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PRELIMINARY ADVICE REGARDING THE PROPOSED REZONING OF PARKSIDE

Dear Peter

The purpose of this letter is to provide feedback and recommendations of a peer review of ecological assessment work regarding the proposed rezoning of Lot 2 DP 1111392, Lot 8 DP 876102, Lot 202 DP 831864, Lot 4 DP 37914 and Lot 1 DP 381971 (hereafter referred to as the 'subject lands') at 'Parkside', Terrigal.

1. INTRODUCTION

As you are aware, in order to provide advice, Cumberland Ecology undertook a site inspection on 6 November 2009, reviewed the ecological reports prepared for the subject lands and considered Council's recent correspondence and accompanying memo in respect of the rezoning application (the Council report). We have provided a detailed response to the Council report in **Appendix A** to this letter.

Council have raised a suite of related ecological issues and cited many policy documents. In short, Council are opposed to the levels of ecological impacts upon threatened flora and fauna that it believes would result from the rezoning of the land.

Council disputes the conservation values ascribed to some areas of the subject lands. Council contends that the site is largely forested with Old Growth trees and that these in turn support a range of threatened fauna. The Council report states that there is also a likelihood that the proposed residential zoning would result in indirect damage to Lowland Rainforest on site, which is an endangered ecological community (EEC). Council's primary justification for its concern is that the vegetation and habitats on the subject lands, particularly the presence of Old

Growth trees, are already afforded conservation protection under the existing LEP and the proposed rezoning will result in a net loss of 10.4ha of forest vegetation.

We recognise that a number of concerns of Council are valid and should be addressed by providing a modification to the proposed rezoning. We also believe that for each and every argument raised by Council, some degree of counter argument exists (see our full comments in **Appendix A**). Notwithstanding that, some aspects of the Council arguments would appear to be valid. A summary of the key issues is provided below.

2. KEY ISSUES

2.1 Old Growth trees

Council raised concerns relating to the presence of Old Growth trees on the subject lands. It was noted by Council that Old Growth trees at this particular growth stage provide important habitat features for threatened and non-threatened native fauna species and the abundance and distribution of these trees has been greatly reduced in the locality.

During our site inspection we noted that the subject lands consisted of a mix of regenerating and mature trees, both within and outside of the development footprint. It is not considered that the majority of canopy species within the proposed development footprint constitute Old Growth. However there are some old trees present. It is agreed that Old Growth trees can provide important habitat features, such as hollows, for the threatened fauna occurring on the subject lands.

We agree that there will be a loss of Old Growth trees and surrounding habitat for a number of fauna species known to occur on the subject site. However, for a number of the species recorded on the subject lands, a large portion of the habitat to be removed is not considered to be significant given its condition and location. The Sooty Owl, Powerful Owl and Yellow-bellied Glider are likely to more readily utilise the area containing denser vegetation in the southern portion of the subject lands, which affords greater protection.

Although some Old Growth trees will be removed within the development footprint, large areas of vegetation containing Old Growth trees will be retained within the land being transferred to Council and within the retained riparian corridors. Additional areas containing Old Growth trees include the land zoned as 7(a) Private Conservation. We recommend that portions of the 7(a) Private Conservation zoned land totalling 5.1ha be included within the offsets package (see **Figure 1**). Covenants can be placed over these areas to ensure that any future development is confined to cleared areas, thus retaining additional areas of vegetation and associated habitats.

2.2 Reduction of size and types of communities

Council raised concerns about the loss of communities once characteristic of the locality and the reduction of patch size. Council are of the opinion that the proposal relies too heavily on the presence of Kincumber Mountain Reserve for the long term survival of plant and animal communities. Council argued that given the size of Kincumber Mountain Reserve, it relies on adjoining conservation reserves to strengthen the size, quality and functionality. Council also

raised concerns regarding the loss of the types of vegetation communities occurring on the subject lands, which are regarded to have once characterised the lower hills and valleys of the Erina/Terrigal area.

The vegetation to be retained on the subject lands is of a size that would enable the protection of the existing plant communities and animal species. Alteration to parcel size is not considered to result in the significant loss of plant and animal communities because sizeable representative areas will be conserved in the area in the long term. The subject land forms an outer edge to a large patch of vegetation in the area. When taking into account the surrounding vegetation, the proposed development will not isolate vegetation further than current conditions. The transfer of 18ha of land into the Gosford COSS is considered to constitute greater protection of the vegetation and will significantly add to the patch size of the vegetation around Kincumber Mountain Reserve.

The proposed development will result in the loss of an area of vegetation that was once characteristic of land within the Gosford LGA. Although vegetation communities that are characteristic of the land within urban areas will be removed within the development footprint, these types of communities and associated habitats will also be conserved within the undeveloped portions of the subject lands. Three vegetation communities are proposed to be removed from the development footprint (Narrabeen Coastal Blackbutt Forest, Disturbed Vegetation (Regenerating) and Grassland with Scattered Trees). Each of these communities is to be represented within the retained vegetation. In addition to these, the following additional communities will also be retained: Coastal Warm Temperate Rainforest (Lowland Rainforest EEC) and Coastal Narrabeen Moist Forest. There is potential to conserve additional areas of these communities on the subject lands.

2.3 Buffers

Council noted that one of the main threats to biodiversity identified within the Gosford City Council Biodiversity Strategy 2008 is the erosion of the conservation zoned transitional lands that buffer the bushland urban interface. Council is of the opinion that the current zoning of the subject lands affords an adequate buffer between urban development and conserved land.

Although we believe there will some loss of a buffer, under the proposed development a buffer will be maintained across a portion of the boundary between the proposed development and vegetation transferred to Council and adjoining vegetation. Three rural properties are located adjacent to the north western boundary of the land to be transferred to Council. These properties act as a buffer between the proposed development and the adjoining vegetation in Kincumber Mountain Reserve and the vegetation to be dedicated to Council. Appropriate mitigation measures can assist in the protection of conserved land at the development interface.

Portions of two properties (Lot 202 DP 831864 and Lot 4 DP 37914) will be zoned 7(a) Private Conservation (see Figure 3 – Ecological Site Assessment). To further the protection of these buffer areas, we recommend that portions of these areas be managed for conservation purposes (see **Figure 1**) and are included within the offsets package. Covenants can be placed over these properties to ensure that any future development is confined to cleared areas, thus retaining additional areas of vegetation and associated habitats.

2.4 Corridors

Council noted that the subject lands play an important role in strengthening the overall patch size of the Kincumber Mountain Reserve and increase the viability of long-term habitat for threatened species. Council believes the proposed development will further erode vegetation links with other nearby bushland.

Although some vegetation will be cleared for the proposed development, a number of wildlife corridors and vegetation links will be retained on the subject lands following development. We believe these corridors are adequate given the location of the subject lands at the edge of a patch of vegetation. These corridors include a link to Kincumber Mountain Reserve and riparian corridors. The connectivity opportunities on the subject lands have been shown within the Ecological Site Assessment (Figure 3). Implementation of the riparian management plan in addition to the recommended protection and rehabilitation of adjacent 7(a) Private Conservation zoned land will also improve the riparian and broad network of links.

2.5 Threatened Species

Council raised concerns about the impacts to threatened species and their habitats, in particular impacts to the Yellow-bellied Glider, Powerful Owl, Sooty Owl and microchiropteran bats. Council is also concerned that the impacts to these species were not adequately assessed. Council argued that the land is currently zoned conservation and accordingly these species and community are protected under the provisions within the existing LEP.

We believe that the value of the habitat within the development footprint has been underestimated and the habitat mapping needs revision. Once the habitat mapping has been revised the impacts to each threatened species and the endangered ecological community can be adequately assessed.

We agree that subject lands support known and suitable habitat for these species, and some habitat will be lost as a result of the proposed rezoning and subsequent development. However, the habitat within the development footprint is considered to be of less value than the retained vegetation. Trees containing hollows of a suitable size as nesting/roost habitat for the Yellow-bellied Glider, Powerful Owl and Sooty Owl have been recorded within the development footprint and within retained vegetation. However, a number of the hollow-bearing trees recorded are not of a suitable size for these species. These species are more likely to utilise the denser vegetation, which is proposed to be retained, would afford safer nesting/roosting and foraging habitat. Suitable habitat for the microchiroperan bat species occurs across the subject lands. Potential habitat is available within the development footprint for the microchiropteran bat species, however it is not considered as having higher value than the areas proposed to be retained.

The vegetation to be removed is not considered to be significant for the long-term viability of the local populations of these species. Dedication of 18ha of the subject lands to the Gosford COSS would permanently add to the amount of habitat protected in the locality. The riparian corridors would also afford suitable habitat for these species and would be improved via a management plan.

2.6 Threatened Communities

Council raised concerns about the impacts to the endangered ecological community Lowland Rainforest. Council noted that the main threat to Lowland Rainforest vegetation posed by the proposed rezoning is the removal of large Old Growth trees in the north western portion of the site. Council suggest that the trees provide protection to the vegetation from the western sun.

We noted during the site inspection that the trees on the western slopes above the rainforest are not all Old Growth, nor do they form a complete canopy protecting the rainforest. The existing silhouette along the western ridge line in the afternoon shows that this is not a complete barrier. The rainforest in the gully is sheltered from the westerly sun to a large degree from the ridge line. The regeneration of vegetation in the 10m buffer will afford protection to the rainforest. The rainforest is likely to persist in the gully in the long term if the land is rezoned.

2.7 Maintain or Improve Assessment

Council noted that the maintenance and enhancement of existing biodiversity is a key priority, with an aim to have no net loss. Council does not believe that the proposed rezoning and subsequent actions will maintain or improve the biodiversity values of the subject lands.

We agree that there will be a loss of habitat for a number of fauna species known to occur on the subject site. However, for a number of the species recorded on the subject lands, a large portion of the habitat to be removed is not considered to be significant given its condition and location. The Sooty Owl, Powerful Owl and Yellow-bellied Glider are likely to more readily utilise the area containing denser vegetation in the southern portion of the subject lands. The addition of land to the Gosford COSS will increase the reserve size of the adjacent vegetation, and with the corridors, sufficient forested land will be retained to conserve these species in the locality.

The most recent maintain or improve assessment is contained within the BioBanking methodology. Although a BioBanking assessment is not being conducted on the subject lands, the above assessment can broadly be applied to the proposed development.

The proposed development is not directly impacting the biodiversity values of a red flag area. The proposed development will be offset in-situ through a number of mechanisms. At present the proposal will remove 10.4ha of vegetation and as an offset will dedicate 18ha of vegetation to Council and maintain and manage approximately 5ha of riparian vegetation. The latter areas would offset the proposed development at an approximate 2.2:1 ratio. We recommend that portions of land zoned 7(a) Private Conservation be managed for conservation purposes (see **Figure 1**) and included in the offsets package. Provisions to retain vegetation within these areas (totalling 5.1ha) would increase this offset ratio to 2.7:1.

A total of 33 hollow-bearing trees, ranging in heights from 8m to 35m, were recorded within the development footprint. In addition to this, 59 hollow bearing trees were recorded in the land dedicated to Council. There is also potential for additional hollow-bearing trees to occur in the retained area which have not been surveyed. Hollow-bearing trees will be offset within the

subject lands at an approximate 1.8:1 ratio. As an additional offset measure, 100 nest boxes are proposed to be erected within retained vegetation.

2.8 Current Level of Ecological Protection

Council raised the issue of the current level of protection afforded to the subject lands throughout their report. Council argued that the land is currently zoned conservation and accordingly protected under the provisions within the existing LEP. Council argued that entering the retained southern portion of the subject lands into the Gosford COSS would not increase the amount of conserved land.

While a valid point, we believe the transfer of the land into the Gosford COSS is considered to constitute greater protection of the vegetation and habitats within this portion of the subject lands. Under the current zoning (7(a) Conservation and Scenic Protection (Conservation)) and tenure, the following development is permitted with consent: development for agriculture, bed and breakfast accommodation, dams, dwelling-houses, roads, and subdivision. The Gosford COSS is based on the conservation and enhancement of the natural environmental for a multiple range of reasons that are in the public interest and essential for nature conservation and scenic quality[1]. Dedication of 18ha of the subject lands to the Gosford COSS will significantly add to the patch size of the vegetation in Kincumber Mountain Reserve.

3. RECOMMENDATIONS

We recognise that a number of concerns of Council are valid and should be addressed by providing a modification to the proposed rezoning. The adjustments should seek to reduce the projected 10.4ha loss of forest land and threatened fauna habitat.

Our key recommendations are to modify the flora and fauna impact assessment for the rezoning proposal and:

1. Discuss habitat values of the site to more accurately reflect the habitat available for each species;

2. Adjust the impact assessments of some species to more accurately reflect the habitats to be cleared; and

3. Consider adding parts of the two lots of 7(a) zoned land totalling 5.1ha (see **Figure 1**) that are not formally covered by the current rezoning proposal as offsets that can be regenerated to reduce the net loss of forest. These areas should be subject to rehabilitation in order to achieve these offsets.

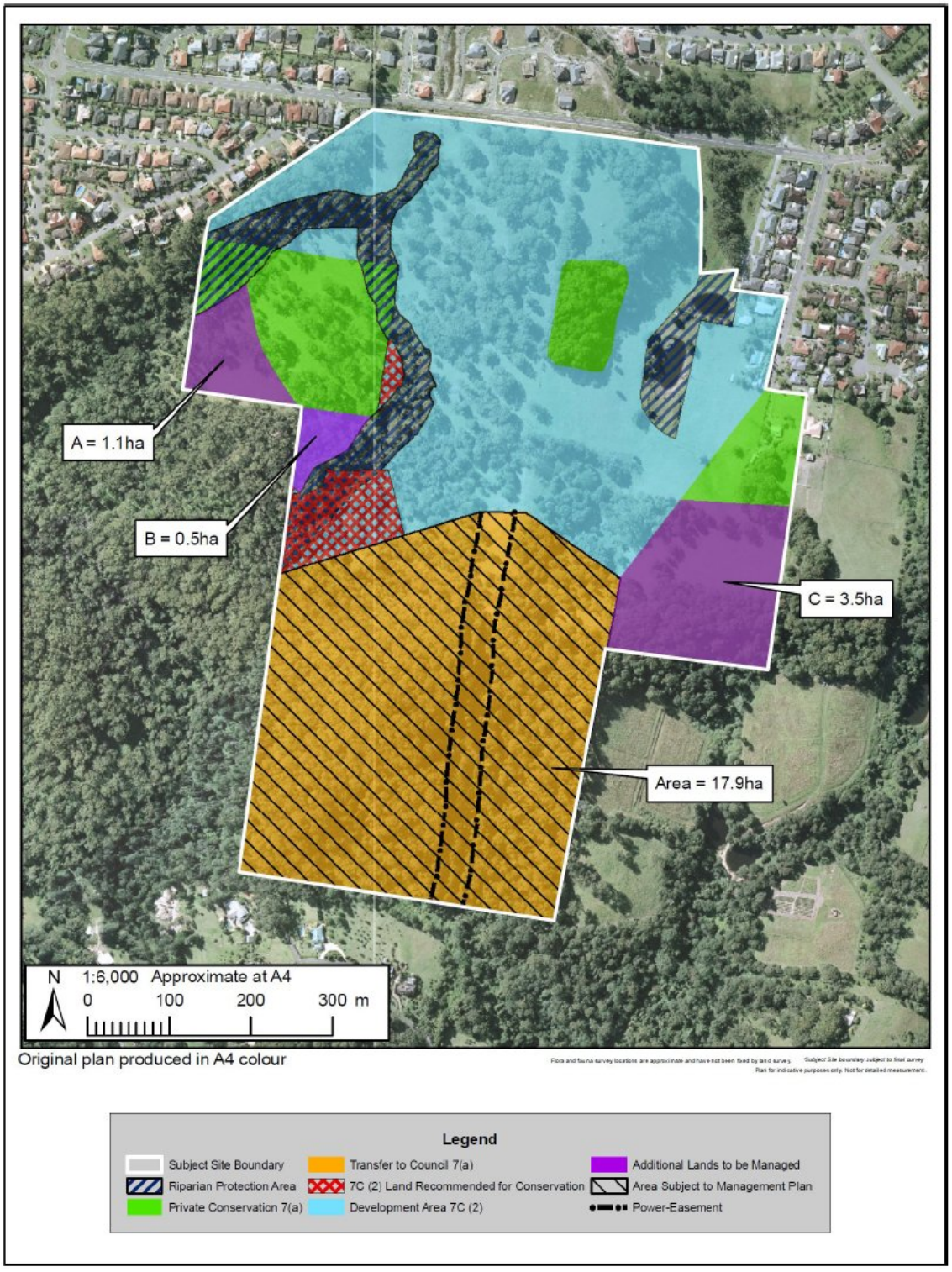

FIGURE 1 Recommended additional offset areas (shown in purple)

It would be beneficial to this process of review to meet with Council officers in order to discuss the above recommendations. If you would like to discuss this matter further please phone me on 9868 1933.

Yours sincerely

David Robertson

Director

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Appendix A

Response to Council Comments

A.1 Introduction

The purpose of this report is to provide feedback and recommendations of a peer review of ecological assessment work regarding the proposed rezoning of Lot 2 DP 1111392, Lot 8 DP 876102, Lot 202 DP 831864, Lot 4 DP 37914 and Lot 1 DP 381971 (hereafter referred to as the 'subject lands') at 'Parkside', Terrigal.

This report is based upon a site inspection on 6 November 2009, review of ecological reports about the subject lands prepared by Conacher Environmental Group (Conacher) on behalf of the proponent, and consideration of Council's recent assessment of the rezoning application in addition to discussions held with Conacher. We have not yet been able to meet with Council to discuss these matters, but believe it would be useful to do so.

A.2 Background

A rezoning application for the subject lands was lodged with Gosford Council in 2009. An Ecological Site Assessment prepared by Conacher Environmental Group (Conacher) in October 2008 was submitted as part of the Local Environment Study. Gosford Council has raised a number of ecological issues in regard to the rezoning application. A letter from Council dated 25 September 2009, and accompanying memo, details the ecological reasons why Council officers do not support continuation of the rezoning process. Council does not support the current proposal because it believes the ecological impacts, principally impacts upon threatened species, are too great.

Cumberland Ecology has been commissioned to provide feedback and recommendations regarding the rezoning application in response to the issues raised by Council.

A.3 Review of Council Comments

The ecological assessment conducted by Council determined that the rezoning application could not be supported due to a number of reasons including 'non compliance with a State Planning Policy and Species Recovery Plans'. The following list outlines the key areas in which Council raised concerns:

- State Environmental Planning Policy No. 19 – Bushland in Urban Areas;
- Central Coast Regional Strategy 2006-31;
- Biodiversity Values and Maintain or Improve Outcome;
- Gosford City Council Biodiversity Strategy 2008;
- Site Suitability based on Environmental Attributes;
- Yellow-bellied Glider approved Recovery Plan;
- Yellow-bellied Glider Assessment of Significant Pursuant to Section 5A;
- Large Forest Owls approved Recovery Plan Threatened Microchiroptera Bat Species;

- Lowland Rainforest Endangered Ecological Community and the Gosford City Council Rainforest Policy D6.49;
- Environmentally Sustainable Development; and
- Greenhouse Gas Emission and Climate Change.

A review of all Council comments is provided in the sections below.

A.4 Response to Council Comments

Cumberland Ecology has responded to each of the issues raised by Council. In the following sections of the report, excerpts from the Council report are provided in italics, followed by a response in plain text.

A.4.1 State Environmental Planning Policy No. 19 - Bushland in Urban Areas

The land is zoned Conservation and the following Comments are provided in respect to the current proposal and the specific aims of the Policy.

A4.1.1 Council Comment

(a) to protect the remnants of plant communities which were once characteristic of land now within an urban area

The proposed rezoning will result in the net loss of approximately 10.4ha of forest vegetation. This vegetation type is of open forest structure with the canopy exhibiting floristic diversity. The majority of canopy trees range from late mature to overmature to senescing age class and are characteristic of Old Growth value. This growth stage of open forest vegetation has been greatly reduced within the local area due to historic and current land use activities in particular through urban development.

Open forest vegetation on the site containing trees of an Old Growth age class are remnants of plant communities that once characterised the lower hills and valleys of the Erina / Terrigal area. A large majority of Open Forest and Old Growth trees have been historically logged or removed for agricultural and urban land uses within the Gosford LGA. The deterioration of these bushland areas of high landscape and environmental value within the Gosford LGA were identified as an issue as far back as the early 1970's.

Whilst it is acknowledged that the proposal plans to protect 18ha of forest vegetation in the southern portion of the site and the retention and management of the northwestern creek system, these areas are currently protected through provisions within the existing LEP and State legislation.

Given the proposed rezoning will result in the net loss of approximately 10.4ha of native open forest vegetation that is currently zoned conservation and accordingly protected under provisions within the existing LEP, it can only be concluded that the proposal will reduce existing bushland within the Gosford LGA.

Approval of this rezoning application would be contrary to this aim of SEPP 19.

A4.1.2 Cumberland Ecology Comment

It is agreed that the canopy of the subject lands exhibit floristic diversity, with 43 native species having been recorded. However, it is not considered that the majority of canopy species within the proposed development footprint constitute Old Growth trees. During our site inspection we noted that the subject lands consisted of a mix of regenerating and mature trees, both within and outside of the development footprint. It is not considered that the majority of canopy species within the proposed development footprint constitute Old Growth. However there are some old trees present. The proposed development will retain mature trees within the land being transferred to Council and within the retained riparian corridors.

Three vegetation communities are proposed to be removed from the development footprint (Narrabeen Coastal Blackbutt Forest, Disturbed Vegetation (Regenerating) and Grassland with Scattered Trees). Each of these communities is to be represented within the retained vegetation. In addition to these, the following additional communities will also be retained: Coastal Warm Temperate Rainforest (Lowland Rainforest EEC) and Coastal Narrabeen Moist Forest.

The 18ha of land to be dedicated to Council is to become part of the Gosford Coastal Open Space System (COSS). The transfer of the land into the Gosford COSS is considered to constitute greater protection of the vegetation and habitats. Under the current zoning (7(a) Conservation and Scenic Protection (Conservation)) and tenure, the following development is permitted with consent: development for agriculture, bed and breakfast accommodation, dams, dwelling-houses, roads, and subdivision. The Gosford COSS is based on the conservation and enhancement of the natural environmental for a multiple range of reasons that are in the public interest and essential for nature conservation and scenic quality[1]. Dedication of 18ha of the subject lands to the Gosford COSS will significantly add to the patch size of the vegetation in Kincumber Mountain Reserve.

The proposed rezoning and subsequent development of the subject lands will result in the loss of 10.4ha of open forest vegetation and associated habitat. The majority of the vegetation to be removed falls within the current zoning of 7(c2) Conservation and Scenic Protection (Scenic Protection – Scenic Small Holdings). Although some level of conservation is attributed to this land, a number of development activities are currently permitted (with and without) consent and these could impact vegetation in the long term.

Conclusion

With regard to the SEPP 19 aim cited above SEPP 19 aim, the proposed development will result in the loss of an area of vegetation that was once characteristic of land within the Gosford LGA. Although vegetation communities that are characteristic of the land within urban areas will be removed within the development footprint, these types of communities and associated habitats will also be conserved within the undeveloped portions of the subject lands. The proposed development has implemented a number of measures that would minimise the degree of impacts to the vegetation. These measures include restricting development to areas containing disturbed vegetation, management of riparian areas and dedication of land to Council and subsequently the Gosford COSS. By dedicating 18ha of land to Council and restricting development within a number of proposed properties, areas of vegetation communities and habitats characteristic of the area will be protected in the long term on the subject lands.

Additional areas containing communities and associated habitats (such as Old Growth trees) include the land zoned as 7(a) Private Conservation (see Figure 3 – Ecological Site Assessment). Covenants can be placed over these areas to ensure that any future development is confined to cleared areas, thus retaining additional areas of vegetation and associated habitats.

A4.1.3 Council Comment

> *(b) to retain bushland in parcels of a size and configuration which will enable the existing plant and animal communities to survive in the long term,*

The proposed rezoning will reduce in size existing conservation zoned forest vegetation within the Gosford LGA. This will lead to an overall reduction of approximately 10.4ha of forest containing habitat for a large number of threatened and non-threatened species. Justification of the proposal relies heavily on the presence of Kincumber Mountain Reserves for the long term survival of plant and animal communities. Given the small reserve size of Kincumber Mountain Reserve (approx 450ha) the long term survival of plant and animal communities relies heavily on the fact that adjoining conservation zoned lands strengthen the reserve size, quality and functionality.

The proposed rezoning will lead to an overall reduction in patch size of an already small reserve and adjoining conservation land area. The existing zoning of the site allows for long term conservation and rural residential land use to coexist whilst maintaining the existing size and configuration of existing bushland. Minimum lot sizes (2ha) within this 7(c2) conservation zoning will ensure important habitat features can be maintained in the long term for plant and animal communities.

Approval of this rezoning application would be contrary to this aim of SEPP 19.

A4.1.4 Cumberland Ecology Comment

The proposed development of the subject lands will reduce in size existing Zone 7(c2) Conservation and Scenic Protection (Scenic Protection – Scenic Small Holdings) land. Approximately 10.4ha area of vegetation is proposed to be removed from the subject lands.

The subject land forms an outer edge to a large patch of vegetation in the area. When taking into account the surrounding vegetation, the proposed development will not isolate vegetation further than current conditions. Various movement corridors will be retained on and through the subject lands (see Figure 3 – Ecological Site Assessment). The threatened species known to occur on the subject lands are considered not to be significantly impacted by the reduction in size of available habitat or alteration of patch configuration. The vegetation to be retained on the subject lands is of a size and configuration that would enable the protection of the existing plant communities and animal species.

Threatened fauna species known to occur on the subject lands will have substantial areas of habitat retained in the locality. Owl species are likely to retain sufficient habitat to persist in the long term, as evidenced by survival of these species within the suburbs of Sydney in smaller patches of forest than occur around Kincumber Mountain Reserve.

Kincumber Mountain Reserve is approximately 600ha in size[2] and is 'geologically and ecologically diverse possessing samples of most of the landforms, soils, flora and fauna communities occurring within Gosford'[3]. Kincumber Mountain Reserve is a relatively large patch of vegetation within the surrounding landscape. Large patches of vegetation are capable of sustaining viable populations of most interior species and providing core habitat and escape cover for most large home range vertebrates[4]. The transfer of the land to Council will add to the patch size of the vegetation in Kincumber Mountain Reserve, and thus further ensure the long term survival of plant and animal communities within this area.

Conclusion

With regard to the SEPP 19 aim cited above, the proposed development will result in the alteration of vegetation parcel size and configuration.

Alteration to parcel size is not considered to result in the significant loss of plant and animal communities because sizeable representative areas will be conserved in the area in the long term. The vegetation to be retained on the subject lands is of a size that would enable the protection of the existing plant communities and animal species.

In general, the configuration would not be altered significantly. Rather it is the creation of a direct interface between development and conserved lands that could impact plant and animal communities. Covenants placed over private conservation areas to ensure that any future development is confined to cleared areas, thus retaining additional areas of vegetation would assist in creating a buffer at this interface.

A4.1.5 Council Comment

(c) to protect rare and endangered flora and fauna species,

The proposed rezoning will reduce existing conservation zoned land that contains actual habitat for the threatened species by approximately 10.4ha. The following species have been observed from within or near this area;

- *Powerful Owl (Ninox strenua);*
- *Sooty Owl (Tyto tenebricosa);*
- *Yellow-bellied Glider (Petraurus australis);*
- *Yellow-bellied Sheathtailed-bat (Saccolalmus flarlventris);*
- *Grey-headed flying-fox (Pteropus poliocephalus);*
- *Eastern Bentwing-bat (Miniopterus schreibersii oceanensis);*
- *Eastern False Pipistrelle (Falsistrellus tasmaniensis);*
- *Eastern Freetail-bat (Mormopterus norfolkensis);*
- *Greater Broad-nosed Bat (Scoteanax rueppellii); and*

- *Little Bentwing-bat (Miniopterus australis).*

The bushland also has been identified as containing potential habitat for a further 29 threatened fauna species and 5 threatened flora species.

This 10.4ha of actual and potential habitat for threatened species is currently zoned 7(c2) and protected from intensive residential development under provisions of the existing LEP. Given this, the proposal will result in the net loss of actual and potential habitat for threatened species that is currently conserved / protected by virtue of the existing zoning.

The Local Environment Study (LES) considers that this impact can be minimised through the retention of as much tree canopy as possible with particular emphasis on hollow- bearing tree retention. It is stated that this may be achieved through the positioning of dwellings to minimise loss of trees. This justification appears impractical given the old growth age class of the majority of existing trees and the slope of the land. The reliance on retention of large mature, late mature, over mature and senescing trees on steep lands and within lots generally below 1000m^2 for justification of this proposal is overly simplistic and fails to adequately assess the realistic impact of the proposal.

Approval of this rezoning application would be contrary to this aim of SEPP 19.

A4.1.6 Cumberland Ecology Comment

The proposed rezoning and subsequent development of the subject lands will result in the loss of known and potential habitat for a number of threatened species (10 known fauna species, 29 potentially occurring fauna species and 4 potentially occurring flora species). The vegetation to be removed falls within the current zoning of 7(c2) Conservation and Scenic Protection (Scenic Protection – Scenic Small Holdings). Although some level of conservation is attributed to this land, a number of development activities are permitted (with and without) consent.

It is not considered that the majority of canopy species within the proposed development footprint are constitute Old Growth. During our site inspection we noted that the subject lands consisted of a mix of regenerating and mature trees, both within and outside of the development footprint. It is not considered that the majority of canopy species within the proposed development footprint constitute Old Growth. However there are some old trees present.

Conclusion

With regard to the SEPP 19 aim cited above, the proposed development will result in the loss of known habitat for a number of threatened fauna species. However, the proposed development has implemented a number of measures that would minimise the degree of impacts. These measures include restricting development to areas containing disturbed vegetation, management of riparian corridors and dedication of land to Council and subsequently the Gosford COSS. In addition to these measure we recommend the protection, rehabilitation and management of a further 5.1ha of land within the 7(a) Private Conservation zone (see **Appendix B**). The habitats to be removed from the subject lands are not considered important for the survival of the species recorded given their degraded nature. It is considered that retained portions of habitat constitute better quality habitat for the threatened fauna species known to occur on the subject lands.

Although habitat for threatened species will be removed within the development footprint, these types of habitats will also be conserved within the undeveloped portions of the subject lands. Additional areas totalling 5.1ha containing communities and associated habitats (such as Old Growth trees) include the land zoned as 7(a) Private Conservation (see **Appendix B**). Covenants can be placed over these areas to ensure that any future development is confined to cleared areas, thus retaining additional areas of vegetation and associated habitats.

A4.1.7 Council Comment

(d) to protect habitats for native flora and fauna,

The proposed rezoning will reduce existing land zoned as conservation, which currently provides protection for native flora and fauna habitats by virtue of this existing zoning, by approximately 10.4ha.

Approval of this rezoning application would be contrary to this aim of SEPP 19.

A4.1.8 Cumberland Ecology Comment

The proposed rezoning and subsequent development of the subject lands will result in the loss of known and potential habitat for a number of threatened species. The vegetation to be removed falls within the current zoning of 7(c2) Conservation and Scenic Protection (Scenic Protection – Scenic Small Holdings). Although some level of conservation is attributed to this land, a number of development activities are permitted (with and without) consent.

The 18ha of land to be dedicated to Council is to become part of the Gosford COSS. The transfer of the land into the Gosford COSS is considered to constitute greater protection of the vegetation and habitats. In addition to the 18ha of land transferred to Council, the riparian corridors within the subject lands will be maintained and managed. Further, it is recommended that an additional 5.1ha of land within the 7(a) Private Conservation zone be protected, rehabilitated and managed (see **Appendix B**).

Conclusion

With regard to the SEPP 19 aim cited above, the proposed development will result in the loss of habitat for native species. However, the proposed development has implemented a number of measures that would minimise the degree of impacts. These measures include restricting development to areas containing disturbed vegetation, management of riparian corridors and adjacent lands and dedication of land to Council and subsequently the Gosford COSS.

Although habitat for native species will be removed within the development footprint, these types of habitats will also be conserved within the undeveloped portions of the subject lands. Additional areas containing communities and associated habitats (such as Old Growth trees) include the land zoned as 7(a) Private Conservation (see **Appendix B**). Covenants can be placed over these areas to ensure that any future development is confined to cleared areas, thus retaining additional areas of vegetation and associated habitats.

A4.1.9 Council Comment

(e) to protect wildlife corridors and vegetation links with other nearby bushland,

The subject site is currently zoned conservation and adjoins Kincumber Mountain Reserve lands. The site plays an important function in strengthen the overall patch size of the reserve and increasing the viability of long-term habitat for a range of high order threatened fauna species (see commentary on threatened Large Forest Owls p10-12).

Approval of this rezoning application would be contrary to this aim of SEPP 19 as it will further erode vegetation links with other nearby bushland.

A4.1.10 Cumberland Ecology Comment

A number of wildlife corridors and vegetation links will be retained on the subject lands following rezoning and development, including the link to Kincumber Mountain Reserve and riparian corridors (see Figure 3 – Ecological Site Assessment).

Dedication of 18ha of the subject lands to the Gosford COSS will significantly add to the patch size of the vegetation around Kincumber Mountain Reserve.

Conclusion

With regard to the SEPP 19 aim cited above, the proposed development will protect wildlife corridors and vegetation links with other nearby bushland. The connectivity opportunities on the subject lands have been shown within the Ecological Site Assessment. Implementation of the riparian management plan will also improve the riparian network of links.

A4.1.11 Council Comment

(g) to protect bushland for its scenic values, and to retain the unique visual identity of the landscape,

The subject site is elevated with a predominately northerly aspect and has views extending to the ridgelines of Wamberal as well as to the coast. The scenic protection attributes of this site were adequately addressed under the 1975 Rural Lands Study and remain consistent today. The site is currently appropriately zoned to retain scenic protection within the local area.

Approval of this rezoning application would be contrary to this aim of SEPP 19 as it will further erode the unique visual identity of the local landscape.

A4.1.12 Cumberland Ecology Comment

The proposed rezoning and subsequent development of the subject lands would result in the loss of some scenic value of the land. Some scenic values would be retained through the 18ha of bushland dedicated to Council, as well as within the riparian corridors. Retention of some trees throughout the development area and open space areas would be consistent with the visual identity of surrounding residential areas. Areas to be retained on site contain tall vegetation that assists greatly in maintaining vegetated characteristics.

A.4.2 Central Coast Regional Strategy 2006-31

A4.2.1 Council Comment

The propose rezoning is not consistent with the Central Coast Regional Strategy sustainability criteria for new land release areas - Environmental Protection for the following reason;

- *Fails to maintain or improve existing biodiversity values and will lead to a net reduction of approximately 10.4ha of actual and potential habitat for 39 threatened flora species and adversely impact on Lowland Rainforest Endangered Ecological Community (see commentary below).*

A4.2.2 Cumberland Ecology Comment

The proposed rezoning and subsequent development of the subject lands will result in the clearance of 10.4ha of vegetation which contains areas of known and potential habitat for a number of threatened species (10 known fauna species, 29 potentially occurring fauna species and 4 potentially occurring flora species).

The proposal includes provisions for the management and expansion of the riparian zones, which includes an area of Lowland Rainforest. Management of the riparian zones is considered to improve the current condition of this community. The areas of this community will be maintained and further improved through the implementation of a management plan.

Suitable habitat for the known and potentially occurring species, including hollow-bearing trees, will be retained within the land dedicated to Council and the riparian corridors. Additional areas containing suitable habitat is located within the land zoned as 7(a) Private Conservation (see **Appendix B**) Covenants can be placed over these areas to ensure that any future development is confined to cleared areas, thus retaining additional areas of vegetation and associated habitats. We recommend that a rehabilitation and management plan be implemented over these areas, totalling 5.1ha.

A.4.3 Biodiversity Values and Maintain or Improve Outcome

A4.3.1 Council Comment

The subject site exhibits rich biological diversity with a total of 164 native flora species and 125 native fauna species recorded. Of these, 16 flora species are listed as regionally significant and 10 fauna species are listed as threatened under the TSC Act 1995. Further, the site has been identified as providing potential habitat for 5 threatened flora species and 29 additional threatened fauna species. One endangered ecological community, being Lowland Rainforest, has also been recorded on the site.

In addition to this species inventory, the site contains a very large number of trees of an age class ranging from mature, late mature, overmature to senescing. These trees are characterised by structural features such as declining crown leaf area, trunk and shaping branches weakened by pathogen attack and increased development of dead branches, bayonets and hollow-bearing sections. Based on age class classification these trees are considered to be of 'Old Growth Value'.

Old Growth trees provide important habitat features for threatened and non-threatened native fauna species.

The proposed rezoning will result in the net loss of approximately 10.4ha of native open forest vegetation. This vegetation generally comprises of a mixture of the following vegetation communities;

- *Coastal Narrabeen Moist Forest (Eucalyptus saligna, Eucalyptus pilularis and Syncarpia glomulifera);*
- *Narrabeen Coastal Blackbutt Forest (Eucalyptus pilularis);*
- *Disturbed/ Regeneration Open Forest; and*
- *Grassland with Scattered Trees.*

Essentially the biodiversity impact of the proposal has been justified through the retention and management of the southern 18ha portion of the site and the northwestern creek system. This biodiversity offset measure does not comply to a maintain or improve outcome for the following reasons;

- *It will result in a net loss of 10.4ha on native vegetation that includes actual and potential habitat for 39 threatened flora species;*
- *Will result in a net reduction of potential habitat for 5 threatened flora species;*
- *Will result in the removal of a large number of Old Growth trees;*
- *Will irreversibly change light levels within Lowland Rainforest vegetation;*
- *Result in an overall reduction of biodiversity within the local area.*

Based on a review of the Ecological Site Assessment I am of the opinion that the actual loss of biodiversity can be summarised as follows;

- *Vegetation communities (excluding cleared areas) will be reduced by approximately 29%, in particular a net reduction of 46% of the Narrabeen Coastal Blackbutt Forest that is primarily of Old growth age class;*
- *Vegetation condition has not considered Old Growth values and clumped open forest with cleared understorey with areas of disturbed vegetation. The existing disturbed forest contains Old Growth trees, tree hollows, Yellow-bellied Glider sap feed tree species, both actual and potential and for threatened species and will result in the net loss of 10.4ha or 29% of high biodiversity value vegetation.*
- *Fauna habitat will be reduced by approximately 10ha;*
- *A net loss of 33 or 36% of hollow bearing trees.*

These net losses are attempted to be justified through the follow measures;

- *The transfer of 18ha of forested conservation land to the Coastal Open Space System;*

- *The retention and management of the northwestern creek system;*
- *Scattered Isolated young age class pockets of vegetation actively managed;*
- *An Integrated Water Cycle Management System.*

The reality is the land earmarked for transfer is currently zoned 7a and forms private conservation land protected under the LEP. The transfer of this land into public ownership generally improves long term conservation tenure although does not offset the loss of 10.4ha of open forest vegetation with Old Growth values.

The retention and active management of riparian and isolated pockets again does not adequately justify or offset the rezoning of existing conservation lands for residential purposes.

An Integrated Water Cycle Management System does not offset the loss of Old Growth trees as this is a base requirement for any subdivision development under DCP 165.

Further, the placement of nest boxes to offset the loss of Old Growth hollow-bearing trees is considered to be a synthetic strategy that is generally adopted when hollow-bearing tree loss is unavoidable. In the case of the subject site, it is argued that the land is currently appropriately zoned for long-term in-situ hollow-bearing tree retention.

Based on the above rational, the proposed rezoning fails to maintain or improve existing biodiversity values.

A4.3.2 Cumberland Ecology Comment

The proposed rezoning and subsequent development of the subject lands will result in the clearance of 10.4ha of vegetation which contains areas of known and potential habitat for a number of threatened species (10 known fauna species, 29 potentially occurring fauna species and 4 potentially occurring flora species).

It is not considered that the majority of canopy species within the proposed development footprint are constitute Old Growth. During our site inspection we noted that the subject lands consisted of a mix of regenerating and mature trees, both within and outside of the development footprint. It is not considered that the majority of canopy species within the proposed development footprint constitute Old Growth. However there are some old trees present. Additional areas containing Old Growth trees include the land zoned as 7(a) Private Conservation (see Figure 3 – Ecological Site Assessment). We recommend that portions of land zoned 7(a) Private Conservation be managed for conservation purposes (see **Appendix B**) and included in the offsets package. Covenants can be placed over these areas to ensure that any future development is confined to cleared areas, thus retaining additional areas of vegetation and associated habitats.

We agree that there will be a loss of habitat for a number of fauna species known to occur on the subject site. However, for a number of the species recorded on the subject lands, a large portion of the habitat to be removed is not considered to be significant given its condition and location. The Sooty Owl, Powerful Owl and Yellow-bellied Glider are likely to more readily utilise the area containing denser vegetation in the southern portion of the subject lands. The addition of land to the Gosford COSS will increase the reserve size of the adjacent vegetation,

and with the corridors, sufficient forested land will be retained to conserve these species in the locality.

The most recent maintain or improve assessment is contained within the BioBanking methodology. In simple terms, a development is regarded as improving or maintaining biodiversity values if:

- The development doesn't direct impact the biodiversity values of a red flag area on site;
- The direct impacts of the development on biodiversity values on site are offset by retirement of biodiversity credits determined by the offset rules and methodology; and
- The Director General determines that any indirect impacts of the development on on-site and off-site biodiversity values that cannot be mitigated through on-site measures are offset by the retirement of biodiversity credits determined by the offset rules and methodology.

Although a BioBanking assessment is not being conducted on the subject lands, the above assessment can broadly be applied to the proposed development.

The proposed development is not directly impacting the biodiversity values of a red flag area. The proposed development will be offset in-situ through a number of mechanisms. At present the proposal will remove 10.4ha of vegetation and as an offset will dedicate 18ha of vegetation to Council and maintain and manage approximately 5ha of riparian vegetation. The latter areas would offset the proposed development at an approximate 2.2:1 ratio. We recommend that portions of land to be zoned 7(a) Private Conservation be managed for conservation purposes (see **Appendix B**) and included in the offsets package. Provisions to retain vegetation within these areas would increase this offset ratio to 2.7:1.

A total of 33 hollow-bearing trees, ranging in heights from 8m to 35m, were recorded within the development footprint. In addition to this, 59 hollow bearing trees were recorded in the land dedicated to Council. There is also potential for additional hollow-bearing trees to occur in the retained area which have not been surveyed. Hollow-bearing trees will be offset within the subject lands at an approximate 1.8:1 ratio. As an additional offset measure, 100 nest boxes are proposed to be erected within retained vegetation.

A.4.4 Gosford City Council Biodiversity Strategy 2008

A4.4.1 Council Comment

One of the main threats to biodiversity identified within the Gosford City Council Biodiversity Strategy 2008 is the erosion of the conservation zoned transitional lands that buffer the bushland urban interface as stated below;

> *The urban fringe areas are generally zoned for rural small holdings which permits a minimum lot size of 2 hectares. This zone is generally located on land adjoining the urban areas and can acts as a buffer between the independent coastal settlements and the vegetated Conservation zoned land and/or public COSS reserves. The erosion of this buffer zone for urban development could have an adverse impact on the biodiversity if not managed appropriately.*

Further, the strategy highlights the need for protection of important habitat within conservation zoned lands and states;

> *The remnant vegetation on private land (which represents 14.7% of the total LGA) needs to be preserved where it provides important habitat in its own right and/or linkages between the reserves and National Parks……. The protection and management of native vegetation on private properties is therefore an important element of the Biodiversity Strategy.*

The proposed rezoning contains important biodiversity and habitat values and strengthens the adjoining Kincumber Mountain Reserve. The existing conservation zoning is consistent with the strategy.

A4.4.2 Cumberland Ecology Comment

A buffer will be maintained across a portion of the boundary between the proposed development and vegetation transferred to Council and adjoining vegetation. Three rural properties are located adjacent to the north western boundary of the land to be transferred to Council. These properties act as a buffer between the proposed development and the adjoining vegetation in Kincumber Mountain Reserve and the vegetation to be dedicated to Council. Appropriate mitigation measures can assist in the protection of conserved land at the development interface.

Portions of two properties (Lot 202 DP 831864 and Lot 4 DP 37914) will be zoned 7(a) Private Conservation (see Figure 3 – Ecological Site Assessment). To further the protection of these buffer areas, covenants can be placed over these properties to ensure that any future development is confined to cleared areas, thus retaining additional areas of vegetation and associated habitats.

The transfer of 18ha of land into the Gosford COSS is considered to constitute greater protection of the vegetation and will significantly add to the patch size of the vegetation around Kincumber Mountain Reserve.

A4.4.3 Council Comment

In addition, the proposed rezoning is not consistent with the following biodiversity principles set out in the strategy.

> *Biodiversity is best conserved insitu (ie where it occurs) and relocation of species and tradeoffs are not generally considered appropriate conservation outcomes.*

A total of 33 large Old Growth hollow-bearing trees will be removed and replaced with nest-boxes. Approximately 10.4ha of native vegetation will be removed and offset by land title transfer and active management of existing vegetation.

These tradeoffs are considered inappropriate conservation outcomes for the loss of actual and potential threatened species habitat and Old Growth trees. The existing conservation zone allows for insitu conservation.

The proposed rezoning is not consistent with this principle.

A4.4.4 Cumberland Ecology Comment

The offsets proposed for the subject lands are located *in situ*. At present the proposal will remove 10.4ha of vegetation and as an offset will dedicate 18ha of vegetation to Council and maintain and manage approximately 5ha of riparian vegetation. The latter areas would offset the proposed development at an approximate 2.2:1 ratio. We recommend that portions of land to be zoned 7(a) Private Conservation be managed for conservation purposes (see **Appendix B**) and included in the offsets package. Provisions to retain vegetation within these areas would increase this offset ratio to 2.7:1.

A total of 33 hollow-bearing trees, ranging in heights from 8m to 35m, were recorded within the development footprint. In addition to this, 59 hollow bearing trees were recorded in the land dedicated to Council. There is also potential for additional hollow-bearing trees to occur in the retained area which have not been surveyed. Hollow-bearing trees will be offset within the subject lands (*in situ*) at an approximate 1.8:1 ratio. As an additional offset measure, 100 nest boxes are proposed to be erected within retained vegetation.

A4.4.5 Council Comment

> *Biodiversity conservation objectives must consider and balance broader environmental, social and economic considerations.*

The rezoning of conservation lands with significant environmental attributes for the net gain of 145 dwelling entitlements does not appear balanced given the potential irreversible impact on biodiversity values. A large proportion of the land parcel is currently zoned 7(c2) and is permissible for further subdivision and will allow for additional mixed housing options within the Terrigal / Erina local area.

A4.4.6 Cumberland Ecology Comment

There is a balance between the proposed development and conservation of biodiversity values on the subject lands. The proposed development is restricted to areas containing disturbed vegetation and measures have been put in place to protect and manage retained vegetation. These measures include management of riparian areas and dedication of land to Council and subsequently the Gosford COSS. Currently there is a proposed 2.2:1 offset. We recommend that portions of land to be zoned 7(a) Private Conservation be managed for conservation purposes (see **Appendix B**) and included in the offsets package. Provisions to retain vegetation within these areas would increase this offset ratio to 2.7:1. The threatened species known to occur within the development footprint will be catered for within retained vegetation.

A4.4.7 Council Comment

> *Maintenance and enhancement of existing biodiversity is a key priority (ie with an aim to have no net loss).*

The proposed rezoning will result in a net loss of approximately 10.4ha of native vegetation. The proposal fails the maintain or improve outcome (see specific commentary in relation to this on p4-5).

A4.4.8 Cumberland Ecology Comment

Some biodiversity values will be lost from the subject lands. This loss is proposed to be offset by the dedication of 18ha of vegetation to Council and subsequently the Gosford COSS and the retention and management of the riparian corridors.

At present the proposal will remove 10.4ha of vegetation and as an offset will dedicate 18ha of vegetation to Council and maintain and manage approximately 5ha of riparian vegetation. The latter areas would offset the proposed development at an approximate 2.2:1 ratio. We recommend that portions of land to be zoned 7(a) Private Conservation be managed for conservation purposes (see **Appendix B**) and included in the offsets package. Provisions to retain vegetation within these areas would increase this offset ratio to 2.7:1.

A total of 33 hollow-bearing trees, ranging in heights from 8m to 35m, were recorded within the development footprint. In addition to this, 59 hollow bearing trees were recorded in the land dedicated to Council. There is also potential for additional hollow-bearing trees to occur in the retained area which have not been surveyed. Hollow-bearing trees will be offset within the subject lands at an approximate 1.8:1 ratio. As an additional offset measure, 100 nest boxes are proposed to be erected within retained vegetation.

A4.4.9 Council Comment

> *Highest priority should be given to the conservation and recovery of threatened species, populations and communities.*

The subject site has been identified as containing actual and potential habitat for 39 threatened fauna species and one endangered ecological community. The existing conservation zoning assists in the conservation and recovery of threatened species, populations and communities through the protection of habitat under provisions within the existing LEP. The proposed rezoning is contrary to this principle.

A4.4.10 Cumberland Ecology Comment

All of the Lowland Rainforest on the subject lands will be retained. The north western portion will be actively managed to improve its condition through the implementation of a management plan. The southern portions form part of a parcel of land to be dedicated to Council and subsequently the Gosford COSS.

The proposed development will result in the loss of known habitat for a number of threatened fauna species. However, the proposed development has implemented a number of measures that would minimise the degree of impacts. These measures include restricting development to areas containing disturbed vegetation, management of riparian corridors and dedication of land to Council and subsequently the Gosford COSS. The habitats to be removed from the subject lands are not considered important for the survival of the species recorded given their degraded nature. It is considered that retained portions of habitat constitute better quality habitat for the threatened fauna species known to occur on the subject lands.

Although habitat for threatened species will be removed within the development footprint, these types of habitats will also be conserved within the undeveloped portions of the subject lands. Additional areas containing communities and associated habitats (such as Old Growth trees)

include the land zoned as 7(a) Private Conservation (see Figure 3 – Ecological Site Assessment). Covenants can be placed over these areas to ensure that any future development is confined to cleared areas, thus retaining additional areas of vegetation and associated habitats.

A4.4.11 Council Comment

> *Council's Citywide LEP 2009-2013 should concentrate future development within the existing urban footprint to minimize disturbance to natural bushland and conserve biodiversity.*

The proposed rezoning is outside the existing urban footprint and will result in the removal of 10.4ha of natural bushland and reduce existing biodiversity values.

A4.4.12 Cumberland Ecology Comment

Agree that the proposed development is outside the existing urban footprint, however it is adjacent to residential development. Retention of some trees throughout the development area and open space areas would be consistent with the visual identity of surrounding residential areas.

A4.4.13 Council Comment

In respect to the biodiversity strategy the Council should not proceed with this rezoning based on the following principle;

> *Council will apply a precautionary approach where there is a chance that a plan or activity may lead to irreversible biodiversity consequences.*

The proposed rezoning is likely to lead to a significant impact on the Yellow-bellied Glider and through additional habitat reduction there is uncertainty over the long term viability of the Large Forest Owl species within the adjoining Kincumber Mountain Reserve.

It is unknown if the proposed rezoning is likely to lead of a significant impact on microchiroptera species.

Given scientific uncertainty and the specific high value habitat of the Old Growth trees to these species it would be prudent for Council to adopt a precautionary approach and maintain the existing conservation zoning.

A4.4.14 Cumberland Ecology Comment

The Kincumber Mountain Reserve is already sizeable (approximately 600ha) and likely to be suitable for the maintenance of habitat for the threatened species in question. For example, species such as the Powerful Owl and the microchiropteran bats occur in Sydney suburbs where much smaller reserves have been maintained than the Kincumber Mountain Reserve. As repeatedly stated above, the land proposed for rezoning does not contain Old Growth forest, though it does contain some Old Growth trees. Old trees with hollows suitable for sheltering the aforementioned threatened species occur across the Kincumber Mountain Reserve.

It is not necessary or appropriate to invoke the precautionary principle as an argument to reject the current rezoning proposal.

A.4.5 Site Suitability based on Environmental Attributes

A4.5.1 Council Comment

Steep Land

A large proportion of the proposed residential zoning is classified as steep land or those parts of the land that exhibit a slope in excess of 20%. Steep lands were one of the main land attributes considered in the 1975 Rural Lands Study for inclusion within conservation zonings. This attribute remains unchanged toady and it is considered based on the slope attributes that the site is currently within an appropriate land use zone.

A4.5.2 Cumberland Ecology Comment

The inclusion of steep lands within conservations zoning does not appear to be ecologically based. The steep lands on the subject lands are not considered to have higher biodiversity value than the flatter areas.

The presence of steep land on the subject lands is not considered to be a constraint to development. Areas to be conserved on the subject lands are based upon habitat values, rather than topography.

A4.5.3 Council Comment

Old Growth Trees

The majority of native open forest vegetation ear marked for rezoning to residential contains trees of an Old Growth age class. Old Growth trees provide important habitat features for threatened and non-threatened fauna species. The rezoning of conservation land containing large numbers of Old Growth trees to residential is deemed an inappropriate land use.

A4.5.4 Cumberland Ecology Comment

It is not considered that the majority of canopy species within the proposed development footprint are constitute Old Growth. During our site inspection we noted that the subject lands consisted of a mix of regenerating and mature trees, both within and outside of the development footprint. It is not considered that the majority of canopy species within the proposed development footprint constitute Old Growth. However there are some old trees present. It is agreed that Old Growth trees can provide important habitat features, such as hollows, for the threatened fauna occurring on the subject lands.

The proposed development will retain mature trees within the land being transferred to Council and within the retained riparian corridors. There is also potential for additional hollow-bearing trees to occur in the retained area which have not been surveyed. Hollow-bearing trees will be offset within the subject lands (*in situ*) at an approximate 1.8:1 ratio. As an additional offset measure, 100 nest boxes are proposed to be erected within retained vegetation.

A4.5.5 Council Comment

Threatened Species Habitat

The subject site has been recorded to contain actual habitat for 10 fauna species are listed as threatened under the TSC Act 1995. Further, the site has been identified as providing potential habitat for 5 threatened flora species and 29 additional threatened fauna species. One endangered ecological community, being Lowland Rainforest, has also been recorded on the site.

The proposed rezoning will reduce existing conservation zoned land that currently contains actual and potential habitat for the threatened species by approximately 10.4ha (see further commentary below in respect to threatened species).

A4.5.6 Cumberland Ecology Comment

The proposed retained vegetation would also provide habitat for the threatened species recorded. At present the proposal will remove 10.4ha of vegetation and as an offset will dedicate 18ha of vegetation to Council and maintain and manage 5ha of riparian vegetation. The latter areas would offset the proposed development at an approximate 2.2:1 ratio. We recommend that portions of land to be zoned 7(a) Private Conservation be managed for conservation purposes (see **Appendix B**) and included in the offsets package. Provisions to retain vegetation within these areas would increase this offset ratio to 2.7:1.

A4.5.7 Council Comment

Scenic Protection

The scenic protection attributes of this site were adequately addressed under the 1975 Rural Lands Study and remain consistent today. The site is currently appropriately zoned to retain scenic protection within the local area (see commentary p3).

A4.5.8 Cumberland Ecology Comment

The proposed rezoning and subsequent development of the subject lands would result in the loss of some scenic value of the land. Some scenic values would be retained through the 18ha of bushland dedicated to Council, as will the riparian corridors. Retention of some trees throughout the development area and open space areas would be consistent with the visual identity of surrounding residential areas.

A4.5.9 Council Comment

Site Suitability

Based on site specific characteristics such as Steep Land, Old Growth Trees, Threatened Species Habitat and Scenic Protection values the current 7(c2) zoning would appear to contain specific attributes more closely associated with 7(a) zoned lands as opposed to 2(a) residential attributes. Notwithstanding, the existing 7(c2) conservation zoning provides a suitable transition between the bushland urban interface allowing for the retention of biodiversity and scenic values.

In short, the specific site attributes are inappropriate for residential purposes and are consistent or appropriate to the current conservation zoning.

A4.5.10 Cumberland Ecology Comment

We agree that the subject lands contain characteristics that would warrant some level of conservation. However, consideration needs to be given to the need for affordable housing and business facilities within the Gosford LGA. We believe that there is potential to develop part of the subject lands whilst protecting and managing habitat for threatened species and communities.

A.4.6 Yellow-bellied Glider approved Recovery Plan

A4.6.1 Council Comment

In the preparation of a Local Environment Plan under Part 3 of the EP&A Act 1979 Gosford City Council is responsible to consider the approved Yellow-bellied Glider Recovery Plan.

The clearing of forests, fragmentation of habitat and isolation of populations due to urban development has been identified within the approved recovery plan as having localised threats to individual Yellow-bellied Glider populations. The recovery plan specifically identifies the Central Coast region as an area where inappropriate subdivisions have the potential to disrupt movements, isolate habitat and remove food resources. In addition to this, the plan states that habitat alteration and reduction can increase the amount of time an individual requires to forage for food resources. The recovery plan also identifies that alteration and reduction in habitat has the potential to lead to increased risk of predation from such species as the Powerful owl, Sooty Owl, Red Fox and Wild Dog. All these predation species have been recorded on the subject site.

The proposed rezoning will lead to the following direct impacts on the Yellow-bellied Glider;

- *Removal of potential Yellow-bellied Glider denning trees;*
- *Removal of potential sap feed trees species;*
- *A reduction of approximately 10.4ha of actual habitat; and*
- *Lead to an overall increase in habitat fragmentation.*

Based on these impacts the proposed rezoning is contrary to Objective 2 Action 2.3 of the approved recovery plan in that it proposes to rezone existing conservation zoned land containing actual Yellow-bellied Glider habitat types and sap tree species for the purpose of urban development. These habitat features are appropriately zoned in the existing conservation zoning of the land and thus is currently consistent with the objective of the plan.

The proposed rezoning also will exacerbate key threatening processes listed under the TSC Act 1995 for the Yellow-bellied Glider and will in particular result in;

- *The clearing of approximately 10.4ha of native vegetation;*

- *The removal of a large number of hollow-bearing trees of an old growth age class. In practical terms the DECC list the following protection measures needed to recover this species;*
- *Retain den trees and recruitment trees (future hollow-bearing trees);*
- *Retain food resources, particularly sap-feeding trees;*
- *Retain and protect areas of habitat, particularly mature or old growth forest containing hollow-bearing trees and sap-feeding trees;*
- *Maintain connectivity between habitat patches; and*
- *In urban and rural areas retain and rehabilitate habitat to maintain or increase the total area of habitat available, reduce edge effects, minimise foraging distances and increase the types of resources available.*

The proposed rezoning is contrary to these protection measures and will result in the net loss of old growth trees, hollow-bearing trees, sap feed tree species and actual habitat for the Yellow-bellied Glider. The proposed residential area is currently zoned conservation and allows protection of Yellow-bellied Glider habitat under the existing LEP.

Based on the above rational I am of the opinion that the proposed rezoning is contrary to Objective 2 Action 2.3 of the approved Recovery Plan for the Yellow-bellied Glider and will lead to a net reduction of habitat for this species.

A4.6.2 Cumberland Ecology Comment

Trees containing hollows of a suitable size as den habitat for the Yellow-bellied Glider have been recorded within the development footprint and within retained vegetation. However, a number of the hollow-bearing trees recorded are not of a suitable size for this species. The majority of hollows within the development footprint occur in patches of vegetation where an understorey is largely absent. Yellow-bellied Gliders prefer tall mature eucalypt forests[5], and the denser vegetation, which is proposed to be retained, would afford safer den and foraging habitat. The Yellow-bellied Glider may occasionally utilise the vegetation within the proposed development footprint for foraging at it contains known feed tree species. Known feed tree species are also located throughout the retained and adjacent vegetation. The removal of vegetation within the development footprint will not result in a loss of feed tree diversity.

The 10.4ha of vegetation to be cleared is not considered to constitute significant habitat for this species in the locality. Yellow-bellied gliders are only likely to utilise the vegetation within the development footprint occasionally. The vegetation in the northern portion of the subject lands is the extent of available habitat as residential development occurs to the north. Higher quality vegetation occurs in the southern portion of the subject lands and adjoining vegetation where vegetation cover is denser. This is indicated by the locations of the records of Yellow-bellied Gliders. A Yellow-bellied Glider was heard calling from the Open Forest within the south western portion of the subject land and adjoining Kincumber Mountain Reserve on two occasions.

The proposed development will not isolated potential habitat further than current conditions. Connectivity to other areas of habitat will be retained in the southern portion of the subject lands and along the riparian zones. The Yellow-bellied Glider is not expected to move through the subject lands to the north as the area is dominated by residential development. This species may move from west to east, a movement corridor which will be retained.

The proposed development will result in the reduction of habitat for this species. However, this habitat to be removed is not considered to form significant habitat.

A.4.7 Yellow-bellied Glider Assessment of Significance Pursuant to Section 5A

A4.7.1 Council Comment

In respect to the s5A assessment (7-Part Test) undertaken for this species the following issues are raised.

The local population is currently unknown. It is however assumed that the population is viable based on a precautionary approach.

The Yellow-bellied Glider lives in small family groups and occupy home ranges of between 20-85ha. These family groups are known to be territorial with little overlap occurring between the home range of adjacent family groups. Given population viability relies on offspring dispersal between family groups, long-term viability essentially requires a large contiguous habitat patch size.

The potential impact on the local population is currently unknown with the proposal relying on existing conservation zoned land and reserve land to minimise the impact of a 10.4ha reduction in habitat. This rational is overly simplistic as it is unclear what the existing habitat productivity actually is, what the population density of the Yellow-bellied Glider currently is and further what role the site plays in the long-term viability of the local population.

The proposed area to be rezoned residential contains a large number of trees exhibiting an old growth age class of which many exhibit suitable denning hollows. In addition, many trees within this area and are known sap feed tree species for the Yellow-bellied Glider. It is again over simplistic to dismiss these important habitat features and justify the proposal based on disturbance and decreased habitat value.

The fact is, the Yellow-bellied Glider was actually recoded from within the 7(c2) area and local observations of this species have documented that they often utilise denning hollows within similar conservation zoned lands in transitional urban bushland areas within the Gosford LGA.

The Ecological Site Assessment and s5A assessment for this species does not consider this potential denning habitat within the proposed impact area and only make reference to foraging habitat. It is clearly evident that a large number of trees within the proposed impact area provide suitable potential denning hollows and would provide potentially significant habitat for the Yellow-bellied Glider.

Based on the above rational and given the proposal will result in a net loss of approximately 10.4ha of Yellow-bellied Glider habitat, it is unclear if this rezoning application will lead to a significant impact on this species.

In light of this scientific uncertainty, a precautionary approach should be adopted in that the existing conservation land zoning ought to remain.

A4.7.2 Cumberland Ecology Comment

The DECCW Atlas of NSW Wildlife holds records of the Yellow-bellied Glider within the Kincumber Mountain Reserve from 1994-2007. A reconnaissance survey for Yellow-bellied Glider within the Kincumber Mountain Reserve was undertaken in 1997 by Integrated Site Planning and Management. This survey identified at least four separate groups of Yellow-bellied Gliders within the reserve. It was determined that the Yellow-bellied Gliders recorded formed a viable local population within the reserve.

The vegetation to be removed is not considered to be significant for the long-term viability of the local population. As discussed above, and the denser vegetation, which is proposed to be retained, would afford safer and less exposed denning and foraging habitat than the vegetation to be removed. Despite this there is some potential for the Yellow-bellied Glider to utilise the vegetation within the development footprint.

Thirty-three hollow-bearing trees are located within the development footprint, however not all of these contain hollows of a suitable size for the Yellow-bellied Glider. A greater number of hollow-bearing trees occur within the retained vegetation.

There would be a loss of feed trees within the development footprint. However, a diversity of feed trees would be retained within the land dedicated to Council and the riparian corridors.

As discussed previously, the vegetation within the development footprint is currently at the northern extent of vegetation available to this species. Records of this species are known throughout Kincumber Mountain Reserve which is approximately 600ha in size. Given that the home range of the Yellow-bellied Glider is 20-85ha, Kincumber Mountain Reserve has the potential to support a number of localised populations. Dedication of 18ha of the subject lands to the Gosford COSS would permanently add to the amount of habitat protected in the locality.

A.4.8 Large Forest Owls approved Recovery Plan

A4.8.1 Council Comment

The Powerful Owl and Sooty Owl have been recorded from within the subject site. In addition potential habitat has been identified within the site for the Masked Owl. These three threatened owl species are collectively referred to as Large Forest Owls under the approved Recovery Plan for these species.

In the preparation of a Local Environment Plan under Part 3 of the EP&A Act 1979 Gosford City Council is responsible to consider the approved Large Forest Owls Recovery Plan.

The approved Large Forest Owls Recovery Plan identifies the greatest threat to Large Forest Owls is further forest clearing and fragmentation of their habitat. The main objective within the recovery plan that is applicable to this application is;

> *Manage and protect habitat off reserves and state forests*

In order to achieve this, two specific objectives are listed. The first of these specific objectives is Objective 4 that states;

> *Objective 4: Ensure the impacts on large forest owls and their habitats are adequately assessed during planning and environmental assessment processes.*
>
> *Forest clearing and fragmentation is recognised as the greatest ongoing threat to the three large forest owls in NSW (see section 7.1.1). Clearing permanently removes foraging and breeding habitat affecting all age classes of owls. This threat is greatest on private lands subject to ongoing development pressures. Strategic land use planning and local assessment of clearing and development applications and their impacts on large forest owls on these lands therefore needs to be adequately informed and mitigated.*

The intended outcome of Objective 4 is stated within the recovery plan as follows;

> *Adverse impacts of developments on owls will be avoided or minimised, and amelioration measures will be refined.*

The subject site contains specific habitat requirements for both the Powerful Owl and Sooty Owl. These requirements include tall eucalypt forest, mesic gully rainforest vegetation, permanent stream and large old growth hollow bearing trees. The proposed rezoning will result in the net reduction of 10.4ha of suitable Large Forest Owl habitat.

It is acknowledged that the riparian and rainforest vegetation will be retained and managed although the long-term viability of the rainforest is questioned given the loss of Old Growth trees to the northwest. These trees currently protect the rainforest from hot western summer sun and there removal has the potential to cause structural change (ie: shift to a more open sclerophyll forest structure) and exacerbate edge effects. Notwithstanding this issue, the majority of the 10.4ha of forest vegetation to be removed is dominated by trees of an Old Growth age class and will lead to an overall reduction of an area that is already on the lower threshold of Large Forest Owl home range requirements.

The home range of the Powerful Owl is estimated 300-1500ha based on habitat productivity and measured as 800ha for an unmated, non-breeding individual and 350ha for an adult female.

The home range of the Sooty Owl is estimated as 200-800ha based on habitat productivity and measured as 1000ha actually used in marginal habitat for an unmated, non-breeding individual and 450+ha for an adult female in contiguous suitable habitat of mesic gullies and dry forest.

Kincumber Mountain Reserve is only approximately 450ha in size and given the large home range requirements for these Large Forest Owls the reserve will rely greatly on additional adjoining conservation zoned lands for long-term Owl population viability. Furthermore, the habitat productivity of Kincumber Mountain Reserve is unknown although again given the relatively small patch size it can only be assumed that adjoining conservation zoned lands (with Old Growth attributes) would be significant in the life cycle of these species.

The Ecological Site Assessment solely relies on the outcome of the s5A assessment undertaken for these Large Forest Owl species in justifying the proposals compliance with the approved Recovery Plan. The s5A assessment for these Large Forest Owl species however

does not adequately consider potential breeding, roosting or foraging habitat within the proposed impact area and generally dismiss this habitat as being highly disturbed and of low habitat value. Further, the s5A assessments rely heavily on the existing reserve systems and conservation lands but in no way provide sufficient evidence that such areas are of suitable size for long-term population viability. Again the s5A assessment also dismisses the importance of the large number of Old Growth trees within the proposed impact area and there importance in the life cycle of these species.

Based on the above rational it is unknown if a further 10.4ha reduction of Old Growth habitat for urban development will lead to significant impacts on Large Forest Owls and their habitats. This uncertainty and additional loss of habitat can be avoided through maintaining the existing conservation zoning.

In short, approval of this rezoning application would be contrary to Objective 4 of the approved Large Forest Owls Recovery Plan.

The second specific objective is Objective 5 that states;

> *Objective 5: Minimise further loss and fragmentation of habitat by protection and more informed management of significant owl habitat (including protection of individual nest sites).*

The intended outcome of Objective 5 is stated within the recovery plan as follows;

> *Owl habitat outside conservation reserves will be more adequately protected and patches of habitat restored.*

The surveys conducted as part of the Ecological Site Assessment are only an ecological snap shot of a moment in time and are unable to definitively dismiss the potential for Large Forest Owl breeding, roosting and foraging within the proposed impact area. Again it is reiterated that the habitat features of this vegetation are primarily large Old Growth trees many of which contain hollow-bearing sections.

It is acknowledged that the site forms part of the outer edge of the home range for the Powerful Owl and Sooty Owl although it is unclear what importance this edge plays in the long-term viability of the local population. Based on home range size requirements, the existing Kincumber Mountain Reserve (~450ha) is generally on the lower scale of sufficient home range size, particularly in respect to the Powerful Owl. Given this, an additional net reduction of 10.4ha of suitable habitat (specifically significant old growth features) is likely to lead to a significant reduction of existing patches of habitat for Large Forest Owls.

Approval of this rezoning application would be contrary to Objective 5 of the approved Large Forest Owls Recovery Plan.

A4.8.1 Cumberland Ecology Comment

The subject lands contain habitat requirements suitable for both the Powerful Owl and Sooty Owl. The better quality habitat is the gully vegetation and denser forest vegetation. The scattered trees within the development footprint form the outer edge of a continuous patch of vegetation and is less likely to form a significant component of the habitat for these species.

It is not considered that the majority of canopy species within the proposed development footprint are constitute Old Growth. During our site inspection we noted that the subject lands consisted of a mix of regenerating and mature trees, both within and outside of the development footprint. It is not considered that the majority of canopy species within the proposed development footprint constitute Old Growth. However there are some old trees present. The proposed development will retain mature trees within the land being transferred to Council and within the retained riparian corridors.

With respect to the objectives of the recovery plan, we have the following comments.

> *Adverse impacts of developments on owls will be avoided or minimised, and amelioration measures will be refined.*

It is considered that the impacts of the development have been minimised by the retention of a large area of suitable habitat for the owl species concerned. Improvement of suitable habitat will be undertaken within the riparian corridors.

> *Minimise further loss and fragmentation of habitat by protection and more informed management of significant owl habitat (including protection of individual nest sites).*

No nest sites were recorded on the subject lands. The Sooty Owl was called in using call playback and is likely to have been foraging within Kincumber Mountain Reserve. The Powerful Owl has a higher potential to utilise the subject lands for nesting habitat, which is likely to occur in proximity to the riparian corridors.

Some potential habitat for the owl species will be lost, however it is not considered to be significant owl habitat. Dedication of 18ha of the subject lands to the Gosford COSS would permanently add to the amount of habitat protected in the locality, as well as protection and improvement of habitat within the riparian corridors. Additional areas containing suitable habitat include the land zoned as 7(a) Private Conservation (see Figure 3 – Ecological Site Assessment). Covenants can be placed over these areas to ensure that any future development is confined to cleared areas, thus retaining additional areas of vegetation and associated habitats.

A.4.9 Threatened Microchiroptera Bat Species

A4.9.1 Council Comment

A total of five threatened microchiroptera bat species were recoded from within the proposed residential zone area. These species are;

- *Eastern Bentwing-bat (Miniopterus schrelbersil oceanensis);*
- *Eastern False Pipistrelle (Falsistrellus tasmaniensis);*
- *Eastern Freetail-bat (Mormopterus norfolkensis);*
- *Greater Broad-nosed Bat (Scoteanax rueppellii); and*
- *Little Bentwing-bat (Miniopterus australis).*

Further, potential habitat has been identified for an additional two threatened microchiroptera species.

The local population of threatened microchiroptera bat species is currently unknown.

Microchiroptera bat species generally forage on insects above, within and below the forest canopy. Most species generally roost in tree hollows, under bark or caves. The subject site contains suitable potential roosting and foraging habitat for a large number of these species particularly the Old Growth trees within the proposed impact area. These trees exhibit large canopy foliage cover area (ie: protection from predation, insect habitat etc.), roosting habitat (ie: hollows, desiccating bark, fissures and cracks etc.) and provide clear flyways for foraging.

The s5A assessment dismisses this habitat value and states the area to be highly disturbed and of deceased value. In addition, justification within the s5A assessment relies heavily on the presence of Kincumber Mountain Reserve for the long term survival of these species. Kincumber Mountain Reserve is small (~450ha) in respect to reserve size and would most likely rely heavily on adjoining conservation zoned private lands for the long term viability of microchiroptera bat species and their habitat.

Based on this, it is unknown if the proposed development is likely to lead of a significant impact on these species. Given scientific uncertainty and the specific high value habitat of the Old Growth trees to these species, it would be prudent to adopt a precautionary approach and maintain the existing conservation zoning.

A4.9.2 Cumberland Ecology Comment

The DECCW Atlas of NSW Wildlife holds records of the microchiropteran bats throughout the Gosford LGA. No detailed studies of the local population have been conducted, and it is not considered feasible to study such a population.

Potential habitat is available within the development footprint, however it is not considered as having higher value than the areas proposed to be retained. Thirty-three hollow-bearing trees are located within the development footprint, and a greater number of hollow-bearing trees occur within the retained vegetation.

The vegetation to be removed is not considered to be significant for the long-term viability of the local population. Dedication of 18ha of the subject lands to the Gosford COSS would permanently add to the amount of habitat protected in the locality. The riparian corridors would also afford suitable habitat for these species and would be improved via a management plan..

A.4.10 Lowland Rainforest Endangered Ecological Community and the Gosford City Council Rainforest Policy D6.49

A4.10.1 Council Comment

The subject site contains areas of vegetation classified as Coastal Warm Temperate Rainforest. This rainforest type is consistent with the Lowland Rainforest determination that is a listed Endangered Ecological Community under Part 3, Schedule 1 of the TSC Act 1995.

The main threat posed by the proposed rezoning in relation to Lowland Rainforest vegetation is the removal of large Old Growth trees in the northwestern portion of the site at the rear of

existing residential properties adjoining Windemere Drive. These trees are positioned up slope of the rainforest and currently provide the rainforest protection from western sun. Change in light levels to rainforests have the potential to cause structural change (ie: shift to a more open sclerophyll forest structure) and exacerbate edge effects.

Based on this Old Growth tree loss and change in existing light levels the proposed may lead to potential irreversible structural damage on Lowland Rainforest. The s5A assessment and additional information have not considered this potential impact nor has the Rainforest Policy been appropriately addressed.

Buffers to rainforest areas such as those listed within the Gosford City Council Rainforest Policy (50m) are generally applied based on site specific characteristic allowing a degree of flexibility. Based on the above rational however, it would be prudent to apply the full 50m on the western side of the rainforest (NW creek system) to minimise potential irreversible structural damage on the Lowland Rainforest.

The proposed rezoning is contrary to the Gosford City Council Rainforest Policy buffer requirements.

A4.10.2 Cumberland Ecology Comment

The trees on the western slopes above the rainforest are not all Old Growth, nor do they form a complete canopy protecting the rainforest. The existing silhouette along the western ridge line in the afternoon shows that this is not a complete barrier. The rainforest in the gully is sheltered from the westerly sun to a large degree from the ridge line.

A key threat to rainforest is also from fires, which are likely to be much less of a threat if the rezoning takes place, as the gullies will largely be protected from fires in the future, allowing rainforest to regenerate.

The regeneration of vegetation in the 10m buffer will afford protection to the rainforest. The rainforest is likely to persist in the gully in the long term if the land is rezoned.

A.4.11 Environmentally Sustainable Development

A4.11.1 Council Comment

One of the objects of the EP&A Act 1979 is to encourage Environmentally Sustainable Development (ESD). The following four principles need to be considered for achieving ESD;

- *The precautionary principle*
- *Biodiversity Conservation*
- *Inter-Generational Equity*
- *Improved Valuation, Pricing and Incentive Mechanisms*

As discussed through out this assessment, the proposed rezoning will lead to an overall reduction in biodiversity values within the local area. Further, based on scientific uncertainty it is unknown if a significant impact will affect known threatened species that currently utilise the site.

Given scientific uncertainty and loss of significant biodiversity values, the precautionary principle ought to be invoked. Through adopting a precautionary approach it is considered that the draft LEP be not supported and the existing zoning maintained thus allowing the preservation of biodiversity and scenic protection values in the local area for future generations.

A4.11.2 Cumberland Ecology Comment

Invoking the aforementioned principles does not guarantee the survival of the 10.4 ha of forest vegetation as it is already under threat from weeds, cattle grazing, edge effects and other factors. The proposed rezoning would permanently add a significant forest area to the Kincumber Mountain Reserve (18 ha) and would conserve and restore the creek corridors containing rainforest in addition to the recommendation for the rehabilitation and management of a further 5.1ha of 7(a) zoned land. It is likely that such vegetation will continue to afford habitat to the threatened forest fauna in the long term and that the expanded Kincumber Mountain Reserve would provide habitat to sustain such species.

A.4.12 Greenhouse Gas Emission and Climate Change

A4.12.1 Council Comment

The proposed rezoning will result in the removal of approximately 10.4ha of native open forest much of which is dominated by large old growth trees. No consideration has been given to the impacts of this vegetation removal and its potential to further exacerbate greenhouse gas emissions and climate change. This is now a standard consideration is respect to ESD in determinations under the EP&A Act 1979.

Old Growth trees are considered carbon capture sinks. Support of this rezoning application will result in the removal of a large number of Old Growth trees and vegetation that will reduce the sites ability to store carbon while permitting residential development which is carbon dependent.

A4.12.2 Cumberland Ecology Comment

The proposed development will require removal of some Old Growth trees therefore removing some carbon capture sinks. It is not considered that the majority of canopy species within the proposed development footprint are constitute Old Growth. During our site inspection we noted that the subject lands consisted of a mix of regenerating and mature trees, both within and outside of the development footprint. It is not considered that the majority of canopy species within the proposed development footprint constitute Old Growth. However there are some old trees present.

Although some Old Growth trees will be removed within the development footprint, large areas of vegetation containing Old Growth trees will be retained within the land being transferred to Council and within the retained riparian corridors. Additional areas containing Old Growth trees include the land zoned as 7(a) Private Conservation. We recommend that portions of the 7(a) Private Conservation zoned land be included within the offsets package (see **Appendix B**). Covenants can be placed over these areas to ensure that any future development is confined to cleared areas, thus retaining additional areas of vegetation and associated habitats. By dedicating land to Council and placing covenants over some properties will ensure the protection of mature trees in the long term.

As discussed within the Local Environment Study the development of the subject lands as a high-tech home office park will aid in the reduction of greenhouse gas emissions as it will reduce the amount and length of vehicle trips to places of employment.

A.4.13 Conclusion

A4.13.1 Council Comment

The proposed rezoning application is deemed environmentally inappropriate based on the following primary site attributes;

- *steep land;*
- *significant biodiversity values (ie: old growth trees, rainforest vegetation, actual and potential habitat for 39 threatened fauna species and habitat for a large number of non-threatened flora & fauna species);*
- *scenic values in the local landscape.*

These site attributes remain relatively unchanged from the 1975 Rural Lands Study that identified, based on these attributes, that the land use was most appropriate as a conservation zoning.

Further, the rezoning application is not supported for the following reasons;

- *Is contrary to the principles of ESD;*
- *Is contrary to SEPP 19 - Bushland in Urban Areas;*
- *Is contrary to Central Coast Regional Strategy 2006-31;*
- *Is contrary to the Gosford City Biodiversity Strategy 2008;*
- *Fails to maintain or improve existing biodiversity values;*
- *Is contrary to Objective 2 of the approved Recovery Plan for the Yellow-bellied Glider;*
- *Is likely to lead to a significant impact on the Yellow-bellied Glider;*
- *Is contrary to Objective 4 of the approved Recovery Plan for Large Forest Owls;*
- *Is contrary to Objective 5 of the approved Recovery Plan for Large Forest Owls;*
- *Will result in the net loss of foraging habitat for threatened microchiroptera bat species;*
- *Is contrary to Gosford City Council Rainforest Policy D6.49;*
- *Has not considered greenhouse gas emissions and climate change.*

Based on the above issues, it I strongly recommended that the Council not proceed with this draft LEP.

A4.13.2 Cumberland Ecology Comment

As stated above the forest to be cleared is not all Old Growth, nor is forest fully protected under the current zoning. The rezoning would conserve substantial areas of forest, and these are likely to sustain all of the aforementioned species when considered in conjunction with the forest habitat in Kincumber Mountain Reserve. The measures to conserve forest habitats are not inconsistent with the recommendations of the aforementioned recovery plans as the rezoning would permanently protect the largest and most intact areas of forest.

Concerns raised by council that we agree are valid could be addressed by providing a modification to the proposed rezoning. The adjustments should seek to reduce the projected 10.4ha loss of forest land and threatened fauna habitat and to increase the areas proposed for retention.

Our key recommendations are to modify the flora and fauna impact assessment for the rezoning proposal and:

1. Discuss habitat values of the site to more accurately reflect the habitat available for each species;

2. Adjust the impact assessments of some species to more accurately reflect the habitats to be cleared; and

3. Consider adding parts of the two lots of 7(a) zoned land totalling 5.1ha (see **Appendix B**) that are not formally covered by the current rezoning proposal as offsets that can be regenerated to reduce the net loss of forest. These areas should be subject to rehabilitation in order to achieve these offsets.

A.5 References

1. Gosford City Council (2009) **Draft Gosford Development Control Plan** Gosford City Council, Gosford, NSW.

2. Gosford City Council (2007) **Kincumba Mountain Regional Reserve Plan of Management** Gosford City Council, Gosford, NSW.

3. Gosford City Council (2009) **Kincumba Mountain Reserve** http://www.gosford.nsw.gov.au/recreation/natural_areas/bushland_reserves/kincumba_mountain *last accessed* 9/11/1925

4. Forman, R. T. T. (1995) **Some general principles of landscape and regional ecology** *Landscape Ecology* 10(3):133-142

5. NSW NPWS (2003) **Recovery Plan for the Yellow-bellied Glider (*Petaurus australis*)** NSW NPWS, Hurstville, NSW.

Appendix B

Recommended Additional Offset Areas (shown in purple)

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