

PRELIMINARY FLORA & FAUNA ASSESSMENT

**ActewAGL SUBTRANSMISSION LINES
Williamsdale to Theodore, ACT**

**(part Blocks 1653, 1471, 1636, 116,1644,1623, 1605, 1651, 1633 and 1635)
Tuggeranong Rural District**

January 2007



High quality Scribbly Gum woodland – Block 1623

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1) INTRODUCTION

1.1) The Brief

This Preliminary Flora and Fauna Assessment was prepared by Geoff Butler & Associates and Vertego Environmental Consultancy for Purdon Associates Pty Ltd who were contracted to prepare a Preliminary Assessment by ActewAGL. Its subject is the proposed route of a power line to link between a proposed new Transgrid substation at Williamsdale and to reconnect into the existing substation located at Theodore on the southern edge of urban Canberra. The power line proposal comprises a main easement, with an eastern and western option at both ends of the proposed development. The proposal will traverse a series of rural leases. The assessment was requested by Purdon Associates Pty Ltd who were contracted to prepare a Preliminary Assessment by ActewAGL.

The brief was to prepare a Preliminary Flora and Fauna Assessment to meet the requirements of the *Land (Planning & Environment) Act 1991* and subsequent amendments, and any requirements of the Commonwealth *Environment Protection & Biodiversity Conservation Act 1999*. The aspects of the brief were not specifically stated, but the issues to be covered by the report include:

- 1) Examination of the conservation management issues associated with any threatened species and ecological communities either on or adjacent to the power line route e.g.
 - ecological and physical environmental characteristics, and impacts of proposed development;.
 - threatened flora and fauna species;.
 - Potential for referrals under the *Environment Protection & Biodiversity Conservation Act 1999*;
 - maintenance and access requirements;.
 - environmental management issues and methods of implementation.

- 2) The identification of solutions to minimise adverse environmental impacts both during construction and in subsequent phases of the project.

The authors took into account relevant ACT Action Plans and other strategies and environmental policies and agreements as part of the review process.

1.2) Previous Biological Surveys

The authors are not aware of any detailed biological surveys undertaken within the study area. Environment ACT, through the Wildlife Research & Monitoring Unit (WRMU), conducted preliminary studies of the locations of Natural Temperate Grassland and Grassy Woodland throughout the general area some years ago, and this vegetation mapping information from WRMU was included in the maps of the route(s) to be assessed provided by Purdon Associates Pty Ltd.

However the woodlands of Kelly Road, just over the Monaro Highway from the southern end of the proposed power line route, are regularly visited by members of the Canberra Ornithologists Group, including one of the current authors. Records from such excursions can be found on-line in the Group's newsletter *Gang-Gang*.

1.3) Aims of Assessment

The aims of this Preliminary Flora and Fauna (F&F) Assessment were to:

- conduct a survey of the flora and fauna habitat of the power line route. A strong emphasis was placed on the presence of high conservation quality vegetation communities and the availability of fauna habitat, especially for any ACT/regional threatened species;
- review any past studies (e.g. the WRMU mapping) relevant to the study area;.

- assess whether the proposed development is likely to affect flora and fauna species or threatened communities or populations;.
- identify any general management solutions which could ameliorate adverse impacts created because of the construction and ongoing maintenance requirements of the power line.

1.4) The Study Area

The proposed route of the power line, over a number of rural leases, is approximately 15 km long. The alternate routes at the southern end are each 2.6km long; those at the northern end are each 2km long. The total lineal route options assessed were therefore approximately 20 km. The assessment was for a distance of 30 metres either side of the centre line of the proposed route. The study area is located on a number of rural leases.

The study area is located on areas that were originally Grassy Lowland Woodland (Yellow Box/Blakely's Red Gum) vegetation community (ACT Government 2004) which is now regarded as endangered and Box/*Casuarina* woodland, a sub-alliance of the above woodland (and which intergrades with the former) found on dry hill slopes. The study area and most of the surrounding region has been used for agricultural production since the late 1820s. This land use activity has created large areas of considerable disturbance easily seen throughout the region, and the vegetation community on the study area is generally highly modified. There are however some areas of very high quality woodland, which still hold a considerable native floral diversity. There are also large individual habitat trees along the route(s).

The area designated as the study area is illustrated on the attached maps.

2) METHODOLOGY

Site visits were conducted on the 31st October, 6th, 8th, 9th November 2006, 9th and 30th January and 2nd February 2007 in warm and fine conditions on all occasions.

2.1 Vegetation

Because of the generally moderate terrain (except at the northern end), it was relatively easy to observe the vegetation cover across the study area and on the land surrounding the study area. The study area was covered by driven and walked traverses, covering the whole route of the proposed power line, including both route options at the southern and northern ends. An indicative flora checklist was not prepared for the route, primarily as there will minimal impacts on the ground storey and mid storey vegetation.

2.2 Fauna & Fauna Habitat.

Special attention was paid to areas of apparently lesser disturbance, particularly within areas of tree regeneration. Areas of higher density of native grassland/woodland species were especially noted. The primary concern for the route was the number of significant quality habitat trees that would be removed as a result of the proposal. These observations are discussed in Section 5.

3. ENVIRONMENTAL SETTING

The proposed power line route is located in an area some 15 km long, plus with nearly 5km of alternative route proposals at the southern and northern ends. The route originates near the proposed Transgrid substation approximately 1.4 km south of the Williamsdale Service Station under the main transmission line, and links to a substation at Theodore in the southern urban area of Canberra. It is primarily between the Monaro Highway, a major regional transport route, and the Rob Roy Range. The easement is 60m wide and crosses 10 leasehold blocks, under 7 lessees. The study area is illustrated in Map 1.

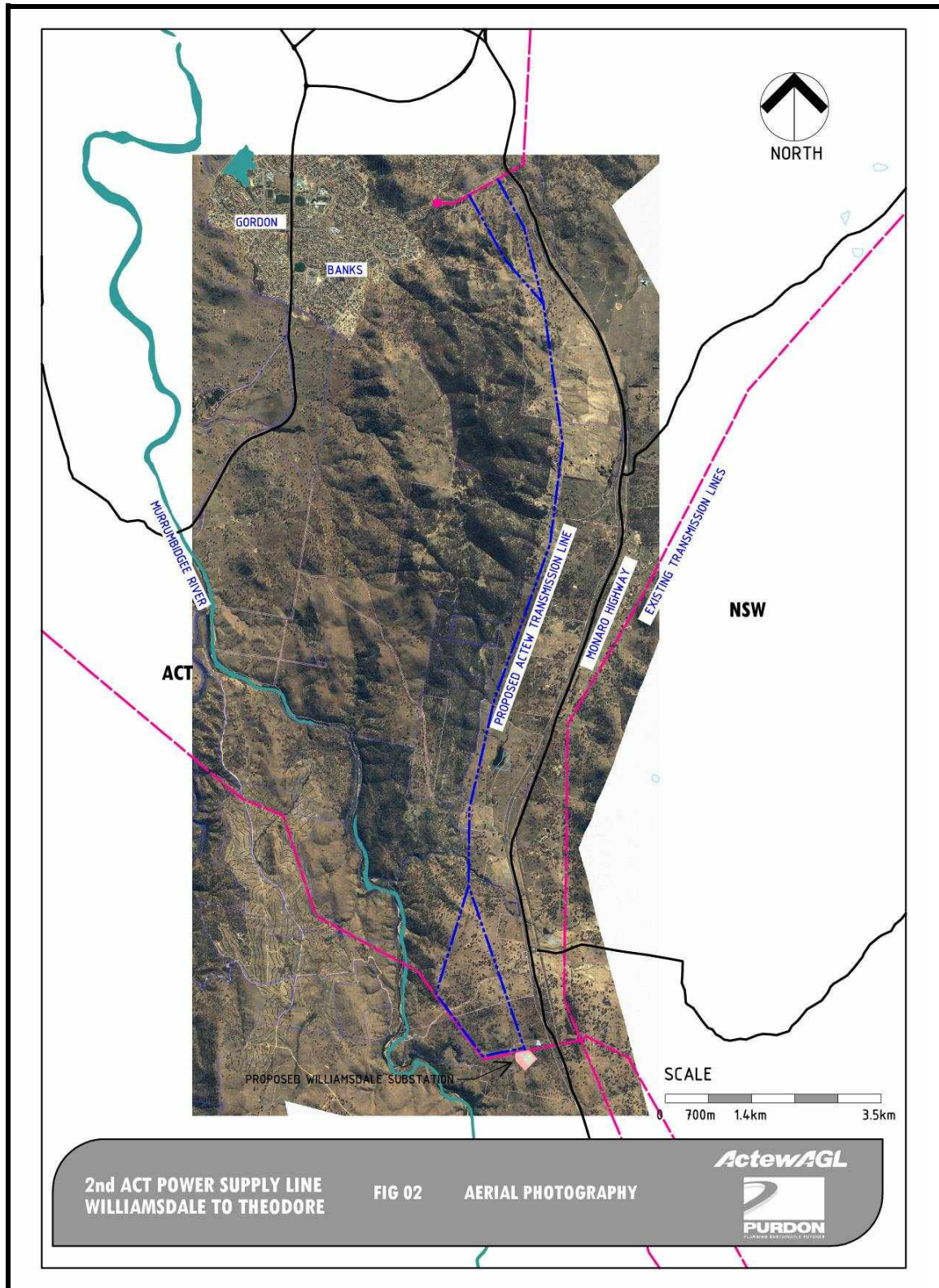
The route for the most part crosses gently undulating country. It is more steeply undulating on the western option at the southern end, and on both the eastern and western options at the northern end, with the eastern option being very steep where it crosses an area of *Casuarina*/Box woodland.

Most runoff from the study area reaches the Murrumbidgee River via Guises Creek. The flowlines on the study area are all ephemeral.

The study area contains Grassy Lowland Woodland vegetation that predominated in and on the slopes of valleys around Canberra. The original vegetation community of the study area still persists though in a highly modified form over most of the length of the proposed route. The surrounding area has been used for agricultural production since the late 1820s.

Regionally, this (now endangered) vegetation community has been all but completely eliminated through agricultural and urban development and the infrastructure associated with the latter. The study area shows has been severely modified in places, though in areas such as the western option at the southern end and the eastern option at the northern end the vegetation community is of a high quality and the original woodland communities still substantially exist.

MAP 1 - LOCATION OF STUDY AREA



4. RESULTS OF THE VEGETATION SURVEY

4.1) The Vegetation Community

The terrain of the study area varies considerably along the proposed routes, and the vegetation is primarily box woodland. In the steeper country of the western route at the southern end the trees are primarily Box and Scribbly Gum grading to Yellow Box/Blakely's Red Gum on the undulating areas at the northern end of this western route option.

The main route between the southern and northern options traverses areas of moderately to substantially modified Yellow Box/Red Gum woodland and areas of Scribbly Gum/Broad-leaf Peppermint/Long-leaf Box woodland. While this section has (for the most part) been substantially modified, there are individual trees and groups of trees and understorey of great antiquity within the designated route.



An example of some significant Apple Box trees on the route.

At the northern end, the western option is much clearer of native vegetation than the eastern option, though some significant trees will still be affected.

The eastern option at the northern end traverses very high quality Long-leaf Box/Yellow Box/Scribbly Gum/Hill She-oak woodland on very steep slopes.

The areas of highest diversity of plant species are located on the eastern option at the northern end, and the western option at the southern end. The greatest environmental impacts will be created if these routes are used.

The vegetation community along the common part of the route varies. There are some significant hollow-bearing trees along the route, and also one area of very high quality vegetation consisting of Scribbly Gum with a very diverse understorey on Block 1623 (between junctions 5 & 6 on the attached maps). The proposed route currently runs through this area. The detailed maps at the rear of this report indicate a minor adjustment to the route which will conserve this area. This area should be retained at all costs.

The areas of significant vegetation and individual trees mentioned above are indicated on the detailed maps of the route attached at the rear of this report.



The high quality area of native vegetation on Block 1623 (Keogh).



The understorey under the Scribbly Gums is very diverse with a large number of forbs and woody heath plants.

The understorey along most of the route has been modified by grazing regimes. For the most part it is significantly modified, with only the hardiest native grasses surviving, albeit with a good level of ground cover on most sections despite the long term drought and continuing grazing.



Large sections of the main route are open pastures

Because of the generally moderate terrain except at the northern end, it was relatively easy to observe the vegetation cover across the study area and on the land surrounding the study area. The study area was covered by driven and walked traverses, covering the whole route of the proposed power line and options of the route at the southern and northern ends. An indicative flora checklist was not prepared for the route, primarily as there will be minimal impacts as a result of the development proposal on the ground storey and mid storey vegetation.

4.2) Vegetation to be cleared

From the information supplied to the authors, it is clear that all trees above 7 metres tall under the power line easement will need to be removed. Some significant trees are situated on the edges of the easement and would not appear to be an imminent or longer term threat to the power lines. Trees in this situation should be retained. Low shrubs and groundcover will be minimally disturbed during the erection of the power line posts, and stringing of the cables. No formal road building is proposed for the construction or ongoing maintenance requirements.

There will be significant trees removed from both a landscape and habitat perspective. These are large trees with habitat hollows and of some antiquity and these trees have been marked on the appended maps. Numerous smaller trees (< 150-200mm DBH) will also be removed. In some cases their removal will have no major landscape or environmental impact, though in others (especially where strong regeneration is occurring,) this removal will partially fragment areas of continuous vegetation.

Without in any way ignoring the impact on individual and smaller groups of significant trees, the proposed routes of highest potential impact on flora and fauna communities (and on the broader landscape) would occur if the western option at the southern end and the eastern option at the northern end were adopted. These options should be avoided as a matter of highest priority. There is also one area of Scribbly Gum woodland with a very high quality understorey on Block 1623 that very much warrants conservation.

As the project is regarded as important public infrastructure, if the project proceeds as proposed, a rehabilitation program focussed on lowland woodland restoration in the region should be a mandated action due to the damage that will be done to significant trees. This aspect is discussed

Recommendation 1:

that the western option at the northern end of the route be adopted, due to the high conservation significance of the Casuarina/Box woodland which is found all along the route of the eastern option.

Recommendation 2:

that the eastern option at the southern end of the route be adopted, for very strong environmental reasons. This eastern route passes through very disturbed country of almost no habitat significance beyond a small number of remnant trees. The western route on the other hand passes through very high quality woodland and open forest, including very highly significant old habitat trees, for its entire length and on both the properties traversed.

Recommendation 3:

that the area of substantially undisturbed Scribbly Gum forest on Block 1623 be left in its near pristine state.

Recommendation 4:

that where at all possible (e.g. on the periphery of the easement), removal of trees marked as being significant – and especially those designated as highly significant – be avoided. A separate on-site decision is to be made about each of these trees, with the presumption being in favour of retention.

4.3) Threatened Plant Species

The regionally threatened plant species that were considered as part of the route assessment were Mauve Burr-daisy (*Calotis glandulosa*), Austral Toadflax (*Thesium australe*), Creeping Hop Bush (*Dodonaea procumbens*), Button Wrinklewort (*Rutidosis leptorrhynchoides*), Leek Orchid (*Prasophyllum petilum*), Small Purple Pea (*Swainsona recta*), Silky Swainson-pea (*Swainsona sericea*), Hoary Sunray (*Leucochrysum albicans* var. *tricolor*) and Ginninderra Peppercross (*Lepidium ginninderrense*). No plant species listed in schedules of the Commonwealth EP&BC Act 1999 or the ACT Nature Conservation Act 1980 were located.

5. RESULTS OF THE FAUNA HABITAT SURVEY

The faunal habitat survey, conducted in close association with the vegetation survey, strongly supports the conclusions of that survey. The oldest and largest trees in a landscape – in this case the remnant woodland and open forest trees – are also those of greatest habitat significance, for several reasons. These tend to have large crowns, providing important foraging and sheltering resources for a range of species. Only pre-European trees are likely to be old enough to provide the nesting hollows needed by many local bird species, as well as mammals including several bat species, reptiles and many invertebrates. A 300 year old box eucalypt has been shown to have the same bark area as ten young trees (Recher 1991); several local bird species (including the threatened Varied Sittella and Brown Treecreeper) specialise in foraging on the bark surface.

Where landscape complexity is retained with the understorey of a woodland or forest being substantially intact, the habitat value of the area rises significantly.

For these reasons the areas identified in the previous section as of greatest vegetation significance are also those of highest faunal habitat significance. Specifically there are four such areas.

- The Casuarina/Box woodland of the eastern route option at the northern end of the proposed line is of very high quality habitat and should be avoided in favour of the western option.
- The western route option at the southern end of the proposed line is of very high quality Yellow Box/Red Gum woodland and open forest habitat and it is essential to avoid this area. A Brown Treecreeper – a threatened species in the ACT – was observed in similar woodland at the proposed transformer site immediately adjacent to this section of the route. This decision is further underlined by the fact that the alternative eastern route is of minimal habitat value.
- The fenced area of old Scribbly Gum forest on Block 1623, with intact understorey, is of outstanding quality, by far the best of its type along the proposed route, and its protection is a high priority.
- In addition, there are a number of remnant woodland trees along the route which are within the designated easement. These are indicated as Significant or Highly Significant on the attached maps of the route. Each of these is at least 200 years old and not replaceable other than in the very long term. Each should be considered on a case by case basis and retained if at all possible.

Accordingly, Recommendations 1 to 4 are strongly supported and reiterated here.

5.1) Threatened Animal Species.

All regionally occurring species listed as threatened under either the *ACT Nature Conservation Act 1980* or the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* have been considered. The following species are those regarded as likely to occur along the route. *All woodland species in the region are essentially dependant on off-reserve remnants such as are found along the proposed power line route.*

Four threatened species – Brown Treecreeper, Hooded Robin, White-winged Triller and Varied Sittella – are very highly likely to utilise the woodlands of both the western option (southern end) and the eastern option (northern end) of the route. The first three of these are known to be present in adjacent and nearby woodlands. Another two scarce and nomadic species – Regent Honeyeater and Swift Parrot – are expected to use the resources of the route sporadically.

Brown Treecreeper (*Climacteris picumnus*). Listed as Vulnerable under ACT legislation.



Brown Treecreeper

A hollow-nesting bird of the inland dry forests and woodlands, found locally at the edge of its range, where "native understorey, particularly grasses, has been preserved" at altitudes up to 1000m asl (Taylor and COG 1992; Higgins et al 2001). It requires at least a 20% shrub layer, and 10-50% cover of ground herbage, logs and litter; fallen logs are essential (ACT Government 1999; Freudenberger 1999). It has declined in or disappeared from most fragments of less than 300ha; after such disappearance recolonisation is unlikely (Garnett and Crowley 2000).

This species was observed on 29 September 2006 at the southern end of the route on the site of the proposed transformer station, in similar woodland habitat to that found along the western route option. Additionally it is resident along Kelly Road, just across the Monaro Highway from the southern end of the proposed route (author, personal observations). It will certainly be found along the proposed western option (southern end) of the power line; it is also likely to be present along the eastern option at the northern end of the route.

Hooded Robin (*Melanodryas cucullata*). Listed as Vulnerable under ACT legislation.



Hooded Robin

An inland woodland species at the edge of its range in the area, where it is found in open woodland dominated by *E blakelyi* and *E melliodora* (Taylor and COG 1992). This woodland must be structurally complex, including stumps or fallen logs and branches from which to hunt food, and low shrubs and long grass within which fledglings may hide. It is likely to have many eucalypts with forked branches less than 2m from the ground for nesting sites, and patches of eucalypt saplings within which the birds may evade predators. It must be of at least 100ha in area and be within (on average) a km of the five nearest woodland patches (from ACT Government 1999; Freudenberger 1999; Higgins and Peter 2002). Recolonisation after extinction from a fragment is unlikely (Garnett and Crowley 2000).

This species has similar habitat requirements to Brown Treecreepers, and where one species is present the other is likely to be. The woodland of the western option (southern end) and the eastern option (northern end) is eminently suitable for this species. Further, it is resident along Kelly Road, just across the Monaro Highway from the southern end of the proposed route (author, personal observations). Accordingly, it is highly likely to be present, especially in these southern woodlands.

White-winged Triller (*Lalage sueurii*). Listed as Vulnerable under ACT legislation.



White-winged Triller

Locally this Triller is a summer breeding migrant which has declined, as measured by reporting rate, by 54% from 1984 to 2004. In the ACT it is essentially a woodland bird, especially associated with Yellow Box – Red Gum woodland. Large trees – living or dead – are favoured. While they breed in trees and are often seen high in branches, most foraging takes place on or near the ground, especially in grassy areas with fallen branches. (ACT Government 2004; Higgins et al 2006.)

The woodlands at each end of the proposed route provide very appropriate habitat for this species. Additionally, it is known from similar woodland along Kelly Road, just across the Monaro Highway from the southern end of the proposed route (author, personal observations). Accordingly its seasonal presence is highly likely.

Varied Sittella (*Daphoenositta chrysoptera*). Listed as Vulnerable under ACT legislation.



Varied Sittella

This bark-gleaning bird is found in forests and woodlands, where it focuses on rough-barked trees species. However it is not found where trees are sparse or no large trees are present. Reporting rates of this species have declined by 46% from 1984 to 2004. (ACT Government, 2004; Higgins and Peter, 2002.)

The woodlands at each end of the proposed route provide very appropriate habitat for this species and it is deemed almost certain to utilise them.

Swift Parrot (*Lathamus discolor*). Listed as Endangered under Commonwealth legislation and Vulnerable under ACT legislation.



Swift Parrot

This is a migratory species which breeds in Tasmania and overwinters in box-ironbark woodlands inland of the Great Dividing Range in NSW and Victoria (Brereton 1996). It specifically utilises Red Gum - Yellow Box woodlands. It is also associated with lerp and psyllid irruptions on *Eucalyptus blakelyi* (ACT Government 1999; Higgins 1999).

While the occurrence of this scarce species is never likely, it can irrupt in suitable habitat, which is present along the power line route, and its occasional presence should be presumed for precautionary reasons.

Regent Honeyeater (*Xanthomyza phrygia*). Listed as Endangered under both Commonwealth and ACT legislation.



Regent Honeyeater

Among the recognised key food trees of this nomadic woodland species are *Eucalyptus melliodora* (Garnett and Crowley 2000; ACT Government 1999). *Eucalyptus blakelyi* is also used (Higgins et al 2001). Tall mature trees are of especial importance.

While the occurrence of this scarce species is never likely, its occasional presence in suitable habitat, such as is found along the route, should be presumed for precautionary reasons.

6 POTENTIAL IMPACTS ON THE BIOLOGICAL ENVIRONMENT

The authors' view is that there will be losses of significant trees in landscape and environmental terms along the final proposed route. The western option at the southern end and the eastern option at the northern end will cause more fragmentation of habitat and affect on landscape values than the eastern and western alternatives respectively. Therefore, if the proposed route is approved, the eastern option at the southern end, and the western option at the northern end are the preferred routes. There will still be many other smaller and regenerating copses of trees that will be removed on the less damaging route. There will be greater effects of this fragmentation and landscape impact at the northern end, especially where the power line route enters the *Casuarina*/Long-leaf Box/Yellow Box community near the junction between the two alternative routes to the north.

The impacts on ground cover and smaller shrub communities is said to be minimal as there is no plan to construct a formal access track along the power line route. There will be disturbances however, due to the traffic required for power pole erection and cable stringing activity.

6.1 Access issues

Access along most of the route (excluding the more environmentally damaging alternative route options) is easily gained across paddocks. There are some hills that are stony but for the most part vehicle access is possible. The route at the northern end is highly undulating to steep, though there is an already graded but low standard track at this location.

There will be large delivery and construction vehicles present, but concentrated near areas where the power poles are required. This will have effects on paddock ground cover. Vehicles involved with cable stringing may also have localised impact.

6.2 Service infrastructure

The amount of clearance of vegetation varies. All trees will have to be removed along the final route, though smaller shrubs and groundcover will be less affected. Considerable disturbance can be expected in the immediate areas of pole construction and cable stringing.

6.3 Waste & Pollution

The construction phase of the proposal will create a degree of waste. There is likely to be waste product as a result of construction works. Spillage of such toxins such as fuel can have long and broader environmental consequences than just effects on the immediate vegetation community. Waste poses a potential threat to flora and fauna communities, habitat and general pollution levels.

6.4 Bushfire & Hazard Reduction

The clearing of the 60m wide easement includes vegetation needed to be removed for purposes of protection from fire. It is not expected that further clearance of vegetation is required for the development outside of the 60m easement assessed.

6.5 Weeds

Weeds are now probably one of the most problematic issues affecting native vegetation communities and agriculture. Ground disturbance during construction may stimulate weed regeneration when favourable seasons return.

Vehicles of any type are a major potential source of the movement of weed species.

Materials used in rehabilitation of disturbed sites are also often a source of introducing highly invasive weeds and other undesirable species.

7. AMELIORATION OF IMPACTS

The potential impacts are provided under 6) above. The proposed development is part of an important upgrade of essential public infrastructure for the ACT. While the overall power line proposal is likely to proceed – and indeed the authors see no reason for it not to do so, within the constraints of the recommendations of this report – there are means available to minimise the impacts of the development.

7.1 Access

As indicated in 6.1) above, it is not proposed to construct a properly formed track as part of the development proposal and for on-going maintenance. There may be some site disturbance due to vehicle movements and construction activity.

Recommendation 5:
that all areas of vehicle and construction disturbance be returned to natural ground levels and slopes, and any rutting be rehabilitated.

7.2 Service infrastructure

Erosion and sedimentation can have effects well away from the construction site. Open excavations often trap wildlife, so it is important that all post holes are checked for wildlife, and that any trapped animals are relocated nearby.

Recommendation 6:
that the usual mandatory conditions applying to any development to minimise or eliminate the potential for erosion and sedimentation are applied to all construction works (including the temporary access routes) and maintained for a stated period after completion of these works while vegetation is re-established on the study area.

Recommendation 7:
that any areas of stable native vegetation outside of the easement immediately needed for construction should not be subject to damage caused by construction works, vehicles or other requirements of construction (e.g. site offices or other facilities).

Recommendation 8:
that all excavations be checked for trapped wildlife before backfilling, and any trapped animals relocated within the nearby vegetation.

7.3 Waste and Pollution

Recommendation 9:
that all waste be securely stored for removal from the site, and any excess fill produced not be disposed of by spreading over stable vegetation.

Recommendation 10:
that all materials used and waste generated on site that are liable to produce leachates should be stored in an appropriate way prior to removal from the site.

Recommendation 11:
that any fuels or toxins required to be stored on site are appropriately managed to avoid spillage and the effects of spillage (e.g. bunding).

7.4) Weeds.

Recommendation 12:

that rehabilitation of all disturbed areas must be undertaken at the conclusion of the works (see Recommendation 5), and a general weed management program will be required until the site has adequately revegetated.

7.5) Rehabilitation.

It is important that appropriate rehabilitation be undertaken on the site. There is no scope to replace trees on the study area itself. However, due to the significance of some of the trees that have to be removed, and the overall number of smaller trees subject to removal, it is recommended that an “offset” rehabilitation planting of an area or areas of a similar vegetation type be implemented as a means of compensating for the vegetation clearance tree loss that will occur. This “offset” could even be undertaken further afield. If the development is approved, discussions on the feasibility of areas for rehabilitation should proceed.

Recommendation 13:

that no introduced grass mixes be used for revegetation purposes, and examination of supply of native grass seed of *Themeda*, *Microlaena*, *Austrodanthonia* and *Austrostipa* species (preferably from within the catchment) be investigated for rehabilitation purposes if planting is required.

Recommendation 14:

that sterile Rye Corn is a useful stabilising species.

Recommendation 15:

that no bales of straw or hay be used in the rehabilitation process.

Recommendation 16:

that an ‘offset’ rehabilitation program be a part of the restitution for the tree removal and other vegetation loss that will occur on the power line route, and that this restitution be focused on the rehabilitation of a similar woodland type within the Catchment. This program could be commenced during the construction phase if offsite. It could be based on a tree replacement ratio of 10:1 for any trees above 200mm DBH that have to be removed. It is desirable that any offset plantings be associated with protected public lands within areas of nature reserve or similar, and could be a collaborative arrangement with a local Catchment or Landcare/Parkcare Group. This recommendation should be discussed in conjunction with the ACT government or the Natural Resources Management Committee, a community-based government advisory group.

Recommendation 17:

that an environmental officer be appointed to the project to oversee that the environmental aspects and recommendations related to this project are monitored. This officer would be responsible for monitoring the construction and rehabilitation phases of the project.

CONCLUSION

After assessing the proposed power line route and the two alternative routes, the authors conclude that:

- the power line development will result in the removal of a substantial number of significant old trees and others of substantial size;
- there will be minor areas of fragmentation created at the northern end of the line which are unavoidable;
- there will be minimal damage caused over the broader area of the route as groundcover and smaller shrubs do not need to be removed;
- local populations of at least four threatened bird species are likely to be affected if the recommendations of this report relating to the route options at the northern and southern ends of the route are not adopted;
- the overall environmental damage will be substantially reduced if the eastern route option at the southern end and the western option at the northern end are adopted; conversely if these recommendations are not adopted the overall impact of the proposal could be seen as unacceptable;
- if all the recommendations in this report are adopted, the overall impact of the proposal may be minimised to an environmentally acceptable degree.

The loss of old trees from the landscape is not easily replaced. The recommendations for amelioration provided in this report are essential to ensure that environmental damage created by the development proposal is, at least in some way, compensated for.

Addendum

ActewAGL Power line – Williamsdale to Theodore

Review of the Western Route Option - southern end (May 2007)

On 30 May 2007, an inspection of a revised western option at the southern end of the sub-transmission line route was undertaken by myself, Upul Walisundara from ActewAGL, Rob Purdon and Trevor Fitzpatrick (Purdons) and a surveyor from Landdata. A representative of ACT Parks, Conservation & Lands joined the group in the afternoon to inspect the northern part of the revised route.

The purpose of the visit was to determine the route of “least impact” in this western sector for a single 25m high power pole with an easement of up to 60m width. This is the minimum land clearance required for the power lines which are 8.5m above ground level, and allowing for a 7.5m “swing arc” from the vertical line of the conductors. The attached sketch refers.

During the inspection, the centre-line and/or outer boundaries of the easement were pegged and GPS readings taken. After a ground inspection of the options, the agreed “least impact” route was determined as shown in the attached plan.

Figure A1 shows the agreed route and associated mapping of Yellow Box/Red Gum (YB/RG) community within the general study area.

The option of a parallel route following the Transgrid easement from the substation to Angle Crossing road was explored. Due to vegetation and topographic constraints this route was dismissed in favour of a more open direct line (refer to plan) to minimize the impact of a cleared easement on the YB/RG Woodland ecosystem.

North of Angle Crossing Road, the proposed route follows the existing Transgrid easement for about 350 m. then heads in a north easterly direction through substantially cleared agricultural grazing land for a further 1500 m. In this part of the route, removal of several large isolated trees and some regeneration would be required.

The agreed route then traverses a cleared area between two areas of YB/RG before crossing Lobb’s Hole Creek and heading north on the original route proposed.

The proposed easement is up to 60 m width. This will mean that there is the potential for removal of all substantive vegetation. However, it is noted from discussion during the assessment that:

- ActewAGL would be required to prepare and implement a Land Management Agreement for maintenance of vegetation in the corridor;
- there is potential for smaller trees and bushes to be retained for habitat protection;
- large trees could be poisoned, lopped and retained as “dead wood” habitat, provided they did not threaten overhead wires.

The above management practices (together with the other recommendations contained in this report) would reduce the ecological impact of the power line easement. The revised western option reduces the impact that would have been created by the original western option. However, I am still of the considered opinion that, as far as environmental impact is concerned, the eastern route as assessed in my original report is the better route, minimizing fragmentation of the woodland, and results in the removal of fewer significant trees.

Geoff Butler
6 June 2007

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