

**SUBMISSION NO. 30**  
**Inquiry into the Role of Science**  
**for Fisheries and Aquaculture**

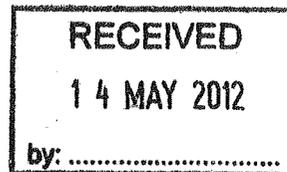


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11 May 2012

Secretary  
Standing Committee on Agriculture, Resources, Fisheries and Forestry  
House of Representatives  
PO Box 6021  
Canberra ACT 2601

By email: [arff.reps@aph.gov.au](mailto:arff.reps@aph.gov.au)

Dear Sir / Madam

### **Inquiry into the Role of Science for Fisheries and Aquaculture**

The Environmental Defenders Office (Tas) Inc (*EDO Tasmania*) is a non-profit, community based legal service specialising in environmental and planning law. As a legal centre, our submission concentrates on the issue of governance arrangements, and the role of science in guiding regulatory decision-making in relation to fisheries and aquaculture.

In March 2012, EDO Tasmania hosted a multi-stakeholder conference, "*Managing Marine Farming: Have We Achieved Best Practice?*", which looked at the experience of marine farming planning and operation in Tasmania and internationally<sup>1</sup>. Our comments to this inquiry arise largely from discussion generated by that conference.

#### **Summary of comments**

- Readily available access to credible science is essential to regulatory decision making as a mechanism to achieve sustainable development. In the fisheries and aquaculture context, scientific information must form the basis for decisions regarding strategic planning, assessment of proposals, monitoring programmes, enforcement activities and, where necessary, law reform.
- Fisheries and aquaculture management should explicitly adopt holistic, ecosystem-based management strategies and a precautionary approach.
- Decision-making frameworks must require sufficient scientific data to be provided in order to assess the potential impacts of aquaculture proposals *before* approvals are given. Reliance on adaptive management to overcome data shortfalls (rather than to deal with new information) is inappropriate, particularly in relation to impacts on endangered species.
- Opportunities should be provided for merits review of decisions in relation to fisheries and aquaculture proposals, to ensure evidence is subject to rigorous, objective assessment.
- While recognising resource pressures on government agencies, environmental monitoring should be conducted (or at least audited) by independent organisations, rather than relying on industry self-monitoring.

<sup>1</sup> Conference papers for the *Managing Marine Farming* forum are available at [www.edo.org.au/edotas](http://www.edo.org.au/edotas)

- Government agencies need to adopt rigorous compliance guidelines and develop a culture of consistent, incremental enforcement activity in response to breaches of licence conditions. Enforcement guidelines should establish clear, scientifically-based performance indicators and triggers for enforcement action.
- Regulatory agencies should also look to gaps in available science to guide an objective research agenda. While contributions from affected industries should not be discouraged, such contributions should not influence assessment decisions or divert the general scientific agenda away from public interest sustainability research and towards research into commercial innovations. To manage this risk, multi-stakeholder panels (including community, ENGO, academic and industry representatives) should be appointed to set scientific research priorities, monitor and disseminate research, and oversee the evaluation and application of the results of scientific research.
- EDO Tasmania supports development of accreditation programmes (such as the proposed Aquaculture Stewardship Council certification), provided the certification criteria are rigorous and transparent. Criteria must consider environmental outcomes, not just processes - having an environmental management plan should not be sufficient to satisfy the requirements, the applicant must demonstrate that the plan has been successfully implemented, is responsive, and is achieving sustainability outcomes.
- Once a rigorous certification programme is established, government funding for aquaculture projects should be contingent upon the recipient achieving certification.

### **Role of science**

Having access to timely, relevant, evidence-based science is essential to regulatory decision making. Regulatory agencies must be guided by available science to provide the basis for planning and assessment decisions, and look to gaps in available science to guide the research agenda.

In his paper examining the role of science in the aquaculture debate in British Columbia, Professor Stephen Bocking notes:

*Science must also be effective, which means solving problems and advancing the policy agenda. This entails fulfilling a diversity of roles, from anticipating emerging issues, to addressing those with which we are already familiar. And this, in turn, requires a very broad definition of relevance, to be achieved, as philosophers of science such as James Brown have argued, through a pluralistic research strategy. Such a strategy would draw on a diversity of participants in setting research priorities acknowledging, in particular, the essential role that independent scientists like Alexandra Morton have played in broadening the salmon farming research agenda. Effective science is also a matter of genuine, two way communication between scientists and those who use scientific information: a true dialogue, ensuring that research is not only relevant, but that its results are communicated in ways consistent with public concerns and perspectives on nature and the world. Only through such dialogue are scientific assessments likely to be sensitive to political realities, and political decisions likely to be scientifically realistic.<sup>2</sup>*

The challenges experienced in British Columbia are replicated in a range of environmental controversies, and certainly risk being replicated in relation to Tasmania's aquaculture management arrangements. Given this, there are clear benefits for the government in:

- articulating a clear policy position and the strategic research agenda necessary to achieve that position;

<sup>2</sup> Bocking, S. 2007. "Wild or Farmed? Seeking Effective Science in a Controversial Environment". Conference papers published in *Spontaneous Generations* 1:1 (2007). ISSN 1913-0465. University of Toronto, p55

- involving a range of interest groups in setting the research agenda; and
- ensuring public access to the research results.

Equally, as discussed below, the public needs to be given an opportunity to comment on scientific assessment submitted in support of proposals, and to seek review of the assessment in appropriate circumstances.

A range of research organisations, including the Fisheries Research and Development Corporation and IMAS, provide excellent research outcomes and direction on improved sustainability. However, we believe that allowing future research agendas to be developed with input from a broader range of stakeholders will improve practical application and ensure the greatest public benefit from research initiatives.

### **Strategic, precautionary approaches**

At a minimum, broad scientific knowledge should be implemented through holistic management frameworks, and strategic approaches to planning for fisheries and aquaculture projects. In this regard, we strongly endorse the recognition in the 2007 Commonwealth *Guidelines for the Ecologically Sustainable Management of Fisheries* that:

*Those who depend on our oceans for their social, economic and cultural requirements recognise the need for ecosystem based fisheries management, particularly the need for precautionary management of fisheries.*

Strategic and precautionary approaches are particularly important in respect of appropriate management of, and adaptation to, predicted impacts of climate change on the fishing and aquaculture industries, and the ecosystems on which they rely. However, in practice, these approaches are often inadequately implemented.

#### **Example 1: Tasmanian Rock Lobster Fishery**

In February 2012, the Tasmanian Rock Lobster Fishery received export approval under s.303DC of the *Environment Protection and Biodiversity Conservation Act 1999*. The decision to give export approval (by amending the list of exempt native specimens) must be made having regard to the precautionary principle. However, despite overwhelming scientific evidence that declining populations of large Rock Lobsters within the fishery has resulted in proliferation of urchin barrens that threaten biodiversity generally, and the commercial viability of Tasmania's abalone industry, the Minister's delegate was satisfied that export could continue for a further five years.

His statement of reasons notes that he was satisfied that the Tasmanian government would continue to work on localised management areas, annual reviews of catch limits and continued research into urchin control to address the issue. However, an IMAS report submitted with the application for accreditation noted that the most efficient way to allow stocks to recover to levels where predation on urchins would address sustainability concerns was to close the fishery for a significant period.

Given the strength of evidence regarding the ecological and economic impacts of urchins, and the essential role of increased rock lobster populations in addressing those impacts, the extension of export approval for a further five years cannot be seen as precautionary.<sup>3</sup>

#### **Example 2: Impacts on Maugean Skate in Macquarie Harbour**

Tasmania's three largest aquaculture companies, Tassal Operations Pty Ltd, Huon Aquaculture Group Pty Ltd and Petuna Aquaculture Pty Ltd, are currently seeking approval to expand their operations in Macquarie Harbour (see [www.dpipwe.tas.gov.au](http://www.dpipwe.tas.gov.au)). The

<sup>3</sup> The Tasmanian Conservation Trust submission to this Inquiry provides more details in relation to the Tasmanian Rock Lobster situation.

proposed expansion will increase the area under marine farming leases from 564 hectares to 926 hectares (an increase of approximately 60%).

One significant concern in relation to the proposal is the potential impact on the Maugean skate, *Zearaja maugeana*. The Maugean skate, "a Gondwanan relic that is the oldest lineage of skate in the world", has an estimated population of only 2,500 and its habitat range is restricted to Bathurst Harbour – Port Davey and Macquarie Harbour.<sup>4</sup> Given low population numbers and highly limited distribution, any reduction or fragmentation of habitat or disruption of breeding cycles may lead to a significant impact on the species.

One of the identified threats to the species is increased nutrient levels, an outcome predicted to occur as a result of the proposed expansion.

In response to concerns raised by environmental organisations that not enough was known about the ecology or biology of the Maugean skate, or the likely movement of nutrients within Macquarie Harbour, to ensure the species would not be significantly impacted, the Marine Farming Branch of the Department of Primary Industries, Parks, Water and Environment recommended that the expansion be approved. Significantly, the Marine Farming Branch report noted:

- Updated IMAS advice confirmed that "There is currently no information about the potential effects of salmon farming in Macquarie Harbour on the *Maugean skate*"
- A dedicated harbour-wide sampling program is currently underway involving collection of data on a monthly basis from October 2011 to September 2012 at representative sites across Macquarie Harbour, which would be used to identify trigger values to be "built into the regulatory adaptive management framework and used to manage marine farming in Macquarie Harbour."
- "Should the proposed amendment be approved, it is anticipated that fish would be introduced into new lease sites in August 2012."
- "It is proposed that if marine farming activities were having a significant impact on the Maugean skate then this would likely be observed in video footage undertaken in the monitoring of industry."

Given the scientific advice that it was not currently possible to predict the impact of salmon farming on the Maugean skate, and the fact that even the preliminary sampling and monitoring work would not be completed until September 2012, seeking approval to get fish in pens by August 2012 (before appropriate trigger limits have been set) is not precautionary. Similarly, relying on video footage submitted every 12 months to determine whether there is any material impact on a highly localised endangered species is not precautionary, and may not be responsive enough to adequately protect the species.

This proposal is currently being assessed by the Marine Farming Planning Review Panel. The Panel is expected to make a recommendation to the Minister regarding the proposal by the end of May 2012.

### **Science-based decision making**

As discussed above, it is critical that resource management decisions be made on the basis of scientific evidence. Recent amendments to Tasmania's *Marine Farming Planning Act 1995* have moved decision-making in relation to aquaculture proposals away from a scientific basis and allowed the decisions to be more politically motivated.

The *Marine Farming Planning Review Panel* (the **Panel**) is established under the *Marine Farming Planning Act 1995* as an independent panel comprised of eight individuals with expertise in a range of disciplines relevant to marine farming. Prior to the recent

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<sup>4</sup> Parsons, K. 2011. *Nowhere Else on Earth: Tasmania's Marine Natural Values*. Report prepared for Environment Tasmania, Aqenal. Available at [oceanplanet.org.au/resources/nowhere-else-on-earth-tasmanias-marine-natural-values/](http://oceanplanet.org.au/resources/nowhere-else-on-earth-tasmanias-marine-natural-values/) ('**Nowhere Else on Earth**'). A hard copy of the report can be provided on request.

amendments, the Panel was responsible for assessing proposed amendments to marine farming development plans to allow expansion, relocation or other changes to marine farming activities and able to refuse inappropriate proposals. The Panel was required to take into account public submissions, the recommendations of the Marine Farming Branch and the sustainable development objectives of the legislation.

In March 2011, the Panel exercised its powers to refuse a proposed amendment which would have allowed an expansion of Tassal's operations at Soldiers Point in the D'Entrecasteaux Channel (the **Soldiers Point decision**). Having regard to all the evidence, the Panel considered that the projected economic benefits of the proposed expansion did not outweigh the adverse impacts of the proposal on a fragile reef system near the site.

Referring to this decision in parliament on 17 May 2011, the Premier stated:

*This is the first instance of the panel rejecting a draft amendment according to section 41(2)(b) of the Marine Farming Planning Act 1995. This development would have allowed eight more stocked cages at the farm, which would have enabled better fish health management practices and more investment. **It is disappointing that it did not go ahead but there is a planning system in place. It has gone through the planning system and that independent expert panel has brought down its deliberations on this matter.** (emphasis added)*

Despite this apparent faith in the established planning process, in November 2011 the government enacted the *Marine Farming Planning Amendment Act 2011*. Significantly, the amending legislation removed the power of the Marine Farming Planning Review Panel to refuse a draft amendment to a Marine Farming Development Plan. Instead, that decision now rests with the Minister for Primary Industries, who has also been given power to make any changes to the proposed amendments he considers appropriate without further consultation.

In his second reading speech when introducing the *Marine Farming Planning Amendment Bill 2011*, Primary Industries Minister, Bryan Green, made it clear that the amendments were made in direct response to the Soldiers Point decision – an explicit indication the amendments were intended to allow decisions regarding aquaculture development to be determined on the basis of politics rather than science. Furthermore, the amendments were introduced one week after the application to allow expansion of aquaculture in Macquarie Harbour was released for public comment. The Minister, and the government generally, have been explicit in their support of that proposal.

The Panel has an explicit mandate to consider whether a proposed aquaculture development can satisfy sustainability objectives. There may be good reasons why the Minister, having responsibility for a range of portfolios, would not accept a recommendation from an expert Panel to approve a proposed aquaculture development, even though the proposal, when considered in isolation, is considered to be sustainable. For example, the Minister may consider that the proposal will have unacceptable visual or amenity impacts on nearby residents, may interfere with views from key tourist spots or may place an undue burden on local government infrastructure.

In contrast, there can be no good reason to allow proposed marine farming activities where the independent, scientific expert Panel has determined that the amendments are not sustainable and recommended refusal.

We urge the Committee to recommend that the amendments to the *Marine Farming Planning Act 1995* be repealed, and the Minister be required to adopt the recommendations of the Panel (subject to merits review, discussed below).

## Adaptive management

### Minimum data requirements

The EIS and government response in respect of Macquarie Harbour emphasise the role of adaptive management in aquaculture, to respond to new issues as they arise. While we recognise that there are definite benefits to adaptive management which responds to unanticipated problems, adaptive management should not be used to overcome shortcomings in scientific evidence presented with an application.

That is, if sufficient data is not provided to satisfy the decision maker that impacts will be avoided, minimised or appropriately managed, the proposal should be refused, or further information sought from the proponent. The application should not be approved, subject to conditions requiring information to be submitted later which could indicate that the proposal was inappropriate.

Furthermore, adaptive management requires triggers for adaptation to be identified. The information provided at the outside must be sufficient to enable appropriate triggers to be set.

### Responsive management

Adaptive management will also not be effective without appropriate monitoring and enforcement activities to facilitate adaptation. Encouraging improved performance will only be successful if there is a credible threat that stronger action will be taken if no improvement is demonstrated.

There are a number of enforcement options under the relevant legislation, including:

- Fines up to \$6,500 (or \$650 per day for a continuing offence) for marine farming equipment being located outside a lease area (s.94 of the *Marine Farming Planning Act 1995*);
- Fines up to \$65,000 (or \$6,500 per day for a continuing offence), or up to 2 years in prison, for contravening marine farming licence conditions (s.86A, *Living Marine Resource Management Act 1995*);
- Issuing infringement notices (fines up to \$650);
- Allocation of demerit points for offences – accumulation of 200 demerit points over 5 years may lead to temporary disqualification from obtaining a marine farming licence;
- Fines up to \$650,000 or up to 2 years in prison for contravening Fisheries Rules; or
- Cancellation or suspension of licence for 5 years if the licence holder contravenes the licence conditions (s.90, *Living Marine Resource Management Act 1995*).

There appears to be a relatively active enforcement culture in relation to fisheries management, where people are regularly fined or prosecuted for taken in excess of quotas, taking species out of season or fishing without a licence.

Despite the range of enforcement options available, many observed breaches are unpunished and fines of only \$400-\$520 have been issued in respect of repeated, and what should be regarded as reasonably significant, breaches. For example:

In 2008, spontaneous out-gassing is observed. In 2009, out-gassing was evident at one bay and "thin to faint" patches of *Beggiatoa* were observed. In 2010, the *Beggiatoa* was described as extensive and observed in "thick mats". Despite three years of apparently worsening conditions, no penalty was imposed. The value of the adaptive management approach is questionable if the result was a spread of *Beggiatoa*.

despite observations that "the level of organic enrichment has resulted in significant impacts and breaches of licence conditions", no fine was imposed.

complaints regarding equipment outside the lease area was made for four months without change, before a fine of only \$400 + 4 demerit points was imposed (NB: 200 demerit points are required before any serious consequences flow from their accumulation).

DPIPWE officers identified equipment outside the lease area, inadequate marking of the lease area and dead and dying birds entangled in nets. The officer observed that had made no effort to remove the birds. A fine of \$500 was imposed.

While the objective of any enforcement activity is improved performance, rather than penalising the offender, the repeated offences shown in the table do not suggest that the small fines imposed have much deterrent value.

We recommend that DPIPWE adopt clear enforcement guidelines setting scientifically-based performance indicators, identifying a scale of enforcement actions, and indicating which actions will be taken in response to failure to meet those indicators (including graded increases in enforcement activity for repeat offenders). Importantly, DPIPWE must take consistent action in accordance with its guidelines where monitoring reveals that performance indicators are not met.

### **Monitoring**

It is self-evident that adaptive management approaches, and sustainable management generally, will not succeed without rigorous scientific monitoring against key performance indicators.

While we recognise the limited resources available to government agencies for monitoring activities, particularly where marine farming and fishing operations occur in regional areas, regular monitoring should be undertaken by the regulator, rather than relying on monitoring submitted by the industry itself. At a minimum, regular, random and unannounced audits of monitoring results must be undertaken to provide some assurance that the results submitted are accurate and representative of the impacts being caused by operations.

### **The value of merits review**

Science often fuels debate on controversial environmental management issues, such as fisheries and aquaculture, with all sides of the debate drawing on scientific information to support their views. As discussed above, it is critical that resource management decisions be made on the basis of rigorous and transparent scientific evidence, however, as Professor Bocking points out:

*In all these debates environmental knowledge is strongly evident. Science has been used by all parties, not just as a source of information about risks and benefits, but as a source of authority. Both those who favour farming and those who are oppose invoke science to support their arguments, their framing of the issue (as a question of managing an economically valuable, environmentally sound activity, or conversely, of protecting wild salmon stocks from a hazardous industry), and their claims to be presenting an objective, impartial perspective.*

Recognising the ability to use evidence selectively (and politically), it is critical that the evidence used in decision making be able to be independently tested through merits review. Unfortunately, such opportunities are limited in respect of fisheries and aquaculture management.

Following the challenge by the Humane Society International to the decision to declare the Southern Bluefin Tuna fishery as an approved wildlife trade operation in 2006<sup>5</sup>, the EPBC Act was amended to remove the right to appeal against Ministerial decisions on wildlife trade operations. Similarly, no right of appeal exists for decisions to accredit fisheries management plans or to amend the list of exempt native specimens for export purposes. There is also no right to appeal against a decision under the *Marine Farming Planning Act 1995* to approve an amendment to a Marine Farming Development Plan to facilitate an aquaculture proposal.

Particularly where, as in Tasmania, the agency responsible for assessing and monitoring marine farming activities is also responsible for active promotion of the industry, a right of appeal is important and should be open to any person who made a representation in respect of the proposal (including affected residents, NGOs, other industries, tourism operators, the local government).

In Tasmania, a right of appeal would allow the decision to be reviewed by the Resource Management and Planning Appeal Tribunal. The Tribunal has powers to dismiss frivolous appeals and to award costs in appropriate situations, which is sufficient to deter appeals lacking in merit.

We urge the Committee to advocate for appeal rights in respect of relevant fisheries and aquaculture decisions to ensure that science-based decisions are subject to appropriately rigorous review.

### Accreditation

EDO Tasmania supports the development of programmes under which companies who can demonstrate compliance with rigorous and transparent criteria achieve certification. For example, the work currently being done by the Salmon Aquaculture Dialogue to develop standards for responsible aquaculture is worthwhile and will be useful to set sustainability benchmarks. However, any certification programme aimed at demonstrating sustainability must:

- Be based on clear, defensible indicators;
- Incorporate both inputs and outputs for industry (e.g. energy use, feed source, chemical use, light emissions) and direct and indirect impacts (e.g. loss of opportunity for recreational fisheries, downstream impacts);
- Require implementation of procedures, rather than just having procedures;
- Require regular, independent review of certified companies, and continue to encourage improvement even where indicators are met.

When appropriate certification programmes are established for fisheries and aquaculture, government agencies should give priority to certified companies in terms of funding opportunities or offer other incentives such as research assistance or reduced licence fees.

Thank you for the opportunity to make these comments. If you would like to discuss anything in this submission, please do not hesitate to contact me.

Yours sincerely,

**Environmental Defenders Office**

Jeřs Feelhy, Principal Lawyer

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<sup>5</sup> *Humane Society International and Minister for the Environment and Heritage [2006] AATA 298*