NSW GOVERNMENT | Office of Environment & Heritage

Your reference: SSD 13_6281
Our reference: DOC15/403213
Contact: Miranda Kerr
6022 0607

Ms Joanna Bakopanos
Industry Assessments
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Dear Ms Bakopanos

RE: Deniliquin Ethanol Plant, Deniliquin Barham road, Deniliquin LGA
Environmental Impact Statement (SSD 13_6281)

I refer to your email dated 13 October 2015 seeking comment from the Office and Environment and Heritage (OEH) on the Environmental Impact Statement (EIS) for the Deniliquin Ethanol Plant (SSD 13_6281). We have reviewed the information provided against our requirements sent to the then Department of Planning and Infrastructure on 5 December 2015, as detailed in Attachment C.

OEH considers that the EIS does not meet the Director General's requirements with respect to Aboriginal cultural heritage (ACH) as further consultation with additional potential Registered Aboriginal Parties (RAPs) is required to address shortcomings in the original consultation. Detailed comments regarding additional ACH assessment is provided in Attachment A.

The proposal will result in the clearing of 17.3 hectares of derived native grassland that constitutes secondary habitat for the endangered Plains-wanderer (*Pedionomus torquatus*) and approximately 0.5 hectares of open-woodland dominated by Black Box (*Eucalyptus largiflorens*). The EIS states that a biodiversity offset strategy will be developed to compensate for the biodiversity impacts of the proposal. Further details have not been provided so OEH is unable to assess the adequacy of proposed offsetting. Detailed comments regarding biodiversity are provided in Attachment B.

We recommend that development approval should be contingent on the following conditions:

- *Further consultation and visual inspection of the development site be undertaken with RAPs who have not yet been consulted as part of the assessment.*
- *An arborist be engaged to assess cause of scarring on trees, particularly where they will be impacted by proposed development activities.*
- *Impacts of the entire development footprint, including access tracks and fences, should be assessed within the EIS.*
- *Pre-clearing targeted threatened flora and Plains-wanderer surveys be undertaken by a suitably qualified person.*
- *Derived native grassland on the proposal site be assessed against final determinations for NSW threatened ecological communities to determine if TECs occur on the proposal site.*
- *An offset strategy for biodiversity impacts be developed in consultation with OEH to offset the removal of 17.3 ha of secondary plains-wanderer habitat. The offset package needs to meet OEH requirements to adequately compensate for the biodiversity values to be cleared. Offsets should be identified prior to commencement of any site clearing.*

Additional recommendations are included in Attachment B.

A Species Impact Statement (SIS) has been prepared to assess impacts of the proposal on the Plains-wanderer. While assessment of biodiversity issues by proponents is necessary, a SIS is not required for state significant development being assessed under Part 4 of the *Environmental Planning and Assessment Act 1979*.

If there is a proposal to include post-approval plans as a Condition of Approval, all such plans that relate to biodiversity or ACH should be developed in consultation with OEH, to ensure that issues identified in this submission are adequately addressed. We would also appreciate the opportunity to review draft Conditions of Approval.

If you have any questions regarding this matter please contact Miranda Kerr on 6022 0607 or email miranda.kerr@environment.nsw.gov.au.

Yours sincerely

P.E 12/11/15

PETER EWIN
Senior Team Leader Planning
South West Region
Regional Operations Group
Office of Environment & Heritage

Attachment A: OEH review detailed comments - Aboriginal cultural heritage - Deniliquin Ethanol Plant Environmental Impact Statement (SSD 13_6281)

Attachment B: Biodiversity - Deniliquin Ethanol Plant Environmental Impact Statement (SSD 13_6281)

Attachment C: OEH Director General's Requirements for the Deniliquin Ethanol Plant Environmental Impact Statement (SSD 13_6281)

ATTACHMENT A

OEH review – Aboriginal Cultural Heritage

Deniliquin Ethanol Plant Environmental Impact Statement (SSD 13_6281)

Acronyms

LALC	Local Aboriginal Land Council
OEH	Office of Environment and Heritage
RAPs	Registered Aboriginal Parties

OEH notes that consultation has occurred with three Registered Aboriginal Parties – Deniliquin LALC, Albury LALC and Yarkuwa Indigenous Knowledge Centre. However, the consultation register within Appendix R – Cultural Heritage Technical Report (Attachment 2) indicates that consultation was not undertaken in accordance with OEH's consultation guidelines (OEH 2010). The formal request to OEH was sent to the Western Rivers Region office of the NSW National Parks and Wildlife rather than the EPRG (now Regional Operations Group) Office. This has led to additional potential RAPs who may have an interest in the proposal not being consulted. Details of additional registered Aboriginal interests are provided in Table A1.

OEH considers it necessary that the proponent consult with these additional registered Aboriginal interests, provide proposed project information to them and create an opportunity for all RAPs to undertake another site visit and contribute to further visual inspection of the site. This would also allow further opportunity to determine any associated cultural values and significance of any objects identified while facilitating discussion on management measures to mitigate impacts.

Having viewed the photographs (Plates 8-17) of suspected scar trees provided in AECOM's Aboriginal and Historical Cultural Heritage Assessment (Section 7.4.1 *Previously Recorded Aboriginal Archaeological Sites*) and Plates 9-12 provided by Access Archaeology and Heritage in Section 7.2 Survey Results, OEH recommends that should agreement not be achieved in relation to the source of scars on trees by heritage specialists and RAPs, an arborist should be engaged to determine their origin, particularly where they are at risk of harm or if they are identified for removal due to development needs.

Table A1 Additional Potential Registered Aboriginal Parties for Deniliquin Ethanol Plant within OEH records

Organisation/Individual Name	Address	Contact Details
Yorta Yorta Nation Aboriginal Corporation: Neville Atkinson - Chairperson	Shier St BARMAH VIC 3639	Phone: 03 5869 3353 Email: reception@yynac.com.au
Moama Local Aboriginal Land Council: Phil Hudson - Sites Officer	52 Chanter St PO Box 354 MOAMA NSW 2731	Phone: 03 5482 6071
Cummeragunga Local Aboriginal Land Council: Kevin Atkinson - Chairperson	C/ BARMAH VIC 3639	Phone : 03 5869 3372
Wakool Aboriginal Corporation: Cynthja Pappin	PO Box 243 Balranald NSW 2715	Mobile: 0400 634 994 Email: info@wakool.com.au

Reference

OEH (2010) *Aboriginal Cultural Heritage Consultation Requirements for Proponents*. Office of Environment and Heritage, Sydney.

ATTACHMENT B

OEH review – Biodiversity
Deniliquin Ethanol Plant Environmental Impact Statement (SSD 13_6281)

Acronyms

DGRs	Director General's Requirements
EIS	Environmental Impact Statement
EP&A Act	*Environmental Planning and Assessment Act 1979*
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
FBA	Framework for Biodiversity Assessment
OEH	NSW Office of Environment and Heritage
PCT	NSW Plant Community Type
SIS	Species Impact Statement
SSD	State Significant Development
TEC	Threatened Ecological Community
TSC Act	*Threatened Species Conservation Act 1995*

The DGRs for this project were issued prior to the current requirements for SSD Projects to implement the NSW Biodiversity Offsets Policy for Major Projects including the Framework for Biodiversity Assessment. The EIS will not be assessed against the minimum information requirements for the FBA. Our recommendations are either for additional information to allow accurate assessment of the impacts of the proposed project prior to the granting of approval; or provided to guide later conditions of approval should the development application be successful.

1. Development Footprint

The complete development footprint has not been assessed for impacts to biodiversity. Table 3.1 (Section 3.1, page 12) includes two separate site access roads, one for light vehicles accessing the site office and another for heavy vehicles, as well as modifications to the Line Road intersection. These roads are not delineated on Figure 3.1 Site Layout. Impacts associated with their construction, use and maintenance do not appear to have been included in the assessment.

Designated and temporary storage areas for construction waste are mentioned in items CW5 and CW7 in Table 11.5 (page 139). The locations of waste storage areas have not been clearly identified. Item LV14 in Section 15.5 (page 202) indicates that boundary fencing will be installed. Boundary fencing has not been included in description of the construction works, however any construction impacts occurring inside the proposal site boundary should be encompassed by the existing assessment. Construction activities outside the current proposal boundary would need to be separately assessed, along with maintenance works associated with the boundary fence, such as ploughing or slashing firebreaks outside the perimeter or tree trimming.

Recommendation:

1.1 The complete development footprint should be mapped and all native vegetation to be cleared for the proposal should be identified.

2. Vegetation mapping and classification

The vegetation mapping presented in Figure 8.3 (Section 8.4.1, page 90) is intended for use at 1:1,000,000 or state-wide scale (Keith and Simpson 2011). There are alternative datasets available through the OEH website that could provide a more meaningful insight into how the proposal site fits within a regional context.

The native plant communities described in Section 8.4.2 and mapped on Figure 8.4 (page 94) should be aligned to a Biometric vegetation type, as per the threatened species survey guidelines (DEC 2004). Since November 2015, vegetation on development sites is required to be classified and mapped according to NSW plant community types. PCTs are the finest level of classification in the three-tier NSW vegetation classification. Biometric vegetation types and PCTs are roughly equivalent in southern-central and western NSW.

The PCT descriptions are available through the Vegetation Information System pages on the OEH website (www.environment.nsw.gov.au/research/Vegetationinformationsystem.htm).

Recommendation:

2.1 Plant communities mapped in Figure 8.4 are aligned with the NSW PCT classification to enable consistency with OEH databases for development of the biodiversity offset strategy.

3. Threatened Flora

The flora field survey methods described in Section 1.0 of Appendix J (page 1) do not appear to be consistent with OEH recommended methods (DEC 2004; Sivertsen 2009). Vegetation condition categories do not coincide with definitions used for vegetation assessment under the FBA. Threatened flora records should not be discounted based on the length of time since recording, unless there is evidence that the location has been more recently searched and the species was not re-discovered (Section 8.4.6, page 95). Central and western NSW have not been subject to the same survey density that has occurred in other parts of the state so the absence of recent threatened flora records could indicate a lack of survey rather than disappearance of a plant.

4. Threatened Fauna

The field assessment described in Section 3 of Appendix J (page 13) should more correctly be referred to as a fauna habitat assessment, rather than a fauna survey. The report acknowledges the limitations of the habitat survey timing but does not discuss the limitations of the methodology in detecting fauna species other than birds, particularly threatened reptiles, mammals and amphibians.

The proposal site is outside the range of the Brown Treecreeper (eastern subspecies) (*Climacteris picumnus victoriae*). The description of habitat requirements in Table 4 of Appendix I (page 13) for Turquoise Parrot (*Neophema pulchella*) is incorrect – the text in the 'Ecology' column more likely relates to Scarlet-chested Parrot (*Neophema splendida*), which does not occur in the region.

5. Threatened Ecological Communities

The flora survey was undertaken in June 2015 (Section 8.4.5, page 95). The likelihood of encountering and identifying the full range of native grasses and herbs is limited during winter, so it expected that some of the species that characterise TECs would not be recorded. It is also expected that a higher cover and richness of exotic species will be present during winter.

We do not agree with the assessment in Table 4 that TECs are 'unlikely' to occur due to the lack of the characteristic overstorey species. Open woodlands included on the TSC Act, including those dominated by Bulloke (*Allocasuarina luehmannii*), Grey Box (*Eucalyptus microcarpa*) and Weeping Myall (*Acacia pendula*), can be present without the dominant overstorey species.

It appears as though the Commonwealth TEC descriptions were used to inform the likelihood of occurrence for all TECs in Table 4. The Commonwealth EPBC Act listings include a condition assessment to limit the circumscription of federally-protected TECs to vegetation in good condition. The NSW TEC Act listed communities may occur in a range of condition states, and can occur without the usually dominant trees or shrubs.

Condition thresholds for the EPBC Act-listed *Grey Box (*E. microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-Eastern Australia* are not relevant to determining presence of the NSW TEC.

The proposal site falls within the boundary of the Natural Grasslands of the Murray Valley Plains TEC, listed on the Commonwealth EPBC Act (TSSC 2012b). Field sampling during late winter or spring is optimal for identifying the range of herbs and grasses that occur. Although the field sampling was undertaken during early winter, sufficient evidence exists for us to agree with the assessment, based on Table 1 (page 7) in the listing advice (TSSC 2012a), that the grassland on the proposal site is more typical of derived native grassland than the natural grassland TEC.

Table 4 in the flora and fauna likelihood assessment (Appendix I, page 19) states that the proposal site is vegetated by derived native grasslands created from the clearing of a woody overstorey. If the site's vegetation is a derived native grassland, it needs to be aligned with a tree or shrub-dominated PCT to enable assessment of its conservation status. McDougall (2008) considers that derived grasslands in the southern Riverina are likely to have resulted from the clearing of open-woodland dominated by Myall or Old Man Saltbush (*Atriplex nummularia*) shrublands.

Vegetation mapping showing a prediction of the vegetation types that were likely to have existed in the NSW Riverina region prior to clearing (White et al. 2001) includes the proposal area. The mapping indicates that the majority of the proposal area was possibly a woodland dominated by Grey Box, Yellow Box (*Eucalyptus melliodora*) or Bulloak with some areas of open-woodland dominated by myall. It is therefore likely that the site is vegetated by the understorey derived from clearing a woodland dominated by Grey Box or Myall, and may constitute a TEC listed on the TSC Act.

6. Impact assessment

The habitat requirements of threatened fauna species have not been adequately related to availability of habitat features on the proposal site.

OEH considers the "lack of extensive woodland habitat" to be insufficient justification for concluding that threatened birds do not occur on the proposal site (Appendix J Section 4.0). Tables 2 and 3 of Appendix I should indicate the species that require hollows for breeding, and presence or absence of hollows in the Black Box (*Eucalyptus largiflorens*) trees that are proposed for removal.

The description of assessment site FHA2 in Table 6 (page 16) mentions that remnant black box trees (on the southern boundary of the proposed development footprint) had numerous spouts and hollows, and that vertical cracks and fissures in dead trunks could provide suitable habitat for bats.

The assessment that the site is unlikely to provide suitable habitat for threatened fauna is inadequately justified. The habitat assessment method is inappropriate for detecting the presence of fauna other than birds, particularly microbats. Although tree hollows were present in Site FHA2, Table 3 (page 6) lists the vulnerable Corben's Long-eared bat (*Nycophilus corbeni*) as being unlikely to occur. We acknowledge that the probability of Corben's Long-eared bat occurring on the proposal site is low due to the nature of the historic record that predicts its presence. However, based on the habitat description provided in Table 3 and presence of spouts, hollows and fissures in the remnant black box woodland we would expect a targeted bat survey using echolocation or harp trapping.

Our DGRs (Appendix C) recommended that the proponent undertake an assessment of significance (or 7-part test) for any threatened entity that may be affected directly or indirectly by the proposal. A species does not have to be considered as part of the assessment of significance if adequate surveys or studies have been carried out that clearly show the species: does not occur in the study area; will not use on-site habitats on occasion; or will not be influenced by off-site impacts of the proposal.

While it is unlikely that direct and indirect impacts of the proposal will have a significant impact on threatened species, we consider that assessments of significance should have been undertaken for hollow-dependent fauna and TSC Act-listed TECs.

Species Impact Statement

Paragraph three of Section 5.5.4 (page 51) explains that a Species Impact Statement (SIS) has been prepared to investigate the significant impact on the Plains-wanderer, which was identified through the assessment of significance. The Policy Statement supporting the EP&A Amendment (Part 3A Repeal) Bill 2011 (DP&I 2011) states that while assessment of biodiversity issues by proponents is still necessary, a SIS is not required for State significant development being assessed under Part 4 of the EP&A Act. The Secretary's requirements for a SIS must be requested by the proponent from the relevant OEH office prior to the preparation of a SIS.

While the SIS is not necessary for this project, we support the mitigation measures provided in Section 7.2 (pages 17-18) of Appendix K.

Changed hydrological regimes

The presence of remnant woodland dominated by Black Box on and adjacent to the proposal site indicates a local drainage depression. The impact of the proposal on the hydrological requirements of black box open woodland has not been assessed or discussed in Section 10.3.6 Local Hydrology (page 118). The compounded impacts of clearing approximately 0.5 ha of the remnant, altered hydrology, and nearby construction activities and associated weed invasion are likely to result in a loss of condition in the remaining trees. Loss of condition may also lead to a reduction in threatened species habitat values.

Spread of weeds

The EIS does not discuss the potential for landscaping and revegetation practices to introduce exotic species into remnant native vegetation and related impacts on remnant vegetation. Section 15.5 *Landscape and visual amenity* (page 202) provides weed-related mitigation actions. Three of the mitigation measures have the potential to introduce non-native plants into areas of predominantly native vegetation, and may be inconsistent with the intent of mitigation measures in Section 8.9 *Biodiversity*:

- Item LV3 proposes to plant a cover crop on stockpiles topsoil to maintain quality. Introduction of plant seed material may result in the introduction of non-native species and weeds into areas of native grassland and subsequent reduction in native vegetation condition.
- Item LV9 and LV11 propose landscape planting on the Deniliquin-Barham Road frontage and road reserve. OEH recommends the use of locally native species and inclusion of a range of appropriate life forms (including grasses and rushes). Planting trees and shrubs into a native grassland is not appropriate unless it is clear that the grassland is derived from a woodland.

Soil disturbance and the opportunity for weed seeds to be introduced to the site on machinery could result in an increase in non-native plants in vegetation surrounding the proposal site, so weed control measures should be undertaken outside the perimeter fence.

Construction

The EIS could provide additional clarity about the management of native fauna impacted during construction, including pre-construction liaison with animal welfare organisations to enable support if native fauna are rescued during works.

Recommendation:

6.1 Derived native grassland on the proposal site be assessed against final determinations for NSW threatened ecological communities, in particular *Inland Grey Box Woodland in the Riverina, NSW South Western Slopes, Cobar Peneplain, Nandewar and Brigalow Belt South Bioregions* EEC and *Myall Woodland in the Darling Riverine Plains, Brigalow Belt South, Cobar Peneplain, Murray-Darling Depression, Riverina and NSW South Western Slopes bioregions,* to determine if TECs occur on the proposal site.

7. Mitigation measures

OEH considers the mitigation measures suggested in the EIS to be appropriate and relevant. Based on consideration of the above, we recommend the following:

Recommendations:

7.1 Mitigation measures FF1 (targeted threatened flora survey of the proposal area during spring, prior to commencement of clearing) and FF2 (Plains-wanderer survey of the proposal area during the appropriate season, prior to commencement of clearing) be undertaken by a suitably qualified person.

7.2 Mitigation measure FF4 should include that weed control be undertaken immediately outside the perimeter fence to reduce the impact of exotic species invasion into the surrounding native grassland.

7.3 Mitigation measure FF5 include development of a construction protocol for identification and management of rescued fauna that includes pre-construction liaison with animal welfare organisations to enable support if required.

7.4 Mitigation measure FF6 is to be developed in collaboration with OEH.

7.5 The term "Pre-commencement" to indicate the timing of mitigation measures in Table 8.3 be replaced by "Prior to clearing for construction".

8. Biodiversity Offset

The original project layout has been significantly reduced, lessening the clearing of potential habitat for the endangered Plains-wanderer (Section 4.4.7, page 39).

The need for an offset to mitigate the loss of 17.3 ha of Plains-wanderer secondary habitat is identified in Appendix K, Section 7.3 (page 18). At this stage we are unable to assess the adequacy of an offset until a detailed proposal is provided.

The NSW biodiversity offsets policy for major projects commenced on 1 October 2014 and applies to state significant developments. There is currently a transitional period that enables some flexibility in the policy's application to major projects in the later stages of their planning approval process. The offset package needs to meet OEH requirements to adequately compensate for the biodiversity values to be cleared - maintain or improve" outcomes for biodiversity can be achieved via compensatory measures such as offsets where the provision of sites of similar type of vegetation and threatened species habitat to that impacted will be managed in perpetuity for conservation.

The BioBanking Assessment Methodology allows quantification of impacts and assessment of the value of offset areas and associated management regimes for those areas. The BioBanking scheme provides an alternative path to the current threatened species assessment of significance process for proponents. Information about BioBanking is located on the OEH website at www.environment.nsw.gov.au/biobanking/

Where an offset package will not be determined using the BioBanking Assessment Methodology then the package should:

a) Meet the OEH's *Principles for the use of biodiversity offsets in NSW*, which are available at: www.environment.nsw.gov.au/biodivoffsets/oehoffsetprincip.htm

b) Identify the conservation mechanisms to be used to ensure the in perpetuity protection and management of the offset sites

c) Include an appropriate Management Plan (such as vegetation or habitat) that has been developed as a key amelioration measure to ensure any proposed compensatory offsets, retained habitat enhancement features within the development footprint and/or impact mitigation measures (including proposed rehabilitation and/or monitoring programs) are appropriately managed and funded.

OEH support the development of a Biodiversity Offset Strategy for offsetting the residual biodiversity impacts of the proposal. Suitable offsets must be secured prior to clearing for construction.

Recommendation:

8.1 The proponent develop a Biodiversity Offset Strategy in consultation with OEH to offset the removal of 17.3 ha of secondary Plains-wanderer habitat. Offsets must be consistent with the NSW biodiversity offsets policy for major projects. The agreed offset should also be secured in perpetuity prior to commencement of clearing.

9. Monitoring

Any proposed pre-construction monitoring plans or on-going monitoring of the effectiveness of the mitigation measures should be outlined in detail, including the objectives of the monitoring program, reporting framework, duration and frequency. Ameliorative strategies that have not been proved effective should be undertaken under experimental design conditions and appropriately monitored.

Recommendation:

9.1 A Threatened Species Monitoring Program be developed in consultation with OEH to enable assessment of the effectiveness of mitigation measures and to allow for their modification if necessary.

10. Wildfire

The probability of wildfire is assessed in Section 20.2.7 (page 260) of the EIS as extremely unlikely due to the lack of "vegetated areas and bush". The Mid Murray Zone Bush Fire Risk Management Plan (MMZ BFMC 2009) states that the mid Murray area has on average 250 bush/grass fires per year. Potential major risk seasons throughout the mid Murray region follow periods of high rainfall and subsequent build-up of fine fuels.

OEH suggest that the proponent consider developing a Bush Fire Management Plan. Any fire management activities, such as slashing or ploughing firebreaks or tree removal, should be within the proposed footprint provided as Figure 3.1 or be further assessed for impacts to biodiversity and ACH.

Recommendation:

10.1 Consider developing a bush fire management plan. Fire management activities should be undertaken within the proposed development footprint. If activities are likely to occur outside the perimeter of the footprint, the potential impacts of the activity on threatened species and ecological communities should be assessed.

References

DEC (2004) *Threatened biodiversity survey and assessment: guidelines for developments and activities.* Working draft. NSW Department of Environment and Conservation, Hurstville.

MMZ BFMC (2009) *Mid Murray Zone Bush Fire Risk Management Plan*. Mid Murray Bush Fire Management Committee.

OEH (2014) *NSW Biodiversity Offsets Policy for Major Projects*. Office of Environment and Heritage, Sydney, url: www.environment.nsw.gov.au/biodivoffsets/bioffsetspol.htm.

Sivertsen D (2009) *Native Vegetation Interim Type Standard.* Department of Environment, Climate Change and Water, Sydney, (www.environment.nsw.gov.au/resources/nativeveg/10060nvinttypestand.pdf)

TSSC (2012a) Natural Grasslands of the Murray Valley Plains Listing Advice. Commonwealth Threatened Species Scientific Committee, Canberra.

TSSC (2012b) Natural Grasslands of the Murray Valley Plains Map. Commonwealth Threatened Species Scientific Committee, Canberra, (www.environment.gov.au/biodiversity/threatened/communities/maps/pubs/117-map.pdf)

White M, Muir A & Webster R (2002) *The reconstructed distribution of indigenous vegetation types across the NSW Riverina*. Unpublished report to the NSW National Parks and Wildlife Service, Dubbo.