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**Van Diemen**

Aquaculture

Pty Ltd 

5 September 2006

Executive Commissioner  
Resource Planning and Development Commission,  
3<sup>rd</sup> Floor, 144 Macquarie Street,  
GPO BOX 1691,  
Hobart, TAS 7000.

Dear Sir,

Re Gunns Limited Bell Bay Pulp Mill Proposal

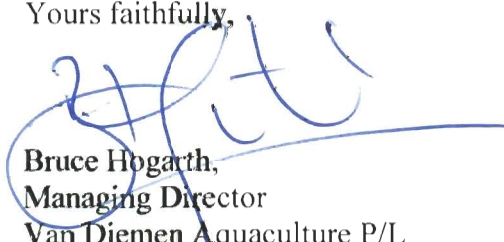
Please find attached a submission commenting on aspects of the Gunn's Pulp Mill proposed for Longreach on the Tamar River.

Van Diemen Aquaculture P/L has operated a commercial Atlantic salmon farm in Longreach since May 1999, and has a vested interest in ensuring the water quality of the lower reaches of the Tamar River is maintained at the highest possible level.

Some of the concerns detailed in this submission have already been raised with the Gunns project team and they have given a commitment to further consider these matters.

We ask that you consider the attached document and the comments within in relation to the above development. VDA management are happy to appear before the commission to provide further detail about the contents of the submission.

Yours faithfully,

  
**Bruce Hogarth,**  
Managing Director  
Van Diemen Aquaculture P/L

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Van Diemen Aquaculture P/L –  
Gunns Pulp Mill submission

## **Van Diemen Aquaculture P/L submission on Gunns Limited Bell Bay Pulp Mill Proposal.**

Van Diemen Aquaculture P/L (VDA) operates a commercial Atlantic salmon farm in the Longreach section of the Lower Tamar estuary. The farm is located on the western bank of the river almost directly opposite the proposed pulp mill site, and less than 1.5 kilometres upstream from the proposed wharf facility. The farm commenced operations on its current site in May 1999 with 4 cages and currently has an annual production of some 1500 tonnes of salmon from 20 cages. In this short period VDA has gained a reputation for the production of high quality Atlantic salmon.

The quality of farmed salmon is heavily dependent on the maintenance of a high quality environment in which to grow the fish. VDA pays particular attention to the health of the estuary in the vicinity of its farming operation to ensure the highest quality of the final product. Water quality in particular is paramount and the company has built up an extensive database of information since commencing operations including water temperature, salinity, dissolved oxygen levels, turbidity and current. As part of its commitment to quality the company regularly submits water quality samples for more detailed analysis – microbiology and water chemistry. The company has invested heavily in new net technology over the past two years to ensure maximum water flow through the cages and minimize biofouling in the environs of the farm.

The farm is located in a section of the river that has a large industrial estate located on the opposite shore and where a number of heavy industries operate. In addition there are significant shipping movements in the vicinity of the farm. To date, to the best of its knowledge, VDA has had no issues with compromised water quality as a result of industrial activity in the lower estuary. Only twice has water quality been severely compromised since the farm commenced operation and on both occasions this has been directly due to floodwaters from major flood events in the catchment (August 2003 and September 2005) – flood water carried high sediment loads and extremely high faecal coliform levels; in addition the volume of flood debris was of major concern to the farm.

In addition VDA employs approximately 30 people who spend the majority of each working day in the open air on the cage system farm. VDA has a duty of care to its employees to provide a safe working environment. VDA is concerned that the construction and daily operation of the mill should not have a detrimental effect on ambient air quality and therefore will not in any way

place it's employees at risk of any short or long term exposure to adverse environmental conditions or harmful substances.

With the above as background VDA has a number of concerns over the construction and operation of the new pulp mill. These include:

1. Release of suspended sediment into the water column during construction of the wharf facility.
2. Control of run-off water from the mill site during the construction phase.
3. The safety and well being of our employees during both construction and operation.
4. The ability of the operators to meet all the claims made in the IIS in reference to maintaining air and water quality in the environs of the mill in the longer term.

**Point 1 – release of suspended sediment into water column.**

Efficient production of high quality Atlantic salmon is dependent on maintaining the highest possible water quality. The waters of the lower Tamar estuary for much of the year are able to meet that criteria, however in summer when water temperature increases, water exchange is at it's lowest, and nets are potentially carrying their highest level of biofouling dissolved oxygen levels are at their lowest concentrations. This period is potentially stressful for salmon and slight changes in environmental conditions may tip the balance towards potentially harmful disease – for example gill amoeba infections or gill necrosis.

The construction of the wharf facility and the disturbance of sediment during the pile driving process has the potential to reduce water quality in Longreach and therefore impact upon the salmon farmed by VDA – given the environmental conditions experienced in summer this impact is likely to be compounded. There are a number of conflicting statements in the IIS on the release of sediments into the water column and their potential impact:

*“... fine colloidal particles have the potential to remain in suspension for protracted periods following disturbance.” (Ref Vol 2a Existing Environment – Pulp Mill Site, sec. 2.8.11, pp 2-55).*

*“Given the depths at the wharf site and the likely volume of material to be disturbed during construction, this indicates that sediment disturbance will result in turbid plumes that will last many hours.” The consultants went on to say that, “... the severity of these*

*plumes will depend on dilution rates and tidal incursion scenarios and should be considered further in environmental impact assessment studies.” (Ref Volume 11, Appendix 25, Aquenal Report on Marine and Biological Survey at the Proposed Wharf Site, pp 27 and 34).*

*“Hydrodynamic modeling of suspended sediment plumes generated during the construction of the wharf facility ... have been shown to be negligible.” (Ref Vol 2b, Part 10, Potential Environmental Impacts and Management Measures – Wharf Facility, pp 10-639).*

*“The installation method of the pylons, expected to be piling ... is expected to cause little suspension of sediments and therefore associated turbidity plumes should be localized and short term.” (Ref Vol 18, App 64, GHD Consultants Report - Hydrodynamic Modelling Associated with a Proposed Wharf Facility in Bell Bay, p7).*

Fine colloidal particles have the potential to irritate and damage salmon gills and potentially act as a pre-cursor to disease. Water movement in Longreach on both incoming and outgoing tides is extremely fast. A section of the GHD report mentioned above discusses the rate of water movement in Longreach:

*“From Wilmores Bluff to off Point Rapid on a rising tide the drogue at 10m depth took 80 minutes to travel 3km up the estuary ...” (Ref Vol 18, App 64, GHD Consultants Report - Hydrodynamic Modelling Associated with a Proposed Wharf Facility in Bell Bay, p19).*

Wilmores Bluff is just downstream from VDA’s farm and Point Rapid is some 2km upstream. Applying the velocity information above suggests that water from the wharf construction site could reach the salmon farm in 40-50 minutes; the Aquenal Report quoted above talks of sediment settlement rates of 26 -69 cm/hour (Ref Volume 11, Appendix 25, Aquenal Report on Marine and Biological Survey at the Proposed Wharf Site, pp 27). It is easy to see from the combination of these two pieces of information that a suspended sediment plume released at the wharf construction site has very real potential to directly impact water quality at VDA’s farm site.

Gunns have indicated that the design of the wharf and the final number of piles has yet to be finalised and no estimate has yet been made of the potential volume of sediment that could be released into the water column.

Of further concern is the comment quoted below that suggests the consultants did not see the need for water quality modeling:

*“Given the nature of the proposed facility, only hydrodynamic (i.e. no water quality) modeling has been undertaken for the assessment of the impacts of the proposed wharf facility.” (Ref Vol 18, App 64, GHD Consultants Report - Hydrodynamic Modelling Associated with a Proposed Wharf Facility in Bell Bay, p7).*

However mention is made of “... implementation of a receiving waters water quality monitoring program.” (Ref Vol 2b, Part 10, Potential Environmental Impacts and Management Measures – Wharf Facility, pp 10-639. Furthermore there is discussion of “... the potential to impact on the surface-water quality of the river in the event that ...” and mention of “... surface water quality monitoring will be undertaken at the Tamar River prior to construction commencing in order to establish a baseline measurement ...” (Ref Vol 4, Part 3, Environmental Management Plans, pp3-64,66). There is little detail available on this monitoring programme and a perusal of Part 4 of Volume 4 which discusses long term environmental monitoring plans suggests there is no long term monitoring of water quality planned for Longreach.

**On the basis of the above VDA ask that the RPDC ensure that the following requirements are met:**

- **A water quality monitoring programme for Longreach should be implemented prior to and during the mill and wharf construction phase to ensure that the water quality in the vicinity of the VDA operation is not adversely affected by construction.**
- **The detail of the “receiving waters water quality monitoring program” should be spelt out.**
- **If at all possible wharf construction should not be scheduled during the summer period of high water temperature, i.e. December – March.**

- **All pile driving activities associated with wharf construction should be conducted at the commencement of an outgoing tide and VDA should be notified of such activities.**

**Point 2 – control of run-off water from the mill site during construction**

As with Point 1, VDA’s concern on the above issue relates directly to potential impact on water quality in the receiving environs of Longreach. Whilst the Environmental Management and Mitigation Management Plans outlined in the IIS would appear to address potential issues there is still a need for water quality monitoring in Longreach to ensure all plans are adhered to.

**Point 3 - the safety and well being of our employees during both construction and operation.**

Construction noise is anticipated to have a “moderate negative impact” on the residents of Rowella – VDA farm staff will be closer to the construction site than other Rowella residents (estimated distance approximately 900 metres), and will generally be in the open air for much of the working day. As VDA has employees on site 7 days a week from dawn to dusk it seeks to ensure that any impact on farm staff is kept to a minimum.

*“Those most affected by the project will be residents located on the opposite bank of the Tamar River to the pulp mill site. These residences will be exposed to construction impacts, day and night for 26 months.” (Ref. Vol 4, Part 5, Conclusion, pp5-263).*

Of potential concern is the noise impact of blasting, the continual volume of noise associated with 24 hour operation during both construction and routine operation, release of dust associated with construction under certain wind conditions, and the release of particulate matter and gases such as nitrogen dioxide and sulphur dioxide. Whilst the reports of the consultants looking at air quality, air emissions etc (Volumes 9 and 10) and potential impact on human health, generally conclude there is little to fear, there is by the admission of the consultants a level of uncertainty associated with these assessments. This may as stated err on the side of caution, but as with much of the IIS there is considerable reliance on theoretical data provided by the design engineers as the basis for much of the analysis.

The potential noise impact of the mill is discussed in detail in Volume 9, Appendix 18 prepared by GHD. It is apparent from perusal of various scenarios modeled that there is potential for

significant noise impact on staff of VDA if mitigation techniques and management scenarios proposed are not properly implemented.

**On the basis of the above VDA ask that the RPDC ensure that the following requirements are met:**

- 1. VDA management are kept fully informed of all major site developments during the construction phase.**
- 2. VDA management are provided with a weekly plan of major activities such as pile driving and blasting including estimated frequency and timing of such events.**

**Point 4 - the ability of the operators to meet the claims made in the IIS in reference to maintaining air and water quality in the environs of the mill in the longer term.**

The IIS document includes extensive claims made about the performance of the mill once operational in terms of meeting environmental guidelines, emission standards etc. Many of these claims have been supported by independent consultants reports based on operational data provided by the design engineers however there is still a large amount of supposition and extrapolation involved. Management strategies and mitigation plans have been designed to minimize any potential adverse impacts wherever possible and frequently state that they are designed to deal with worst case scenarios.

VDA's concern is what happens if the claims made are only 75% or 90% right? Will there be adequate controls in place to address any shortcomings and will the legal/regulatory framework be strong enough to deal with such issues in the face of such a significant development in terms of Tasmania's economy. Is there any "track record" of how correct design engineers have been for similar scale projects in this industry on an international scale.

VDA as the closest "neighbour" of the project may well be the first to be impacted by such shortcomings particularly if they have a negative impact on water quality.