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OUT14/13715

Ms Kerry Hamann
Industry Projects
NSW Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Kerry.Hamann@planning.nsw.gov.au

Dear Mr Hamann,

Pindimar Abalone Project (MP10_0006)
Response to exhibition of Environmental Assessment

I refer to your email dated 19 March 2014 requesting advice from the Department of Primary Industries (DPI) in respect to the above matter.

Comment by NSW Office of Water
The NSW Office of Water (Office of Water) provides the following comments and recommended conditions of approval (Attachment A) for your consideration.

Pumphouse excavation and construction
As the construction of the pumphouse requires excavation to approximately -2m AHD, dewatering is likely to be required. This activity may require a licence under Part 5 of the *Water Act 1912*. The proponent should liaise with the Office of Water prior to works commencing, to ensure compliance with licensing requirements. A dewatering management plan should be included within the Construction Environmental Management Plan (CEMP) outlining proposed dewatering methods, expected volumes, duration of dewatering, management procedures for extracted groundwater, including any treatment requirements and proposed methods of disposal, and licensing requirements as determined in consultation with the Office of Water. The Office of Water acknowledges and supports the incorporation of impermeable walls and flooring in the pumphouse design to preclude the need for ongoing dewatering.

The pumphouse is located within an area mapped as having a low probability of occurrence of acid sulfate soils. As the excavation for the pumphouse is to be to a depth of approximately 3m below the natural ground surface the potential exists for the interception of potential acid sulfate soils (PASS). The Great Lakes LEP 2014 identifies the land as Class 4, meaning that works more than 2m below the natural ground surface would ordinarily require the preparation of an acid sulfate soils management plan (ASSMP) in accordance with the Acid Sulfate Soils Manual. The CEMP should include an ASSMP outlining strategies to minimise and mitigate potential impacts on PASS (including impacts associated with excavation of PASS material and groundwater extraction and drawdown).

Controlled activities
Although not requiring approval under the *Water Management Act 2000* (WMA), works on waterfront land (as defined in the WMA) should be conducted in accordance with the Office of Water's Guidelines for controlled activities on waterfront land (2012).

For further information please contact Rohan Macdonald, Water Regulation Officer, Major Projects (Newcastle Office) on 4904 2642 or at rohan.macdonald@water.nsw.gov.au.

Comment by Marine Parks Authority

Issues of potential concern foreseen by the Marine Park Authority (MPA) include the clearing of native vegetation, the damage created by the laying of pipes, trenching and potential impacts on sygnathidae, effluent from the abalone farm, and the taking of abalone broodstock.

The clearing of native vegetation:
The proposed farm is to be constructed in native open forest, adjacent to SEPP 14 Wetland, which has considerable conservation value and benefit to the marine park. Potential nutrient runoff and changes to hydrological regimes caused by vegetation removal and an increase in impervious surfaces has the potential to affect the water quality and quantity entering the marine park. The utilisation of rainwater harvesting, treatment and swales as proposed in the stormwater management strategy are encouraged to manage these impacts.

Vegetation communities are valuable habitat for fauna that frequent the marine park, particularly seabirds, and contribute significantly toward ecological process. Marine park interests are best served if vegetation removal is kept to a minimum, with attention directed not just toward retention of habitat trees but also understorey and shrub level components. An appropriately managed vegetated buffer area should be retained between the farm and the foreshore.

The laying of pipes
It is understood that the pipeline will be buried through the foreshore and intertidal area before emerging underwater. We note on page 182 of the EA that "if *Z. capricorni* plants are identified within the trenching footprint, the AEA suggests the temporary removal of plants until pipeline construction is complete" and on page 184, to reduce impacts on *P australis,* scuba divers should be used "to ensure pipe footings are carefully placed (to minimise damage to pipeline outside the pipeline area) and regular inspections of pipelines for potential scouring after construction." MPA supports these measures and the proposed measures that mitigate any potential impacts on Sygnathidae during installation and maintenance of the pipes.

We also note on page 189 that the intake screens will be "examined and cleaned regularly to ensure fouling/clogging of the intake is kept to a minimum." It would be of benefit to include this as a condition in any approval.

Effluent from the abalone farm
Water quality monitoring and/or sampling in the waters surrounding the pipe outlet may be necessary once the project is running and we would request the support of the applicant in this regard.

Of emphasis to preserving water quality are effective sewage management and erosion and sedimentation control. Sludge and waste removed from the settlement ponds, along with any on-site effluent, needs to be disposed in such a manner that it does not migrate beyond the site into the waters of the marine park. We appreciate that this most important issue will be addressed in detail in the conditions of approval.

The taking of abalone broodstock
Certain areas (i.e. Sanctuary Zones) within the marine park are closed to the taking of marine life, and other areas may be inappropriate for collecting broodstock (e.g. Boulder Bay Sewage Outfall). An MPA and/or NSW Fisheries permit will be required for the applicant to take abalone for the purposes intended.

For further information please contact Luke Erskine, Manager, Port Stephens-Great Lakes Marine Park (Nelson Bay Office) on 4984 8228 or at luke.erskine@dpi.nsw.gov.au.

Comment by Crown Lands
Crown Lands has reviewed the relevant documents and has no objection to the proposed development. However Crown Lands recommend the following matters to be addressed or considered in any future development of this proposal.

Crown Lands land management principles, per the *Crown Lands Act 1989* NSW (s.11); have been applied in considering the above proposal, requiring that:

a) Environmental protection principles be observed in relation to the management and administration of Crown Land;

b) The natural resources of Crown land (including water, soil, flora, fauna and scenic quality) be conserved wherever possible;

c) Public use and enjoyment of appropriate Crown land be encouraged;

d) Where appropriated, Crown land should be used and managed in such a way that both the land and its resources are sustained in perpetuity;

e) Crown land be occupied, used, sold, leased, licensed or otherwise dealt with in the best interests of the State, consistent with the above principles.

Generally, Crown Lands encourages and supports the Monitoring Plans outlined in the EA and the developer's commitment to on-going monitoring. Crown Lands would however require immediate notification of any impacts on Crown land or its ecosystems resulting from the proposed development.

Crown Lands deems that Crown land and/or Crown waterways would be affected by the proposal in the following ways:

1. The installation and operation of the marine intake and outlet pipes, as outlined in the Environmental Assessment, will occur on Crown land. The pipes will discharge into a Crown waterway.

a. An estimated 0.5 hectares of Saltmarsh EEC will be disturbed, along with Mangroves during the construction phase. Outcomes of Seagrass transplantation (as proposed on page xxxvi, are considered variable and experimental), and therefore an investment in long-term seagrass monitoring under the proposed *Seagrass Monitoring plan*, and a commitment to on-going habitat rehabilitation, if indicated, would be required by Crown Lands.

b. A commercial licence would be required for the placement of the proposed Marine discharge and uptake pipes on Crown land or Crown waterways.

c. No impacts resulting from the outflanking, sinking or failure of structures related to flooding, regular tidal influences, sea level rise or other causes are to negatively affect Crown land or Crown waterways.

d. Little information is provided about future works associated with the buried marine pipelines - such as maintenance and repairs, and any associated rehabilitation of impacted ecosystems. Before Crown Lands could consider commercially licencing the marine pipelines, detailed information on full life-of structure works and risks would be required.

e. Any transplantation of Mangroves or Seagrass, or other environmental works on Crown land would also require Crown Lands consent.

f. Monitoring of benthic-fauna will also be required as a condition of a commercial licence, with a similar condition relating to a commitment to rehabilitation, if required.

g. Any anchoring of structures on Crown Lands must not cause or contribute to any Acid Sulphate related impacts.

h. Sedimentation must be mitigated, such that increased run-off from increased compacted, constricted cleared or impervious surfaces do not impact Crown land or Crown waterways.

i. Construction of the pipeline must involve the use of geofabric, to prevent the spread of suspended sediments to surrounding areas. Methods are to be employed that minimize impacts on Mangroves. Crown lands would require that NSW DPI (Fisheries) consent has been obtained, to cover any harm to any Marine Vegetation during the proposed operation.

j. Means to mitigate any Acid Sulphate Soils disturbance, as outlined in the EA, must be followed. Whilst depths of marine pipe installation are not expected to reach ASS risk zones, some variance in ASS depths may be encountered. Therefore in considering an application to commercially licence the marine pipe and its

installation, Crown Lands may seek independent expert advice on installation methodologies.

2. Potential run off from land based development and operation – relating to the installation of Farm infrastructure – into the Port Stephens Crown waterway

Erosion and sediment control measures both during construction and the life of the Farm must be in place and maintained such that no increased water or sediment affect any Crown land or Crown waterway. This includes Potential run-off via Pig Station Creek and its tributaries into the Port Stephens Crown waterway. Any anticipated increase in flow or sediment yields must be mitigated.

3. Potential impacts on aquatic marine ecosystems on Crown land

a. The Environmental Assessment (EA) identifies that regardless of on-farm based water treatment measures, a residual nutrient and/or suspended sediment load will be released from the farm into waterways (i.e. higher than ANZECC water quality trigger values for a number of Farm produced nutrients). Whilst Crown Lands acknowledges that 'catchment' background sediment and nutrient levels exist (as outlined in the EA), Crown Lands requires that no damage to ecosystems on Crown land would result from increases in either sediment or nutrient loads, produced by the Farm.

b. Whilst the modelling provided by the EA detailed concentration and dilution of Ammonia, from the outflow pipe (because Ammonia is anticipated to have the most significant increment above the ANZECC guidelines), other nutrients may need to be modelled so as to indicate impacts of broader eutrophication in or near the present Seagrass communities. Crown Lands seeks assurance that no negative medium or long-term impacts will occur in these marine vegetation ecosystems on Crown land.

c. Averaged conditions and nutrient outputs (i.e. averaged modelled ammonia) are cited by the EA, however Crown Lands is concerned about impacts on marine vegetation where seasonal, compounded or cumulative effects related to nutrient behaviour and eutrophication occur – such as impacts of Ammonium on Seagrass under potentially varied water pH. More information is required about key individual nutrients, in relation to warm weather conditions, and water quality when potential resultant algal blooms occur.

d. Key general Crown Lands concerns in relation to this matter include:

i. Accelerated increases of nutrient inputs threatening marine ecosystem resilience and integrity – potentially leading to loss of biodiversity and shifts in community structure.

ii. Increased risk of marine algal blooms, scums, odours and other water quality problems, in response to locally increased Nitrogen inputs.

iii. Increased risk of localised, decreased oxygenation in Crown land managed waters and habitats.

4. Potential future conflicts with other waterway users

a. Impacts on neighbours, of pipe discharge effects, must be mitigated.

b. Water quality must not exceed recreational ANZECC contact trigger values, in areas where swimming and recreational uses are possible.

For further information please contact Tina Clemens, Natural Resource Management Project Officer (Taree Office) on 6591 3572 or at tina.clemens@crownland.nsw.gov.au.

Comment by Fisheries NSW

Aquatic Ecosystems
A review of the EA from the Aquatic Ecosystems perspective notes the following;

The construction of the pipeline over the *Posidonia* is expected to cause little harm to the marine vegetation due to the ability of the seagrass to grow around and under the suspended pipeline. There will be some loss from the footprint of the supporting structures which will require an ecological offset determined in accordance with Fisheries NSW Policy for environmental offsets.

The construction of both the pipeline and the elevated walkway for bushfire access will require some minor trimming and minor impacts on the root system of a small number of mangroves. This will require the proponent to obtain a permit to harm marine vegetation under s.205 of the Fisheries Management Act.

Consequently the Department would require a condition of consent to include;

The proponent must obtain a permit to harm marine vegetation under s.205 of the Fisheries Management Act. This permit will contain conditions relating to the requirement an ecological offset determined in accordance with Fisheries NSW Policy for environmental offsets as found in "Fisheries NSW Policy and Guidelines for Fish Habitat Conservation and Management (2013 update)" (http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0009/468927/Policy-and-guidelines-for-fish-habitat.pdf).

For further information, please contact Scott Carter, Regional Manager Central/Metro, Aquatic Ecosystems on (02) 4916 3931 or email scott.carter@dpi.nsw.gov.au.

Additionally, please see detailed comments from the Aquatic Biosecurity and Aquaculture Management Divisions of Fisheries NSW in Attachments B and C respectively.

Attachment A

Pindimar Abalone Project (MP10_0006)
Response to exhibition of EIS
Recommended Conditions of Approval by NSW Office of Water

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1. The proponent is to obtain all necessary licences under Part 5 of the *Water Act 1912* prior to commencing activities likely to intercept groundwater.
2. The project Construction Environmental Management Plan is to include:
    a. A dewatering management plan outlining:
        i. activities likely to intercept groundwater;
        ii. proposed dewatering methods;
        iii. expected volumes to be extracted;
        iv. expected duration of dewatering;
        v. management procedures for extracted groundwater, including any treatment requirements and proposed methods of disposal; and
        vi. licensing requirements for dewatering activities.
    b. An acid sulfate soils management plan prepared in accordance with the Acid Sulfate Soils Manual.
3. Works on waterfront land (as defined in the *Water Management Act 2000*) are to be conducted in accordance with the NSW Office of Water's Guidelines for Controlled Activities.

End Attachment A

Attachment B

Pindimar Abalone Project (MP10_0006)
Response to exhibition of EIS
Comments by Fisheries NSW - Aquatic Biosecurity

Overall

The proposed developed, if approved, would establish the first farmed abalone enterprise in NSW. Currently the abalone industry in NSW, worth $2-3 M per annum, relies solely on harvest of wild abalone in NSW coastal waters. Protection of the value of this wild harvest industry is important to the NSW economy.

The proponent describes the development as a land based facility on the northern Shore of Port Stephens, relying upon intake of water from, and discharge of treated effluent water into, Port Stephens. This design in itself creates a specific disease risk environment for wild abalone populations in coastal waters outside the tidal Port Stephens estuary.

Aquatic Biosecurity considers that the Biosecurity and Disease Management Plan incorporated into the Environmental Assessment (EA) dated 6 March 2013 comprises a reasonable attempt to identify relevant biosecurity threats, including both emergent and known disease issues (AVG, Perkinsus), and develop a risk analysis framework to guide management activities that work toward mitigating the disease risks associated with those threats.

It is noted that the proponent states that all broodstock will be sourced from local (NSW) areas, and will be quarantined after introduction as a further protection measure. This approach should reduce the likelihood of introducing diseased stock from areas (interstate in the case of AVG) where these agents are endemic. Whilst the preliminary EA appears to state that there had never been a case of transmission of Perkinsus from farmed to wild abalone populations, this report did not address the risk of AVG infection at all, and was written prior to the only documented NSW incursion of AVG in imported abalone in a Sydney retail premises in 2011, which was contained by immediate action by Biosecurity NSW to quarantine the premises to eliminate the possibility of spread. The 2013 EA provides a much more comprehensive approach on this issue than the earlier EA.

The 2013 EA identifies the capacity in the facility to commence recirculation of water instead of continuing to discharge where evidence of a disease event is present in the facility. However, in this context it should be noted that the nature of the pathogenesis and epidemiology of the identified disease agents, in particular AVG, is likely to mean that, if water discharge is ceased only after evidence of disease emerges in the farmed population and decontamination has been inadequate, it may be too late to stop spread of AVG to wild populations through discharged water, with potentially catastrophic consequences for the wild abalone stocks and industry.

To this end, whilst the proponent has provided a general risk assessment framework for a biosecurity plan, there is insufficient detail in the current form of the plan for Biosecurity NSW to comment on whether it provides adequate risk mitigation to address possible biosecurity threats.

Should the development be approved, the proponent remains responsible for ensuring that good biosecurity practice is employed in all aspects of the development and its operation. It is therefore recommended that it be a condition of any development approval that the proponent consult with appropriately qualified aquatic animal health experts on the details of the systems to be employed and the biosecurity standards to be met by these systems, and the testing and monitoring regime to be adopted to mitigate likelihood of discharge of contaminated and potentially infective water into Port Stephens. Biosecurity NSW officers based at Port Stephens may be able to assist with information on relevant aquatic biosecurity legislation, policies and procedures.

This is a necessary measure to ensure a minimum level of protection for the important wild abalone industry in NSW. Should the development go ahead, the proponent should also be required, as a condition of any Aquaculture permit, to consult with aquatic biosecurity experts to review and ensure that the currency of its biosecurity risk assessment and the enterprise biosecurity plan is maintained. Consideration of specific risk scenarios for AVG in this process would also benefit from review of the Victorian Supreme Court's decision in *Regent Holdings Pty Ltd v State of Victoria* 7 November 2013.

Other comments

- Aquatic Biosecurity notes that formal quarantine provisions under NSW legislation are the decision of the Minister or their delegate. It is suggested that references to the Director of Fisheries and Chief Veterinary Officer in these sections be replaced with relevant State Minister to accommodate administrative differences in delegations levels applying to different functions.

- The proponent does acknowledge that suspected disease should be reported to NSW DPI. It is recommended that any future biosecurity enterprise plan strongly emphasises the obligation for the staff to contact NSW DPI in the event of any unexplained mortality. This will be a condition of the aquaculture permit, and should occur concurrently with attempts at on-farm diagnosis.

- Biosecurity NSW would support the proponent committing to a stand-alone procedure that supports on-farm biosecurity and quarantine requirements (noting Pg 4 discussion), to ensure that the quarantine provisions on-farm are satisfactory. Such a procedure could be clearly articulated in the context of the EA to ensure that biosecurity risks are identified and appropriate treatments applied to mitigate the impact.

Specific comments on Appendix 5.

Pg 4 – It is recommended that any biofouling removed from new broodstock to the facility (that is not of suspected marine pest origin), be disposed of away from the waterway to general waste/landfill.

Pg 4 – It is noted that 'zero discharge' is discussed at A6 & A7. Suggest that page 4 discussion of cleaning of new abalone is amended to include that 'any effluent from cleaning new broodstock should be treated/decontaminated effectively prior to appropriate disposal'.

Pg 5 – The EA includes a proposed sentinel program to alert the operator to possible disease in new broodstock that are to be monitored over an 8 week period prior to new stock being moved to general tanks for conditioning. It is suggested that the proponent should consult with relevant NSW DPI epidemiology and virology expertise to ensure that this program is adequate for the purpose intended.

Pg 5 – Discussion around suspected disease events – again, it is suggested that a separate and clear procedure should be developed to outline the steps that farm staff must take if 'x' is observed or 'y' is observed. This could relate to the NSW DPI publication at Appendix 2. It is likely to be a permit condition for suspected disease to be reported to NSW DPI promptly, so while on-farm diagnosis is useful and interesting, any unexplained mortality must be reported to NSW DPI for a declared disease exclusion investigation to be initiated.

Pg 7 – A7 – The EA mentions various procedures that will be applied for disinfection of liquid waste. It is suggested that the proponent also investigates as to whether these protocols would adequately deactivate Abalone Viral Ganglioneuritis and, if not, include relevant protocols (with input from appropriate technical expertise for de-activation of Abalone Viral Ganglioneuritis).

Pg 7 – A8, It is suggested that addition of "or in the permit to which this aquaculture facility applies" to end of the statement.

Pg 8 – A14 – The department does not generally specify a 'threshold' for levels of mortality beyond which they should be reported, but instead indicate that reports should be made to the department for any unexplained mortality event. The department suggests this should be changed.

Pg 9 – Discusses baseline of mortality (background levels) – It is not certain if there is a standard in abalone farming for this, or whether it would be required to be developed in collaboration with the farm and DPI over time (suggesting the latter may be beneficial)? Advice should be sought.

Pg 9 B6 – Suggests mortalities to be disposed of according to EPA. However, this may need to note in the first instance that unexplained mortality must first be investigated by NSW DPI, then any stock remaining to be disposed of according to EPA requirements.

Pg 13, Discussion of AVG does not mention up front the detection of AVG in NSW facility (but it does come up later). It would be useful to outline this in the first section of AVG discussion similar to

:"[AVG has been detected in retail seafood facilities in region of Sydney, after importation from infected premise in Tasmania during 2011. Decontamination of all affected premises (post tracing and surveillance) was completed under direction of NSW DPI."]

Pg 14 NSW DPI disease factsheet for abalone is appropriately appended to Appendix 5. However, it is suggested that it would be of benefit to include this advice to a training package of all farm staff, and to have available for quick reference (i.e. on notice board?).

Pg 17 (and in other locations) – Note that AVG and Perkinsus are on the NSW Declared Disease list in legislation, in addition to the OIE & National Reportable Disease list.

Pg 17 (and elsewhere) – References the Director of Fisheries/NSW CVO for various mechanisms of management. It is suggested that this should reflect that it is the Minister or their delegate for Quarantine and other legislative provisions.

3.2.3 See pg 19 The declaration of the above areas will be performed with the collaboration of the field veterinarian and Chief Veterinary Officer and Government staff.

If you have any questions or would like to discuss this response in more detail please contact Melissa Walker, (Strategy Leader Aquatic Biosecurity) on (02) 4916-3911 or email Melissa.walker@dpi.nsw.gov.au .

End Attachment B

Attachment C

Pindimar Abalone Project (MP10_0006)
Response to exhibition of EIS
Comment by Fisheries NSW - Aquaculture Management

Fisheries NSW is responsible for the promotion of a viable and environmentally sustainable aquaculture industry. The NSW Oyster Industry Sustainable Aquaculture Strategy (OISAS) and enabling amendments to State Environmental Planning Policy 62 - Sustainable Aquaculture were gazetted in December 2006. The strategy covers all oyster growing estuaries in NSW. It identifies Priority Oyster Aquaculture Areas for oyster farming in estuaries and incorporates the agreed water quality needs of the oyster industry. The water quality guidelines for oyster aquaculture areas are detailed in OISAS. OISAS can be viewed at:
http://www.dpi.nsw.gov.au/fisheries/aquaculture/publications/general/nsw-oyster-industry-sustainable-aquaculture-strategy.

There are numerous Priority Oyster Aquaculture Areas (oyster leases) located in Port Stephens (as described in OISAS), including those outlined in the proponents EIS for the proposed abalone farm.

Fisheries NSW in reviewing the EIS (Sewage Treatment section) identified that a pump out sewage system is proposed for the site. Fisheries NSW considers that pump out removal should only be installed if no other feasible disposal options can be identified for the site.

Unfortunately, the EIS did not contain an onsite sewage management assessment report outlining why the pump out system had been chosen over an onsite sewage treatment system.

It is requested that the proponent undertake an onsite sewage management assessment outlining why the pump out system had been chosen over an onsite sewage treatment system.

If you have any questions or would like to discuss this response in more detail please contact Tim Gippel (Senior Policy Officer Aquaculture) on 02 4916 3823 or email tim.gippel@dpi.nsw.gov.au.

End Attachment C

Regards
Wayne

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