



30 May 2015

Committee Secretary
Senate Standing Committees on Environment and Communications
PO Box 6100
Parliament House
Canberra ACT 2600
ec.sen@aph.gov.au

Regulation of the fin-fish aquaculture industry in Tasmania

Dear Sir/Madam

BirdLife Tasmania, a branch of BirdLife Australia, wishes to make a submission to this Inquiry.

Our submission comprises a brief introduction to our community group and an overview of the interaction we have with the fin-fish aquaculture industry in Tasmania. We refer to two of the Terms of Reference before concluding our submission.

Our submission may be placed into the public domain and we are willing to appear before the Committee if requested.

Thank you for considering our submission.

Yours sincerely

Dr Eric J Woehler
Convenor
BirdLife Tasmania

BIRDLIFE TASMANIA
GPO BOX 68
HOBART
TASMANIA 7001

tasmania@birdlife.org.au
birdlife.org.au

ABN 75 149 124 774



Introductory Comments

BirdLife Tasmania

BirdLife Tasmania is a regional branch of the national organisation, BirdLife Australia. Founded in 1901 as the Royal Australasian Ornithologists' Union (RAOU), the organisation adopted the name Birds Australia in 1996 and then BirdLife Australia in 2012. There are more than 450 members in Tasmania and more than 11,000 nationally (as of May 2015).

BirdLife Tasmania's efforts are directed towards the conservation of Tasmania's birds and their habitats. BirdLife Tasmania is a widely-recognised source of expertise regarding bird conservation and management in Tasmania.

We have broad and extensive collaborations with community groups, other NGOs, all three NRM agencies, numerous Councils (Local Governments) and various elements of the Tasmanian Government (primarily the Department of Primary Industry, Parks, Wildlife and the Environment - DPIW, and the Department of State Growth).

Our research efforts are undertaken throughout the state, with a substantial effort on species' surveys and mapping, and long-term monitoring bird populations, drawing on past similar efforts that extend to the early 1800s for some species. Our survey and monitoring efforts are ongoing.

BirdLife Tasmania interactions with the Tasmanian fin-fish aquaculture industry

BirdLife Tasmania collaborates with two aquaculture companies in Tasmania under three regimes: (a) regional seabird population monitoring, (b) staff education and (c) commercial consulting.

The seabird population monitoring and commercial consulting are with Tassal and Huon Aquaculture, and the staff education is solely with Tassal.

(a) Regional seabird population monitoring

Both Tassal and Huon Aquaculture staff contribute to a long-term project monitoring the distribution and abundance of three species of gulls in southeast Tasmania. The staff involved each contribute approximately half a day in June as part of a regional simultaneous count coordinated by BirdLife Tasmania that also involves members of the community, Parks & Wildlife staff and BirdLife Tasmania members.

The gull counts commenced in 1980 and Tassal and Huon Aquaculture staff were involved in the 2013 and 2014 counts, with some prior, albeit lesser involvement in previous years. It is believed that all gulls at all Tassal and Huon Aquaculture leases were counted in both 2013 and 2014. The extent of the coverage of the annual Winter Gull Count is shown in Figure 1.

The gull counts are significant and relevant to the aquaculture industry in Tasmania as there has been a change in the behaviour of the gulls associated with the growth of the industry in southeast Tasmania.



Gulls appear to have changed their foraging (feeding) behaviours in recent years.

BirdLife Tasmania believes the gulls are favouring aquaculture leases over domestic refuse tips as a source of food (Figures 2 and 3). Significant numbers of gulls are associated with aquaculture pens where the gulls are searching for food.

In the Winter 2014 Gull Count, more than 80% of the 16,000 Silver Gulls recorded in southeast Tasmania were present at aquaculture facilities (Figure 2). Conversely, the percentages of Silver Gulls recorded in southeast Tasmania at refuse tips is close to zero (Figure 3). Similar trends are evident for the other two species (Figures 2 and 3).

The situation may have been exacerbated by the closure of several domestic refuse tips in the last 20 or so years, reducing the potential food available to gulls in southeast Tasmania.

Concomitant with the change in behaviour by the gulls, there has been a high degree of interaction between gulls and the infrastructure associated with fin fish aquaculture industry, with birds entangled in the netting over fish pens, often resulting in their deaths.

BirdLife Tasmania does not have a complete data set of entangled birds and their fates but is aware that the numbers have been in the hundreds for a species in a calendar year, representing a significant proportion of the regional population.

BirdLife Tasmania obtained data from DPIPW on, “*gull management and control measures*” statewide for the period 2000 – 2012 under *Right to Information*. This includes, but is not limited to, control measures associated with aquaculture industry. We have yet to analyse the extensive data contained in more than 600 pages.

No coordinated seabird population monitoring is undertaken by BirdLife Tasmania in Macquarie Harbour.

(b) Staff education

BirdLife Tasmania was invited to give an oral presentation to Tassal staff on the potential threats from the collection of marine debris on resident shorebirds, specifically beach-nesting shorebirds. The industry undertakes to retrieve marine debris from aquaculture operations from nearby foreshores in the d’Entrecasteaux Channel (Figure 4).

These collections can potentially impact on nesting birds if the collection is undertaken during the breeding season (October to March, inclusive).

As a result of the BirdLife Tasmania presentation and ongoing interactions with Tassal management, clean up and debris retrieval operations were shifted to winter months, which is the non-breeding season for resident shorebirds.

BirdLife Tasmania was also engaged by Tassal in relation to the development of a waterbirds and birds of prey identification guide for staff. The guide also provides basic information on handling birds in pens and entangled birds. This was originally



developed in early 2012. BirdLife Tasmania provided comment on the content of a draft of the guide.

(c) Commercial interactions with the industry

BirdLife Tasmania has been engaged by consultants employed by Tassal in regard to alterations to the locations of existing leases. These engagements have been in the form of providing data on the presence of threatened bird species (listed under Tasmanian and/or federal legislations) and identifying those species at risk of potentially interacting with the infrastructure and/or operations.

We have provided advice on four occasions (three in the d'Entrecasteaux Channel, the other for the Tasman Peninsula). We have been engaged by Huon Aquaculture directly to provide similar advice in one instance.

The presence of threatened and other species was derived from the BirdLife Tasmania database. For these species, potential mitigation measures were identified to minimise or eliminate the risks to the birds recorded within 5km of a lease. Mitigation measures were drawn from the scientific literature where relevant (eg nocturnal illumination of structures could disorient nocturnally-active birds).



Responses to the Terms of Reference

Terms of Reference

The regulation of the fin-fish aquaculture industry in Tasmania, with particular regard to:

- (a) the adequacy and availability of data on waterway health;
- (b) the impact on waterway health, including to threatened and endangered species;
- (c) the adequacy of current environmental planning and regulatory mechanisms;
- (d) the interaction of state and federal laws and regulation;
- (e) the economic impacts and employment profile of the industry; and
- (f) any other relevant matters.

BirdLife Tasmania wishes to make the following comments against two of the Terms of Reference. The two are:

- (a) the adequacy and availability of data on waterway health;
- (b) the impact on waterway health, including to threatened and endangered species;

The interpretation of the gull population data requires caution with regard to linking with waterway health. All three species of gulls are long-lived, with banding records of individuals of all three species living between 20 and 30 years (see <http://www.environment.gov.au/topics/science-and-research/bird-and-bat-banding/banding-data/search-abbbs-database>).

Gulls are scavenging and highly opportunistic species and our data suggests that all three species, to some degree, have rapidly adopted aquaculture facilities as food sources, replacing or supplementing food scavenged from refuse tips.

The degree to which gulls are supplementing or replacing their natural diet in southeast Tasmania is unknown. Observations of hundreds or more gulls at aquaculture facilities suggest some dependence, but the turnover of gulls (ie flux of birds) is unknown as the birds are not marked and individuals cannot be identified or recognised.

It may be that the same birds are present at a site all day every day, or there may be a complete turn over of birds every hour. We have no way of determining this at the moment. Thus it is not possible to determine the extent of gulls' use of the aquaculture facilities as a food source.

The regional Winter Gull Count coordinated by BirdLife Tasmania provides an index to the relative abundances of the three species of gulls in southeast Tasmania, not the absolute abundances. It is impossible to count all gulls and the program relies on an extensive and consistent effort over time to monitor the populations of these long-lived species. After 35 years, we have little more than one generation of data.

Since 1980, several domestic refuse tips in southeast Tasmania have closed. Before their closures, these tips were used extensively by the gulls as supplementary food sources. The closures have reduced the quantity of supplementary food available to



be scavenged by the gulls in southeast Tasmania, and have coincided with the expansion of the aquaculture industry,

The three remaining domestic refuse sites in southeast Tasmania still support some gulls, but many fewer than in the past (Figure 3) suggesting that the gulls show a preference for the aquaculture facilities over tips as food sources. This preference has resulted in the significant increase in the number of gulls associated with aquaculture facilities (Figure 2).

BirdLife Tasmania is aware that gulls and other species of seabirds have been entangled and/or died as a result of entanglement in nets over fish pens. An article from the Weekend Australian of 22/23 June 2013 reports 639 dead “seabirds” in an eight-month period.

Given the relatively small breeding populations of some species of seabirds in southeast Tasmania, the loss of hundreds of birds could present a significant threat to their regional populations.

BirdLife Tasmania has no data on the species composition of seabirds entangled or that died as a result of collision or entanglement in the nets of aquaculture facilities. As a consequence, we are unable to assess the potential or actual impacts on threatened or endangered species as a result of the aquaculture industry.

With the exception of the Great Cormorant (*Phalacrocorax carbo*) and Little Black Cormorant (*Phalacrocorax sulcirostris*), all species of seabirds in Tasmania are protected under the Tasmanian *Threatened Species Protection Act 1995* (TSP Act) and associated regulations; many are also listed as marine and/or migratory species under the Federal Government’s *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Thus, at least a subset of seabird involved in entanglements and/or that died as a consequence could be reasonably expected or inferred to be EPBC-listed species.

BirdLife Tasmania noted with concern the report of 498 Great Cormorants that were shot by Tassal at Russell Falls and Macquarie Harbour in 2013, as reported in the *Tassal Sustainability Report 2013*.

BirdLife Tasmania opposes any form of wildlife control such as shooting, and has raised our concerns regarding this report and the broader issue of seabird entanglement with Tassal over a number of years.

BirdLife Tasmania recognises and welcomes the efforts by Tassal and Huon Aquaculture in reducing the interactions between seabirds and their infrastructure.

To contribute to the reduction in interactions between all species of birds (not just seabirds) and aquaculture facilities, BirdLife Tasmania has been involved with Tassal and Huon Aquaculture, either directly or through consultants, in the provision of data and advice on minimising the risks to threatened and endangered species listed under the Tasmanian TSP Act and/or the EPBC Act that have been recorded within 5km of a lease or proposed lease site.



The species considered by these risk assessments comprise raptors such as Wedge-tailed and White-bellied Sea-eagles, seabirds such as Shy Albatross and woodland birds such as Forty-spotted Pardalote and Swift Parrot. Risks to these species from the aquaculture industry vary, comprising entanglement, loss of foraging habitat, behavioural change (eg increased scavenging by raptors), disturbance reducing breeding success, and potential disturbance from noise, lighting, wastes and vessel movements associated with daily and nightly operations.

For each identified species/threat combination, the threat to the species was identified and mitigation or minimisation measures were identified. In most cases, the risks were assessed as low, but for some species novel threats were identified arising from the use of strong lights used to illuminate facilities at night. Strong lights present a potential risk by disorienting birds, resulting in an increased risk of collision with facilities. Altering the lighting regime and reducing light spill outside of the facilities is likely to reduce the potential to disorient flying birds.

As of May 2015, BirdLife Tasmania has no information available to it on the efficacy of the advice provided to the industry in terms of the individuals of these species involved in any interactions, or the potential prevention of interactions based on the advice provided.



Concluding Comments

BirdLife Tasmania has adopted the position that the data currently available to it are insufficient to determine with scientific confidence what impact the aquaculture industry has or may have had on waterway health from an ornithological perspective.

We believe that the aquaculture industry has contributed to an unknown extent to the observed increase in the regional (ie southeastern Tasmania) Silver and Pacific Gull populations, but that this has been countered to an unknown extent by the entanglements and subsequent deaths of individuals of the three gull species.

BirdLife Tasmania believes that it is not possible to make inferences on the state of waterway health from the available long term gull population data set. Despite birds recognised as excellent bio-indicators for their environments, the available data suggest a change in foraging behaviour to take advantage of accessible food at aquaculture facilities, rather than an improvement in environmental conditions that may be inferred from the increase in population sizes.

BirdLife Tasmania is unaware of any other long-term data series for any other bird species that could be used in the context of this Inquiry.

As we do not have data on the species composition of seabirds involved in entanglements and deaths, we are unable to comment on any impacts to threatened and endangered bird species.

In the absence of information available to BirdLife Tasmania on the efficacy or otherwise regarding the advice provided to the industry on mitigation strategies for bird interactions for any species, BirdLife Tasmania is unable to assess the adequacy of any mitigation strategies previously provided, or to identify or recommend any changes to them.

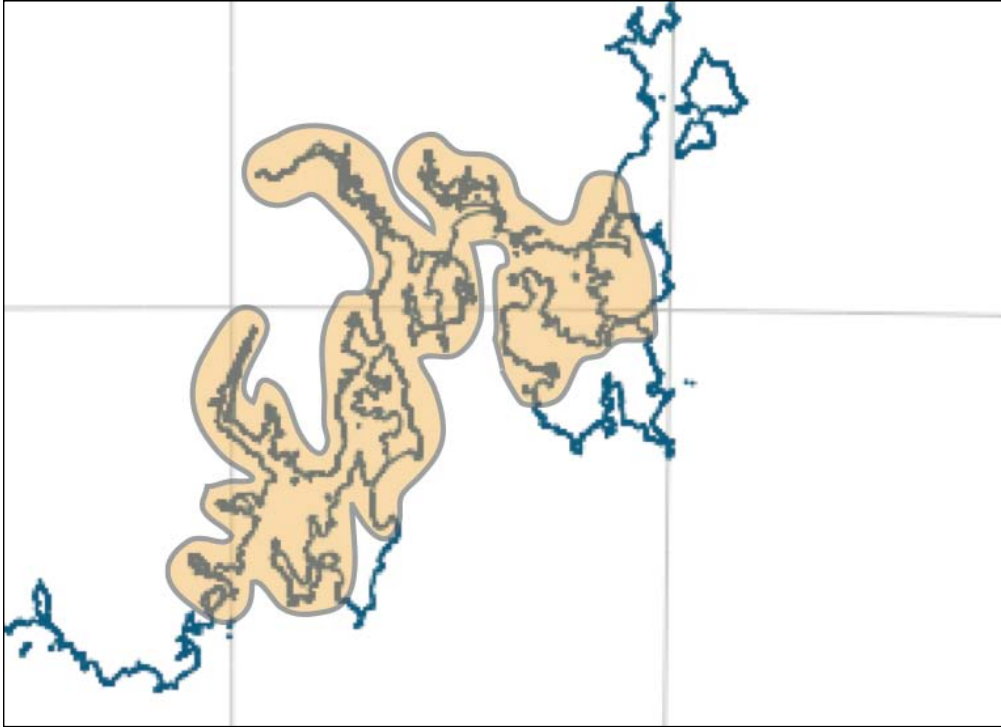


Figure 1. Spatial coverage of annual regional Winter Gull Count coordinated by BirdLife Tasmania, 1980 to present. The map shows southeast Tasmania and the approximate extent of survey efforts by participants.

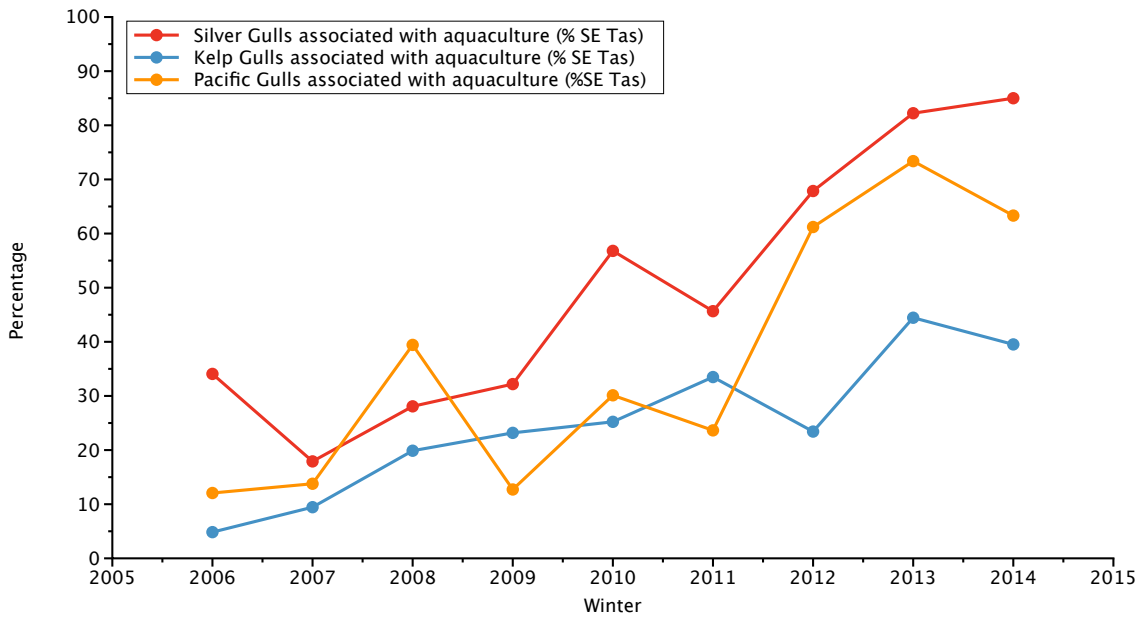


Figure 2. The percentage of gulls at aquaculture facilities in the d’Entrecasteaux Channel and the Tasman Peninsula expressed as the percentage of the annual regional regional mid-winter counts, 2006 – 2014 inclusive (BirdLife Tasmania unpubl. data).

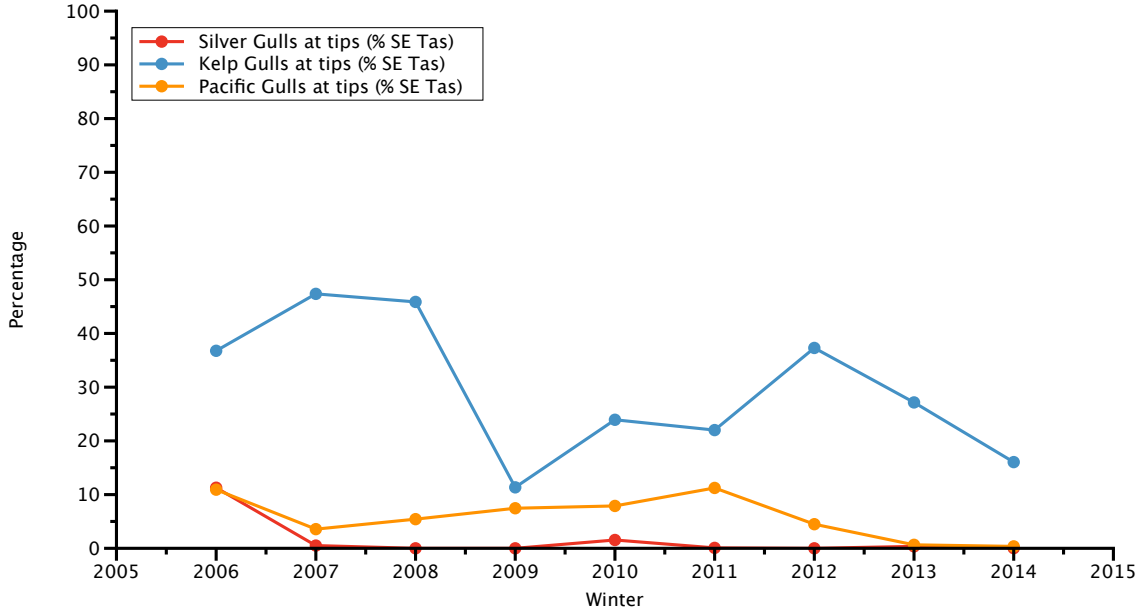


Figure 3. The percentage of gulls at tips in southeast Tasmania, expressed as the percentage of the annual regional regional mid-winter counts, 2006 – 2014 (BirdLife Tasmania unpubl. data).

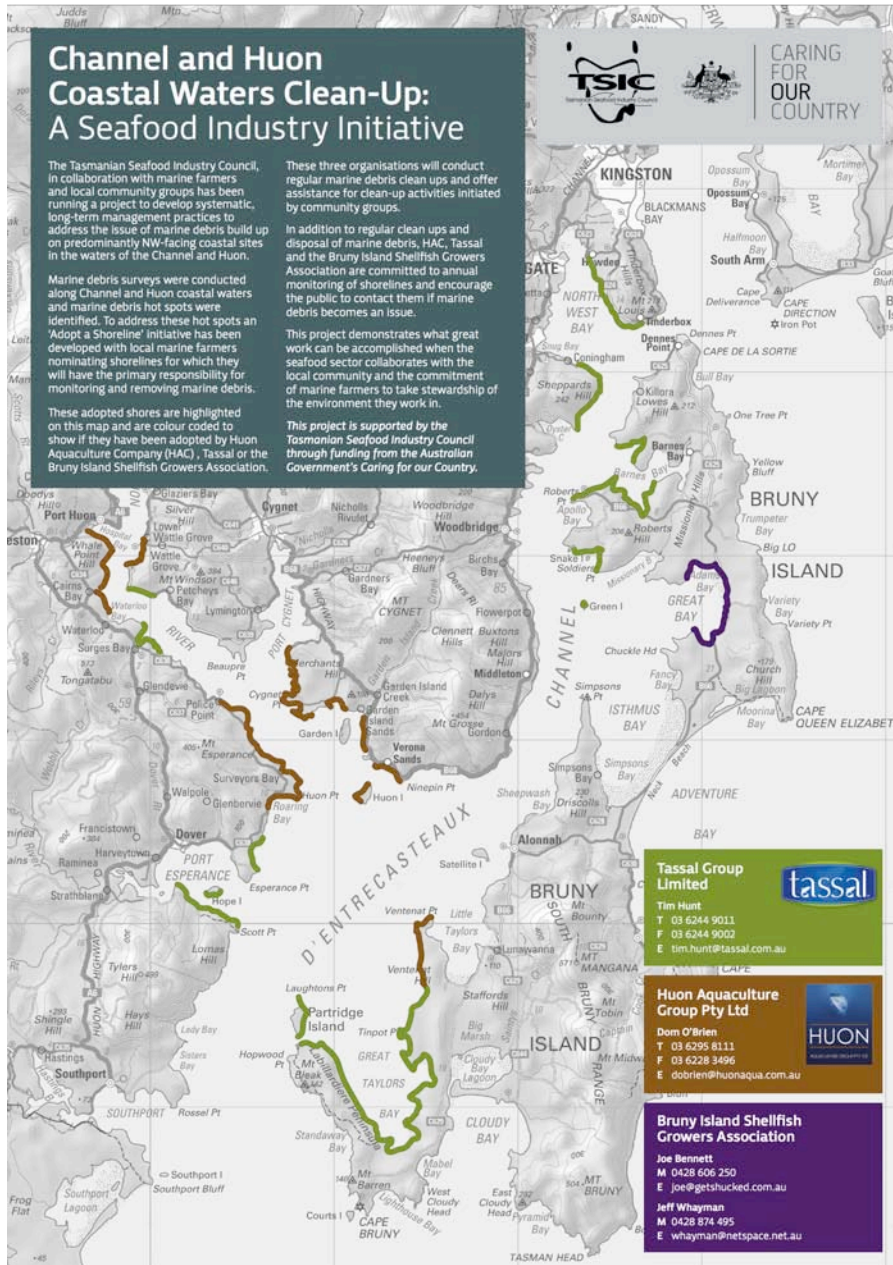


Figure 4. Allocation of coastal areas for marine debris collection by the aquaculture industry.