub. No.
Mr Ian Adams	436	Mr Andrew Butcher	253
Mr Leigh Ahern	134	Ms Sophie Butcher	251
M- Chris Allen	420	Ms Penny Byrne	368
Mr Ron & Mrs Margaret Armstrong	130	Mrs Gwen Calder	521
Mrs M.E. Ash	547	Mr Bruce Calder	530
Ms Lyndall Ash	208	Mr Brad Caldwell	369
Mr Roger Ashburner	466	Ms Helen Caldwell	393
Ms Faye Ashwin	455	Mr Pierre Call	417
Dr Wayne Atkinson	168	Mr John Cameron	26
M- J. Augello	84	Mr Douglas & Mrs Joan Campbell	376
M- Neylan Aykut	445	Mr Anthony Carroll	214
Mr Max & Mrs Belinda Baker	520	Ms Lisa Carter	515
Mr Jock & Mrs Lorna Bartram	176	Mr John & Mrs Barbara Caven	329
Mr John Bat	78	M- J. Chalmers	534
Ms Beth Batt	350	Mr Luke Chamberlain	187
Mr Matt Batten	467	Mr Michael Chew	295
M- M.L. Baxter	349	M- Childs	148
Mr Darren Beattie	542	Mr Wayne Church	514
Mr John Bentley	202	Ms Mary Cilli	418
M- E. Bergmeier	299	Ms Barbary Clarke	390
Mr Geoff Berry	77	Ms Nicole Cleary	236
Ms Linda Bester	437	Mr Craig & Mr John Cleave	546
Mr David Beyer	441	Mr Steve Collett	491
Ms Julia Bielak	107	Mrs E.M. Colman	528
Ms Laura Billings	263	Ms Elizabeth Cook	301
Ms Deanne Bird	111	M- E. Coppings	414
Ms Rhiannon Bogaert	240	Mr Walter Cordes	363
Ms Annie Bolitho	429	Ms Rleena Cordes	531
Mr Frank Bolton	6	Mr David Corke	510
Mrs Eleanor Bolza	39	Ms Tarryn Corkery-Lavender	219
Mr Greg & Mrs Kathleen Botterill	461	Miss Frances Corry	309
Mr Darcy Botterill	382	Ms Esther Costa	354
Ms Laura Botterill	383	Ms Brigid Cowling	532
Mr Mark Boulet	75	Ms Courtney Cox	37
Mr John Bowen	94	Mr Don Crichton	131
Ms Cara Bramich	136	M- M. Curtis	272
Ms Edwina Breitzke	30	Mr Darryl Curwood	164
Mr Owen & family Brew	336	Mr Peter Dale	278
Mr Darren & Ms Margie Briggs	63	Ms Lesley Dalziel	315
Mr John Brissett	112	Mr Geoffrey Davey	495
Mr William Broen	298	Mr Barry & Mrs Faye Davis	161
M- S.C. Brown	191	M- Chris Dawson	463
M- V. Brown	194	M- J.G. Dawson	233
Mr Robert & Mrs Dorothy Brown	453	M- Chic Dee	508
M- P.J. Brown	189	Ms Julia Dehm	88
M- M.E. Brown	190	Mr Jack Delaney	345
M- D. Brown	192	Mr Frank Di Mascolo	104
M- E.S. Brown	193	Mr James Donald	283
Mr Terry & Jerry Browning	380	Ms Tanya Doran	139
Ms Ann Buik	55	Mr Malcolm Dow & Ms Elinor Knappert	197
Mr Tony Bui	246	Mr Jason Doyle	470
Ms Georgie Burns-Williamson	377	M- Duggan	154

Name	Sub. No.	Name	Sub. No.
M- Duggan	155	Mr Ian Harris	328
M- J.M. Duggan	144	M- G.C. Harrisen	302
Ms Jennifer Duke	241	Mr Barry & Mrs Heather Harvey	7
Ms Lorna Dunn	10	Mr James Hattam	326
Mr Neil Eagle	195	Mr John Hay	173
Ms Melissa Eastham	80	Mr Julian Hay	125
Mr John Eberbach	427	Ms Ashley & Ms Linda Hazelman	215
Mr Victor Eddy	101	Mr Jason & Mrs Lorelle Heap	447
Mr Rodney & Mrs Sandy Edwards	27	Mr Gary & Mrs Carole Heap	448
Mr Peter Ellard	317	Mr Soc Hedditch	91
Mr Michael & Ms Lara English	452	Ms Julia Hempel	296
M- Falahey	185	Mr Greg Henry	356
Mr Robert Fallon	69	M- P. Hense	183
Dr Mike Faris	269	Mr Wayne Hester	119
M- K.B. Farley	335	Mrs Mavis Hester	126
Ms Frances Farrall	488	Ms Jacqueline Hibbert	12
Ms Denise Fenwick	287	Mrs Hannah Hicks	83
Mr Rob Fisher	535	Ms Juanita Hill	482
Dr James Fitzsimons	473	Mr Paul Hiraber	277
Mr J. & Mrs A. Flack	117	Mr Neville Holland	331
Mr Peter Flanagan	102	Ms Rebecca Holland	458
M- P.F. Flynn	529	Ms Isobel Holland	243
Miss Trikkelle Flynn	337	Mr Keith & Mrs Jeanette Holland	343
Mr Owen Flynn	333	Ms Mouci Holland	238
Mr Ray Foley	462	Mr Robert Hollingworth	109
Mr Charles Foster	213	Ms Annette Hollingworth	166
Mr Adrian Francis	265	Ms Ann Holmes	497
Ms Catherine Fraser & Mr Robert Blake	446	Ms Christine Holmes	72
M- G.F. & H.M. Frostick	361	Mr Darren Howard	281
Ms Tanya Galvin	42	Mr Peter Hunter	201
Mr Miles Geldard	9	M- Jeffrey	274
Mrs B.M. George	122	Mr Reg Johnson	59
M- D. Gilpin	158	Ms Katrina Joiner	5
Ms Belinda Glass	401	Ms Antonia Jolic	239
Mr Anthony Glass	400	Mr Carl Justin	288
Mrs Fay & Mr George Godden	93	Ms Effie Kene	61
Mr Gerard Gomes	224	Mr Andrew Kennedy	479
M- J. Goss	256	Ms Wilma Kennedy	413
Cr Neville Goulding	65	Ms Amanda Keogh	282
Ms Angela Grace	221	Mr Stewart Kerr	115
Ms Ann Grant	62	Ms Lauren Kerr	500
Mr Keith Greenham	49	Mr Barry Kidd	533
Mr William Hahucke	346	Mr Jim Killmister	522
Mr George Hall	321	Ms Lucy Klem	499
Ms June Halls	47	M- K.M. Kloe	300
Ms Lexie Hancock	481	Ms Dawn Kneen	374
M- B. Hancock	416	Mr Roger Knight	518
Ms Kylie Hannel	492	Ms Joy Knight	175
Ms Denise Hanson	152	M- Alex Knight	174
Mr Jim Happ	196	M- L. Koch	143
Mr Brendan Harding	110	Ms Maree Kratzer	36
Ms Celia Hardy-Smith	477	Ms Ana Kuzmanic	494
Mr Jim Harker	198	Mr Geoff Lacey	20
Ms Susan Harrington	211	Ms Bervene Lake	538

Name	Sub. No.	Name	Sub. No.
Ms Melanie Lambert	444	Mr Philip Moser	334
M- N. Lane	285	Mr Ian & Mrs Lois Mues	178
Ms Jennifer Lang & Mr Paul Webb	45	Ms Judith Muir	52
Mr Stephen Lavender	38	Ms Stella Mulder	140
Mr Shaun Lawlor	442	Ms Maureen Murray	409
Ms Jan Laws	415	Ms Betty Murtagh	371
Mr Michael Lea-Whyte	188	Mr Colin Myers	316
M- N. Leoy	235	Mr Peter Newman	394
Mr Peter Lewis	347	Ms Linda Nicholls	395
Ms Rachel Liebhaber	469	Ms Jackie Nicholson	167
Mr David Lilley	484	Mrs W. Nikolovski	58
Ms Holly Livesey	284	Mr Daniel Nitsche	501
Mr Len Lock	121	Mr Rod Novak	206
Mr Alan Lodge	476	Mr Ken O'Brien	516
Mr Stephen Lodge	459	Mr Martin O'Brien	360
Mr Graham Long	207	Ms Joanna O'Brien	464
Ms Ruth Long	325	Ms Kylie O'Brien	275
Ms Anne Low	22	M- J.M. O'Callaghan	145
Mr Les Lubke	424	M- W.F. O'Callaghan	156
Mr Geoff Lubke	179	Mr Harry & Mrs Margaret O'Connor	86
Mr Ian Lubke	425	Mr Terry O'Donoghue	352
Mr Andrew Luke & Ms Helen Gargan	35	Ms Alison O'Gorman	279
Mr Paul Madden	406	Ms Margaret O'Neill	48
Mrs Lyn Madden	405	Mr Chris O'Neill	305
Ms Kaaren Manley	56	Mr Patrick O'Neill	171
Mr Tim Mannion	132	Mr Grant Palmer	408
Mr Niki Marijancevic	504	Ms Lucille Palmer	422
Mr Joe & Mrs Inge Marinac	330	M- D.H. Panton	186
Mr Peter Maroudas	291	Mr Rodney Pascoe	517
Mr Dudley Marrows	527	Mr Wolf Passauer	2
M- M. Matan	290	Mr Ric Pawsey	66
Mr Ken Mawson	92	Mr Leon & Mrs Brooke Peace	327
Mr Robert McBain	87	Mr Stanislaw & Ms Barbara Pelczynski & Pelczynska	108
Mr James McCaw	29	Mr Michael Pellegrino	519
Mr Cameron McDonald	378	M- Miki Perkins	90
Ms Pam & Ms Lyn McDonald	323	Ms Kiera Perrott	100
Mr Peter McDonald	449	Mr John Pettigrew	308
Mr Ian McDonald	332	Mr Eric Pilkington	25
Ms Raelene McFarlane	286	M- J.M. & D.R. Plattfuss	351
M- S. McGrath	146	Ms Ellenie Pond	498
Mr Daniel McGrath	480	Ms Jan Poolsinso	43
Ms Patricia McGrath	184	Ms Eva Popov	124
Mrs Eileen McKee	512	Mr Fabian Postiglioni	485
Ms Laura McKenzie	270	Ms Dorothy Powell	153
M- J. McLeish	318	Mr Rod Power	545
Mr John & Ms Margot McNeil	396	Mr David Prest	223
Ms Margaret Mikulin	225	Mr Anthony Price	135
M- B. Miller	210	Mr Bill Probst	11
Mr Jeff Mills	105	Ms Sandra Pullman	507
Dr Lee-Ann Monk	379	Dr Frank Purcell	118
Mr Max Moor	129	Mr Neville Quinlan	157
Ms Marlene Moor	342	Mr Pat & Ms Michelle Quinn	50
Mrs L.M. Morris	203	Mr L. & Mrs H. Radley	540
Mr Michael Morrow	60		

Name	Sub. No.	Name	Sub. No.
Dr Victor Radywonik	357	M- R. Smith	303
Ms Sue Radywonik	402	Mr Terry Smith	182
Mr Tony Rae	234	Dr Peter Snider	128
Mr River Rain	324	Ms Tracee Spiby	403
Ms Jan Ramage	232	Mr Peter Stafford	33
Mr Geoffrey Randall	513	Mr Ross Staley	99
Ms Gillian Rayner	312	M- P. Starkey	147
Ms Melanie Read-Wishart	502	Mr Jim Starkey	149
Mr Jack Rees	511	Ms Maya Statton	252
Mr David Reid	307	Mr Bob Steel	113
Ms Pauline Reilly	34	M- B. Stephens	487
Mr Max Richards	18	M- R.R. Stephenson	165
Mr Peter Richardson & Ms Helen Harley	53	Ms Hannah Stewart	230
Mr David Riis	8	Mr Keith Stockwell	17
Mr David & Mrs Fay Rimmer	438	Ms Marie-Claire Stoller	297
Mr Morgan Roberts	490	Mr Douglas & Mrs Lois Stone	341
Mr Nick Roberts	106	M- P.R. Sullivan	304
Mr Ray Roberts	123	Ms Jane Sultana	103
Mr Hugh Robertson	440	Mr Kevin Swan	249
Mr Allan Robins	89	Mr Robert Swan	509
Mr Chris Robson	244	Mr Trent Swan	250
Ms Jane Robson	242	Ms Amanda Swaney	32
Mr Cameron Rodda	475	Ms Jessica Sykes	127
Mr Murray Ross	97	Mr Howard Tankey	410
Mr Dave Roy	228	Ms Limia Tarr	73
Ms Sharon Roy	229	Ms Angela Thelen	258
Ms Karin Ruff	411	Mrs Joan Theyers	51
Ms Josephine Rumsey	151	M- J.R. Thomas	137
Ms Holly Russ	539	Mr Geoff Thompson	67
Ms Jacqueline Russ	543	M- T. Thomson	306
Mr Colin Russell	423	Ms Brooke Thomson	387
Ms Penni Russon	260	Mr Stuart Trickey	367
Mr Rick Ryan	76	Mr Neil & Mrs Robyn Trickey	204
Mr Terry Ryder	292	Mr Enoch Trickey	96
Ms Emma Salter	355	Mr Kelvin Trickey	205
Mr Luke Sango	245	Mr Paul Turnbull	433
Ms Olympia Sarrunkolaou	231	Mr Rob Turner	468
Mr Erwin Sauerwein	1	Ms Maureen Turner	478
M- K. Saxton	294	Mr Ron Turner	141
Ms Julie Schilin	412	Mr John Turner	257
Mrs Tania Schlemitz-Justin	289	M- B. Turner	142
Mr James Schrieber	262	Ms Ann Turner	222
Mr Brendan Scott	493	Mr Ken Turner	264
Mr Lee Seary	23	Mr Chris Tzaros	372
Ms Anne Selmas	293	Ms Jean Vagg	138
Mr Ken & Mrs Ula Sheather	46	Ms Linley Walker	114
Mr Alan Shell	71	Ms Tanya Walker	116
Mr David Simeveks	486	Ms Justine Ward	31
Mr Alex Sislov & Ms Rhonda Chrisanthou	28	Mr Albert & Mrs Dolly Warild	465
Ms Lyndall Sleep	359	Mrs Nancy & Mr Harry Weatherman	160
Mr Bruce Smith	338	Mr John & Mrs Jan Webb	40
Ms Zoe Smith	259	Mr Hugh Webb	536
Ms Ellen Smith	237	Mr Shane Webster	496
Mr Colin Smith	172	Ms Raelene West	375

Name	Sub. No.
Mr James Westland	247
Mr James Wetter	220
Ms Bronte Wicker	226
Mr Nils Wiebkin	64
Mr Craig Williams	489
Ms Nicola Williams	386
Mr Philip Williamson	353
Miss Grace Willoughby	212
Miss Jenna Wilson	68
Mr James & Ms Shirley Wilson	397
Ms Ruth Wilson	483
Mr Douglas Wood	133
Ms Elizabeth Woodhouse	209
Ms Amanda Zame	280

Name incomplete or illegible:

21, 150, 159, 162, 163, 218, 227, 248, 254, 255, 266, 268, 273, 276, 426, 457.



APPENDIX 4: Flora Species Recorded in the River Red Gum Forests Study Area

As of September 2006, the Department of Sustainability and Environment's Flora Information System database contained records for the following taxa in the River Red Gum Forests study area. The Flora Information System has comprehensive coverage of all vascular plants, but not lower plants such as mosses, liverworts and algae.

LEGEND:

EPBC: status under Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, as at December 2004.

C Critically Endangered: A taxon is critically endangered when it is facing an extremely high risk of extinction in the wild in the immediate future.

E Endangered: A taxon is endangered when it is not critically endangered but is facing a very high risk of extinction in the wild in the near future.

V Vulnerable: A taxon is vulnerable when it is not critically endangered or endangered but is facing a high risk of extinction in the wild in the medium-term future.

Vic: conservation status in Victoria, after DSE (2005a).

x Presumed Extinct in Victoria: not recorded from Victoria during the past 50 years despite field searches specifically for the plant, or, alternatively, intensive field searches (since 1950) at all previously known sites have failed to record the plant.

e Endangered in Victoria: at risk of disappearing from the wild state if present land use and other causal factors continue to operate.

v Vulnerable in Victoria: not presently endangered but likely to become so soon due to continued depletion; occurring mainly on sites likely to experience changes in land-use which would threaten the survival of the plant in the wild; or, taxa whose total population is so small

that the likelihood of recovery from disturbance, including localised natural events such as drought, fire or landslip, is doubtful.

r Rare in Victoria: rare but not considered otherwise threatened - there are relatively few known populations or the taxon is restricted to a relatively small area.

k Poorly Known in Victoria: poorly known and suspected, but not definitely known, to belong to one of the above categories (x, e, v or r) within Victoria. At present, accurate distribution information is inadequate.

FFG: status under the Victorian *Flora and Fauna Guarantee Act 1988*, as at December 2004. For the most up-to-date listings under the Act, visit: <http://www.dse.vic.gov.au>

L – listed as threatened.

N – nominated for listing, awaiting recommendation.

X – rejected or ineligible for listing.

"Threatened and near-threatened species" refers to any taxon in this table with an "L" under FFG, or any category under "EPBC" or "Vic" (except rare or poorly known).

No.: The number of records of the taxon in the Flora Information System database as at September 2006.

***** denotes species exotic to Victoria

denotes species indigenous to Victoria but not the study area

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Gymnosperms					
Black Cypress-pine	Callitris endlicheri				1
Cypress*	Cupressus spp.				4
Cypress-pine	Callitris spp.				1
Scrub Cypress-pine	Callitris verrucosa				2
Slender Cypress-pine	Callitris gracilis subsp. murrayensis				135
White Cypress-pine	Callitris glaucophylla				36
Aleppo Pine*	Pinus halepensis				1
Pine*	Pinus spp.				2
Radiata Pine*	Pinus radiata				2
Ferns and fern allies					
Bristly Cloak-fern	Cheilanthes distans				2
Common Maidenhair	Adiantum aethiopicum				2
Green Rock-fern	Cheilanthes austrotenuifolia				11
Narrow Rock-fern	Cheilanthes sieberi subsp. sieberi				22
Rock Fern	Cheilanthes spp.				3
Sickle Fern	Pellaea falcata s.s.				1
Mother Shield-fern	Polystichum proliferum				1
Blanket Fern	Pleurosorus rutifolius s.s.				3
Necklace Fern	Asplenium flabellifolium				2
Azolla	Azolla spp.				5
Ferny Azolla	Azolla pinnata				40
Pacific Azolla	Azolla filiculoides				154
Fishbone Water-fern	Blechnum nudum				1
Soft Water-fern	Blechnum minus				1
Strap Water-fern	Blechnum patersonii subsp. patersonii				1
Austral Bracken	Pteridium esculentum				12
Ruddy Ground-fern	Hypolepis rugosula				2
Soft Tree-fern	Dicksonia antarctica				1
Fan Fern	Sticherus spp.				1
Tasman Fan-fern	Sticherus tener s.s.		r		2
Common Filmy-fern	Hymenophyllum cupressiforme				1
Shiny Filmy-fern	Hymenophyllum flabellatum				1
Plain Quillwort	Isoetes drummondii				2
Quillwort	Isoetes spp.				3
Rock Quillwort	Isoetes muelleri				2
Screw Fern	Lindsaea linearis				1
Austral Pillwort	Pilularia novae-hollandiae				4
Common Nardoo	Marsilea drummondii				361
Nardoo	Marsilea spp.				22
Narrow-leaf Nardoo	Marsilea costulifera				102
Short-fruit Nardoo	Marsilea hirsuta				10
Adder's-tongue	Ophioglossum spp.				4
Austral Adder's-tongue	Ophioglossum lusitanicum				31
Austral Moonwort	Botrychium australe		v	L	1

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Upright Adder's-tongue	Ophioglossum polyphyllum		v		11
Salvinia*	Salvinia molesta				2
Common Ground-fern	Calochlaena dubia				1
Monocotyledons					
Agave*	Agave spp.				1
Century Plant*	Agave americana				1
Sagittaria*	Sagittaria platyphylla				84
Sagittaria*	Sagittaria spp.				1
Star Fruit	Damasonium minus				84
Water Plantain	Alisma plantago-aquatica				25
Water Plantain*	Alisma lanceolata				14
Darling Lily	Crinum flaccidum		v	L	9
Garland Lily	Calostemma purpureum s.l.		r		36
Garland Lily	Calostemma purpureum s.s.		r		2
Yellow Garland-lily	Calostemma luteum		v		1
Canary Island Date-palm*	Phoenix canariensis				11
Mexican Fan-palm*	Washingtonia robusta				2
Cushion Centrolepis	Centrolepis cephaloformis subsp. cephaloformis				1
Hairy Centrolepis	Centrolepis strigosa subsp. strigosa				1
Wiry Centrolepis	Centrolepis polygyna				1
Wandering Jew*	Tradescantia fluminensis				2
Annual Flat-sedge	Cyperus nervulosus		e	L	1
Awned Club-sedge*	Isolepis hystrix				10
Bearded Flat-sedge	Cyperus squarrosus		v		1
Bog Sedge	Schoenus spp.				4
Broad-fruit Club-sedge	Isolepis cernua var. platycarpa				10
Button Rush	Lipocarpa microcephala		v		27
Club Sedge	Isolepis spp.				17
Common Bog-sedge	Schoenus apogon				11
Common Grass-sedge	Carex breviculmis				7
Common Spike-sedge	Eleocharis acuta				435
Creeping Flat-sedge	Cyperus Ihotskyanus				2
Curly Flat-sedge	Cyperus rigidellus		e	L	3
Curry Flat-sedge*	Cyperus hamulosus				2
Dark Flat-sedge	Cyperus sanguinolentus				4
Dense Flat-sedge*	Cyperus congestus				2
Desert Bog-sedge	Schoenus subaphyllus				2
Desert Saw-sedge	Gahnia lanigera				2
Divided Sedge*	Carex divisa				1
Downs Nutgrass	Cyperus bifax		v		9
Drain Flat-sedge*	Cyperus eragrostis				212
Dwarf Flat-sedge	Cyperus pygmaeus		v		9
False Fox-sedge*	Carex otrubae				2
Fen Sedge	Carex gaudichaudiana				33

English Name	Scientific Name	EPBC	V/c	FFG	No.
Flat Sedge	Cyperus spp.				19
Flat Spike-sedge	Eleocharis plana		v		5
Flat-sedge*	Cyperus reflexus				1
Flecked Flat-sedge	Cyperus gunnii subsp. gunnii				53
Floating Club-sedge	Isolepis fluitans				1
Fringe Sedge	Fimbristylis spp.				5
Globe Killinga	Cyperus sphaeroideus				2
Grassy Club-sedge	Isolepis hookeriana				22
Green-top Sedge	Carex chlorantha		k		1
Grey Spike-sedge	Eleocharis macbarronii		k		1
Inland Club-sedge	Isolepis australiensis		k		4
Knob Sedge	Carex inversa				226
Lax Flat-sedge	Cyperus flaccidus		v		5
Leafy Bog-sedge	Schoenus maschalinus				1
Little Club-sedge	Isolepis marginata				10
Marsh Club-sedge	Bolboschoenus medianus				41
Medusa Bog-sedge	Schoenus latelaminatus				4
Nodding Club-sedge	Isolepis cernua var. cernua				3
Nutgrass*	Cyperus rotundus				1
Pale Spike-sedge	Eleocharis pallens		k		47
Plains Sedge	Carex bichenoviana				66
Poong'ort	Carex tereticaulis				267
River Club-sedge	Schoenoplectus tabernaemontani				26
Salt Club-sedge	Bolboschoenus caldwelii				6
Sedge	Cyperaceae spp.				1
Sedge	Carex spp.				28
Sharp Club-sedge	Schoenoplectus pungens				1
Slender Club-sedge	Isolepis congrua		v	L	6
Slender Spike-sedge	Eleocharis gracilis				2
Small Spike-sedge	Eleocharis pusilla				240
Soft Bog-sedge	Schoenus tesquorum				1
Soft Twig-sedge	Baumea rubiginosa s.s.				2
Spike Sedge	Eleocharis spp.				47
Spiny Flat-sedge	Cyperus gymnocaulos				96
Sticky Sword-sedge	Lepidosperma viscidum				9
Summer Fringe-sedge	Fimbristylis aestivalis		k		12
Swamp Club-sedge	Isolepis inundata				3
Tall Club-sedge	Bolboschoenus fluviatilis		k		2
Tall Flat-sedge	Cyperus exaltatus				100
Tall Sedge	Carex appressa				42
Tall Spike-sedge	Eleocharis sphacelata				33
Tassel Sedge	Carex fascicularis				1
Thatch Saw-sedge	Gahnia radula				2
Tiny Flat-sedge*	Cyperus tenellus				6
Trim Flat-sedge	Cyperus concinnus		v		11

English Name	Scientific Name	EPBC	V/c	FFG	No.
Tuber Spike-sedge	Eleocharis atricha				4
Variable Flat-sedge	Cyperus difformis				30
Variable Sword-sedge	Lepidosperma laterale				4
Variable Sword-sedge	Lepidosperma laterale var. laterale				1
Veiled Fringe-sedge	Fimbristylis velata		r		8
Victorian Club-sedge	Isolepis victoriensis				10
Yelka	Cyperus victoriensis		k		3
Aloe*	Aloe spp.				1
Common Pipewort	Eriocaulon scariosum		r		1
African Love-grass*	Eragrostis curvula				7
American Crows-foot Grass*	Eleusine tristachya				1
Annual Beard-grass*	Polypogon monspeliensis				127
Annual Cat's-tail*	Rostraria cristata				96
Annual Fog*	Holcus annuus				5
Annual Meadow-grass*	Poa annua				68
Annual Veldt-grass*	Ehrharta longiflora				48
Arabian Grass*	Schismus barbatus				460
Arabian Grass*	Schismus spp.				3
Australian Salt-grass	Distichlis distichophylla				6
Australian Saltmarsh-grass	Puccinellia stricta				1
Australian Saltmarsh-grass	Puccinellia stricta var. stricta				4
Avellinia*	Avellinia micheli				4
Awless Barnyard-grass*	Echinochloa colona				4
Balcarra Spear-Grass	Austrostipa nitida				68
Barb Grass*	Parapholis spp.				3
Barley Grass*	Hordeum spp.				31
Barley*	Hordeum vulgare s.l.				8
Barley-grass*	Hordeum leporinum				61
Barley-grass*	Hordeum murinum s.l.				443
Barnyard Grass*	Echinochloa crus-galli				34
Bearded Oat*	Avena barbata				173
Bent-grass	Deyeuxia spp.				1
Bent/Blown Grass	Agrostis s.l. spp.				20
Black-seed Panic*	Panicum bisulcatum				1
Bordered Panic	Entolasia marginata				1
Branched Panic*	Panicum racemosum				1
Bristle Grass	Trisetum spicatum subsp. australlense				2
Bristly Love-grass	Eragrostis setifolia		v		95
Bristly Wallaby-grass	Austrodanthonia setacea				501
Bristly Wallaby-grass	Austrodanthonia setacea var. setacea				35
Brome	Bromus spp.				102
Brown Beetle-grass	Leptochloa fusca subsp. fusca		r		9
Brown-back Wallaby-grass	Austrodanthonia duttoniana				252
Brown-top Bent*	Agrostis capillaris				3
Brown-top Bent*	Agrostis capillaris var. capillaris				1

English Name	Scientific Name	EPBC	Vlc	FFG	No.
Brush Wire-grass	Aristida behriana				55
Buffalo Grass*	Stenotaphrum secundatum				4
Bulbous Meadow-grass*	Poa bulbosa				18
Bulbous Meadow-grass*	Poa bulbosa var. vivipara				3
Bulbous Meadow-grass*	Poa bulbosa var. bulbosa				3
Canary Grass*	Phalaris canariensis				1
Canary Grass*	Phalaris spp.				14
Cane Grass	Eragrostis australasica		v		45
Cane Spear-grass	Austrostipa breviglumis		r		1
Cane Wire-grass	Aristida ramosa				4
Carpet Grass*	Axonopus fissifolius				4
Cat's Tail*	Rostraria spp.				1
Chilean Brome*	Bromus lithobius				2
Chilean Needle-grass*	Nassella neesiana				9
Close-headed Love-grass	Eragrostis diandra				52
Coast Barb-grass*	Parapholis incurva				162
Cocksfoot*	Dactylis glomerata				11
Common Barb-grass*	Hainardia cylindrica				2
Common Blown-grass	Lachnagrostis filiformis				523
Common Blown-grass	Lachnagrostis filiformis var. 1				95
Common Bottle-washers	Erneapogon avenaceus				31
Common Hedgehog-grass	Echinopogon ovatus				1
Common Love-grass	Eragrostis brownii				44
Common Reed	Phragmites australis				111
Common Swamp					
Wallaby-grass	Amphibromus nervosus				161
Common Tussock-grass	Poa labillardierei				108
Common Tussock-grass	Poa labillardierei var. labillardierei				28
Common Wallaby-grass	Austrodanthonia caespitosa				495
Common Wheat-grass	Elymus scaber var. scaber				134
Coolah Grass*	Panicum coloratum				15
Copper-awned Wallaby-grass	Austrodanthonia fulva				29
Corkscrew Spear-grass	Austrostipa setacea				2
Cotton Panic-grass	Digitaria brownii		k		2
Cottony Spear-grass	Austrostipa drummondii				8
Couch	Cynodon dactylon				306
Couch	Cynodon spp.				3
Couch*	Cynodon dactylon var. dactylon				40
Crested Dog's-tail*	Cynosurus cristatus				1
Crested Spear-grass	Austrostipa blackii				30
Dark Wire-grass	Aristida calycina var. calycina		r		1
Darnel*	Lolium temulentum				1
Delicate Hair-grass*	Aira elegantissima				42
Dense Spear-grass	Austrostipa densiflora				1
Desert Spear-grass	Austrostipa eremophila				19

English Name	Scientific Name	EPBC	Vlc	FFG	No.
Desmazeria*	Tribolium acutiflorum s.l.				2
Desmazeria*	Tribolium spp.				1
Early Meadow-grass*	Poa infirma				1
Early Spring-grass	Eriochloa pseudoacrotricha				7
English Couch*	Elytrigia repens				7
False Brome*	Brachypodium distachyon				43
False Hair-grass*	Pentstemonis airoides subsp. airoides				375
Feather Spear-grass	Austrostipa elegantissima				66
Feather Windmill Grass*	Chloris virgata				1
Feathertop*	Pennisetum villosum				2
Fern Grass*	Catapodium rigidum				6
Fescue	Festuca spp.				1
Fescue*	Vulpia spp.				164
Fine-hairy Spear-grass	Austrostipa puberula		r		1
Fine-head Spear-grass	Austrostipa oligostachya				5
Finger Grass	Dactyloctenium radulans		r		5
Five-awned Spear-grass	Pentapogon quadrifidus var. quadrifidus				5
Flat-awned Spear-grass	Austrostipa platychaeta				4
Forde Poa	Poa fordeana				77
Fox Tail*	Alopecurus spp.				3
Fox-tail Fescue*	Vulpia myuros f. megalura				5
Golden-top*	Lamarckia aurea				75
Graceful Spear-grass	Austrostipa acrocliaata				8
Grass	Poaceae spp.				13
Grass (naturalised)*	Poaceae spp. (naturalised)				6
Great Brome*	Bromus diandrus				261
Green Pigeon-grass*	Setaria viridis				1
Grey Tussock-grass	Poa sieberiana				14
Grey Tussock-grass	Poa sieberiana var. hirtella				5
Grey Tussock-grass	Poa sieberiana var. sieberiana				2
Hair Grass*	Aira spp.				73
Hairy Panic	Panicum effusum				17
Hare's-tail Grass*	Lagurus ovatus				4
Highland Bent*	Agrostis capillaris var. aristata				1
Hill Wallaby-grass	Austrodanthonia eriantha				34
Italian Millet*	Setaria italica				1
Italian Rye-grass*	Lolium multiflorum				6
Jericho Wire-grass	Aristida jerichoensis var. subspinulifera		e	L	2
Johnson Grass*	Sorghum halepense				6
Kangaroo Grass	Themeda triandra				48
Kentucky Blue-grass*	Poa pratensis				3
Kikuyu*	Pennisetum clandestinum				20
Kneed Spear-grass	Austrostipa bigeniculata				17
Kneed Wallaby-grass	Austrodanthonia geniculata				4
Knotted Barley-grass*	Hordeum secalinum				4

English Name	Scientific Name	EPBC	Vlc	FFG	No.
Knotted Poa	Poa drummondiana		r		4
Knotty Spear-grass	Austrostipa nodosa				78
Knobbybutt Grass	Paspalum constrictum				55
Large Quaking-grass*	Briza maxima				44
Leafy Wallaby-grass	Austrodanthonia bipartita s.l.				33
Leafy Wallaby-grass	Austrodanthonia bipartita s.s.				8
Lesser Burr-grass*	Cenchrus incertus				2
Lesser Canary-grass*	Phalaris minor				78
Lesser Quaking-grass*	Briza minor				81
Liverseed Grass*	Urochloa panicoides				1
Lobed Wallaby-grass	Austrodanthonia auriculata				17
Long Grey-beard Grass	Amphipogon caricinus var. caricinus				5
Long-awn Spear-grass	Austrostipa tenuifolia		v		2
Long-hair Plume-grass	Dichelachne crinita				22
Long-leaf Wallaby-grass	Notodanthonia longifolia				2
Long-nosed Swamp Wallaby-grass	Amphibromus macrorrhinus				6
Love Grass	Eragrostis spp.				21
Madrid Brome*	Bromus madritensis				13
Mallee Love-grass	Eragrostis dielsii				173
Mallee Tussock-grass	Poa lowanensis		r		1
Manna Grass*	Glyceria declinata				3
Marsh Fox-tail*	Alopecurus geniculatus				51
Mat Grass	Hemarthria uncinata var. uncinata				46
Meadow Brome*	Bromus racemosus subsp. commutatus				4
Mediterranean Barley-grass*	Hordeum hystrix				59
Mediterranean Brome*	Bromus lanceolatus				22
Mexican Love-grass*	Eragrostis mexicana				1
Native Couch	Cynodon dactylon var. pulchellus		k		33
Native Millet	Panicum decompositum var. decompositum				24
Needle Grass	Tritaphis mollis		r		12
Nigger-heads	Enneapogon nigricans				6
Northern Barley-grass*	Hordeum glaucum				175
Oat Kangaroo-grass	Themeda avenacea		k		4
Oat*	Avena sativa				25
Oat*	Avena spp.				219
Orange Fox-tail*	Alopecurus aequalis				13
Pale Pigeon-grass*	Setaria pumila subsp. pumila				11
Pampas Grass*	Cortaderia spp.				1
Panic	Panicum spp.				7
Panic Grass	Paspalum spp.				25
Panic Veldt-grass*	Ehrharta erecta var. erecta				12
Panic*	Panicum givum				18
Paradoxical Canary-grass*	Phalaris paradoxa				137
Paspalum*	Paspalum dilatatum				159

English Name	Scientific Name	EPBC	Vlc	FFG	No.
Paspalum*	Paspalum spp.				8
Pepper Grass	Panicum laevinode		v		5
Perennial Beard-grass*	X Agropogon littoralis				1
Perennial Rye-grass*	Lolium perenne				194
Perennial Veldt-grass*	Ehrharta calycina				2
Pigeon Grass*	Setaria spp. (naturalised)				1
Plump Spear-grass	Austrostipa aristiglumis				114
Porcupine Grass	Triodia scariosa				24
Prairie Grass*	Bromus catharticus				52
Prairie Grass*	Bromus catharticus var. catharticus				12
Prickly Barnyard-grass*	Echinochloa muricata var. microstachya				2
Prickly Spear-grass	Austrostipa pilata		v		1
Purple Love-grass	Eragrostis lacunaria		v		90
Purplish Wallaby-grass	Austrodanthonia tenuior				3
Quicksilver Grass*	Aira cupaniana				42
Quizical Spear-grass	Austrostipa stuposa				2
Rat's-tail Fescue*	Vulpia myuros				753
Rat's-tail Fescue*	Vulpia myuros f. myuros				78
Rat-tail Couch	Sporobolus mitchellii				497
Rat-tail Grass	Sporobolus spp.				6
Rat-tail Grass*	Sporobolus africanus				5
Red Brome*	Bromus rubens				766
Red Natal-grass*	Melinis repens subsp. repens				1
Red-leg Grass	Bothriochloa macra				18
Reed Bent-grass	Deyeuxia quadrifida				73
Reed Sweet-grass*	Glyceria maxima				3
Rhodes Grass*	Chloris gayana				8
Rice Millet*	Piptatherum miliaceum				3
Rigid Panic	Whalleya proluta				221
River Swamp Wallaby-grass	Amphibromus fluitans	V	X		178
Rough Dog's-tail*	Cynosurus echinatus				13
Rough Spear-grass	Austrostipa scabra subsp. falcata				471
Rough Spear-grass	Austrostipa scabra				203
Rough Spear-grass	Austrostipa scabra subsp. scabra				15
Rough-seed Wire-grass	Aristida obscura		e	L	2
Rye Beetle-grass	Tripogon loliformis		r		12
Rye Grass*	Lolium spp.				82
Salt Couch	Sporobolus virginicus				4
Sand Brome	Bromus arenarius		r		18
Sand Wire-grass	Aristida contorta				11
Scaly Poa	Poa fax		r		1
Sea Barley-grass*	Hordeum marinum				282
Serrated Tussock*	Nassella trichotoma				2
Shiny Wallaby-grass	Austrodanthonia induta				5
Short Wallaby-grass	Austrodanthonia carphoides				14

English Name	Scientific Name	EPBC	V/c	FFG	No.
Short-awned Wheat-grass	Elymus multiflorus		k		10
Short-bristle Wallaby-grass	Austrodanthonia setacea var. breviseta		r		1
Short-crown Spear-grass	Austrostipa curtica				2
Short-hair Plume-grass	Dichelachne sciurea spp. agg.				5
Siberian Wild-rye*	Leymus multicaulis				2
Sickle Love-grass	Eragrostis falcata		k		1
Silky Blue-grass	Dichanthium sericeum subsp. sericeum				8
Silky Brown-top	Eulalia aurea				63
Silky Umbrella-grass	Digitaria ammophila		v		19
Silky-heads	Cymbopogon oblectus		e		2
Silver-top Wallaby-grass	Joycea pallida				6
Silvery Hair-grass*	Aira caryophylla				38
Slender Barb-grass*	Parapholis strigosa				3
Slender Love-grass	Eragrostis exigua		e		7
Slender Panic	Paspalidium gracile		r		1
Slender Pigeon Grass*	Setaria parviflora				7
Slender Wallaby-grass	Austrodanthonia racemosa var. racemosa				21
Small Burr-grass	Tragus australianus		r		3
Small Hair-grass*	Molinierella minuta				5
Small-seed Plume-grass	Dichelachne micrantha				2
Smaller Stink-grass*	Eragrostis minor				1
Smooth Wallaby-grass	Austrodanthonia laevis				3
Soft Brome*	Bromus hordeaceus subsp. hordeaceus				228
Soft Love-grass*	Eragrostis pilosa				4
Soft Tussock-grass	Poa morrisii				2
Southern Cane-grass	Eragrostis infecunda				143
Southern Swamp Wallaby-grass	Amphibromus neesii				4
Spear Grass	Austrostipa spp.				301
Spear-grass	Austrostipa trichophylla		r		3
Spear-grass	Austrostipa scabra group				4
Spider Grass	Enteropogon acicularis				462
Spiny Burr-grass*	Cenchrus longispinus				11
Spiny Mud-grass	Pseudoraphis spinescens				132
Spurred Spear-grass	Austrostipa gibbosa				86
Squirrel-tail Fescue*	Vulpia bromoides				197
Sterile Brome *	Bromus sterilis				20
Sterile Oat*	Avena sterilis				3
Sterile Oat*	Avena sterilis subsp. ludoviciana				10
Sterile Oat*	Avena sterilis subsp. sterilis				2
Stiff Rye-grass*	Lolium lolaceum				4
Stink Grass*	Eragrostis cilianensis				21
Summer Grass	Digitaria spp.				1
Summer Grass*	Digitaria sanguinalis				10
Supple Spear-grass	Austrostipa mollis				9

English Name	Scientific Name	EPBC	V/c	FFG	No.
Swamp Millet	Isachne globosa				1
Swamp Wallaby-grass	Amphibromus spp.				30
Sweet Vernal-grass*	Anthoxanthum odoratum				3
Tall Cup-grass	Eriochloa crebra		k		1
Tall Fescue*	Festuca arundinacea				4
Tall Kerosene Grass	Aristida holathera var. holathera		v		6
Tall Spear-grass	Austrostipa pubinodis				2
Tall Wheat-grass*	Lophopyrum ponticum				12
Teff*	Eragrostis tef				1
Tiny Bent	Agrostis australiensis		r		1
Tiny Bristle-grass*	Rostraria pumila				40
Toowoomba Canary-grass*	Phalaris aquatica				117
Tussock Grass	Poa australis spp. agg.				2
Tussock Grass	Poa spp.				14
Two-row Barley*	Hordeum distichon				2
Umbrella Grass	Digitaria divaricatissima		v		4
Vasey Grass*	Paspalum urvillei				2
Veldt Grass*	Ehrharta spp.				1
Velvet Wallaby-grass	Austrodanthonia pilosa				7
Vernal Grass*	Anthoxanthum spp.				1
Wall Brome*	Bromus tectorum				5
Wall Fescue*	Vulpia muralis				118
Wallaby Grass	Danthonia s.l. spp.				112
Wallaby Grass	Austrodanthonia spp.				134
Wallaby Grass	Rytidosperma spp.				1
Warrego Summer-grass	Paspalidium jubiflorum				445
Water Couch*	Paspalum distichum				183
Weeping Grass	Microaena stipoides var. stipoides				21
Weeping Love-grass	Eragrostis parviflora				23
Weeping Wallaby-grass	Austrodanthonia penicillata				1
Western Rat-tail Grass	Sporobolus creber		v		3
Wetland Wallaby-grass	Notodanthonia semiannularis				1
Wheat*	Triticum aestivum				8
Whisky Grass*	Andropogon virginicus				1
White-water Panic*	Panicum obseptum				3
Whorled Pigeon-grass*	Setaria verticillata				6
Wild Oat*	Avena fatua				177
Wimmera Rye-grass*	Lolium rigidum				445
Windmill Grass	Chloris truncata				188
Windmill Grass	Chloris spp.				3
Wire-grass	Aristida spp.				1
Witch Panic*	Panicum hilmanii				4
Yakka Grass	Sporobolus caroli		r		19
Yorkshire Fog*	Holcus lanatus				29
Canadian Pondweed*	Elodea canadensis				11

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Eel Grass	Vallisneria americana var. americana				41
Hydrilla	Hydrilla verticillata		r		1
Swamp Lily	Ottelia ovalifolia subsp. ovalifolia				13
Golden Weather-glass	Hypoxis hygrometrica				1
Hypoxis	Hypoxis spp.				7
Tiny Star	Hypoxis glabella var. glabella				34
Yellow Star	Hypoxis glabella s.l.				1
Yellow Star	Hypoxis vaginata				1
Blue Pigroot*	Sisyrinchium iridifolium				4
Bulbil Watsonia*	Watsonia meriana var. bulbilifera				2
Common Onion-grass*	Romulea rosea var. australis s.s.				9
Freesia*	Freesia alba x Freesia leichtlinii				2
One-leaf Cape-tulip*	Moraea flaccida				4
Onion Grass*	Romulea rosea				184
Onion Grass*	Romulea spp.				20
Pink Tritonia*	Tritonia squalida				1
Scour-weed*	Sisyrinchium sp. A				2
Small-flower Onion-grass*	Romulea minutiflora				222
Thread Iris*	Moraea setifolia				44
Tricolor Harlequin-flower*	Sparaxis tricolor				2
Two-leaf Cape-tulip*	Moraea miniata				1
Wild Gladiolus*	Gladiolus undulatus				2
Yellow Ixia*	Ixia maculata				2
Rush	Juncus sp. (sect. genuini)				10
Austral Rush	Juncus australis				3
Billabong Rush	Juncus usitatus				34
Branching Rush	Juncus prismatocarpus				7
Broad-leaf Rush	Juncus planifolius				3
Broom Rush	Juncus sarophorus				8
Capitate Rush*	Juncus capitatus				10
Clustered Rush	Juncus vaginatus				2
Common Woodrush	Luzula meridionalis var. densiflora				6
Common Woodrush	Luzula meridionalis var. flaccida				2
Common Woodrush	Luzula meridionalis				5
Diffuse Rush	Juncus remotiflorus				15
Finger Rush	Juncus subsecundus				210
Folded Rush*	Juncus imbricatus				2
Giant Rush	Juncus ingens				94
Gold Rush	Juncus flavidus				196
Green Rush	Juncus gregiflorus				4
Hoary Rush	Juncus radula				32
Hollow Rush	Juncus amabilis				148
Joint-leaf Rush	Juncus holoschoenus				50
Jointed Rush*	Juncus articulatus				44
Pale Rush	Juncus pallidus				3

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Plains Rush	Juncus semisolidus				10
Rush	Juncus spp.				134
Sand Rush	Juncus psammophilus		r		5
Spiry Rush*	Juncus acutus subsp. acutus				99
String Rush*	Juncus capillaceus				1
Tall Rush	Juncus procerus				1
Toad Rush	Juncus bufonius				70
Tussock Rush	Juncus aridicola				96
Wiry Rush	Juncus homalocalis				12
Common Water-ribbons	Triglochin procerus s.s.				23
Dwarf Arrowgrass	Triglochin nana				8
Lilaea*	Lilaea scilloides				1
Northern Water-ribbons	Triglochin multifructa				51
Six-point Arrowgrass	Triglochin hexagona		v		2
Slender Water-ribbons	Triglochin dubia		r		6
Southern Water-ribbons	Triglochin alcockiae				1
Spurred Arrowgrass	Triglochin calceolatum s.l.				75
Streaked Arrowgrass	Triglochin striata				5
Turret Arrowgrass	Triglochin turifera				3
Water Ribbons	Triglochin procerus s.l.				168
Water Ribbons	Triglochin spp.				3
Common Duckweed	Lemna disperma				23
Duckweed	Lemna minor s.l.				12
Thin Duckweed	Lemna spp.				5
Tiny Duckweed	Landoltia punctata				35
Lily	Wolffia australiana				3
Water Nymph	Liliaceae spp. (s.l.)				5
Austral Ladies' Tresses	Najas tenuifolia		r		1
Bearded Greenhood	Spiranthes australis				2
Bird Orchid	Pterostylis plumosa s.l.				1
Bluebeard Orchid	Chiloglottis spp.				2
Blunt Greenhood	Pheladenia deformis				1
Broad-lip Leek-orchid	Pterostylis curta				1
Brown-clubbed Spider-orchid	Prasophyllum patens s.l.				1
Caladenia	Caladenia phaeoclavia				1
Common Onion-orchid	Caladenia spp.				1
Dwarf Greenhood	Microtis unifolia				16
Golden Cowslips	Pterostylis nana				2
Golden Moths	Diuris behrii		v		1
Greenhood	Diuris lanceolata s.l.				1
Hood Orchid	Pterostylis spp.				1
Horned Orchid	Caladenia cucullata				2
Hybrid Sun-orchid	Orthoceras strictum				3
Large Duck-orchid	Thelymitra X truncata s.s.				2
	Caleana major				2

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Large Tongue-orchid	Cryptostylis subulata				1
Leek Orchid	Prasophyllum spp.				3
Leopard Orchid	Diuris pardina				1
Mallee Spider-orchid	Caladenia verrucosa				3
Maroonhood	Pterostylis pedunculata				1
Mayfly Orchid	Acianthus caudatus				1
Midget Greenhood	Pterostylis mutica				3
Musk Hood-orchid	Caladenia gracilis				2
Nodding Greenhood	Pterostylis nutans				2
Onion Orchid	Microtis spp.				1
Parson's Bands	Eriochilus cucullatus				1
Pink Fingers	Caladenia carnea s.s.				2
Plain Sun-orchid	Thelymitra nuda				3
Purple Beard-orchid	Calochilus robertsonii				3
Purple Diuris	Diuris punctata var. punctata		v	L	6
Purple Hyacinth-orchid	Dipodium punctatum s.s.				1
Rabbit Ears	Thelymitra antennifera				1
Rosy Hyacinth-orchid	Dipodium roseum s.s.				1
Rusthood	Pterostylis biseta s.l.				1
Salmon Sun-orchid	Thelymitra rubra				1
Scented Leek-orchid	Prasophyllum odoratum s.l.				1
Scented Sun-orchid	Thelymitra megalyptra				1
Slender Onion-orchid	Microtis parviflora				3
Slender Sun-orchid	Thelymitra pauciflora s.l.				3
Small Gnat-orchid	Cyrtostylis reniformis				1
Small Snake-orchid	Diuris pedunculata s.s.	E	e		1
Spotted Sun-orchid	Thelymitra ixioides s.l.				1
Sun Orchid	Thelymitra spp.				3
Swan Greenhood	Pterostylis cynocephala				2
Tail Greenhood	Pterostylis longifolia s.l.				1
Tiger Orchid	Diuris sulphurea				2
Wallflower Orchid	Diuris orientis				1
Wax-lip Orchid	Glossodia major				4
Wedge Diuris	Diuris dendrobioides		e	L	5
Western Leek-orchid	Prasophyllum sp. aff. occidentale C.		e		1
Blunt Pondweed	Potamogeton ochreateus				6
Curly Pondweed	Potamogeton crispus				5
Fennel Pondweed	Potamogeton pectinatus				5
Floating Pondweed	Potamogeton tricaratus s.l.				90
Furrowed Pondweed	Potamogeton sulcatus				1
Perfoliate Pondweed	Potamogeton perfoliatus s.l.		k		1
Pondweed	Potamogeton spp.				2
Broad-leaf Cumbungi	Typha orientalis				70
Bulrush	Typha spp.				48
Lesser Reed-mace*	Typha latifolia				13

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Narrow-leaf Cumbungi	Typha domingensis				56
Austral Water-mat	Lepilaena australis				3
Small-fruit Water-mat	Lepilaena bilocularis				1
Water Mat	Lepilaena spp.				5
Desert Mat-rush	Lomandra juncea				1
Dwarf Mat-rush	Lomandra nana				2
Many-flowered Mat-rush	Lomandra multiflora subsp. multiflora				7
Mat-rush	Lomandra spp.				5
Pale Mat-rush	Lomandra collina				2
Scented Mat-rush	Lomandra effusa				62
Small Grass-tree	Xanthorrhoea minor subsp. lutea				3
Spiry-headed Mat-rush	Lomandra longifolia				4
Wattle Mat-rush	Lomandra filiformis				24
Wattle Mat-rush	Lomandra filiformis subsp. coriacea				1
Wattle Mat-rush	Lomandra filiformis subsp. filiformis				4
Woolly Mat-rush	Lomandra leucocephala subsp. robusta				6
Angled Onion*	Allium triquetrum				1
Fragrant False-garlic*	Nothoscordum borbonicum				1
Chocolate Lily	Arthropodium strictum s.l.				30
Chocolate Lily	Dichopogon spp.				14
Common Fringe-lily	Thysanotus tuberosus				3
Fringe Lily	Thysanotus spp.				1
Mallee Fringe-lily	Thysanotus baueri				47
Nodding Chocolate-lily	Arthropodium fimbriatum				66
Pale Vanilla-lily	Arthropodium milleflorum s.l.				3
Small Chocolate-lily	Arthropodium sp. 3 (aff. strictum)				7
Small Vanilla-lily	Arthropodium minus				103
Twining Fringe-lily	Thysanotus pateronii				7
Vanilla Lily	Arthropodium spp. (s.s.)				8
Asparagus Fern*	Asparagus scandens				1
Asparagus*	Asparagus officinalis				21
Bridal Creeper*	Asparagus asparagoides				41
Bulbine Lily	Bulbine bulbosa				93
Bulbine Lily	Bulbine spp.				1
Leek Lily	Bulbine semibarbata				431
Onion Weed*	Asphodelus fistulosus				154
Broad-leaf Early Nancy	Wurmbea latifolia subsp. vanessae				39
Common Early Nancy	Wurmbea dioica				97
Common Early Nancy	Wurmbea dioica subsp. dioica				7
Early Nancy	Wurmbea spp.				5
Milkmaids	Burchardia umbellata				8
Grape Hyacinth*	Muscari armeniacum				1
Archling Flax-lily	Dianella sp. aff. longifolia (Benambra)		v		1
Black-anther Flax-lily	Dianella revoluta s.l.				22
Black-anther Flax-lily	Dianella revoluta var. revoluta s.l.				17

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Day Lily*	Hemerocallis spp.				1
Flax Lily	Dianella spp.				3
Glaucous Flax-lily	Dianella longifolia var. grandis s.l.				1
Mallee Flax-lily	Dianella sp. aff. revoluta (Mallee)				1
Mallee Rush-lily	Tricoryne tenella				2
Nodding Blue-lily	Stypandra glauca				1
Pale Flax-lily	Dianella longifolia s.l.				43
Pale Flax-lily	Dianella longifolia var. longifolia s.l.				22
Pale Flax-lily	Dianella sp. aff. longifolia (Riverina)		v		54
Pale Grass-lily	Caesia parviflora var. vittata		k		1
Riverine Flax-lily	Dianella porracea		v		10
Sand Lily	Corynotheca licrota		r		8
Yellow Rush-lily	Tricoryne elatior				18
Large-fruit Tassel	Ruppia megacarpa				1
Many-fruit Tassel	Ruppia polycarpa				4
Tassel	Ruppia spp.				3
Dicotyledons					
Box-elder Maple*	Acer negundo				1
Maple*	Acer spp.				1
Sycamore Maple*	Acer pseudoplatanus				6
Angled Ice-plant*	Mesembryanthemum aitonis				2
Angled Pigface*	Carpobrotus aequilaterus				1
Annual Spinach	Tetragonia moorei		k		75
Common Ice-plant*	Mesembryanthemum crystallinum				83
Desert Spinach	Tetragonia eremaea s.l.				104
Desert Spinach	Tetragonia eremaea s.s.		k		31
Galenia*	Galenia pubescens var. pubescens				8
Hogweed*	Zaleya galericulata subsp. australis				2
Ice Plant*	Mesembryanthemum spp.				8
Inland Pigface	Carpobrotus modestus				11
Mallee Pigface	Carpobrotus aff. rossii (N.W. Victoria)		r		1
Native Spinach	Tetragonia spp.				6
Pigface	Carpobrotus spp.				1
Rounded Noon-flower	Disphyma crassifolium subsp. clavellatum				412
Sarcosona	Sarcosona praecox		r		151
Small Ice-plant*	Mesembryanthemum nodiflorum				341
Wiry Noon-flower*	Psilocaulon granulicaula				40
Alligator Weed*	Alternanthera philoxeroides				1
Common Joyweed	Alternanthera nodiflora		k		29
Crimson Tails	Ptilotus sessilifolius var. sessilifolius		k		9
Dwarf Amaranth	Amaranthus macrocarpus var. macrocarpus		v		8
Feather Heads	Ptilotus macrocephalus				24
Green Amaranth*	Amaranthus viridis				2
Hairy Tails	Ptilotus erubescens			L	37
Joyweed	Alternanthera spp.				35

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Khaki Weed*	Alternanthera pungens				9
Lamb Tails	Ptilotus exaltatus var. semilanatus				3
Lesser Joyweed	Alternanthera denticulata s.l.				291
Lesser Joyweed	Alternanthera denticulata s.s.				76
Long Tails	Ptilotus polystachyus var. polystachyus		e		16
Mulla Mulla	Ptilotus exaltatus				69
Pink Mulla-mulla	Ptilotus exaltatus var. exaltatus				2
Plains Joyweed	Alternanthera sp. 1 (Plains)		k		6
Pussy Tails	Ptilotus spathulatus f. spathulatus				58
Pussy Tails	Ptilotus spp.				3
Rabbit Tails	Ptilotus seminudus				8
Red-root Amaranth*	Amaranthus retroflexus				3
Rough-fruit Amaranth*	Amaranthus muricatus				6
Silver Tails	Ptilotus obovatus var. obovatus		e		1
Spleen Amaranth*	Amaranthus hybridus				4
Yellow Tails	Ptilotus nobilis var. nobilis		e		13
Pepper Tree*	Schinus molle				70
Blue Periwinkle*	Vinca major				10
Elderberry Panax	Polyscias sambucifolia				1
English Ivy*	Hedera helix				2
Broad-leaf Cotton-bush*	Gomphocarpus cancellatus				1
Doubah	Marsdenia australis		v		11
Purple Pentatropae	Rhyncharhena linearis		v		9
Swan Plant*	Gomphocarpus fruticosus subsp. fruticosus				2
White Bladder-flower*	Araujia sericifera				2
Madeira Vine*	Anredera cordifolia				1
Austral Forget-me-not	Myosotis australis				4
Australian Hound's-tongue	Cynoglossum australe				32
Burr Stickseed	Omphalolappula concava				28
Common Fiddle-neck*	Amsinckia intermedia				6
Common Heliotrope	Heliotropium europaeum				90
Corn Gromwell*	Buglossoides arvensis				7
Creeping Heliotrope*	Heliotropium supinum				26
Fiddle Neck*	Amsinckia spp.				5
Forget-me-not	Myosotis spp.				1
Hairy Fiddle-neck*	Amsinckia calycina				5
Hairy Forget-me-not	Plagiobothrys elachanthus				29
Hairy Sheepweed*	Neotostema apulum				4
Heliotrope	Heliotropium spp.				6
Hound's Tongue	Cynoglossum spp.				1
Paterson's Curse*	Echium plantagineum				360
Rochelia	Plagiobothrys spp.				5
Rough Halgania	Halgania cyanea				6
Smooth Heliotrope	Heliotropium curassavicum				33
Sweet Hound's-tongue	Cynoglossum suaveolens				18

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Valley Popcorn Flower*	Plagiobothrys canescens				3
Viper's Bugloss*	Echium vulgare				1
White Rochella	Plagiobothrys plurisepalus				9
Yellow-and-blue					
Forget-me-not*	Myosotis discolor				3
Blue Pincushion	Brunonia australis				3
Water-shield	Brasenia schreberi		v	L	5
Blind Prickly-pear*	Opuntia puberula				1
Common Prickly-pear*	Opuntia stricta				8
Devil's Rope*	Cylindropuntia imbricata var. imbricata				1
Drooping Prickly-pear*	Opuntia monacantha				2
Indian Fig *	Opuntia ficus-indica				3
Prickly Pear*	Opuntia spp.				18
Riverina Pear*	Opuntia cardiosperma				3
Wheel Cactus*	Opuntia robusta				8
Broad-leaf Desert Cassia	Senna form taxon 'coriacea'				45
Senna Cassia	Senna artemisioides spp. agg.				34
Fine-leaf Desert Cassia	Senna form taxon 'filifolia'				16
Honey Locust *	Gleditsia triacanthos				1
Narrow-leaf Desert Cassia	Senna form taxon 'zygophylla'				8
Pepper-leaf Senna*	Senna barclayana				1
Woody Cassia	Senna form taxon 'petiolaris'				42
Common Water-starwort*	Callitriche stagnalis				22
Matted Water-starwort	Callitriche sonderi				42
Thread Water-starwort *	Callitriche hamulata				19
Water Starwort	Callitriche spp.				5
Western Water-starwort	Callitriche cyclocarpa	V	v	L	10
Winged Water-starwort	Callitriche umbonata		r	X	1
Annual Bluebell	Wahlenbergia gracilentia s.l.				106
Bluebell	Wahlenbergia spp.				86
Branching Bluebell	Wahlenbergia multicaulis				11
Bronze Bluebell	Wahlenbergia luteola				26
Granite Bluebell	Wahlenbergia graniticola s.l.				3
Hairy Annual-bluebell	Wahlenbergia gracilentia s.s.				34
Hypsela	Hypsela tridens		k		5
Large-flowered					
Annual-bluebell	Wahlenbergia victoriensis				1
Mallee Annual-bluebell	Wahlenbergia tumidiflucta		r		2
Matted Pratia	Lobelia pedunculata s.l.				3
Poison Lobelia	Lobelia pratoides				35
Poison Pratia	Lobelia concolor				251
River Bluebell	Wahlenbergia fluminalis				307
Rock Isotome	Isotoma axillaris				1
Sprawling Bluebell	Wahlenbergia gracilis				42
Swamp Isotome	Isotoma fluviatilis subsp. australis				22

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Tall Bluebell	Wahlenbergia stricta subsp. stricta				8
Tufted Bluebell	Wahlenbergia communis s.l.				60
Tufted Bluebell	Wahlenbergia communis s.s.				5
Common Elder*	Sambucus nigra				1
Himalayan Honeysuckle*	Leycesteria formosa				1
Japanese Honeysuckle*	Lonicera japonica				1
Bocconi's Sand-spurrey*	Spergularia bocconii				1
Catchfly*	Silene spp.				36
Chalkwort *	Gypsophila tubulosa				15
Chickweed*	Stellaria media				36
Childing Pink*	Petrorhagia nanteuillii				2
Coast Sand-spurrey	Spergularia media s.l.				15
Common Mouse-ear					
Chickweed*	Cerastium glomeratum s.l.				64
Common Pearlwort*	Sagina apetala				9
Corn Spurrey*	Spergula arvensis				2
Corn Spurrey*	Spergula spp.				1
Cushion Knawel	Scleranthus minusculus				109
Erect Chickweed*	Moenchia erecta				9
Five-stamen Corn-spurrey*	Spergula pentandra				1
Forest Starwort	Stellaria flaccida				1
Four-leaved Allseed*	Polycarpon tetraphyllum				15
French Catchfly*	Silene gallica				63
Greater Sea-spurrey*	Spergularia media s.s.				1
Hairy Rupture-wort*	Herniaria cinerea				24
Knawel	Scleranthus spp.				2
Lesser Chickweed*	Stellaria pallida				39
Lesser Sand-spurrey*	Spergularia diandra				85
Lesser Sea-spurrey	Spergularia marina s.s.				4
Lesser Thyme-leaved Sandwort*					
Mallee Catchfly*	Arenaria leptoclados				2
Matted Starwort	Silene apetala var. apetala				370
Mediterranean Catchfly*	Stellaria caespitosa				50
Mouse-ear Chickweed*	Silene nocturna				138
Mouse-ear Chickweed*	Cerastium semidecandrum s.l.				2
Native Sea-spurrey	Cerastium spp.				3
Portuguese Catchfly*	Spergularia sp. 1				1
Rayless Starwort	Silene longicaulis				134
Red Sand-spurrey*	Stellaria multiflora				2
Red Sand-spurrey*	Spergularia rubra s.l.				257
Salt Sand-spurrey	Spergularia rubra s.s.				63
Salt Sea-spurrey	Spergularia marina s.l.				1
Sand Spurrey	Spergularia sp. 3				35
Sea Mouse-ear Chickweed*	Spergularia spp.				42
	Cerastium diffusum				1

English Name	Scientific Name	EPBC	V/c	FFG	No.
Spreading Knapel	Scleranthus fasciculatus		r		1
Starwort	Stellaria spp.				4
Sticky Mouse-ear					
Chickweed*	Cerastium glomeratum s.s.				12
Strapwort*	Corrigiola litoralis				4
Swamp Starwort	Stellaria angustifolia				154
Thread Starwort	Stellaria filiformis s.l.				2
Velvety Pink*	Petrorhagia dubia				56
Whitlow Wort*	Paronychia brasiliiana				1
Belah	Casuarina pauper				21
Buloke	Allocasuarina luehmannii			L	174
Drooping Sheoak	Allocasuarina verticillata				8
Sheoak	Casuarina spp.				1
Slaty Sheoak	Allocasuarina muelleriana subsp. muelleriana				3
Swamp Sheoak	Casuarina obesa		e	L	10
Common Hornwort	Ceratophyllum demersum		k		8
Angular Saltbush	Atriplex angulata		e	L	1
Annual Seablite*	Suaeda maritima subsp. maritima				4
Austral Seablite	Suaeda australis				5
Babbagia	Osteocarpum acropterum var. deminutum				212
Baldoo	Atriplex lindleyi subsp. conduplicata		r		8
Beaded Glasswort	Sarcocornia quinqueflora				5
Beaded Glasswort	Sarcocornia quinqueflora subsp. quinqueflora				2
Berry Saltbush	Atriplex semibaccata				431
Berry Seablite*	Suaeda baccifera				61
Black Cotton-bush	Maireana decalvans				293
Black Roly-poly	Sclerolaena muricata				199
Black Roly-poly	Sclerolaena muricata var. muricata		k		15
Blackseed Glasswort	Halosarcia pergranulata				351
Blackseed Glasswort	Halosarcia pergranulata subsp. pergranulata				27
Blackseed Glasswort	Halosarcia pergranulata subsp. divaricata		v		8
Bladder Saltbush	Atriplex vesicaria				77
Bladder Saltbush	Atriplex vesicaria subsp. macrocystidia		k		8
Bladder Saltbush	Atriplex vesicaria subsp. minor		k		5
Bladder Saltbush	Atriplex vesicaria subsp. variabilis				1
Bluebush	Maireana spp.				46
Bluish Glasswort	Halosarcia pruinosa				17
Bonefruit	Osteocarpum salsuginosum				51
Bonefruit	Osteocarpum spp.				1
Bottle Bluebush	Maireana excavata				151
Brown-head Glasswort	Halosarcia indica				3
Brown-head Glasswort	Halosarcia indica subsp. leiostachya				4

English Name	Scientific Name	EPBC	V/c	FFG	No.
Burning Bush*	Bassia scoparia f. trichophylla				1
Chariot Wheels	Maireana cheeili	V	v		25
Chenopod	Chenopodiaceae spp.				6
Clammy Goosefoot	Chenopodium pumilio				68
Coast Bonefruit	Threlkeldia diffusa				1
Copperburr	Sclerolaena spp.				17
Coral Saltbush	Atriplex papillata		r		44
Corky Saltbush	Atriplex lindleyi subsp. inflata				136
Cottony Saltbush	Chenopodium curvispicatum				62
Crested Goosefoot	Chenopodium cristatum				53
Dark Roly-poly	Sclerolaena muricata var. semiglabra		k		16
Desert Glasswort	Pachycornia triandra		r		76
Dwarf Bluebush	Maireana humillima				104
Dwarf Old-man Saltbush	Atriplex nummularia subsp. omisa		r		3
Einadia	Einadia spp.				7
Erect Bluebush	Maireana pentatropis				26
Fat Hen*	Chenopodium album				44
Flat-top Saltbush	Atriplex lindleyi				284
Flat-top Saltbush	Atriplex lindleyi subsp. lindleyi		k		16
Frosted Goosefoot	Chenopodium desertorum				148
Frosted Goosefoot	Chenopodium desertorum subsp. desertorum		r		28
Frosted Goosefoot	Chenopodium desertorum subsp. virosum		k		39
Galvanized Burr	Sclerolaena birchii		k		1
Glasswort	Halosarcia spp.				15
Glasswort	Sarcocornia spp.				3
Glaucous Goosefoot	Chenopodium glaucum				13
Globular Pigweed	Dysphania glomulifera spp. glomulifera				18
Goat Head	Malacocera tricornis		r		115
Goosefoot	Chenopodium spp.				11
Green Copperburr	Sclerolaena decurrens		v		17
Grey Bluebush	Maireana appressa				64
Grey Copperburr	Sclerolaena diacantha				541
Grey Copperburr	Sclerolaena diacantha (erect shrubby form)				1
Grey Glasswort	Halosarcia halocnemoides subsp. halocnemoides				5
Grey Roly-poly	Sclerolaena muricata var. villosa				69
Hairy Bluebush	Maireana pentagona				404
Hairy-wing Bluebush	Maireana trichoptera				4
Hard-head Saltbush	Dissocarpus paradoxus				40
Hastate Orache*	Atriplex prostrata				94
Heathy Bluebush	Maireana oppositifolia		r		5
Hedge Saltbush	Rhagodia spinescens				376
Keel'd Goosefoot	Chenopodium carinatum		v		2
Kidney Saltbush	Atriplex stipitata				19

English Name	Scientific Name	EPBC	V/c	FFG	No.
Lax Goosefoot	Einadia trigonos subsp. trigonos				5
Leafless Bluebush	Maireana aphylla		k		31
Limestone Copperburr	Sclerolaena obliquicuspis				91
Mallee Copperburr	Sclerolaena parviflora				5
Marsh Saltbush	Atriplex paludosa subsp. paludosa		r		1
Mat Saltbush	Atriplex pumilio				111
Mealy Saltbush	Atriplex pseudocampanulata		r		35
Mexican Tea *	Chenopodium ambrosioides				9
Native Orache	Atriplex australasica				3
Nitre Goosefoot	Chenopodium nitriaceum				223
Nodding Saltbush	Einadia nutans subsp. nutans				878
Old-man Saltbush	Atriplex nummularia				94
Old-man Saltbush	Atriplex nummularia subsp. nummularia				5
Pearl Bluebush	Maireana sedifolia		r		9
Pointed Saltbush	Atriplex acutibractea		r		2
Pointed Saltbush	Atriplex acutibractea subsp. karoniensis		r		4
Pop Saltbush	Atriplex holocarpa		v	L	16
Poverty Bush	Sclerolaena intricata		v		11
Prickly Saltwort	Salsola tragus				186
Prickly Saltwort	Salsola tragus subsp. tragus				283
Radiant Bluebush	Maireana radiata				2
Red-stem Goosefoot*	Chenopodium macrospermum				1
Rohrlach's Bluebush	Maireana rohrlachii				38
Rosy Bluebush	Maireana erfoclada				7
Ruby Saltbush	Enchylaena tomentosa var. tomentosa				1096
Sago Bush	Maireana pyramidata				119
Saloop	Einadia hastata				32
Salt Copperburr	Sclerolaena ventricosa		e	L	2
Saltbush	Atriplex spp.				86
Saltbush	Rhagodia spp.				5
Satiny Bluebush	Maireana turbinata				43
Seablite	Suaeda spp.				15
Shining Glasswort	Halosarcia nitida		r		2
Short-leaf Bluebush	Maireana brevifolia				256
Short-wing Saltbush	Sclerochlamys brachyptera				514
Silver Saltbush	Atriplex rhagodioides		v	L	15
Slender Glasswort	Sclerostegia tenuis				32
Slender-fruit Saltbush	Atriplex leptocarpa				530
Slit-wing Bluebush	Maireana georgei		v		1
Small Saltbush	Atriplex eardleyae				70
Small-leaf Bluebush	Maireana microphylla		e		13
Small-leaf Goosefoot	Chenopodium desertorum subsp. microphyllum				
Soda Bush	Neobassia proceriflora		e		50
Sowbane*	Chenopodium murale				2
					37

English Name	Scientific Name	EPBC	V/c	FFG	No.
Spear Orache *	Atriplex patula				3
Spear-fruit Copperburr	Sclerolaena patentiscuspis		v		7
Spiny Goosefoot	Rhagodia ulicina		r		1
Spiny-fruit Saltbush	Atriplex spinibractea		e		23
Sprawling Saltbush	Atriplex suberecta				79
Spreading Saltbush	Atriplex limbata		v	L	12
Star Bluebush	Stelligera endecaspinis				221
Starry Goosefoot	Scleroblitum atriplicinum				40
Stinking Goosefoot*	Chenopodium vulvaria				1
Streaked Copperburr	Sclerolaena tricusps				332
Tangled Copperburr	Sclerolaena divaricata		k		36
Three-wing Bluebush	Maireana triptera		r		6
Turnip Copperburr	Sclerolaena napiformis	E	e	L	17
Twin-flower Saltbush	Dioscarpus biflorus var. biflorus		r		48
Two-spined Copperburr	Sclerolaena uniflora		r		1
Wingless Bluebush	Maireana enchylaenoides				227
Woolly Copperburr	Sclerolaena lanicuspis		e		2
Woolly-fruit Bluebush	Eriochiton sclerolaenoides				20
African Boneseed*	Chrysanthemoides monilifera subsp. monilifera				1
Alpine Buttons	Leptorhynchos squamatus subsp. alpinus		r		1
Angianthus	Angianthus spp.				1
Annual Buttons	Leptorhynchos orientalis		e	L	15
Annual Cudweed	Euchiton sphaericus				170
Annual Everlasting	Chrysocephalum sp. 2				3
Annual Fireweed	Senecio glomeratus				16
Annual New Holland Daisy	Vittadinia cervicularis				45
Annual New Holland Daisy	Vittadinia cervicularis var. cervicularis				15
Annual New Holland Daisy	Vittadinia cervicularis var. subcervicularis				43
Artichoke Thistle*	Cynara cardunculus				14
Aster-weed*	Aster subulatus				284
Austral Bear's-ear	Cymbonotus preissianus				25
Azure Daisy-bush	Olearia rudis				5
Basalt Podolepis	Podolepis sp. 1		e		2
Bathurst Burr*	Xanthium spinosum				110
Bear's-ear	Cymbonotus lawsonianus		r		33
Bear's-ear	Cymbonotus spp.				1
Beauty Buttons	Leptorhynchos tetrachaetus				19
Billabong Daisy	Brachyscome aff. gracilis (Kings Billabong)		v	L	8
Billy Buttons	Craspedia spp.				17
Billy Buttons	Pycnosorus spp.				1
Blanket Leaf	Bedfordia arborescens				1
Blue Burr-daisy	Calotis cuneifolia		r		32
Blue Sow-thistle*	Sonchus asper subsp. glaucescens				6
Blunt Everlasting	Argemipallium obtusifolium				1

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Branching Groundsel	Senecio cunninghamii var. cunninghamii		r		45
Bristly Hawksbeard*	Crepis setosa				2
Broad-leaf Millotia	Millotia myosotidifolia				15
Burr Daisy	Calotis spp.				13
Bush Minuria	Minuria cunninghamii		r		32
Button Everlasting	Helichrysum scorpioides				2
Button Immortelle	Leptorhynchos waitzia		v		2
Buttons	Leptorhynchos spp.				11
Californian Burr*	Xanthium orientale				1
Calomba Daisy*	Oncosiphon suffruticosum				1
Canadian Fleabane*	Conyza canadensis s.l.				2
Cape Weed*	Arctotheca calendula				376
Carpet Burrweed*	Soliva stolonifera				5
Cassinia	Cassinia spp.				1
Cat's Ear*	Hypochoeris spp.				49
Chamomile Sunray	Rhodanthe anthemoides				3
Chicory*	Cichorium intybus				30
Glammy Sow-thistle*	Sonchus tenerimus				14
Clay Sunray	Rhodanthe Stuartiana				13
Club-hair New Holland Daisy	Vittadinia condyloides		r		24
Club-moss Daisy-bush	Olearia lepidophylla				3
Clustered Everlasting	Chrysocephalum semipapposum				11
Clustured/Creeping Cudweed	Euchiton collinus s.l.				2
Coarse Bottle-daisy	Lagenophora huegelii				4
Cocklebur*	Xanthium spp.				6
Common Billy-buttons	Craspedia glauca spp. agg.				30
Common Bottle-daisy	Lagenophora stipitata				1
Common Bow-flower	Millotia muelleri				24
Common Cassinia	Cassinia aculeata				6
Common Cotula	Cotula australis				128
Common Cudweed	Euchiton involucratu s.l.				22
Common Everlasting	Chrysocephalum apiculatum s.l.				110
Common Everlasting	Chrysocephalum apiculatum s.s.				8
Common Sneezeweed	Centipeda cunninghamii				372
Common Sow-thistle*	Sonchus oleraceus				968
Common Sunflower*	Helianthus annuus				3
Common Sunray	Triptilodiscus pygmaeus				112
Common White Sunray	Rhodanthe floribunda		e		3
Compact Sneezeweed	Centipeda crateriformis subsp. compacta		r		1
Composite	Asteraceae spp.				6
Cotton Fireweed	Senecio quadridentatus				214
Cotton Sneezeweed	Centipeda nidiformis		r		13
Cotula	Cotula spp.				13
Creeping Cotula	Leptinella reptans s.l.				1
Creeping Cudweed	Euchiton collinus s.s.				27

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Creeping Knapweed*	Acroptilon repens				72
Cretan Hedynopsis*	Hedynopsis cretica				64
Crownbeard*	Verbesina encelloides subsp. encelloides				9
Cudweed	Euchiton spp.				6
Cudweed	Gnaphalium spp.				6
Cut-leaf Burr-daisy	Calotis anthemoides				33
Cut-leaf Daisy	Brachyscome multifida				3
Daisy	Brachyscome spp.				31
Dandelion	Taraxacum spp.				17
Delicate Podolepis	Podolepis tepperi				1
Desert Sneezeweed	Centipeda thespidioides s.l.		r		16
Desert Sneezeweed	Centipeda thespidioides s.s.		r		1
Dissected Fireweed	Senecio bathurstianus				1
Dissected New Holland Daisy	Vittadinia dissecta s.l.				169
Dissected New Holland Daisy	Vittadinia dissecta var. hirta				25
Dissected New Holland Daisy	Vittadinia dissecta s.s.				2
Dookie Daisy	Brachyscome gracilis		v	L	10
Downy Daisy	Brachyscome debilis s.l.				1
Drooping Cassinia	Cassinia arcuata				105
Drumsticks	Pycnosorus globosus				100
Dwarf Beauty-heads	Blennospora drummondii				1
Dwarf Cup-flower	Gnephosis tenuissima		r		6
Dwarf Daisy	Brachyscome goniocharpa				7
Dwarf Jo-jo*	Soliva anthemifolia				15
Dwarf Marigold*	Schkuhria pinnata var. abrotanoides				1
Elatine Sneezeweed	Centipeda elatinoideis				1
Everlasting	Helichrysum spp.				1
False Hawkbit*	Urospermum picroides				1
False Sow-thistle*	Reichardia tingitana				176
Ferny Cotula*	Cotula bipinnata				258
Field Daisy	Brachyscome decipiens				1
Field Marigold*	Calendula arvensis				1
Fireweed Groundsel	Senecio linearifolius				1
Flannel Cudweed	Actinobole uliginosum				255
Flatweed*	Hypochoeris radicata				253
Flaxleaf Fleabane*	Conyza bonariensis				94
Fleabane*	Conyza spp.				17
Floodplain Fireweed	Senecio glandulosus		r		3
Fringed Daisy-bush	Olearia ciliata				1
Furrowed New Holland Daisy	Vittadinia sulcata		k		1
Fuzzy New Holland Daisy	Vittadinia cuneata				241
Fuzzy New Holland Daisy	Vittadinia cuneata var. morrisii		r		3
Fuzzy New Holland Daisy	Vittadinia cuneata var. cuneata				23
Fuzzy New Holland Daisy	Vittadinia cuneata var. hirsuta		r		3
Garden Dandelion*	Taraxacum Sect. erythrosperma				3

English Name	Scientific Name	EPBC	V/c	FFG	No.
Garden Dandelion*	Taraxacum Sect. hamata				1
Garden Dandelion*	Taraxacum officinale spp. agg.				10
Gazania*	Gazania linearis				4
Golden Billy-buttons	Pycnosorus chrysanthus				27
Golden Everlasting	Xerochrysum bracteatum				72
Golden Sunray	Hyalosperma glutinosum subsp. glutinosum				11
Golden Thistle*	Scolymus hispanicus				3
Grass Cushion	Isoetopsis graminifolia				248
Grass Daisy	Brachyscome graminea				2
Grey Billy-buttons	Craspedia canens		e	L	1
Grey Everlasting	Ozothamnus obcordatus				4
Grey Podolepis	Podolepis canescens		r		3
Grey Wrinklewort	Rutidosia helichrysoides		x		1
Groundheads	Chthonocephalus pseudevax				18
Groundsel	Senecio spp.				12
Hairy Angianthus	Angianthus tomentosus				11
Hairy Burr-daisy	Calotis hispidula				511
Hairy Hawkbit*	Leontodon taraxacoides subsp. taraxacoides				128
Hairy Solenogyne	Solenogyne gunnii				3
Hard-head Daisy	Brachyscome lineariloba				609
Hawksbeard*	Crepis spp.				1
Hoary Sunray	Leucochrysum albicans				10
Indian Cudweed	Gnaphalium polycaulon				43
Indian Weed	Sigesbeckia orientalis subsp. orientalis				12
Inland Daisy	Brachyscome trachycarpa		v		2
Jersey Cudweed	Pseudognaphalium luteoalbum				227
Jo Jo*	Soliva sessilis				5
Knapweed*	Centaurea spp.				1
Large-fruited Millotia	Millotia macrocarpa		r		5
Lemon Beauty-heads	Calocephalus citreus				91
Lesser Mantle	Eriochlamys sp. 1		v		1
Lettuce*	Lactuca spp.				9
Lobe-seed Daisy	Brachyscome dentata				29
Malta Thistle*	Centaurea melitensis				135
Mantisalca*	Mantisalca salmantica				1
Mantle	Eriochlamys spp.				9
Mayweed Sunray	Hyalosperma praecox				28
Milkwort Sunray	Rhodanthe polygalifolia		r		3
Milky Beauty-heads	Calocephalus lacteus				2
Millotia	Millotia spp.				4
Minnie Daisy	Minuria leptophylla				45
Moss Sunray	Hyalosperma demissum				7
Mountain Burr-daisy	Calotis pubescens		x		1
Mueller Daisy	Brachyscome muelleroides	V	e	L	6
Mueller Daisy-bush	Olearia muelleri				10

English Name	Scientific Name	EPBC	V/c	FFG	No.
Murray Groundsel	Senecio murrayanus		x		1
Musk Sunray	Rhodanthe moschata				14
Narrow-leaf New Holland Daisy	Vittadinia muelleri				2
Native Picris	Picris angustifolia				23
Native Sow-thistle	Sonchus hydrophilus				5
New Holland Daisy	Vittadinia spp.				279
Noogoora Burr species a ggregate*	Xanthium strumarium spp. agg.				59
Noogoora Burr*	Xanthium occidentale				1
Nut Heads	Epaltes spp.				1
Orange Immortelle	Waitzia acuminata var. acuminata				3
Orange Sunray	Hyalosperma semisterile				33
Ox-tongue*	Helminthotheca echinoides				297
Pale Beauty-heads	Calocephalus sonderi				346
Pale Everlasting	Helichrysum rutidolepis s.l.				13
Pale Everlasting	Helichrysum rutidolepis s.s.				11
Pale Plover-daisy	Leiocarpa leptolepis		e	L	15
Pale Swamp Everlasting	Helichrysum aff. rutidolepis (Lowland Swamps)		v		41
Panicked Knapweed*	Centaurea paniculata				1
Paper Sunray	Rhodanthe corymbiflora				245
Picris	Picris spp.				3
Pimelea Daisy-bush	Olearia pimeleoides				57
Plains Billy-buttons	Craspedia haptorhiza		k		5
Plains Everlasting	Chrysocephalum sp. 1				1
Plover Daisy	Leiocarpa spp.				16
Poached-eggs Daisy	Polycalymma stuartii				316
Podolepis	Podolepis spp.				3
Poverty Weed*	Iva axillaris subsp. robustior				6
Prickly Cudweed	Stuartina hamata		r		1
Prickly Lettuce*	Lactuca serriola				342
Purple Cudweed*	Gamochaeta purpurea s.l.				34
Pygmy Sunray	Rhodanthe pygmaea				123
Rasp Daisy-bush	Olearia picridifolia		v		1
Rayless Daisy	Brachyscome perpussilla				8
Reader's Daisy	Brachyscome readeri		r		9
Riverina Groundsel	Senecio productus subsp. productus		v		1
Rough Burr-daisy	Calotis scabiosifolia				79
Rough Burr-daisy	Calotis scabiosifolia var. integrifolia				1
Rough Burr-daisy	Calotis scabiosifolia var. scabiosifolia				24
Rough Fireweed	Senecio hispidulus s.l.				2
Rough Sow-thistle*	Sonchus asper s.l.				271
Rough Sow-thistle*	Sonchus asper subsp. asper				10
Rough Sow-thistle*	Sonchus asper s.s.				1

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Saffron Thistle*	Carthamus lanatus				136
Salsify*	Tragopogon porifolius				7
Satin Everlasting	Helichrysum leucopsidium				14
Scały Buttons	Leptorhynchus squamatus				119
Scały Buttons	Leptorhynchus squamatus subsp. squamatus				6
Scorzonera*	Scorzonera laciniata				77
Scorzonera*	Scorzonera laciniata var. calcitrapifolia				11
Scorzonera*	Scorzonera laciniata var. laciniata				1
Scorzonera*	Scorzonera spp.				13
Scotch Thistle*	Onopordum acanthium subsp. acanthium				24
Shiny Cassinia	Cassinia longifolia				6
Shiny Daisy-bush	Olearia passerinoides				3
Shiny Everlasting	Xerochrysum viscosum				9
Showy Podolepis	Podolepis jaceoides s.s.				6
Showy/Basalt Podolepis	Podolepis jaceoides s.l.				7
Shrubby Fireweed	Senecio minimus				1
Silky Cudweed*	Gamochaeta calviceps				9
Skeleton Weed*	Chondrilla juncea				203
Slender Fireweed	Senecio tenuiflorus spp. agg.				17
Slender Groundsel	Senecio glossanthus s.l.				484
Slender Sunray	Rhodanthe stricta		e	L	4
Slender Thistle*	Carduus pycnocephalus				65
Slender Thistle*	Carduus spp.				2
Small Elachanth	Elachanthus pusillus		r		4
Small Fleabane*	Conyza parva				7
Small Swamp-daisy	Allittia uliginosa				1
Smooth Cat's-ear*	Hypochoeris glabra				946
Smooth Elachanth	Elachanthus glaber		r		6
Smooth Fleabane*	Conyza bilbaoana				12
Smooth Hawksbeard*	Crepis capillaris				1
Smooth Minuria	Minuria integririma		r		55
Smooth Solenogyne	Solenogyne dominii				43
Sneezeweed	Centipeda spp.				8
Soft Billy-buttons	Pycnosorus pleiocephalus				22
Soft Millotia	Millotia tenuifolia var. tenuifolia				4
Soft Sunray	Leucochrysum molle		v		1
Soldier Thistle*	Picnomon acarna				1
Solenogyne	Solenogyne spp.				2
Sow Thistle	Sonchus spp.				36
Spear Thistle*	Cirsium vulgare				474
Spiked Cudweed*	Gamochaeta purpurea s.s.				7
Spiked Cudweed*	Gamochaeta americana				8
Spiked Daisy-bush	Olearia subspicata		v		1
Splendid Daisy-bush	Olearia magniflora				1

English Name	Scientific Name	EPBC	V/c	FFG	No.
Spoon Cudweed	Stuartina muelleri				30
Spreading Angianthus	Angianthus brachypappus		v		6
Spreading Nut-heads	Sphaeromorphaea australis				52
Spreading Sneezeweed	Centipeda minima s.l.				84
Spreading Sneezeweed	Centipeda minima subsp. minima s.s.				24
Squat Picris	Picris squarrosa		r		18
St Barnaby's Thistle*	Centaurea solstitialis				6
Stalked Plover-daisy	Leiocarpa websteri				29
Star Cudweed	Euchiton involucratu s.s.				38
Star Thistle*	Centaurea calcitrapa				12
Stemless Thistle*	Onopordum acaulon				34
Sticky Long-heads	Podotheca angustifolia				15
Sticky New Holland Daisy	Vittadinia australasica var. australasica				1
Sticky New Holland Daisy	Vittadinia australasica var. oricola		k		1
Stiff Cup-flower	Pogonolepis muelleriana				209
Stiff Groundsel	Senecio behrianus		E	e L	16
Stinking Hawksbeard*	Crepis foetida subsp. foetida				6
Stinking Roger*	Tagetes minuta				3
Stinkwort*	Dittrichia graveolens				163
Stony Fireweed	Senecio phelleus				3
Sunray	Hyalosperma spp.				17
Swamp Billy-buttons	Craspedia paludicola				127
Tall Daisy	Brachyscome diversifolia				4
Tall Fireweed	Senecio runcinifolius				171
Tall Fleabane*	Conyza sumatrensis				101
Tall Nut-heads	Epaltes cunninghamii		v		8
Tall Sneezeweed	Centipeda pleiocephala		x		1
Tangled Burr-daisy	Calotis erinacea				138
Thistle*	Carthamus spp.				1
Thistle*	Cirsium spp.				1
Tiny Bow-flower	Millotia perpusilla				33
Tiny Cudweed	Gnaphalium indutum				11
Toothed Groundsel	Senecio platylepis		r		5
Trifid Burr-marigold*	Bidens tripartita				1
Tripteris*	Osteospermum clandestinum				40
Tufted Burr-daisy	Calotis scapigera				106
Variable Billy-buttons	Craspedia variabilis				6
Variable Daisy	Brachyscome ciliaris				143
Variable Daisy	Brachyscome ciliaris var. brachyglottis				1
Variable Daisy	Brachyscome ciliaris var. ciliaris				2
Variable Daisy	Brachyscome ciliaris var. lanuginosa				3
Variable Daisy	Brachyscome ciliaris var. subintegrifolia				2
Variable Groundsel	Senecio pinnatifolius				125
Variegated Thistle*	Silybum marianum				91
Water Buttons*	Cotula coronopifolia				68

English Name	Scientific Name	EPBC	V/c	FFG	No.
White Cudweed*	Vellereophyton dealbatum				4
Willow-leaf Lettuce*	Lactuca saligna				82
Winged New Holland Daisy	Vittadinia pterochaeta	v			10
Winged Slender-thistle*	Carduus tenuiflorus				63
Wires-and-wool	Lemooria burkittii	x			1
Wiry Buttons	Leptorhynchus tenuifolius				1
Wiry Podolepis	Podolepis capillaris				46
Woodland Swamp-daisy	Brachyscome basaltica var. gracilis				155
Woolly Buttons	Leiocarpa panaetoides				61
Woolly Mantle	Eriochlamys behrii s.l.	r			66
Woolly Minuria	Minuria denticulata	r			8
Woolly New Holland Daisy	Vittadinia gracilis				262
Woolly-heads	Myriocephalus rhizocephalus				68
Yam Daisy	Microseris scapigera spp. agg.				15
Yam Daisy	Microseris sp. 3				9
Yam Daisy	Microseris spp.				4
Yellow Burr-daisy	Calotis lappulacea	r			1
Yellow Hawkweed*	Tolpis barbata				5
Yellow Twin-heads	Ecilpta platyglossa				159
Yellow-tongue Daisy	Brachyscome chrysoglossa	v	L		7
Bindweed	Convolvulus spp.				4
Blushing Bindweed	Convolvulus angustissimus				1
Blushing Bindweed	Convolvulus angustissimus subsp. angustissimus				1
Common Bindweed*	Convolvulus arvensis				22
Desert Bindweed	Convolvulus clementii	v			1
Grass Bindweed	Convolvulus remotus				59
Kidney-weed	Dichondra repens				77
Large Bindweed	Calystegia sepium subsp. roseata				3
Pink Bindweed	Convolvulus erubescens spp. agg.				243
Rosinweed	Cressa australis				182
Round-leaf Wilsonia	Wilsonia rotundifolia				4
Silky Wilsonia	Wilsonia humilis				2
Wilsonia	Wilsonia spp.				1
Wimmera Bindweed	Convolvulus wimmerensis				2
Australian Stonecrop	Crassula tetramera				7
Crassula	Crassula spp.				55
Dense Crassula	Crassula colorata				884
Dense Crassula	Crassula colorata var. colorata				1
Dense Crassula	Crassula colorata var. acuminata				7
Large-fruit Crassula	Crassula exserta				5
Pig's Ear*	Cotyledon orbiculata				1
Purple Crassula	Crassula peduncularis				27
Sieber Crassula	Crassula sieberiana s.l.				613
Spreading Crassula	Crassula decumbens var. decumbens				156

English Name	Scientific Name	EPBC	V/c	FFG	No.
Stalked Crassula	Crassula closiana				1
Swamp Crassula	Crassula helmsii				40
Water Crassula*	Crassula natans var. minus				7
Annual Bitter-cress	Cardamine paucijuga s.l.				86
Annual Bitter-cress	Cardamine paucijuga s.s.	v			1
Argentine Cress*	Lepidium bonariense				12
Basalt Peppergrass	Lepidium hyssopifolium	E	e	L	2
Bitter Cress	Cardamine spp.				9
Bitter Cress	Rorippa spp.				9
Bundled Peppergrass	Lepidium fasciculatum	k			26
Cabbage*	Brassica oleracea				1
Common Bitter-cress*	Cardamine hirsuta s.s.				1
Common Peppergrass*	Lepidium africanum				251
Crucifer	Brassicaceae spp.				5
Dwarf Bitter-cress	Rorippa eustylis	r			20
Earth Cress	Geococcus pusillus				10
Fat Spectacles	Menkea crassa	e	L		1
Flax-leaf Alyssum*	Alyssum linifolium				16
Giant Mustard*	Rapistrum rugosum				11
Hedge Mustard*	Sisymbrium officinale				7
Hoary Cress*	Lepidium draba				11
Indian Hedge-mustard*	Sisymbrium orientale				27
Jagged Bitter-cress	Rorippa lachniata				61
Lesser Swine-cress*	Lepidium didymum				8
London Rocket*	Sisymbrium irio				96
Marsh Yellow-cress*	Rorippa palustris				41
May Smocks	Harmsiodoxa blennodioides				79
Mediterranean Turnip*	Brassica tournefortii				628
Mustard*	Sisymbrium spp.				13
Narrow Thread-petal	Stenopetalum lineare				18
Native Peppergrass	Lepidium pseudohyssopifolium	k			41
Oval Purse	Hymenolobus procumbens				2
Pea Thread-petal	Stenopetalum sphaerocarpum				2
Peppergrass	Lepidium spp.				76
Purple-vein Rocket*	Eruca vesicaria subsp. sativa				1
Riverina Bitter-cress	Cardamine moirensis	r			10
Sand Cress	Pachymitus cardaminoides				18
Sand Rocket*	Diploaxis tenuifolia				1
Shepherd's Purse*	Capsella bursa-pastoris				43
Short Cress	Harmsiodoxa brevipes var. brevipes				44
Shrubby Cress	Arabidella trisecta				2
Slender Bitter-cress	Cardamine tenuifolia	k			3
Smooth Mustard*	Sisymbrium erysimoides				151
Spectacles	Menkea spp.				1
Turnip*	Brassica spp.				2

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Twiggy Turnip*	Brassica fruticulosa				7
Veined Peppergrass	Lepidium phlebopetalum		e		4
Wall Rocket *	Diplotaxis muralis				5
Ward's Weed*	Carrichtera annua				18
Warty Peppergrass	Lepidium papillosum		k		75
Watercress*	Nasturtium officinale				1
Western Bitter-cress	Cardamine lineariloba		v		3
Wild Radish*	Raphanus raphanistrum				8
Winged Peppergrass	Lepidium monophlooides	E	e	L	32
Camel Melon	Citrullus lanatus				11
Colocynth *	Citrullus colocynthis				1
Mallee Cucumber	Mukia micrantha		r		6
Paddy Melon *	Cucumis myriocarpus subsp. leptodermis				36
Squirting Cucumber*	Ecballium elaterium				1
Dodder	Cuscuta spp.				4
Field Dodder*	Cuscuta campestris				16
Golden Dodder	Cuscuta tasmanica				15
Inland Dodder	Cuscuta victoriana		x		1
Grey Guinea-flower	Hibbertia obtusifolia				5
Hoary Guinea-flower	Hibbertia crinita				1
Juniper Guinea-flower	Hibbertia calycina				2
Silky Guinea-flower	Hibbertia sericea s.l.				2
Spiky Guinea-flower	Hibbertia exiliacis				2
Twiggy Guinea-flower	Hibbertia virgata				1
Upright Guinea-flower	Hibbertia stricta s.l.				1
Flycatcher	Drosera indica		v		1
Pale Sundew	Drosera peltata subsp. peltata				6
Pale Sundew	Drosera peltata				4
Scarlet Sundew	Drosera glanduligera				6
Scented Sundew	Drosera whittakeri subsp. aberrans				1
Sundew	Drosera spp.				2
Tall Sundew	Drosera peltata subsp. auriculata				8
Small Water-fire	Bergia trimera		v		2
Waterwort	Elatine gratioloides				41
Common Beard-heath	Leucopogon virgatus var. brevifolius		r		1
Cranberry Heath	Astroloma humifusum				2
Crimson Berry	Leptecophylla juniperina subsp. oxycedrus		v		1
Daphne Heath	Brachyloma daphnoides				7
Flame Heath	Astroloma conostephioides				1
Heart-leaf Beard-heath	Leucopogon cordifolius				2
Honey-pots	Acrotriche serrulata				3
Ruddy Beard-heath	Leucopogon rufus				1
Urn Heath	Melichrus urceolatus				5
Coast Bitter-bush	Adriana quadripartita		v		1
Dark Turpentine Bush	Beyeria opaca				1

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Desert Spurge	Euphorbia tannensis subsp. eremophilla		e	L	1
Eyebane*	Chamaesyce maculata				1
Flat Spurge	Chamaesyce drummondii				483
Lagoon Spurge	Phyllanthus lacunarius		v		10
Mallee Bitter-bush	Adriana urticoides var. hookeri				8
Petty Spurge*	Euphorbia peplus				13
Plains Spurge	Euphorbia planiticola		e	L	3
Sandhill Spurge	Phyllanthus lacunellus		r		8
Small Poranthera	Poranthera microphylla s.l.				4
Spurge	Euphorbia spp.				13
Terracina Spurge*	Euphorbia terracina				6
English Oak*	Quercus robur				2
Bristly Sea-heath	Frankenia serpyllifolia		r		22
Hoary Sea-heath	Frankenia crispa		r		1
Leafy Sea-heath	Frankenia foliosa		r		1
Sea Heath	Frankenia spp.				6
Small-leaf Sea-heath	Frankenia sessilis		r		1
Bastard's Fumitory*	Fumaria bastardii				14
Dense-flower Fumitory*	Fumaria densiflora				4
Fumitory*	Fumaria officinalis spp. agg.				3
Fumitory*	Fumaria spp.				6
Indian Fumitory*	Fumaria indica				1
Persian Poppy*	Hypecoum pendulum				3
Ramping Fumitory*	Fumaria capreolata				6
Small-flower Fumitory*	Fumaria parviflora var. parviflora				3
Wall Fumitory*	Fumaria muralis subsp. muralis				6
Centauray*	Centaurium spp.				10
Common Centauray*	Centaurium erythraea				11
Slender Centauray*	Centaurium tenuiflorum				90
Slender Cicendia*	Cicendia filiformis				1
Spiked Centauray	Centaurium spicatum				28
Square Cicendia*	Cicendia quadrangularis				37
Austral Crane's-bill	Geranium solanderi s.l.				30
Austral Stork's-bill	Pelargonium australe				3
Big Heron's-bill*	Erodium botrys				139
Blue Heron's-bill	Erodium cicutarium				168
Common Heron's-bill*	Erodium cicutarium				132
Crane's Bill	Geranium spp.				8
Cut-leaf Crane's-bill*	Geranium dissectum				3
Dove's Foot*	Geranium molle var. molle				5
Grassland Crane's-bill	Geranium retrorsum s.l.				42
Grassland Crane's-bill	Geranium retrorsum s.s.				4
Hairy-pit Heron's-bill*	Erodium brachycarpum				5
Heron's Bill	Erodium spp.				74
Magenta Stork's-bill	Pelargonium rodneyanum				1

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Musky Heron's-bill*	Erodium moschatum				30
Naked Crane's-bill	Geranium sp. 5				6
Stork's Bill	Pelargonium spp.				1
Variable Crane's-bill	Geranium sp. 2				12
Bent Goodenia	Goodenia geniculata				1
Black's Goodenia	Goodenia blackiana				1
Blue Dampiera	Dampiera stricta				1
Cut-leaf Goodenia	Goodenia pinnatifida				76
Goodenia	Goodenia spp.				87
Grassland Velleia	Velleia arguta		r		5
Grooved Dampiera	Dampiera lanceolata var. lanceolata				4
Ivy Goodenia	Goodenia hederacea				1
Ivy Goodenia	Goodenia hederacea subsp. hederacea				1
Lanky Goodenia	Goodenia elongata				12
Pale Goodenia	Goodenia glauca				178
Prickly Fan-flower	Scaevola spinescens				7
Sandhill Goodenia	Goodenia willisiana				11
Silky Goodenia	Goodenia fascicularis				73
Skeleton Fan-flower	Scaevola depauperata		e		3
Slender Goodenia	Goodenia gracilis				86
Small-flower Goodenia	Goodenia pusilliflora				215
Spreading Goodenia	Goodenia heteromera				59
Spur Velleia	Velleia paradoxa				19
Sticky Goodenia	Goodenia varia				4
Stiff Goodenia	Goodenia lunata		v		1
Swamp Goodenia	Goodenia humilis				6
Velleia	Velleia spp.				2
Velvet Dampiera	Dampiera marifolia				1
Bell-fruit Tree	Codonocarpus cotinifolius				1
Wheel Fruit	Gyrostemon australasicus				2
Amphibious Water-milfoil	Myriophyllum simulans				5
Bluish Raspwort	Haloragis glauca f. glauca		k		56
Clustered Water-milfoil	Myriophyllum glomeratum				1
Coarse Water-milfoil	Myriophyllum caput-medusae				17
Common Raspwort	Gonocarpus tetragynus				21
Creeping Raspwort	Gonocarpus micranthus subsp. micranthus				1
Golden Pennants	Glischrocaryon behrii				2
Hooded Water-milfoil	Myriophyllum muelleri				1
Lake Water-milfoil	Myriophyllum salsguineum				10
Mat Water-milfoil	Myriophyllum pedunculatum				1
Parrot's Feather*	Myriophyllum aquaticum				1
Raspwort	Gonocarpus spp.				1
Raspwort	Haloragis spp.				18
Red Water-milfoil	Myriophyllum verrucosum				36
Ridged Water-milfoil	Myriophyllum porcatum	V	v	L	2

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Robust Water-milfoil	Myriophyllum papillosum				89
Rough Raspwort	Haloragis aspera				106
Shade Raspwort	Gonocarpus humilis				1
Tall Raspwort	Gonocarpus elatus				6
Toothed Raspwort	Haloragis odontocarpa				4
Toothed Raspwort	Haloragis odontocarpa f. pterocarpa				2
Upright Water-milfoil	Myriophyllum crispatum				155
Varied Raspwort	Haloragis heterophylla				31
Varied Water-milfoil	Myriophyllum varifolium				9
Water-milfoil	Myriophyllum spp.				56
Small St John's Wort	Hypericum gramineum				53
St John's Wort	Hypericum spp.				1
St John's Wort*	Hypericum perforatum subsp. veronense				75
Austral Bugle	Ajuga australis				101
Australian Gipsywort	Lycopus australis				4
Creeping mint	Mentha saturoides				53
Dead Nettle*	Lamium amplexicaule				8
Dwarf Skullcap	Scutellaria humilis				1
Forest Mint	Mentha laxiflora				10
Germander	Teucrium spp.				30
Grey Germander	Teucrium racemosum s.l.				155
Grey Germander	Teucrium racemosum s.s.				25
Horehound*	Marrubium vulgare				242
Mint	Mentha spp.				3
Pennyroyal*	Mentha pulegium				51
River Mint	Mentha australis				38
Sage	Salvia spp.				1
Scarlet Mint-bush	Prostanthera aspalathoides				1
Scurfy Germander	Teucrium albicaule		k		6
Self-heal*	Prunella vulgaris				3
Slender Mint	Mentha diemenica				25
Snowy Mint-bush	Prostanthera nivea var. nivea		r		1
Stagger Weed*	Stachys arvensis				6
Stiff Westringia	Westringia rigida				4
Topped Lavender*	Lavandula stoechas subsp. stoechas				1
Victorian Christmas-bush	Prostanthera lasianthos				1
Wild Sage*	Salvia verbenaca				153
Wild Sage*	Salvia verbenaca var. vernalis				4
Coarse Dodder-laurel	Cassytha melantha				4
Bladderwort	Utricularia spp.				3
Fairies' Aprons	Utricularia dichotoma s.l.				1
Single Bladderwort	Utricularia uniflora		k		1
Yellow Bladderwort	Utricularia australis				10
White Cedar*	Melia azedarach				2
Native Flax	Linum marginale				54

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Flax-leaf Logania	Logania linifolia				1
Box Mistletoe	Amyema miquelii				128
Buloke Mistletoe	Amyema linophylla subsp. orientale		v		25
Creeping Mistletoe	Muellerina eucalyptoides				21
Drooping Mistletoe	Amyema pendula				13
Fleshy Mistletoe	Amyema miraculosa subsp. boormanii				15
Grey Mistletoe	Amyema quandang var. quandang				6
Harlequin Mistletoe	Lysiana exocarp				13
Mistletoe	Amyema spp.				9
Wire-leaf Mistletoe	Amyema preissii				7
Jerry-jerry	Ammannia multiflora		v		7
Purple Loosestrife	Lythrum salicaria				21
Small Loosestrife	Lythrum hyssopifolia				260
Alkali Sida*	Malvella leprosa				22
Australian Hollyhock	Malva australiana s.l.				12
Australian Hollyhock	Malva australiana s.s.				8
Bladder Ketmia*	Hibiscus trionum var. trionum				3
Chingma Lantern*	Abutilon theophrasti				12
Desert Lantern	Abutilon otocarpum		v		17
Dwarf Lantern-flower	Abutilon fraseri		e	L	10
Dwarf Mallow*	Malva neglecta				1
Hemp Bush	Gynatrix pulchella s.s.				1
Low Hibiscus	Hibiscus brachysiphonius		e	L	9
Mallow	Malva spp.				12
Mallow of Nice*	Malva nicaeensis				20
Narrow-leaf Sida	Sida trichopoda				99
Paddy's Lucerne*	Sida rhombifolia				2
Pin Sida	Sida fibulifera		v		30
Pink Pavonia*	Pavonia hastata				2
Red-flower Mallow*	Modiola caroliniana				45
Sand Sida	Sida ammophila		v		34
Sida	Sida spp.				25
Small-flower Mallow*	Malva parviflora				80
Straggly Lantern-bush	Abutilon oxycarpum		e	L	7
Thorny Lawrenceia	Lawrenceia squamata				13
Twiggy Sida	Sida intricata		v		43
Variable Sida	Sida corrugata				431
Variable Sida (grey-leaf form)	Sida aff. corrugata (grey-leaf Boort form)		e		1
Running Marsh-flower	Villarsia reniformis				1
Wavy Marshwort	Nymphoides crenata		v	N	28
Ausfeld's Wattle	Acacia ausfeldii		v	X	4
Bent-leaf Wattle	Acacia flexifolia		r		1
Black Wattle	Acacia mearnsii				3
Blackwood	Acacia melanoxylon				10
Box-leaf Wattle	Acacia buxifolia subsp. buxifolia				1

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Bramble Wattle	Acacia victoriae		r		3
Cootamundra Wattle*	Acacia baileyana				6
Currawang	Acacia doratoxylon		r		2
Deane's Wattle	Acacia deanei subsp. paucijuga		r		3
Drooping Wattle	Acacia difformis				2
Dwarf Wyal	Acacia ancistrophylla var. lissophylla		v		1
Dwarf Nealie	Acacia wilhelmiana				9
Early Black-wattle*	Acacia decurrens				4
Eumong	Acacia stenophylla				153
Flinders Range Wattle*	Acacia iteaphylla				2
Gold-dust Wattle	Acacia acinacea s.l.				79
Gold-dust Wattle	Acacia acinacea s.s.				55
Golden Wattle	Acacia pycnantha				27
Golden Wreath Wattle*	Acacia saligna				9
Grey Mulga	Acacia brachybotrya				19
Hakea Wattle	Acacia hakeoides				8
Hall's Wattle	Acacia halliana				5
Hard-leaf Wattle	Acacia sclerophylla var. sclerophylla				4
Harrow Wattle	Acacia acanthoclada subsp. acanthoclada				1
Hedge Wattle	Acacia paradoxa				9
Hickory Wattle	Acacia penninervis var. penninervis		r		1
Juniper Wattle	Acacia ulicifolia				2
Lightwood	Acacia implexa				37
Mallee Wattle	Acacia montana				14
Manna Wattle	Acacia microcarpa s.l.				1
Manna Wattle	Acacia microcarpa s.s.				2
Mesquite*	Prosopis spp.				2
Nealie	Acacia toderi		v		11
Nealie	Acacia rigens				15
Ovens Wattle	Acacia pravissima				5
Pale Hickory-wattle	Acacia sporadica		v		1
Ploughshare Wattle	Acacia gunnii				1
Red-stem Wattle	Acacia rubida				2
Silver Wattle	Acacia dealbata				212
Small Cooba	Acacia ligulata				59
Spine Bush	Acacia nyssophylla				1
Spiny Wattle	Acacia spinescens				2
Spreading Wattle	Acacia genitifolia				3
Spur-wing Wattle	Acacia triptera		r		10
Sticky Hop Wattle*	Acacia dodonaeifolia				1
Streaked Wattle	Acacia lineata		r		1
Thin-leaf Wattle	Acacia aculeatissima				1
Three-nerve Wattle	Acacia trineura		v		1
Umbrella Wattle	Acacia oswaldii				102
Varnish Wattle	Acacia verniciflua				6

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Velvet Mesquite*	Prosopis velutina				4
Wait-a-while	Acacia colletioides		r		7
Willowia	Acacia eathycarpa				1
Willow	Acacia eathycarpa subsp. eathycarpa				2
Wattle	Acacia spp.				11
Wedderburn Wattle	Acacia eathycarpa subsp. oblanceolata		v		3
Weeping Myall	Acacia pendula		e	L	7
Western Silver Wattle	Acacia decora		v		4
Willow Wattle	Acacia salicina				37
Yarran	Acacia melvillei		v		28
Yarran Wattle	Acacia omalophylla		e	L	5
Hairy Carpet-weed	Glinus lotoides				20
Indian Chickweed	Mollugo verticillata		k		2
Slender Carpet-weed	Glinus oppositifolius				9
Fig*	Ficus carica				1
Osage Orange*	Maclura pomifera				8
Berrigan	Eremophila longifolia				54
Bignonia Emu-bush	Eremophila bignoniiflora		v	L	9
Common Boobialla#	Myoporum insulare				3
Common Emu-bush	Eremophila glabra				14
Creeping Myoporum	Myoporum parvifolium				10
Emu Bush	Eremophila spp.				1
Myoporum	Myoporum spp.				2
Narrow-leaf Emu-bush	Eremophila sturtii		e	L	2
Spotted Emu-bush	Eremophila maculata var. maculata		r		10
Spreading Emu-bush	Eremophila divaricata subsp. divaricata		r		75
Sugarwood	Myoporum platycarpum				39
Sugarwood	Myoporum platycarpum subsp. platycarpum				2
Sugarwood	Myoporum platycarpum subsp. perbellum				2
Turkey Bush	Eremophila deserti				5
Twiggy Emu-bush	Eremophila polyclada		v		8
Waterbush	Myoporum montanum		r		24
Black Box	Eucalyptus largiflorens				714
Black Mallee-box	Eucalyptus porosa				1
Black Sallee	Eucalyptus stellulata				1
Blakely's Red-gum	Eucalyptus blakelyi				11
Brittle Gum	Eucalyptus mannifera subsp. mannifera				1
Broad-leaf Peppermint	Eucalyptus dives				1
Broom Baeckea	Babingtonia behrii				1
Broombush	Melaleuca uncinata				2
Bull Mallee	Eucalyptus behriana				8
Bundy	Eucalyptus goniacalx s.l.				3
Bundy	Eucalyptus goniacalx s.s.				2
Burgan	Kunzea ericoides spp. agg.				5

English Name	Scientific Name	EPBC	V/c	FFG	No.
But But	Eucalyptus bridgesiana s.l.				4
Common Fringe-myrtle	Calytrix tetragona				12
Creamy Honey-myrtle	Melaleuca acuminata subsp. acuminata				1
Desert Baeckea	Baeckea crassifolia				1
Dumosa Mallee	Eucalyptus dumosa				39
Eucalypt	Eucalyptus spp.				8
Eucalypt*	Eucalyptus spp. (naturalised)				1
Eurabbie	Eucalyptus globulus subsp. bicostata				1
Green Mallee	Eucalyptus viridis				1
Green-leaf Mallee	Eucalyptus phenax		r		1
Grey Box	Eucalyptus microcarpa				185
Grey Mallee	Eucalyptus socialis subsp. socialis				33
Gum-barked Coolibah	Eucalyptus intertexta		k		1
Heath-myrtle	Micromyrtus ciliata				12
Honey-myrtle	Melaleuca spp.				6
Lemon Bottlebrush	Callistemon pallidus				3
Lemon-scented Gum*	Corymbia citriodora subsp. citriodora				1
Mallee Tea-tree	Leptospermum coriaceum				9
Moonah	Melaleuca lanceolata subsp. lanceolata				65
Mountain Swamp-gum	Eucalyptus camphora subsp. humeana				1
Mugga	Eucalyptus sideroxylon s.s.		r		1
Nodding Baeckea	Euryomyrtus ramosissima subsp. prostrata		r		2
Oil Mallee	Eucalyptus oleosa subsp. oleosa				19
Peppermint Box	Eucalyptus odorata s.l.				1
Prickly Bottlebrush	Callistemon brachyandrus		r		34
Prickly Paperbark*	Melaleuca styphelioides var. styphelioides				2
Prickly Tea-tree	Leptospermum continentale				1
Quambatook Mallee-box	Eucalyptus aff. porosa (Quambatook)		e		1
Red Box	Eucalyptus polyanthemus				9
Red Box	Eucalyptus polyanthemus subsp. vestita				13
Red Ironbark	Eucalyptus tricarpa subsp. tricarpa				2
Red Mallee	Eucalyptus calycogona				2
Red Mallee	Eucalyptus calycogona subsp. trachybasis				3
Red Stringybark	Eucalyptus macrohyncha				6
River Bottlebrush	Callistemon sieberi				34
River Red-gum	Eucalyptus camaldulensis		N		733
River Tea-tree	Leptospermum obovatum				11
Rough-barked Honey-myrtle	Melaleuca parvistaminea				9
Salt Paperbark	Melaleuca halmaturorum subsp. halmaturorum		v	L	2
Scarlet Bottlebrush	Callistemon rugulosus				2
Silver Bundy	Eucalyptus nortonii				2
Silver Tea-tree	Leptospermum multicaule		v		1
Slender-leaf Mallee	Eucalyptus leptophylla				6
Sugar Gum*	Eucalyptus cladocalyx				14

English Name	Scientific Name	EPBC	Vlc	FFG	No.
Swamp Paperbark	Melaleuca ericifolia				1
Totem-poles	Melaleuca decussata				1
Violet Kunzea	Kunzea parvifolia				1
Waxy Yellow-gum	Eucalyptus leucoxylon subsp. pruinosa				1
White Box	Eucalyptus albens				12
Yellow Box	Eucalyptus melliodora				92
Yellow Gum	Eucalyptus leucoxylon				12
Yellow Mallee	Eucalyptus costata subsp. murrayana				22
Yorrell	Eucalyptus gracilis				10
Tah-vine	Boerhavia dominii				57
Waterlily*	Nymphaea spp.				2
Ash*	Fraxinus spp.				2
Common Olive*	Olea europaea subsp. europaea				3
Desert Ash*	Fraxinus angustifolia				21
Desert Jasmine	Jasminum didymum subsp. lineare	v			8
European Privet*	Ligustrum vulgare				1
Large-leaf Privet*	Ligustrum lucidum				3
Olive*	Olea europaea				16
Privet*	Ligustrum spp.				1
Clove-strip	Ludwigia peploides subsp. montevidensis				124
Common Evening-primrose*	Oenothera stricta subsp. stricta				9
Glandular Willow-herb*	Epilobium ciliatum				15
Grey Willow-herb	Epilobium billardierianum subsp. cinereum				49
Hairy Willow-herb	Epilobium hirtigerum				79
Marsh Ludwigia*	Ludwigia palustris				24
Robust Willow-herb	Epilobium billardierianum subsp. hydrophilum				1
Showy Willow-herb	Epilobium pallidiflorum				1
Smooth Willow-herb	Epilobium billardierianum subsp. billardierianum				1
Variable Willow-herb	Epilobium billardierianum				54
Variable Willow-herb	Epilobium billardierianum subsp. intermedium				18
Willow Herb	Epilobium spp.				24
Australian Broomrape	Orobancha cernua var. australiana		v		5
Lesser Broomrape*	Orobancha minor				4
Creeping Wood-sorrel*	Oxalis corniculata s.s.				2
Grassland Wood-sorrel	Oxalis perennans				514
Shady Wood-sorrel	Oxalis exilis				22
Soursob*	Oxalis pes-caprae				55
Stout-rooted Wood-sorrel	Oxalis radicata				3
Wood Sorrel	Oxalis spp.				39
Wood Sorrel*	Oxalis spp. (naturalised)				10
Yellow Wood-sorrel	Oxalis corniculata s.l.				47
Bristle Poppy*	Papaver aculeatum				2

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Long-headed Poppy*	Papaver dubium				1
Opium Poppy*	Papaver somniferum				3
Rough Poppy*	Papaver hybridum				1
Angular Pea*	Lathyrus angulatus				5
Annual White Clover*	Trifolium michelianum var. michelianum				1
Arrowleaf Clover*	Trifolium vesiculosum var. vesiculosum				2
Austral Indigo	Indigofera australis				3
Austral Trefoil	Lotus australis var. australis	k			8
Barrel Medic*	Medicago truncatula				78
Bird's-foot Trefoil*	Lotus corniculatus				5
Bird's-foot Trefoil*	Lotus corniculatus var. corniculatus				2
Birdsfoot Clover*	Trifolium ornithopodioides				32
Bitter-pea	Daviesia spp.				1
Bokhara Clover*	Mellilotus albus				6
Broom Bitter-pea	Daviesia genistifolia s.s.	r			1
Broughton Pea	Swainsona procumbens				105
Burr Medic*	Medicago polymorpha				388
Bush-pea	Pultenaea spp.				1
Button Medic*	Medicago orbicularis				2
Cactus Bossiaea	Bossiaea walkeri	e			5
Camel Thorn*	Alhagi maurorum				8
Chinese Lespedeza	Lespedeza juncea subsp. sericea	r			2
Clover*	Trifolium spp.				128
Cluster Clover*	Trifolium glomeratum				267
Common Eutaxia	Eutaxia microphylla				14
Common Eutaxia	Eutaxia microphylla var. microphylla				12
Common Golden-tip	Goodia lotifolia var. lotifolia				27
Common Hovea	Hovea heterophylla				3
Common Vetch*	Vicia sativa				52
Common Vetch*	Vicia sativa subsp. sativa				4
Common Wedge-pea	Gompholobium huegelii				3
Cut-leaf Medic*	Medicago lacinata var. lacinata				32
Downy Swainson-pea	Swainsona swainsonioides	e	L		19
Drooping-flower Clover*	Trifolium cernuum				30
Dwarf Swainson-pea	Swainsona phacoides	e	L		50
Flat Templetonia	Templetonia sulcata				4
Flax-leaf Broom*	Genista linifolia				1
Glycine	Glycine spp.				3
Gorse Bitter-pea	Daviesia ulicifolia				2
Gorse Bitter-pea	Daviesia ulicifolia subsp. ruscifolia				1
Gorse Bitter-pea	Daviesia ulicifolia subsp. ulicifolia				3
Gorse*	Ulex europaeus				6
Greater Bird's-foot Trefoil*	Lotus uliginosus				3
Grey Bush-pea	Pultenaea spinosa				9
Grey Parrot-pea	Dillwynia cinerascens s.l.				37

English Name	Scientific Name	EPBC	Vic	FFG	No.
Grey Parrot-pea	<i>Dillwynia cinerascens</i> s.s.				7
Grey Scurf-pea	<i>Cullen discolor</i>		e	L	2
Hairy Bird's-foot Trefoil*	<i>Lotus subbiflorus</i>				6
Hairy Darling-pea	<i>Swainsona greyana</i>		e	L	21
Handsome Flat-pea	<i>Platylobium formosum</i>				2
Hare's-foot Clover*	<i>Trifolium arvense</i> var. <i>arvense</i>				193
Hoary Scurf-pea	<i>Cullen cinereum</i>		e	L	15
Hop Bitter-pea	<i>Daviesia latifolia</i>				6
Hop Clover*	<i>Trifolium campestre</i> var. <i>campestre</i>				122
Knead Swainson-pea	<i>Swainsona reticulata</i>		v	L	5
Knotted Clover*	<i>Trifolium striatum</i>				63
Leafy Templetonia	<i>Templetonia stenophylla</i>				3
Liquorice*	<i>Glycyrrhiza glabra</i>				1
Little Medic*	<i>Medicago minima</i>				664
Locust Tree*	<i>Robinia pseudoacacia</i>				1
Lucerne*	<i>Medicago sativa</i> subsp. <i>sativa</i>				35
Mallee Bitter-pea	<i>Daviesia arenaria</i>				3
Matted Bossiaea	<i>Bossiaea buxifolia</i>				1
Medic*	<i>Medicago</i> spp.				104
Mellilot*	<i>Mellilotus</i> spp.				1
Montpellier Broom*	<i>Genista monspessulana</i>				16
Mountain Beauty	<i>Hovea asperifolia</i> subsp. <i>asperifolia</i>				1
Mountain Mirbelia	<i>Mirbelia oxylobioides</i>				2
Mountain Swainson-pea	<i>Swainsona recta</i>	E	e	L	8
Narrow-leaf Bitter-pea	<i>Daviesia leptophylla</i>				1
Narrow-leaf Clover*	<i>Trifolium angustifolium</i> var. <i>angustifolium</i>				205
Narrow-leaf Vetch*	<i>Vicia sativa</i> subsp. <i>nigra</i>				8
Native Scurf-pea	<i>Cullen australasicum</i>		e	L	1
Parrot Pea	<i>Dillwynia</i> spp.				1
Prickly Parrot-pea	<i>Dillwynia juniperina</i>				1
Purple Coral-pea	<i>Hardenbergia violacea</i>				7
Red Bird's-foot Trefoil	<i>Lotus cruentus</i>				24
Red Clover*	<i>Trifolium pratense</i>				2
Red Swainson-pea	<i>Swainsona plagiotropis</i>	V	e	L	116
Round Templetonia	<i>Templetonia egana</i>		v		9
Rusty Bush-pea	<i>Pultenaea hispidula</i>				1
Scurf Pea	<i>Cullen</i> spp.				4
Shaftal Clover*	<i>Trifolium resupinatum</i>				16
Shaftal Clover*	<i>Trifolium resupinatum</i> var. <i>majus</i>				1
Snowy Parrot-pea	<i>Dillwynia sericea</i>				8
Silky Bush-pea	<i>Pultenaea prostrata</i>				1
Silky Glycine	<i>Glycine canescens</i>		e	L	17
Silky Swainson-pea	<i>Swainsona sericea</i>		v	L	64
Slender Bird's-foot Trefoil*	<i>Lotus angustissimus</i>				2
Slender Darling-pea	<i>Swainsona murrayana</i>	V	e	L	46

English Name	Scientific Name	EPBC	Vic	FFG	No.
Slender Tick-trefoil	<i>Desmodium varians</i>		k		2
Slender Vetch*	<i>Vicia tetrasperma</i>				4
Small Scurf-pea	<i>Cullen parvum</i>		e	L	42
Small-leaf Bush-pea	<i>Pultenaea foliolosa</i>		r		8
Small-leaf Parrot-pea	<i>Dillwynia phyllioides</i>				2
Small-leaf Swainson-pea	<i>Swainsona microphylla</i>		r		95
Smooth Parrot-pea	<i>Dillwynia glaberrima</i>				1
Soft Bush-pea	<i>Pultenaea mollis</i>				2
Southern Liquorice	<i>Glycyrrhiza acanthocarpa</i>				116
Southern Swainson-pea	<i>Swainsona behriana</i>		r		14
Southern Tick-trefoil	<i>Desmodium gunnii</i>				1
Spiry Bitter-pea	<i>Daviesia benthamii</i> subsp. <i>humilis</i>				1
Spotted Medic*	<i>Medicago arabica</i>				15
Spreading Eutaxia	<i>Eutaxia microphylla</i> var. <i>diffusa</i>				12
Spreading Scurf-pea	<i>Cullen patens</i>		e	L	7
Spurred Vetch*	<i>Vicia monantha</i>				2
Strawberry Clover*	<i>Trifolium fragiferum</i> var. <i>fragiferum</i>				54
Subterranean Clover*	<i>Trifolium subterraneum</i>				121
Suckling Clover*	<i>Trifolium dubium</i>				43
Suffocated Clover*	<i>Trifolium suffocatum</i>				2
Swainson Pea	<i>Swainsona</i> spp.				8
Sweet Fenugreek	<i>Trigonella suavissima</i>		r		13
Sweet Mellilot*	<i>Mellilotus indicus</i>				54
Three-flower Vetch*	<i>Vicia monantha</i> subsp. <i>triflora</i>				2
Tiny Vetch*	<i>Vicia hirsuta</i>				37
Tough Scurf-pea	<i>Cullen tenax</i>		e	L	28
Tree Lucerne*	<i>Chamaecytisus palmensis</i>				3
Trefoil	<i>Lotus</i> spp.				2
Trefoil*	<i>Lotus</i> spp. (naturalised)				1
Twiggy Bush-pea	<i>Pultenaea largiflorens</i>				3
Twining Glycine	<i>Glycine clandestina</i>				9
Variable Glycine	<i>Glycine tabacina</i> s.l.				12
Variable Glycine	<i>Glycine tabacina</i> s.s.				13
Variable Swainson-pea	<i>Swainsona oroboides</i> s.l.				31
Vetch*	<i>Vicia</i> spp.				2
Violet Swainson-pea	<i>Swainsona adenophylla</i>		e	L	1
White Clover*	<i>Trifolium repens</i> var. <i>repens</i>				67
Woolly Clover*	<i>Trifolium tomentosum</i> var. <i>tomentosum</i>				103
Woolly Scurf-pea	<i>Cullen pallidum</i>		e	L	55
Yellow Pea-bush	<i>Sesbania cannabina</i> var. <i>cannabina</i>		v		2
Tamarisk*	<i>Tamarix ramosissima</i>				5
Tamarisk*	<i>Tamarix</i> spp.				2
Red-ink Weed*	<i>Phytolacca octandra</i>				3
Blue Finger-flower	<i>Cheiranthra cyanea</i> var. <i>cyanea</i>				3
Common Apple-berry	<i>Billardiera scandens</i> s.l.				1

English Name	Scientific Name	EPBC	V/c	FFG	No.
Hairy Bursaria	Bursaria spinosa subsp. lasiophylla				1
Sweet Apple-berry	Billardiera cymosa s.l.				2
Sweet Bursaria	Bursaria spinosa subsp. spinosa				29
Sweet Pittosporum#	Pittosporum undulatum				1
Weeping Pittosporum	Pittosporum angustifolium				181
Buck's-horn Plantain*	Plantago coronopus				33
Buck's-horn Plantain*	Plantago coronopus subsp. coronopus				2
Clay Plantain	Plantago cunninghamii				59
Crowned Plantain	Plantago turritifera				211
Dark Plantain	Plantago drummondii				100
Greater Plantain*	Plantago major				3
Hairy Plantain	Plantago hispida				10
Narrow Plantain	Plantago gaudichaudii				47
Plantain	Plantago spp.				51
Ribwort*	Plantago lanceolata				142
Variable Plantain	Plantago varia				14
Notch-leaf Sea-lavender*	Limonium sinuatum				9
Riviera Sea-lavender*	Limonium companyonis				3
Sea Lavender	Limonium spp.				2
Winged Sea-lavender*	Limonium lobatum				38
Californian Stinkweed*	Navarretia squarrosa				1
Broom Milkwort	Comesperma scoparium	r			1
Dwarf Milkwort	Polygala japonica	v			1
Milkwort	Polygala spp.				1
Broad-leaf Dock*	Rumex obtusifolius subsp. obtusifolius				9
Clustered Dock*	Rumex conglomeratus				94
Creeping Knotweed	Persicaria prostrata				138
Curled Dock*	Rumex crispus				198
Dock	Rumex spp.				67
Dock (naturalised)*	Rumex spp. (naturalised)				14
Dock*	Acetosa spp.				5
Fiddle Dock*	Rumex pulcher subsp. pulcher				12
Glistening Dock	Rumex crystallinus s.l.				38
Glistening Dock	Rumex crystallinus s.s.	v			2
Hairy Knotweed	Persicaria subserilis				3
Hogweed	Polygonum spp.				8
Hogweed*	Polygonum aviculare s.s.				23
Knotweed	Persicaria spp.				5
Lignum	Muehlenbeckia spp.				5
Mud Dock	Rumex bidens				1
Narrow-leaf Dock	Rumex tenax				82
Pale Knotweed	Persicaria lapathifolia				57
Prostrate Knotweed*	Polygonum aviculare s.l.				139
Redshank*	Persicaria maculosa				1
Sheep Sorrel*	Acetosella vulgaris				41

English Name	Scientific Name	EPBC	V/c	FFG	No.
Slender Dock	Rumex brownii				349
Slender Knotweed	Persicaria decipiens				81
Small Knotweed	Polygonum plebeium				44
Spiny Emex*	Emex australis				12
Spiny Lignum	Muehlenbeckia horrida subsp. horrida	r			148
Spotted Knotweed	Persicaria praetermissa				4
Tangled Lignum	Muehlenbeckia florulenta				584
Tongue Dock	Rumex stenoglossis	k			1
Tree Hogweed*	Polygonum bellardii				3
Twiggy Lignum	Muehlenbeckia didclina				5
Velvet Knotweed	Persicaria attenuata	k			5
Water Pepper	Persicaria hydropiper				80
Wireweed*	Polygonum arenastrum				7
Wiry Dock	Rumex dumosus				27
Common Purslane	Portulaca oleracea				9
Miner's Lettuce*	Claytonia perfoliata				1
Pigmy Purslane	Calandrinia granulifera				22
Pink Purslane	Calandrinia calypttrata				5
Purple Purslane*	Calandrinia menziesii				1
Purslane	Calandrinia spp.				2
Small Purslane	Calandrinia eremaea				564
Strap Purslane	Calandrinia corrigioloides	r			10
Twining Purslane	Calandrinia volubilis	r			28
White Purslane	Neopaxia australasica				10
Chaffweed*	Anagallis minima				1
Pimpernel*	Anagallis arvensis				86
Bushy Needlewood	Hakea sericea s.l.				1
Cat's Claw Grevillea	Grevillea alpina				4
Comb Grevillea	Grevillea huegellii				16
Desert Grevillea	Grevillea pterosperma				3
Desert Hakea	Hakea mitchellii				2
Grevillea	Grevillea spp.				1
Hairy Geebung	Persoonia rigida				4
Holly Grevillea	Grevillea aquifolium				1
Hooked Needlewood	Hakea tephrosperma				82
Kosciuszko Grevillea	Grevillea victoriae subsp. nivalis	e			4
Rosemary Grevillea	Grevillea rosmarinifolia				3
Rusty Grevillea*	Grevillea floribunda subsp. floribunda				1
Silky Oak*	Grevillea robusta				4
Silver Banksia	Banksia marginata				2
Silver Needlewood	Hakea leucopetra subsp. leucopetra				33
Small-fruit Hakea	Hakea microcarpa				1
Tree Hakea	Hakea eriantha				1
Woolly Grevillea	Grevillea lanigera				2
Annual Buttercup	Ranunculus sessiliflorus				34

English Name	Scientific Name	EPBC	Vic	FFG	No.
Annual Buttercup	Ranunculus sessiliflorus var. sessiliflorus				3
Australian Buttercup	Ranunculus lappaceus				71
Buttercup	Ranunculus spp.				50
Celery Buttercup*	Ranunculus sceleratus subsp. sceleratus				76
Creeping Buttercup*	Ranunculus repens				5
Ferny Small-flower Buttercup	Ranunculus pumilio				71
Ferny Small-flower Buttercup	Ranunculus pumilio var. politus		k		4
Ferny Small-flower Buttercup	Ranunculus pumilio var. pumilio				50
Inland Buttercup	Ranunculus pentandrus var. platycarpus				48
Large Annual Buttercup*	Ranunculus trilobus				8
Mountain Clematis	Clematis aristata				1
Mousetail	Myosurus minimus var. australis				55
River Buttercup	Ranunculus inundatus				88
Sharp Buttercup*	Ranunculus muricatus				48
Small River Buttercup	Ranunculus amphitrichus				1
Small-flower Buttercup*	Ranunculus parviflorus				2
Small-leaved Clematis	Clematis microphylla				35
Swamp Buttercup	Ranunculus undosus		v		34
Water Fennel*	Batrachium trichophyllum				3
Weld*	Reseda luteola				10
Bitter Cryptandra	Cryptandra amara s.s.				2
Dusty Miller	Spyridium parvifolium				1
Hazel Pomaderris	Pomaderris aspera				1
Heath Spyridium	Spyridium eriocephalum var. eriocephalum				3
Inland Pomaderris	Pomaderris paniculosa subsp. paniculosa		v		6
Narrow-leaf Pomaderris	Pomaderris angustifolia				1
Prickly Cryptandra	Cryptandra tomentosa				3
Scurfy Pomaderris	Pomaderris paniculosa				1
Silky Cryptandra	Cryptandra propinqua				1
Trident Spyridium	Stenanthemum notiale subsp. notiale		x		1
Velvet Spyridium	Spyridium subochreatum var. subochreatum				1
White Cryptandra	Stenanthemum leucophractum				2
Apple*	Malus pumila				9
Australian Piert	Aphanes australiana				9
Australian Sheep's Burr	Acaena ovina				1
Bidgee-widgee	Acaena novae-zelandiae				8
Blackberry*	Rubus cissburiensis				19
Blackberry*	Rubus fruticosus spp. agg.				99
Blackberry*	Rubus polyanthemus				1
Blackberry*	Rubus anglocandicans				15
Blackberry*	Rubus erythrops				1
Blackberry*	Rubus ulmifolius				13
Bramble	Rubus spp.				148
Cherry Plum*	Prunus cerasifera				9

English Name	Scientific Name	EPBC	Vic	FFG	No.
Dog Rose*	Rosa canina				2
Firethorn*	Pyracantha spp.				3
Hairy Sheep's Burr	Acaena agnifolia				2
Hawthorn*	Crataegus monogyna				15
Large-leaf Cotonneaster*	Cotoneaster glaucophyllus var. serotinus				2
Orange Firethorn*	Pyracantha angustifolia				2
Parsley Piert*	Aphanes arvensis				18
Piert	Aphanes spp.				7
Prunus*	Prunus spp.				4
Purple-leaf Cherry-plum*	Prunus cerasifera 'Nigra'				1
Rose*	Rosa spp.				2
Sheep's Burr	Acaena echinata				4
Sheep's Burr	Acaena spp.				1
Small-leaf Bramble	Rubus parvifolius				6
Sweet Briar*	Rosa rubiginosa				697
Velvet Cotonneaster*	Cotoneaster pannosus				2
Wine Raspberry*	Rubus phoenicolasius				1
Bedstraw	Galium spp.				2
Cleavers*	Galium aparine				40
Common Woodruff	Asperula conferta				163
Field Madder*	Sherardia arvensis				4
Mountain Woodruff	Asperula gunnii				1
Native Madder	Synaptantha tilleacea var. tilleacea		v		1
Prickly Currant-bush	Coprosma quadrifida				1
Prickly Woodruff	Asperula scoparia				24
Reflexed Bedstraw	Galium binifolium				1
Rough Bedstraw	Galium gaudichaudii				7
Slender Bedstraw*	Galium divaricatum				4
Small Goosegrass*	Galium murale				20
Twiggy Stinkweed	Opercularia turpis				1
Twin-leaf Bedstraw	Asperula gemella		r		59
Variable Stinkweed	Opercularia varia				1
Water Woodruff	Asperula subcomplex				9
Wimmera Woodruff	Asperula wimmerana		r		1
Woodruff	Asperula spp.				24
Common Correa	Correa reflexa var. reflexa				1
Desert Phebalium	Phebalium bullatum				1
Dwarf Boronia	Boronia nana				2
Dwarf Boronia	Boronia nana var. hyssopifolia				1
Dwarf Boronia	Boronia nana var. nana				1
Fairy Wax-flower	Philothea verrucosa				2
Gramplains Correa	Correa reflexa var. angustifolia		r		1
Rock Correa	Correa glabra var. glabra				5
Wilga	Geijera parviflora		e	L	102
Yellow-wood	Acronychia oblongifolia		r	N	2

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Basket Willow*	Salix X rubens				36
Black Willow*	Salix nigra				4
Crack Willow*	Salix fragilis				6
Grey Sallow*	Salix cinerea				4
Lombardy Poplar*	Populus nigra 'Italica'				1
Poplar*	Populus spp.				2
Purple Osier*	Salix purpurea				2
Weeping Willow*	Salix babylonica s.l.				30
Weeping Willow*	Salix babylonica s.s.				21
White Poplar*	Populus alba				1
White Willow*	Salix alba				4
Willow*	Salix spp.				6
Bitter Quandong	Santalum murrayanum				1
Broom Ballart	Exocarpos sparteus				4
Cherry Ballart	Exocarpos cupressiformis				16
Leafless Ballart	Exocarpos aphyllus				49
Northern Sandalwood	Santalum lanceolatum				8
Pale-fruit Ballart	Exocarpos strictus	e	L		166
Sandalwood	Santalum spp.				1
Sweet Quandong	Santalum acuminatum				6
Cattle Bush	Alectryon oleifolius subsp. canescens				63
Hop Bush	Dodonaea spp.				6
Slender Hop-bush	Dodonaea viscosa subsp. angustissima				233
Small Hop-bush	Dodonaea bursarifolia				1
Sticky Hop-bush	Dodonaea viscosa				16
Wedge-leaf Hop-bush	Dodonaea viscosa subsp. cuneata				11
Austral Brooklime	Gratiola peruviana				5
Austral Mudwort	Limosella australis				25
Blue Rod	Morgania glabra spp. agg.				62
Blue Rod	Stemodia florulenta				72
Blue Water-speedwell*	Veronica anagallis-aquatica				1
Brooklime	Gratiola spp.				1
Creeping Monkey-flower	Mimulus repens				9
Dwarf Brooklime	Gratiola pumilo	r			3
Glandular Brooklime	Gratiola pubescens				15
Great Mullein*	Verbasicum thapsus subsp. thapsus				5
Hairy Toadflax*	Kickxia elatine				21
Large Mudwort	Limosella curdieana				13
Lesser Snapdragon*	Misopates orontium				1
Monkey Flower	Mimulus spp.				4
Moth Mullein*	Verbasicum blattaria				3
Mud Mat	Glossostigma spp.				2
Mudwort	Limosella spp.				3
Pelisser's Toad-flax*	Linaria pelisseriana				2
Persian Speedwell*	Veronica persica				3

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Pink Water-speedwell*	Veronica catenata				2
Red Bartsia*	Parentucellia latifolia				41
Slender Monkey-flower	Mimulus gracilis				31
Slender Speedwell	Veronica gracilis				7
Small Monkey-flower	Mimulus prostratus	r			3
Small Mud-mat	Glossostigma elatinooides				25
Smooth Blue-rod	Stemodia glabella s.s.	k			1
Speedwell	Veronica spp.				10
Speedwell*	Veronica spp. (naturalised)				3
Thread Speedwell	Veronica sp. 2				1
Toadflax*	Kickxia spp.				1
Trailing Speedwell	Veronica plebeia				1
Twiggy Mullein*	Verbasicum virgatum				29
Twining Toadflax*	Kickxia elatine subsp. crinita				10
Wall Speedwell*	Veronica arvensis				1
Wandering Speedwell*	Veronica peregrina				78
Woolly Toadflax*	Kickxia elatine subsp. elatine				1
Tree of Heaven*	Ailanthus altissima				8
African Box-thorn*	Lycium ferocissimum				354
Australian Box-thorn	Lycium australe				16
Black Nightshade*	Solanum nigrum sensu Willis (1972)				153
Black Nightshade*	Solanum nigrum s.s.				17
Box Thorn	Lycium spp.				5
Buffalo Burr*	Solanum rostratum				1
Chinese Box-thorn*	Lycium barbarum				2
Common Thorn-apple*	Datura stramonium				10
Cut-leaf Nightshade*	Solanum triflorum				1
Glossy Nightshade*	Solanum americanum				1
Green Poison-berry*	Cestrum parqui				2
Green-berry Nightshade	Solanum opacum				4
Hairy Nightshade	Solanum eremophilum	k			2
Hairy Thorn-apple*	Datura wrightii				1
Kangaroo Apple	Solanum aviculare				2
Lagoon Nightshade	Solanum lacunarium	v			31
Large Kangaroo Apple	Solanum lacinatum				3
Long-spine Thorn-apple*	Datura ferox				3
Madeira Winter-cherry*	Solanum pseudocapsicum				13
Narrawa Burr	Solanum cinereum	k			1
Nightshade	Solanum spp.				23
Oondoroo	Solanum simile				6
Pampas Lily-of-the-Valley*	Salpichroa origanifolia				1
Quena	Solanum esuriale				225
Recurved Thorn-apple*	Datura innoxia				11
Silver-leaf Nightshade*	Solanum elaeagnifolium				40
Small-flower Tobacco	Nicotiana goodspeedii	r			2

English Name	Scientific Name	EPBC	Vic	FFG	No.
Small-leaf Ray-flower	Cyphanthera myosotidea				2
Sticky Ground-cherry*	Physalis viscosa				23
Thorn Apple*	Datura spp.				4
Tobacco	Nicotiana spp.				2
Tree Tobacco*	Nicotiana glauca				32
Velvet Tobacco	Nicotiana velutina				110
Wild Tobacco Tree*	Solanum mauritianum				3
Creamy Stackhousia	Stackhousia monogyna				26
Plains Stackhousia	Stackhousia sp. 1				2
Kurrajong	Brachychiton populneus subsp. populneus				17
Grass Triggerplant	Stylidium graminifolium s.l.				4
Hairy Stilewort	Levenhookia dubia				20
Stilewort	Levenhookia spp.				1
Annual Rice-flower	Pimelea trichostachya				10
Common Rice-flower	Pimelea humilis				6
Curved Rice-flower	Pimelea curviflora s.l.				8
Curved Rice-flower	Pimelea curviflora s.s.				10
Curved Rice-flower	Pimelea curviflora var. 1				2
Forked Rice-flower	Pimelea hewardiana	r			1
Gaunt Rice-flower	Pimelea stricta				3
Mallee Rice-flower	Pimelea microcephala subsp. microcephala				12
Rice Flower	Pimelea spp.				5
Silky Rice-flower	Pimelea micrantha				8
Slender Rice-flower	Pimelea linifolia				4
Slender Rice-flower	Pimelea linifolia subsp. linifolia				1
Smooth Rice-flower	Pimelea glauca				5
Spiny Rice-flower	Pimelea spinescens		e	L	4
Spiny Rice-flower	Pimelea spinescens subsp. spinescens	C	v		11
Glandular Pink-bells	Tetradlea labillardierei				1
Pink-bells	Tetradlea ciliata				4
Common Elm*	Ulmus aff. procera				1
Elm*	Ulmus spp.				3
Australian Carrot	Daucus glochidiatus				402
Australian Lilaeopsis	Lilaeopsis polyantha				5
Bishop's Weed*	Ammi majus				2
Blue Devil	Eryngium ovinum				115
Carrot*	Daucus carota				1
Celery*	Apium graveolens				2
Centella	Centella cordifolia				33
Centella	Centella spp.				1
Dwarf Trachymene	Trachymene pilosa				1
Eryngium	Eryngium spp.				3
Fennel*	Foeniculum vulgare				49
Hemlock*	Conium maculatum				3
Long Eryngium	Eryngium paludosum		v		32

English Name	Scientific Name	EPBC	Vic	FFG	No.
Pennywort	Hydrocotyle spp.				6
Prickfoot	Eryngium vesiculosum				7
Purple Trachymene	Trachymene cyanopetala				6
Shining Pennywort	Hydrocotyle sibthorpioides				34
Slender Celery*	Ciclospermum leptophyllum				1
Slender Pennywort	Hydrocotyle tripartita				1
Stinking Pennywort	Hydrocotyle laxiflora				8
Trefoil Pennywort	Hydrocotyle medicaginoideis				1
Water Dropwort*	Oenanthe pimpinelloides				1
Yellow Pennywort	Hydrocotyle foveolata				2
Scrub Nettle	Urtica incisa				1
Shade Pellitory	Parietaria debilis s.l.				13
Shade Pellitory	Parietaria debilis s.s.				2
Small Nettle*	Urtica urens				83
Italian Corn-salad*	Valerianella eriocarpa				1
Common Verbena	Verbena officinalis s.l.				44
Common Verbena*	Verbena officinalis s.s.				8
Fog-fruit*	Phyla canescens				178
Purple-top Verbena*	Verbena bonariensis s.l.				19
Purple-top Verbena*	Verbena bonariensis var. bonariensis s.s.				3
Trailing Verbena*	Verbena supina				21
Verbena	Verbena spp.				9
Floodplain Violet	Viola betonicifolia subsp. novaguineensis	r			1
Showy Violet	Viola betonicifolia				18
Shrub Violet	Hybanthus floribundus subsp. floribundus				1
Tree Violet	Melicytus dentatus s.l.				6
Caltrop	Tribulus spp.				1
Caltrop	Tribulus terrestris				32
Climbing Twin-leaf	Zygophyllum eremaeum				14
Coast Twin-leaf	Zygophyllum billardierei	r			1
Dwarf Twin-leaf	Zygophyllum ovatum				5
Nitre-bush	Nitraria billardierei				126
Notched Twin-leaf	Zygophyllum crenatum				13
Pale Twin-leaf	Zygophyllum glaucum				31
Pointed Twin-leaf	Zygophyllum apiculatum				55
Rabbit-ears Twin-leaf	Zygophyllum compressum	v			1
Sand Twin-leaf	Zygophyllum ammophilum				122
Scrambling Twin-leaf	Zygophyllum angustifolium	r			3
Shrubby Twin-leaf	Zygophyllum aurantiacum subsp. aurantiacum				11
Twin-leaf	Zygophyllum spp.				5
Violet Twin-leaf	Zygophyllum iodocarpum				11
White Twin-leaf	Zygophyllum simile	r			7
Mosses					
Apple Moss	Philonotis scabrifolia				1

English Name	Scientific Name	EPBC	Vic	FFG	No.
Common Apple-moss	Bartramia ithyphylla				2
Common Breutelia	Breutelia affinis				2
Feather Moss	Rhynchostegium tenuifolium				1
Acorn-fruited Thread-moss	Bryum pachytheca var. pachytheca				9
Broody Bryum	Bryum dichotomum				1
Desert Thread-moss	Bryum eremaeum				1
Sand Thread-moss	Rosulabryum campylothecium				5
Silver Moss	Bryum argenteum				7
Earth Moss	Bryobartramia novae-valesiae				1
Earth Moss	Pleuridium nervosum				3
Earth Moss	Ephemerum cristatum				3
Curly Pocket-moss	Fissidens megalotis				10
Fountain Pocket-moss	Fissidens berteroii				1
Portuguese Pocket-moss	Fissidens curvatus				1
Common Cord-moss	Funaria hygrometrica				3
Cord Moss	Entosthodon subnudus var. gracilis				2
Cord Moss	Entosthodon apophysatus				3
Cord Moss	Funaria microstoma				1
Earth Moss	Physcomitrella patens subsp. readeri				2
Pineapple Moss	Gigasperrum repens				8
Blunt-beak Grimmia	Grimmia pulvinata var. africana				4
Salt and Pepper	Grimmia laevigata				2
Green Hoar-moss	Hedwigidium integrifolium				1
Festoon Moss	Papillaria crocea				1
Feathered Neckera	Neckera pennata				1
Common Bristle-moss	Orthotrichum tasmanicum var. tasmanicum				1
Common Zygodon	Zygodon intermedius				1
Juniper Haircap	Polytrichum juniperinum				1
Aloe Moss	Alcina sulliviana				3
Ball Moss	Phascum robustum var. crassihervium				1
Ball Moss	Phascum robustum var. robustum				1
Beard Moss	Barbula crinita				7
Beard Moss	Didymodon torquatus				10
Common Beard-moss	Barbula calycina				4
Common Twine-moss	Triquetrella papillata				8
Common Wall-moss	Tortula muralis				1
Crisp Moss	Trichostomopsis australasiae				1
Earth Moss	Pterygoneurum ovatum				2
Green-tufted Stubble-moss	Weissia controversa				5
Gypsum Moss	Grossidium geheebii				1
Pottia	Pottia drummondii				1
Pottia	Pottia starckeana				1
Pottia	Pottia truncata				2
Pottia	Tetrapterum cylindricum				2
Pygmy Moss	Acaulon chrysacanthum				5

English Name	Scientific Name	EPBC	Vic	FFG	No.
Pygmy Moss	Acaulon granulatum				1
Pygmy Moss	Acaulon leucochaete				3
Screw Moss	Tortula papillosa				6
Screw Moss	Tortula antarctica				7
Triangular Pygmy-moss	Acaulon triquetrum				7
Twine Moss	Triquetrella spp.				1
Bronze Signal-moss	Sematophyllum homomallum				2
Dung Moss	Tayloria octoblepharum				1
Golden Weft-moss	Thuidopsis furfurata				1
Weft Moss	Thuidopsis spp.				1
Dwarf Swan-neck Moss	Campylopus pyriformis				2
Heath Star Moss	Campylopus introflexus				9
Liverworts					
Forked Veilwort	Metzgeria furcata				1
Chalk Crystalwort	Riccia alba				1
Crystalwort	Riccia spp.				1
Fringed Heartwort	Ricciocarpos natans				5
Algae					
Stonewort	Characeae spp.				2

The table below lists flora species mentioned in the text, but not in the main list of species recorded in the study area

English Name	Scientific Name
Hairpin Banksia	Banksia ericifolia
Alpine Ash	Eucalyptus delegatensis
Shining Gum	Eucalyptus nitens
Blue Gum	Eucalyptus globulus
Flooded Gum	Eucalyptus grandis
Mountain Ash	Eucalyptus regnans
Messmate	Eucalyptus obliqua

APPENDIX 5: Fauna Species Recorded in the River Red Gum Forests Study Area

As of September 2006, the Department of Sustainability and Environment (DSE) Atlas of Victorian Wildlife and Aquatic Fauna databases contained records for the following taxa in River Red Gum Forests study area. These two databases provide coverage of vertebrate fauna and threatened invertebrate fauna but are still improving their coverage of other invertebrates. Chapter 5 describes key points relating to species diversity and threatened species.

LEGEND:

EPBC: status under Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, as at December 2004.

EN Endangered: A taxon is endangered when it is not critically endangered but is facing a very high risk of extinction in the wild in the near future.

VU Vulnerable: A taxon is vulnerable when it is not critically endangered or endangered but is facing a high risk of extinction in the wild in the medium-term future.

Vic: conservation status in Victoria, after DSE (2003a).

EX Extinct: when there is no reasonable doubt that the last individual has died. A taxon is presumed Extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form. Records of several extinct species that were formerly found in the study area are not in the DSE databases—they are listed in a separate table following the main table.

RX Regionally Extinct: As for Extinct but within a defined region that does not encompass the entire geographic range of the taxon—in this case Victoria. A taxon is presumed Regionally Extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout the region have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form. Records of several regionally extinct species that were formerly found in the study area are not in the DSE databases—they are listed in a separate table following the main table.

CR Critically Endangered: A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered (see Species Survival Commission 2001), and it is therefore considered to be facing an extremely high risk of extinction in the wild.

EN Endangered in Victoria: when the best available evidence indicates that the taxon meets any of the criteria A to E for Endangered (see Species Survival Commission 2001), and it is therefore considered to be facing a very high risk of extinction in the wild.

VU Vulnerable in Victoria: when the best available evidence indicates that the taxon meets any of the criteria A to E for Vulnerable (see Species Survival Commission 2001), and it is therefore considered to be facing a high risk of extinction in the wild.

NT Near Threatened: A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered, Vulnerable now, but is close to qualifying for, or is likely to qualify for a threatened category in the near future.

DD Data Deficient: A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate.

FFG: status under the Victorian *Flora and Fauna Guarantee Act 1988*, as at December 2004. For the most up-to-date listings under the Act, visit: <http://www.dse.vic.gov.au>

L – listed as threatened.

"Threatened and near-threatened species" refers to any taxon in this table with an "L" under FFG, or any category under "EPBC" or "Vic" (except Data Deficient species).

No.: The number of records of the taxon in the Atlas of Victorian Wildlife and the Aquatic Fauna databases as at September 2006.

* denotes species exotic to Victoria

^ denotes species listed under the JAMBA agreement

denotes species listed under the CAMBA agreement (see chapter 5 for details of these agreements)

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Birds					
Emu	Dromaius novaehollandiae				90
Malleefowl	Leipoa ocellata	VU	EN	L	13
Stubble Quail	Coturnix pectoralis				121
Brown Quail	Coturnix ypsilophora		NT		42
King Quail	Coturnix chinensis		CR	L	1
Magpie Goose	Anseranas semipalmata		VU		8
Plumed Whistling-Duck	Dendrocygna eytoni				64
Blue-billed Duck	Oxyura australis		EN	L	274
Musk Duck	Biziura lobata		VU		644
Freckled Duck	Stictonetta naevosa		EN	L	219
Black Swan	Cygnus atratus				2014
Cape Barren Goose	Cereopsis novaehollandiae		NT		1
Australian Shelduck	Tadorna tadornoides				1921
Australian Wood Duck	Chenonetta jubata				1526
Cotton Pygmy-goose	Nettion coromandelianus				3
Mallard*	Anas platyrhynchos				14
Pacific Black Duck	Anas superciliosa				2931
Australasian Shoveler	Anas rhynchotis		VU		698
Grey Teal	Anas gracilis				2575
Chestnut Teal	Anas castanea				486
Garganey^#	Anas querquedula				2
Pink-eared Duck	Malacorhynchus membranaceus				551
Hardhead	Aythya australis		VU		668
Australasian Grebe	Tachybaptus novaehollandiae				869
Hoary-headed Grebe	Poliocephalus poliocephalus				795
Great Crested Grebe	Podiceps cristatus				271
Wilson's Storm-Petrel^	Oceanites oceanicus				1
Darter	Anhinga melanogaster				569
Little Pied Cormorant	Phalacrocorax melanoleucos				1342
Pied Cormorant	Phalacrocorax varius		NT		194
Little Black Cormorant	Phalacrocorax sulcirostris				773
Great Cormorant	Phalacrocorax carbo				818
Australian Pelican	Pelecanus conspicillatus				1149
White-faced Heron	Egretta novaehollandiae				1846
Little Egret	Egretta garzetta		EN	L	68
White-necked Heron	Ardea pacifica				617
Great Egret^#	Ardea alba		VU	L	771
Intermediate Egret	Ardea intermedia		CR	L	165
Cattle Egret^#	Ardea ibis				50
Nankeen Night Heron	Nycticorax caledonicus		NT		249
Little Bittern	Ixobrychus minutus		EN	L	13
Australasian Bittern	Botaurus poiciloptilus		EN	L	23
Glossy Ibis#	Plegadis falcinellus		NT		63
Australian White Ibis	Threskiornis molucca				1587
Straw-necked Ibis	Threskiornis spinicollis				1235
Royal Spoonbill	Platalea regia		VU		400
Yellow-billed Spoonbill	Platalea flavipes				913

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Osprey	Pandion haliaetus				1
Black-shouldered Kite	Elanus axillaris				198
Letter-winged Kite	Elanus scriptus				1
Square-tailed Kite	Lophoictinia isura		VU	L	11
Black-breasted Buzzard	Hamirostra melanosternon				6
Black Kite	Milvus migrans				447
Whistling Kite	Haliastur spheurnus				874
White-bellied Sea-Eagle#	Haliaeetus leucogaster		VU	L	170
Spotted Harrier	Circus assimilis		NT		42
Swamp Harrier	Circus approximans				401
Brown Goshawk	Accipiter fasciatus				209
Grey Goshawk	Accipiter novaehollandiae		VU		8
Collared Sparrowhawk	Accipiter cirrhophealus				90
Wedge-tailed Eagle	Aquila audax				339
Little Eagle	Hieraaetus morphnoides				281
Brown Falcon	Falco berigora				572
Australian Hobby	Falco longipennis				161
Grey Falcon	Falco hypoleucos		EN	L	12
Black Falcon	Falco subniger		VU		41
Peregrine Falcon	Falco peregrinus				150
Nankeen Kestrel	Falco cenchroides				517
Brolga	Grus rubicunda		VU	L	130
Buff-banded Rail	Gallinallus philippensis				25
Lewin's Rail	Rallus pectoralis		VU	L	2
Bailion's Crane	Porzana pusilla		VU	L	18
Australian Spotted Crane	Porzana fluminea				73
Spotless Crane	Porzana tabuensis				21
Purple Swamphen	Porphyrio porphyrio				771
Dusky Moorhen	Gallinula tenebrosa				752
Black-tailed Native-hen	Gallinula ventralis				316
Eurasian Coot	Fulica atra				1251
Australian Bustard	Ardeotis australis		CR	L	6
Little Button-quail	Turnix velox		NT		30
Red-chested Button-quail	Turnix pyrrhorostris		VU	L	11
Painted Button-quail	Turnix varia				70
Plains-wanderer	Pedionomus torquatus		VU		63
Latham's Snipe^#	Gallinago hardwickii		NT		58
Black-tailed Godwit^#	Limosa limosa		VU		17
Bar-tailed Godwit^#	Limosa lapponica				5
Eastern Curlew^#	Numenius madagascariensis		NT		3
Marsh Sandpiper^#	Tringa stagnatilis				125
Common Greenshank^#	Tringa nebularia				165
Wood Sandpiper^#	Tringa glareola		VU		22
Common Sandpiper^#	Actitis hypoleucos		VU		6
Ruddy Turnstone^#	Arenaria interpres				13
Great Knot^#	Calidris tenuirostris		EN	L	8
Red Knot^#	Calidris canutus		NT		5
Sanderling^#	Calidris alba		NT		1

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Red-necked Stint ^#	Calidris ruficollis				135
Long-toed Stint ^#	Calidris subminuta				3
Pectoral Sandpiper ^	Calidris melanotos		NT		5
Sharp-tailed Sandpiper ^#	Calidris acuminata				189
Curlew Sandpiper ^#	Calidris ferruginea				67
Ruff ^#	Philomachus pugnax				3
Red-necked Phalarope ^#	Phalaropus lobatus				2
Painted Snipe#	Rostratula benghalensis	VU	CR	L	5
Bush Stone-curlew	Burhinus grallarius		EN	L	124
Black-winged Stilt	Himantopus himantopus				566
Banded Stilt	Cladorhynchus leucocephalus				133
Red-necked Avocet	Recurvirostra novaehollandiae				257
Pacific Golden Plover ^#	Pluvialis fulva		NT		8
Red-capped Plover	Charadrius ruficapillus				302
Double-banded Plover	Charadrius bicinctus				24
Greater Sand Plover ^#	Charadrius leschenaultii		VU		1
Oriental Plover ^	Charadrius veredus				2
Black-fronted Dotterel	Euseyornis melanops				557
Red-kneed Dotterel	Erythronyx cinctus				283
Banded Lapwing	Vanellus tricolor				82
Masked Lapwing	Vanellus miles				1617
Oriental Pratincole ^#	Glaucola maldivarum				1
Australian Pratincole	Stiltia isabella		NT		11
Silver Gull	Larus novaehollandiae				778
Gull-billed Tern	Sterna nilotica		EN	L	23
Caspian Tern ^#	Sterna caspia		NT	L	172
Whiskered Tern	Chlidonias hybridus		NT		208
White-winged Black Tern ^#	Chlidonias leucopterus		NT		8
Rock Dove *	Columba livia				100
Spotted Turtle-Dove *	Streptopelia chinensis				26
Brown Cuckoo-Dove	Macropygia amboinensis				2
Common Bronzewing	Phaps chalcoptera				518
Crested Pigeon	Ocyphaps lophotes				1641
Diamond Dove	Geopelia cuneata		NT	L	20
Peaceful Dove	Geopelia striata				768
Bar-shouldered Dove	Geopelia humeralis				1
Glossy Black-Cockatoo	Calyptorhynchus lathami		VU	L	1
Yellow-tailed Black-Cockatoo	Calyptorhynchus funereus				5
Gang-gang Cockatoo	Callocephalon fimbriatum				74
Galah	Cacatua roseicapilla				3503
Long-billed Corella	Cacatua tenuirostris				324
Little Corella	Cacatua sanguinea				305
Major Mitchell's Cockatoo	Cacatua leadbeateri		VU	L	55
Sulphur-crested Cockatoo	Cacatua galerita				1952
Cockatiel	Nymphicus hollandicus				275
Rainbow Lorikeet	Trichoglossus haematodus				14
Musk Lorikeet	Glossopsitta concinna				129
Little Lorikeet	Glossopsitta pusilla				85

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Purple-crowned Lorikeet	Glossopsitta porphyrocephala				19
Australian King-Parrot	Alisterus scapularis				112
Superb Parrot	Polytelis swainsonii	VU	EN	L	269
Regent Parrot	Polytelis anthopeplus	VU	VU	L	274
Crimson Rosella	Platycercus elegans				1587
Yellow Rosella	Platycercus elegans flaveolus				3
Eastern Rosella	Platycercus eximius				1368
Australian Ringneck	Barnardius zonarius				289
Blue Bonnet	Norhiella haematogaster				113
Swift Parrot	Lathamus discolor	EN	EN	L	51
Red-rumped Parrot	Psephotus haematotus				2182
Mulga Parrot	Psephotus varius				121
Budgerigar	Melopsittacus undulatus				91
Blue-winged Parrot	Neophema chrysostoma				29
Elegant Parrot	Neophema elegans		VU		2
Turquoise Parrot	Neophema pulchella		NT	L	42
Pallid Cuckoo	Cuculus pallidus				249
Brush Cuckoo	Cacomantis variolosus				3
Fan-tailed Cuckoo	Cacomantis flabelliformis				115
Black-eared Cuckoo	Chrysococcyx osculans		NT		27
Horsfield's Bronze-Cuckoo	Chrysococcyx basalis				367
Shining Bronze-Cuckoo	Chrysococcyx lucidus				74
Common Koel	Eudynamys scolopacea				3
Powerful Owl	Ninox strenua		VU	L	21
Barking Owl	Ninox connexa		EN	L	51
Southern Boobook	Ninox novaeseelandiae				328
Masked Owl	Tyto novaehollandiae		EN	L	3
Barn Owl	Tyto alba				78
Tawny Frogmouth	Podargus strigoides				155
White-throated Nightjar	Eurostopodus mystacalis				2
Spotted Nightjar	Eurostopodus argus				7
Australian Owllet-nightjar	Aegotheles cristatus				106
White-throated Needle-tail ^#	Hirundapus caudacutus				34
Fork-tailed Swift ^#	Apus pacificus				32
Azure Kingfisher	Alcedo azurea		NT		101
Laughing Kookaburra	Dacelo novaeguineae				1896
Red-backed Kingfisher	Todiramphus pyrrhopigia		NT		22
Sacred Kingfisher	Todiramphus sanctus				940
Rainbow Bee-eater	Merops ornatus				647
Dollarbird	Eurystomus orientalis				135
Superb Lyrebird	Menura novaehollandiae				5
White-throated Treecreeper	Cornobates leucophaeus				1140
White-browed Treecreeper	Climacteris affinis		VU	L	7
Red-browed Treecreeper	Climacteris erythrops				4
Brown Treecreeper	Climacteris picumnus		NT		2268
Superb Fairy-wren	Malurus cyaneus				2481
Splendid Fairy-wren	Malurus splendens				164
Variegated Fairy-wren	Malurus lamberti				188

English Name	Scientific Name	EPBC	Vtc	FFG	No.
White-winged Fairy-wren	Malurus leucopterus				230
Mallee Emu-wren	Stipiturus mallee	VU	VU	L	3
Striated Grasswren	Amytornis striatus		NT		1
Spotted Pardalote	Pardalotus punctatus				638
Striated Pardalote	Pardalotus striatus				2684
White-browed Scrubwren	Sericornis frontalis				238
Spy Heathwren	Hylacola cauta				38
Rufous Fieldwren	Calamanthus campestris		NT		2
Redthroat	Pyrrholaemus brunneus		EN	L	2
Speckled Warbler	Cnthonicola sagittata		VU	L	32
Weebill	Smicronis brevirostris				1347
Western Gerygone	Gerygone fusca				385
White-throated Gerygone	Gerygone olivacea				39
Brown Thornbill	Acanthiza pusilla				195
Inland Thornbill	Acanthiza apicalis				44
Chestnut-rumped Thornbill	Acanthiza uropygialis				402
Buff-rumped Thornbill	Acanthiza reguloides				412
Yellow-rumped Thornbill	Acanthiza chrysorrhoa				1371
Yellow Thornbill	Acanthiza nana				807
Striated Thornbill	Acanthiza lineata				249
Southern Whiteface	Apeloecephala leucopsis				341
Red Wattlebird	Anthochaera carunculata				684
Little Wattlebird	Anthochaera chrysoptera				9
Spiny-cheeked Honeyeater	Acanthagenys rufogularis				444
Striped Honeyeater	Plectorhyncha lanceolata				120
Noisy Friarbird	Philemon corniculatus				580
Little Friarbird	Philemon citreogularis				909
Regent Honeyeater	Xanthomyza phrygia	EN	CR	L	47
Blue-faced Honeyeater	Entomyzon cyanotis				243
Bell Miner	Manorina melanophrys				2
Noisy Miner	Manorina melanocephala				1542
Yellow-throated Miner	Manorina flavigula				169
Yellow-faced Honeyeater	Lichenostomus chrysops				101
Singing Honeyeater	Lichenostomus virescens				471
White-eared Honeyeater	Lichenostomus leucotis				137
Yellow-tufted Honeyeater	Lichenostomus melanops				127
Purple-gaped Honeyeater	Lichenostomus cratitius		VU		1
Yellow-plumed Honeyeater	Lichenostomus ornatus				252
Grey-fronted Honeyeater	Lichenostomus plumulus		VU		5
Fuscous Honeyeater	Lichenostomus fuscus				182
White-plumed Honeyeater	Lichenostomus penicillatus				3676
Black-chinned Honeyeater	Melithreptus gularis		NT		216
Brown-headed Honeyeater	Melithreptus brevirostris				458
White-naped Honeyeater	Melithreptus lunatus				103
Brown Honeyeater	Lichmera indistincta				2
Painted Honeyeater	Grantia picta		VU	L	23
Crescent Honeyeater	Phylidonyris pyrrhoptera				5
New Holland Honeyeater	Phylidonyris novaehollandiae				54

English Name	Scientific Name	EPBC	Vtc	FFG	No.
White-fronted Honeyeater	Phylidonyris albigrons				66
Tawny-crowned Honeyeater	Phylidonyris melanops				7
Eastern Spinebill	Acanthorhynchus tenuirostris				119
Black Honeyeater	Certhionyx niger				34
Pied Honeyeater	Certhionyx variegatus				18
Crimson Chat	Epthianura tricolor				32
Orange Chat	Epthianura aurifrons				51
White-fronted Chat	Epthianura albigrons				373
Jacky Winter	Microeca fascians				776
Scarlet Robin	Petroica multicolor				139
Red-capped Robin	Petroica goodenovii				664
Flame Robin	Petroica phoenicea				183
Rose Robin	Petroica rosea				6
Pink Robin	Petroica rodinogaster				5
Hooded Robin	Melanodryas cucullata		NT	L	260
Eastern Yellow Robin	Eopsaltria australis				193
Southern Scrub-robin	Drymodes brunneopygia				16
Grey-crowned Babbler	Pomatostomus temporalis		EN	L	508
White-browed Babbler	Pomatostomus superciliosus				382
Chestnut-crowned Babbler	Pomatostomus ruficeps				63
Eastern Whipbird	Psophodes olivaceus				11
Chestnut Quail-thrush	Cinclosoma castanotus		NT		20
Varied Sittella	Daphoenositta chrysoptera				223
Crested Shrike-tit	Falcunculus frontatus				528
Crested Bellbird	Oreocica gutturalis		NT	L	149
Olive Whistler	Pachycephala olivacea				1
Gilbert's Whistler	Pachycephala inornata				180
Golden Whistler	Pachycephala pectoralis				275
Rufous Whistler	Pachycephala rufiventris				1198
Grey Shrike-thrush	Colluricincla harmonica				2249
Leadend Flycatcher	Myiagra rubecula				36
Satin Flycatcher	Myiagra cyanoleuca				5
Restless Flycatcher	Myiagra inquieta				807
Magpie-lark	Grallina cyanoleuca				2208
Rufous Fantail	Rhipidura rufifrons				8
Grey Fantail	Rhipidura fuliginosa				1065
Willie Wagtail	Rhipidura leucophrys				3161
Black-faced Cuckoo-shrike	Coracina novaehollandiae				1557
White-bellied Cuckoo-shrike	Coracina papuensis				58
Cicadabird	Coracina tenuirostris				1
Ground Cuckoo-shrike	Coracina maxima		VU	L	3
White-winged Triller	Lalage sueurii				270
Olive-backed Oriole	Oriolus sagittatus				198
White-breasted Woodswallow	Artamus leucorhynchus				187
Masked Woodswallow	Artamus personatus				82
White-browed Woodswallow	Artamus superciliosus				289
Black-faced Woodswallow	Artamus cinereus				47
Dusky Woodswallow	Artamus cyanopterus				827

English Name	Scientific Name	EPBC	Vic	FFG	No.	
Little Woodswallow	Artamus minor				1	
Grey Butcherbird	Cracticus torquatus				260	
Pied Butcherbird	Cracticus nigrogularis				543	
Australian Magpie	Gymnorhina tibicen				3743	
Pied Currawong	Strepera graculina				300	
Grey Currawong	Strepera versicolor				74	
Australian Raven	Corvus coronoides				2589	
Little Raven	Corvus mellori				777	
Little Crow	Corvus bennetti				46	
White-winged Chough	Corcorax melanorhamphos				1132	
Apostlebird	Struthidea cinerea			L	85	
Satin Bowerbird	Ptilonorhynchus violaceus				31	
Spotted Bowerbird	Chlamydera maculata		VU	L	1	
Singing Bushlark	Mirafrja javanica				86	
Skylark*	Alauda arvensis				33	
Richard's Pipit	Anthus novaeseelandiae				294	
House Sparrow*	Passer domesticus				1327	
Eurasian Tree Sparrow*	Passer montanus				38	
Zebra Finch	Taeniopygia guttata				455	
Double-barred Finch	Taeniopygia bichenovii				11	
Red-browed Finch	Neochmia temporalis				353	
Diamond Firetail	Stagonopleura guttata		VU	L	271	
European Greenfinch*	Carduelis chloris				5	
European Goldfinch*	Carduelis carduelis				356	
Mistletoebird	Dicaeum hirundinaceum				692	
White-backed Swallow	Cheramoeca leucosternus				96	
Welcome Swallow	Hirundo neoxena				2095	
Tree Martin	Hirundo nigricans				648	
Fairy Martin	Hirundo ariel				224	
Clamorous Reed Warbler	Acrocephalus stentoreus				451	
Little Grassbird	Megalurus gramineus				249	
Rufous Songlark	Cincloamphus mathewsi				368	
Brown Songlark	Cincloamphus cruralis				189	
Golden-headed Cisticola	Cisticola exilis				129	
Silvereye	Zosterops lateralis				476	
Bassian Thrush	Zoothera lunulata				3	
Common Blackbird*	Turdus merula				663	
Common Starling*	Sturnus vulgaris				1722	
Common Myna*	Acridotheres tristis				62	
Mammals						
Short-beaked Echidna	Tachyglossus aculeatus				89	
Platypus	Ornithorhynchus anatinus				61	
Spot-tailed Quoll	Dasyurus maculatus		VU	EN	L	3
Brush-tailed Phascogale	Phascogale tapoatafa			VU	L	15
Yellow-footed Antechinus	Antechinus flavipes				123	
Agile Antechinus	Antechinus agilis				38	
Dusky Antechinus	Antechinus swainsonii				12	
Common Dunnart	Sminthopsis murina		VU		1	

English Name	Scientific Name	EPBC	Vlc	FFG	No.
Fat-tailed Dunnart	Sminthopsis crassicaudata			NT	62
Giles' Planigale	Planigale gilesi			NT	L
Long-nosed Bandicoot	Perameles nasuta				13
Koala	Phascogaleos cinereus				266
Common Wombat	Vombatus ursinus				10
Common Ringtail Possum	Pseudocheirus peregrinus				350
Greater Glider	Petauroides volans				12
Yellow-bellied Glider	Petaurus australis				1
Squirrel Glider	Petaurus norfolcensis		EN	L	100
Sugar Glider	Petaurus breviceps				82
Common Brushtail Possum	Trichosurus vulpecula				814
Mountain Brushtail Possum	Trichosurus caninus				1
Eastern Pygmy-possum	Cercartetus nanus				1
Little Pygmy-possum	Cercartetus lepidus		NT		1
Feathertail Glider	Acrobates pygmaeus				18
Rufous Bettong	Aepyprymnus rufescens		RX	L	1
Eastern Grey Kangaroo	Macropus giganteus				354
Western Grey Kangaroo	Macropus fuliginosus				107
Red Kangaroo	Macropus rufus		NT		40
Black Wallaby	Wallabia bicolor				61
Grey-headed Flying-fox	Pteropus poliocephalus		VU	L	2
Little Red Flying-fox	Pteropus scapulatus				10
Yellow-bellied Sheath-tail Bat	Saccolaimus flaviventris			L	1
White-striped Freetail Bat	Nyctinomus australis				250
Southern Freetail Bat (long penis)	Mormopterus sp. 1				124
Southern Freetail Bat (short penis)	Mormopterus sp. 2				6
Freetail Bat (eastern form)	Mormopterus sp. EG				21
Greater Long-eared Bat	Nyctophilus timoriensis		VU	VU	L
Gould's Long-eared Bat	Nyctophilus gouldi				63
Lesser Long-eared Bat	Nyctophilus geoffroyi				304
Gould's Wattled Bat	Chalinolobus gouldii				341
Chocolate Wattled Bat	Chalinolobus morio				281
Southern Myotis	Myotis macropus		NT		20
Little Broad-nosed Bat	Scotorepens greyii				1
Inland Broad-nosed Bat	Scotorepens balstoni				57
Southern Forest Bat	Vespadelus regulus				105
Little Forest Bat	Vespadelus vulturinus				526
Large Forest Bat	Vespadelus darlingtoni				98
Water Rat	Hydromys chrysogaster				96
Mitchell's Hopping-mouse	Notomys mitchelli		NT		9
Bush Rat	Rattus fuscipes				93
Black Rat*	Rattus rattus				45
House Mouse*	Mus musculus				359
Brown Hare*	Lepus capensis				105
European Rabbit*	Oryctolagus cuniculus				462
Dingo/Dog (feral)	Canis familiaris				9
Dog*	Canis familiaris familiaris				2
Red Fox*	Canis vulpes				223

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Cat (feral)*	Felis catus				29
Horse (feral)*	Equus caballus				14
Pig (feral)*	Sus scrofa				21
Cattle (feral)*	Bos taurus				8
Goat (feral)*	Capra hircus				3
Sheep (feral)*	Ovis aries				11
Reptiles					
Broad-shelled Tortoise	Chelodina expansa				24
Common Long-necked Tortoise	Chelodina longicollis	EN	L		106
Murray River Tortoise	Emydura macquarii				52
Marbled Gecko	Phyllodactylus marmoratus				249
Southern Spiny-tailed Gecko	Diplodactylus intermedius				22
Tessellated Gecko	Diplodactylus tessellatus	NT			79
Wood Gecko	Diplodactylus vittatus				25
Tree Drella	Gehyra variegata				30
Bynoe's Gecko	Heteronotia binotii				17
Beaded Gecko	Diplodactylus damaeus				56
Beaked Gecko	Rhynchoedura ornata	CR	L		1
Thick-tailed Gecko	Nephruroides milii				27
Pink-nosed Worm-Lizard	Aprasia inaurita				7
Southern Legless Lizard	Delma australis				11
Striped Legless Lizard	Delma impar	VU	EN	L	6
Olive Legless Lizard	Delma inornata				24
Butler's Legless Lizard	Delma butleri				1
Burton's Snake-Lizard	Lialis burtinisi				7
Common Scaly-foot	Pygopus lepidopodus				4
Hooded Scaly-foot	Pygopus schraderi	CR	L		7
Tree Dragon	Amphibolurus muricatus				70
Nobbi Dragon	Amphibolurus nobbi coggeri				44
Mallee Dragon	Ctenophorus fordi				12
Painted Dragon	Ctenophorus pictus				9
Eastern Bearded Dragon	Pogona barbata	DD			87
Central Bearded Dragon	Pogona vitticeps				25
Lined Earless Dragon	Tympanocryptis lineata lineata	EN	L		1
Sand Goanna	Varanus gouldii				25
Tree Goanna	Varanus varius	VU			124
Eastern Three-lined Skink	Bassiana duperreyi				2
Southern Rainbow Skink	Carlia tetradactyla				17
Carnaby's Wall Skink	Cryptoblepharus carnabyi				265
Murray Striped Skink	Ctenotus brachyonyx				18
Brooks's Striped Skink	Ctenotus brooksi iridis				1
Regal Striped Skink	Ctenotus regius				34
Large Striped Skink	Ctenotus robustus				81
Copper-tailed Skink	Ctenotus taeniolatus				1
Eastern Striped Skink	Ctenotus orientalis				8
Cunningham's Skink	Egernia cunninghami				41
Desert Skink	Egernia inornata	NT			9
Black Rock Skink	Egernia saxatilis intermedia				1

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Tree Skink	Egernia striolata				122
White's Skink	Egernia whiti				1
Yellow-bellied Water Skink	Eulamprus heatwolei				36
Eastern Water Skink	Eulamprus quoyii	NT			20
Southern Water Skink	Eulamprus tympanum tympanum				1
Three-toed Skink	Hemiergis decresiensis				47
Garden Skink	Lampropholis guichenoti				203
Bougainville's Skink	Lerista bougainvillii				59
Mueller's Skink	Lerista muelleri	EN	L		31
Spotted Burrowing Skink	Lerista punctatovittata				12
Greys Skink	Menetia greyi				91
Samphire Skink	Morethia adelaidensis	EN	L		7
Boulenger's Skink	Morethia boulengeri				729
Obscure Skink	Morethia obscura				8
Western Blue-tongued Lizard	Tiliqua occipitalis	DD			3
Common Blue-tongued Lizard	Tiliqua scincoides				31
Stumpy-tailed Lizard	Tiliqua rugosa				62
West Australian Blind Snake	Ramphotyphlops australis				11
Peter's Blind Snake	Ramphotyphlops bituberculatus				29
Gray's Blind Snake	Ramphotyphlops nigrescens				5
Woodland Blind Snake	Ramphotyphlops proximus	NT			31
Carpet Python	Morelia spilota metcalfei	EN	L		86
Common Death Adder	Acanthophis antarcticus	DD	L		1
Eastern Small-eyed Snake	Rhinoplocephalus nigrescens				1
Yellow-faced Whip Snake	Demansia psammophis	NT			6
Red-naped Snake	Furina diadema	EN	L		8
Tiger Snake	Notechis scutatus				52
Red-bellied Black Snake	Pseudechis porphyriacus				59
Western Brown Snake	Pseudonaja nuchalis	DD			2
Eastern Brown Snake	Pseudonaja textilis				93
Coral Snake	Simoselaps australis	NT			22
Mitchell's Short-tailed Snake	Suta nigriceps				9
Curl Snake	Suta suta	VU			24
Dwyer's Snake	Suta dwyeri				2
Bandy Bandy	Vermicella annulata	NT	L		7
Amphibians					
Plains Froglet	Crinia parinsignifera				488
Common Froglet	Crinia signifera				524
Sloane's Froglet	Crinia sloanei				14
Victorian Smooth Froglet	Geocrinia victoriana				1
Southern Bullfrog	Limnodynastes dumerilii				458
Southern Bullfrog (northern)	Limnodynastes dumerilii dumerilii				24
Barking Marsh Frog	Limnodynastes fletcheri	DD			105
Giant Bullfrog	Limnodynastes interioris	CR	L		8
Spotted Marsh Frog	Limnodynastes tasmaniensis				891
Spotted Marsh Frog	Limnodynastes tasmaniensis				
(northern call race)	(northern call race)				16
Mallee Spadefoot Toad	Neobatrachus pictus				10

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Common Spadefoot Toad	Neobatrachus sudelli				61
Brown Toadlet	Pseudophryne bibronii	EN			48
Rugose Toadlet	Uperoleia rugosa	DD	L		1
Southern Brown Tree Frog	Litoria ewingii				15
Lesueur's Frog	Litoria lesueuri				1
Plains Brown Tree Frog	Litoria paraewingi				15
Peron's Tree Frog	Litoria peronii				218
Growing Grass Frog	Litoria raniformis	VU	EN	L	67
Fish					
Short-headed Lamprey	Mordacia mordax				7
Bony Bream	Nematalosa erebi				126
Broadfin Galaxias	Galaxias brevipinnis				8
Common Galaxias	Galaxias maculatus				2
Flat-headed Galaxias	Galaxias rostratus	DD			13
Mountain Galaxias	Galaxias olidus		L		42
Freshwater Catfish	Tandanus tandanus	EN	L		49
Crimson-spotted Rainbowfish	Melanotaenia fluviatilis	DD	L		51
Fly-specked Hardyhead	Craterocephalus stercusmuscarum fulvus (southern form)		DD	L	38
Murray Hardyhead	Craterocephalus fluviatilis	VU	CR	L	23
Agassiz's Chanda Perch	Ambassis agassizii		RX	L	1
Australian Smelt	Retropinna semoni				263
Murray Cod	Maccullochella peelii peilii	VU	EN	L	360
Trout Cod	Maccullochella macquariensis	EN	CR	L	64
Macquarie Perch	Macquaria australasica	EN	EN	L	12
Golden Perch	Macquaria ambigua		VU		482
Silver Perch	Bidyanus bidyanus		CR	L	171
Southern Pigmy Perch	Nannoperca australis				28
Redfin*	Perca fluviatilis				517
Two-spined Blackfish	Gadopsis bispinosus				89
River Blackfish	Gadopsis marmoratus				46
Western Carp Gudgeon	Hypseleotris klunzingeri				232
Southern Purple-spotted Gudgeon	Mogurnda adspersa	EX	L		1
Flatheaded Gudgeon	Philypnodon grandiceps				152
Dwarf Flat-headed Gudgeon	Philypnodon sp. nov.				8
Rainbow Trout*	Oncorhynchus mykiss				39
Brown Trout*	Salmo trutta				86
Goldfish*	Carassius auratus				355
Carp*	Cyprinus carpio				825
Mirror Carp*	Cyprinus carpio var. mirror				5
Tench*	Tinca tinca				49
Oriental Weatherloach*	Misgurnus anguillicaudatus				17
Mosquitofish*	Gambusia holbrooki				201
Invertebrates					
Southern Freshwater Prawn	Macrobrachium australiense australiense				38
Murray Spiny Cray	Eusclacus armatus		DD	L	49
Murray Freshwater Shrimp	Caridina mccullochi				5
Common Freshwater Shrimp	Paratya australiensis				39

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Freshwater shrimp	Paratya sp.				9
Hairy Burrowing Cray	Engaeus sericatus				5
Common Yabbie	Cherax destructor				82
South-eastern River Mussel	Vesunio ambiguus				2
Mildura Ogyris	Ogyris subterrestris subterrestris ssp.			L	1
River snail	Notopala sublineata			L	13
Freshwater snail	Physa sp.				1
Bullant	Myrmedia sp. 17		VU	L	1
Spider	Superord. Acarina				2
Spider	Ord. Acariformes				2
Aquatic mite	Subord. Astigmata				2
Aquatic mite	Superfam. Acaroidea				2
Aquatic mite	Superfam. Hemisarcoptidea				2
Aquatic mite	Superfam. Histiotomatidae				2
Aquatic mite	Subord. Orbatida				2
Aquatic mite	Superfam. Crotonioidea				2
Aquatic mite	Superfam. Ameronothroidea				2
Aquatic mite	Superfam. Hydrozetioidea				2
Aquatic mite	Subord. Prostigmata				2
Aquatic mite	Superfam. Raphignathoidea				2
Aquatic mite	Superfam. Halacaroidea				2
Aquatic mite	Superfam. Arrenuroidea				2
Aquatic mite	Superfam. Eylaoidea				2
Aquatic mite	Superfam. Hydrachnoidea				2
Aquatic mite	Fam. Hydrachnidae				4
Aquatic mite	Superfam. Hydryphantoidea				2
Aquatic mite	Superfam. Hygrobatoidae				2
Aquatic mite	Fam. Hygrobatidae				1
Aquatic mite	Ord. Acariformes Fam. Unionicolidae				1
Aquatic mite	Superfam. Lebertioidea				2
Aquatic mite	Fam. Oxidae				3
Mite (may not be aquatic)	Ord. Parasitiformes				2
Mite (may not be aquatic)	Subord. Stigmata				2
Mite (may not be aquatic)	Superfam. Ascoidea				2
Mayfly	Fam. Baetidae				1
Mayfly	Edmundsiops sp.				6
Mayfly	Fam. Coloburiscidae				4
Mayfly	Coloburiscoides sp.				2
Mayfly	Coloburiscoides munionga				2
Mayfly	Coloburiscoides giganteus				2
Mayfly	Coloburiscoides haleuticus				2
Mayfly	Atalophlebia sp.				1
Mayfly	Austrophlebioides sp.				5
Mayfly	Nousia sp.				2
Mayfly	Fam. Caenidae				1
Mayfly	Tasmanocoenis sp.				1
Mayfly	Caenid sp.				2
Alderflies/Dobsonflies	Archichauliodes sp.				4

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Dragonfly	Hemigomphus sp.				4
Dragonfly	Austroaeschna sp.				1
Stonefly	Fam. Gripopterygidae				1
Stonefly	Dinotoperla sp.				3
Stonefly	Illiesoperla sp.				2
Stonefly	Leptoperla sp.				1
Stonefly	Riekoperla sp.				1
Stonefly	Trinotoperla sp.				1
Caddisfly (5008)	Archaeophylax canarus			L	1
Caddisfly	Fam. Hydrobiosidae				1
Caddisfly	Tanjilana sp.				1
Caddisfly	Taschorema sp.				2
Caddisfly	Ulmerochorema sp.				4
Caddisfly	Agapetus sp.				4
Caddisfly	Hydroptila sp.				2
Caddisfly	Fam. Hydropsychidae				2
Caddisfly	Asmicridea sp.				2
Caddisfly	Cheumatopsyche sp.				5
Caddisfly	Enomus sp.				2
Caddisfly	Conoesucus sp.				2
Caddisfly	Hampa sp.				1
Caddisfly	Tamasia sp.				1
Caddisfly	Notalina sp.				2
Caddisfly	Triplectides sp.				1
Water boatman	Micronecta sp.				3
Ground beetle	Fam. Carabidae				1
Scavenger water beetle	Hydrochus sp.				1
Scavenger water beetle	Berosus sp.				2
Riffle beetles	Austrolimnius sp.				5
Riffle beetles	Notriolus sp.				3
Riffle beetles	Kingolus sp.				2
Water penny beetle	Sclerocyphus sp.				5
Byrrhoeptus	Byrrhoeptus sp.				1
Midge	Paraheptaglyia sp.				1
Midge	Subfam. Orthocladinae				4
Midge	Cardiocladius sp.				1
Midge	Cricotopus sp.				2
Midge	Riethia sp.				2
Midge	Cladotanytarsus sp.				1
Midge	Rheotanytarsus sp.				1
Midge	Dicrotendipes sp.				1
Midge	Polypedilum sp.				2
Biting midge	Fam. Ceratopogonidae Gen. EPA sp. 6				1
Biting midge	Fam. Ceratopogonidae Gen. SRV sp. 20				4
Black fly	Austrosimulium sp.				6
Black fly	Simulium sp.				1
Black fly	Cnephia sp.				1
Crane fly	Fam. Tipulidae Gen. EPA sp. 1				2

English Name	Scientific Name	EPBC	Vtc	FFG	No.
Crane fly	Fam. Tipulidae Gen. EPA sp. 10				1
Crane fly	Fam. Tipulidae Gen. SRV sp. 18				6
Crane fly	Fam. Tipulidae Gen. SRV sp. 19				5
Athericid	Fam. Athericidae				1
Dance fly	Fam. Empididae				2
Dance fly	Fam. Empididae Gen. MV sp. 3				2
Dance fly	Fam. Empididae Gen. SRV sp. 6				1
Dance fly	Fam. Empididae Gen. SRV sp. 7				1
Dolichopodid	Fam. Dolichopodidae				1
Dolichopodid	Fam. Dolichopodidae Gen. EPA sp. 1				1
Flatworm	Dugesia sp.				1
Tubificid Worm	Tubificidae sp.				3
Naidid Worm	Naididae sp.				1
Lumbricid worm	Fam. Lumbricidae				1

The table below lists fauna species once recorded in the study area but now extinct¹ and other species that were also recorded in the study area but are now extinct in Victoria² (and not recorded in the Atlas of Victorian Wildlife). These species are not in the main list of species recorded in the study area. A number of other species possibly occurred in the study area at the time of European settlement³ (Menkhurst 1995).

English Name	Scientific Name
Pig-footed bandicoot ¹	Chaeropus ecaudatus
Eastern hare-wallaby ¹	Lagorchestes leporides
An undescribed short-nosed bandicoot ¹	Isodon sp.
Lesser stick-nest rat ¹	Leporillus apicalis
Eastern quoll ²	Dasyurus viverrinus
Red-tailed phascogale ²	Phascogale calura
Western barred bandicoot ²	Perameles bougainville fasciata
Brush-tailed bettong ²	Bettongia penicillata penicillata
Bridled naitail wallaby ²	Onychogalea fraenata
Western quoll ³	Dasyurus geoffroii
Kultarr ³	Antechinomys laniger
Greater stick-nest rat ³	Leporillus conditor
Bolam's mouse ³	Pseudomys bolami
Desert mouse ³	Pseudomys desertor
White-footed rabbit-rat ³	Conilurus albiges

APPENDIX 6: Reservation Status of Ecological Vegetation Classes (EVCs)

A vegetation community is a collection of co-occurring plant species—it reflects the vegetation's response to environmental influences such as geology, soils, landform and rainfall. Ecological Vegetation Classes (EVCs) are groups of one or more vegetation communities which exist under a common regime of ecological processes and which are linked to broad landscape features. The similarity of environmental regimes is apparent in comparable life forms, genera and vegetation structure. The communities within an EVC differ due to geographical separation rather than major ecological differences.

Once EVCs have been identified, it is possible to map their distributions with the aid of maps of sites where they are known to occur; aerial photographs; maps of the main environmental determinants of vegetation distribution (such as soils, rainfall, topography); any pre-existing vegetation mapping; and extensive field work to identify boundaries and ground-check that EVCs do indeed occur where they have been mapped.

As well as the standard EVCs, the process of mapping generates two variations of the standard EVCs—mosaics and complexes. A mosaic consists of two or more discrete EVCs that cannot be mapped separately due to the scale of the map. A complex occurs where two or more EVCs are unable to be distinguished in an area but are known to exist discretely elsewhere. A slash is used to separate the component EVCs in the name of a mosaic or complex. For example, Aquatic Herbland/Floodplain Grassy Wetland Mosaic. Some EVCs occur only in mosaics. The units identified on a single vegetation map may be communities, EVCs, mosaics or complexes, depending on the resolution at which the units were described and mapped. However, for convenience, mapped vegetation units of any of these types are referred to simply as 'EVCs'.

The extent to which vegetation has been depleted—that is, cleared as a result of European settlement—is a key consideration in the establishment of conservation reserve systems (see chapter 10). To assess the extent of depletion of each EVC, it is necessary to map the extent of EVCs prior to European settlement, as well as the current distribution of EVCs. The mapping of vegetation prior to European settlement is called 'pre-1750 mapping'; 1750 being a round-number year closely pre-dating European settlement in Australia. Essentially pre-1750 mapping involves predicting, or modelling, the vegetation that was originally cleared from areas which

no longer support indigenous vegetation. It involves a similar process to mapping the current distribution of EVCs, but (of course) with little or no assistance from aerial photographs and ground-checking.

In most regions, the EVC currently found at any given location where native vegetation remains is nearly always the same as that which would have been there pre-1750—even if it has been cleared and regrown, most of the fundamental determinants of that EVC remain in place (e.g. slope, soil type, climate) and so the same EVC should re-establish (although probably in a poorer state). In the River Red Gum Forests study area, one of the most pervasive environmental changes has been the alteration of flood regimes across wetlands and forests. Flood regime is one of the primary determinants of EVCs in these environments, and so in many instances the vegetation present at a site will differ from that present prior to river regulation. One of the best known examples of this phenomenon is the invasion of Moira grass plains (Floodplain Grassy Wetland EVC) by river red gums (probably Riverine Swamp Forest EVC) and giant rush. As a result it is impossible to reliably map all pre-1750 EVCs, and some apparently straightforward changes in EVC extent (such as a reduction from pre-1750 extent to current extent) may mask more complex changes such as a greater total reduction countered by a smaller increase in some areas. Overall, this problem would generally lead to around 10 percent variation in the total extent of some EVCs.

The vegetation of the study area is mapped in Map B. Because of the large number of EVCs, and the closely interwoven occurrence of EVCs in many areas (e.g. see the Barmah forest inset in Map B), it is not possible to discern individual EVCs over much of a map of this scale. Accordingly, EVCs have been grouped for presentation in Map B—with EVCs of similar composition and environmental determinants shown in the same colour. Complementing Map B is Appendix 7, which provides descriptions of each of the main EVCs in the study area.

The EVC mapping on which Map B is based is also the basis of the Representation Table following. Broadly, this table lists all the EVCs mapped in the study area, and quantifies their current and pre-1750 extent in the study area, as well as their current extent in conservation reserves and other public land. Preceding the table is the following detailed key for the column headings and symbols used in the table.

KEY

Data in the Representation Table were derived by GIS analysis, that is overlaying, on computer, maps of:

- the pre-1750 extent of EVCs (data used to derive Map B); that is, the distribution of EVCs as it is thought to have been immediately prior to European settlement;
- current extent of intact native vegetation, based on a separate mapping exercise to the EVC mapping; and
- current extent of each public land use category.

Many small public land units may not be picked up in the public land GIS layer. For example, none of these figures include roads and roadsides, for which no estimate of extent exists. In addition to the Representation Table for the study area as a whole, presented here, VEAC has prepared Representation Tables for each of the main bioregions which overlap with the study area. These tables are available on the VEAC website (www.veac.vic.gov.au) or by request from VEAC.

The total extent of both public land (see Table 10.1) and the conservation reserve system in the study area is greater than the figures shown in the Representation Table because several thousand hectares of public land that do not support intact native vegetation are not included relevant totals in the Representation Table below.

It is important to understand that the figures in the Representation Table are generated by computer-based spatial analysis, and are not meant to be interpreted with the level of precision at which they are provided. That is, for example, the table should not be interpreted as saying that the current extent of Alluvial Plains Semi-arid Grassland is exactly 3517 hectares—as opposed to 3516, 3518, or indeed 3520 hectares. As general rule, the focus should be on changes to the vegetation more generally, or on more extensive EVCs. In addition, all area figures are rounded to the nearest hectare. As a result several EVCs have '0' pre-1750 extent in the table e.g. Sedgy Riverine Forest/Spike-sedge Wetland Mosaic, for which the precise figure is 0.46 hectares.

Column 1: Ecological Vegetation Classes

The names of the 169 EVCs mapped within the River Red Gum Forests study area. Here, the term 'EVCs' is

used to describe several units of classification: EVCs *per se*, and complexes and mosaics—see above for definitions of these units and their relationships to each other. The last row ('other - natural') is mostly river bank, sandy beach, and other bare ground.

Column 2: Pre-1750 Extent

The total area in hectares thought to have been occupied by each EVC prior to European settlement, corresponding to the mapped extent of EVCs used to generate Map B.

Column 3: Current Extent (public and private land)

The total area in hectares currently occupied by each EVC—that is, that part of the pre-1750 distribution where intact native vegetation is currently present.

Column 4: Percent Remaining

The current extent (column 3) as a percentage of the pre-1750 extent (column 2), for each EVC.

Column 5: Conservation Status (JANIS)

A simplified version of the status of each EVC in terms of the categories developed by JANIS, and the DSE the Bioregional Conservation status (see below). The assessments refer to the study area as a whole and take no account of EVC distributions outside the study area or in bioregions within the study area. The percent remaining (column 4) is a key factor in assigning EVCs to JANIS categories. E = endangered, V = vulnerable, R = rare.

Column 6: Dedicated Reserve System

The total area in hectares of each EVC in existing public land categories that comprise the conservation reserve system (see chapter 10).

Column 7: Other Public Land

The total area in hectares of each EVC in all public land categories outside the dedicated reserve system. Note that some of these areas will be in informal reserves such as Special Protection Zones in state forest.

Column 8: Dedicated Reserves as % of Pre-1750 Extent

The area of dedicated reserves (column 6) as a percentage of the pre-1750 extent (column 2), for each EVC.

Definitions of Bioregional Conservation Status for Ecological Vegetation Classes. Note the different categories and definitions used for EVCs compared with the conservation status categories and definitions used for flora and fauna species in Appendices 4 and 5.

Status	Code	Criteria
Presumed extinct	X	Probably no longer present in the Bioregion (the accuracy of this assumption is limited by the use of remotely sensed 1:100,000 scale woody vegetation cover mapping to determine depletion – grassland, open woodland and wetland types are particularly affected).
Endangered	E	Contracted to less than 10% of former range; OR Less than 10% pre-European extent remains; OR Combination of depletion, degradation, current threats and rarity is comparable overall to the above: <ul style="list-style-type: none"> • 10 to 30% pre-European extent remains and severely degraded over a majority of this area; or • naturally restricted EVC reduced to 30% or less of former range and moderately degraded over a majority of this area; or • rare EVC cleared and/or moderately degraded over a majority of former area.
Vulnerable	V	10 to 30% pre-European extent remains; OR Combination of depletion, degradation, current threats and rarity is comparable overall to the above: <ul style="list-style-type: none"> • greater than 30% and up to 50% pre-European extent remains and moderately degraded over a majority of this area; or • greater than 50% pre-European extent remains and severely degraded over a majority of this area; or • naturally restricted EVC where greater than 30% pre-European extent remains and moderately degraded over a majority of this area; or • rare EVC cleared and/or moderately degraded over a majority of former area.
Depleted	D	Greater than 30% and up to 50% pre-European extent remains; OR Combination of depletion, degradation and current threats is comparable overall to the above and: <ul style="list-style-type: none"> • greater than 50% pre-European extent remains and moderately degraded over a majority of this area; or
Rare	R	Rare EVC (as defined by geographic occurrence) but neither depleted, degraded nor currently threatened to an extent that would qualify as Endangered, Vulnerable or Depleted.
Least concern	LC	Greater than 50% pre-European extent remains and subject to little to no degradation over a majority of this area.

1	2	3		4	5	6		7	8
		Area in ha				Area in ha			
		Pre-1750 Extent	Current Extent			Percent Remaining	Conservation Status		
Ecological Vegetation Classes (EVCs)									
Alluvial Plains Semi-arid Grassland	3,520	3,517	99.9			1,568	1,548		44.5
Alluvial Terraces Herb-rich Woodland/Creekline Grassy Woodland Mosaic	15	9	61.6	R		0	5		0.0
Aquatic Herbland	139	139	100.0	R		0	139		0.0
Aquatic Herbland/Floodplain Grassy Wetland Mosaic	59	59	100.0	R		0	59		0.0
Aquatic Herbland/Floodway Pond Herbland	1	1	100.0	R		0	1		0.0
Aquatic Herbland/Riverine Swamp Forest Mosaic	1	1	100.0	R		0	1		0.0
Aquatic Herbland/Tall Marsh Mosaic	68	68	100.0	R		0	68		0.0
Billabong Wetland	1,315	1,096	83.4			17	618		1.3
Billabong Wetland/Red Gum Wetland Mosaic	21	1	7.1	E, R		0	0		0.0
Box Ironbark Forest	49	17	34.1	R		0	3		0.0
Brackish Lake Mosaic	1,982	1,884	95.0			0	1,382		0.0
Cane Grass Wetland	46	7	16.3	V, R		0	0		0.0
Chenopod Grassland	108,008	17,461	16.2	V		280	511		0.3
Chenopod Mallee	4,871	2,986	61.3			233	1,928		4.8
Creekline Grassy Woodland	2,415	938	38.8	R		4	100		0.2
Disused Floodway Shrubby Herbland	23	23	100.0	R		13	10		56.1
Drainage-line Aggregate/Riverine Swamp Forest Mosaic	116	116	100.0	R		0	113		0.0
Drainage-line Aggregate/Sedgy Riverine Forest Mosaic	23	23	100.0	R		0	23		0.0
Drainage-line Aggregate/Tall Marsh Mosaic	3	3	100.0	R		0	3		0.0
Drainage-line Complex	3,669	2,522	68.7			25	1,282		0.7
Drainage-line Grassy Woodland/Lake Bed Herbland Mosaic	765	0	0.0	X		0	0		0.0
Floodplain Grassy Wetland	581	577	99.2	R		0	569		0.0
Floodplain Grassy Wetland/Floodway Pond Herbland Mosaic	6	6	100.0	R		0	6		0.0
Floodplain Grassy Wetland/Riverine Swamp Forest Mosaic	101	101	100.0	R		0	101		0.0
Floodplain Grassy Wetland/Riverine Swampy Woodland Mosaic	9	5	54.5	R		0	2		0.0
Floodplain Grassy Wetland/Spike-sedge Wetland Mosaic	22	22	100.0	R		0	22		0.0
Floodplain Grassy Wetland/Tall Marsh Mosaic	21	21	100.0	R		0	21		0.0
Floodplain Riparian Woodland	22,101	15,593	70.6			57	7,670		0.3
Floodplain Riparian Woodland/Floodway Pond Herbland Mosaic	3	3	96.5	R		0	2		0.0
Floodplain Riparian Woodland/Grassy Riverine Forest Mosaic	34	34	100.0	R		0	22		0.0

1	2	3		4	5	6	7	8
		Area in ha						
		Pre-1750 Extent	Current Extent					
Ecological Vegetation Classes (EVCs)								
Floodplain Riparian Woodland/Riverine Grassy Woodland Mosaic	27		18	67.5	R	0	11	0.0
Floodplain Riparian Woodland/Riverine Swamp Forest Mosaic	237		55	23.3	V, R	0	49	0.0
Floodplain Riparian Woodland/Sedgy Riverine Forest Mosaic	207		205	99.0	R	0	139	0.0
Floodplain Riparian Woodland/Tall Marsh Mosaic	1		1	100.0	R	0	1	0.0
Floodplain Wetland Complex	1,163		912	78.4	R	3	353	0.2
Floodway Pond Herland	1,166		1,156	99.2		183	871	15.7
Floodway Pond Herland/Riverine Swamp Forest Complex	2,523		2,523	100.0		0	2,518	0.0
Floodway Pond Herland/Riverine Swamp Forest Mosaic	89		32	36.3	R	0	7	0.0
Floodway Pond Herland/Tall Marsh Mosaic	7		7	100.0	R	0	7	0.0
Freshwater Lake Mosaic	4,220		4,203	99.6		1	4,157	0.0
Gilgai Plain Woodland/Wetland Mosaic	1,733		186	10.7	V, R	0	20	0.0
Grassy Dry Forest	711		266	37.4	R	0	80	0.0
Grassy Riverine Forest	9,474		8,929	94.2		1,725	6,399	18.2
Grassy Riverine Forest/Drainage-line Aggregate Mosaic	3		3	100.0	R	0	3	0.0
Grassy Riverine Forest/Floodway Pond Herland Complex	1,142		1,127	98.7		268	777	23.5
Grassy Riverine Forest/Floodway Pond Herland Mosaic	5		5	100.0	R	0	5	0.0
Grassy Riverine Forest/Riverine Grassy Woodland Mosaic	23		23	100.0	R	0	23	0.0
Grassy Riverine Forest/Riverine Swamp Forest Complex	8,323		6,367	76.5		0	4,497	0.0
Grassy Riverine Forest/Riverine Swamp Forest Mosaic	67		67	100.0	R	0	67	0.0
Grassy Riverine Forest/Riverine Swampy Woodland Mosaic	1		1	100.0	R	0	1	0.0
Grassy Riverine Forest/Sedgy Riverine Forest Mosaic	344		344	100.0	R	0	344	0.0
Grassy Riverine Forest/Tall Marsh Mosaic	2		2	100.0	R	0	2	0.0
Grassy Woodland	4,137		714	17.3	V, R	47	54	1.1
Grassy Woodland/Valley Grassy Forest Mosaic	64		5	7.6	E, R	0	0	0.0
Heathy Dry Forest	6		5	88.2	R	0	0	0.0
Herb-rich Foothill Forest	230		114	49.7	R	0	13	0.0
Intermittent Swampy Woodland	9,205		9,157	99.5		5,750	2,665	62.5
Lake Bed Herland	3,695		3,649	98.8		1,850	1,309	50.1
Lignum Shrubland	16,673		16,045	96.2		5,655	6,286	33.9
Lignum Swampy Woodland	69,685		41,331	59.3		5,726	17,016	8.2

1	2	3		4	5	6		7	8
		Area in ha				Area in ha			
		Pre-1750 Extent	Current Extent			Percent Remaining	Conservation Status		
Lignum Swampy Woodland/Lake Bed Herbland Mosaic	125	64	51.2	R	0	35	0.0		
Lignum Swampy Woodland/Plains Grassland Mosaic	12,638	1,352	10.7	V	9	20	0.1		
Lignum Wetland	51,420	17,101	33.3		1,938	2,123	3.8		
Loamy Sands Mallee	1,399	1,384	99.0		1,336	10	95.6		
Low Chenopod Shrubland	40,849	38,819	95.0		5,972	5,443	14.6		
Low Rises Woodland	3,020	716	23.7	V, R	54	308	1.8		
Low Rises Woodland/Riverine Swampy Woodland Mosaic	2	2	100.0	R	0	2	0.0		
Lunette Woodland	1,581	131	8.3	E, R	0	25	0.0		
Mosaic of Aquatic Herbland/Floodway Pond Herbland-Riverine Swamp Forest Complex	2	2	100.0	R	0	2	0.0		
Mosaic of Aquatic Herbland/Sedgy Riverine Forest-Riverine Swamp Forest Complex	0	0	100.0	R	0	0	0.0		
Mosaic of Drainage-line Aggregate/Floodway Pond Herbland-Riverine Swamp Forest Complex	1	1	100.0	R	0	1	0.0		
Mosaic of Drainage-line Aggregate/Grassy Riverine Forest-Riverine Swamp Forest Complex	146	146	100.0	R	0	146	0.0		
Mosaic of Drainage-line Aggregate/Sedgy Riverine Forest-Riverine Swamp Forest Complex	67	67	99.8	R	0	19	0.0		
Mosaic of Floodplain Grassy Wetland/Floodway Pond Herbland-Riverine Swamp Forest Complex	1	1	100.0	R	0	1	0.0		
Mosaic of Floodplain Grassy Wetland/Grassy Riverine Forest-Riverine Swamp Forest Complex	23	23	100.0	R	0	22	0.0		
Mosaic of Floodplain Grassy Wetland/Sedgy Riverine Forest-Riverine Swamp Forest Complex	2	2	100.0	R	0	2	0.0		
Mosaic of Floodplain Riparian Woodland/Sedgy Riverine Forest-Riverine Swamp Forest Complex	0	0	100.0	R	0	0	0.0		
Mosaic of Floodway Pond Herbland/Grassy Riverine Forest-Riverine Swamp Forest Complex	4	4	100.0	R	0	4	0.0		
Mosaic of Floodway Pond Herbland/Sedgy Riverine Forest-Riverine Swamp Forest Complex	8	8	100.0	R	0	8	0.0		
Mosaic of Grassy Riverine Forest-Riverine Swamp Forest Complex/Riverine Swamp Forest	239	239	100.0	R	0	238	0.0		
Mosaic of Grassy Riverine Forest/Floodway Pond Herbland-Riverine Swamp Forest Complex	379	379	100.0	R	0	379	0.0		

1	2	3	4	5	6	7	8
Ecological Vegetation Classes (EVCs)	Area in ha		Percent Remaining	Conservation Status	Area in ha		Dedicated Reserves as % of Pre-1750 Extent
	Pre-1750 Extent	Current Extent			Dedicated Reserve System	Other Public Land	
Mosaic of Grassy Riverine Forest/Plains Grassy Woodland-Grassy Woodland Complex	0	0	100.0	R	0	0	0.0
Mosaic of Grassy Riverine Forest/Sedgy Riverine Forest-Riverine Swamp Forest Complex	76	76	100.0	R	0	76	0.0
Mosaic of Riverine Grassy Woodland/Floodway Pond Herbland-Riverine Swamp Forest Complex	1	1	100.0	R	0	1	0.0
Mosaic of Riverine Swamp Forest/Floodway Pond Herbland-Riverine Swamp Forest Complex	882	882	100.0	R	0	881	0.0
Mosaic of Riverine Swampy Woodland/Sedgy Riverine Forest-Riverine Swamp Forest Complex	32	32	100.0	R	0	32	0.0
Mosaic of Sedgy Riverine Forest-Riverine Swamp Forest Complex/Floodway Pond Herbland-R	65	65	100.0	R	0	65	0.0
Mosaic of Sedgy Riverine Forest-Riverine Swamp Forest Complex/Tall Marsh	7	7	100.0	R	0	7	0.0
Mosaic of Sedgy Riverine Forest/Floodway Pond Herbland-Riverine Swamp Forest Complex	31	31	100.0	R	0	31	0.0
Mosaic of Sedgy Riverine Forest/Sedgy Riverine Forest-Riverine Swamp Forest Complex	1,253	1,231	98.2		0	1,135	0.0
Mosaic of Tall Marsh/Floodway Pond Herbland-Riverine Swamp Forest Complex	83	83	100.0	R	0	83	0.0
Mountain Valley Riparian Woodland	1,325	892	67.3	R	0	515	0.0
Plains Grassland	251,131	37,784	15.0	V	1,969	980	0.8
Plains Grassland/Plains Grassy Woodland/Gilgai Wetland Mosaic	13,188	1,391	10.5	V	19	192	0.1
Plains Grassy Wetland	2,172	645	29.7	V, R	121	23	5.6
Plains Grassy Woodland	13,851	1,532	11.1	V	3	112	0.0
Plains Grassy Woodland/Creekline Grassy Woodland/Floodplain Riparian Woodland Mosaic	1,291	80	6.2	E, R	0	2	0.0
Plains Grassy Woodland/Creekline Grassy Woodland/Wetland Formation Mosaic	0	0	96.6	R	0		0.0
Plains Grassy Woodland/Gilgai Wetland Mosaic	6	1	10.7	V, R	0	0	0.0
Plains Grassy Woodland/Grassy Woodland Complex	95	30	31.2	R	0	2	0.0
Plains Grassy Woodland/Valley Grassy Forest Complex	14	1	3.8	E, R	0	0	0.0
Plains Grassy Woodland/Valley Grassy Forest/Grassy Woodland Complex	194	15	7.6	E, R	0	4	0.0

1	2	3		4	5	6		7	8
		Area in ha				Area in ha			
		Pre-1750 Extent	Current Extent			Percent Remaining	Conservation Status		
Plains Saltmarsh Complex	298		266	89.3	R	3	257	0.9	
Plains Savannah	14,083		2,257	16.0	V	12	66	0.1	
Plains Woodland	135,204		22,055	16.3	V	313	4,827	0.2	
Plains Woodland/Lignum Wetland Mosaic	1,250		137	11.0	V, R	0		0.0	
Plains Woodland/Plains Grassland/Gilgai Wetland Mosaic	6		2	27.3	V, R	0		0.0	
Plains Woodland/Red Gum Wetland Mosaic	1,034		169	16.4	V, R	0	4	0.0	
Red Gum Wetland	1,706		1,600	93.8		45	1,350	2.7	
Red Gum Wetland/Plains Grassy Wetland Mosaic	718		398	55.4	R	1	200	0.2	
Ridged Plains Mallee	1,825		463	25.4	V, R	112	83	6.1	
Riparian Forest	400		319	79.9	R	0	246	0.0	
Riparian Forest/Swampy Riparian Woodland Mosaic	42		34	80.8	R	0	1	0.0	
Riparian Forest/Swampy Riparian Woodland/Riparian Shrubland/Riverine Escarpment Scrub	1		1	100.0	R	0	1	0.0	
Riverine Chenopod Woodland	140,361		60,556	43.1		13,430	17,221	9.6	
Riverine Chenopod Woodland/Lignum Wetland Mosaic	24		13	54.5	R	0	0	0.0	
Riverine Chenopod Woodland/Plains Grassland Mosaic	1,113		266	23.9	V, R	0	15	0.0	
Riverine Ephemeral Wetland	1		1	100.0	R	0	1	0.0	
Riverine Grassland	65		62	95.4	R	0	61	0.0	
Riverine Grassy Woodland	56,116		28,684	51.1		3,376	13,054	6.0	
Riverine Grassy Woodland/Grassy Riverine Forest-Riverine Swamp Forest Complex	0		0	100.0	R	0	0	0.0	
Riverine Grassy Woodland/Plains Woodland Complex	1,355		283	20.9	V, R	0	42	0.0	
Riverine Grassy Woodland/Plains Woodland/Gilgai Wetland Complex	829		146	17.6	V, R	0	6	0.0	
Riverine Grassy Woodland/Plains Woodland/Riverine Chenopod Woodland Complex	1,131		280	24.8	V, R	0	1	0.0	
Riverine Grassy Woodland/Riverine Chenopod Woodland/Wetland Mosaic	50		9	18.5	V, R	0	0	0.0	
Riverine Grassy Woodland/Riverine Swamp Forest Mosaic	14		14	100.0	R	0	14	0.0	
Riverine Grassy Woodland/Riverine Swampy Woodland Mosaic	13,942		4,250	30.5		12	1,022	0.1	
Riverine Grassy WoodlandSedgy Riverine Forest Mosaic	885		566	63.9	R	0	532	0.0	
Riverine Swamp Forest	12,687		12,043	94.9		34	11,234	0.3	
Riverine Swamp Forest/Riverine Swampy Woodland Mosaic	55		55	100.0	R	0	51	0.0	

1	2	3	4	5	6	7	8		
								Ecological Vegetation Classes (EVCs)	
Area in ha									
Pre-1750 Extent		Current Extent	Percent Remaining	Conservation Status	Dedicated Reserve System	Other Public Land	Dedicated Reserves as % of Pre-1750 Extent		
Riverine Swamp Forest/Sedgy Riverine Forest Mosaic	475	396	83.3	R	13	265	2.8		
Riverine Swamp Forest/Sedgy Riverine Forest-Riverine Swamp Forest Complex	1,325	1,218	91.9		0	1,160	0.0		
Riverine Swamp Forest/Spike-sedge Wetland Mosaic	6	6	100.0	R	0	6	0.0		
Riverine Swamp Forest/Tail Marsh Mosaic	573	573	100.0	R	0	573	0.0		
Riverine Swampy Woodland	8,938	6,182	69.2		48	3,542	0.5		
Riverine Swampy Woodland/Lignum Wetland Mosaic	5,824	2,231	38.3		8	210	0.1		
Riverine Swampy Woodland/Plains Grassy Wetland Mosaic	308	30	9.7	E, R	1	0	0.3		
Riverine Swampy Woodland/Sedgy Riverine Forest Mosaic	348	345	99.2	R	0	321	0.0		
Rocky Outcrop Shrubland	141	43	30.4	R	0	1	0.0		
Rushy Riverine Swamp	293	206	70.4	R	0	193	0.0		
Saline Lake Mosaic	182	181	99.0	R	35	141	19.0		
Samphire Shrubland	1,351	1,266	93.7		307	518	22.7		
Sand Ridge Woodland	1,845	727	39.4	R	1	124	0.1		
Sandstone Ridge Shrubland/Low Rises Woodland Mosaic	147	8	5.3	E, R	0	0	0.0		
Sedgy Riverine Forest	17,613	16,534	93.9		203	14,183	1.2		
Sedgy Riverine Forest/Riverine Swamp Forest Complex	3,876	3,831	98.8		0	3,737	0.0		
Sedgy Riverine Forest/Spike-sedge Wetland Mosaic	0	0	100.0	R	0	0	0.0		
Sedgy Riverine Forest/Tail Marsh Mosaic	2	2	100.0	R	0	2	0.0		
Semi-arid Chenopod Woodland	33,408	20,148	60.3		1,977	7,589	5.9		
Semi-arid Parilla Woodland	1,839	482	26.2	V, R	18	233	1.0		
Semi-arid Woodland	18,870	12,337	65.4		7,137	3,567	37.8		
Shallow Freshwater Marsh	619	618	99.9	R	43	572	7.0		
Shrubby Dry Forest	9	8	84.1	R	0	0	0.0		
Shrubby Riverine Woodland	7,961	7,950	99.9		2,373	4,915	29.8		
Spike-sedge Wetland	795	726	91.3	R	78	615	9.8		
Spike-sedge Wetland/Tail Marsh Mosaic	59	59	100.0	R	50	9	84.5		
Sub-saline Depression Shrubland	1,011	932	92.1	R	113	664	11.2		
Swampy Riparian Woodland	9	3	37.5	R	0	1	0.0		
Swampy Woodland	9,937	1,712	17.2	V	0	384	0.0		

1	2	3	4	5	6	7	8
Ecological Vegetation Classes (EVCs)	Area in ha		Percent Remaining	Conservation Status	Area in ha		Dedicated Reserves as % of Pre-1750 Extent
	Pre-1750 Extent	Current Extent			Dedicated Reserve System	Other Public Land	
Tall Marsh	1,437	1,411	98.2		53	1,291	3.7
Tall Marsh/Aquatic Herbland Mosaic	7	7	100.0	R	0	7	0.0
Tall Marsh/Non-Vegetation Mosaic	16	16	100.0	R	0	16	0.0
Tall Marsh/Open Water Mosaic	185	184	99.7	R	0	156	0.0
Tall Marsh/Riverine Swamp Forest Mosaic	3	3	100.0	R	0	3	0.0
Valley Grassy Forest	1,560	214	13.7	V, R	0	28	0.0
Valley Grassy Forest/Grassy Dry Forest Mosaic	3	1	35.7	R	0	0	0.0
Wetland Formation	11,885	3,625	30.5		24	255	0.2
Woorinen Mallee	2,465	1,393	56.5		668	486	27.1
Woorinen Sands Mallee	2,672	2,450	91.7		2,265	33	84.8
water body - natural or man made	6,000	6,646	110.8		307	4,847	5.1
other - natural	3,833	3,822			125	2,175	
Totals:	1,215,774	483,360	39.8		68,010	179,926	5.6

In addition to the representation of EVCs in the public land dedicated reserve system shown above, the following EVCs are also represented in Private Protected Areas owned by the Trust for Nature (Vic) and accredited under the National Reserve System (note: not all these reserves are entirely contained within the study area)—

Alluvial Plains Semi-arid Grassland	291 ha	Lignum Swamp	86 ha
Chenopod Grassland	79 ha	Lignum Swampy Woodland	497 ha
Chenopod Mallee	161 ha	Low Chenopod Shrubland	18,921 ha
Floodplain Grassy Wetland	1 ha	Plains Grassland	350 ha
Floodway Pond Herbland	12 ha	Riverine Chenopod Woodland	969 ha
Grassy Riverine Forest	0 ha	Semi-arid Chenopod Woodland	4,899 ha
Grassy Riverine Forest/Floodway Pond Herbland Complex	13 ha	Semi-arid Woodland	69 ha
Intermittent Swampy Woodland	118 ha	Shrubby Riverine Woodland	275 ha
Lignum Shrubland	753 ha	Total	27,495 ha

APPENDIX 7: Descriptions of the Main EVCs in the River Red Gum Forests Study Area

Appendix 6 provides definitions of vegetation communities, EVCs, mosaics and complexes. The following pages provide descriptions of the main 34 EVCs in the study area.

EVC 806 Alluvial Plains Semi-arid Grassland

Defining characteristics: Grassland (turf) to herbland with only incidental shrubs. Flood-promoted flora, potentially including a wide range of opportunistic ephemeral / annual species.

Structure: Grassland / herbland - variable according to seasonal conditions and site-wetness, mostly < 0.2 m. The potential dominant, Red-tail Couch *Sporobolus mitchellii*, is a species with warm season growth, with vigour and performance flood-promoted, but apparently not emergent until after flood recession.

Habitat: Low-lying areas within at least previously flood-prone (mostly) higher-level terraces. These can be effectively shallow lakes when flooded. Also sometimes on flats along creeks of the further north-west, in habitat akin to that of Floodway Pond Herbland (which mostly occurs nearer the Murray River).

Floristics: While some examples are virtually devoid of woody plants, incidental shrubs can include Tangled Lignum *Muehlenbeckia florulenta*, Nitre Goosefoot *Chenopodium nitrariaceum*, Streaked Copperburr *Sclerolaena tricuspidata* and Spiny Lignum *Muehlenbeckia horrida*. The floristics are quite variable. In less desiccated examples, the vegetation is dominated by Red-tail Couch *Sporobolus mitchellii*. These habitats can be relatively species-poor or include a wide range of associated species, mostly annual or ephemeral herbs, many of which are shared with more open versions of Lignum Shrubland (with which Alluvial Plains Semi-arid Grassland appears to intergrade). Pale Beauty-heads *Calocephalus sonderi* is sometimes co-dominant (or even effectively dominant in the absence of emergent growth of Red-tail Couch *Sporobolus mitchellii*). A range of other small chenopods (e.g. Bluebush *Maireana* spp., Star Bluebush *Stelligeria endecaspinis*) can be present in the drier north-west. Additional species commonly recorded within this mapping unit include Salt Sea-sprue *Spergularia* sp. 3, Grass Cushion *Isoetopsis graminifolia*, Mouse-tail *Myosurus minimus* var. *australis*, Crassula *Crassula* spp., Rough Raspwort *Haloragis aspera*, Goodenia spp., Clay Plantain *Plantago cunninghamii*, River Bluebell *Wahlenbergia fluminalis*, Hairy Burr-daisy *Calotis hispidula*, Hard-head Daisy *Brachyscome lineariloba*, Variable Daisy *Brachyscome ciliaris*, Rosinweed *Cressa cretica*, Warty Pepper-cress *Lepidium papillosum*, Slender Groundsel *Senecio glossanthus* and Desert Spinach *Tetragonia eremaea* s.l.

Distribution: Lindsay Island, Mulcra Island, Walpolla Island, Kings Billabong. Former distribution possibly obscured by impacts of land-use and altered hydrology in other parts of apparent potential range (e.g. Hattah - Kulkyn).

Vegetation Quality: While this habitat is capable of tolerating prolonged periods without flooding, it seems inevitable that, if sustained into the longer-term, the absence of flooding will result in permanent changes to

the floristic composition (including the invasion of species from non-flooded habitats and loss of species dependant on at least occasional flooding). A range of significant flora can occur in this vegetation (including versions transitional to Lignum Shrubland).

EVC 653 Aquatic Herbland

Defining characteristics: Herbland of permanent to semi-permanent wetlands, dominated by sedges (especially on shallower verges) and/or aquatic herbs. Occurs on fertile paludal soils, typically heavy clays beneath organic accumulations. Previously widespread within restricted areas of suitable habitat across the study area but now greatly reduced through draining and use for agriculture.

Structure: Herbland, floating mat to weakly emergent. **Habitat:** Permanent to seasonal wetland, in suitably sheltered sites with reliable water supply and soils staying moist at depth.

Floristics: Indicator species: Water-milfoil *Myriophyllum* spp., Water-ribbons *Triglochin procerum* spp. agg. with Running Marsh-flower *Villarsia reniformis* / Clove-strip *Ludwigia peploides* subsp. *montevideensis*, and variously Water-lily *Nymphaea* spp., River Buttercup *Ranunculus inundatus*, Australian Lilaeopsis *Lilaeopsis polyantha* and Swamp Crassula *Crassula helmsii*. Diversity is potentially higher on outer fringes, with a range of small herbs (e.g. Floating Club-sedge *Isolepis fluitans*, *Lobelia* spp., Swamp Goodenia *Goodenia humilis*, Centella *Centella cordifolia* and/or Shining Pennywort *Hydrocotyle sibthorpioides*).

EVC 829 Chenopod Grassland

Defining characteristics: Open to sparse shrubland with a more or less continuous tussock grass sward found on heavy clay plains fringing the active floodplains of major watercourses such as the Loddon and Avoca.

Structure: Open shrubland to 1 m with an inter-shrub sward of perennial caespitose grasses to 1 m. Short-lived perennial chenopod herbs and annual forbs variously and seasonally dominate the field layer. **Habitat:** Occurs on relict alluvial plains and low rises associated with clay lunettes. The soils are commonly grey to red brown clays. Not normally subject to inundation as a consequence of overbank flows from major rivers but poorly drained settings may result in protracted pooling of water in winter months due to heavy rainfall. Typically found in 'inlying' slightly raised parts of the lower reaches of river systems.

Floristics: No remnants of this distinctive and once widespread vegetation formation remain in a substantially intact state in Victoria. As a consequence, detailed floristics cannot be specified. It is thought that divaricately branched chenopod shrubs such as Leafless Bluebush *Maireana aphylla*, Rohrlach's Bluebush *Maireana rohrlachii*, Nitre-bush *Nitraria billardi* and Hedge Saltbush *Rhagodia spinescens* once dominated

this formation. Tangled Lignum *Muehlenbeckia florulenta* and the tall cane grass Southern Cane-grass *Eragrostis infecunda* may also be occasional co-dominants in localised depressions or gilgai. The inter-shrub spaces are typically dominated by medium to large caespitose grasses, particularly Rigid Panic *Whalleya prolata*, Spider Grass *Enteropogon acicularis*, Plump Spear-grass *Austrostipa aristiglumis*, Copper-awned Wallaby-grass *Austroanthonia fulva*, and Brown-back Wallaby-grass *Austroanthonia duttoniana*. Other common perennials include Black Roly-poly *Sclerolaena muricata*, Short-wing Saltbush *Sclerochlamys brachyptera*, Tangled Copperburr *Sclerolaena divaricata*, Bush Minuria *Minuria cunninghamii*, Woolly Buttons *Leiocarpa panaetioides*, Berry Saltbush *Atriplex semibaccata*, Rosinweed *Cressa australis* and Twiggy Lignum *Muehlenbeckia diclina*. The seasonal flora of this EVC would once have been very rich in annuals and geophytes including Sunray *Hyalosperma* spp. Sunray *Rhodanthe* spp. and Swainson Pea *Swainsona* spp.

Distribution: Highly modified and widely cleared, this EVC once occurred widely in the south and south-eastern riverine plains.

EVC 168 Drainage-line Aggregate

Defining characteristics: Eucalypt-dominated woodland with occasional scattered shrub layer over a mostly grassy/sedgy to herbaceous ground-layer. Occurs on low-gradient ephemeral to intermittent drainage lines, typically on fertile colluvial/alluvial soils, on a wide range of suitably fertile geological substrates.

Structure: Varies from grassy wetland to low open hermland or sedgeland, and can develop to a Red Gum Swamp in places.

Habitat: Ephemeral wetlands and floodways along defined drainage-lines on the riverine floodplain.

Floristics: River Red-gum *Eucalyptus camaldulensis*, Spiny Mud-grass *Pseudoraphis spinescens*, River Swamp Wallaby-grass *Amphibromus fluitans*, Common Spike-sedge *Eleocharis acuta*, Love Grass *Eragrostis* spp., small annuals such as Button Rush *Lipocarpa microcephala*, Fringe Sedge *Fimbristylis* spp., and various Sedge *Carex* spp. Potentially diverse range of associated species, variously including Water Ribbons *Triglochin procera* s.l., Upright Water-milfoil *Myriophyllum crispatum*, Swamp Lily *Ottelia ovalifolia* subsp. *ovalifolia*, Floating Pondweed *Potamogeton tricarlinatus*, Common Sneezeweed *Centipeda cunninghamii*, Yellow Twin-heads *Eclipta platyglossa*, Knotweed *Persicaria* spp., Dock *Rumex* spp., Hypsela *Hypsela tridens*, Poison Pratia *Lobelia concolor*, Matted Starwort *Stellaria caespitosa*, and River Bluebell *Wahlenbergia fluminalis*. Total species richness can be high due to the complexity of microhabitats.

EVC 809 Floodplain Grassy Wetland

Defining characteristics: Wetland dominated by floating aquatic grasses (which persist to some extent as turf during drier periods), occurring in the most flood-prone riverine areas. Typically treeless, but sometimes with thickets of saplings or scattered more mature specimens of River Red-gum *Eucalyptus camaldulensis*.

Structure: Floating emergent aquatic grassland or turf-like grassland sward, according to prevailing conditions (in particular the relevant stage of flood cycles). Typically <15

cm emergent, but stoloniferous aquatic growth may exceed two metres, persisting as thick mats until grazed or cut back by frosts following flood recession.

Habitat: Temporary shallow lakes in the most flood-prone areas. This vegetation type also occurs as a narrow intermediate band around floodway ponds - between the outer zone dominated by Common Spike-sedge *Eleocharis acuta* and the Floodway Pond Hermland typically dominated by Sneezeweed *Centipeda* spp. and Small Knotweed *Polygonum plebium* (or sometimes Common Blown-grass *Lachnagrostis filiformis*, particularly during dry periods).

Floristics: Typically dominated by Spiny Mud-grass *Pseudoraphis spinescens*, sometimes with associated species including Common Spike-sedge *Eleocharis acuta*, Creeping Knotweed *Persicaria prostrata*, Common Blown-grass *Lachnagrostis filiformis*, Native Couch *Cynodon dactylon* var. *pulchellus*, Rat-tail Couch *Sporobolus mitchellii* and Sneezeweed *Centipeda* spp. Further upstream (e.g. Barmah), River Swamp Wallaby-grass *Amphibromus fluitans* (often with open Giant Rush *Juncus ingens*) can also locally dominate or co-dominate vegetation of similar character. Ranges (both spatially and temporally) from virtually monospecific (at optimum development) to diverse with opportunistic species.

Distribution: Rare, small areas dispersed localities.

Vegetation Quality: While a naturally very restricted vegetation type within the study area, Floodplain Grassy Wetland can be presumed to have become even rarer as a consequence of reduced flooding. Introduced species are opportunistic in this habitat during dry phases only.

EVC 56 Floodplain Riparian Woodland

Defining characteristics: An open woodland dominated by River Red-gum *Eucalyptus camaldulensis* over a medium to tall shrub layer with a ground layer consisting of amphibious and aquatic herbs and sedges.

Habitat: Occurs along the banks and floodplains of the larger meandering rivers and major creeks, often in conjunction with one or more floodplain wetland communities. Elevation and rainfall are relatively low and soils are fertile alluviums subject to periodic flooding and inundation.

Floristics: River Red-gum *Eucalyptus camaldulensis* is the typical dominant overstorey species. The occasional specimen of Manna Gum *E. viminalis* and Mountain Swamp Gum *E. camphora* or Swamp Gum *E. ovata* may occur in the upper reaches of the Ovens, King and Kiewa Rivers in transition to other EVCs such as Riparian Forest or Swampy Woodland. Shrubs are predominantly Silver Wattle *Acacia dealbata*, and Tree Violet *Hymenanthra dentata*. The ground cover on the drier, elevated banks consists mainly of Common Tussock Grass *Poa labillardierei* with other species such as Bent-grass *Deyeuxia* spp. On the wetter, lower banks Tall Sedge *Carex appressa*, Common Reed *Phragmites australis*, Silky Browntop *Eulalia aurea*, and various Rush *Juncus* spp. and Sedge *Cyperaceae* spp. occur. Spike-sedge *Eleocharis sphaecalata*, Knotweed *Persicaria* spp. and other aquatic species are found in the low-lying wetland areas with a range of herbs occupying the seasonally exposed soil.

Comments: Floodplain Riparian Woodland represents a

mosaic of terraces, active floodways and former channels, and as such is not readily amenable to simple floristic description. In many instances, stream regulation has diminished the extent of flooding.

EVC 172 Floodplain Wetland Aggregate

Collective label for the various zones of vegetation associated with wetlands of riparian floodplains, best developed in association with Floodplain Riparian Woodland. Potentially includes mosaics of scrub/shrubland, reedbed, sedgeland, rushland, grassland and/or hermland zones. The following components are variously recognisable within Floodplain Wetland Aggregate: Aquatic Hermland, Aquatic Sedgeland, Tall Marsh, Floodway Pond Hermland and Dwarf Floating Aquatic Hermland. Billabong Wetland is also an aggregate EVC including many of these components.

EVC 810 Floodway Pond Hermland

Defining characteristics: Low hermland on the drying mud of floors of ponds on floodway systems (mainly riverine floodplains).

Structure: Low hermland, treeless (or virtually so), usually with a high content of ephemeral species.

Habitat: Drying mud within ponds on floodplains. It can also occur as a temporal component within some variants of Billabong Wetland Aggregate, in association with other wetland types.

Floristics: The floristics can be quite variable (both spatially and temporally), according to the traits of the relevant individual pond. The following generalised floristic variations are noted. The floristics also vary in temporal cycles and probably between seasons at some locations.

- Common Sneezeweed *Centipeda cunninghamii* – Matted Starwort *Stellaria caespitosa* (Riverine : mainly Barmah - Tocumwal, but extending upstream along tributaries - e.g. Loddon River at Lanacoorie)
- Knotweed *Persicaria* spp. (widespread, mainly south of divide, but also e.g. eastern end Barmah Forest)
- Globular Pigweed *Dysphania glomulifera* subsp. *glomulifera* – Fringe Sedge *Fimbristylis* spp. (rare and inadequately known, on sandy substrates - e.g. Dead River at Ulupna Island, Tarma at Barmah Forest)
- Mallee Floodway Pond Hermland : Sneezeweed *Centipeda* spp., Small Knotweed *Polygonum plebium* (Carpet Weed *Glinus* spp., Creeping Knotweed *Persicaria prostrata*, Globular Pigweed *Dysphania glomulifera* subsp. *glomulifera*, Joyweed *Alternanthera* spp., Common Blown-grass *Lachnagrostis filiformis*; with narrow fringes of Spiny Mud-grass *Pseudoraphis spinescens*, Common Spike-sedge *Eleocharis acuta* and sometimes Fen Sedge *Carex gaudichaudiana*). Semi-arid versions can include an increased component of species shared with the lacustrine habitat (notably Southern Liquorice *Glycyrrhiza acanthocarpa*, Heliotrope *Heliotropium* spp. and Small Mud-mat *Glossostigma elatinoides*). On rare occasions can occur in fine-scale mosaic with Floodplain Grassy Wetland. The association of Sneezeweed *Centipeda* spp. and Small Knotweed *Polygonum plebium* (often with Carpet Weed *Glinus* spp.) appears to be rare outside of Murray Mallee, e.g. Yarra River floodplain where apparently very rare and Ulupna Island) - the

distinction between this and the *Dysphania* -

Fimbristylis variant may be somewhat arbitrary.

Distribution: Widely dispersed along major riparian floodplains, but variable within restricted habitat and selectively depleted. Poorly known outside of Murray River and tributaries.

Vegetation Quality: In the Murray Mallee, subject to invasion by River Red-gum *Eucalyptus camaldulensis* seedlings under reduced frequency and depth of flooding. In general often grazed and vulnerable to hydrological modification and nutrient run-off in agricultural areas.

EVC 945 Floodway Pond Hermland/Riverine Swamp Forest Complex

Defining characteristics: Ground layer dominated by herbaceous species largely shared with floodway ponds (Floodway Pond Hermland/Aquatic Hermland), or virtually absent (due to thick accumulations of forest litter or persistence of black water, or sometimes excluded by dense thickets of young River Red-gum *Eucalyptus camaldulensis* regeneration).

Structure: Tall woodland or open forest (20 to 40+ m) with low herbaceous ground layer, to a mosaic of hermland (to 0.8 m, but mostly less than 0.2 m) with regeneration thickets of saplings (to c. 20 m).

Habitat: Occurs along floodway systems on low-lying terraces. Some occurrences appear to be a reflection of conditions naturally intermediate between the habitats of the respective EVCs, while others are within areas subject to ecological process, including ecological change due to decreased flooding.

Floristics: Major species vary between the two areas where the complex is documented.

- Murray Mallee – River Red-gum *Eucalyptus camaldulensis* with Common Blown-grass *Lachnagrostis filiformis*, Common Sneezeweed *Centipeda cunninghamii*, Joyweed *Alternanthera* spp. and Knotweed *Persicaria* spp. - especially Creeping Knotweed *P. prostrata* (sparse Common Spike-sedge *Eleocharis acuta* or Spiny Mud-grass *Pseudoraphis spinescens*; variously Indian Cudweed *Gnaphalium polycaulon*, Couch *Cynodon dactylon* var. *pulchellus*, Spreading Sneezeweed *Centipeda minima* s.s. and Yellow Twin-heads *Eclipta platyglossa*).
- Mid-Murray (e.g. Barmah) – River Red-gum *Eucalyptus camaldulensis* with Common Blown-grass *Lachnagrostis filiformis* and *Lachnagrostis filiformis* var. 2, Matted Starwort *Stellaria caespitosa*, Sneezeweed *Centipeda* spp., especially Common Sneezeweed *C. cunninghamii*, Lesser Joyweed *Alternanthera denticulata*, Knotweed *Persicaria* spp. (Creeping Knotweed *P. prostrata*, Slender Knotweed *P. decipiens*, Water Pepper *P. hydropiper*), Upright Water-milfoil *Myriophyllum crispatum*, Common Spike-sedge *Eleocharis acuta* (sometimes with a component of Giant Rush *Juncus ingens*, Flecked Flat-sedge *Cyperus gunnii* subsp. *gunnii* or Bulrush *Typha* spp.).

The abundance of annual species can be highly variable between seasons (and equivalent seasons in different years).

Distribution: Widely dispersed, but within restricted habitat along the Murray River and major tributaries.

Vegetation Quality: Sites supporting Floodway Pond Hermland / Riverine Swamp Forest Complex are typically

undergoing floristic change as a consequence of changed hydrology (reduced flooding, and in parts of Barmah Forest, increased incidence of minor summer flooding).

EVC 106 Grassy Riverine Forest

Defining characteristics: Open eucalypt forest (to woodland) with grassy understorey, dominated by species indicative of at least occasional flooding, but also tolerant of sustained dry periods.

Structure: Open forest to tall open forest or tall woodland, with (tufted) grassy understorey.

Habitat: More elevated flood-prone river terraces (or otherwise free-draining if in locations subject to deeper or more frequent inundation).

Floristics: River Red-gum *Eucalyptus camaldulensis* with Warrego Summer-grass *Paspalidium jubiflorum* dominant in the groundlayer (associated species include Common Sneezeweed *Centipeda cunninghamii*, Woodland Swamp-daisy *Brachyscome basaltica* var. *gracilis*, River Bluebell *Wahlenbergia fluminalis*, Flat Spurge *Chamaesyce drummondii*, Cotton Fireweed *Senecio quadridentatus*, Slender Dock *Rumex brownii* and Native Couch *Cynodon dactylon* var. *pulchellus*; with Common Spike-sedge *Eleocharis acuta* relatively minor if present).

Distribution: Widespread along Murray River, in most areas within restricted habitat (lower terraces), rare in far north-west.

Vegetation Quality: While a number of introduced species are often present in the vegetation, Warrego Summer-grass *Paspalidium jubiflorum* tends to retain dominance in the absence of other major forms of disturbance. This vegetation type occurs within a zone that mostly still receives some flooding. While indicative of flood-prone areas and only producing vigorous growth in warm weather following flooding, tussocks of Warrego Summer-grass *Paspalidium jubiflorum* are able to persist over a number of seasons without flood.

EVC 812 Grassy Riverine Forest/Riverine Swamp Forest Complex

Defining characteristics: Eucalypt forest of flood-prone areas, where the understorey dominants (e.g. Common Spike-sedge *Eleocharis acuta* and/or Spiny Mud-grass *Pseudoraphis spinescens*) of Riverine Swamp Forest are conspicuous in association or fine-scale mosaic with the larger tussock species (Warrego Summer-grass *Paspalidium jubiflorum*) characteristic of Grassy Riverine Forest.

Structure: Usually a tall open forest to open forest (sometimes woodland), with a grassy-herbaceous ground-layer (to c. 1 m).

Habitat: Grassy Riverine Forest/Riverine Swamp Forest Complex occurs in flood-prone areas, where inundation is regular but mostly shallower or less frequent/sustained relative to sites supporting Riverine Swamp Forest. These include broad shallow floodways and low-lying river terraces prone to reasonably regular flooding.

Floristics: River Red-gum *Eucalyptus camaldulensis*, with Warrego Summer-grass *Paspalidium jubiflorum*, in association or mosaic with Common Spike-sedge *Eleocharis acuta* and/or Spiny Mud-grass *Pseudoraphis spinescens* (other conspicuous species variously include Knotweed *Persicaria* spp. - in particular Creeping Knotweed *P. prostrata*, Native Couch *Cynodon dactylon*

var. *pulchellus*, Common Sneezeweed *Centipeda cunninghamii*, Yellow Twin-heads *Eclipta platyglossa*, Riverina Bitter-cress *Cardamine moirensis*, Lesser Joyweed *Alternanthera denticulata* s.l., Common Blown-grass *Lachnagrostis filiformis*, Spreading Sneezeweed *Centipeda minima* subsp. *minima* s.s. and River Bluebell *Wahlenbergia fluminalis*).

Distribution: Scattered distribution along river, but very restricted outside of Barmah Forest.

EVC 813 Intermittent Swampy Woodland

Defining characteristics: Eucalypt (*Acacia*) woodland with (variously shrubby) rhizomatous sedge - turf grass understorey, at best development dominated by flood stimulated species in association with flora tolerant of inundation.

Structure: Woodland with (variously shrubby) rhizomatous grassy - sedge (to herbaceous) ground-layer.

Habitat: Floristics are indicative of flooding which is unreliable but extensive when it happens and usually also traces of salinity. Low elevation areas on river terraces (mostly at the rear of point-bar deposits or adjacent to major floodways) and lacustrine verges (where sometimes localised to narrow transitional bands). Soils often have a shallow sand layer over heavy and frequently slightly brackish soils.

Floristics: River Red-gum *Eucalyptus camaldulensis* with Eumong *Acacia stenophylla* (+/- Black Box *Eucalyptus largiflorens* and relatively open Tangled Lignum *Muehlenbeckia florulenta*). Floristics is variable and often appears skewed by disturbance. Major species include Rat-tail Couch *Sporobolus mitchellii*, Spiny Flat-sedge *Cyperus gymnocaulos*, Rosinweed *Cressa australis*, Rough Raspwort *Haloragis aspera*, Common Sneezeweed *Centipeda cunninghamii*, Spreading Nut-heads *Sphaeromorphaea australis*, Blue Rod *Stemmodia florulenta*, Common Blown-grass *Lachnagrostis filiformis*, River Bluebell *Wahlenbergia fluminalis* and Pale Beauty-heads *Calocephalus sonderi*, with Warrego Summer-grass *Paspalidium jubiflorum* typically a very minor species present. On flood-prone sandy terraces connected to the river or major floodway creeks, Love-grass *Eragrostis* spp. and Native Couch *Cynodon dactylon* var. *pulchellus* can be locally dominant - this variant is transitional towards Riverine Swamp Forest. The relevant habitat is extremely restricted, and the sandy terraces variant is very rare - small areas are known from Belsar Island and Barmah Forest.

Distribution: In further North-West Victoria, Intermittent Swampy Woodland is of scattered distribution along Murray River, mostly downstream of Robinvale but extending to near the Murrumbidgee River confluence (e.g. Lake Walla Walla and Lindsay Island, Kings Billabong, Kulkyn Forest and presumed formerly extensive along the Chalka Creek system at Hattah Lakes).

Vegetation Quality: The relevant vegetation is extensively invaded by *Fog-fruit *Phylla canescens* at Kings Billabong, and in general floristically altered through desiccation and grazing (extremely so at Hattah). The EVC is quite variable, and may have included a number of communities, but the original floristic patterns are often obscured by the impacts of disturbance (grazing and desiccation).

EVC 107 Lake Bed Herbland

Defining characteristics: Herbland dominated by species adapted to drying mud within lake beds. Some evade periods of prolonged inundation as seed, others as dormant tuber-like rootstocks.

Structure: Herbland, varying from very low to medium height (0.02 - 0.1 - 0.5 (- 1.0 m), sometime with low open shrubland component to 0.5 m. Subject to invasion by River Red-gum *Eucalyptus camaldulensis* seedlings under reduced frequency and depth of flooding - sometimes with regeneration thickets of young trees.

Habitat: Drying deep-cracking mud of lakes on floodplains. While flooding events are mostly intermittent, lakes can retain water for several or more seasons. Actively growing at the drying mud stage. Typically heavy clay soils. This vegetation can be in temporal phase with the open water / bare mud 'unvegetated' unit.

Floristics: Can vary seasonally, depending on when and how much water has been available / other seasonal conditions. The main native species include Southern Liquorice *Glycyrrhiza acanthocarpa*, Australian Hollyhock *Malva australiana* s.l., Clammy Goosefoot *Chenopodium pumilio*, Heliotrope *Heliotropium* spp. and Small Mud-mat *Glossostigma elatinoides*. Oondoroo *Solanum simile* is also reported as being abundant on occasions at some sites. Other species that are present at some sites include Mallee Cucumber *Mukia micrantha*, Glaucous Goosefoot *Chenopodium glaucum*, Heliotrope *Heliotropium* spp. and Hairy Carpet-weed *Glinus lotoides*. In sites where inundation periods are not too extended (and grazing pressure has not eliminated the species), the low shrub Spiny Lignum *Muehlenbeckia horrida* can also be locally conspicuous.

Distribution: Very localised habitat, mainly at Hattah Lakes, Lake Walla Walla and Lake Bael Bael.

Vegetation Quality: Annual or other opportunistic species may colonise or invade during dry phases, especially in lakes that are now rarely filled. In the extreme, a low open chenopod shrubland can develop, in which species including Ruby Saltbush *Enchylaena tomentosa* var. *tomentosa*, Nodding Saltbush *Einadia nutans* subsp. *nutans*, Flat-top Saltbush *Atriplex lindleyi* and a range of introduced annuals predominate, sometimes along with sparse drought-stressed individuals of indicator species such as Southern Liquorice *Glycyrrhiza acanthocarpa*. While the vegetation is typically treeless, thickets of saplings of River Red-gum *Eucalyptus camaldulensis* can be present on the outer verges (or across the beds of less frequently inundated shallow lakes), indicative of a process of contraction of the vegetation type due to decreased flooding.

Comments: Some wetlands of depressions on higher terraces in the north-west may have supported vegetation referable to this EVC. The EVC is also presumed to have had additional limited occurrences within shallow lakes in the general vicinity of Mildura, in habitats now extremely altered by saline discharges.

EVC 808 Lignum Shrubland

Defining characteristics: Relatively open shrubland of species of divaricate growth form. The ground-layer is

typically herbaceous or a turf grassland, rich in annual/ephemeral herbs and small chenopods. The shrubs are of more open and even distribution and of relatively small stature in comparison to the denser thickets of robust lignum with patchy open areas included in Lignum Swamp. Species diversity is typically much higher (and consistent through the vegetation) in Lignum Shrubland, whereas most of the species diversity in Lignum Swamp occurs within gaps in the thicket.

Structure: Shrubland/open shrubland, with ground-layer herbaceous or a turf grassland, rich in annual/ephemeral herbs and small chenopods.

Habitat: Heavy soil plains along Murray River, low-lying areas on higher-level (but still potentially flood-prone) terraces. Flooding is mostly now rare due to reduced peak river flows.

Floristics: Tangled Lignum *Muehlenbeckia florulenta* and/or Nitre Goosefoot *Chenopodium nitrariaceum* (sometimes Cane Grass *Eragrostis australasica*) with diverse ground-layer small chenopods and annual herbs. Two structural variants are noted - these may each include more than one floristic variant.

1) Riverine Lignum Shrubland

Tangled Lignum *Muehlenbeckia florulenta* and/or Nitre Goosefoot *Chenopodium nitrariaceum* (or sometimes Cane Grass *Eragrostis australasica*); +/- Warrego Summer-grass *Paspalidium jubiflorum* and Streaked Cooperburr *Sclerolaena tricuspidis* (common species include Short-wing Saltbush *Sclerochlamys brachyptera*, Clay Plantain *Plantago cunninghamii*, Goodenia spp., Leek Lily *Bulbine semibarbata*, Hard-head Daisy *Brachyscome lineariloba*, Fringed Brachyloma *Brachyscome ciliatum*, Grass Cushion *Isoetopsis graminifolia*, Paper Sunray *Rhodanthe corymbiflora*, Slender Groundsel *Senecio glossanthus*, Desert Spinach *Tetragonia eremaea* s.l, Slender-fruit Saltbush *Atriplex leptocarpa*, Hairy Burr-daisy *Calotis hispidula*, Pale Beauty-heads *Calocephalus sonderi* and Rat-tail Couch *Sporobolus mitchellii*).

2) Tall Cane Grass Lignum Shrubland

Cane Grass *Eragrostis australasica* is rare and localised in north-western Victoria, but potentially locally dominant within small areas of suitable habitat. In the further north-west, associated species include Common Blown-grass *Lachnagrostis filiformis*, Twin-leaf Bedstraw *Asperula gemella*, Nitre Goosefoot *Chenopodium nitrariaceum*, Pale Spike-sedge *Eleocharis pallens* and Tall Fireweed *Senecio runcinifolius*. These occurrences are here considered a variant of Lignum Shrubland, at least in the case of the far north-western examples.

Distribution: Dicot shrub (riverine) communities:

Murray River in further north-west, downstream from Belsar Island, also including Walpolla Island, Mulcra Island, Lindsay Island, Lake Walla Walla, and presumably formerly Hattah - Kulkyn. Cane Grass communities: Rare and localised in Victoria - e.g. with floristic variants in the far north-west (south of Lindsay and Walpolla Islands).

Vegetation Quality: Riverine Community - While the component species are tolerant of prolonged periods without flooding, this vegetation type appears vulnerable to floristic changes (possibly including loss of the structural dominants) in the longer-term, due to reduced river flows. Annual grasses and medics can be

very prevalent in the vegetation, particularly in more open variants and where grazing has been more intense. Nevertheless, a high diversity of native herbs is often detectable in relatively intact examples. The relative abundance of *Sporobolus* and *Eragrostis* spp. is difficult to reliably assess under conditions of desiccation.

EVC 104 Lignum Swamp

Defining characteristics: Typically treeless, with dense and robust (but sometimes patchy) growth of lignum. Gaps in the denser vegetation may occur in association with lower-lying areas where water persists longer - these may support cane-grass, sedgeland and / or ephemeral herbs. The character of the vegetation of these gaps varies with time since flooding and disturbance history.

Structure: Shrubland to closed scrub, to 3-4 m. Usually herbland or sedgeland in gaps, mostly <0.5m.

Habitat: Backplains and shallow depressions on floodplains. Commonly associated with other low-lying areas such as insipient drainage lines, relict lakebeds and floodways. Soils are typically heavy cracking grey or black clays. It is tolerant of prolonged inter-flood phases - up to 8 years - and extended periods - up to 3 months - of shallow inundation.

Floristics: Tangled Lignum *Muehlenbeckia florulenta*, with associated species including Common Spike-sedge *Eleocharis acuta*, Pale Beauty-heads *Calocephalus sonderi*, Tall Fireweed *Senecio runcinifolius*, Twin-leaf Bedstraw *Asperula gemella*, Common Nardoo *Marsilea drummondii* and sometimes Southern Cane-grass *Eragrostis infecunda*. Denser patches may comprise a virtually mono-specific inter-woven tangle of Tangled Lignum *Muehlenbeckia florulenta*. Some examples may have included Cane Grass *Eragrostis australasica*, however most instances where the latter is present appear to be best referred to the more open and species-rich, less robust shrublands of Lignum Shrubland. In the further north-west, a range of chenopods can be present, notably Streaked Copperburr *Sclerolaena tricusps* and Flat-top Saltbush *Atriplex lindleyi*, however Nitre Goosefoot *Chenopodium nitrariaceum* is characteristically absent from well-developed examples of Lignum Swamp.

Distribution: Loddon River floodplain south of Kerang, and scattered downstream of Mitchell Lagoons, including Hattah-Kulkyne (where degraded). Particularly robust examples occur at Mulcra Island. A more open vegetation dominated by Tangled Lignum *Muehlenbeckia florulenta* at Lake Walla Walla has substantial floristic differences (see relevant comments within the description of Lignum Shrubland).

Vegetation Quality: In the further north-west, a range of chenopods is present, notably Streaked Copperburr *Sclerolaena tricusps*. While some floristic differences in the vegetation of the further north-west can be attributed to inherent environmental factors, there is strong evidence of invasion of a range of species from the adjacent Riverine Chenopod Woodland as a consequence of reduced flooding. Tangled Lignum *Muehlenbeckia florulenta* can be displaced by a combination of desiccation and grazing such as occurs at Hattah. A particularly extensive example of Lignum Swamp is believed to have formerly occurred at Karadoc

Swamp, but the prior vegetation has been eliminated by salinisation. It is considered that Lignum Swamp has contracted in extent (e.g. from floodway systems on higher terraces at Walpolla Island and Lindsay Island) as a consequence of reduced frequency and amplitude of flooding.

EVC 823 Lignum Swampy Woodland

Defining characteristics: Understorey dominated by Tangled Lignum *Muehlenbeckia florulenta*, typically of robust character and relatively dense (at least in patches), in association with a low Eucalypt and/or *Acacia* woodland. The ground layer includes a component of obligate wetland flora that is able to persist even if dormant over dry periods.

Structure: Woodland or open woodland to c. 10 (-15) m, with well-developed shrub layer to c. 2 - 3 m, residue of understorey mostly < 1m.

Habitat: Shallow wetland associated with floodway systems on (relatively) higher terraces. Soils are heavy and water-retentive.

Floristics: The tallest stratum is dominated by Eumong *Acacia stenophylla* and Black Box *Eucalyptus largiflorens*, with River Red-gum *Eucalyptus camaldulensis* sometimes also present. A shrub layer of Tangled Lignum *Muehlenbeckia florulenta* is conspicuous. Common associated species variously include Southern Cane-grass *Eragrostis infecunda*, Common Nardoo *Marsilea drummondii*, Twin-leaf Bedstraw *Asperula gemella*, Variable Daisy *Brachyscome ciliaris*, Pale Beauty-heads *Calocephalus sonderi*, Nodding Saltbush *Einadia nutans* subsp. *nutans*, Slender Groundsel *Senecio glossanthus*, Warrego Summer-grass *Paspalidium jubiflorum*, Flat-top Saltbush *Atriplex lindleyi*, Slender-fruit Saltbush *Atriplex leptocarpa*, Native Peppercreep *Lepidium pseudohyssopifolium*, Tall Fireweed *Senecio runcinifolius*, Salt Sea-spurrey *Spergularia* sp. 3, Annual Cudweed *Euchiton sphaericus*, Rat-tail Couch *Sporobolus mitchellii* and Common Spike-sedge *Eleocharis acuta*. Nitre Goosefoot *Chenopodium nitrariaceum* is characteristically rare if at all present. Similarly absent are the range of other shrubs (e.g. Wattle *Acacia* spp., Emu-bush *Eremophila* spp., Weeping Pittosporum *Pittosporum angustifolium*) which are characteristic of relatively intact Riverine Chenopod Woodland.

Distribution: Scattered on Murray River floodplain generally west of Nathalia.

Vegetation Quality: This vegetation is vulnerable to desiccation from prolonged reduced flooding - local severe die back of the major structural dominants was observed in places (notably on Walpolla Island). Many examples include a conspicuous component of shrubby chenopods (notably *Enchylaena tomentosa* and *Sclerolaena tricusps*), particularly in the further north-west. It is considered likely that these species have invaded or at least substantially increased as a reflection of reduced flooding. *Muehlenbeckia florulenta* is vulnerable to prolonged desiccation and heavy grazing.

EVC 102 Low Chenopod Shrubland

Defining characteristics: Low chenopod - dominated, largely treeless shrublands occupying the highest terraces on the floodplain of the Murray River and other major river systems such as the Loddon. Also found in narrow bands fringing raak and saline lakes such as Lake

Tyrell and on relict lakebed surfaces such as Pine Plains.

Structure: Open shrubland to 1 m (but typically less), with a field layer variously and seasonally dominated by short lived perennial chenopod herbs, caespitose grasses, annual forbs and prostrate succulent herbs

Habitat: Occurs in areas with a distinctly semi-arid climate on relict alluvial plains and abandoned stream structures typically lightly mantled with parna. These plains are rarely flooded but are poorly drained and may be subject to periods of inundation following heavy rains. The soils are commonly grey to brown clays and duplex soils with loamy clays and loams above clay sub-soils. Occupies plains – formed by recent alluvial processes with insignificant topographic relief. Not subject to inundation as a consequence of overbank flows from major rivers but poorly drained settings may result in protracted pooling of water in winter months due to heavy rainfall. The climate can be described as semi-arid to arid with low but highly variable rainfall. Soils are typically clays with minor or shallow deposition of aeolian materials at the surface. Surface soils are red-brown sandy clay loams and sandy clays giving way to heavier textured brown-grey clay soils within 50 cm of the surface. The soils are sub-saline (sodic) with comparatively high EC (generally above 2 dS/m and up to 9 dS/m) at depth and high pH (generally above 8) at or near the surface, due to the proximity of saline groundwater and the shallow surface deposition of reworked Woorinen sediments respectively.

Floristics: Trees are virtually absent from this EVC due to summer drought stress in the heavy textured soils – occasional Umbrella Wattle *Acacia oswaldii* or Cattle-bush *Alectryon oleifolius* subsp. *canescens* may be present on slightly deeper drifts of coarser soils. Two relatively distinct floristic entities are here described. The shrub layer is variously dominated by Bladder Saltbush *Atriplex vesicaria*, Desert Glasswort *Pachycornia triandra*, Nitre-bush *Nitraria billardierei* and other perennial woody chenopods such as Kidney Saltbush *Atriplex stipitata*, Thorny Lawrencia *Lawrencia squamata*, Twin-flower Saltbush *Dissocarpus biflorus* var. *biflorus* and depending on the degree to which saline groundwater affects the site various Sea Heath *Frankenia* species. A range of Copperburr *Sclerolaena* species may also be prevalent – becoming more so following heavy grazing episodes, protracted dry spells or flooding – including Tangled Copperburr *S. divaricata*, Limestone Copperburr *S. obliquicuspis*, Grey Copperburr *S. diacantha* and Streaked Copperburr *S. tricuspidis*. Old-man Saltbush *Atriplex nummularia* is occasional in areas receiving local runoff. The ground layer is highly variable and composition responds readily to the vagaries of the prevailing weather. In particular, the season of significant rainfall events may promote a significantly different suite of annual taxa. Some common species include Rounded Noon-flower *Disphyma crassifolium* subsp. *clavellatum*, Pale Beauty-heads *Calocephalus sonderi*, Desert Spear-grass *Austrostipa eremophila*, Yakka Grass *Sporobolus caroli*, Bristly Wallaby-grass *Austrodanthonia setacea*, Rough Spear-grass *Austrostipa scabra*, Windmill Grass *Chloris truncata*, Pink Bindweed *Convolvulus erubescens* s.l., Hairy Bluebush *Maireana pentagona*, Goat Head *Malacocera tricornis*, Babbagia *Osteocarpum acropterum* var. *diminuta*, Woolly-fruit Bluebush *Eriochiton*

sclerolaenoides Short-wing Saltbush *Sclerochlamys brachyptera*, Shrubby Twin-leaf *Zygophyllum aurantiacum* subsp. *aurantiacum*, Bristly Love-grass *Eragrostis setifolia*, Hairy Bluebush *Maireana pentagona*, and Flat-top Saltbush *Atriplex lindleyi*, *Frankenia* spp., Common White Sunray *Rhodanthe floribunda*, Warty Pepper-cress *Lepidium papillosum*, Small Podolepis *Podolepis muelleri*, and Yellow Tails *Ptilotus nobilis* var. *nobilis*. In temporarily wet depressions, Cane Grass *Eragrostis australasica* maybe locally common to dominant and on localised areas of saline clay Slender Glasswort *Sclerostegia tenuis* becomes an important and often dominant component of the vegetation.

Distribution: Large relatively intact remnants of the northern floristic variant of this EVC persist on the raised tertiary terraces of the Murray river floodplain downstream of Mildura – the soils generally being too heavy and the climate too dry for cropping. The fringes of the major discharge basins throughout the study area including the Sunset Raak Plains, Rocket Lake, Lake Tyrrell, and deflations in the Morkalla and Murrayville area. This EVC has proved to be sensitive to the impacts of grazing and historic records show that saltbush plains were once scattered throughout the study area as far south as Pine Plains in Wyperfeld National Park.

Comments: The EVC is quite variable, and may have included a number of communities, but the original floristic patterns are often obscured by the impacts of disturbance (grazing and desiccation).

EVC 66 Low Rises Woodland

Defining characteristics: Eucalypt woodlands on elevated plains, and low rises with a diverse shrub understorey and grassy field layer.

Habitat: Occurs in a range of environmental settings that have resulted in well-drained surface soils mantling clay sub-soils. Within the study area, it typically occurs on deep fans of weathered Parilla sandstone on the margins and crests of broad or subdued sandstone ridges and residuals but may also occur on source-bordering sand deposits such as lunettes. The duplex soils are typically well-drained, brown sandy clay-loam surface soils above heavy to medium clay sub-soils. This rather abrupt textural change usually occurs at 20-60 cm.

The climate across the range of this EVC is variable but is generally high – in comparison with most of the study area. The average annual precipitation is calculated to be 435 mm with a median annual rainfall of 367 mm.

Structure: Woodland to 20 m with an open tall shrub stratum to 3 m. Smaller shrubs are common above a generally grassy field layer of tussock and sward grasses.

Floristics: Across most of its range within the study area the characteristic overstorey trees are Buloke *Allocasuarina luehmanni*, Yellow Gum *Eucalyptus leucoxylon* (typically Waxy Yellow Gum *Eucalyptus leucoxylon* subsp. *pruinosa*) and Slender Cypress-pine *Callitris gracilis* subsp. *murrayensis*.

A storied shrub layer is usually well developed in less disturbed remnants of this EVC. Commonly encountered species include Hooked Needlewood *Hakea tephrosperma*, Sweet Bursaria *Bursaria spinosa* subsp. *spinosa*, Golden Wattle *Acacia pycnantha*, Moonah *Melaleuca lanceolata* subsp. *lanceolata*, Sweet

Quandong *Santalum acuminatum*, Leafless Ballart *Exocarpos aphyllus*, Sugarwood *Myoporum platycarpum*, Weeping Pittosporum *Pittosporum angustifolium*, Wedge-leaf Hop-bush *Dodonaea viscosa* subsp. *cuneata*, Gold-dust Wattle *Acacia acinacea* s.l., Grey Mulga *Acacia brachybotrya*, Common Eutaxia *Eutaxia microphylla* var. *microphylla*, Pimelea Daisy-bush *Olearia pimeleoides* and Ruby Saltbush *Enchylaena tomentosa* var. *tomentosa*. The field layer across the range of this broad EVC is variable. It is typically dominated by a sward of caespitose grasses such as Common Wallaby-grass *Austrodanthonia caespitosa*, Bristly Wallaby-grass *Austrodanthonia setacea*, Spider Grass *Enteropogon acicularis*, Grey Tussock-grass *Poa sieberiana* var. *sieberiana* and Common Wheat-grass *Elymus scaber* var. *scaber*. Common inter-tussock herbs and semi-shrubs include Mallee Flax-lily *Dianella* sp. aff. *revoluta* (Mallee), Wingless Bluebush *Maireana enchylaenoides*, Frosted Goosefoot *Chenopodium desertorum*, Sticky Sword-sedge *Lepidosperma viscidum*, Fuzzy New Holland Daisy *Vittadinia cuneata*, Lemon Beauty-heads *Calocephalus citreus*, Grassland Wood-sorrel *Oxalis perennans*, Mulla Mulla *Ptilotus exaltatus*, Variable Sida *Sida corrugata*, Scented Mat-rush *Lomandra effusa*, Nodding Saltbush *Einadia nutans* subsp. *nutans* and Cut-leaf Goodenia *Goodenia pinnatifida*.

Distribution: Scattered on riverine plains between Swan Hill and Cobram. Widely cleared for cereal cropping.

EVC 132 Plains Grassland

Defining characteristics: Tussock grassland, rich in a wide variety of (mostly perennial) forbs, particularly *Asteraceae*, geophytes and small chenopods. Woody plants are absent.

Habitat: Moderately poorly drained quaternary alluvial and paleo-lacustrine clay deposits in areas with less than 500mm/yr rainfall. Poor drainage characteristics of the substrates are attributed as the principal reason for the absence of trees and larger shrubs.

Floristics: As so few examples remain, it is difficult to assemble the true floristic nature of this EVC. Remnants are often dominated by Rough Spear-grass *Austrostipa scabra* and/or Common Wallaby-grass *Austrodanthonia caespitosa*, although a number of other dominants may be encountered, and there is little confidence that the above species are the true dominants of pre-European vegetation.

On the heaviest soils, often demonstrating a 'gilgai' nature, Plump Spear-grass *Austrostipa aristiglumis* and Brown-back Wallaby-grass *Austrodanthonia duttoniana* are the dominant tussocks. Rigid Panic *Whalleya prolata* and Common Tussock-grass *Poa labillardierei* may also be present (the latter less so). A range of forbs adapted to an edaphic environment which may experience both seasonal waterlogging and summer moisture deficit occur in the inter-tussock spaces. Such forbs include Rosinweed *Cressa australis*, Pale Beauty-heads *Calocephalus sonderi*, Milky Beauty-heads *Calocephalus lacteus*, Paper Sunray *Rhodanthe corymbiflora*, Joyweed *Alternanthera* spp., Rough Burr-daisy *Calotis scabiosifolia*, Woodland Swamp-daisy *Brachyscome basaltica* var. *gracilis*, Prickly Woodruff *Asperula scoparia*, Poison Pratia *Lobelia concolor*, Broughton Pea *Swainsona procumbens*, Prickfoot *Eryngium vesiculosum*,

and Long Eryngium *Eryngium paludosum*.

In areas experiencing less waterlogging, the original dominants are thought to be (variously) Kangaroo Grass *Themeda triandra* or Spider Grass *Enteropogon acicularis*, with the latter dominating in slightly wetter areas. Geophytes are prevalent in this vegetation and include lilies such as Bulbine Lily *Bulbine bulbosa*, Milkmaids *Burchardia umbellata*, Blue Grass-lily *Caesia calliantha*, Small Vanilla-lily *Arthropodium minus*, Chocolate Lily *Arthropodium strictum* s.l., Common Early Nancy *Wurmbea dioica* and Yellow Star *Hypoxis glabella* s.l.. Other forbs include Grassland Wood-sorrel *Oxalis perennans*, Blushing Bindweed *Convolvulus angustissimus*, Lemon Beauty-heads *Calocephalus citreus*, Cut-leaf Burr-daisy *Calotis anthemoides*, Blue Devil *Eryngium ovinum*, Cut-leaf Goodenia *Goodenia pinnatifida*, Variable Sida *Sida corrugata*, Frosted Goosefoot *Chenopodium desertorum*, Wingless Bluebush *Maireana enchylaenoides*, Bottle Bluebush *Maireana excavata*, Hairy Bluebush *Maireana pentagona*, Black Cotton-bush *Maireana decalvans*, Yam Daisy *Microseris scapigera* spp.agg., Woolly New Holland Daisy *Vittadinia gracilis*, Nodding Saltbush *Einadia nutans* subsp. *nutans*, Berry Saltbush *Atriplex semibaccata*, and Mulla Mulla *Ptilotus exaltatus*.

Distribution: Formerly on heavy soil plains west of Echuca in the Victorian Riverina such as the Patho Plains.

EVC 55 Plains Grassy Woodland

Defining characteristics: An open, eucalypt woodland occurring on a number of geologies and soil types. Occupies poorly drained, fertile soils on flat or gently undulating plains at low elevations. The understorey consists of a few sparse shrubs over a species-rich grassy and herbaceous ground layer.

Structure: An open woodland with an understorey of scattered shrubs and a high species diversity of grasses, sedges, lilies, orchids and herbs.

Floristics: Dominated by River Red-gum *Eucalyptus camaldulensis* and often Grey Box *Eucalyptus microcarpa*. The shrub layer includes Gold-Dust Wattle *Acacia acinacea*, Hedge Wattle *Acacia paradoxa*, Dwarf Bush-pea *Pimelea humilis*, Guinea-flower *Hibbertia* spp., Sweet Bursaria *Bursaria spinosa* and occasionally *Acacia williamsonii* Whirrakee Wattle near creeks around Broadford. Black Wattle *Acacia mearnsii* may also occur in the south west of the study area. The ground layer includes: a dense layer of Kangaroo Grass *Themeda triandra*, Spear grasses *Stipa* spp., and Common Wheat-grass *Elymus scaber* var. *scaber*. Typical forbs include Blue Devil *Eryngium ovinum*, Common Everlasting, *Chrysocephalum apiculatum* s.l., Lemon Beauty-heads *Calocephalus citreus*, Pale Sundew *Drosera peltata*, Pink Bindweed *Convolvulus erubescens*, Scaly Buttons *Leptorhyncos squamatus*, Chocolate Lily *Arthropodium strictum* s.l., Early Nancy *Wurmbea dioica*, Yellow Rush-lily *Tricoryne elatior*, Bulbine Lily *Bulbine bulbosa*, Common Onion-orchid *Microtis unifolia* and Milkmaids *Burchardia umbellata*. Sedges and rushes present include Common Bog-sedge *Schoenus apogon*, Club Sedge *Isolepis* spp., Sedge *Carex* spp. and Rush *Juncus* spp.

Distribution: Formerly an extensive distribution across the southern and eastern Victorian Riverina in areas of higher effective rainfall than Plains Woodland.

EVC 803 Plains Woodland

Defining characteristics: Grassy woodland, rich in small chenopods and annual or geophytic forbs, occurring on non-riverine alluvial deposits. Outside of included small seasonal wetlands or associated gilgai depressions lacking flood dependant species in the ground-layer.

Structure: Woodland (sometimes including areas of tussock grassland). In most remnants, shrubs are a minor component, but it is considered that the abundance and diversity of the shrub layer has generally been reduced in diversity by grazing.

Habitat : Low-lying areas within former drainage systems on heavy soils plains. The habitat is not subject to flooding, though can include low-lying seasonally water-logged areas. Clay alluvial soils, sometimes with shallow sandy overlay, at elevations of c. 70 - 130 m.

Floristics: The overstorey comprises Black Box *Eucalyptus largiflorens* (sometimes with other box eucalypts, e.g. Grey Box *Eucalyptus microcarpa*, Yellow Box *Eucalyptus melliodora*) and/or Buloke *Allocasuarina luehmannii*, with sometimes scattered Gold-dust Wattle *Acacia acinacea* s.l. in the understorey. Other rarely encountered shrubs include Umbrella Wattle *Acacia oswaldii*, Golden Wattle *Acacia pycnantha*, Small Hop-bush *Dodonaea bursariifolia*, Silver Needlewood *Hakea leucoptera* subsp. *leucoptera*, Weeping Pittosporum *Pittosporum angustifolium*, Pale-fruit Ballart *Exocarpos strictus*, Water Bush *Myoporum montanum*, Sugarwood *Myoporum platycarpum* subsp. *platycarpum*, Common Eutaxia *Eutaxia microphylla*, Cranberry heath *Astroloma humifusum* and Peach Heath *Lissanthe strigosa* subsp. *subulata*. A grassy ground layer is dominated by species of Wallaby-grass *Austrodanthonia* and Spear-grass *Austrostipa* and a diversity of small chenopod (saltbush) species. Main dominants in the ground layer include Bristly Wallaby-grass *Austrodanthonia setacea*, Rough Spear-grass *Austrostipa scabra* subsp. *falcata*, Knead Wallaby-grass *Austrodanthonia geniculata*, Common Wheat-grass *Elymus scaber* var. *scaber*, Grey Tussock-grass *Poa sieberiana* and Nigger-heads *Enneapogon nigricans* or with associated species including Mallee Love-grass *Eragrostis dielsii*, Spider Grass *Enteropogon acicularis* and a diverse range of small chenopods, mainly Bluebush *Maireana* spp. (Wingless Bluebush *Maireana enchylaenoides*, Black Cotton-bush *Maireana decalvans*), Saltbush *Atriplex* spp. (Berry Saltbush *Atriplex semibaccata*, Small Saltbush *Atriplex eardleyae*, Mealy Saltbush *Atriplex pseudocampanulata*, Flat-top Saltbush *Atriplex lindleyi*), Ruby Saltbush *Enchylaena tomentosa* var. *tomentosa* and Nodding Saltbush *Einadia nutans* subsp. *nutans*. In relatively intact sites, a range of forbs and sedges can be found such as Sheep's Burr *Acaena echinata*, Blushing Bindweed *Convolvulus angustissimus*, Smooth Solenogyne *Solenogyne dominii*, Common Early Nancy *Wurmbea dioica*, Common Bog-sedge *Schoenus apogon*, Twining Fringe-lily *Thysanotus patersonii*, Ruby Saltbush *Enchylaena tomentosa* var. *tomentosa*, and Lemon Beauty-heads *Calocephalus citreus*. Small ephemeral depressions support Common Swamp Wallaby-grass *Amphibromus nervosus* and Spike-sedge *Eleocharis* spp. with a range of small herbs indicative of ephemeral wetland within gilgai terrain, or otherwise seasonally waterlogged soils, broader-scale wetland and

species indicative of more sustained or deeper inundation are absent.

Distribution: Scattered in heavy soil areas of drier parts of the Northern Plains but principally around the fringes of the Murray River and Loddon River floodplains, but habitat now largely modified and few relatively intact remnants persist.

EVC 18 Riparian Forest

Defining characteristics: A tall forest along river banks and associated alluvial terraces with occasional occurrences in the heads of gullies leading into creeks and rivers.

Habitat: Confined to river flats, alluvial terraces and perennial streams on Quaternary alluviums derived from a variety of parent geologies.

Structure: A tall eucalypt forest over an open to secondary tree layer of wattles and scattered dense patches of shrubs, ferns, grasses and herbs.

Floristics: The overstorey is dominated by Manna Gum *Eucalyptus viminalis* though a range of other eucalypts may be present including Narrow-leaf Peppermint *Eucalyptus radiata* s.l. and Eurabbie *Eucalyptus globulus* subsp. *bicostata*. The EVC has a well-developed secondary tree layer with Blackwood *Acacia melanoxylon* and Silver Wattle *Acacia dealbata* being common. A diversity of tall shrubs, also common to Wet or Damp Forest, form a major component in the understorey including Hazel Pomaderris *Pomaderris aspera*, Tree Lomatia *Lomatia fraseri* and Prickly Currant-bush *Coprosma quadrifida*.

The ground layer is generally diverse in both species and life forms. Due to the constant supply of water and, in many cases shade, ground ferns form a major component of Riparian Forest, often lining the stream-banks and are dispersed across the flats in moister sites. Common ferns include Fishbone Water-fern *Blechnum nudum*, Soft Water-fern *Blechnum minus*, Mother Shield-fern *Polystichum proliferum* and Soft Tree-fern *Dicksonia antarctica*. Tall Sedge *Carex appressa* often dominates stream banks and the more open areas. The most common forbs are Ivy-leaf Violet *Viola hederacea*, Bidgee Widgee *Acaena nova-zelandiae*, Creeping Cudweed *Euchiton involucratum* s.l. and Small-leaf Bramble *Rubus parvifolius*. Common grasses include Weeping Grass *Microlaena stipoides* var. *stipoides*, Common Hedgehog-grass *Echinopogon ovatus* and Yorkshire Fog *Holcus lanatus* in disturbed sites. The common and seriously invasive weeds of this EVC are Willow *Salix* spp., Blackberry *Rubus fruticosus* spp. agg., Cat's Ear *Hypochoeris radicata*, Self Heal *Prunella vulgaris*, Yorkshire Fog *Holcus lanatus*, Musk Monkey Flower *Mimulus moschatus* and White Clover *Trifolium repens*.

EVC 103 Riverine Chenopod Woodland

Defining characteristics: Eucalypt woodland of most elevated riverine terraces, intact examples with a diverse shrubby-grassy understorey. Formerly prone to irregular shallow flooding.

Habitat: Heavy clay soils on higher level terraces within or on the margins of riverine floodplains (or former floodplains), naturally subject to only extremely infrequent incidental shallow flooding from major events if at all flooded.

Structure: Woodland, mostly, < c. 15 m but to c. 25 m in mature examples. In relatively intact examples the understorey is shrubby-grassy and can be rich in annual species. Where present the shrub component is to 2 (-5) m, with the grassy-herbaceous component typically mostly < 0.2 (-0.5) m) - depending on current grazing pressure.

Floristics: Dominated by an overstorey of Black Box *Eucalyptus largiflorens* (and in some areas Grey Box *Eucalyptus microcarpa*) with a characteristic salt-bush dominated understorey. Common species include Nodding Saltbush *Einadia nutans* subsp. *nutans*, and Ruby Saltbush *Enchylaena tomentosa* var. *tomentosa*. Other less common species are Prickly Saltwort *Salsola tragus*, Slender-fruit Saltbush *Atriplex leptocarpa*, Small Saltbush *Atriplex eardleyae*, Black Cotton-bush *Maireana decalvans*, Grey Roly-poly *Sclerolaena muricata* var. *villosa*, Hedge Saltbush *Rhagodia spinescens*, Berry Saltbush *Atriplex semibaccata*, Sprawling Saltbush *Atriplex suberecta*, Old-man Saltbush *Atriplex nummularia*, Mealy Saltbush *Atriplex pseudocampanulata*, Flat-top Saltbush *Atriplex lindleyi*, Beaded Glasswort *Sarcocornia quinqueflora*, Leafless Bluebush *Maireana aphylla*, Rounded Noon-flower *Disphyma crassifolium* subsp. *clavellatum*, Saloop *Einadia hastata*, Cottony Saltbush *Chenopodium curvispicatum*, Nitre Goosefoot *Chenopodium nitrariaceum* and Tangled Lignum *Muehlenbeckia florulenta*.

A number of shrubs can also be present, including Emu-bush *Eremophila* spp. – Bignonia Emu-bush *Eremophila bignoniiflora*, Spotted Emu-bush *Eremophila maculata* var. *maculata* and Spreading Emu-bush *Eremophila divaricata* subsp. *divaricata*; also Wattle *Acacia* spp. - variously including Eumong *Acacia stenophylla*, Hakea Wattle *Acacia hakeoides* and Willow Wattle *Acacia salicina*. Small locally elevated areas can have a mixture of Black Box *Eucalyptus largiflorens* and Moonah *Melaleuca lanceolata* subsp. *lanceolata* - these represent a transition towards Semi-arid Woodland and are delineated below as Black Box - Moonah Woodland. Similarly, the woody species Cattle Bush *Alectryon oleifolius* subsp. *canescens* and Slender Cypress-pine *Callitris gracilis* subsp. *murrayensis* can be sparsely present in some drier sites. Many areas are severely disturbed by grazing and have a high proportion of introduced grasses.

Common introduced grasses include *Perennial Ryegrass *Lolium perenne*, *Soft Brome *Bromus hordeaceus* subsp. *hordeaceus*, *Sterile Brome *Bromus sterilis*, *Rat's-tail Fescue *Vulpia myuros*, *Squirrel-tail Fescue *Vulpia bromoides*, *Spider Grass *Enteropogon acicularis* and *Barley-grass *Hordeum murinum* s.l. In contrast Bristly Wallaby-grass *Austrodanthonia setacea* and Warrego Summer-grass *Paspalidium jubiflorum* are the only common native grass species although Rough Spear-grass *Austrostipa scabra* subsp. *falcata* may be present.

A diverse range of ephemeral/annual herbs and semi-shrubs include Hairy Burr-daisy *Calotis hispidula*, Sand Spurrey *Spergularia* sp. 3, Slender-fruit Saltbush *Atriplex leptocarpa*, Variable Daisy *Brachyscome ciliaris*, Leek Lily *Bulbine semibarbata*, Pale Beauty-heads *Calocephalus sonderi*, Crassula *Crassula* spp., Nodding Saltbush *Einadia nutans* subsp. *nutans*, Peppercress *Lepidium*

spp., Clay Plantain *Plantago cunninghamii*, Variable Sida *Sida corrugata*, Common Nardoo *Marsilea drummondii*, Slender Groundsel *Senecio glossanthus*, *Goodenia* spp.. The following variations are noted:

Distribution: Widespread along Murray River downstream from Gunbower and major Wimmera drainage lines and Loddon River floodplains.

Vegetation Quality: Relatively intact remnants of Riverine Chenopod Woodland are extremely rare due to modification through grazing and reduced incidence and extent of flooding. Large Saltbush *Atriplex* spp., notably Old-man Saltbush *Atriplex nummularia* have declined greatly as a consequence of grazing in most former habitats. Remnants of the habitat (e.g. around small lakes) can also be vulnerable to salinization. These modifications include reduction of diversity, notably loss of shrubby species, increases in abundance of species from drier habitats and reduction in the vigour of the structural dominant. In some areas grazing and desiccation have resulted in woodland vegetation with a grassy understorey, typically dominated by Bristly Wallaby-grass *Austrodanthonia setacea* (or sometimes Rough Spear-grass *Austrostipa scabra* subsp. *falcata*) and introduced annuals. In such situations a component of more resilient chenopod species is usually present. In some localities, notably at Hattah, extension of wind-blown sand into former Riverine Chenopod Woodland has resulted in major floristic changes, with colonisation of species indicative of adjacent non-riverine vegetation (e.g. Tangled Burr-daisy *Calotis erinacea*, Poached-eggs Daisy *Polycalymma stuartii*, Velvet Tobacco *Nicotiana velutina*, Cushion Knawel *Scleranthus minisculus*, Purslane *Calandrinia* spp.). This change appears to be permanent and ultimately at the EVC level, with future recruitment of Black Box *Eucalyptus largiflorens* in these areas now appearing ecologically impossible.

Comments: Riverine Chenopod Woodland is potentially subject to only incidental shallow flooding from the most extreme inundation events (e.g. once in a hundred year floods) and would generally not be considered as functionally representing wetland. Due to the drought conditions of 2002 when the survey was carried out, herbaceous species were rare but Paper Sunray *Rhodanthe corymbiflora* and Woolly Buttons *Leiocarpa panaetioides* may be more common after spring rains. A variable component of associated shrubby chenopods (e.g. Ruby Saltbush *Enchylaena tomentosa* var. *tomentosa*, Streaked Copperburr *Sclerolaena tricuspidis*, Hedge Saltbush *Rhagodia spinescens*) reflects both inherent site factors and disturbance history.

EVC 295 Riverine Grassy Woodland

Defining characteristics: Eucalypt woodland of relatively elevated sections of floodplain, understorey grassy (to lightly shrubby), dominated by species not ecologically reliant on flooding (but tolerant of relatively brief and superficial inundation).

Structure: Woodland to c. 25 m, often lower. The understorey is generally dominated by tussock grasses, sometimes lightly shrubby or with chenopod semi-shrubs. The ground-layer is typically grazed by kangaroos to <0.1 m height.

Habitat: Prone to high-level flooding only and thus occupies the least flooded red gum environment and occasionally grades into mixtures with Black Box

Eucalyptus largiflorens and Grey Box *Eucalyptus microcarpa*. This is reflected in reduced tree height, frequently severe crown die-back and an open woodland formation that includes many of the low shrubs that occur scattered in the Black Box and Grey Box woodlands. It occupies higher ground throughout the forest and along the river levees. The understorey is dominated by species that respond to winter and spring rains and do not depend upon flooding. Soils are often sandy to silty.

Floristics: Overstorey of River Red-gum *Eucalyptus camaldulensis*, variously with a component of Black Box *Eucalyptus largiflorens*. There is generally a sparse scattering of low shrubs frequently including Nodding Saltbush *Einadia nutans* subsp. *nutans* but Berry Saltbush *Atriplex semibaccata*, Small Saltbush *Atriplex eardleyae*, Grey Roly-poly *Sclerolaena muricata* var. *villosa*, Ruby Saltbush *Enychlaena tomentosa* var. *tomentosa*, Black Cotton-bush *Maireana decalvans*, Cottony Saltbush *Chenopodium curvispicatum* and Prickly Saltwort *Salsola tragus* occasionally occur at different times.

The ground-layer is grassy and potentially herb-rich in relatively intact vegetation. The dominant ground-layer species are Bristly Wallaby-grass *Austrodanthonia setacea* and Rough Spear-grass *Austrostipa scabra*. The dominant native grass Bristly Wallaby-grass *Austrodanthonia setacea* is one of the few able to persist under grazing pressure. Other native grasses rarely recorded include Common Wallaby-grass *Austrodanthonia caespitosa*, Velvet Wallaby-grass *Austrodanthonia pilosa* and Rough Spear-grass *Austrostipa scabra*. Other persistent species in the ground-layer include Nodding Saltbush *Einadia nutans* subsp. *nutans*, River Bluebell *Wahlenbergia fluminalis*, Knob Sedge *Carex inversa*, Grassland Wood-sorrel *Oxalis perennans*, Finger Rush *Juncus subsecundus*, Slender Dock *Rumex brownii*, Cotton Fireweed *Senecio quadridentatus*, Cranesbill *Geranium* sp., Variable Sida *Sida corrugata*, Fuzzy New Holland Daisy *Vittadinia cuneata*, Woolly New Holland Daisy *Vittadinia gracilis* and Black Roly-poly *Sclerolaena muricata*. Dominant weeds include *Soft Brome *Bromus hordeaceus* subsp. *hordeaceus*, *Red Brome *Bromus rubens* and *Barley-grass *Hordeum murinum* s.l.

Distribution: Once common along Murray River floodplain downstream from Lake Hume to Echuca and in small, localised patches downstream of Echuca.

Vegetation Quality: Typically it has been heavily overgrazed in Gunbower State Forest. Less flood-prone areas along river banks are prone to degradation and weed invasion as a consequence of intensive recreational use (and at least elsewhere concentration of herbivores during flood events).

EVC 814 Riverine Swamp Forest

Defining characteristics: Tall open eucalypt forest (to woodland), to 30 - 40 m or more in height with understorey dominated by obligate wetland species (or opportunistic annuals during sustained dry periods).

Structure: Tall open forest (to woodland). The ground-layer can range from +/- low closed sedgeland or herbland to grassy-herbaceous (mostly < 0.3 m emergent) or extremely sparse and with cover primarily leaf-litter, black water or exposed alluvium.

Habitat: Low-lying areas subject to reasonably regular flooding, typically flood-prone lower river terraces and low-lying areas adjacent to floodways through or within riverine forest, recorded from elevation of c. 95 - 135 m.

Floristics: River Red-gum *Eucalyptus camaldulensis* with species-poor ground-layer dominated by Spiny Mud-grass *Pseudoraphis spinescens* and/or Common Spike-sedge *Eleocharis acuta*, (locally) River Swamp Wallaby-grass *Amphibromus fluitans*, or sometimes bare (leaf-litter/mud). Where present, associated species variously include Common Blown-grass *Lachnagrostis filiformis*, Riverina Bitter-cress *Cardamine moirensis*, Ferny Small-flower Buttercup *Ranunculus pumilio*, Water Ribbons *Triglochin procera* s.l. and Common Sneezeweed *Centipeda cunninghamii*.

[On localised areas of flood-prone sandy terraces, connected to the river or major floodway creeks, Love-grass *Eragrostis* spp. and Native Couch *Cynodon dactylon* var. *pulchellus* can be locally dominant.

Distribution: Restricted, by far the most extensive occurrences at Barmah.

Vegetation Quality : Often subject to modification due to changed river flows. Grazed by cattle (and brumbies) at Barmah, and subject to intense pugging. Feral pigs can also create considerable soil disturbance within the relevant habitat.

EVC 815 Riverine Swampy Woodland

Defining characteristics: Eucalypt woodland to open woodland, ground-layer grassy to sedgy - herbaceous, with species indicative of periodic water-logging (and with floristic affinities with Plains Grassy Wetland).

Structure: Seasonally wet herbland, grassland or open woodland (to woodland), sometimes with treeless grassy /sedgy areas; ground-layer grassy to sedgy – herbaceous.

Habitat: Areas subject to shallow inundation only from higher-level flooding. Soils are typically heavy, cracking mottled grey-brown clays/clay-loams and water-retentive, often with a gilgai profile which can be wet during winter. Site range in elevation from c. 95 - 150 m.

Floristics: River Red-gum *Eucalyptus camaldulensis* (sometimes with scattered Black Box *E. largiflorens*), with species including Brown-back Wallaby-grass *Austrodanthonia duttoniana*, Common Swamp Wallaby-grass *Amphibromus nervosus*, Common Spike-sedge *Eleocharis acuta*, Small Spike-sedge *Eleocharis pusilla*, Poison Pratia *Lobelia concolor*, River Bluebell *Wahlenbergia fluminalis*, *Goodenia* spp., Burr-daisy *Calotis* spp., Nardoo *Marsilea* spp. and Woodland Swamp-daisy *Brachyscome basaltica* var. *gracilis*. Sparse tussocks of Poong'ort *Carex tereticaulis* or Warrego Summer-grass *Paspalidium jubiflorum* can also be present.

Distribution: Mostly Murray River system upstream of Wakool Junction. Depleted and rare, most extensive at Barmah and upstream to Lake Hume. Grey Box *Eucalyptus microcarpa* dominated variant occurs in seasonally wet sites in the central area of the riverine plains, e.g. Echuca and Shepparton districts

Vegetation Quality: Distribution of remnants requires further investigation. Much of the former extent is cleared and heavily modified by agricultural use. The former habitat of the Grey Box dominated variant in particular is mainly in private ownership. Most remnants are grazed.

EVC 264 Sand Ridge Woodland

Defining characteristics: Open pine-box woodland with a small or medium shrub layer of variable density and including a range of annual herbs, grasses and geophytes, in the dense ground layer. Occupies distinctive sandy rises (or sand mounts) adjacent to major rivers and wetlands. Very sandy, deep, free-draining, moderately fertile soil, developed on sand blown up by wind action from a prior stream bed.

Habitat: Source-bordering dunes composed of deep sandy soils support this vegetation. These soils types are developed on sand blown up by wind action from the prior stream bed.

Structure: A woodland to low open forest. The understorey appears to be dominated by grasses at the sites in Victoria, however less disturbed remnants in N.S.W. have a moderately dense shrub layer.

Floristics: The overstorey is often dominated by White Cypress-pine *Callitris glaucophylla* with Yellow Box *Eucalyptus melliodora* and Drooping Sheoke *Allocasuarina verticillata*. Sites adjacent to the riverine environment may also support River Red-gum *Eucalyptus camaldulensis*. Shrubs recorded from a range of sites include: Common Fringe-myrtle *Calytrix tetragona*, Grey Mulga *Acacia brachybotrya*, Lightwood *Acacia implexa*, Golden Wattle *Acacia pycnantha*, Mallee Wattle *Acacia montana*, Gold-dust Wattle *Acacia acinacea*, Weeping Pittosporum *Pittosporum angustifolium*, Sweet Bursaria *Bursaria spinosa*, and Drooping Cassinia *Cassinia arcuata*. The few native ground layer species detected in Victoria provide an indication of the distinctive and unusual flora. Grasses are Jericho Wire-grass *Aristida jerichoensis* var. *subspinulifera* and Purple Wire-Grass *Aristida personata*, Summer Grass *Digitaria* spp., Hairy Panic *Panicum effusum*, Nigger-heads *Enneapogon nigricans*, Common Wheat-grass *Elymus scaber* var. *scaber* and Spear Grasses *Austrostipa* spp. including (yet to be confirmed) Balcarra Spear-grass *Austrostipa nitida*. Herbs include Blue-bush, *Maireana* spp., Small Scurf-pea *Cullen parvum*, and Smooth Minuria *Minuria integrerrima*.

Historical records indicate a number of species which once occurred on sandy ridges : Silver Banksia *Banksia marginata*, Yarran Wattle *Acacia omalophylla*, and Hooked Needlewood *Hakea tephrosperma*. Sand ridges adjacent to rivers may also have supported River Bottlebrush *Callistemon sieberi* on the fringe. Northern Sandalwood *Santalum lanceolatum* once occurred on sandy rises near creeks and the Murray River.

Distribution: Within close proximity to the Murray upstream of Echuca and lower Goulburn floodplain.

EVC 816 Sedgy Riverine Forest

Defining characteristics: Eucalypt forest (to woodland) with understorey dominated by larger sedges (to sedgy-herbaceous), floristics with some affinities to Red Gum Swamp.

Structure: Open forest to woodland - at Barmah, mostly c. 20 - 35 m in height, sometimes with taller emergent veteran trees.

Habitat: Typically on heavy clay/clay-loam soils in areas prone to only shallow (but more than occasional and originally reasonably regular) flooding. The habitat can include billabongs, floodways and old anabranches.

Floristics : River Red-gum *Eucalyptus camaldulensis* with Poong'ort *Carex tereticaulis*, with understorey ranging from closed-tussock sedgeland (e.g. at Barmah where including with Marsh Club-sedge *Bolboschoenus medianus*) to more open sedgy-grassy with Warrego Summer-grass *Paspalidium jubiflorum* also present. Other common species include Common Spike-sedge *Eleocharis acuta*, Hollow Rush *Juncus amabilis*, Poison Pratia *Lobelia concolor*, *Brachyscome basaltica* var. *gracilis*, Common Swamp Wallaby-grass *Amphibromus nervosus*, Common Blown-grass *Lachnagrostis filiformis* and Burr-daisy *Calotis* spp., with Small Spike-sedge *Eleocharis pusilla* on drier margins). Where not grazed out of the vegetation, other associated species can include Swamp Starwort *Stellaria angustifolia*, Common Reed *Phragmites australis* and Swamp Billy-buttons *Craspedia paludicola*. Obligate wetland species such as Common Spike-sedge *Eleocharis acuta* and Common Nardoo *Marsilea drummondii* may be prevalent in inter-tussock gaps, but are not dominant over sustained areas - if so, then the vegetation represents a complex with Riverine Swamp Forest.

Distribution: Widespread (within restricted floodplain habitat) in less arid riverine areas, but absent from further north-west of State (Murray River and major tributaries, downstream to Murphy Island near the Murrumbidgee junction).

Vegetation Quality: Remaining areas of Sedgy Riverine Forest are mostly subject to disturbance (variously from timber harvesting, recreational vehicles and/or grazing). Within the Wimmera and outside of larger tracts of riverine forests, substantially reduced by clearing (for grazing land and irrigation farming). Disturbed areas lacking regular flooding are vulnerable to weed invasion, notably by *Fog-fruit *Phyla canescens* along the Murray River (e.g. at Nyah and Vinifera Forests, where the original floristics of this vegetation are almost obscured).

EVC 817 Sedgy Riverine Forest/Riverine Swamp Forest Complex

Defining characteristics: Understorey dominants of Riverine Swamp Forest conspicuous in association or fine-scale mosaic with larger tussock or rhizomatous species characteristic of Sedgy Riverine Forest.

Structure: Eucalypt forest (to tall open forest) with open sedgy-herbaceous ground-layer.

Habitat: Flood-prone areas, where inundation is reasonably regular and reasonably sustained but shallower and typically less frequent or sustained relative to sites supporting Riverine Swamp Forest. Recorded from elevations of c. 80 - 110 m, on mottled heavy clay/clay-loam soils.

Floristics: River Red-gum *Eucalyptus camaldulensis*, with Poong'ort *Carex tereticaulis* and, variously Marsh Club-sedge *Bolboschoenus medianus*, Common Reed *Phragmites australis* and Warrego Summer-grass *Paspalidium jubiflorum* in association or mosaic with Common Spike-sedge *Eleocharis acuta* and/or Spiny Mud-grass *Pseudoraphis spinescens* (also Common Swamp Wallaby-grass *Amphibromus nervosus*, Knotweed *Persicaria* spp. - in particular Creeping Knotweed *P. prostrata*, Common Sneezeweed *Centipeda cunninghamii*, Yellow Twin-heads *Eclipta platyglossa* and Poison Pratia *Lobelia concolor*.

Distribution: Low-lying river terraces prone to reasonably regular flooding, most extensive at Barmah.

Vegetation Quality: In the north-west part of its range, Sedgy Riverine Forest is heavily invaded and largely dominated by the introduced *Fog-fruit *Phyla canescens*. In some areas, particularly where the floodplain is restricted to narrow terraces, the respective habitat is subject to extensive disturbance due to recreational pressure. The respective habitats (of Sedgy Riverine Forest) at Barmah Forest are within areas subject to cattle grazing. However the denser variants of Sedgy Riverine Forest vegetation are mostly of lower interest to cattle, which prefer the more open grassy types of ground-layer. Consequently, while the habitat may be crossed by a network of cattle (and brumby) tracks, it still provides some refugia for a range of relatively grazing-sensitive species. In general it is considered that these species would mostly have been more abundant in other habitats, but have been eliminated either by selective grazing or vulnerability to the deep pugging caused by stock when the soil is wet.

EVC 818 Shrubby Riverine Woodland

Defining characteristics: Eucalypt woodland (to open forest) of less flood-prone (riverine) watercourse fringes, principally on levees and higher sections of point-bar deposits. Understorey includes a range of species shared with drier floodplain habitats (e.g. those supporting Black Box *Eucalyptus largiflorens*), with a sparse shrub component, ground-layer patchily dominated by various growth-forms. A range of large dicot herbs (mostly herbaceous perennial, several with a growth-form approaching that of small shrub) are conspicuous, notably daisies and peas) are conspicuous in relatively intact vegetation.

Structure: Woodland (to open forest), mostly c. 15- 25 m, but sometimes taller with veteran trees. The ground-layer is primarily grassy - herbaceous to c. 1 m. A sparse component of shrubs to 2m or small trees is typically present.

Habitat: River verges (and also along major anabranch creeks), on more elevated portions of lower terraces. Flooding is infrequent, and the habitat is free-draining following recession of floodwaters. The alluvial soils often have a conspicuous sandy component.

Floristics: River Red-gum *Eucalyptus camaldulensis* (+/- Black Box *Eucalyptus largiflorens*, Eumong *Acacia stenophylla*), with open Warrego Summer-grass *Paspalum jubiflorum* and scattered shrubs including Nitre Goosefoot *Chenopodium nitrariaceum*, Tangled Lignum *Muehlenbeckia florulenta*, Ruby Saltbush *Enchylaena tomentosa* var. *tomentosa* and Hedge Saltbush *Rhagodia spinescens*. Dicot herbs include Branching Groundsel *Senecio cunninghamii* var. *cunninghamii*, Variable Groundsel *Senecio pinnatifolius*, Golden Everlasting *Xerochrysum bracteatum*, Squat Picris *Picris squarrosa*, Grey Germander *Teucrium racemosum* s.l., Austral Trefoil *Lotus australis*, Blue Burr-daisy *Calotis cuneifolia* and (very localised) Hairy Darling-pea *Swainsona greynana*.

Distribution: Murray River, best developed (both in terms of floristics and extent) at Lindsay Island, Mulcra Island and Walpolla Island (far north-west), but more marginal examples are scattered upstream at least to near the junction with the Wakool River.

Vegetation Quality: Many examples are subject to recreational disturbance due to their proximity to watercourses. In general, weeds appear relatively minor (at least under drought conditions), and vegetation quality is high in areas not subject to major recreational pressure.

EVC 819 Spike-sedge Wetland

Defining characteristics: Low sedgy vegetation of species-poor seasonal or intermittent wetlands, dominated by spike-sedges.

Structure: Sedgeland (typically closed), mostly c. 0.2 - 0.5 m at maximum culm growth, with dead culms forming a dense prostrate mat during drier periods.

Habitat: Mostly confined to a narrow ring around the upper margins of floodway ponds. Soils are typically heavy clays (e.g. mottled yellow-grey clay, grey loamy clay), occasionally silty near the surface. The elevations of quadrat samples range from c. 60 - 130 m but can be presumed to occur over a somewhat wider elevation range. The relevant floristic balance appears to be determined by a subtle combination of reliability/variability, timing and depth of inundation, in association with soil characteristics (such that Common Spike-sedge *Eleocharis acuta* is able to form a competitive sward within stages of very shallow spring to early summer inundation). In some riverine sites, annual inundation is not reliable and the rhizomic rootstocks of Common Spike-sedge *Eleocharis acuta* appear capable of surviving at least occasional periods of longer dormancy.

Floristics: Common Spike-sedge *Eleocharis acuta* (and at some Barmah locations, with Small Spike-sedge *Eleocharis pusilla*). The vegetation is often virtually monospecific, but can be richer in drier or peripheral sites. Typically treeless, but sometimes with thickets of saplings or scattered more mature specimens of River Red-gum *Eucalyptus camaldulensis*. Shallow seasonal wetlands in flood-prone areas, dominated by low sedges that are tolerant of inundation. In its flooded and drying phase, some of the following may be present, Water Ribbons *Triglochin procera* s.l., Upright Water-milfoil *Myriophyllum crispatum*, Common Nardoo *Marsilea drummondii*, *Ludwigia peploides* subsp. *montevidensis*, Poison Pratia *Lobelia concolor*, Drain Flat-sedge **Cyperus eragrostis*, Matted Water-starwort *Callitriche sonderi*, and Western Water-starwort *Callitriche cyclocarpa*. In a drier phase, Creeping Knotweed *Persicaria prostrata*, Common Blown-grass *Lachnagrostis filiformis* may be the most common associated species. Often dense stands of Cotton Fireweed *Senecio quadridentatus* occur on the margins of this community. Similar vegetation, occurs along many of the deeper creek channels. Where these receive irrigation effluent, some may remain perpetually wet and Water Couch **Paspalum distichum* may be prolific, replacing the Common Spike-sedge *Eleocharis acuta* and Common Sneezeweed *Centipeda cunninghamii*. In wet but unsaturated locations, dense stands of Tall Flat-sedge *Cyperus exaltatus* sometimes occur.

Distribution: Scattered distribution on the Riverina floodplain (eg. Benwell Swamp and Guttram Swamp near Levee Track in Gunbower State Forest)

Vegetation Quality: Spike-sedge Wetland is characteristically species-poor, except around the verges.

However, the species-richness of the relevant systems can be further reduced by grazing of cattle (through selective grazing, pugging and trampling). While reasonably resilient to longer dry periods, deterioration and contraction of riverine floodplain occurrences can be anticipated as a consequence of reduced flooding of the Murray River. When disturbed, Spike-sedge Wetland can be invaded by weeds such as Curled Dock **Rumex crispus*, **Sagittaria* spp., Water Plantain **Alisma lanceolata*, Water Couch **Paspalum distichum* and Lilaea **Lilaea scillioides*.

EVC 820 Sub-saline Depression Shrubland

Defining characteristics: Low open shrubland/herbland of the highest terraces of the former (i.e. pre-1750) Murray River floodplain in far north-west, dominated by chenopods and succulents, occupying semi-saline treeless pans within the Black Box - Chenopod Woodland zone.

Structure: Low open shrubland/herbland, dominated by chenopods and succulents, mostly < 0.5 - 1 m in height.

Habitat: Low-lying areas with very heavy and mildly saline clay soils. On higher terraces, and presumably no longer subject to occasional shallow flooding. Recorded from elevations within the range of c. 30 - 50 m.

Floristics: The major species include Streaked Copperburr *Sclerolaena tricuspidis*, Goat Head *Malacocera tricornis* and Rounded Noon-flower *Disphyma crassifolium* subsp. *clavellatum*, variously with Hairy Bluebush *Maireana pentagona* and Rosinweed *Cressa cretica*/Sea Heath *Frankenia* spp./*Sarcocornia* spp. South of Lindsay River: Streaked Copperburr *Sclerolaena tricuspidis*, Goat Head *Malacocera tricornis*, Rosinweed *Cressa cretica*, Rounded Noon-flower *Disphyma crassifolium* subsp. *clavellatum*, Flat-top Saltbush *Atriplex lindleyi*, Hairy Bluebush *Maireana pentagona*, Short-wing Saltbush *Sclerochlamys brachyptera*, Slender Groundsel *Senecio glossanthus*, Salt Sea-spurrey *Spergularia* sp. 3, *Goodenia* spp. and Daisy *Brachyscome* spp. Lambert Island: *Sarcocornia* spp. and Sea-heath *Frankenia* spp. in association with Streaked Copperburr *Sclerolaena tricuspidis*.

Distribution: Very localised in far north-west, most extensive in the vicinity of Lindsay Island, with smaller examples at Walpolla Island and Lambert Island - original extent difficult to ascertain due to habitat degradation.

Vegetation Quality: The former floristics of higher-level floodway depressions are poorly understood due to the impacts of grazing and virtual cessation of higher-level flooding.

EVC 937 Swampy Woodland

Defining characteristics: Open eucalypt woodland with ground-layer dominated by tussock grasses and/or sedges and often rich in herbs. Occurs on poorly drained, seasonally waterlogged heavy soils, primarily on swamp deposits but extending to suitable substrates within some landscapes of sedimentary origin. Once a common vegetation type along broad drainage lines with slight gradients and on lower slopes near streams or larger rivers, Swampy Riparian Woodland has been largely altered particularly by drainage for agriculture. It may be found growing on lower slopes near streams and less commonly in gentle basins on valley slopes in association with permanent soaks or

springs, not necessarily associated with permanent streams. Rainfall is in the range of 900-1500 mm per year and the elevation range is between 300 and 800 m. The soils are generally Quaternary alluviums in stream environments derived from a broad range of parent geologies which are mostly Cambrian and Ordovician marine sediments and metamorphosed sediments. The woodland overstorey often forms mosaics with wetter treeless areas dominated by sedges, rushes and many other plants associated with riparian environments. Mountain Swamp Gum *Eucalyptus camphora* is the dominant overstorey species. A wide range of other eucalypts can be present, mainly as adventive species from the surrounding drier forests. The understorey shrubs consist of Blackwood *Acacia melanoxylon* (as it rarely reaches tree-form in this community) and Prickly Currant-bush *Coprosma quadrifida*. Common Cassinia *Cassinia aculeata* and Silver Wattle *Acacia dealbata* are also sporadically present as adventive species from the surrounding drier vegetation. Ovens Wattle *Acacia pravissima*, Prickly Tea-tree *Leptospermum continentale* may also be present. The ground stratum is the most characteristic feature of this EVC and is normally dense with sedges such as Leafy Flat-sedge *Cyperus lucidus* and Tall Sedge *Carex appressa* competing for space with ferns like Fishbone Water-fern *Blechnum nudum*, Soft Water-fern *Blechnum minus* and Mother Shield-fern *Polystichum proliferum*. There are many other plants which also occur in Riparian Forest which compete for space between the inter-tussock gaps of sedges and ferns such as Bidgee Widgee *Acaena novae-zelandiae*, Kidney-weed *Dichondra repens*, Cinquefoil Cranesbill *Geranium potentilloides*, Austral Brooklime *Gratiola peruviana*, and Hairy Pennywort *Hydrocotyle hirta*.

EVC 821 Tall Marsh

Defining characteristics: Wetland dominated by tall emergent graminoids, typically in thick species-poor swards. Competitive exclusion in core wetland habitat - of optimum growing conditions for species tolerant of sustained shallow inundation.

Structure: Rushland, sedgeland or reedbed. Usually dense vegetation, varying from locally closed to in association or fine-scale mosaic with Aquatic Herbland (e.g. along floodway lagoons). Mostly within (1-) 2- 4 m height range.

Habitat: Wetlands (usually associated with anabranch creeks) and spontaneous along irrigation drains. Also in altered habitat where high water levels associated with locks create wet terraces, especially on small islands and in areas not subject to grazing by domestic stock. Soils are almost permanently moist. Dominant species are tolerant of relatively deep and sustained inundation, but not total immersion for any sustained period.

Floristics: Sparse specimens of *Eucalyptus camaldulensis* can be present (or form an overhanging canopy along narrow floodways), but well developed examples of this vegetation type are typically treeless or virtually so. In the far north-west, Bulrush *Typha* spp. (mainly Narrow-leaf Cumbungi *Typha domingensis* but tentatively also Broad-leaf Cumbungi *Typha orientalis*) are the usual dominant species, sometimes in association or mosaic with River Club-sedge *Schoenoplectus tabernaemontani*. Common Reed *Phragmites australis* sometimes occurs as

a thin riparian verge, but mostly below map scale. Other graminoids that can be present include Rush *Juncus* spp. such as Giant Rush *Juncus ingens* and Sedge *Cyperus* spp. A range of aquatic and opportunistic herbaceous species is present in more open areas supporting Bulrush *Typha* spp. (e.g. within floodway channels). Common associated species include Slender Knotweed *Persicaria decipiens*, Pale Knotweed *Persicaria lapathifolia*, Small Loosestrife *Lythrum hyssopifolia*, Pacific Azolla *Azolla filiculoides*, Robust Water-milfoil *Myriophyllum papillosum*, Wavy Marshwort *Nymphoides crenata*, Common Spike-sedge *Eleocharis acuta*, Water Ribbons *Triglochin procera* s.l., Floating Pondweed *Potamogeton tricarlinatus* s.l., Clove-strip *Ludwigia peploides* subsp. *montevidensis* and Spiny Mud-grass *Pseudoraphis spinescens*. Under drier conditions Common Sneezeweed *Centipeda cunninghamii*, Lesser Joyweed *Alternanthera denticulata* s.l. and Common Blown-grass *Lachnagrostis filiformis* may be present. Introduced herbaceous species (e.g. Marsh Yellow-cress *Rorippa palustris*, Dock *Rumex* spp., Sow-thistle *Sonchus* spp. and Lettuce *Lactuca* spp.) and the grass Annual Beard-grass *Polypogon monspeliensis* can also be conspicuous, especially during drier periods. In many areas the community has been invaded by Grey Sallow *Salix cinerea*. This Willow is well established along Gunbower Creek.

Distribution: Scattered, mostly as thin strips and disjunct small patches on the riverine floodplain such as on the southern verges of Kings Billabong.

Vegetation Quality: Smaller occurrences are typically highly modified by changed hydrology and weed invasions. Artificial habitats maintained by irrigation water can be colonised by tall emergent graminoids,

notably Narrow-leaf Cumbungi *Typha domingensis*. This community occupies all the semi permanent water bodies of Gunbower Forest and has probably experienced a considerable decline with river regulation eg. this vegetation was probably well represented in Black Swamp before the installation of the regulator on Gunbower Creek. Traces of the community can be seen in some of the swamps within Gunbower Forest where they still receive irrigation waters eg. Batemans Lagoon. **Comments:** Generally occupies deep water adjacent to the flooded Sedgy Riverine Forest/Riverine Swamp Forest. Tall Marsh can be adventive in Floodplain Grassy Wetland and Floodway Pond Herbland, (and related complexes and mosaics).

Ginat Rush *Juncus ingens* occupies areas within the forest whose frequency and duration of flooding exceeds the tolerance of forest. Under natural flooding regimes, these low areas may remain flooded into the summer months when air temperatures are high. This feature, when combined with the dense resilient foliage has attracted colonies of breeding water birds in the past. The late spring/early summer flood recession results in high water temperatures and poor soil aeration during the growing season, causing tree death but which can be tolerated by Giant Rush *Juncus ingens*. This species is also capable of withstanding periods of drought provided these are infrequent and of short duration. It is probable that this community has contracted greatly at Gunbower Forest as a result of the hydrological changes that have occurred since flood control and it formerly would have been associated with most of the semi-permanent swamps within the forest. This contraction is still evident at the Reed Beds in Guttram State Forest.

APPENDIX 8: Potentially Threatening Processes in the River Red Gum Forests study area

Potentially threatening processes expected to occur in or have impacts within the River Red Gum Forests study area listed under the *Flora and Fauna Guarantee Act 1988* (FFG) or the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC).

Potentially Threatening Process	Act
Alteration to the natural flow regimes of rivers and streams	FFG
Alteration to the natural temperature regimes of rivers and streams	FFG
Collection of native orchids	FFG
Degradation of native riparian vegetation along Victorian rivers and streams	FFG
Habitat fragmentation as a threatening process for fauna in Victoria	FFG
High frequency fire resulting in disruption of life cycle processes in plants and animals and loss of vegetation structure and composition	FFG
Inappropriate fire regimes causing disruption to sustainable ecosystem processes and resultant loss of biodiversity	FFG
Increase in sediment input into Victorian rivers and streams due to human activities	FFG
Input of toxic substances into Victorian rivers and streams	FFG
Introduction of live fish into waters outside their natural range within a Victorian river catchment after 1770	FFG
Invasion of native vegetation by 'environmental weeds'	FFG
Loss of coarse woody debris from Victorian native forests and woodlands	FFG
Loss of hollow-bearing trees from Victorian native forests	FFG
Loss of terrestrial climatic habitat caused by anthropogenic emissions of greenhouse gases.	FFG
Predation of native wildlife by the cat, <i>Felis catus</i>	FFG
Predation of native wildlife by the introduced Red Fox <i>Vulpes vulpes</i>	FFG
Prevention of passage of aquatic biota as a result of the presence of instream structures	FFG
Reduction in biomass and biodiversity of native vegetation through grazing by the Rabbit <i>Oryctolagus cuniculus</i>	FFG
Removal of wood debris from Victorian streams	FFG
The introduction and spread of the Large Earth Bumblebee <i>Bombus terrestris</i> into Victorian terrestrial environments	FFG
Threats to native flora and fauna arising from the use by the feral honeybee <i>Apis mellifera</i> of nesting hollows and floral resources	FFG
Use of lead shot in cartridges for the hunting of waterfowl	FFG
Wetland loss and degradation as a result of change in water regime, dredging, draining, filling and grazing	FFG
Invasion of native vegetation by Blackberry <i>Rubus fruticosus</i> L. agg.	FFG
Competition and land degradation by feral Goats	EPBC
Competition and land degradation by feral Rabbits	EPBC
Infection of amphibians with chytrid fungus resulting in chytridiomycosis	EPBC
Land clearance	EPBC
Loss of climatic habitat caused by anthropogenic emissions of greenhouse gases	EPBC
Predation by feral Cats	EPBC
Predation by the European Red Fox (<i>Vulpes vulpes</i>)	EPBC
Predation, Habitat Degradation, Competition and Disease Transmission by Feral Pigs	EPBC
<i>Psittacine Circoviral</i> (beak and feather) Disease affecting endangered psittacine species	EPBC

APPENDIX 9: Extract of the Co-operative Management Agreement between Yorta Yorta Nation Aboriginal Corporation and The State of Victoria

Note: the agreement, map and a factsheet are available at the following website:

<http://www.dse.vic.gov.au/dse/nrenlwm.nsf/LinkView/7FA349BEAE0F5A3FCA256E8D00210309A4AD52AC7C448F1A4A256DEA0024EDD2>

Preamble

1. Yorta Yorta Nation Aboriginal Corporation represents the Yorta Yorta People who assert cultural connection, based on ancestry and tradition, to the Designated Areas (described in Schedule 2).
2. The State of Victoria recognises the cultural connection of the Yorta Yorta People to the Designated Areas.
3. Accordingly, the State has agreed to recommend to the Minister responsible for the *Conservation, Forests and Lands Act 1987* (Vic) the establishment of a committee pursuant to section 12 of that Act.
4. The committee will be known as the Yorta Yorta Joint Body.
5. In establishing the Yorta Yorta Joint Body the Minister or the Secretary intends to refer the matters described in this Agreement to it for consideration.
6. The Yorta Yorta Joint Body will formalise the Yorta Yorta People's involvement in the management of the Designated Areas and facilitate the development of a sustainable partnership based on recognition, mutual respect and agreed goals.
7. The State will adopt a flexible and learning approach to working with and meeting the aspirations of the Yorta Yorta People. The Yorta Yorta People will adopt a flexible and learning approach to state land management policies and processes.
8. The Yorta Yorta People and the State recognise that Schedule 2 of the *Conservation, Forests and Lands Act* has effect on committees established pursuant to section 12 of that Act.
9. The purpose of this Agreement is to set out the terms and conditions reached between the State and the Yorta Yorta People, including the Terms of Reference of the Yorta Yorta Joint Body (Schedule 3) that the State will recommend to the Minister.
10. This Agreement successfully completes negotiations for the co-operative management of the Designated Areas between the State and the Yorta Yorta People, consistent with the signed Negotiating Principles.

Acknowledgment

11. The State recognises:
 - the right of the Yorta Yorta People to retain their identity and intellectual property; and
 - the Yorta Yorta People's role in management decision making within the Designated Areas relating to the protection, maintenance and sustainable of cultural and environmental values.
12. The Yorta Yorta People recognise the State as the representative of all Victorians, and its established and on-going responsibilities for the sustainable management of the Designated Areas.

Objectives

13. The objectives of this Agreement are to facilitate:
 - 13.1 the active and resourced (in accordance with Schedule 4) involvement of the Yorta Yorta People in decisions about the management of the Designated Areas including the integration of Yorta Yorta knowledge, internal decision-making processes and perspectives into management planning and works programming;
 - 13.2 the development of mutual recognition and trust between the Yorta Yorta People and the State; and
 - 13.3 the identification and promotion of employment, training and economic development opportunities for the Yorta Yorta People.

Designated Areas

14. The Agreement will apply to the Designated Areas, as defined in Schedule 2.

Relationships

Relationship of the Yorta Yorta Joint Body with land management bodies

15. The State shall assist and to the extent possible require other organisations responsible for managing and/or providing advice regarding the management of the Designated Areas to develop communication protocols and working relationships with the Yorta Yorta Joint Body.

Relationship of the Yorta Yorta Joint Body with the Minister and Secretary

16. In the process of making a decision regarding the management of the Designated Areas, the Minister or the Secretary will take into account relevant advice and recommendations he or she has received from:
 - 16.1 the Yorta Yorta Joint Body in accordance with this Agreement; and
 - 16.2 the organisations responsible for managing and/or providing advice regarding the management of the Designated Areas.
17. If there is conflicting advice prior to making a decision regarding the management of the Designated Areas, the Minister or Secretary, as applicable, will take into account advice from the Yorta Yorta Joint Body in relation to that conflicting advice.
18. If the Minister or the Secretary, as applicable, in making a decision in relation to a matter on which the Yorta Yorta Joint Body has provided advice or a recommendation, decides to act otherwise than in accordance with that advice or recommendation, the Minister or Secretary, as applicable, may provide the Yorta Yorta Joint Body with written reasons for the decision.

Affect of this Agreement on rights and obligations

19. To be clear, nothing in this Agreement:
- 19.1 compromises the legal rights or political aspirations of the Yorta Yorta People relative to any of their other social, cultural and economic goals;
 - 19.2 affects any rights that the Yorta Yorta People may have to their intellectual and cultural property;
 - 19.3 limits the State's prerogatives under any relevant laws and policies;
 - 19.4 limits the powers of the Minister or the Secretary in relation to any matter, in particular, the powers of the Minister under s12 of the *Conservation, Forests and Lands Act 1987* (Vic) to deal with the Yorta Yorta Joint Body;
 - 19.5 affects any rights, duties or obligations arising from the operation of the *Archaeological and Aboriginal Relics Preservation Act 1972* (Victoria) or the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Commonwealth);
 - 19.6 limits the capacity of organisations responsible for managing the Designated Areas to continue to perform their established functions including, as applicable, in relation to the management of lands or waters and the provision of independent advice; or
 - 19.7 affects the valid rights of parties, both Indigenous and non-Indigenous.

Review

20. The role and structure of the Yorta Yorta Joint Body will be subject to ongoing internal review.
21. The Minister may review the structure and role of the Yorta Yorta Joint Body, at the end of the first 2-year period from the date of its establishment.
- 21.1 The review period shall be 30 days.
 - 21.2 In conducting a review, the Minister or the Secretary may take into account any Annual Report prepared by the Yorta Yorta Joint Body.
 - 21.3 At the end of the review period, the Minister or the Secretary shall discuss with the Yorta Yorta Joint Body any changes that the Minister or the Secretary wishes to make to the structure, role or terms of reference of the Yorta Yorta Joint Body.

Resources

22. The Yorta Yorta Joint Body will be resourced, as detailed in Schedule 4.

Termination by the Yorta Yorta People

23. The Yorta Yorta People may at any time, and in their sole discretion, provide a written request to the Minister or the Secretary to abolish the Yorta Yorta Joint Body.

Schedule 1

List of Definitions

"Convenor" means the person referred to in Clause 17 of Schedule 3.

"Cultural Heritage Officer" means the person referred by this name in Schedule 4.

"Designated Areas" means the areas set out in Schedule 2.

"Elders" according to Yorta Yorta traditional law and custom means a mature, capable, wise and respected adult Yorta Yorta person who has knowledge of Yorta Yorta culture and is recognised and respected by the Yorta Yorta People in general as having such knowledge.

"Elders Council" means a group of Yorta Yorta Elders, each nominated by their respective family groups, who are the guardians of the objects of YYNAC.

"Executive Officer" means the person referred to by this name in Schedule 4.

"Funding Agreement" means the Funding Agreement between the State and the YYNAC.

"Minister" means the Minister for Environment and delegates.

"Negotiation Principles" means the signed principles of negotiation approved by Cabinet in May 2002.

"Secretary" means the Secretary of the Department of Sustainability and Environment.

"Specialist Officer" means the person referred to by this name in Schedule 4.

"State" means the State of Victoria.

"VEAC" means the Victorian Environmental Assessment Council.

"Yorta Yorta Joint Body" means the Committee established under s12 of the *Conservation Forests and Lands Act 1987* (Vic).

"Yorta Yorta People" means the Indigenous peoples who are eligible to be members of the YYNAC.

"YYJB" means the Yorta Yorta Joint Body.

"YYNAC" means Yorta Yorta Nation Aboriginal Corporation, a body corporate incorporated under the *Aboriginal Councils and Associations Act 1976* (Cth) on 27 November 1998 to represent the Yorta Yorta People.

Schedule 2

Designated Areas

1. "Designated Areas" means (using the same land and water identification numbers (ID) referred to in the Yorta Yorta Proceedings) the following areas:
 - (a) Barmah State Park (IDs 58; 63); Barmah State Forest (IDs 56; 118); The Ranch (ID 134); Top Island Reference Area (ID 68); Top End Reference Area (ID 64); Murray River State Reserved Forest (IDS 46; 919); Murray River Reserve (ID 908) to and including Ulupna Creek Reserve (ID 909);
 - (b) Kow Swamp Water Supply Reserve (ID 82) ; and
 - (c) Goulburn River State Forest (IDs 145; 221); Kanyapella Timber Reserve (ID 159) ; Kanyapella State Forest (ID 160); Redgum Swamp State Forest (ID 176); Monroes Reserved Forest (ID 181) ; Loch Gary Wildlife Reserve (ID901); Reedy Swamp Wildlife Reserve (ID 203) ; Youngs Bend State Forest (ID 213) ; Gemmill Swamp Wildlife Reserve (ID 216); Goulburn River Reserved Forest (IDs 237; 240); Goulburn River Reserve (ID 912); and Murchison North Crown Land (ID 913).
2. A legal plan reflecting the Designated Areas will be drawn up within six months of the execution of this Agreement.

APPENDIX 10: Nature Conservation Reserves

Name of Reserve	Area (ha)	LCC rec	Current Reservation Status	Date of creation	Comments (see also information sources provided below)
Boort Flora Reserve	43	G2 ^(a)	Not currently reserved	–	Scrub community of dumosa mallee and yellow gum woodland.
Cannie Flora Reserve	16	G69 ^(c)	Not currently reserved	–	Relatively undisturbed buloke woodland and associated grassland growing on calcareous clays. Very little of this vegetation and soil type remain as public land in the southern Mallee.
Dartagook Wildlife Reserve	746	D9 and addition D15 ^(c)	Not currently reserved	–	Nature Conservation Status pending reservation. The forest of black box, river red gum and lignum is part of the floodplain at the junction of the Loddon River and Sheepwash Creek.
Duck Lake Wildlife Reserve	413	D27 ^(c)	Not currently reserved	–	Reservation as a wildlife reserve (no hunting) pending. This saline wetland has wide muddy shores frequented by wading birds.
Flannery Wildlife Reserve	51	C12 ^(a)	Reserved for the management of wildlife under the <i>Crown Land (Reserves) Act 1978</i> , and the <i>Wildlife Act 1975</i>	1986	Wetland of lignum with some black box and dead trees.
Gemmill Swamp Wildlife Reserve	213	C17 ^(a)	Reserved for the management of wildlife under the <i>Crown Land (Reserves) Act 1978</i> , and the <i>Wildlife Act 1975</i>	1986	Also known as 'Youngs Bend'. Semi-permanent fresh-water wetland comprising rushes and reeds with a river red gum forest and some yellow box woodland to the north.
Karadoc Flora Reserve	111	G56 ^(c)	Not currently reserved	–	A reasonably intact remnant of the higher river terrace carrying alluvial-plain shrublands together with the black box and river red gum terraces descending to the River Murray afford this area significant botanical variety. The climbing herb twining purlane and the subshrub twin-flower saltbush, both being rare plants usually associated with saline shrublands, are found here.
Kings Billabong Wildlife Reserve	2135	D1 ^(c)	Reserved for the management of wildlife under the <i>Crown Land (Reserves) Act 1978</i>	1979	Contains a mosaic of wet and dryland habitats on the Murray River floodplain. It has a large waterfowl population. A Proposed Management Plan was implemented in 1991.
Kotta Nature Conservation Reserve	226	No LCC rec (land purchase)	Temporarily reserved for the preservation of an area of ecological significance under the <i>Crown Land (Reserves) Act 1978</i>	2004	Purchased through the National Reserve System Program. A management statement (2005) is in place. Contains a diverse example of endangered Northern Plains Grasslands with a number of threatened flora species. Provides habitat for plains-wanderer, barking marsh frog and fat-tailed dunnart. Adjoins Trust for Nature-owned Glassons Grassland and conservation covenant-protected grasslands. (2) (4)

Name of Reserve	Area (ha)	LCC rec	Current Reservation Status	Date of creation	Comments (see also information sources provided below)
Lake Moodemere Nature Conservation Reserve	12	No LCC rec (land purchase)	Part temporarily reserved for the conservation of an area of natural interest and part temporarily reserved for the preservation of an area of ecological significance under the <i>Crown Land (Reserves) Act 1978</i>	2001	Purchased through the National Reserve System Program. A management statement (2005) is in place. Significant areas of threatened grey box-buloke woodland occur on the site and the vulnerable buloke mistletoe is also present. Adjoins Lake Moodemere Lake Reserve. (1) (5)
Lakes Powell and Carpul Wildlife Reserve	683	D2 and addition of D14 ^(c)	Reserved for the management of wildlife and preservation of wildlife habitat under the <i>Crown Land (Reserves) Act 1978</i> , and the <i>Wildlife Act 1975</i>	1979	Lakes surrounded by river red gum and black box woodlands filled when the Murray River floods.
Mullaroo Creek Wildlife Reserve	1142	D17 ^(c)	Not currently reserved	-	A range of values including broad grasslands, river red gum forests, blackbox-chenopod woodlands, and alluvial plain shrubland..
Lambert Island Flora Reserve	948	G55 ^(c)	Not currently reserved	1990	Extensive black box—chenopod woodlands and small stands of cypress-pine and river red gum, notable species include the flood-dependent herb jerry-jerry and a large colony of the endangered herb yellow tails. Currently has apiary sites.
Leaghur Wildlife Reserve	176	D33 ^(c)	Not currently reserved	1990	Nature Conservation Status pending reservation. Portion of a braided stream. Lignum wetland, with common wetland grasses and herbs and relatively low weed cover. Moderately high native species diversity. Significant species are pale spike-sedge, bluish raspwort form glauca, and swamp buttercup (all vulnerable in Victoria).
One Tree Swamp Nature Conservation Reserve	676	No LCC rec (land purchase)	Reserved for the preservation of an area of ecological significance under the <i>Crown Land (Reserves) Act 1978</i> , small area currently a Water Reserve.	2003	Purchased through the National Reserve System Program. Large Cane Grass Wetland with small areas of Northern Plains Grassland and Plains Woodland. Important brolga breeding habitat. Adjoins Two Tree Swamp Wildlife Reserve to the north. (2)
Ovens River Flora Reserve (Peechelba)	220	G8 ^(a)	Reserved for the preservation of species of native plants under the <i>Crown Land (Reserves) Act 1978</i>	1986	Also known as 'Peechelba Flora Reserve'. River red gum forest on the Ovens River with a shrub understorey of river bottlebrush, silver wattle, and swamp paperbark. The occurrence of this melaleuca here is unique in the area and of conservation significance. The Ovens Heritage River is an overlay.

Name of Reserve	Area (ha)	LCC rec	Current Reservation Status	Date of creation	Comments (see also information sources provided below)
Passage Camp Flora Reserve	21	G65 ^(c)	Reserved under <i>Forests Act 1958</i>	1990	River red gum forest grows on an island bend of the River Murray with a large population of the grass silky browntop.
Patho Wildlife Reserve	75	C14 ^(c)	Reserved for the management of wildlife under the <i>Crown Land (Reserves) Act 1978</i> , and the <i>Wildlife Act 1975</i>	1986	Permanent and semi-permanent wetland and lagoon system with river red gum open forest and black box open forest-woodland.
Pelican Lake Wildlife Reserve	38	D29 ^(c)	Not currently reserved	–	Nature Conservation Status pending reservation. A brackish wetland, and degrading; it is used by large numbers of waterfowl.
Pine Grove Nature Conservation Reserve	38	No LCC rec (land purchase)	Temporarily reserved for the preservation of an area of ecological significance under the <i>Crown Land (Reserves) Act 1978</i>	2001	Purchased through the National Reserve System Program. Management Statement in place (2005). Contains endangered Northern Plains Grasslands and habitat for plains-wanderer. Gilgais and drainage lines are still present, while the cracks in the heavier grey soils provide habitat for reptiles and fat-tailed dunnarts. (1) (6)
Red Gum Swamp Wildlife Reserve (Gannawarra)	148	C8 ^(a)	Reserved for the management of wildlife under the <i>Crown Land (Reserves) Act 1978</i> , and the <i>Wildlife Act 1975</i>	1986	Wetland containing saltbush, lignum, and numerous dead river red gum trees.
Roslynmead Flora Reserve	574	G4 ^(a) plus addition of purchased land	Partly reserved for the preservation of species of native plants, partly temporarily reserved for the conservation of an area of natural interest, partly temporarily reserved for public purposes, and partly temporarily reserved for the preservation of an area of ecological significance under the <i>Crown Land (Reserves) Act 1978</i>	1986, 2001	Mostly purchased through the National Reserve System Program to be combined with Turrumberry North Flora Reserve as Roslynmead Nature Conservation Reserve. Management Statement in place (2005). Contains endangered Northern Plains Grasslands and habitat for plains-wanderer. Six threatened plant species have been recorded on the site and there is a high level of diversity and complexity in the habitats found across the site due to small changes in relief and varying soil types. (1) (7)
Rowland Wildlife Reserve	126	C11 ^(a)	Reserved for the management of wildlife under the <i>Crown Land (Reserves) Act 1978</i> , and the <i>Wildlife Act 1975</i>	1986	Heathy wetland of saltbush with some black box and dead trees.

Name of Reserve	Area (ha)	LCC rec	Current Reservation Status	Date of creation	Comments (see also information sources provided below)
Ryans Lagoon Wildlife Reserve	151	C5 ^(b)	Reserved for Public Purposes (Regional Parklands) under the <i>Crown Land (Reserves) Act 1978</i>	1987	Nature Conservation Status pending reservation. Managed as part of the Albury-Wodonga Regional Parklands. Shallow fresh-water swamp with floodways, lagoons, and grasslands. This reserve supports a breeding rookery of Australian white ibis, nankeen night herons, egrets, and other waterfowl.
Shepparton Flora and Fauna Reserve	21	No LCC rec	Reserved for the preservation of native flora and fauna under the <i>Crown Land (Reserves) Act 1978</i>	1972	Former township land excluded from LCC investigations.
Terrick Terrick East Nature Conservation Reserve	212	No LCC rec (land purchase)	Temporarily reserved for the conservation of an area of natural interest under the <i>Crown Land (Reserves) Act 1978</i>	2000	Purchased through the National Reserve System Program. Management Statement in place (2005). Contains endangered Northern Plains Grasslands community and habitat for plains wanderer. Contains populations of two nationally threatened plants: chariot wheels and slender darling-pea, as well as a number of species of state and regional significance. (1) (8)
Tomara Gilgais Nature Conservation Reserve	336	No LCC rec (land purchase)	Temporarily reserved for the preservation of an area of ecological significance under the <i>Crown Land (Reserves) Act 1978</i>	2005	Purchased through the National Reserve System Program. Contains endangered Northern Plains Grasslands and habitat for plains-wanderer. Significant flora includes long eryngium, pin sida, umbrella wattle, spiny lignum and yakka grass. Brolgas have been recorded using the wetland area. (3)
Towaninny Flora Reserve	21	G70 ^(c)	Not currently reserved	–	Relatively undisturbed grassland again occurs on calcareous clays, very little of which remains as public land in the southern Mallee.
Towaninny South Flora Reserve	81	G71 ^(c)	Not currently reserved	–	Relatively undisturbed grassland again occurs on calcareous clays, very little of which remains as public land in the southern Mallee.
Tragowel Swamp Wildlife Reserve	274	C4 ^(a)	Partly reserved for the management of wildlife, public purposes for recreation and public amenity under the <i>Crown Land (Reserves) Act 1978</i> , and the <i>Wildlife Act 1975</i>	1986	Grassy, fresh-water wetland with scattered black box. An ibis breeding area.
Two Tree Swamp Wildlife Reserve	167	C11 ^(a)	Deemed reserved for the management of wildlife and preservation of wildlife habitat under the <i>Crown Land (Reserves) Act 1978</i> , and the <i>Wildlife Act 1975</i>	1982	Cane grass wetland. Adjoins One Tree Swamp Nature Conservation Reserve to the south.

Name of Reserve	Area (ha)	LCC rec	Current Reservation Status	Date of creation	Comments (see also information sources provided below)
Wandella Flora and Fauna Reserve	981	G38 ^(c)	Not currently reserved	–	Black box with an understorey of lignum, grasses and herbs and excellent waterbird habitat.
Wanurp Nature Conservation Reserve	120	No LCC rec (land purchase)	Temporarily reserved for the preservation of an area of ecological significance under the <i>Crown Land (Reserves) Act 1978</i>	2003	Purchased through the National Reserve System Program. Management Statement in place (2005). Contains endangered Northern Plains Grasslands and grassy woodlands, rare and threatened flora and known habitat for Bush stone-curlew. (3) (9)
Winlaton Nature Conservation Reserve	91	No LCC rec (land purchase)	Part temporarily reserved for the conservation of an area of natural interest and part reserved for the preservation of an area of ecological significance under the <i>Crown Land (Reserves) Act 1978</i>	2004	Main block purchased through the DSE Conservation Land Purchase Program with addition of small Crown land parcel. Contains Riverine Chenopod Shrubland EVC with a number of rare or threatened flora species. Adjoins land containing native vegetation protected by a conservation covenant. (3)
Yassom Swamp Flora and Fauna Reserve	362	G51 ^(c)	Not currently reserved	–	Important breeding and feeding area for waterbirds and the grassland to the south is growing on red duplex soils of the higher alluvial plains of the Avoca River system. The grasslands are also the habitat of the endangered plains-wanderer.
Quambatook Flora & Fauna Reserve.	67	G33 ^(c)	Not currently reserved	–	

Notes:

Nature Conservation Reserves includes the following reserves: Flora, Flora and Fauna, Nature Conservation, Wildlife Area (no hunting). All Nature Conservation Reserves are managed by Parks Victoria.

Although some of these areas are not formally reserved (i.e. LCC recommendation have not been implemented) or are temporarily reserved as Nature Conservation Reserves, all are managed as if they were so reserved.

LCC recommendations as follows: (a) Murray Valley (1985); (b) North-East (BUM) (1986); (c) Mallee Review (1989).

Source:

(1) Fitzsimons and Ashe (2003)

(2) Fitzsimons et al. (2004)

(3) Fitzsimons et al. (2006)

(4) Robertson & Fitzsimons (2005a)

(5) Robertson & Fitzsimons (2005b)

(6) Robertson & Fitzsimons (2005c)

(7) Robertson & Fitzsimons (2005d)

(8) Robertson & Fitzsimons (2005e)

(9) Robertson & Fitzsimons (2005f)

APPENDIX 11: Natural Features Reserves

Name of Reserve	Area (ha)	LCC/ECC recommendations	Date of creation
NATURAL FEATURES			
Murray River Reserve	16,061	Murray Valley (1985); Mallee Review (1989)	
PUBLIC LAND WATER FRONTAGES			
various public land water frontages	16,708	various	various
BUSHLAND RESERVES			
Barrakee Bushland Reserve	9	I162 Wimmera (1986)	1987
Barwo Bushland Reserve	10	H20 Murray Valley (1985)	1986
Barwo Bushland Reserve	6	H22 Murray Valley (1985)	1986
Bockie Bushland Reserve	5	I16 Mallee Review (1989)	–
Bonegilla Bushland Reserve	6	I97 North-eastern Area (Benalla-Upper Murray) Review (1986)	1987
Bonegilla Station Bushland Reserve	4	I98 North-eastern Area (Benalla-Upper Murray) Review (1986)	1987
Boosey Bushland Reserve	18	H42 Murray Valley (1985), H8 Box-Ironbark Investigation (2001)	1986
Bumbang Bushland Reserve	27	I261 Mallee Review (1989)	2005
Carlyle Bushland Reserve	5	H115 Murray Valley (1985)	1986
Carwarp Natural Features Reserve	6	No LCC Rec	1989
Chiltern West Bushland Reserve	4	H126 Murray Valley (1985)	–
Echuca South Bushland Reserve	28	H12 Murray Valley (1985) (also known as Nanneella Bushland Reserve)	1902
Gunbower Bushland Reserve	7	H4 Murray Valley (1985)	1986
Gunbower Bushland Reserve	9	H5 Murray Valley (1985)	1986
Kaarimba Bushland Reserve	32	H24 Murray Valley (1985)	1986
Kotta (Torrumbarry) Bushland Reserve	19	H9 Murray Valley (1985); proposed Little Kotta Nature Conservation Reserve	
Kotupna Bushland Reserve	4	H21 Murray Valley (1985)	1986
Kotupna Bushland Reserve	3	H23 Murray Valley (1985)	1986
Lockington Public Purposes Reserve	3	H9A Murray Valley Area	2002
Milloo Bushland Reserve	12	H8 Murray Valley (1985) then H8 Box-Ironbark Investigation (2001)	1986
Moirra Bushland Reserve	8	H13 Murray Valley (1985) then H8 Box-Ironbark Investigation (2001)	1986
Moirra Bushland Reserve	1	H14 Murray Valley (1985)	1986
Moirra Bushland Reserve	2	H15 Murray Valley (1985)	1986
Mologa Bushland Reserve	3	H7 Murray Valley (1985)	1986
Murrabit Bushland Reserve	7	H3 Murray Valley (1985)	1986
Mystic Park Bushland Reserve	646	I291 Mallee Review (1989)	1990
Narioka Bushland Reserve	2	H16 Murray Valley (1985)	1986
Ninyeunook Bushland Reserve	8	I205 Mallee Review (1989)	1979
Nyah Bushland Reserve	150	I164 Mallee Review (1989)	1979
Piangil Bushland Reserve	1	I272 Mallee Review (1989)	1990
Quambatook Bushland Reserve	9	D8 Mallee Review (1989)	1979
Rushworth-Colbinabbin rail line Bushland Reserve	4	H114 Box-Ironbark Investigation (2001)	2002
Shepparton Bushland Reserve	4	H48 Murray Valley (1985)	1986
Strathmerton Bushland Reserve	4	H29 Murray Valley (1985), then H8 Box-Ironbark Investigation (2001)	1986

Name of Reserve	Area (ha)	LCC/ECC recommendations	Date of creation
Strathmerton Bushland Reserve	5	H30 Murray Valley (1985), then H8 Box-Ironbark Investigation (2001)	1986
Strathmerton Bushland Reserve	26	H31 Murray Valley (1985), then H8 Box-Ironbark Investigation (2001)	1986
Tallygaroopna Bushland Reserve	7	H25 Murray Valley (1985)	–
Terrapee Bushland Reserve	40	I183 North Central (1981)	1983
Towaninny Bushland Reserve	40	I203 Mallee Review (1989)	1979
Turrumberry North Bushland Reserve	7	H10 Murray Valley (1985)	1986
Undera Bushland Reserve	1	H24 Murray Valley (1985)	1990
Wharparilla Bushland Reserve	2	H11 Murray Valley (1985)	1986
Wodonga Bushland Reserve	5	I95 North-eastern Area (Benalla-Upper Murray) Review (1986)	1987
Wyuna Bushland Reserve	201	H113 Box-Ironbark Investigation (2001)	2002
HIGHWAY PARKS			
Ballendella (Campaspe River) Northern Highway Park	21	L9 Murray Valley (1985)	1986
Runnymede Highway Park	12	L12 North Central (1981), then H137 Box-Ironbark Investigation (2001)	1982
LAKE RESERVES			
Cranes Lake	34	U1 Mallee Review (1989)	
Lake Boort Lake Reserve	597	N2 Murray Valley (1985)	1986
Lake Marmal Lake Reserve	151	N1 Murray Valley (1985)	1986
Lake Meering Lake Reserve	205	T7 Mallee Review (1989)	1990
Lake Moodemere Lake Reserve	265	N3 Murray Valley (1985)	1986
SCENIC RESERVES			
Red Cliffs Scenic Reserve	23	M1 Mallee Review (1989)	1979
Roslynmead Natural Features Reserve	26	G4 Murray Valley (1985)	–
STREAMSIDE RESERVES			
Arcadia Streamside Reserve	143	K17 Murray Valley (1985), then H4 Box-Ironbark Investigation (2001)	1986
Campaspe River Streamside Reserve	20	K3 North Central Study (1981), H4 Box-Ironbark Investigation (2001)	1982
Dargalong Streamside Reserve	1	K48 North Central Study (1981)	1875
Deep Creek Streamside Reserve	5	K7 Murray Valley (1985)	1986
Englishs Bridge Streamside Area	14	H4 Box-Ironbark Investigation (2001)	1979
Eurobin Streamside Reserve	2	D5 North-eastern Victoria Oven Softwood Plantation Zone Special Investigation (1981) but not accepted by Government	–
Goulburn River Streamside Reserve	24	H4 Box-Ironbark Investigation (2001)	–
Goulburn River Streamside Reserve	3	K49 North Central Study (1981), then H4 Box-Ironbark Investigation (2001)	1982
Goulburn River Streamside Reserve	218	K50 North Central Study (1981), then H4 Box-Ironbark Investigation (2001)	1982
Goulburn River, McCoys Bridge Streamside Reserve	135	K6 Murray Valley (1985)	1986
Goulburn River, Yambuna Bridge Streamside Reserve	44	K5 Murray Valley (1985)	1986
Haynammi Streamside Reserve	17	K30 North Central Study (1981), then H4 Box-Ironbark Investigation (2001)	1982
Kergunyah Streamside Reserve	2	K10 North-eastern Area (Benalla-Upper Murray) Review (1986)	1981
Murray River Streamside Reserve	11	K15 Murray Valley (1985), then H4 Box-Ironbark Investigation (2001)	1986
Murray River Streamside Reserve	14	K16 Murray Valley (1985)	1986
Ovens River Streamside Reserve	12	J5 North-eastern 3,4,5 (1977)	1979

Name of Reserve	Area (ha)	LCC/ECC recommendations	Date of creation
Ovens River Streamside Reserve	13	K15 North-eastern Area (Benalla-Upper Murray) Review (1986)	1987
Ovens River Streamside Reserve	11	K16 North-eastern Area (Benalla-Upper Murray) Review (1986)	1987
Oxley Streamside Reserve	1	J4 North-eastern 3,4,5 (1977), then H4 Box-Ironbark Investigation (2001)	1979
Pompapiel Watering Purpose Reserve	17	North Central (1981) (frontage to Bullock Creek)	–
Skeleton Creek Streamside Reserve	100	K8 Murray Valley (1985)	1986
Wahring Streamside Reserve	3	No LCC recommendation	–
various unnamed streamside reserves	219	various	various
WILDLIFE RESERVES (HUNTING ALLOWED)			
Baillieu (Richardsons) Lagoon Wildlife Reserve	191	C15 Murray Valley (1985)	1986
Big Reedy Lagoon Wildlife Reserve	274	C30 Murray Valley (1985)	1986
Cemetery Forest Wildlife Reserve	163	C3 Murray Valley (1985)	1986
Corop Wildlife Reserve	2	H1 Box Ironbark (2001)	
Cullens Lake Wildlife Reserve	749	D25 Mallee Review (1989)	1990
Gaynor Swamp Wildlife Reserve	452	C10 North Central Study (1981)	1982
Great Spectacle, Little Spectacle, Round Lake, Tobacco Lake, Little Lake Meran Wildlife Reserve	150	D32 Mallee Review (1989)	1990
Heywood Lake Wildlife Reserve	567	D18 Mallee Review (1989)	1990
Hird Swamp Wildlife Reserve	449	C10 Murray Valley (1985)	1986
Johnson Swamp Wildlife Reserve	465	C9 Murray Valley (1985)	1986
Kanyapella State Wildlife Reserve	9	No LCC Rec	
Koorangie (The Marshes & Avoca Floodway) Wildlife Reserve	3255	D8 Mallee Review (1989) and D16 Mallee Review (1989) (also known as Koorangie State Game Reserve)	1979
Lake Elizabeth Wildlife Reserve	121	D28 Mallee Review (1989)	1990
Lake Lyndger Wildlife Reserve	332	C2 Murray Valley (1985)	1986
Lake Mannaor Wildlife Reserve	87	D23 Mallee Review (1989)	1990
Lake Murphy Wildlife Reserve	222	D11 Mallee Review (1989)	1979
Lake Tutchewop Wildlife Reserve	515	D24 Mallee Review (1989)	1990
Lake Wandella Wildlife Reserve	62	D30 Mallee Review (1989)	1990
Lake Yando Wildlife Reserve	87	D12 Mallee Review (1989)	1979
Little Lake Charm Wildlife Reserve	61	D26 Mallee Review (1989)	1990
Mansfield Swamp Wildlife Reserve	490	C13 North Central Study (1981)	1982
McDonald Swamp Wildlife Reserve	215	C7 Murray Valley (1985)	1986
Mooroopna Sand Reserve	3	C12 Murray Valley (1985) (to be added to Gemmels Swamp)	
Murchison Lagoon Wildlife Reserve	6	C18 North Central Study (1981), then H1 Box-Ironbark Investigation (2001)	1982
Murphy Swamp Wildlife Reserve	85	C16 Murray Valley (1985)	1986
Reedy Swamp Wildlife Reserve	263	C18 Murray Valley (1985)	1986
Stevenson Swamp Wildlife Reserve	93	D10 Mallee Review (1989)	1979
Tang Tang Swamp Wildlife Reserve	129	C9 North Central Study (1981)	1982
The Meadows Wildlife Reserve	50	C13 Murray Valley (1985)	1986
Thunder Swamp Wildlife Reserve	90	C8 North Central Study (1981)	1982
Two Mile Swamp Wildlife Reserve	134	C5 Murray Valley (1985)	1986
Wallenjoe Swamp Wildlife Reserve	425	C12 North Central Study (1981)	1982
Westblades Swamp Wildlife Reserve	70	C6 Murray Valley (1985)	1986
Woolshed Swamp (Boort) Wildlife Reserve	472	C1 Murray Valley (1985)	1986

APPENDIX 12: Sites of Geological and Geomorphological Significance in and near the study area

Note: site numbering follows the conventions of GSA Heritage subcommittee- Mapsheets: BD Balranald and Deniliquin; BN Bendigo; SH Swan Hill; SR St Arnaud; MD Mildura; TL Tallangatta; and WN Wangaratta including part of Jerilderie.

Site Number	Site Name and Location	Site Number	Site Name and Location
INTERNATIONAL SIGNIFICANCE			
BN 079	Murchison Meteorite fall site, Murchison East	MD 011	Kings Billabong and the floodplain between Butlers and Psyche Bends
MD 009	Raak Plain boinka, 16 km NW of Hattah	MD 018	Olney Bore Eocene to Miocene Olney Formation type-section, SW of Pollard Island.
SH 002	Lake Boga granite quarry mineral type locality, Lake Boga	MD 019	Wallpolla Island and Creek anabranch and floodplain, W of Mildura
NATIONAL SIGNIFICANCE		MD 022	Cowanna Bend neck meander and potential avulsion site, Redgrove
BD 001	Kow Swamp lake and lunette, 3 km S of Leitchville	SH 006	Kerang ground-water discharge area, Kerang to Lake Boga
BD 003	Barmah forest alluvial fan and anabranch network, Barmah forest	TL 139	Tawonga Fault, Kiewa Valley Highway
BN 053	Bama-Goulburn drainage complex, Murray / Goulburn confluence area, Echuca	WN 042	Wodonga quarry outwash fans, 6 km W of Huon Hill
MD 001	Hattah Lakes overflow land and anabranch system, Hattah	REGIONAL SIGNIFICANCE	
MD 007	Lindsay Island floodplain, scroll bars, active and abandoned channel complex, 15 km N of Meringur North	BD 002	Murray River cliffs, Robinvale, between Wemen Cliffs and Euston Lock
STATE SIGNIFICANCE		BD 003.3	Old Barmah palaeolake area, Barmah forest
BD 003.4	Moira and Barmah Lakes digitate delta and silt jetty, Barmah forest	BD 003.5	Barmah forest Grass Plains (Long Plain, Duck Hole Plain, Hut Lake Grass Plain, War Plain, and Top Lake)
BD 003.7	Barmah Choke River Murray constriction, Picnic Point to Barmah	BD 003.8	Buck's Ridge sand hill, Barmah forest
BD 006	Ulupna Creek and Ulupna Island floodplain complex, N of Strathmerton	BD 004	Gunbower Island and Creek, Koondrook to Gunbower
BD 009	Bumbang Bend recent meander cut-off (avulsion), Robinvale	BD 004.3	Little Reedy Lagoon plains area, Gunbower
BD 013	Wakool Junction abandoned channels and plains, near Kenley	BD 005	Gunbower Reach of the Murray River, Kate Malone's Bend
BN 052	Palaeolake Kanyapella area, E of Echuca Village	BD 006.3	Paddy Hennessy's Cutting, Ulupna Island
BN 053.3	Murray and Goulburn rivers confluence area, Echuca	BD 007	Murray and Murrumbidgee rivers confluence, near Narrung
BN 057	Cadell Fault southern trace, Kanyapella South	BD 010	River Murray floodplain accretion, Belsar Island, ~15 km SE of Robinvale
BN 081	Lake Cooper quarry mineral locality, Colbinabbin	BD 012	Haywood Lake, 11 km SE of Boundary Bend
BN 086	Shepparton Formation type-section, Kialla West	BD014	Murray River channel and concave beach, Boundary Bend
MD 007.2	Websters Lagoon and Websters Island Reference Area disrupted drainage and scroll plain	BN 006	Rochester Shire quarry, Rochester
		BN 052.2	Bama Sandhill, ~16 km E of Echuca.
		BN 053.1	Barmah palaeochannel complex, Barmah forest

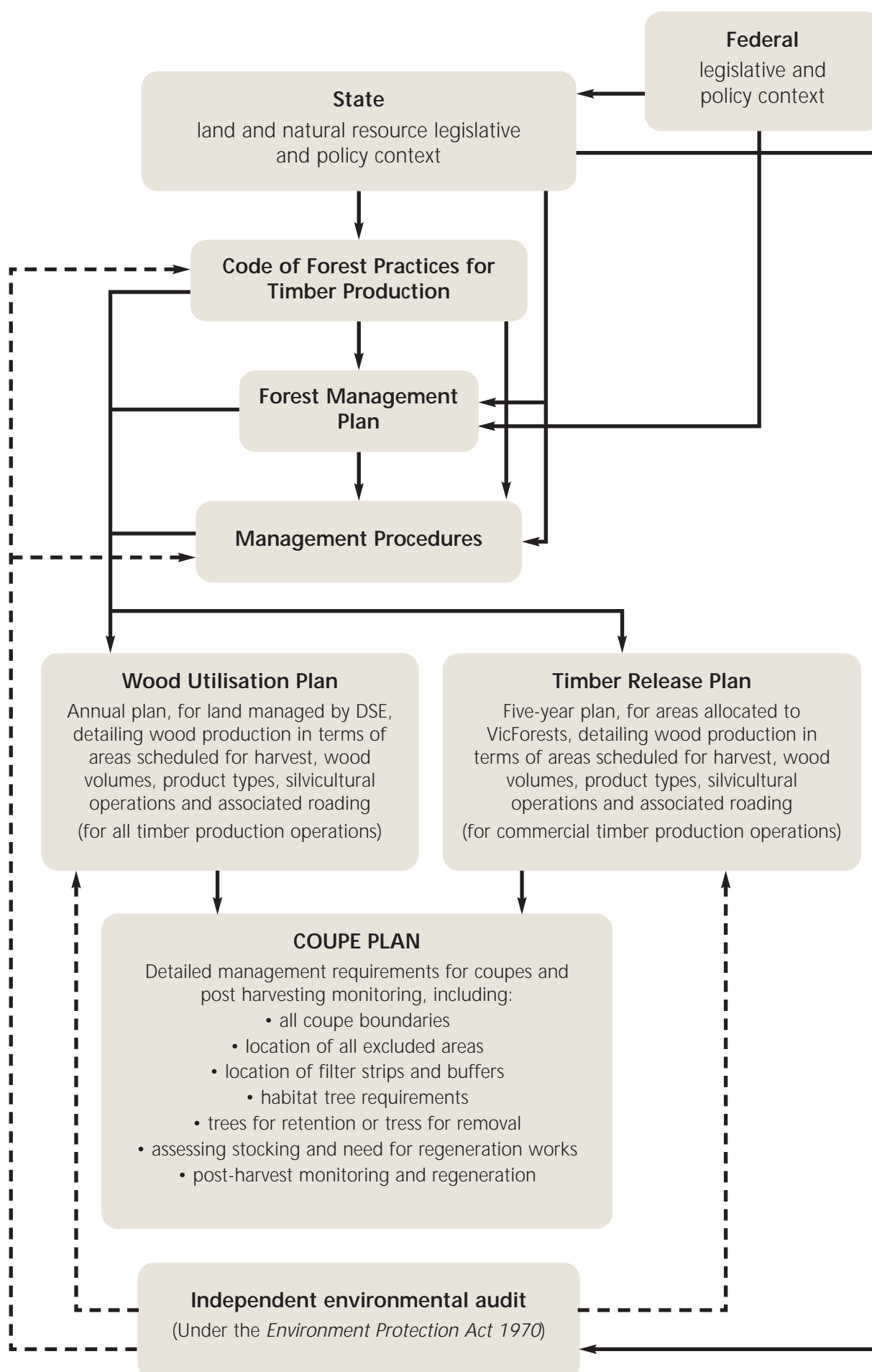
Site Number	Site Name and Location
BN 054	Kotupna gravel pit, Kotupna
BN 060	Lake Cooper and lunettes, E of the Heathcote
BN 074	Mt. Terrick Terrick, Mitiamo
MD 001.1	Chalka Creek, Yerring Crossing
MD 001.2	Red sand dune, Yerring Track
MD 004	Boundary Point, near state borders between SA, NSW and Victoria
MD 005	Merbein Cliffs, River Murray, Merbein
MD 006	Red Cliffs Murray River, Red Cliffs
MD 007.1	Mullaroo Ck, and floodplain south of the Creek
MD 011.1	Psyche Bend, Murray River
MD 012	Nangiloc cliffs Murray River, at Nangiloc
MD 015	Lake Wallawalla and lunette, 14 km W of Neds Corner homestead
MD 019.1	grass plain
MD 021	Yelta cliff exposures, Yelta
MD 024	Patterwallkagee Creek, Neds Corner Homestead
SH 003	Lake Tutchewop, Lake Charm
SH 005	Lake Boga and lunette, Lake Boga
SH 006.10	Kangaroo Lake and 3 lunettes, Lake Charm
SH 006.12	Lake Wandella and lunettes, Lake Charm
SH 006.7	Lake Bael Bael and lunette, Lake Charm
SH 013	Meering Lake (Meran Lake) and associated lakes and lunettes, 13 km SW of Kerang
SH 014	Tragowel Swamp, Two Mile Swamp, Kerang
SH 015	Avoca River terminus area, Lalbert-Kerang Road, Kerang
SH 016	Tyntynder palaeolake, Tyntynder
SH 016.1	Tyntynder choke, Vinifera
SR 001	Gredgwin Ridge quarry, 7 km south of Boort
SR 013.1	Tyrrell Marsh, Nineunook
SR 027	Loddon River tributary channel system, Serpentine to Kerang
SR 030	Parilla Sand exposure in Woollen Rises quarry, Narrewillock
SR 031	Barrakee Creek - Lake Marmal terminal system, Boort-Charlton road, NE of Charlton
SR 032	Boral hornfels quarry, 5 km E of Charlton

Site Number	Site Name and Location
TL 058	Hume Weir quarry and racing circuit, 2.5 km SE of Bonegilla
TL 059	Yackandandah Granite and Rubyview Gneiss exposures, Kookaburra Point, near Bonegilla
WN 002	Yackandandah and Mudgegonga granites and metamorphic aureole- crescentic valley and pinnacles, 11 km SE of Myrtleford
WN 005	Mitta Junction red clay dune/ ridge landform, Bonegilla
WN 026	Ordovician-Silurian Barnawartha Gneissic Granodiorite and pegmatite dykes, Huon Hill De Kerilleau Quarry, Wodonga
WN 063	Shepparton Formation Dongawarra Terrace landform, Bonegilla
WN 073	Oxley Flats avulsion channel, Tea Gardens Creek
WN 076	Buckland River and terraces, Buffalo River
WN 076.1	Buffalo River incision and Palaeozoic exposures, Osborne's Bridge,
WN 077	Confluence Ovens and King rivers, Wangaratta
WN 078	Boorhaman East 1 bore, 21 km N of Wangaratta
WN 079	Confluence Ovens- Murray rivers, Brimin
WN 081	Golf Course Bend, 4.5 km S of Corowa
WN 082	Source-bordering dunes Cobram to Cobram East
WN 082.1	Source-bordering dune, Dick's Bend, east Cobram
WN 084	Ovens River floodplain, NW of Wangaratta
WN 085	Yarrowonga Reach River Murray and floodplain, Bruce's Bend.
WN 087	Upstream Ulupna Creek, junction River Murray, Eastern end of Ulupna Island (part of BD 006)
WN 088	Horseshoe Lagoon, Ulupna Island (see BD 006)
LOCAL SIGNIFICANCE	
BD 001.1	Mt. Hope Creek, 4 km S of Leitchville
BD 001.2	Bullock Creek palaeo-drainage, 5 km S of Leitchville
BD 002.1	Happy Valley cliffs, Robinvale
BD 002.2	Euston Lock 15 cliffs, Robinvale
BD 002.3	Wemen cliffs, Wemen
BD 003.1	Tullah Creek, Double Crossing
BD 003.2	Barmah Borrow Pit, Barmah

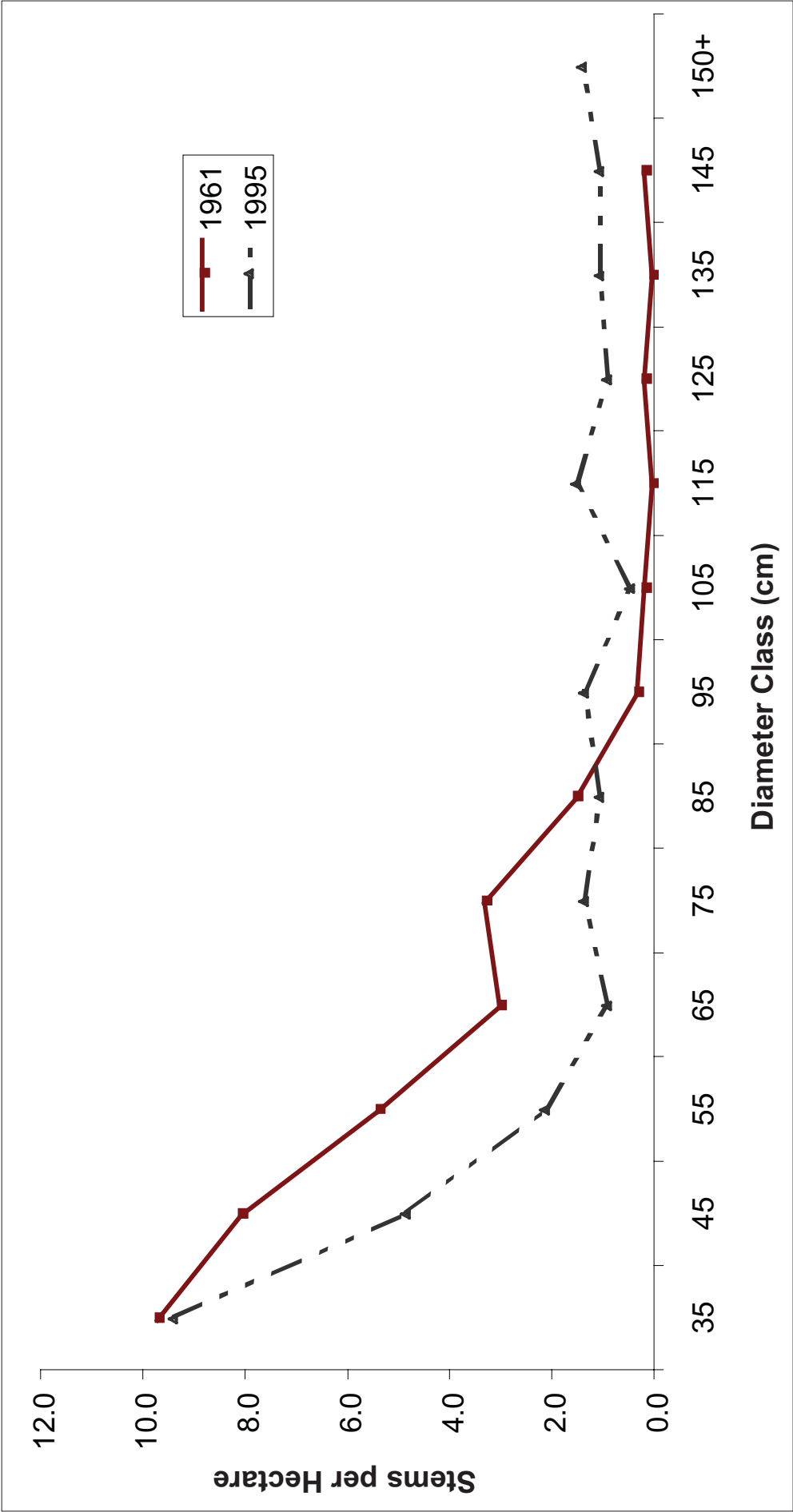
Site Number	Site Name and Location
BD 003.6	Punt Paddock Lagoon
BD 004.1	Reedy Lagoon, Gunbower
BD 004.2	Sandpit, Near the Spence Bridge Scout Camp
BD 006.1	Dead River Lagoon, Ulupna Island
BD 006.2	'The Junction', the downstream end of Ulupna Creek, Ulupna Island
BD 008	Haysdale palaeolake, Haysdale
BD 011	Narrung Bend, Narrung
BN 040	Goulburn Weir, Nagambie
BN 044	Reedy Lake, Nagambie
BN 051	Barmah sand pit, Barmah
BN 052.1	Kanyapella lake sediment, Echuca
BN 053.2	Goulburn River and lake sediments, Echuca
BN 055	Tallygaroopna Prior Stream, Tallygaroopna
BN 056	Little Lake Kanyapella and lunette, ~13 km E of Echuca
BN 056.1	Kanyapella prior stream, E of Echuca
BN 059	Goulburn River floodplain at McCoys Bridge, ~ 4 km SW of Kotupna
BN 083	Goulburn River ancestral point bars, N of Shepparton
BN 084	Loch Garry, Bunbartha
BN 085	Ancestral River Point Bars, near Yambuna
MD 010	Karadoc Swamp and lunette, ~10 km east of Yatpool
MD 013	Berribee Tank dry lake and lunette, Berribee Tank
MD 014	Horseshoe Bend and lagoon, Merbein
MD 016	Lake Hawthorn, Lake Ranfurley, Mildura
MD 017	Lake Iraak and lunette, Iraak
MD 023	Lake Cullulleraine, Lake Cullulleraine
SH 005.1	Round Lake and lunette, Lake Boga
SH 005.2	Long Lake and lunette, Lake Boga
SH 006.1	Pelican Lake and lunette, Lake Charm
SH 006.11	Third Lake and lunette, Lake Charm
SH 006.2	Reedy Lake and lunette, Lake Charm
SH 006.3	Lake Elizabeth and lunette, Lake Charm
SH 006.4	Duck Lake and lunette, Lake Charm
SH 006.5	Lake Cullen and lunette, Lake Charm
SH 006.6	The Marsh and lunette, Lake Charm
SH 006.8	Middle Lake and lunettes, Lake Charm
SH 006.9	Lake Charm and lunette, Lake Charm
SH 012	Foster Swamp, Nine-Mile Creek

Site Number	Site Name and Location
SH 016.2	River bank exposure, Tyntynder Central
SH 017	Little Murray River, Near Lake Boga
SR 013	Avoca River mid-system floodout, Glenloth Road / Avoca River bridge
SR 026	Boort lake and lunette system, Boort
WN 013	Pliocene gravel beds exposure in railway cutting, Bonegilla
WN 076.2	Pool-and-riffle stream forms at McGuffie's Bridge, Buffalo River
WN 082.2	Source-bordering dune landform, E of Cobram
WN 082.3	Source-bordering dune landform, ~5 km S of Tocumwal
WN 083	King River lagoonal floodplain, Wangaratta
WN 086	Torgannah Lagoon, Mays Bridge

APPENDIX 13: Planning hierarchy for timber harvesting in Victorian state forests



APPENDIX 14: Tree diameter distribution in Barmah forest



Source: DNRE (2002a)

Note: Diameter-class distribution of merchantable and potentially merchantable stems showing the increase over time of the number of larger trees in the forest and a reduction in the number of trees in the smaller size-classes.

APPENDIX 15: River red gum log grades

Three grades of river red gum log are applied, determined by size (diameter and length) and the amount of defect. Where the proportion of defect exceeds the maximum allowable, the log is consigned to a lower grade; the allowable proportion of defect increasing with the size of the log.

Red gum sawlog (RGSA)

Logs from which a higher proportion of the highest-quality timber can be expected.

Minimum dimensions:

- 40 cm small-end diameter
- 2.1 m length.

Allowable defect:

- 25% for RGSA with a centre diameter underbark less than or equal to 45 cm.
- 30% for RGSA with a CDUB greater than 45 cm.

Allowable sweep:

The maximum allowable sweep is 1/5 of the centre diameter underbark, measured over a minimum 2.1 m of log length.

Red gum standard log (RGSB)

Logs that are expected to produce mostly landscape and utility grade timbers, although some railway sleepers and high-quality timber may be produced.

Minimum dimensions:

- 30 cm small-end diameter
- 2.1 m length

Allowable defect:

- 20% for RGSB with a centre diameter underbark less than or equal to 35 cm
- 35% for RGSB with a centre diameter underbark between 36 cm and 50 cm (inclusive)
- 50% for RGSB with a centre diameter underbark greater than 50 cm.

Allowable sweep:

The maximum allowable sweep is 1/5 of the centre diameter underbark, measured over a minimum 2.1 m of log length.

Red gum residual log (RGRL)

Logs that are not expected to produce sawn timber, but will produce fuel wood. The purchaser, however, may be able to extract some sawn material, depending on how it is processed.

Minimum dimensions:

- 10 cm small-end diameter
- 1.8 m length.

Allowable defect and sweep:

No minimum is specified for defect or sweep.

Source: DSE (2005f)

APPENDIX 16: Timber productivity related to water and forest management strategies

	Timber Productivity (m3/ha/yr)					
	Scenario 1: current forest management, stand structure, environmental prescriptions		Scenario 2: timber production as primary aim but full cognisance of active water management, silviculture treatment and environmental prescriptions and conservation areas		Scenario 3: timber production as primary aim	
Present Flood Frequency	sawlogs	other products	sawlogs	other products	sawlogs	other products
10 years out of 10	1.48	1.10	2.12	1.57	2.50	1.85
7–8 years out of 10	0.78	0.57	1.35	1.00	1.87	1.39
4–5 years out of 10	0.22	0.16	0.43	0.32	0.75	0.56
≤2 years out of 10	negligible to negative		0.04	0.02	0.15	0.11

Source: Maunsell Australia Pty Ltd (2003)

Timber productivity averaged for all river red gum site qualities (SQ I, SQ II & SQ III) in the Barmah Forest under various forest and water management strategies.

Explanatory notes

Values are for timber productivity averaged across all site qualities for each forest management scenario under present/predicted and managed flood frequencies.

Level of management input:

1. Present forest management for timber production under present stand structure, current environmental prescriptions, forest flooding and water management policy.
2. Forest management in zones specified for sustainable timber production as a primary aim and in full cognisance of:
 - active water management in accordance with the Murray-Darling Basin Commission's approved Water Management Strategy for the Barmah-Millewa Forest
 - silvicultural treatment facilitating full stocking and subsequent progressive selective thinning over the rotation
 - environmental prescriptions that meet the Code of Forest Practice and ensure a high level of flora and fauna conservation
 - forest management takes account of significant areas set aside where environmental conservation is the primary aim to the exclusion of timber production.
3. Forest management for sustainable timber production as the primary aim.

Flood frequency:

10 years out of 10 – annual flooding.

Except in severe drought years, annual flooding may occur on small sections of forest, wetlands and low-lying plains fed from major flood runners via on-river regulators. These areas flood at low river flows below Yarrawonga/Tocumwal (6500–15,000 ML/day) and are the areas generally most prone to unseasonable flooding, particularly as a result of rain rejections in summer and early autumn.

7–8 years out of 10 – pre-river regulation flood frequency (1891–1934)

Only on very rare occasions were there three consecutive years without a flood and few occasions, usually widely spaced, when there were two consecutive years without some flooding over 75–80% of the forest and wetlands. Consequently, the forest did not experience severe cumulative drought stress. This situation is reflected in forest productivity described by Jacobs (1955).

4–5 years out of 10 - present flood frequency on 25–50% of the forest and wetlands as a result of actual Murray River flows below Yarrawonga/Tocumwal since 1955.

Cumulative drought stress results in a cessation of growth and recovery to pre-stressed levels takes several seasons. Flood duration, apart from 2–3 years each decade, is often less (up to 2 months) than that under natural (pre-regulation) flooding conditions. The shorter duration of flooding and season of flooding are considerably less than optimal for many biological processes including tree growth and overall vitality for flora and fauna (viz: moira grass, frogs and water bird breeding).

Equal to or less than 2 years out of 10 – present/predicted flood frequencies on up to 75% of the forest area as a consequence of MDBC and NSW and Victoria state land and water management policy decisions.

Tree vitality and growth are very significantly reduced. Cumulative drought stress is much more evident particularly as the frequency of two or more consecutive years without a flood is a regular occurrence. Biological activity, including tree growth, is also more dependent on general seasonal conditions and duration of any flooding. As rainfall decreases from east (700 mm per annum) to west (less than 200 mm), the lack of flooding results in severe cumulative drought stress as evidenced by recent surveys (Brett Lane & Associates Pty Ltd 2005).