



tasmanian conservation trust inc

Planning Authority
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Draft Amendment to the Macquarie Harbour Marine Farming Development Plan 2005 (No 1)

Below are comments from the Tasmanian Conservation Trust (TCT) on the Draft Amendment to the Macquarie Harbour Marine Farming Development Plan 2005 (No 1).

The EIS documentation* correctly identifies the Maugean skate, *Zearaja maugeana*, as an issue that needs to be addressed. This skate was recently described and is apparently found only in Bathurst Harbour and Macquarie Harbour. Due to its restricted range and expected low population, it is listed as endangered by Commonwealth Government in under the EPBC legislation.

Research into the Macquarie Harbour population of this skate is ongoing, but it is clear that basic and important information is still lacking. The claim that the location of the proposed fish farms helps to exclude harmful interactions or damage to habitat important to this species is premature, as details of the biology and ecology of this species remain unclear. It is impossible to determine the impact of occasional mortalities resulting from the aquaculture will have on the local population while even basic information about the size and distribution of the Maugean skate in Macquarie Harbour is not currently available.

The EIS needs clearly demonstrate that the proposed aquaculture expansion will not threaten the survival of the Maugean skate in Macquarie Harbour. More basic information about this species is required. There is justification for an ongoing monitoring program to assess skate movement patterns and population changes over time, and the development of contingency plans, including a complete shutdown of the industry, if the aquaculture industry expansion in Macquarie Harbour is approved.

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Spotted handfish, *Brachionichthys hirsutus*, (listed as endangered by Commonwealth Government in under the EPBC legislation) have apparently been observed in Macquarie Harbour. There needs to be more work done to ensure that if a local population exists it will not be harmed by the proposed expansion.

A major environmental concern associated with this proposed expansion has to do with the capacity of the environment to deal with increased nutrient inputs. It appears that more work needs to be done to determine the impacts of nutrients on the wider aquatic environment in Macquarie Harbour. A lack of baseline data makes this impossible at this stage.

An appropriate nitrogen cap should be identified, then implemented and regulated by the Tasmanian Government. Nitrogen inputs/outputs should be open to third party auditing to ensure that nutrient loading is maintained at an acceptable level.

In the past, when commenting on other marine farm development proposals, the TCT, has not been particularly concerned about the impacts of faeces and waste food on the substrate beneath fish cages. There much research on how the benthic environment responds to this pollution in the D'Entrecasteaux Channel, for example, which is reassuring. However, in the case of this proposed expansion in Macquarie Harbour, the TCT does have some concerns about the levels of eutrophication that might occur under fish cages.

The EIS presents water quality data (for example temperature in Fig 1.4 in EIS Macquarie Harbour Appendices 1_2_3_4.pdf* there is an approximate difference of 6 C between 5 m and 35 m in the central harbour) that indicates that water movement in the central part of Macquarie Harbour (where proposed expansion would occur) is relatively low and that there is substantial stratification in the water column, compared to say the D'Entrecasteaux Channel.

The risk is that the low DO near the bottom may encourage anaerobic bacteria and the release of toxic hydrogen sulphide. This has the potential t have disastrous consequences for fish in nearby fish cages as well as other aquatic life. This sort of pollution is unacceptable.

The EIS presents DO modelling, but this appears to be restricted to shallow water (to depths to 8 m - EIS Macquarie Harbour Appendix 6_Part1.pdf pages 12, 13, 14).

The EIS 9 (EIS Macquarie Harbour Appendices 1_2_3_4.pdf) acknowledges that "*... sedimentary characterization predictions by the model requires further development ...*". It also acknowledges that there "*... were no actual measurements available to establish the ecological and hydrodynamic characteristics present along and outside the boundaries of the model domain (open ocean)*", and that the "*... non-inclusion of specific ecological and hydrodynamic characteristics found outside the domain requires addressing as part of any adaptive management program implemented for Macquarie Harbour*", and that a "*... specific sampling program north-west of Hell's Gate should be included in any future expansion development plans to determine ammonia, Chlorophyll a and nitrate exchanges between the open ocean and the Harbour*".

From this, it seems reasonable that more modelling is required. In particular, modelling needs to be done in water deeper than 8 m, to look at water quality (in

particular DO) and ecological impacts in the mid water and benthic environment, and at impacts on the environment in adjacent waters.

There is a lack of current baseline data on the ecosystem/s associated with Macquarie Harbour. For example, "... *the assessment or measurement of change in marine vegetation in the harbour is not considered as a directly meaningful variable, mostly due to the paucity of data on marine vegetation as a whole in the harbour, let alone any individual specie ...*" and "... *the Proponent is commissioning a 'baseline' survey or study for macro-algae and seagrass in the harbour for 2012. The study will assess the distribution and quantity of the various types of macro-algae in the harbour on a seasonal basis, and include the documentation of any areas of particular community concern ...*" and "... *the Proponent is currently designing a phytoplankton monitoring program for the harbour ... Sampling will commence in spring of 2011*" (EIS Macquarie Harbour Chapter 6 Part B.pdf).

While is good to see (in EIS Macquarie Harbour Chapter 6 Part B.pdf) that "... *the industry is supporting macro-algal research being undertaken by IMAS in the south east of Tasmania through a recently submitted Fisheries Research and Development Corporation (FRDC) project proposal entitled "Clarifying the relationship between salmon farm nutrient loads and changes in macro-algal community structure/distribution", which already has existing student support. This will provide operational support for two student PhD projects:*

- "*Modelling alternative strategies for sustainable environmental management of nutrient loads in aquaculture*", and,
- "*Effect of dissolved nutrients from aquaculture on surrounding subtidal macro-algae communities*", there is no guarantee that this research will be funded.

While it is also reassuring that it "... is anticipated that the information provided through both the survey and studies will enable industry in conjunction with IMAS and DPIWPE to ascertain if some aspect of change in marine vegetation in the harbour can act as an appropriate indicator of nutrient enrichment into the future ...", there is no commitment to make management changes to reverse changes if they are identified.

The current lack of baseline data will make it impossible to even identify environmental changes that might result from the aquaculture industry expansion. The lack of any management strategies that might be implemented to respond to such environmental impacts is also of concern.

The *Macquarie Harbour Marine Farming Development Plan* states that a baseline environmental survey must be undertaken prior to the commencement of marine farming operations where a new lease area is being established.

Noise and visual pollution are legitimate issues that need to be addressed by aquaculture developments. This is particularly the case in Macquarie Harbour which is so close to world heritage areas and used by so many recreational users and tourists.

I have been a regular visitor to this areas over the last 29 years. One of the most disturbing features of current aquaculture operations is the noise. I have been able to hear farm operations on the western side of Macquarie Harbour from up to 6 kilometres away while I was on the eastern shore.

The EIS suggests that limiting noise to certain times of the day is adequate (for example during working hours or to avoid visiting times at Sarah Island). A more acceptable approach would be to limit absolute noise emissions so that the farm machinery and operations were inaudible, or at least insignificant, at a distance of 1.5 km. Occasional exceptions might be made for harvesting operations for example. The noise levels I have observed around farms in Macquarie Harbour seem to me to be far in excess of those I have experienced while near salmonid farms in Canada, the USA and Ireland. I do not see why this should be the case.

The TCT understands that there are already disease problems associated with fish farming in Macquarie Harbour, and we have been informed that increasing the amount of fish in this area may substantially increase the risk of further problems developing. Diseased fish in fish farms not only threaten the viability of the farms involved, and the animal welfare of farmed fish, they may also increase the threat of disease to wild fish. The TCT suggests that there is a need for an independent assessment of disease threats and related biosecurity issues. This needs to be carried out by independent experts in this area, and the assessment needs to be open to public scrutiny.

Debris from fish farming has been an ongoing problem in Macquarie Harbour. From my own experience, large amounts of rubbish from fish farms washes up along the southern and eastern shoreline. The area between Birches Inlet and the Gordon River is especially prone to this sort of pollution, and I have even seen large pieces of plastic pontoon several metres long washed up in this area. Fish farm operators need to work harder to stop material being lost from farms in the first place. Rubbish from fish farms, especially in the World Heritage Area, should be removed from the foreshore on a regular basis.

As a general principle, the TCT believes that antibiotics should not be used on a regular basis during intensive farming operations. Antibiotic resistant bacteria that develop as a result are a risk to human health. Reducing, or preferably eliminating, antibiotic use will also prevent contamination of wild fish or escapees that may be consumed by recreational fishers. Antibiotic use in Macquarie harbour should be limited by Government regulation and records of use made available for public scrutiny.

The TCT understands that much of the food for farmed fish will be based on fish caught in South American waters. There is a real risk of importing disease along with the fish food unless Government ensures that only fish products that are treated to remove the risk of disease transmission are permitted into Tasmania.

Seals appear to remain a problem for many fish farm operations in Tasmania due to poor management strategies. While it appears that unwanted interactions between seals and fish farms have been inconsequential in Macquarie Harbour until now, every effort should be made to ensure that farms take adequate steps to prevent seals from feeding on fish in cages or using cages as haulouts. If these steps are not taken right at the start, then the aquaculture industry can expect to have increasing problems with seals over time. Experience from Washington State demonstrates that salmonid farms can be operated successfully without unwanted interactions with large active seals, so that farmed fish are protected without killing seals.

The TCT remains concerned that the planning process for the aquaculture industry is inadequate and does not allow meaningful input from members of the

community. Along with planning for the forestry and mining industries, aquaculture planning is quarantined from mainstream planning processes in Tasmania. Past experience has shown that the Marine Farming Planning Review Panel does not adequately take into account legitimate community and other concerns or adequately justify its decisions.

For example, the Marine Farming Planning Review Panel approved a marine farming zone near the Nine Pin point Marine Nature Reserve, despite opposition from the Government's own Department of Tourism, the Parks and Wildlife Service and the Coastal Unit of the Department of Environment and Land Management.

If the Marine Farming Planning Review Panel rejects the views of three significant Government bodies, in favour of those of the Marine Farming Branch, one has to wonder what chance mere members of the community have of having their views taken into account.

More recently, during consideration of the Soldiers Point aquaculture proposal, the Marine Farming Planning Review Panel discounted concerns about noise and visual pollution and loss of access/amenity with no good justification.

The TCT suggests that a simple solution would be for the Marine Farming Planning Review Panel to be replaced by the Tasmanian Planning Commission and that the Ministerial powers that were recently provided by the recent amendment (*Marine Farming Planning Amendment Bill 2011*) be revoked.

With regard to this particular amendment, there is a critical lack of information about the Maugean skate and the water quality and ecological modelling is deficient. Noise pollution, the use of antibiotics and a seal interaction plan need further work. The current lack of baseline data will make it impossible to identify environmental changes that might result from the aquaculture industry expansion, and the lack of any management proposal that would correct harmful changes is a critical oversight. A nitrogen cap that is open to third party auditing is needed to ensure overall nutrient loading is measurable and acceptable.

The proposal to increase the area used for aquaculture should be rejected until additional information can be collected and properly assessed.

Pursuant to s.39(2)(c) of the Marine Farming Planning Act 1995, I request that a hearing be held in respect of my representation. Please send any notice regarding the hearing to me at the Tasmanian Conservation Trust.

Yours sincerely

Jon Bryan
Tasmanian Conservation Trust

*EIS documents referred to in this submission were downloaded on 10/12/11 from <http://www.dpiw.tas.gov.au/inter.nsf/WebPages/ALIR-4YS3VE?open#DraftAmendmentstoMar>