



**Office of
Environment
& Heritage**

**Attachment "G" -
Submission from OEH**

The General Manager
Shoalhaven City Council
PO Box 42
NOWRA NSW 2541
E-mail: Council@shoalhaven.nsw.gov.au

Date: 8 September 2014
Your reference: 49256E
Our reference: DOC14/188966
Contact: Calvin Houlison
(02) 4224 4179

RE: The Halloran Trust Planning Proposal – Culburra Beach, Callala Bay & Kinghorne Point

Dear Mr Pigg

The Office of Environment and Heritage (OEH), incorporating National Parks & Wildlife Service (NPWS), has recently become aware of the Planning Proposal for the Halloran Trust lands being exhibited on Shoalhaven City Council's website. OEH provides detailed comments and recommendations at Attachment A with a focus on water quality, biodiversity offset issues and clarity of proposed land use.

There is considerable history surrounding land use and development of the Halloran Trust lands and interaction with the State's natural resource agencies. More recently, OEH has raised significant concerns with planning authorities, and remains concerned, with the planning and development proposals envisaged in the Lake Wollumboola catchment area in the northern locations. Conversely, the OEH considers the Planning Proposal in the southern locations to be a suitable outcome and reflective of previous investigations, discussions and consistent with broader strategic planning direction.

The strategic value and sensitivity of the land within the Lake Wollumboola catchment (and surrounds) has been the focus of several detailed appraisals and independent assessments. The findings and recommendations are clearly enunciated in the following documents:

- the independent Commission of Inquiry into proposed residential subdivision at Long Bow Point, Culburra (2002),
- the NSW Healthy Rivers Commission *Independent Inquiry into Coastal Lakes* (2002),
- the Shoalhaven City Council and Department of Planning, Infrastructure and Natural Resources *Jervis Bay Settlement Strategy* (2003),
- the Independent Review Panel *South Coast Sensitive Urban Lands Review* (2006) and
- the Department of Planning *South Coast Regional Strategy* (2007). This document also has legislative implications for the progression of any Planning Proposal via s.117 *Direction No.30 – Implementation of regional strategies* (2007) under the *Environmental Planning and Assessment Act, 1979*.

The consensus in these reports is captured by comments like, "*Land within the catchment of Lake Wollumboola is considered unsuitable for urban development, principally on the grounds of the potential negative impacts on the Lake...*" and "*Local and regional economic and social benefits do not outweigh*

likely adverse impacts to Lake Wollumboola...". In summary, the reports emphasise, (i) the environmental sensitivity of the Lake (from both a water quality and biodiversity perspective) and (ii) the inappropriateness of urban development within Lake Wollumboola catchment.

In 2013, the Department of Planning and Environment (DPE) requested a joint State agency report appraising the water quality sensitivity of Lake Wollumboola – ie the *Joint Submission Report on Environmental Sensitivity of Lake Wollumboola* (hereafter referred to as the Joint Submission Report on Water Quality). The findings of this report reiterated that the Lake's ecosystems will be highly sensitive to deterioration of water quality from further development. OEH understands the proponent has access to the Joint Submission Report on Water Quality but has made no reference to the findings in its Planning Proposal document.

In this context, OEH remains concerned that the "Residential Investigation Area" and "Community Recreation Zone" at West Culburra could result in further urban development within the Lake Wollumboola catchment and that the Planning Proposal is significantly inconsistent with the weight of strategic planning direction for lands in the Lake Wollumboola catchment and the contemporary ecological understanding of the Lake and surrounds.

OEH sees the Planning Proposal to be an opportunity for Shoalhaven City Council, as the local planning authority, to implement the strategic planning direction that has been set by:

- (i) confirming that lands within the catchment of Lake Wollumboola are unsuitable for further urban development, and
- (ii) affording long term land use protection to the environmental sensitivity of the Lake.

It is apparent to OEH that there is enough independent assessment and technical information, accompanied by a lack of sound justification and evidence within the Planning Proposal, for Council to deliver such an outcome.

OEH has a significant interest in significant planning proposals such as this and would invite early engagement with council on similar matters in the future. I trust Council will continue to work with OEH on the detailed progress of this Planning Proposal as well as other future strategic planning matters.

OEH would like to meet with Council to discuss this Planning Proposal, particularly in light of the gifting of substantial lands to NPWS and land use sensitivities/options in the northern catchment of Lake Wollumboola. In this regard, please contact Gabrielle Pietrini, A/Regional Manager, Illawarra Region on 4224 4159 or via e-mail gabrielle.pietrini@environment.nsw.gov.au.

Yours sincerely



8/9/17

DEREK RUTHERFORD
Director, South Branch

Enclosure: Attachment 1 - OEH Detailed Comments on Halloran Trust Planning Proposal
cc: George Curtis, Department of Planning & Environment

**Attachment 1 OEH Detailed Comments on Halloran Trust Planning Proposal –
Culburra Beach, Callala Bay and Kinghorne Point**

Key Position and Summary of Recommendations

The key position of OEH is that the Shoalhaven City Council response to the Planning Proposal is an opportunity to implement the existing strategic planning direction by:

- (i) confirming that further urban development is an unsuitable land use within the catchment of Lake Wollumboola, and
- (ii) affording long term land use protection to the environmental sensitivity of the Lake.

A summary of OEH/NPWS recommendations regarding the Planning Proposal is provided below:

- 1) The Planning Proposal should be updated with respect to Shoalhaven LEP 2014 in order to make specific reference to the land use zones proposed, using common terminology with the SLEP 2014.
- 2) Council is requested to co-ordinate a meeting with its relevant officers, the proponents and OEH/NPWS about the detail and process of gifting the land to NPWS before advancing any decision with the Planning Proposal (including arrangements for establishment and maintenance funding).
- 3) Further investigations should be undertaken into the pockets of Bauer's Midge Orchid (*Genoplesium baueri*) EEC occurring within the proposed Callala Beach urban development area.
- 4) The Planning Proposal should provide further detailed reference to the existing studies into water quality issues within the Lake Wollumboola catchment, including but not limited to the Joint Submission Report on Water Quality.
- 5) Development currently proposed in the Residential Investigation Area within the Lake Wollumboola catchment clearly remains contrary to the existing policy and strategic framework. Any proposed development within the Community Recreation Zone would provide further adverse impact upon the sensitive ecological values of Lake Wollumboola. However opportunity exists for the proponent and Council to consider an alternate land use planning proposal for the golf course and associated development north of Culburra Road should such development be seen as necessary by the planning authorities.
- 6) The Planning Proposal should clearly demarcate the boundary between the Crookhaven River and Lake Wollumboola catchments. This would clearly identify where water quality remains a primary issue in the proposed Residential Investigation Area. The sensitivity of the Crookhaven catchment should also be recognised with regard to water quality management associated with the Planning Proposal.
- 7) The Planning Proposal should clearly demarcate the proposed Private Conservation Area within the Community Recreation Zone. OEH/NPWS's preference is that Long Bow Point be afforded comprehensive protection as part of any such area.
- 8) The Planning Proposal needs to include a preliminary biodiversity offset strategy identifying the vegetation type impacts/offsets and spatial allocation of such offsetting across the Halloran trust

lands as a whole (including One Tree Bay). Offsetting should be determined using the Government's recognised BioBanking Assessment Methodology (BBAM). Lands earmarked for offsetting can overlap with land earmarked for conservation purposes, lands to be gifted to NPWS and land outside Halloran Trust land if required to achieve like-for-like offsets

9) Given the scale of the proposal, a full cultural heritage assessment should be undertaken in accordance with OEH guidelines to identify the nature and extent of Aboriginal cultural heritage values within the current proposed development areas. OEH recommends that this be undertaken early within the planning process so areas of high Aboriginal cultural heritage significance can be identified, values/significance understood and managed/conserved as relevant.

10) A flooding assessment in support of the Planning Proposal should be undertaken in accordance with the relevant guidance and planning processes as identified by OEH.

Detailed comments in relation to each of the above recommendations are provided throughout this submission.

Consistency with Strategic & Planning Framework

The Planning Proposal applies to the three localities of Callala, West Culburra and Kinghorne (Figure 1). Shoalhaven LEP 2014 was gazetted in April 2014, prescribing an updated land use planning framework across the entire local government area, identifying lands within the subject lands as a deferred matter. However the Planning Proposal identifies generic land use descriptions rather than the standard land use zones for the subject lands, hence it is difficult to establish how the proposal will align with the LEP 2014. The report should be updated to take into account the updated provisions of the LEP since its gazettal and outline the LEP amendments proposed.

As it stands, the Planning Proposal does not provide certainty as to the intended development outcome because of the ambiguity of the land uses proposed. For example, the proponents have advised OEH that considerable urban development is anticipated as a second stage to the Golf Course (including clubhouse, residential and tourist facilities) despite the Planning Proposal indicating the land to be used for "*Low Environmental Impact Community Recreation Zone with Private Conservation Area*".

Furthermore, a number of the aims and objectives of the relevant strategic guidance addressed within the Planning Proposal are either selective or not referred to in full. This includes selective addressing of the available evidence base and regional strategic framework with respect to development in the Lake Wollumboola catchment, as discussed throughout this submission.

Recommendation 1: The Planning Proposal should be updated with respect to Shoalhaven LEP 2014 in order to make specific reference to the land use zones proposed, using common terminology with the SLEP 2014.

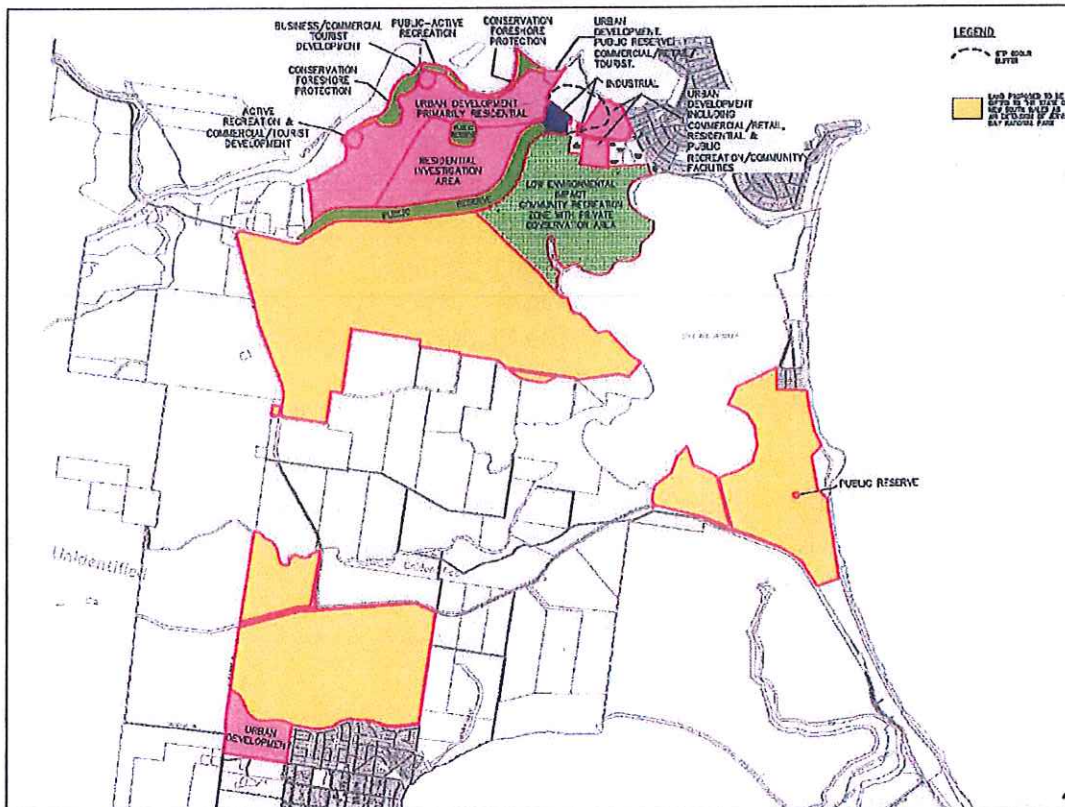


Figure 1: Halloran Trust Planning Proposal – Overall Site Masterplan

Callala Bay & Kinghorne / Arrow Points

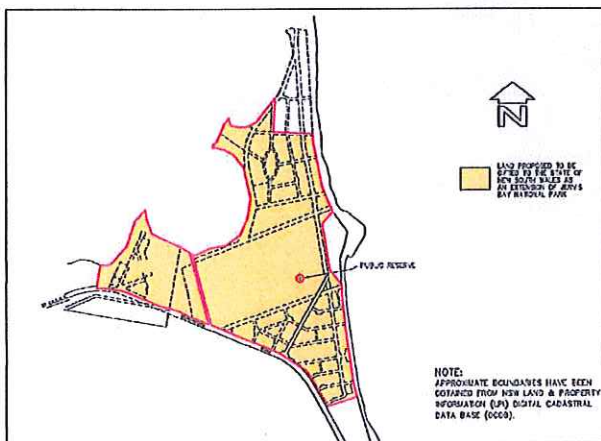


Figure 2: Kinghorne & Arrow Points Masterplan

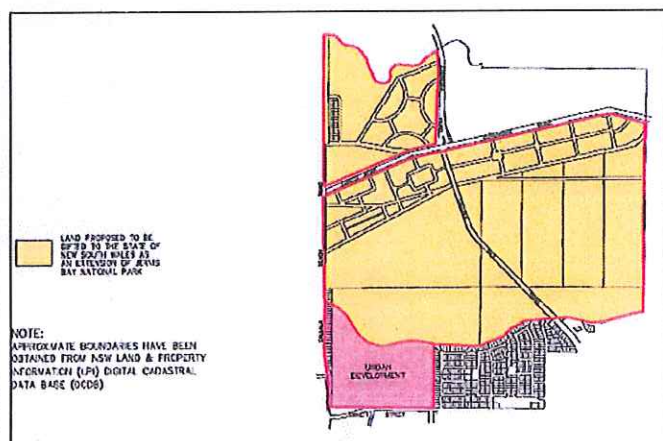


Figure 3: Callala Bay Masterplan

The South Coast Regional Strategy (2007) and Jervis Bay Settlement Strategy (2006) identify that lands at Callala Bay and Kinghorne/Arrow Points, with the exception of the proposed Callala urban development area, should be set aside for conservation purposes. OEH/NPWS therefore welcomes the proposal to gift significant land holdings at Kinghorne/Arrow Points (Figure 2) and Callala Beach (Figure 3) to the National Parks estate. The Planning Proposal has been developed into the current form in the absence of detailed discussion with the NPWS regarding the details and or process for the gifting of such land, including maintenance and establishment funding. Council is requested to co-ordinate a meeting with itself, the proponents and OEH/NPWS about the detail and process of gifting the land before advancing any decision with the Planning Proposal.

It is noted that the Planning Proposal report does not specifically discuss the small pockets of Bauer's Midge Orchid (*Genoplesium baueri*) endangered ecological community (EEC) located within the proposed Callala urban development area. This orchid has been listed under the Commonwealth Environment Protection & Biodiversity Conservation (EPBC) Act 1999 and may require approval under this Act in order to allow any rezoning and future development to proceed.

Recommendation 2: Council is requested to co-ordinate a meeting between Council, the proponents and OEH/NPWS about the detail and process of gifting the land before advancing any decision on the Planning Proposal (including arrangements for establishment and maintenance funding).

Recommendation 3: Further investigations should be undertaken into the pockets of Bauer's Midge Orchid (*Genoplesium baueri*) EEC occurring within the proposed Callala Beach urban development area.

West Culburra Expansion Area

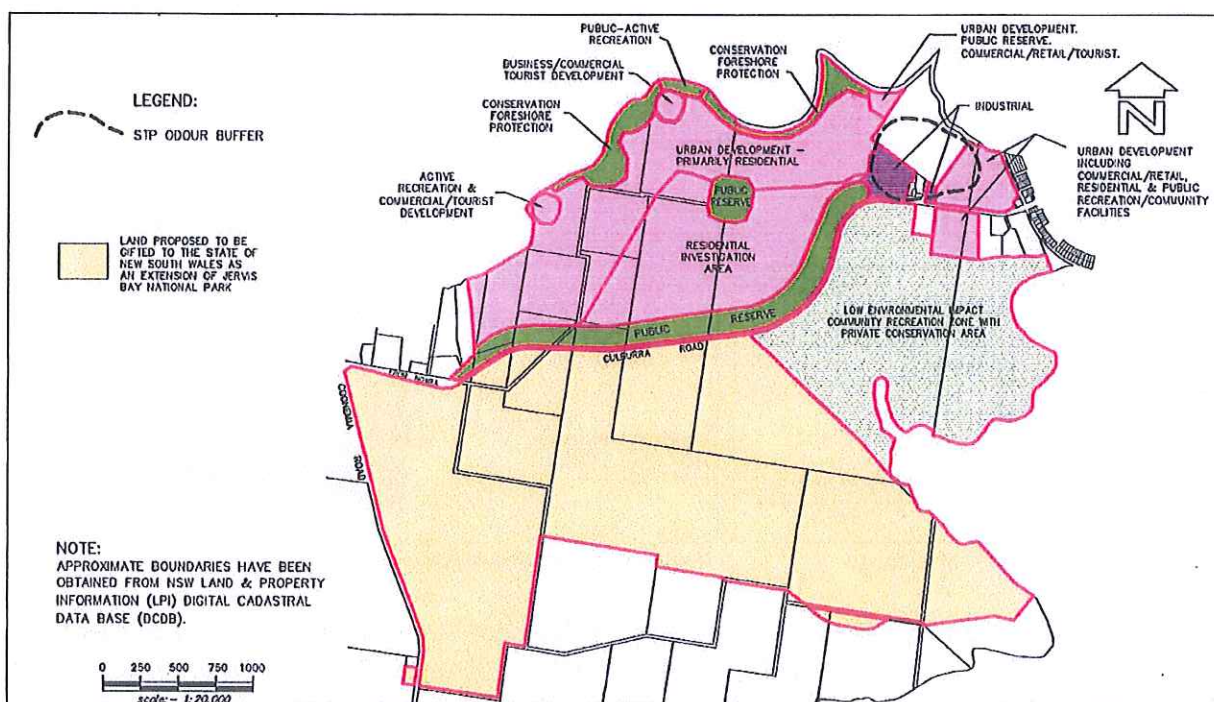


Figure 4: West Culburra Expansion Area Masterplan

Policy & Strategic Context

Section 117 Directions for new housing and implementation of regional strategies require the Minister for Planning to consider any relevant adopted strategic guidance, which includes the South Coast Regional Strategy (2007), Jervis Bay Settlement Strategy (2006) and South Coast Sensitive Urban Lands Review (2006). Appendix 2 of the South Coast Regional Strategy requires that land within the Lake Wollumboola catchment should be protected for conservation purposes, which includes not only the proposed Community Recreation Zone but also a section of the proposed Residential Investigation Area north of Culburra Road.

The Planning Proposal is inconsistent with this aspect and the justification in Appendix Five is unfounded in regard to "meet[ing] the sustainability criteria" as Appendix Six is baseless in relation to matters of Environmental Protection as no technical studies or quantification of biodiversity offsets have been done to demonstrate the claims made in the Planning Proposal against the Sustainability Criteria. OEH would argue that the South Coast Regional Strategy's Appendix 1 - Sustainability Criteria does not apply as the directions in Appendix 2 – Sensitive Urban Lands are the relevant considerations for the land within the catchment of Lake Wollumboola. Council may wish to clarify this with DPE.

The Jervis Bay Settlement Strategy identified that future land uses in West Culburra should be subject to the Long Bow Point Commission of Inquiry (Col) finding, which maintained that development within the Lake Wollumboola catchment is inappropriate. The catchment values have been well documented and identified in previous planning reviews and reports, including most recently the Joint Submission Report on Water Quality.

The Joint Submission Report on Water Quality (p. 6) notes that *'given the demonstrated ecological significance of the lake, the relative rarity of its biotype and its sensitivity to catastrophic state change we fully support the current recommendation of no development within the lake catchment'*. This strategic position has been consistently supported by the independent inquiries and reviews into urban developments and strategic land use within the Lake Wollumboola catchment, including the Long Bow Point Col, NSW Healthy Rivers Commission report into Coastal Estuaries and the Sensitive Urban Lands Review.

OEH also notes that, in addition to the draft Planning Proposal, there are two pending development applications in the area. Namely these are a proposed golf course at Long Bow Point, for which a development application is being assessed by Council, and a Part 3A major project for a mixed use master plan at West Culburra (being assessed by DPE). It remains unclear to OEH how progression of the draft Planning Proposal will dovetail with these two currently pending development applications.

Recommendation 4: The Planning Proposal should provide further detailed reference to the existing studies into water quality issues within the Lake Wollumboola catchment, including but not limited to the Joint Submission Report on Water Quality.

Residential Investigation Area

The proposed residential investigation area at West Culburra is located partially within the Crookhaven River catchment and partially within the Lake Wollumboola catchment. There are significant water quality

issues associated with residential development in the Lake Wollumboola catchment, given its unique sensitivities including bird usage and freshwater inflows. The water body of Lake Wollumboola itself is identified as part of the terrestrial Jervis Bay National Park due to these sensitivities.

OEH considers that the Lake's ongoing health is dependent on not having development or disturbance within the catchment. There are hence significant concerns regarding the potential for development to impact upon the Lake's natural environment. With regard to water quality issues, the Planning Proposal states that land within the residential investigation area would only proceed to development *"if there is a neutral or beneficial impact upon the water quality of Lake Wollumboola"*. This objective is misguided as the South Coast Regional Strategy's Appendix 2 – Sensitive Urban Lands sets out the appropriate recommendations as such matters *"will guide future development applications, local environmental plans and strategic land use plans"*. This would include the Planning Proposal as a strategic land use plan.

Furthermore the Planning Proposal fails to reference the recent findings of the Joint Submission Report on Water Quality, stating only that *"subsequent detailed assessment will be undertaken to determine whether certain urban development can occur within the Lake Wollumboola catchment"*. Although it is stated that the Lake Wollumboola Estuary Management Plan provides for development occurring if there is no nutrient or sediment increase, this directly contravenes the Long Bow Point Col findings and the more recent recommendations of the Joint Submission Report on Water Quality.

The Crookhaven catchment, within which the majority of the proposed residential development is located, is also a sensitive estuary and there are hence significant implications for water quality for drainage to this catchment resulting from the current proposal. OEH notes that the residential investigation area does not clearly delineate the exact boundary between the Wollumboola and Crookhaven catchments.

Issues raised previously by OEH regarding water quality and compliance with NSW Coastal Policy do not appear to be addressed within the current planning proposal. It remains unclear how water quality and ecological longer term integrity, including impact upon SEPP 14 Wetlands, can be achieved by the proposal. This applies also with respect to the proposed residential development north of Culburra Road located within the Crookhaven catchment.

In the absence of any further detailed information, OEH maintains significant concerns that further urban development within the Lake Wollumboola catchment may proceed without adequately demonstrating that the unique natural attributes of the Lake would remain unaffected.

Recommendation 5: Development currently proposed in the Residential Investigation Area within the Lake Wollumboola catchment clearly remains contrary to the existing policy and strategic framework. Any proposed development within the Community Recreation Zone would provide further adverse impact upon the sensitive ecological values of Lake Wollumboola. However opportunity exists for the proponent and Council to consider an alternate land use planning proposal for the golf course and associated development north of Culburra Road should such development be seen as necessary by the planning authorities.

Recommendation 6: The Planning Proposal should clearly demarcate the boundary between the Crookhaven River and Lake Wollumboola catchments. This would clearly identify where water quality remains a primary issue in the proposed residential investigation area. The sensitivity of the Crookhaven catchment should also be recognised with regard to water quality management associated with the Planning Proposal.

Community Recreation Zone with Private Conservation Area

The proposed Community Recreation Zone on the shores of Lake Wollumboola would have the capacity to disrupt complex ecological processes within the Lake, many of which are not fully understood, in turn impacting adversely on the existing communities at Culburra and Callala.

The proponent asserts that developments such as the proposed golf course at Long Bow Point, currently pending consideration by Council, would be consistent with previous independent inquiry and report findings as it does not comprise 'urban development'. OEH remains extremely concerned regarding water quality impacts of any golf course development upon Lake Wollumboola in the absence of detailed information and an acknowledgement of the Joint Submission Report on Water Quality recommendations. There remains the potential for a golf course to result in significant impacts upon the lake's water quality, akin to those of residential development, including fertiliser and pesticide transfer to the Lake via groundwater.

OEH remains concerned that the proponents have already indicated that further development is earmarked for the golf course if approved (ie residential, clubhouse and tourist facilities). This would further impact the Lake's sensitive ecological values.

However should a golf course and associated development (low environmental impact or otherwise) be seen by the proponent and/or planning authority as a necessary adjunct to the local community, then OEH would prefer such a development proposal be set back a substantial distance from the Lake foreshore. The current location of a golf course on Long Bow Point is a concern in regard to water quality management, due to groundwater discharge rather than discharge via catchment drainage lines that can be better monitored and adapted as need be. OEH has already indicated to the proponent and DPE the option of (reluctantly) accepting the consideration of a golf course and associated development on the land north of Culburra Road, earmarked for Residential Investigation Area.

The Planning Proposal states that this zone also includes a 'Private Conservation Area', however this is not clearly demarcated or outlined within the Planning Proposal. Taking account of the golf course option outlined above, OEH's preference is that Long Bow Point should ideally be gifted to NPWS or have comprehensive protection if retained in private ownership and/or utilised as the highest priority for biodiversity offsets.

OEH welcomes the proposal to gift significant land holdings to NPWS for inclusion into the Jervis Bay National Park. Such a gift will ensure the conservation values of the lands are retained and restored in perpetuity. Outside of the lands proposed to be gifted, Long Bow Point remains a high priority for future

conservation and ideally warrants inclusion into Jervis Bay National Park (as supported by the Independent Review Panel's Sensitive Urban Lands Review (2006)).

The foreshore area around Long Bow Point has been previously identified by the proponent as part of an offset area for the proposed golf course and to be managed as a private conservation area. As the foreshore area is not an appropriate parcel of land for dedication to the National Parks estate, the private conservation approach outlined in the Planning Proposal is supported by OEH/NPWS. But again, Long Bow Point is seen as a credible addition to the Jervis Bay National Park as assessed by the Independent Review Panel and has potential as a biodiversity offset site as discussed in the following section.

Recommendation 7: The Planning Proposal should clearly demarcate the proposed Private Conservation Area within the Community Recreation Zone. OEH's preference is that Long Bow Point be ideally gifted to NPWS or have comprehensive protection if retained in private ownership and/or utilised as the highest priority for biodiversity offsets.

Biodiversity Conservation & Offsets

The Planning Proposal acknowledges that the lack of detailed flora and fauna information presented at this stage but incorrectly infers that there are relatively few concerns which can be readily addressed at the Gateway stage. The Planning Proposal does not acknowledge the challenges being faced by the two pending development applications at West Culburra, namely:

- Proposed golf course DA at Long Bow Point, which has triggered the requirement for a Species Impact Statement (SIS) (understood to have been submitted to Council), and
- Part 3A major project under assessment by Department of Planning & Environment, for which biodiversity offsets remain an unresolved issue.

Furthermore the Planning Proposal does not outline a clear and consistent approach to offsetting across the sites as a whole. The report states that this will occur by *'long term conservation of lands within the Lake Wollumboola catchment for offset purposes, through gifting of the identified lands within the catchment to the NSW Government'*. Gifting of land is not considered a surrogate for biodiversity offsetting in the absence of any assessment. It is noted the Planning Proposal makes no attempt to quantify the development impacts and the offset requirements in terms of vegetation type impacted and requiring offsetting, nor is there any spatial allocation of where offsetting of "like for like" vegetation types will occur. OEH notes that the biodiversity offset lands can overlap with conservation lands and/or lands to be gifted to NPWS. There is a need for biodiversity offsetting to be quantified and spatially allocated, if only to a preliminary level, via this Planning Proposal.

It is therefore recommended that a holistic approach for securing biodiversity offsets be undertaken as part of the Planning Proposal.

Additionally, the conservation values of the lands proposed for gifting to the National Parks estate have not been presented, making it difficult to ascertain the management issues to be addressed prior to NPWS acceptance (eg current condition, weed management, clean-up costs, responsibilities, funding, etc).

For instance, some areas will have inherent conservation value whilst others will be only for offset purposes, overlapping where the vegetation type present is "like-for-like" with offset requirements. There is a significant amount of mapped information readily available, and with the use of the BioBanking Assessment Methodology, the biodiversity impacts/offsets can be better appreciated and the Planning Proposal will contain greater certainty on a preliminary offsetting solution.

If the Planning Proposal proceeds to Gateway approval OEH recommends that, at a minimum, the proponent provide further information outlining the general implications for offsetting across the Halloran Trust lands and whether offsets are required on other lands to achieve like-for-like outcomes. Such offsets would include "like for like" vegetation for clearing at Callala, West Culburra and Long Bow Point. Offset lands could spatially relate to sensitive coastal foreshore or other vegetated lands earmarked for private conservation or gifting to the NPWS (including land at One Tree Bay if "like for like" offsetting is applicable).

Should this offset information not be collated, OEH remains concerned that land zoned for future urban development may be precluded by offset complications. A preliminary bio-banking calculation with some basic assumptions in the methodology should be undertaken in order to determine the likely offset requirements as a result of proposed urban development. As it currently stands, there is uncertainty in rezoning the land as future development proposals may be unable to achieve an appropriate offset outcome.

Recommendation 8: The Planning Proposal needs to include a preliminary biodiversity offset strategy identifying the vegetation type impacts/offsets and spatial allocation of such offsetting across the Halloran trust lands as a whole (including One Tree Bay). Offsetting should be determined using the Government's recognised BioBanking Assessment Methodology (BBAM). Lands earmarked for offsetting can overlap with land earmarked for conservation purposes, lands to be gifted to NPWS and land outside Halloran Trust land if required to achieve like-for-like offsets.

Aboriginal Cultural Heritage Comments

An Aboriginal cultural heritage assessment has not yet been completed for the majority of the land within the Planning Proposal. South East Archaeology (SEA) conducted investigations of two discrete portions of the Planning Proposal (Culburra Beach expansion and Long Bow Point Golf Course). The remaining areas have not yet been assessed. This assessment should be conducted at an early stage of the planning process as there is potential for Aboriginal cultural heritage sites of high cultural and archaeological significance to be present.

OEH provided comments on the findings of the SEA (2012) assessment (May 2013 and May 2014). OEH stands by statements made previously regarding potential development in this area:

- OEH does not support impact to the Crookhaven River midden complex, located on the southern bank of the Crookhaven River. The site complex is a rare example of densely distributed mounded middens on the South Coast. Impacts to this site complex must be avoided and management strategies developed to protect the site in the context of the proposed urban development.

The AHIMS database shows numerous Aboriginal sites within the current proposal areas and in close vicinity to the proposal areas. Middens, axe grinding grooves, artefact scatters and burials are mentioned

on AHIMS site cards along the Crookhaven River and at Lake Wollumboola. The AHIMS database is not complete, as surveys for Aboriginal objects have not been undertaken systematically in many parts of NSW. Aboriginal objects may therefore exist on a parcel of land even though they have not been recorded in AHIMS.

The Aboriginal cultural heritage assessment should be implemented in accordance with OEH requirements set out in the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (2011) and *Aboriginal cultural heritage consultation requirements for proponents* (2010). The Jervis Bay Settlement Strategy (JBSS) recognises the ongoing connection to Country of the Aboriginal people of Jervis Bay. Compliance with OEH requirements for Aboriginal community consultation and archaeological investigation should assist in addressing the JBSS in relation to Aboriginal cultural heritage.

Recommendation 9: Given the scale of the proposal, a full cultural heritage assessment should be undertaken in accordance with OEH guidelines to identify the nature and extent of Aboriginal cultural heritage values within the current proposal areas. OEH recommends that this be undertaken early within the planning process so areas of high Aboriginal cultural heritage significance can be identified, values/significance understood and managed/conserved as relevant.

Floodplain Risk Management

It is noted that in Council's assessment of flooding issues for the rezoning in these areas, Council will need to demonstrate that it has considered and appropriately satisfied itself that the proposed rezoning is consistent with:

- the relevant flood related s.117 Direction
- the NSW Flood Prone Land Policy as set out in the Floodplain Development Manual (2005) and amendment,
- the South Coast Regional Strategy (particularly Chapter 5 - Natural Hazards) noting that the s.117 Direction regarding the implementation of regional strategies would apply.

Assessments of the site should address flood risk related issues over the full range of flood probability (up to and including the PMF) from all potential flood mechanisms. Flooding of these areas may originate from the Crookhaven River, Lake Wollumboola, local watercourses, elevated ocean conditions or any combination of these sources. Best floodplain risk management practice involves an envelope approach to analysing flood mechanisms and their interactions.

Council has conducted flood studies for the Crookhaven River (as part of the Lower Shoalhaven FRMS&P) as well as Lake Wollumboola and local Culburra runoff, however it is unclear what information Council would rely on in relation to the land at Callala.

Furthermore, as consideration is being made to changing land-use to allow permanent human occupation of floodplains, it would be prudent to ensure that the potential impacts of climate change including sea level rise (over the full range of flood probabilities and mechanisms) are appropriately considered in accordance with the current Council Sea Level Rise planning policies and framework. These considerations should be consistent with the indefinite duration of occupation (presumably permanent) of the new land use zones.

Given the potential implications of isolation and the safety of people in these areas, the types and density of development permissible under the proposed zoning require careful consideration. Council should carefully assess flood impacts both on and off site as well as strategies to manage flood hazard in establishing appropriate land uses and associated flood related development controls for these areas. In dealing with the proposed rezoning, Council will need to carefully consider and ensure it has assessed and satisfied itself in relation to:

- the impact of flooding on the types and density of development permissible under the proposed zone;
- the impact of future development permissible under the proposed zone on flood behaviour both on and off site including any management measures required to mitigate adverse flood impacts, particularly controls in the LEP;
- the flood impacts of future development on the adjoining environment, including measures and spatial requirements to offset adverse hydrologic impacts on the wetlands;
- the impact of flooding on the safety of people using the types and density of development permissible under the proposed zone. Given the potential for isolation in this area in times of flood, careful consideration of the implications of isolation, access and evacuation for future development. Evacuation may also place increased burdens on emergency services and therefore it would appear that Council should also consult with the SES;
- the development control plans or policies of Shoalhaven City Council (SCC) in relation to the management of flood risk;
- that appropriately detailed flood information and models are utilised to support assessments of the full range of potential flood probabilities mechanisms and interactions in the areas;
- SCC's requirements for flood investigations and flood related development controls to support any future development if the land is rezoned;
- the full range of flood events, up to and including the probable maximum flood (PMF). This assessment should include impacts of the likely development in this area including potential impacts on flood flow distributions for floods between the 1% and PMF;
- the flood hazard in the area including the hydraulic hazard, floodways, flood readiness, flood warning time, rate of rise of floodwater, flood duration, isolation and type of development;
- the flood hazard of any access and /or evacuation routes for events up to and including the PMF; and
- the potential implications of climate change including sea level rise on all potential flooding probabilities and mechanisms.

Council in its review of the proposed rezoning should ensure that flood assessments undertaken to support such a rezoning meets the requirements of the relevant planning processes identified above. Should the Council require any further or specific flood risk management advice it should feel free to contact OEH.

Recommendation 10: A flooding assessment in support of the Planning Proposal should be undertaken in accordance with the relevant guidance and planning processes as identified by OEH.

REFERENCES

Joint Submission Report on Water Quality: *Joint Submission on Environmental Sensitivity of Lake Wollumboola: Input to Considerations of Development Applications for Long Bow Point, Culburra*, NSW Office of Environment and Heritage, Southern Rivers Catchment Management Authority – Agricultural Extension, Fisheries NSW, Sydney, Australia prepared by Scanes P, Ferguson A, Potts J.

Wright A, Haine B, Scanes P (2013b) *Determining the effectiveness of urban stormwater constructed wetlands in the Lake Macquarie catchment area*, NSW Office of Environment and Heritage, Sydney, Australia.