



ENVIRONMENT PROTECTION AUTHORITY

Our reference: DOC12/5356; FIL11/9404  
Contact: Michael Howat (02) 4908 6833

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NSW Planning and Infrastructure  
PO Box 39  
SYDNEY NSW 2001

Dear Mr Ritchie

**DIRECTOR-GENERAL'S REQUIREMENTS  
FOR PROPOSED MARINE FINFISH AQUACULTURE RESEARCH LEASE  
PROVIDENCE BAY, OFF PORT STEPHENS**

Reference is made to your letter to the Environment Protection Authority (EPA), dated 8 February 2012, requesting the EPA provide Director-General's Requirements (DGRs) for the Department of Primary Industries (DPI) proposed Marine Finfish Aquaculture Research Lease, to be located at Providence Bay, off Port Stephens (the project).

As you'll already be aware, the EPA provided draft DGRs, dated 7 October 2011, in relation to this project. The Draft DGRs, as well as the current DGRs attached to this letter, are based on the information provided in the report titled '*Marine Finfish Aquaculture Research Lease; Providence Bay, Port Stephens – Preliminary Project Outline*' (PPO), prepared by DPI Aquaculture Management Unit, Taylors Beach.

Based on the project outline provided, the proposal includes the following:

- A finfish farming structure 3 km east of Hawks Nest Golf Club in Providence Bay to be operational for a period of five (5) years;
- Development and implementation of a number of 'fish cages' ranging in size from 18 – 25 metres diameter for fingerling stock, to 40 metres diameter for larger stock;
- Proposed fish cages will be floating HDPE pipes and polypropylene or nylon netting anchored to the seabed;
- Farming of finfish species Southern Bluefin Tuna, Yellowtail Kingfish, and Mulloway from the NSW Fisheries Hatchery;
- Located within a lease area of approximately 20 hectares in a designated Habitat Protection Zone of the Port Stephens Great Lakes Marine Park, approximately 1.5 km north of the Cabbage Tree Island Sanctuary Zone;
- Fish to be fed a commercially manufactured pellet feed; and
- Maritime boating signals and navigation buoys to be erected in accordance with maritime legislation requirements.

The EPA has considered the details of the proposal as provided and has identified the information it requires to assess the proposal (see **Attachment 1**). The DGRs vary from the Draft DGRs resulting from additional information and correspondence provided by DPI in relation to the project, assessment history and assessment methodologies available. As detailed in the DPI email of 30 November 2011, the

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proponent proposes to utilise a comprehensive desktop database search for the region to develop a species list for the project site and surrounding radius, in place of dedicated surveys for various individual species, under the agreement that all species identified by the database search will be assumed to be present and/or utilise the site, and impacts will be assessed accordingly. The EPA has reviewed this proposal and concurs that this is acceptable given the specifics of the proposal, its location and survey work already conducted in the area. The DGRs have been amended accordingly.

The proponent should ensure that the Environmental Assessment (EA) is sufficiently comprehensive to enable the EPA to determine the extent of the impact(s) of the proposal.

In carrying out the assessment, the proponent should refer to the relevant guidelines as listed in **Attachment 2** and any relevant industry codes of practice and best practice management guidelines.

The EPA requests 2 hard and 4 electronic (CD) copies of the EA for assessment. These documents should be sent to the Environment Protection Authority; Regional Manager – Hunter, PO Box 488G Newcastle 2300.

If you require any further information regarding this matter please contact Michael Howat on (02) 4908 6833.

Yours sincerely



**PETER JAMIESON**  
**Head Regional Operations Unit – Hunter Region**  
**Environment Protection Authority**

Encl: Attachment 1 – Director-General's Requirements: Marine finfish Aquaculture Research Lease, Port Stephens  
Attachment 2 – Guidance Material

**Attachment 1**

**DIRECTOR-GENERAL REQUIREMENTS -  
MARINE FINFISH AQUACULTURE RESEARCH LEASE  
PROVIDENCE BAY, PORT STEPHENS**

**TABLE OF CONTENTS**

<b>1</b>	<b>Environmental impacts of the project.....</b>	<b>2</b>
<b>2</b>	<b>Biodiversity.....</b>	<b>2</b>
<b>3</b>	<b>Water Quality .....</b>	<b>6</b>
<b>4</b>	<b>National Parks Estate .....</b>	<b>8</b>
<b>5</b>	<b>Marine Parks Estate.....</b>	<b>8</b>
<b>6</b>	<b>Aboriginal cultural heritage .....</b>	<b>8</b>

# 1 Environmental impacts of the project

Impacts related to the following environmental issues need to be assessed, quantified and reported on:

- Biodiversity
- Water Quality and Impacts on Benthic Communities
- National Parks Estate
- Marine Parks Estate
- Aboriginal Cultural Heritage

The Environmental Assessment (EA) should address the specific requirements outlined under each heading below and assess impacts in accordance with the relevant guidelines mentioned. A full list of guidelines is at **Attachment 2**.

## SPECIFIC ISSUES

### 2 Biodiversity

#### Biodiversity Assessment

1. The EA should include a detailed biodiversity assessment, including assessment of impacts on threatened biodiversity and their habitat. This assessment should address the matters detailed below:
  - document all the known and likely threatened species, populations and ecological communities within the study area, including their habitats. This should not be restricted to those on the subject site but include such species / populations / communities that may be indirectly impacted upon, including 'critical habitat'. The proponent has proposed that due to the project location and survey work conducted to date in the area it is sufficient to conduct a desktop database assessment to develop a flora and fauna list for the project site and 10 km radius. This is acceptable provided that all species identified are assumed to be present and/or utilise the area, and individual species impacts are to be assessed accordingly. The accompanying report must provide details of the database assessment used for both flora and fauna (including details of the record source/database, the dates [if available] the record was identified / listed, and the dates the database was accessed and analysed);
  - provide a detailed assessment of the direct (e.g. net entanglement) and indirect impacts of the proposal. Indirect impacts should include, where applicable (but are not limited to): - light pollution (e.g. impacts on pelagic birds), vessel strike due increased traffic, increased nutrient / pollution loads. Also describe, quantify and assess all impacts on threatened species that periodically utilise the study area for foraging and migratory purposes (e.g. whale migration routes, seal and pelagic bird foraging grounds);
  - provide a general baseline marine flora (if applicable) and fauna assessment for the subject site and study area, describing the habitat types and species assemblages present (if applicable). This should include an appropriate benthic assessment of the site, including impacts resulting from the anchoring points, and the construction / implementation of the proposal;
  - detail the actions that will be taken to monitor, avoid or mitigate impacts on threatened species, their habitats, populations and ecological communities (if applicable); in instances where impacts can not be avoided an appropriate offset / compensatory habitat package should be provided (see more details below);
  - detail any indirect impacts on nearby critical habitat, as per Part 3 of *Threatened Species Conservation (TSC) Act 1995*. Cabbage Tree Island (i.e. John Gould Nature Reserve) is declared critical habitat for the Gould's Petrel;

- detail any impacts on adjacent or nearby National Park conservation estate (e.g. John Gould and Boondelbah Nature Reserves) and provide mitigation or avoidance measures for any adverse impacts. Both John Gould and Boondelbah NR, off the coast of Port Stephens represent the only breeding sites in the world for the Gould's Petrel (DEC 2006). More detail on the assessment needed is shown in Section 4 below;
  - detail any impacts on adjacent or nearby marine park conservation estate. More detail on the assessment needed is shown in Section 5 below; and
  - detailed monitoring strategy to ensure the project avoids impacts on subject species, that mitigation measures are effectively working and adaptive management measures are applied in instances where mitigation measures are ineffective.
2. To address likely impacts (both direct and indirect) on threatened species, populations and ecological communities (including their habitat), the proponent will need to engage a suitably qualified and experienced person or persons to undertake the desktop survey assessment and provide an assessment report. A generalised baseline assessment will also be required that documents the marine flora and fauna, including benthic communities. This information, in part, will be important in determining the habitat value of the site.

The EPA notes that a baseline pelagic bird survey of the Port Stephens area is being jointly conducted by National Parks and Wildlife Service (NPWS) and the Hunter Birds Observers Club. Surveying has been conducted over the last couple of years, and may provide a useful guide to selecting subject species for assessment. Further details on this is available through the Hunter Birds Observers Club website: <http://www.hboc.org.au/index.cfm?menukey=1>

The desktop analysis proposed by DPI must include, but is not limited to, analysis of the OEH 'Atlas of NSW Wildlife' database. This assessment should be undertaken to determine the likely and known threatened species within the study area / project site. This should be used to inform the EA assessment. The threatened species assessment should be done in accordance with the following documents and websites:

- the *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities - Working Draft* (DEC, 2004);
- the *Guidelines for Threatened Species Assessment* (Department of Planning, July 2005);
- The EPA Threatened Species website <http://www.environment.nsw.gov.au/threatenedspecies/>; and
- Threatened species survey and assessment guideline information on [www.environment.nsw.gov.au/threatenedspecies/surveyassessmentgdlns.htm](http://www.environment.nsw.gov.au/threatenedspecies/surveyassessmentgdlns.htm).

Recent surveys and assessments should be used. However, previous surveys should not be used if they have:

- been undertaken in seasons, weather conditions or following extensive disturbance events when the subject species are unlikely to be detected or present, or
- utilised methodologies, survey sampling intensities, timeframes or baits that are not the most appropriate for detecting the target subject species,

unless these differences can be clearly demonstrated to have had an insignificant impact upon the outcomes of the surveys. If a previous survey is used, any additional species listed under the *Threatened Species Conservation Act 1995* (TSC Act) since the previous survey took place, must be accounted for.

### Specific Issues Concerning Marine and Pelagic Fauna

Coupled with the above requirements and following a review of the PPO, the EPA notes the following specific issues that should be addressed in the EA:

1. The project will provide an increase in the immediate food source for various marine and pelagic fauna species in the area, increasing the risk of predation, vessel strike and net

breakage or entanglement. The EPA notes the following marine threatened species have been recorded within an approximate 10 km of the proposal (based on DECCW *Atlas of NSW Wildlife* database): Wandering Albatross (*Diomedea exulans*), Southern Giant Petrel (*Macronectes giganteus*), Red-tailed Tropicbird (*Phaethon rubricauda*), Gould's Petrel (*Pterodroma leucoptera* subsp. *leucoptera*), Kermadec Petrel (west Pacific subspecies) (*Pterodroma neglecta* subsp. *neglecta*), Flesh-footed Shearwater (*Puffinus carneipes*), Shy Albatross (*Thalassarche cauta*), Black-browed Albatross (*Thalassarche melanophris*), Australian Fur-seal (*Arctocephalus pusillus* subsp. *doriferus*), Dugong (*Dugong dugon*), Southern Right Whale (*Eubalaena australis*), Humpback Whale (*Megaptera novae-angliae*), Green Turtle (*Chelonia mydas*) and Loggerhead Turtle (*Caretta caretta*). Additionally, the New Zealand Fur Seal (*Arctocephalus forsteri*), is alleged to have populations on or around Cabbage Tree Island approximately 2 km to the south of the project location. The EPA concurs that potential threatened species impacted on are briefly discussed in the preliminary project outline, however some other significant species that could be at risk, such as the Great Cormorant (*Phalacrocorax carbo*) and Leopard Seals (*Hydrurga leptonyx*), are known to periodically visit the general area. All other significant species likely to be impacted on, including migratory species, should be assessed.

2. Gould's Petrel (*Pterodroma leucoptera* subsp. *leucoptera*) utilises Cabbage Tree Island for breeding, and this area is declared critical habitat under the *TSC Act 1995*. Given this species uses the moon to navigate, any structures emanating bright light may have a direct impact on the dispersal / fledgling behaviour of the species. Typically fledglings from Cabbage Tree Island fly east to foraging grounds within the Tasman Sea. So if this pattern is adversely impacted upon and they fly west toward land they may possibly be attracted to street lights and land near the lights, where they could be subjected to predation by mainland predators (e.g. cats, dogs, foxes etc). As the project will require marine navigation buoys and boating signals, which may require sufficient lighting, the EA should detail the navigation markers, and any other marine signal / indication structures, required and assess the potential impacts on fauna species from any lighting or illumination resulting from these structures.
3. The issue of fauna entanglement and associated risk is discussed briefly in the preliminary project outline in Section 5.4.1. Reference is also made to (i) 'Marine Fauna Entanglement Avoidance Strategy' and (ii) 'Entanglement Protocol', which details the response actions in the event of net entanglement, however copies of these strategies are not annexed to the report. As such the EA should include:
  - A comprehensive list of all fauna species that utilise the area for foraging, breeding, habitat protection, or as a migratory route which could be subjected to net entanglement; and
  - The inclusion of 'Marine Fauna Entanglement Avoidance Strategy' and the 'Entanglement Protocol' plans, clearly detailing any mitigation measures (including monitoring) or response actions in the event of species entanglement. DPI should consider either the establishment of it's own disentangling teams that can respond with immediacy following receipt of a report of entangled marine mammals, birds or reptiles or they may consider the provision of support, either financial or in-kind, to existing NPWS/Marine Parks whale disentangling teams to provide insurance against adverse impacts to cetacean, pinniped or marine turtles associated with entanglements.

Though the PPO discusses that maintaining taught supporting lines will lead to a decreased possibility of entanglement, there does not appear to be evidence in the literature that this is the case. Coupled with the likely increasing propensity for storms, the EPA is concerned that the lines will not remain taught and there could be an increased risk of entanglement. As such the EA should address this scenario and provide appropriate mitigation and monitoring measures.

4. Additional netting management options, such as 'pingers', should be explored/discussed. Studies are currently being undertaken to determine the effect of pingers on cetacean

behaviour around nets or traps. As such the EA should address the potential deployment of such devices, if shown effective in dissuading whales from the project area.

5. Impacts on known whale migration routes must be assessed. The EPA notes that Humpback and Right Whale abundance is increasing along the NSW coastline. On the east coast the Humpback Whale population is estimated at around 15,000 and is expected to reach double this figure before reaching carrying capacity. Most of these animals undertake the annual migration within 10nm (18.5 km) of shore on the northern migration during May to August and up to 20 nm (37 km) on the southern leg of the migration during September to December. The proposal lies within this migration zone.
6. There needs to be consideration of acoustic disturbance to cetaceans, pinniped or marine turtles during the construction or the implementation phase. The EPA notes that noise created by chains rattling in marine environments can affect cetacean behaviour. As such the EA needs to address acoustic impacts on marine fauna, including appropriate mitigation strategies / measures (including monitoring).
7. Increased vessel movements during implementation and operational phases greatly increase the possibility of vessel strike especially during whale season (mid Winter) and peak turtle season (mid summer). The EA should give consideration to employing marine mammal observers during the implementation and operational phases.
8. The EA must address how biofouling will be removed and the impact of this action will have upon marine fauna. The EPA acknowledges this may to some point be addressed in the proposed benthic monitoring program.

#### General Biodiversity Requirements

1. The EA should contain the following information as a minimum:
  - a. The requirements set out in the *Guidelines for Threatened Species Assessment* (Department of Planning, July 2005).
  - b. Description and geo-referenced mapping of study area (and spatial data files), e.g. overlays on topographic maps, satellite images and /or aerial photos, including details of map datum, projection and zone, all survey locations, habitats present, key habitat features and reported locations of threatened species, populations and ecological communities present in the subject site and study area.
  - c. Description of any survey methodologies used, including timing, location and weather conditions. In the case of implementing a desktop database assessment, information provided must include the database(s) used, and dates/times the database(s) was accessed / reviewed.
  - d. Details, including qualifications and experience of all staff undertaking the surveys, mapping and assessment of impacts as part of the EA.
  - e. Identification of national and state listed threatened biota known or likely to occur in the study area and their conservation status.
  - f. Description of the likely impacts of the proposal on biodiversity, including direct and indirect and construction and operation impacts.
  - g. Identification of the avoidance, mitigation and management measures that will be put in place as part of the proposal to avoid or minimise impacts, including details about alternative options considered and how long term management arrangements will be guaranteed.
  - h. Identification and details of monitoring programs to ensure the efficacy of the mitigation strategies, including back-up scenarios where such measures are ineffective.
  - i. Description of the residual impacts of the proposal. If the proposal cannot adequately avoid or mitigate impacts on biodiversity, then an offset package is expected (see the requirements for this at point 3 below).
  - j. Provision of specific Statement of Commitments relating to biodiversity.

2. An assessment of the significance of direct and indirect impacts of the proposal must be undertaken for threatened biodiversity known or considered likely to occur in the study area based on the presence of suitable habitat. This assessment must take into account:
  - a. the factors identified in s.5A of the *Environmental Planning and Assessment (EP&A) Act 1979*, and
  - b. the guidance provided by *The Threatened Species Assessment Guideline – The Assessment of Significance (DECC, 2007)* which is available at: <http://www.environment.nsw.gov.au/resources/threatenedspecies/tsaguide07393.pdf>
3. Where an offsets package is proposed by a proponent for impacts to biodiversity this package should:
  - a) Outline the details of the package, such as (but not limited to) appropriate habitat enhancement features to be implemented, funding to improved research and appropriate monitoring to reduce impacts. The package should detail how these measures will be implemented, funded and managed into the future. Justification will need to be provided outlining how they will improve threatened species conservation and how they offset the specific impacts of the proposal. Research offsets should be specifically related to aspects and/or impacts of the project, and represent improvements in conservation;
  - b) Include any appropriate Management Plan that has been developed as a key amelioration measure.
4. Where appropriate, likely impacts (both direct and indirect) on any adjoining and/or nearby National Park estate reserved under the *National Parks and Wildlife Act 1974* or any marine and estuarine protected areas under the *Fisheries Management Act 1994* or the *Marine Parks Act 1997* should be considered. Refer to the *Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water (DECC, 2010)*.
5. With regard to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, the assessment should identify any relevant Matters of National Environmental Significance and whether the proposal has been referred to the Commonwealth or already determined to be a controlled action.

#### References:

DEC (2004) *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities*. Working Draft. November 2004. Department of Environment and Conservation (NSW)

DEC (NSW) (2006). *Declaration of critical habitat for Gould's Petrel (Pterodroma leucoptera leucoptera)* (Pursuant to sections 44 and 47 of the *Threatened Species Conservation Act 1995*). Department of Environment and Conservation (NSW), Hurstville, NSW.

DECC (2007b) *Threatened Species Assessment Guidelines: The Assessment of Significance*. August 2007. Department of Environment and Climate Change (NSW).

DECCW (2010) *Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water*. Department of Environment, Climate Change and Water, Sydney.

DoP (2005) *Guidelines for Threatened Species Assessment*. Department of Planning, Sydney.

## **Water Quality**

Based on the information provided in the PPO, the proposal has the potential to cause impacts on water quality in the vicinity of the proposal. These impacts may result from a number of sources such as the introduction of foreign materials associated with the project, including commercial feed and increased nutrient loads, use of antibiotics or other medications to prevent disease, or the accumulation of biofouling on or around the project structure. The EA should:

## Describe Proposal

1. Describe the proposal including any direct or indirect impacts on water quality resulting from the construction, implementation, operation, and decommissioning of the project.
2. Demonstrate that all practical options to avoid impacts to water quality have been implemented.

## Background Conditions

3. State the indicators and associated trigger values or criteria for the identified environmental values. This information should be sourced from the ANZECC (2000) Guidelines for Fresh and Marine Water Quality  
[http://www.mincos.gov.au/publications/australian\\_and\\_new\\_zealand\\_guidelines\\_for\\_fresh\\_and\\_marine\\_water\\_quality](http://www.mincos.gov.au/publications/australian_and_new_zealand_guidelines_for_fresh_and_marine_water_quality)
4. State any locally specific objectives, criteria or targets which have been endorsed by the NSW Government.

## Impact Assessment

5. Describe the specific nature and estimated degree of impact that the proposal will have on the water quality. This should include consideration and assessment of the potential impacts from operational activities such as stock feeding, use of antibiotics or other medications to prevent disease, cleaning and maintenance of the structure, and associated boat movements.
6. The effect of the accumulation of uneaten food pellets and animal faeces under the fish cages needs to be assessed in terms of impact on water quality and on impacts benthic communities.
7. The effect of the use of antibiotics or other medications to prevent disease in the fish-stock within the cages needs to be assessed in terms of impacts on water quality and the general health of wild stock fish and other marine populations.
8. Accumulation and removal of biofouling both on and around the project structure can have impacts on the project area through changes to water quality and nutrient loads, flow rates and current patterns, impacts on benthic organisms, and introduction of parasitic organisms and predators. Section 5.7.2 of the PPO states that removal of biofouling on the structure will be undertaken as needed and that a monitoring program will be developed and implemented to assess any impacts on benthic ecosystems in the immediate vicinity of the project. The EA should provide details in relation to the proposed removal of biofouling throughout the operational life of the project, and include:
  - o Details of the method(s) proposed to remove biofouling both on or around the project structure, including an estimation of the required frequency of biofouling removal;
  - o An assessment of the potential impacts resulting from accumulation and subsequent removal of biofouling on or around the structure, including an assessment on potential impacts to water quality; and
  - o Details of the benthic monitoring program proposed, including assessment methodology, frequency of sampling / assessment, and potential action / mitigation measures in response to any adverse impacts identified.
9. Assess impacts against the relevant ambient water quality outcomes where applicable. Demonstrate how the proposal will be designed and operated to:
  - o protect the Water Quality Objectives, if applicable, where they are currently being achieved; and
  - o contribute towards achievement of the Water Quality Objectives, if applicable, over time where they are not currently being achieved.

10. The EA should assess potential impacts on water quality and marine sediment condition in accordance with established protocols for existing aquaculture operations and the following reports:
- o Environmental Risk Assessment of Marine Finfish Aquaculture in South Australia (SARDI, 2004);
  - o Guide to the assessment of sediment condition at marine finfish farms in Tasmania (2004); and
  - o Evaluation of techniques for environmental monitoring of salmon farms in Tasmania (2002).
- More details on these publications are found in Attachment 2.

### Monitoring

11. Describe how predicted impacts will be monitored and assessed over time.

## **3 National Parks Estate**

Due to the location of the project in proximity to John Gould Nature Reserve, Boondelbah Nature Reserve and Myall Lakes National Park the EA should include:

1. Consideration of the matters identified in the *Guidelines for developments adjoining land and water managed by DECCW* (DECCW 2010).
2. A description of the mitigation and management options that will be used to prevent, control, abate or minimise identified impacts associated with the project. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

## **4 Marine Parks Estate**

As the proposal is located within a designated Habitat Protection Zone of the Port Stephens Great Lakes Marine Park the EA should include:

1. Consideration of the objects of the *Marine Parks Act 1997* and any permissible uses in the park (including any zoning or management plan requirements).
2. Justification for the site including details of alternative sites considered.
3. Describe mitigation and management options that will be used to prevent, control, abate or minimise identified impacts on the Port Stephens Great Lakes Marine Park associated with the project. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

## **5 Aboriginal cultural heritage**

1. The EA must address and document the information requirements set out in the draft '*Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation*' (Department of Environment and Conservation 2005). This document is available from the Department of Planning and Infrastructure upon request.
2. The EA should identify the nature and extent of impacts on Aboriginal cultural heritage values across the project area and clearly articulate strategies proposed to avoid/minimise these

impacts. If impacts are proposed as part of the final development, clear justification for such impacts should be provided.

3. The EA must assess and document the archaeological and Aboriginal significance of the site's Aboriginal cultural heritage values.
4. Describe the actions that will be taken to avoid or mitigate impacts of the project on Aboriginal cultural heritage values. This must include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented. Any proposed methodology for Aboriginal cultural heritage investigation should reflect best practice standards recommended by the EPA in the '*Code of Practice for Archaeological Investigations of Objects in New South Wales (2010)*'.
5. The EA must provide documentary evidence to demonstrate that effective community consultation with Aboriginal communities has been undertaken in assessing impacts, developing protection and mitigation options and making final recommendations. The EPA supports broad-based Aboriginal community consultation and as a guide the EPA's '*Aboriginal cultural heritage consultation requirements for proponents 2010*' provides a useful model to follow.
6. If impacts on Aboriginal cultural heritage values are proposed as part of the final development, an assessment of the proposed impacts in the context of '*inter generational equity*' and cumulative impact must be undertaken. This assessment must examine both cultural and archaeological perspectives equally at both the local and regional levels, with consideration given to the site level and broader landscape level.

## Attachment 2 – Guidance Material

Title	Web address
<b><u>Relevant Legislation</u></b>	
<i>Coastal Protection Act 1979</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+13+1979+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+13+1979+cd+0+N</a>
<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>	<a href="http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/">http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/</a>
<i>Environmental Planning and Assessment Act 1979</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N</a>
<i>Fisheries Management Act 1994</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N</a>
<i>Marine Parks Act 1997</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+64+1997+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+64+1997+cd+0+N</a>
<i>National Parks and Wildlife Act 1974</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N</a>
<i>Protection of the Environment Operations Act 1997</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N</a>
<i>Threatened Species Conservation Act 1995</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+101+1995+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+101+1995+cd+0+N</a>
<i>Water Management Act 2000</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N</a>
<b><u>Biodiversity</u></b>	
Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna -Amphibians (OEH, 2009)	<a href="http://www.environment.nsw.gov.au/resources/threatenedspecies/09213amphibians.pdf">http://www.environment.nsw.gov.au/resources/threatenedspecies/09213amphibians.pdf</a>
Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities - Working Draft (DEC, 2004)	<a href="http://www.environment.nsw.gov.au/resources/nature/TBSAGuidelinesDraft.pdf">http://www.environment.nsw.gov.au/resources/nature/TBSAGuidelinesDraft.pdf</a>
Guidelines for Threatened Species Assessment (Department of Planning, July 2005)	Draft available from DoP
OEH Threatened Species website	<a href="http://www.environment.nsw.gov.au/threatenedspecies/">http://www.environment.nsw.gov.au/threatenedspecies/</a>
Atlas of NSW Wildlife	<a href="http://wildlifeatlas.nationalparks.nsw.gov.au/wildlifeatlas/watlas.jsp">http://wildlifeatlas.nationalparks.nsw.gov.au/wildlifeatlas/watlas.jsp</a>
Online Zoological Collections of Australian Museums	<a href="http://www.ozcam.org/">http://www.ozcam.org/</a>
Threatened Species Assessment Guideline - The Assessment of Significance (OEH, 2007)	<a href="http://www.environment.nsw.gov.au/resources/threatenedspecies/t saguide07393.pdf">http://www.environment.nsw.gov.au/resources/threatenedspecies/t saguide07393.pdf</a>
Principles for the use of biodiversity offsets in NSW	<a href="http://www.environment.nsw.gov.au/biocertification/offsets.htm">http://www.environment.nsw.gov.au/biocertification/offsets.htm</a>
<b><u>Water Quality</u></b>	
Water Quality Objectives	<a href="http://www.environment.nsw.gov.au/ieo/index.htm">http://www.environment.nsw.gov.au/ieo/index.htm</a>
ANZECC (2000) Guidelines for Fresh	<a href="http://www.mincos.gov.au/publications/australian_and_new_zeala">http://www.mincos.gov.au/publications/australian_and_new_zeala</a>

Title	Web address
and Marine Water Quality	<a href="#">nd guidelines for fresh and marine water quality</a>
Environmental Risk Assessment of Marine Finfish Aquaculture in South Australia (SARDI, 2004)	<a href="http://www.sardi.sa.gov.au/_data/assets/pdf_file/0004/128470/No_130_Environmental_risk_assessment_of_marine_finifish_aquaculture_in_south_australia.pdf">http://www.sardi.sa.gov.au/_data/assets/pdf_file/0004/128470/No_130_Environmental_risk_assessment_of_marine_finifish_aquaculture_in_south_australia.pdf</a>
Guide to the assessment of sediment condition at marine finfish farms in Tasmania (2004)	<a href="http://www.utas.edu.au/tafi/PDF_files/Field%20Manual_FINAL.pdf">http://www.utas.edu.au/tafi/PDF_files/Field%20Manual_FINAL.pdf</a>
Evaluation of techniques for environmental monitoring of salmon farms in Tasmania (2002)	<a href="http://eprints.utas.edu.au/6645/1/Tech_Report_8_SalmonEnvMon.pdf">http://eprints.utas.edu.au/6645/1/Tech_Report_8_SalmonEnvMon.pdf</a>
<b><u>National Parks Estate</u></b>	
Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water (DECCW, 2010)	<a href="http://www.environment.nsw.gov.au/resources/protectedareas/10509devadjdeccw.pdf">http://www.environment.nsw.gov.au/resources/protectedareas/10509devadjdeccw.pdf</a>
<b><u>Marine Parks Estate</u></b>	
Port Stephens Great Lakes Marine Park	<a href="http://www.mpa.nsw.gov.au/psglmp-contact.html">http://www.mpa.nsw.gov.au/psglmp-contact.html</a>
<b><u>Aboriginal Cultural Heritage</u></b>	
Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (2005)	Available from NSW Department of Planning and Infrastructure upon request.
Aboriginal Cultural Heritage Consultation Requirements for Proponents (OEH, 2010)	<a href="http://www.environment.nsw.gov.au/licences/consultation.htm">http://www.environment.nsw.gov.au/licences/consultation.htm</a>
Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (OEH, 2010)	<a href="http://www.environment.nsw.gov.au/licences/archinvestigations.htm">http://www.environment.nsw.gov.au/licences/archinvestigations.htm</a>
Aboriginal Site Impact Recording Form	<a href="http://www.environment.nsw.gov.au/licences/DECCAHIMSSiteRecordingForm.htm">http://www.environment.nsw.gov.au/licences/DECCAHIMSSiteRecordingForm.htm</a>
Aboriginal Heritage Information Management System (AHIMS) Registrar	<a href="http://www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm">http://www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm</a>