

LATHAM DISTRICT PARK, ACT

FLORA AND FAUNA SURVEY
AND RECOMMENDATIONS FOR MANAGEMENT
AND ECOLOGICAL ENHANCEMENT

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LATHAM DISTRICT PARK

This park contains a tree-lined creek carrying suburban run-off, and sloping grasslands which have been planted with native trees and shrubs. It is extensively used by children for play in built and semi-natural areas, and by adults for walking, jogging, cycling and dog-walking.

The park was visited in May, June and July 1992. Brief surveys of the flora and fauna of the park were carried out mainly in July. Ms Sarah Sharpe of the University of Canberra carried out a brief inspection of some of the grassed areas of the park in January 1992, and has kindly made available her plant species lists for those areas.

VEGETATION

The vegetation of this area and its surroundings has been modified for a long time and by many different uses and influences. The original vegetation was possibly a Red Box/Yellow Box Eucalyptus polyanthemos/E. melliodora woodland with a sparse shrub understorey over grasses and herbs, and creek line vegetation of shrubs and rushes. Very little of the tree and shrub layer remains, but a variety of native herbs and grasses are present among the planted and self-sown native and exotic trees and shrubs and the pasture weeds.

Ridge Areas

The ridge areas around the periphery of the park generally have a mix of native and introduced grasses and weeds, and in parts have been planted with a mixture of native trees and shrubs (local and non-local), mainly eucalypts and acacias. The southern side of the creek has been mowed, planted and mulched more intensively than the northern side, especially near the cycle path.

The main native grasses and herbs seen in the higher areas were:

Stipa bigeniculata
Stipa falcata
Themeda triandra
Bothriochloa macra
Helichrysum apiculatum
Vittadinia triloba
Vittadinia muelleri
Cheilanthes tenuifolia

Tall Spear Grass
Slender Spear Grass
Kangaroo Grass
Redleg Grass
Yellow Buttons
Fuzzweed
New Holland Daisy
Rock Fern

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These native species are dominated and in many places completely replaced by introduced species of pasture grasses and weeds, especially:

Phalaris aquatica
Paspalum dilatatum
Dactylis glomerata
Avena fatua
Hypochoeris radicata
Plantago lanceolata
Tragopogon sp.
Hirschfeldia incana
Trifolium sp.

Phalaris
Paspalum
Cocksfoot
Wild Oats
Flatweed
Ribwort Plantain
Salsify
Hoary Mustard
Clover (burnt areas)

Rocky Outcrops

Several of these sites occur in the park (see map), and three were examined.

The rocky outcrop adjacent to the creek and above the footbridge, near the sewer pipe crossing, contains a number of interesting plant species which suggest that it might have overhung a fairly wet gully. Like much of the rest of the site there are also many weed species, especially Sweetbriar Rosa rubiginosa and Hawthorn Crataegus monogyna, and an Ivy Hedera sp. is growing under the bridge. Silver Wattle Acacia dealbata occurs here and elsewhere in the park.

The Native Raspberry Rubus triphyllus, usually associated with forested gullies, is common on this outcrop. On the shallowly sloping northern side of the outcrop Prickly Starwort Stellaria pungens is growing. This is a common plant in gullies and shaded grassland, but was not seen elsewhere in the park. On the steep southeastern side of the outcrop near the boardwalk there are five species of ferns, as well as liverworts and a variety of lichens:

Pleurosorus rutifolius
Adiantum aethiopicum
Asplenium flabellifolium
?Pellaea falcata
Cheilanthes sp.

Blanket Fern
Maidenhair Fern
Necklace Fern
Sickle Fern
Rock Fern

The continuation of this outcrop on the southern side of the creek (under the sewer pipe) contains a number of native species more typical of an open woodland habitat:

Themeda triandra
Enneapogon nigricans
Danthonia sp.
Sporobolus elongatus
Dianella revoluta
Lomandra longifolia
Dodonaea viscosa
Cryptandra amara
Vittadinia triloba

Kangaroo Grass
Niggerheads
Wallaby Grass
Rat's-tail Grass
Flax Lily
Matrush
Hop Bush
(heath-like shrub)
Fuzzweed

3/ This area is being invaded by garden plants such as Firethorn Pyracantha and Cotoneaster.

Another rocky outcrop in the northeast part of the park shows some of the original dry ridge vegetation. This outcrop is near the cycle path and houses, and is edged by plantings of eucalypts, acacias etc. Introduced Sweetbriar is present, and there are few small rocks, suggesting that there may have been some rock removal. Some of the original plants present among the rocks are:

Themeda triandra
Stipa bigeniculata
Stipa falcata
Lomandra longifolia
Acacia implexa
Acacia mearnsii
Helichrysum apiculatum
Cheilanthes tenuifolia

Kangaroo Grass
Tall Spear Grass
Slender Spear Grass
Matrush
Hickory Wattle
Black Wattle
Yellow Buttons
Rock Fern

Another rocky area in the northeastern part of the park under the electricity pylon on the northern side of the creek is considerably more disturbed, with many introduced grasses, other weeds and displaced rocks.

Slopes

These areas are mostly grassed, with some planted and weedy shrubs. Much of the cover is of introduced grasses and weeds, especially along the drainage lines where Phalaris and Paspalum predominate. Other major weeds are as noted for the ridge areas. There are some areas where native species predominate, being remnants of Themeda/Stipa grasslands, or the understorey of open woodland. Some of these are marked on the map, but the whole park should be mapped at a more suitable time of the year (spring/summer) to determine the extent and location of these remnants.

The largest and least disturbed of these native grass areas is in the southwest corner of the park. The dominant species is Themeda triandra Kangaroo Grass, and other species noted include:

Stipa falcata
Stipa bigeniculata
Aristida vagans

Slender Spear Grass
Tall Spear Grass
Three-awned Spear Grass

Panicum effusum
Enneapogon nigricans
Bothriochloa macra
Tricoryne elatior
Cryptandra amara
Wahlenbergia communis
Convolvulus erubescens
Desmodium varians
Eryngium rostratum
Helichrysum apiculatum
Vittadinia triloba

Hairy Panic Grass
Niggerheads
Redleg Grass
Yellow Rush Lily
(heath-like shrub)
Native Bluebell
Aust. Bindweed
Slender Tick Trefoil
Blue Devil
Yellow Buttons
Fuzzweed

Creekline Vegetation

The creek is dominated by two species of willow, mainly Crack Willow Salix fragilis and some Weeping Willow Salix babylonica. Their dense growth has probably shaded out most other vegetation. Many River She-oaks Casuarina cunninghamiana have been planted near the creek over a number of years. This species was probably not originally present along this creek, as it is usually found along major creeks and rivers where alluvial sand occurs. The original verge vegetation may have been Bottlebrush Callistemon and Tea-tree Leptospermum shrubs, perhaps interspersed with reeds, rushes and sedges.

There are about five specimens of Swamp Bottlebrush Callistemon paludosus in two rocky sections of the creek (see map). One of these almost certainly predates the suburban development, being about 6 metres long (prostrate near the water) and having a thick trunk.

Bulrush Typha orientalis, Common Reed Phragmites australis, Sedges Cyperus spp. and Rushes Juncus spp. occur along the creek, especially in clearings between the willows.

There are many species of weeds in the creek area, some of them garden escapes. They include Ivy, Privet, Violets, Firethorn, Cotoneaster, Hawthorn, fruit trees and Purple-top Verbena bonariensis. The low-lying areas near the creek have dense growths of Phalaris and Paspalum.

Swamp Vegetation

The two swamp areas have been created in the drainage lines which carry stormwater from the suburban areas north of the park. They are quite small, but have been fairly successfully planted with mainly local species of aquatic plants and riparian vegetation (rushes, spike-rushes and sedges). They are surrounded by Phalaris and Paspalum, and plantings of native shrubs and trees which tolerate damp conditions, such as River She-oak Casuarina cunninghamiana, River Red Gum Eucalyptus camaldulensis and Black Sally E. stellulata.

FAUNA

Mammals

The only native mammal observed on the site was the Yellow-bellied Water Rat (Beaver Rat) Hydromys chrysogaster. This animal is well-adapted to aquatic life, with partially-webbed hindfeet and thick water-repellent fur. It is large (head and body 300mm, tail 275mm), and has a pale or yellow belly and a thick, well-furred tail with a white tip. It was seen foraging in the water near the creek-side boardwalk (near the sewer

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line crossing), and footprints were seen on the bank in this area. These animals are known to occur in Lake Ginninderra and Lake Burley Griffin, but it is a little surprising to find that they can survive in the lower quality water and highly variable flow conditions associated with Ginninderra Creek in this area, and in such close proximity to domestic cats.

No other native mammals would be expected on the site, due to its disturbed nature, suburban surroundings and lack of shelter for animals such as bats and possums.

A House Mouse Mus musculus was found under a rock in the northeast part of the park, and probable nests of others were found elsewhere. A domestic cat was seen hunting in the park near Denny Street at dusk one day, and a large number of dogs (supervised and unsupervised) use the park.

Birds

23 species of birds were observed during visits to the park, 21 of them native. Many more species could be expected to be present during the warmer months of the year.

Some old nests were observed, mainly in leafless Hawthorn shrubs, and were likely to be those of wrens, finches, thornbills and fantails. Ground-nesting birds would probably be unsuccessful due to the dogs and cats which use the area, and there would appear to be few opportunities for hollow-nesting species such as parrots, owls and Kookaburras. The creek flow is too variable and verge vegetation too sparse to offer nesting habitat for waterbirds. Magpies may nest in the willows, and some of the older eucalypts and acacias are probably used by honeyeaters and smaller birds for nesting.

The variety of species observed even in the middle of winter is due to the range of habitats represented in the park. Some of the birds such as the Little Pied Cormorant, Black Duck and White-faced Heron are closely associated with the creek, and many species probably use the creek and willow cover as a corridor for moving about the district. Some species are more typical of grassland and woodland habitats, such as the Banded Finch, Yellow-tailed Thornbill, Flame Robin and Red-rumped Parrot. The White-browed Scrub-wren and the Blackbird favour dense undergrowth, while the Red Wattlebird and Grey Fantail are locally common in open forest habitats.

Birds observed in Latham District Park, May-July 1992:

Little Pied Cormorant	<u>Phalacrocorax melanorhamphos</u>
White-faced Heron	<u>Ardea novaehollandiae</u>
Pacific Black Duck	<u>Anas superciliosa</u>
Brown Goshawk	<u>Accipiter fasciatus</u>
Galah	<u>Cacatua roseicapilla</u>
Crimson Rosella	<u>Platycercus elegans</u>
Red-rumped Parrot	<u>Psephotus haematonotus</u>
Kookaburra	<u>Dacelo gigas</u>
Welcome Swallow	<u>Hirundo neoxena</u>
Black-faced Cuckoo-shrike	<u>Coracina novaehollandiae</u>
Blackbird	<u>Turdus merula</u>
Yellow-tailed Thornbill	<u>Acanthiza chrysorrhoa</u>
White-browed Scrub-wren	<u>Sericornis frontalis</u>
Superb Fairy-wren	<u>Malurus cyaneus</u>
Flame Robin	<u>Petroica phoenicea</u>
Grey Fantail	<u>Rhipidura fuliginosa</u>
White-plumed Honeyeater	<u>Meliphaga penicillata</u>
Red Wattlebird	<u>Anthochaera carunculata</u>
Banded Finch	<u>Poephila bichenovii</u>
Common Starling	<u>Sturnus vulgaris</u>
Australian Magpie	<u>Gymnorhina tibicen</u>
Pied Currawong	<u>Strepera graculina</u>
Australian Raven	<u>Corvus coronoides</u>

Reptiles

About 50 rocks were turned in the search for reptiles, but none were found. There were not many rocks small enough for one person to turn, probably due to rock removal by gardeners, and any reptiles present at this time of year may well be in deeper shelters than those examined. Any reptile populations could be expected to suffer from the general levels of disturbance in this park, especially rock rolling by children, mowing and slashing, and the depredations of domestic cats. The rocky outcrop near the sewer line is probably the best potential reptile habitat in the park, as it is protected by a prickly growth of Native Raspberry, its steepness near the creek, and is on the opposite side of the creek from the nearest houses.

The skink Ctenotus uber orientalis, which has a restricted and discontinuous distribution in the Southern Highlands, was recorded near Ginninderra Creek in nearby MacGregor in 1974 (Jenkins & Bartell 1980), but it is doubtful whether this species would have survived the encroachment of suburbia.

Christinus marmoratus (marbled gecko) in Macgregor
(in mulch pile Campston Place April 2006)

Frogs

Frogs were heard calling from many areas on the creek verge and drainage lines. The calls heard were those of the Spotted Grass Frog Limnodynastes tasmaniensis, which is very common in the district and tends to call throughout the year. Rocks and litter were searched for frogs. Only one specimen was found, an adult Froglet, probably Crinia signifera. A local resident is of the opinion that frogs are less common in the park now than they were ten or twelve years ago, when they were seen in large numbers on the cycle path on wet evenings (C. Watson, pers. comm.).

The uncommon burrowing Meeowing Frog Neobatrachus sudelli has been recorded from the nearby MacGregor Hill, and is considered likely to use the Ginninderra Creek habitat (Shorthouse 1984).

MANAGEMENT AND HABITAT ENHANCEMENT

Ridges and Slopes

Most of the original plant species which remain on the site are grassland species, which are sometimes overlooked in landscape management plans. It would be desirable to manage the open areas in a way which ensured the continued survival of the native grasses and herbs present. I believe that the Department has produced a document of management guidelines for native grasslands. One recommendation for maintenance of Themeda is to mow in March/April only, to remove spent flower heads, at a height of about 100-200mm, and to rejuvenate the sward by firing occasionally in winter (not more frequently than once every three years) (Lodder 1991).

In particular, the grassland site in the southwest offers a very accessible example of the main grassland species present in the Canberra area before it was modified by grazing and pasture improvement. This area could be incorporated into student field trips, with explanations of how grasses such as Themeda are vulnerable to grazing, and how native species are out-competed by introduced grasses (as seen in other areas of the park) when fertilizers are applied to the poor soils to which the natives are adapted.

Phalaris has taken over in many areas, and efforts should be made to ensure that aggressive introduced grasses such as this are not used in stabilising and replanting. Future planting of trees and shrubs should be planned to avoid the most intact areas of native grassland.

As the park is already fairly disturbed, there is no reason to restrict tree and shrub plantings to local species only. A variety of native species could be used, with an emphasis on those species best ecologically suited to the different parts of the site, and providing a variety of flowers, fruits and shelter/roosting/nesting sites for birds. If the introduced shrub species are to be removed, it should be remembered that some (e.g. Hawthorn, Sweetbriar) are providing good protected nest sites for small birds, and winter food for parrots. Native species chosen should therefore offer adequate replacements for these functions, such as clumps of prickly acacias, Blackthorn Bursaria spinosa, and flowering eucalypts.

Retaining some open areas is also important for some of the birds, such as the Banded Finches, which are not very common in the Canberra environs.

Rocky Outcrops

These areas should be managed with particular care, as they still have some original vegetation, and have already been subjected to some inappropriate plantings.

The wetter outcrop near the sewer line crossing offers a very good example of how slope, aspect and rocks can provide a distinct microhabitat which is very different from the surrounding area, with ferns and Native Raspberry, and White-browed Scrubwrens. This outcrop also has the advantage of being visually accessible from the boardwalk, while being somewhat protected from further disturbance by the prickly plants and its steepness. It is important that any weeding of this site is carried out very carefully. Staff must be made aware that the Native Raspberry Rubus triphyllus is present and desirable, and not to be confused with the somewhat similar introduced Blackberry Rubus fruticosus. Acacia rubida and other shrubs have been planted on this site. Any further plantings should be of more appropriate species, and it should be borne in mind that what is appropriate changes very rapidly across this small site. Appropriate species could be chosen by comparison with a similar microhabitat in the district, and should be used to replace the introduced shrubs such as Sweetbriar if these are to be progressively removed.

The Ivy Hedera sp. which is growing under the footbridge should be removed, as it could spread and smother the fern habitat.

The rocky outcrop in the northeast of the park contains a number of species typical of dry rocky ridges in the ACT (see list above). Management of this area should not include any further planting of out-of-area species, or local species not associated with this habitat type. The Sweetbriar should be removed from this site.

The Creekline

The creek does not currently present much richness or variation in habitats due to the dominance of the willows Salix spp. These trees do have some ecological value, in that they are the largest trees in the park, providing cover and nesting sites, and stabilising the creek banks. As noted above, River She-oak Casuarina cunninghamiana probably did not originally occur on this watercourse, but the plantings appear to be very successful. These trees offer an opportunity to explain how this valuable riverine species can be lost by clearing, and its re-establishment prevented by grazing of the seedlings. It is however not necessary or desirable to replace the virtual monoculture of willows here with a monoculture of casuarinas.

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It can be seen that where there is any slight break in the willow line, Common Reed Phragmites australis, Bulrush Typha orientalis, sedges Cyperus spp. and rushes Juncus spp. occur. This effect could be enhanced by the formation of clearings in suitable areas (where this would not cause bank erosion), and planting of the above species. This would form reed-lined pools, which would provide shelter and feeding areas for more waterfowl, and sheltered areas for frog breeding and development. Good beds of Bulrush would encourage the breeding of the Clamorous Reed Warbler Acrocephalus stentoreus in the park. The invertebrate fauna of the creek would probably also become more diverse if more light is allowed to reach the water in summer.

It would be desirable to identify and protect the specimens of Swamp Bottlebrush Callistemon paludosus which occur along the creek (those noted during the survey have been marked on the accompanying map). Some sections of the creek could also be selected for planting with clumps of this species and a Tea-tree such as Leptospermum obovatum. This would provide cover for small birds to move along the creek, and to drink, feed and nest.

Routine maintenance should include the removal of the introduced shrubs which are growing along the creek, especially the Privet and Firethorn. The creek carries a large amount of solid rubbish such as cans and plastic bags. A litter barrier at the creek's entry to the park would improve the appearance of the creekline considerably. Residents' groups might be interested in taking on the responsibility for this sort of maintenance, perhaps in supervised working bees.

Management of the creek should also consider the native Yellow-bellied Water Rats which are present. They nest in tunnels in the creek bank, and complete removal of the willows could destroy their nesting habitat. If a short stump and the root system are left when willows are removed, this problem may be avoided to some extent. An expert on the ecology of this animal could be consulted if necessary.

Swamps and Drains

The swamp areas add to the habitat diversity of the park, and frogs were heard and dragonflies seen around them. They would probably be more stable and sustainable if they were enlarged. The eastern swamp could be enlarged to take up more of the boggy ground between it and the creek, and the western swamp could be enhanced by the development of another one or two small swamps formed by partly damming the drainage line above it. The growth of rushes and sedges could be encouraged in the drainage lines, if this is compatible with their function, rather than the usual practice of clearing the drain annually.

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This would increase the amount of frog habitat available in the park. It may be possible to enlarge the profile of the drains to allow them to carry the same amount of water through the extra vegetation.

The boardwalks make the swamps unusually accessible for this sort of habitat, while protecting them from damage. The swamp areas are an ideal location for educating the public about storm-water - where it comes from and where it goes to, so people can learn that anything that is poured down a street drain or spilt on the suburban roads is eventually washed down to endanger the swamp plants and animals.

The Bulrushes may need to be dug back every few years, otherwise they may cover the whole swamp, trap silt and eventually convert the area to dry land.

Placing some logs around the edge of the swamps would provide more refuges for frogs - plenty of suitable material would be generated during willow removal.

Given the difficulty of controlling Phalaris once it is established, it will probably be necessary to continue to slash areas where it grows densely, to prevent it from smothering the rushes, shrubs and trees that have been planted in the wetter areas of the park.

REFERENCES

Burbidge, N.T. and Gray, M. (1970). Flora of the ACT. ANU Press, Canberra.

Cogger, H.G. (1975). Reptiles and Amphibians of Australia. AH & AW Reed, Sydney.

Frawley, K.J. (1991). The Conservation of Remnant Woodland and Native Grassland in the ACT. National Parks Association of the ACT (Inc.), Canberra.

Frith, H.J. (1969). Birds in the Australian High Country. AH & AW Reed, Sydney.

Jenkins, R. and Bartell, R. (1980). A Field Guide to Reptiles of the Australian High Country. Inkata Press, Brisbane.

Lodder, M. In 'The ACT's Native Grasslands', Proceedings of a workshop held at the Conference Room of the National Museum of Australia, Canberra, 17 February 1991. Conservation Council of the South-east Region and Canberra (Inc.) p10.

Sharpe, S. (1992) (pers. comm.) Applied Science, University of Canberra.

Shorthouse, D. (1984) The Ecological Resources of the ACT. National Capital Development Commission Technical Paper 42. Canberra.

Strahan, R. (Ed.) (1983) The Australian Museum Complete Book of Australian Mammals. Angus & Robertson, Sydney.

Watson, C. (1992) (pers. comm.) Convener of Friends of the Latham District Park.