

Kacey Cogle

From: Warwick Nichols <42thmeaningof@people.net.au>
Sent: Saturday, 1 December 2012 11:30 AM
To: Public Hazzard's Office Email; Craig Baumann
Subject: Cabbage Tree Island Johni Gould Nature Reserve/Aquaculture Research Lease
Attachments: Aquaculture research lease comments.doc; ATT00001.htm

Begin forwarded message:

To The HON. BRAD HAZZARD and MR. CRAIG BAUMANN M.P.

Would a copy of the attached submission, which has also been forwarded via the template provided on the Planning And Environment website, be made available to the Minister The Hon. Brad Hazzard and to our local member Mr Craig Baumann please.

The submission relates to the Department of Primary Industries proposal to set up an Aquaculture Research Lease in "Providence Bay, Port Stephens".

This site is actually 3km off Bennetts Beach Hawks Nest, in the Myall Lakes area and has been chosen particularly on account of its proximity to the land based site within Port Stephens.

Notification of the proposed development has not reached much of the Tea Gardens/Hawks Nest area as most of the initial communications done by Primary Industries was Port Stephens based - there was one meeting early in 2012 with the Tea Gardens/Hawks Nest Progress Association and they received a letter last month indicating submissions were due at the end of November. The notice in the local paper (Nota) would have basically gone unnoticed as the local Tea Gardens newsagent does not carry the Nota and deliveries are curtailed by a shortage of copies of this paper. So, not many people are aware of the proposal and when I mentioned it at a public gathering on Friday 30th November it was greeted with "Shock and Horror"!

I feel I have failed in a role as communicator but it is difficult enough to plough through the EIS document oneself without trying to rally the troops, in the 4 weeks provided in the month before Christmas! I would be most grateful if you would read my submission as it relates primarily to the location of the research lease in close proximity to the islands where NPWS officers have been doing immensely important conservation work. I feel that the slightest possibility that this work could be interfered with by a research lease that could be relocated, is totally unacceptable.

Kind Regards

Ronnie Nichols B.Sc. (Zoo/Biochem.)UNSW; Aquaculture HAC.

Ronnie and Warwick Nichols

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NSW Planning and Infrastructure

29th November 2012

Marine Aquaculture Research Lease Providence Bay Hawks Nest NSW

Please find on the following pages our submission on the proposed research lease mentioned above. Please note that reference to this project on your site mention Port Stephens Council, no doubt because this authority is the one that houses the land-based headquarters of the proponent. It must be noted though that the research lease, with the predominance of natural environmental effects adjoins Hawks Nest/Tea Gardens, whose local government authority is Great Lakes Council.

Yours Sincerely,

Ronnie Nichols B.Sc. (Zoo/Biochem); Aquaculture HAC

Marine Aquaculture Research Lease submission

Points from the EIS to consider:

Flora and Fauna pp 64-73: lack of genuine fieldwork: the lease is intended for research, including research into the impacts fish farming has on the flora and fauna in the area surrounding the lease – no data appears to have been collected in situ and reported on, to indicate the present distribution and abundance of species populations and communities and the chemical composition of sea bed sediments in the **absence** of the aquaculture research establishment. This eliminates any opportunity for genuine assessment of impact in the future.

All EIS **flora and fauna** data is acknowledged to have been drawn from an analysis of the NPWS Wildlife Atlas species list for the locality of Providence Bay and a database search of the Hunter/Central Rivers CMA marine zone subregion. Whilst being eminently valuable data these do not allow estimates of impacts based on resultant decreasing or increasing numbers of species in the Providence Bay location.

Faunal species of particular concern include whales, dolphins, penguins and other birds associated with Cabbage Tree Island (John Gould Nature Reserve) and Boondelbah Island including migratory birds, especially the endangered Gould's Petrel, and turtles as well as the fish species found in Providence Bay including sharks. These are acknowledged in the EIS species lists but **p 66** states that "The risk of the research lease impacting on species is considered to be low..." Species lists in the EIS for NSW and particularly the Hunter region are extensive but **not** included in the EIS is a separate listing for John Gould Nature Reserve of the birds which will inhabit both their islands and the Research lease. It is of interest to note that the area occupied by these protected islands is a "no fly zone" for Williamtown airforce base.

Table 1. Significant bird species recorded in John Gould and Boondelbah Nature Reserves

Common Name	Scientific Name	Legal Status
Gould's Petrel	<i>Pterodroma leucoptera leucoptera</i>	Endangered* ^a
Little Tern	<i>Sterna albifrons</i>	Endangered* [#] [^]
Sooty Oystercatcher	<i>Haematopus fuliginosus</i>	Vulnerable*
Pied Oystercatcher	<i>Haematopus longirostris</i>	Vulnerable*
Wedge-tailed Shearwater	<i>Puffinus pacificus</i>	Migratory species [^]
Sooty Shearwater	<i>Puffinus griseus</i>	Migratory species [^] [#]
Short-tailed Shearwater	<i>Puffinus tenuirostris</i>	Migratory species [^]
Lesser Frigatebird	<i>Fregata ariel</i>	Migratory species [^] [#]
Eastern Reef Egret	<i>Egretta sacra</i>	Migratory species [#]
White-bellied Sea Eagle	<i>Haliaeetus leucogaster</i>	Migratory species [#]
Common Noddy	<i>Anous stolidus</i>	Migratory species [^] [#]
Fork-tailed Swift	<i>Apus pacificus</i>	Migratory species [^] [#]
Barking Owl	<i>Ninox connivens</i>	Vulnerable*
Powerful Owl	<i>Ninox strenua</i>	Vulnerable*
Rose-crowned Fruit dove	<i>Ptilinopus regina</i>	Vulnerable*

* Status under TSC Act, ^a species also listed as endangered under the EPBC Act, [^] migratory species listed under JAMBA, [#] migratory species listed under CAMBA.

Marine Fauna Observer Protocol: Appendix 2 page 26: the existence of this protocol in itself acknowledges that there are risks to marine fauna and although they have already been assessed for the purposes of the EIS as minimal, low or moderate, reassessment of the impacts of the research lease will be part of the research activities. To minimise the risk of entanglement it is stated that entanglements are to be reported as part of the above protocol. Unfortunately for the survival of the ecosystem **no** entanglement is acceptable as it is likely that present population sizes will not support 5 years of interference.

Residents of Tea Gardens and Hawks Nest are concerned that their anecdotal sightings confirming the presence of whales, dolphins, seals and birds in the area proposed for the lease have been treated as trivial compared to the suggested socio-economic importance of the establishment of the lease. It is unfortunate for our pristine environment that socio-economic measurements are being used to justify procedures affecting natural systems!

In fact the socio-economic benefits to the Tea Gardens/Hawks Nest area at this time are primarily due to the biodiversity of the area, this being a major contributing factor to people's decisions to reside here and/or enjoy the recreational opportunities available.

Concern about location of the proposed lease: little emphasis is given to the fact that the proposed lease lies within a pristine environment, surrounded by Hawks Nest Beach, Broughton Island and Boondelbah Island, as well as Cabbage Tree Island, the most southerly rain-forested island on the east coast of Australia. Most of the data cited in the EIS refer to impacts such as those on fishing and land based activities in Port Stephens. Whilst vessels will be located in this region during their activities to and from the lease, the marine faunal impacts will be felt in Providence Bay 3km from Bennetts Beach and 2km from Cabbage Tree Island at Hawks Nest. **Page 36** of the EIS concludes that **"the site is not of significant recreational and commercial importance"** belying the fact that commercial fishing does exist in the area and that the population trebles in the summer months with holiday makers, many of whom use the open ocean waterways for boating, fishing, sailing, kayaking and swimming between Broughton Island and Yacaaba Headland!

Concern about Goulds Petrel and the effect of lights p183: The EIS states that "there is a paucity of literature about the impact of lights on sea bird species, including why they are attracted to them" and also cites a piece of research stating that "young petrels.....circle illuminated areas and eventually become disoriented and land due to exhaustion"

Gould's Petrel is an endangered species using **only** Cabbage Tree and Boondelbah Islands for breeding. The parents (monogamous) arriving in September and fledglings leaving as late as May the next year. The importance of this species alone should be enough to strike alarm bells for the research project's location!

However the risk to this and other pelagic species is dismissed by the EIS which states that 4 strobe lights less than 2km (**table 38 p182**) from these two islands, with a range of at least 4 nautical miles "is less likely to attract night-migrating birds at night than non-flashing lights" The birds are nocturnal but as well as migratory behaviour they will be feeding continuously allowing the fledglings to exceed their parents weight by 50%. The EIS dismisses the risk as minimal and cites existing light pollution from Hawks Nest as a contributing factor despite the fact that elsewhere in the document (**page116**) it is stated that coastal dunes along the beachfront screen the views. It should be noted that light restrictions are currently in place for the Habitat Protection Zone surrounding Cabbage Tree Island!

Concerns about Seals and Whales: Anecdotal evidence supports the local observation that there

were no seals in the Hawks Nest area during the times of operation of the previous seacage structure. EIS data cites no entanglements were recorded in this time but does not document original population numbers and is therefore not valid.

Frequent observations also support the assurances from residents that whales are regularly seen close to Bennetts Beach and pass through the area recommended for the research farm, and in front of Cabbage Tree Island. Whales have been observed from the Yaccaba Headland lookout and other vantage points on this headland, a site neglected by the EIS in its consideration of the visual amenity of the Research Lease. The EIS states "there are two major land based vantage points in the region with high visitor numbers.....the summit of Mount Tomaree and HNSLSC. The summit of Mt Tomaree is not....visually impacted..... blocked from view by Mt Yaccaba!

The presence of whales, dolphins and seals makes a significant contribution to the potential of the area for environmental recreation, tourism and biodiversity maintenance. The claim on p196 that "The Research Lease may consider trialling the effectiveness of acoustic deterrent devices (ADDs) in deterring a range of marine mammals, notably whales, away from sea cage farms" is totally unacceptable. It is of concern that the EIS states pp213 and 223 "given the uncertainty about critical whale habitat and their migratory pathways" the movement patterns of whales, their interactions with the Research Lease and any behavioural changes will be monitored!

At this stage impacts are considered to be low but overall risk is considered as moderate given "the uncertainty about whale and shark critical habitat...migration, behavioural changes and predation"

Is it valid to justify research and development of a primary industry for the next five years in this vital ecosystem, where research includes the impacts of that industry on the migration and behaviour of endangered species about which little is known?



Three Southern Right Whales at Hawks Nest Beach (Providence Bay) 2011
photography courtesy of Barbara Lyle Tea Gardens.

Concern about Turtles p191: The EIS goes to some lengths to explain that “nesting beaches are considered to be a sufficient distance from the Research Lease” and then cites the data that there were no turtle mortalities during the Snapper farm operation. Well, of course no turtles equals no mortalities!

Concern about Research Objectives: Comments in the EIS regarding possible impacts are vague and at times in conflict with the research objective eg p147 which make it “difficult to provide estimates ...for discharge into the marine environment” and p152 “level of impact is dependent on current speed, water temperature and.. flows”

A survey of academic research papers published in Canada, New Zealand and Europe reveals that the ecological effects of finfish farms have been intensively studied world-wide and seabed issues have remained the focus of most of the scientific literature that has emerged. Magnitudes of these effects may be reduced in high current environments or coastal situations where wave action may assist with flushing and dispersion. For Hawks Nest this only exacerbates the problem by dispersing the materials which do not decompose closer to the islands and the beach. **P 116** “Providence Bay is predominately a high energy environment with wave heights 0.7m for 50% of the year”

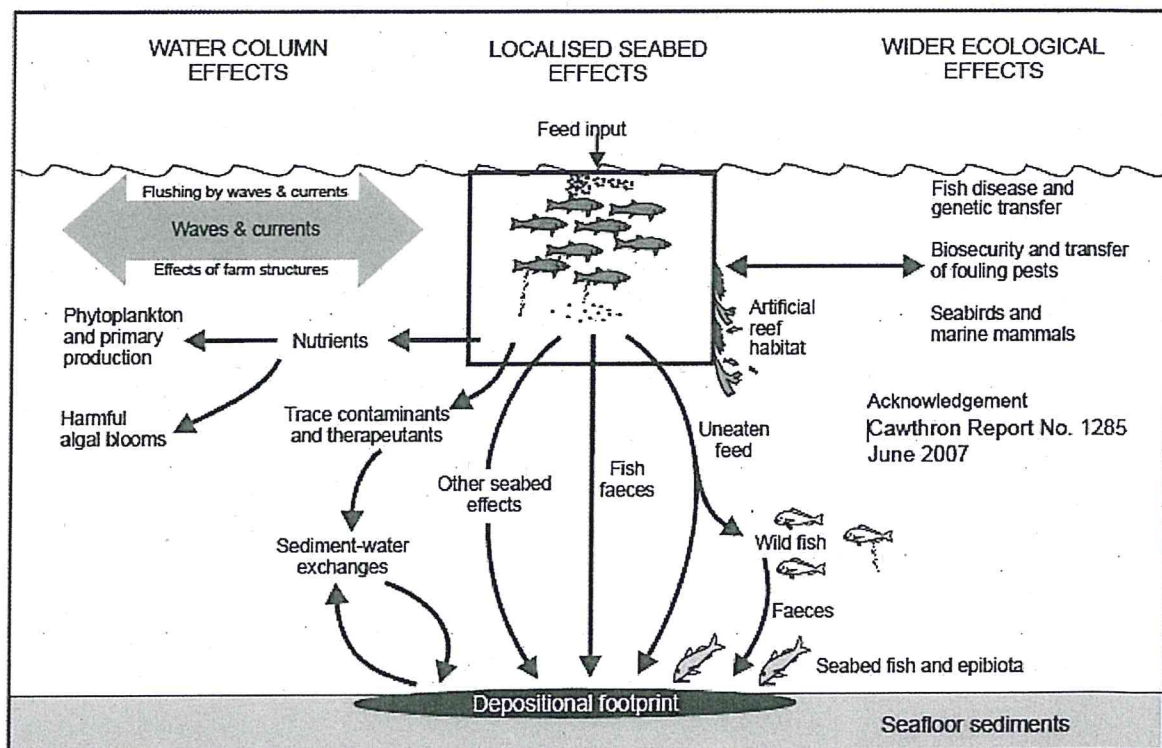


Figure 3 Overview of actual and potential ecological effects from marine finfish farms.

Concern about ingestion of marine debris associated with the Research Lease p196: Having been afforded the opportunity to see samples of all materials intended to be used in construction it is disappointing to see that they are invariably plastic – “Plastic Oceans” are endangering marine life with a range of plastic from degraded “plankton” sized particles to plastic chokers – beaches are now littered with this waste and the fishing industry is contributing with a large part of its materials being plastic. Attitudes locally are not helped by the fact that the last Providence Bay fish farm ended up as detritus on Hawks Nest Beach.

Concern about biofouling, fungicides and disinfectants: pp180-181: The EIS states that “Cage nets will be cleaned in situ or on land as required where a range of methods will be trialled as part of the research activities...” No reference is made to particular chemicals although we understand formaldehyde is not to be used, leaving the vast number of products available on the world market unmentioned. And “**due to limited information on the risk of pathogens and pests associated with sea cage farms in Australian waters a moderate risk ranking** (for their introduction into the ecosystem) **is considered the most appropriate until further research is conducted on the issue**”!!!!

In the light of previous statements about lack of information regarding “estimates of discharge into the marine environment” this moderate risk ranking for the experimental use of various chemical agents to prevent and control biofouling, and for disinfection, is unacceptable for both the environment and the population of Providence Bay and Tea Gardens/Hawks Nest.

Concerns about Genetics and Escapement: page 173: Whilst it is acknowledged that measures will be taken to minimise the risk of escapement events this risk is more serious for local fish populations than described on account of the genetic implications which have been ignored in the EIS document.

The document refers to **skeletal deformities** in cultured fish having been observed in “varying levels of prevalence on marine fish farms in Australia” and these are accounted for as the “**effects of nutrition, water temperature and husbandry practices**”. The EIS also states that “farm fish deformities cannot be passed on to wild fish as they are not a result of genetics”

Unfortunately, since 2009, significant advances in Genetics research in the field of **Epigenetics** have revealed that in fact environmental conditions do alter gene expression and phenotype. Histone modification and DNA methylation have been shown to allow modification of gene expression without genetic alteration. The modifications which initiate changes (such as those that lead to skeletal deformities) are brought about by exposure to various environmental factors such as “**nutrition, water temperature and husbandry**”.

Reference to academic research papers can be provided to support this and other contentions made in this submission. They were not included in the submission to ensure references to the EIS were not confused with references for information supplied by the person making the submission. Tables included have been acknowledged as required.

The importance of Aquaculture Research to the Fish Farming Industry in Australia is acknowledged, however in summary the opposition to the Research Lease can be defined as opposition to the pristine Providence Bay / Hawks Nest / Tea Gardens environment described in the submission being given up as a guinea pig for research, a decision based primarily on

the references to the history of (failed) finfish farming ventures in the area and the convenience of its location to land based operations at Port Stephens, and on a perceived socio-economic advantage in that area which is quite separate and remote from the proposed Great Lakes research area at Hawks Nest.
