**Figure 2: Subject site – aerial view (from Nearmap imagery 2010).**




PEAK LAND MANAGEMENT

***Threatened Species Conservation Act 1995***

The objects of this Act are as follows (from Austlii, 2008):

*(a) to conserve biological diversity and promote ecologically sustainable development, and*

*(b) to prevent the extinction and promote the recovery of threatened species, populations and ecological communities, and*

*(c) to protect the critical habitat of those threatened species, populations and ecological communities that are endangered, and*

*(d) to eliminate or manage certain processes that threaten the survival or evolutionary development of threatened species, populations and ecological communities, and*

*(e) to ensure that the impact of any action affecting threatened species, populations and ecological communities is properly assessed, and*

*(f) to encourage the conservation of threatened species, populations and ecological communities by the adoption of measures involving co-operative management.*

The Act applies to those species listed on both Schedule 1 (Endangered) and Schedule 2 (Vulnerable). If a threatened species, Endangered Ecological Community or critical habitat is found and proposed to be significantly impacted upon in any way then a species impact statement should be carried out dependant on consent authority/Department of Environment, Climate Change and Water advice as stated under the EP&A Act. Additionally Schedule 3 lists threatening processes of which this site has a number occurring (Feral Cats, Foxes, Clearing, etc).

A full search of endangered species, both fauna and flora has been conducted using information presented in the Department of Environment and Conservation Wildlife Service Atlas of NSW Wildlife (2010), and from field survey. The results of the database searches are shown in Appendix 3. It should be noted that the minimum search area is a 10km square area. This therefore picks up many species which are clearly not found on this site, and occasionally may also miss some species. A search of site maps, and habitat requirements, for each of these species, and any others considered as possibly occurring has been examined in more detail in the 7 Part Test of significance.

***National Parks and Wildlife Act 1974***

This Act provides for protection of all native fauna, and some native flora. A list of protected species is required in assessments as they provide information as to the type of vegetation communities and fauna habitats present within an area (Murray and Bell, 2001). This Act has been addressed through the list of potential local threatened species contained in Appendix 1, along with a full flora survey, and habitat assessment contained in this report, along with impacts and ameliorative measures on threatened fauna species.

***Native Vegetation Act 2003***

This Act controls the clearing of native vegetation in NSW and is administered by the Department of Environment, Climate Change and Water and the Hunter Central Rivers Catchment Management Authority. This act only applies if clearing is on land zoned 1- Rural or 7 –Environmental Protection. This subject site is zoned both 1 and 7.

No clearing is proposed however, and therefore the proposed rezoning complies with this Act and does not need referral to the CMA.

***Water Management Act, 2000* – Riparian Management**

This Act is administered by the Office of Water (part of Department of Environment, Climate Change and Water) and controls works along rivers and foreshore areas of streams or drainage lines.

Work in this case is not expected to impinge directly on Canada Drop Down Creek, however weed eradication, and proposed SP1 landuse works are proposed within 10m of the creek bank. This creek is rated as a fourth order stream under the Strahler system, and the Act makes provision for riparian corridors up to 40m in width. However in this case due to previous clearing and current landuse consultation should occur with the department to ascertain their requirements.

***Fisheries Management Act 1994, Fisheries Management Amendment Act 1997***

This Act requires the protection and conservation of threatened fish and marine vegetation, endangered populations and ecological communities and key threatening processes (Murray and Bell, 2001)

This site affects a natural creek line, but rezoning is not expected to have any impact on water quality or the creek. Consultation may be required with the Department (former Fisheries, now Industry and Investment NSW).

**SEPP 19**

This SEPP refers to bushland in urban areas and planning for its protection and preservation. This SEPP applies to Wyong Shire Council, but only to land affected being greater than 1 hectare in extent. No clearing is proposed.

It is therefore considered that this development conforms to SEPP 19.

**SEPP 44: Koala Habitat Protection**

Austlii (2008) state:

*"This Policy aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline:*

*(a)by requiring the preparation of plans of management before development consent can be granted in relation to areas of core koala habitat, and*

*(b)by encouraging the identification of areas of core koala habitat, and*
*(c) by encouraging the inclusion of areas of core koala habitat in environment protection zones.*

In this Policy:

*"core koala habitat" means an area of land with a resident population of koalas, evidenced by attributes such as breeding females (that is, females with young) and recent sightings of and historical records of a population.*

*"guidelines" means the guidelines, as in force from time to time, made for the purposes of this Policy by the Director.*

*"potential koala habitat" means areas of native vegetation where the trees of the types listed in Schedule 2 constitute at least 15% of the total number of trees in the upper or lower strata of the tree component".*

This SEPP applies across NSW to land which is greater than 1 hectare in extent, including adjoining land in the same ownership whether or not the DA applies to the whole or only part of the land, and is not a National Park or Forestry Reserve.

The land has two listed koala food trees – *E. microcorys* and *E. saligna*, but one is planted, and neither are over 15 % of the land area, there are no koala records in this area and no clearing of any koala feed trees is proposed. The rezoning therefore complies with SEPP 44.

## 2.3 LOCAL

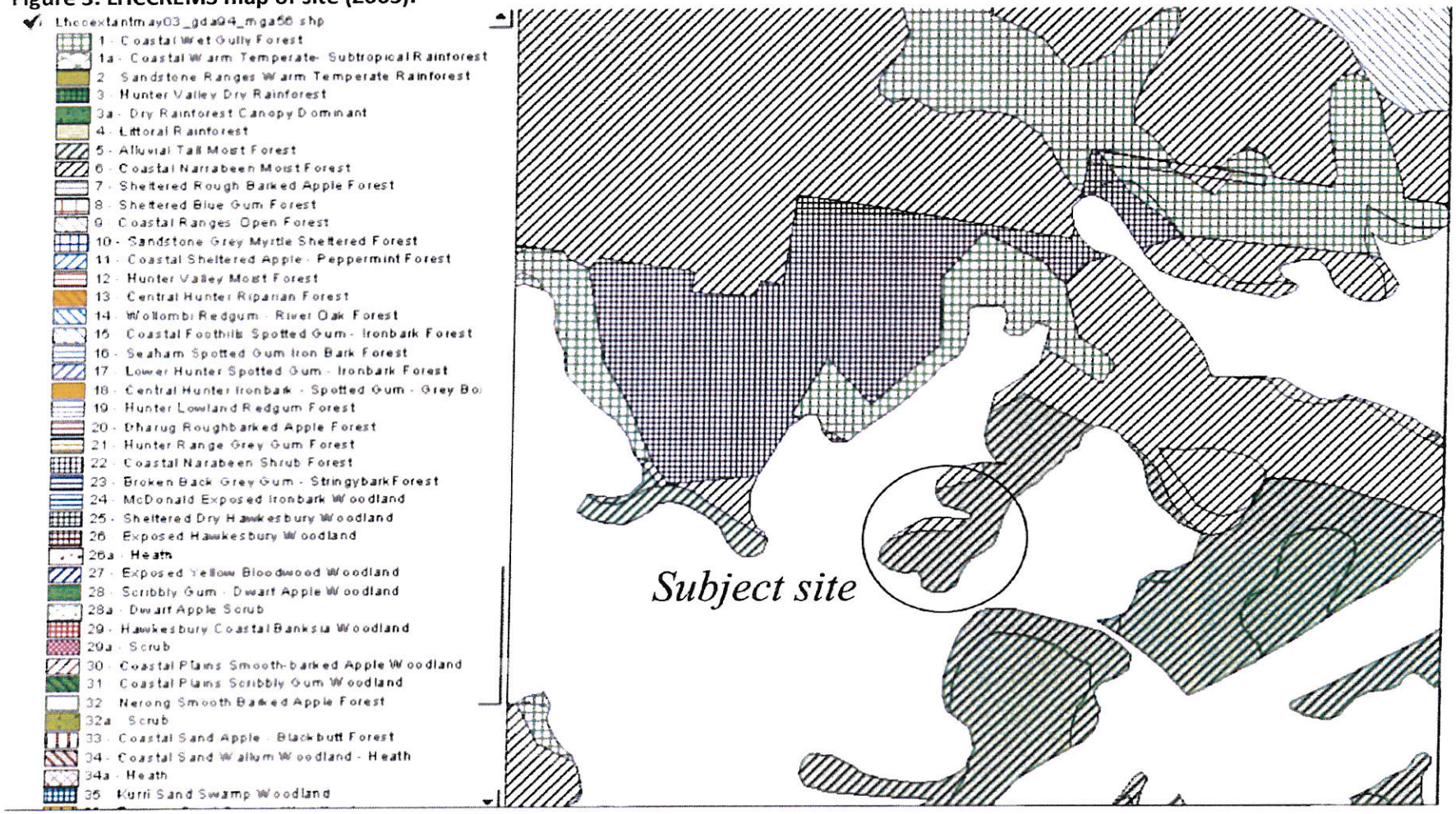
The relevant local government area (LGA) is Wyong Shire Council. The subject land is zoned 7(b) under the LEP. This zoning has some restrictions regarding future proposed Crematorium/cemetery use, hence the reason for the rezoning application.

This zoning may require environmental reporting prior to any work. This report reflects that requirement.

### 2.3.1 DRAFT LOCAL ENVIRONMENTAL PLANNING INSTRUMENTS

No other draft planning instruments have been identified.

**Figure 3: LHCCREMS map of site (2003).**






PEAK LAND MANAGEMENT

# 3.0 SITE ASSESSMENT

## 3.1 DISTURBANCE HISTORY

The site has extensive weed invasion, with the predominant species being Small Leaved Privet, Bamboo, Wandering Jew and a garden escape - Butterfly Bush. They occur throughout the remnant native vegetation, but are thickest along the proposed SP1 and E2 boundary. It would appear that many of these species are garden escapes from when the area was an orchard.

Some dumped rubbish, and stream detritus was also seen.

## 3.2 CONNECTIVITY

The site forms part of a riparian corridor, linking with downstream riparian vegetation along Canada Drop Down Creek to the east/northeast and to extensive vegetation along the northern hillslopes. Connectivity is only partial to the west and southeast, due to clearing within Palmdale Crematorium, and Palmdale Road.

## 3.3 WATER COURSES

Canada Drop Down Creek is a permanent creek, with a large catchment area encompassing the Palmdale Valley. Over this site Canada Drop Down Creek has an unusual meander cutoff or oxbow, which still flows with water. The oxbow occupies the majority of the subject site proposed to be zoned E2. This has been shown in Figure 4.

Agricultural activities/ cleared land occur upstream for around 2-3kms, however the riparian zone is relatively intact. The catchment is then naturally vegetated.

## 3.4 SOILS, GEOLOGY AND TOPOGRAPHY

Soils are generally deep alluvial, with some artificial fill over the proposed SP1 zone area. Sand lines the creek bed.

Slopes are flat over the proposed SP1 Zone, and steeply declining into the oxbow associated with Canada Drop Down Creek (up to 30 degrees downslope).

## 4.0 FAUNA AND HABITAT SURVEY

Fauna survey was limited to opportunistic frog, bird, reptile, and mammal surveys by visual observation /call interpretation over one survey period. Fauna trapping, anabat recordings, owl playback, and spotlighting were not conducted as discussed previously. Habitat assessment has occurred, with particular focus on threatened species potential habitat requirements and flora composition.

The survey was conducted on:

- Tuesday the 19th October, 2010 . The survey was conducted in cool overcast weather. Temperature was around 19$^0$C - 20$^0$C with moderate to high humidity.

Fauna survey results are shown in Appendix 2.

No threatened species under the TSA or EPBC Act were observed.

No koalas were sighted, or any scats or koala tree use marks. Some tree use marks were seen over some of the larger trees, most likely being possum. No frogs were recorded, perhaps due to the cooler weather.

The site has habitat for a range of birds, amphibians, reptiles, bats and mammals for foraging resources, and shelter/nesting. Hollows were recorded in at least three trees (see Figure 4) which are all to be conserved s part of the E2 zoning area. Hollows were small, with one to two seen/tree around 5-10cm diameter in the *E.saligna* and *E. deanei* trees.

A range of common bird species were recorded, with some small birds recorded. Aggressive Bell Miners were observed driving out other birds. One raptor – a little eagle, was seen high overhead. No nests were observed.

Four wombat burrows were observed along the creek bank, with most in use.

Please note fauna found on this survey are only indicative of some of the species present on site. The total number would vary according to season, time of day, weather, movements within local habitat, shyness, etc. The total diversity is expected to be larger than this, with the 7 Part Test based on presence/absence of suitable habitat.

## 5.0 FLORA

The vegetated part of the subject site which is to be zoned E2 is dominated by *Eucalyptus saligna* (Sydney Blue Gum), *Eucalyptus deanei* (Mountain Blue Gum) *Eleocarpus reticulatus* (Blueberry Ash) and weeds including *Cinnamomum camphora* (Camphor Laurel). The vegetation is best described as a Wet Sclerophyll Forest, with emergent canopy trees to 30m in height, a mid storey, shrub layer and understory. The mid storey, shrub and understorey layers were all a mix of both rainforest and weed species. Canopy cover approached 90% in areas infested with bamboo, on average being around 70% canopy cover.

It is mapped (Figure 3) as Alluvial Tall Moist Forest by LHCCREMS mapping (2003) which the consultant concurs with. The vegetation is equivalent to an Endangered Ecological Community - *River Flat Eucalypt Forest on coastal floodplains* (Figure 4).

Vegetation was assessed by a walking meander transect, in accordance with a modified small site methodology under LHCCREMS Flora and Fauna Survey Guidelines 2002 (Figure 5). The transect location was sited to inspect the majority of the site.

Special attention was paid to any potential threatened species, particularly *Senna acclinis* (Rainforest Cassia), *Melaleuca biconvexa* (Biconvex Paperbark) *and Syzygium paniculatum* (Magenta Lilly Pilly) which were all recorded locally and habitat requirements suited their possible occurrence. This has enabled identification and assessment of most species on the site, except those cryptic species which were not flowering such as *Cryptostylis hunteriana*- an orchid, but which is very unlikely to be present here due to incorrect habitat requirements and disturbance to site from weed invasion.

Flora species identified are shown in Appendix 1. 61 native flora species including 7 planted native species not usually found in this location, and 56 weed species, including three noxious weeds were recorded.

No threatened flora species, critical habitat or endangered populations were recorded. One Endangered Ecological Community - *River Flat Eucalypt Forest on coastal floodplains* was recorded.

**Figure 4: Vegetation map by PEAK LAND MANAGEMENT**




PEAK LAND MANAGEMENT

**Figure 5: Meander transect location**




PEAK LAND MANAGEMENT

## 6.0 SEVEN PART TEST OF SIGNIFICANCE

A consideration of threatened species potentially occurring on this site which have been gazetted within the *TSC Act* was conducted by a search of the NPWS atlas (10km2 area) which is shown in Appendix 3. Each species/ population/ ecological community is considered for its potential to occur upon the site and the likely level of impact as a result of the proposal. Table 1 shows likely impact for each fauna and flora species.

Species which would obviously not occur on the site due to incorrect habitat requirements, or be impacted by any works (assuming rezoning is approved), have not been listed below, or tested as all vegetation is being retained. Only those species which may be impacted from works causing indirect impacts such as possible erosion /sediment runoff, minor fertilizer runoff from garden beds/lawns, weed/exotic tree removal disturbance, lighting, noise, increased traffic, or other minor impacts have been tested.

Additionally a literature review of potentially occurring threatened species was conducted. Once each species particular habitat requirements were identified a field inspection occurred of the site to verify the likely impact. This was done by direct species observation during traverses around the site , assessment of likely habitat , and the suitability of the site for threatened species identified. If suitable habitat is present, and Wildlife Atlas records of that species occur in the local area, an assumption has been made that they may occur.

Note: all recorded locations of threatened species are sourced from Department of Environment and Climate Change Wildlife Atlas, 2010.

**Table 1: Threatened species considered as possibly occurring for the site and assessment of potential impact.**

| Species | Comments | Likely level of impact * | Legal status ** |
|---|---|---|---|
| Listed frog species: | The site offers suitable frog habitat, but it has been degraded by weed invasion. The site has permanent relatively clean flowing water and some ponds present. Water quality was not tested, but appears to be reasonable with some water discolouration evident from recent rains causing sediment entrainment. Some water bugs were present (Water Striders?). It was noted that upstream landuse comprises mainly natural catchment, but with some agricultural activities and land clearing immediately upstream. The creek near the Crematorium has had stream bank straightening and some recent major erosion present (Pasha Bulker storm -2007, took out many large trees 100m upstream of site).<br><br>Green and Golden Bell Frog, Green Thighed Frog and Stuttering Frog have been recorded in similar habitat within 3kms of this site. Other frogs listed in Appendix 3 are not considered to have potential habitat present. | | |
| Green thighed Frog (*Litoria brevipalmata*)<br><br>  | Green Thighed Frog habitat has been listed by DECC as:<br><br>• *Green-thighed Frogs occur in a range of habitats from rainforest and moist eucalypt forest to dry eucalypt forest and heath, typically in areas where surface water gathers after rain.*<br>• *Breeding occurs following heavy rainfall in late spring and summer, with frogs aggregating around grassy semi-permanent ponds and flood-prone grassy areas.*<br>• *The frogs are thought to forage in leaf-litter*<br><br>*What needs to be done to recover this species?*<br><br>• *Avoid burning off in moist grassy habitats between December and April.*<br>• *Maintain vegetation and leaf litter around ponds, dams, drainage lines and other moist areas.*<br>• *Conserve natural patterns of local flooding.*<br>• *Protect water bodies from pollution.*<br>• *Fence off suitable habitat to protect it from grazing.*<br>• *Exclude logging around breeding habitat.* | Negligible-Very Low | V |

| | | | |
|---|---|---|---|
| | Proposed rezoning/future crematorium/cemetery development may have a marginal impact through indirect impacts such as sedimentation, and fertilizer runoff. There are no low lying grassy wet areas over the site (mainly filled flat areas which although still flood prone would not hold water), and therefore it is not considered to have suitable habitat present, and is unlikely to be present. | | |
| Stuttering frog (*Mixophyes balbus*) | DECC (2009) state: *"Stuttering Barred Frogs occur along the east coast of Australia from southern Queensland to north-eastern Victoria. The species has suffered a marked decline in distribution and abundance, particularly in south-east NSW. Found in rainforest and wet, tall open forest in the foothills and escarpment on the eastern side of the Great Dividing Range. Outside the breeding season adults live in deep leaf litter and thick understorey vegetation on the forest floor. Feed on insects and smaller frogs. Breed in streams during summer after heavy rain. Eggs are laid on rock shelves or shallow riffles in small, flowing streams. As the tadpoles grow they move to deep permanent pools and take approximately 12 months to metamorphose".*<br><br>This site offers potential habitat, but its prey are limited (no tadpoles or frogs recorded on site). | Negligible – Very Low | V |
| Green and golden bell frog (*Litoria aurea*) | Department of Environment, Climate Change and Water (2009) state : *"A frog that preys upon other frogs, actively locating them by their advertisement calls. It is also one of the few frogs known to be active by day and actually bask in the sunlight. Adults are usually found close to, or in water or very wet areas in forests, woodlands, shrublands and open or disturbed areas, particularly where there are reeds or bulrushes. The eggs and tadpoles can be found in permanent lakes, swamps and dams with still water".*<br><br>This site offers potential habitat, but its prey are limited (no tadpoles or frogs recorded on site). There were also no reeds present, and water ponds are limited with water flowing over most of the creekline, except in low flow periods. | Negligible – Very Low | EP&BC listed species |
| Birds, owls and bats | Most birds and bats have broad foraging ranges and habitat requirements which require open areas, forest, lakes/water, trees for foraging resources and hollow trees/caves/bridges or other suitable structures to roost/nest. There are foraging resources available, and limited nesting hollows (some small hollows present). No raptor nests were observed in any trees on site. The site has predominantly rainforest trees present, with only E. *saligna/E. deanei* emergent gums. A variety of threatened birds, bats and owls have been recorded within 5kms of this site and it is almost certain that many of the listed microchiropteran bats and many of the owls would forage on/over this site from time to time.<br><br>Many of the other listed species in Appendix 4 would not occur here due to incorrect habitat requirements including Cockatoos, Bush Stone Curlew, all water and marine birds, Woodland birds, and marginal habitat for threatened honeyeaters and parrots (limited nectar/lerps/ in winter). Fruit doves are possible due to rainforest species with fruit being present. | Moderate | All V except Regent honeyeater and Swift Parrot which are E1 |

| | | | |
|---|---|---|---|
| | A little eagle was seen flying over the valley, and therefore it is definitely part of its home range. Retention of Bunya Pines and other scattered pine trees which do not pose a weed threat may be useful for microchiropteran bats, and owls which feed in the air and ground around these paddock trees, as well as providing nesting habitat for other birds.<br><br>There will be no loss of foraging resources, or hollow bearing nesting/shelter trees. Impact is expected to be negligible to very low due to retention of all vegetation. No lighting is recommended at night over the area to avoid impacts on nocturnal bats/owls and mammals. | | |
| Spotted tailed quoll (*Dasyurus maculatus*) | Found in a variety of habitat types including dry and moist eucalypt forests and rainforests. They tend to move along drainage lines and make dens in fallen logs or among large rocky outcrops. They like dense understorey. This site offers potential habitat, with understorey dense, and on a drainage line. Has been recorded within 1km of the site and may be present occasionally. Fallen hollow logs should be retained where feasible and left on the ground. | Very Low | V |
| Koala (*Phascolarctos cinerus*) | Koalas are found in Eucalypt forests throughout eastern Australia. They occur where appropriate feed trees occur. Primary feed trees did occur on site (E. microcorys and E. saligna over 10 % of the site). No scats were seen or any koalas sighted in survey traverses in habitat/ feed trees remaining on site The site is potential koala habitat, but they have not been recorded in this area, and no clearing is proposed. Therefore impact is negligible. | Negligible | V |
| Yellow bellied glider (*Petaurus australis*) | This species occurs in tall mature Eucalypt forest. They nest in large tree hollows, in family groups of two or more. They feed from a range of sources, including winter flowering eucalypts which provide nectar and pollen, and sap trees which they chew v shaped incisions to collect sap. These include grey gums (*E. punctata)* and Tallow wood (*E. microcorys*), with Tallowood being found near this site. This site may be part of their foraging range. No incisions were noted on any trees on the site. This site offers marginal foraging habitat, and no nesting habitat. They have been recorded within 1km and may occasionally travel to the tallowwoods for feeding. | Negligible-Very Low | V |
| Reptiles | Both Stephens Banded Snake and Pale Headed Snake require rocky areas which were not present over the site. They are unlikely to be present. | Negligible | V |
| **Flora** | | | |
| **All potential threatened/endangered plants as listed in Appendices 3 and 4.** | All plants were assessed during the flora survey. No threatened species were found occurring on this site.<br><br>No orchids have been recorded within 5kms of this site, and they are unlikely to be present due to weed disturbance, and incorrect habitat. | Negligible - Very Low | All plants V, except *Senna acclinis,* and *Syzygium* |

| | | | |
|---|---|---|---|
| | | | *paniculatum – E1.* |
| **Endangered ecological communities/populations** | Present – *River Flat Eucalypt Forest over Coastal Floodplains.* | Impact Negligible | |
| **Threatening Processes** (under both EPBC Act and TSC Act applicable for this site) | • Predation, habitat degradation and competition by fox ,feral cats, honey bees, pigs, rabbits<br>• Clearing of native vegetation/ land clearance.<br>• Loss and degradation of native plant and animal habitat by invasion of escaped garden plants (including lantana), including aquatic plants.<br>• Loss of hollow bearing trees, and bush rock.<br>• Removal of dead wood and dead trees. | See 7 Part Test | |

| **Key -** ** Legal status (from Department of Environment and Conservation, 2008): | |
|---|---|
| V | Vulnerable (Threatened Species Conservation Act, 1995) |
| E1 | Endangered (Threatened Species Conservation Act, 1995) |
| E2 | Endangered (Threatened Species Conservation Act, 1995) |
| E4 | Presumed Extinct (Threatened Species Conservation Act, 1995) |
| P | Protected (National Parks and Wildlife Act, 1974) |
| P13 | Protected Plants (National Parks and Wildlife Act, 1974) |
| U | Unprotected |

| **Key- Likely level of impact** |
|---|
| This is a subjective qualitative measure used by the consultant. It is determined by the relative impact on a species (ie whether a species will be put in danger of extinction, numbers of individuals likely to be affected directly or indirectly, current status of species) and takes into account factors such as amount of clearing proposed, and surrounding amount of suitable habitat for that species. |
| **Ratings:** |
| **Nil** (plant only): Not present as site conditions (ie soil/geology, climate, elevation etc) and on site survey verify it was not present. |
| **Negligible:** No impact can be discerned, but is included as there is a minor chance of that species possibly using the site (using the precautionary principle). In some cases there may also be positive impacts such as more foraging feed available from clearing some understorey and promoting native grass growth, or establishment of more vegetation. |
| **Very Low:** Individuals unlikely to be affected, and if they are in a very minor way with no major effect likely on any individual. |
| **Low:** Recognises that individuals may be present on site (either permanently or infrequently) and affected in a small way such as some minor loss of habitat, such as foraging resources. Does not include loss of nesting habitat or shelter. Suitable surrounding habitat is available to offset direct impact, but it is acknowledged that this may place an individual under more stress, and lead to possible death of an individual. |
| **Moderate:** Individuals will be affected, with impact likely to cause stress and possible death to a local individual or group of individuals. Loss of habitat may lead to the significant impact on a small local population, with its possible demise. |
| **High:** Will cause the death directly of local individuals, and lead to the loss of habitat for that species to re-establish permanently. Will lead to the death or reduction of a local population/family group, and increase the chance of extinction of the species. |

Please note that often fauna records and research are not complete, fauna sampling/survey may not have occurred in all seasons, or over all parts of site, and therefore these are subjective ratings only and may change over time. They are put here as guide only for regulatory authorities, and the proponent to consider.

A collective seven part test is presented below for all species possibly affected as listed in Table 1:

## 6.1 COLLECTIVE SEVEN PART TEST UNDER SECTION 5A OF THE EP&A ACT 1979

1) ***In the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction.***

The species considered as being possibly affected are all the fauna species listed in Table 1 which have an assessment rating of very low. As discussed there are no identified direct impacts on any species, with only very minor indirect impacts possible. If the recommendations are followed in this report then these minor impacts will also be ameliorated.

There will certainly be no adverse effects on any species such that its local population is put at risk of extinction.

2) ***In the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that the viability of the species is likely to be placed at risk of extinction.***

No endangered populations of any fauna or flora species have been identified for this site.

3) ***In the case of a critically endangered or endangered ecological community, whether the action proposed:***
   - ***(i) Is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or***
   - ***(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.***

One endangered ecological community is present on the subject site. This Endangered Ecological Community will not be impacted upon, with all vegetation (except weeds) to be retained. This will assist in its ongoing viability and positively assist it, as well as those fauna which rely on it.

***4) In relation to the habitat of a threatened species, population or ecological community:***

***(i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and***

***(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and***

***(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long term survival of the species, population or ecological community in the locality.***

(i) No land will be cleared. It is possible that some exotic planted species over the cleared land (SP1) may be removed, and weeds over land in E2. Therefore habitat modification is minor.

(ii) No, habitat will not be fragmented or isolated due to all vegetation along the riparian zone being retained. Existing Bunya trees along Palmdale Road will also be retained.

(iii) No habitat is being removed, and offsite impacts are considered to be very slight to negligible. Therefore there is no anticipated impact on any threatened species, or the Endangered Ecological Community.

***5) Whether the action proposed is likely to have an effect on critical habitat (either directly or indirectly)***

No there is no listed critical habitat for this site.

***6) Whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan.***

There are over 200 recommended actions for the preservation of the listed threatened species as listed by Department of Environment and Climate Change. In summary most actions are concerned with the strategies of habitat retention, education of landholders and surrounding people, research, mapping of habitat areas, implementing protocols and guidelines, and habitat rehabilitation/restoration/regeneration (Department of Environment and Conservation, 2008).

This rezoning and proposed landuse is consistent with these objectives. Recommendations made later by the consultant will further address some of these objectives.

***7) Whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.***

A total of thirty key threatening processes are listed on Schedule 3 of the TSC Act 1995, and a further 14 on the federal EPBC schedule. Of relevance to this proposal are:

- Predation, habitat degradation and competition by fox ,feral cats, honey bees, and rabbits;
- Clearing of native vegetation/ land clearance;
- Invasion of plant communities by exotic perennial grasses, and exotic vines and scramblers and lantana;
- Loss of hollow bearing trees;
- Ecological consequences of high frequency fires;
- Removal of dead wood and dead trees.

The subject site is currently, or has had in the past, many of these threatening processes operating. The proposed works do not constitute a key threatening process, and will in fact address one of the main threatening processes operating on this site - invasion by exotic weeds.

The proposal in the consultant's opinion conforms to the TSC Act (2005) and EP&BC Act (1999) due to the minor nature of works and does not need referring to the Department of Environment, Climate Change and Water.

## 7.0 CONCLUSION AND RECOMMENDATIONS

The Seven Part Test of significance and other ecological investigations have found that there is no significant threat or impact on any local species, populations or ecological communities.

The following recommendations if adopted will assist in improving environmental outcomes for this site. Note these are not considered essential:

- All declared noxious and other weeds should be controlled and where feasible removed. To achieve this a Vegetation Management Plan should be developed targeting weed control, and ongoing maintenance of the proposed E2 Zoned land. Once this has occurred natural regeneration should occur, with no need to replant. This will ensure local species provenance and diversity are maintained within the Endangered Ecological Community.

- When feasible in the short term retain some existing trees in the cleared area (SP1), and over time replace these with local indigenous trees such as those listed in the flora survey (Appendix 1). Retain all road reserve vegetation – especially heritage listed Bunya Pines.

- Erect silt fencing round all site works in accordance with council erosion and sediment control policy. No sediment or nutrient runoff from fertilized areas should enter the creek.

- No lighting over remnant vegetation to prevent disturbance to nocturnal fauna.

- No exotic grasses or other plants with weed potential should be introduced to the site.

If these recommendations are carried out then a positive environmental impact is envisaged.

Report prepared by:

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PEAK LAND MANAGEMENT

**DISCLAIMER:** Whilst every effort is made to present clear and factual information based on current scientific data, on site field survey, and council guidelines no guarantee is made that all species have been identified on the site, or that all information is presented to councils satisfaction, or that the development will be approved as this is in the hands of the approving statutory authorities. Consequently no liability is accepted for losses, expenses or damages occurring as a result of information presented in this document.