

## Attachment I

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### Circumstances for Consideration Under Section 42T(5)

#### Introduction

Additional circumstances for consideration are provided below. These circumstances are a summary of the current scientific knowledge and monitoring programs in addition to those conducted under the requirements of the licence holder's EL conditions.

The summary below shows that EPA has been active in progressing a range of concerns brought up by impacted residents and the general public in relation to the activities under consideration.

#### Noise

The *Environmental Standards for Tasmanian Marine Finfish Farming 2023* (Environmental Standards), which were made in October 2023, introduce a strengthened noise management framework. This framework provides uniform noise limits applicable to all environmental licence holders and enables regulators to deal with vessel-related noise (including well boat traffic) due to new offence provisions.

As part of the implementation plan for the Environmental Standards, the EPA has embarked on a process of increased resourcing of this area, which will result in greater capacity to undertake noise monitoring and to resolve conflicts regarding marine farming noise.

Specifically in relation to the Sheppards and Simmonds Point marine farming leases, EPA has undertaken noise logger deployments and data analysis as outlined below.

##### Noise monitoring

A noise logger was deployed on land directly upslope of the Sheppards lease and another on Bruny Island (representative of a noise sensitive receptor such as a residence). These loggers were in-situ from January 2023 to August 2023, however, technical problems meant that a full dataset was not obtained for this entire period.

Data obtained from June to August 2023 (coinciding with low / nil production) will be utilized to establish minimum operational noise and background noise levels (if possible).

EPA has redeployed both loggers to capture the highest production period (December 2023 / early 2024) and added a second Bruny Island logger representative of a different noise sensitive receptor. The data from the low production period compared to the high production period will be used to characterise the noise emissions associated with activities around the Sheppards lease.

Lessons learned from the Sheppards lease will aid in the regulation of nearby Simmonds Point lease.

#### Light

The Environmental Standards provide the Director with powers to require a Light Attenuation Plan when credible complaints are unable to be resolved by other means. This provision will not be used retrospectively in relation to historical complaints regarding the Sheppards lease and well boat operations but can be used if similar complaints are made in the future.

#### Water Quality

##### *Broadscale Environmental Monitoring Program (BEMP)*

The objective of the BEMP is to document broadscale trends for key environmental parameters, thereby allowing assessment of the cumulative environmental effects of finfish aquaculture in the region.

The BEMP for the D'Entrecasteaux Channel, Huon River and Port Esperance region (Channel & Huon BEMP) is jointly implemented by all environmental licence holders in the region, including Aquatas Pty Ltd. The program commenced in 2009 and monitoring has been undertaken without interruption since then. This means that a comprehensive data set comprising more than 10 years is available.

The Channel & Huon BEMP includes the following components:

- Monthly water quality sampling at 15 locations. The closest monitoring locations are approximately 3.5 km from the Sheppards lease and 1.5 km from the Simmonds Point lease.
- Sediment sampling and analysis (including stable isotopes and benthic infauna) every four years.
- The EPA receives monthly reports including sampling results for importing into a database.
- In addition, annual BEMP reports have been prepared and published on the EPA website since 2017-18. These are comprehensive reports which present all BEMP monitoring undertaken during the reporting period and compare results against performance benchmarks based on the Thompson et al. (2008) trigger values.
- It is worth noting that for a period of several years, prior to EPA becoming the environmental regulator of finfish farming activities, the publication of annual BEMP reports ceased although the collection of data continued. A summary 2012 to 2017 report was published in November 2017.

Trigger values recommended by Thompson et al. (2008) have been applied in relation to water quality results collected under this BEMP and have been accepted as being relevant for the detection of change in ecological function. It is acknowledged that these trigger values need to be reviewed and updated to ensure continued relevance.

It is proposed that the existing system of 'level 1', 'level 2' and 'level 3' trigger values (equivalent to low, medium and high risk), be reviewed in the context of the Environmental Standards implementation phase (~2024).

A summary of the BEMP reports since 2017-18, including EPA's assessment, is presented in table 1 below.

**Table 1: Summary of Annual BEMP reports**

Reporting period	Main findings	EPA assessment	EPA response
2017-18	Report satisfies EL requirements	Some trigger value exceedances noted but no level 3 exceedance.	Minor adjustments to report content and structure requested, incl. additional analysis of key trigger value exceedances
2018-19	Report satisfies EL requirements incl. new sections requested by EPA	Some trigger value exceedances noted but no level 3 exceedance.	
2019-20	As above	Some trigger value exceedances noted, incl. level 3 seasonal (summer) trigger for ammonia	Requirement for infauna analysis at selected benthic sampling sites
2020-21	As above	Some trigger value exceedances noted incl. level 3 annual trigger for chlorophyll <i>a</i> for the Channel sub-region	Review of relevant external programs (see below). This did not identify a direct relationship between feed input levels and exceedances.
2021-22	As above	Single, very minor exceedance of level 1 trigger.  No level 3 exceedance.	n/a
2022-23	As above	Some trigger value exceedances noted incl. level	<i>Under review.</i>

(not yet published)		2 annual trigger for chlorophyll <i>a</i> for the Channel subregion. No level 3 exceedance.	
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### **SAMS review of the BEMP**

In 2022, the EPA engaged the Sottish Association of Marine Science (SAMS) to conduct a review of the *D’Entrecasteaux Channel, Huon River and Port Esperance* BEMP. The scope of this project was to consider the structure of the BEMP and to determine whether any aspects of the program should be modified.

The [SAMS Review](#) concluded that the BEMP in its current form is generally fit for purpose. However, several opportunities to modernise and streamline the program were identified, including:

- Inclusion of reef, seagrass and macrophyte monitoring;
- Focus on epiphytic growth and opportunistic algae;
- Adoption of balance-of-organisms indicator in relation to phytoplankton and benthic infauna;
- Introduction of a report card system;
- More sophisticated statistical analysis of water quality data;
- Water quality sampling sites to be consolidated;
- Improved frequency and sensitivity of chlorophyll *a* measurements;
- Review of benthic infauna monitoring locations;
- Continued use of hydrodynamic and biogeochemical modelling tools.

### **EPA independent monitoring (water quality)**

The EPA has an existing water quality monitoring program for several regions in southeast Tasmania, including the *D’Entrecasteaux Channel* and *Lower Huon Estuary*, which commenced in 2018. Sampling locations within the *D’Entrecasteaux Channel, Huon River* and *Port Esperance* area have historically been co-located with BEMP locations and sampling has been conducted on a monthly basis for a range of field and laboratory parameters.

The results of the monitoring program are being utilized to derive Default Guideline Values for the relevant subregions.

The EPA’s Water Section have recently undertaken a review of monitoring locations and intend to commence additional monitoring in the near future. New sites will be selected to provide an increased understanding of near-field water quality impacts associated with finfish farms.

### **Default Guideline Values for the northern Channel region**

Default Guideline Values for the *Huon Estuary* and *D’Entrecasteaux Channel / Recherche Bay* area, including the northern Channel region have recently been determined and are available on the [EPA website](#) (under water monitoring programs).

### **EPA independent monitoring (nuisance algae)**

In early 2021, EPA commenced investigations into epiphytic algal growth in southeast Tasmanian waters in response to community feedback regarding elevated levels of epiphytic algal growth coating shorelines near marine farms. Nuisance algae, including epiphytic algae and filamentous algae, and both red and green algae, are indicative of increased nutrient loads in the environment.

The project aims to determine the percent cover of ‘nuisance algae’ in both seagrass and reef habitats through photographic monitoring of near-shore benthic environments, and to detect any changes over time in the percent cover of such algae.

The spatial reach of the project spans from *Mercury Passage* near *Triabunna* to the *Far South* and includes several sites in the *D’Entrecasteaux Channel* (see enclosed overview map below).

Since March 2021, a total of 749 sites visits have been made to 122 individual sites. Up to six photographs of a 50cm x 50cm quadrat are taken at each site per visit, resulting in a dataset of 4,384 photographs. Each

individual photograph has been given a rating of 0 to 5 based on the percent cover of epiphytic growth in the quadrat.

Data will be analysed to identify particular areas that show significantly elevated epiphytic growth. The next level of analysis would be an investigation into cause and effect, i.e. investigating the relationship between proximity of identified sites to anthropogenic factors such as marine farms and sewerage outfalls vs influence of environmental factors such as benthic site characteristics and hydrodynamics.

Analysis of the data is ongoing.

### ***Epiphytic algae assessment in the northern D'Entrecasteaux Channel***

In response to anecdotal information from the community regarding nuisance algal growth in the vicinity of finfish farms, IMAS was commissioned by the EPA to undertake snapshot surveys in the northern D'Entrecasteaux Channel (north Channel).

IMAS undertook two surveys, in November 2020 and December 2020, at 33 sites along the north Channel coastline, including several sites in the vicinity of the Sheppards and Simmonds leases. Control sites on northern Bruny Island were also monitored. The surveys were conducted with ROVs taking footage of the benthic environment. Footage was scored according to an epiphytic cover ranking index.

Survey outcomes are documented in two interim survey reports provided to the EPA.

### ***Antibiotic use***

Medicated feed containing antibiotics (active ingredient: Oxytetracycline) was applied at 15 pen bays over a 2-week period in January 2022 at the Sheppards lease in the D'Entrecasteaux Channel. This measure became necessary due to an infection with *Vibrio anguillarum*. These events were supported by relevant Veterinary Authorisations and were subject to comprehensive monitoring requirements stipulated by the EPA. Sampling of wild fish and sediment occurred on four occasions between 20 January and 17 March 2022.

The resulting monitoring report can be viewed here [MF94 Antibiotics Residue Monitoring Report 2022](#).

It is noted that public reporting of antibiotic use is not mandated under the [Biosecurity Program: Tasmanian Salmonid Industry](#).

### ***Sand Flathead***

The Department of Natural Resources and Environment Tasmania and the Institute for Marine and Antarctic Studies have investigated issues relating to the Sand Flathead fishery and have found mortality due to fishing to be unsustainable in many regions.

*“A range of analyses confirms an urgent need to rebuild the sand flathead fishery. High levels of overfishing are making larger fish increasingly scarce, particularly in the south-east where fishing pressure is greatest. The results are consistent with the observations of many recreational fishers.*

*A major issue is a lack of larger fish. However, scientists are concerned that if current fishing pressure remains, we may also see much fewer small flathead from reduced spawning. If this occurs, there is a high risk of damaging the stock to a point that will be difficult to reverse.”*

For further information refer to [Scalefish Fishery Assessment 2020-21-Tas](#) and [Sand Flathead Information Paper](#).

## **Conclusions – EPA’s future approach**

EPA are finalising a review of all available scientific information (as per above) and are currently formulating a strategy to ensure the environmental monitoring program is updated to be consistent with contemporary best practice. It is already evident that the program needs to be expanded to include all relevant ecosystem elements, and companies were advised in March 2022 that a requirement for reef monitoring is being considered.

EPA intends to vary the environmental licences in the 2024 calendar year to facilitate these improvements.

## References

SAMS Applied Marine Science Enterprise Ltd.: Review of broad-scale environmental monitoring programs: Huon Estuary and D'Entrecasteaux Channel. Issue 5, May 2022.

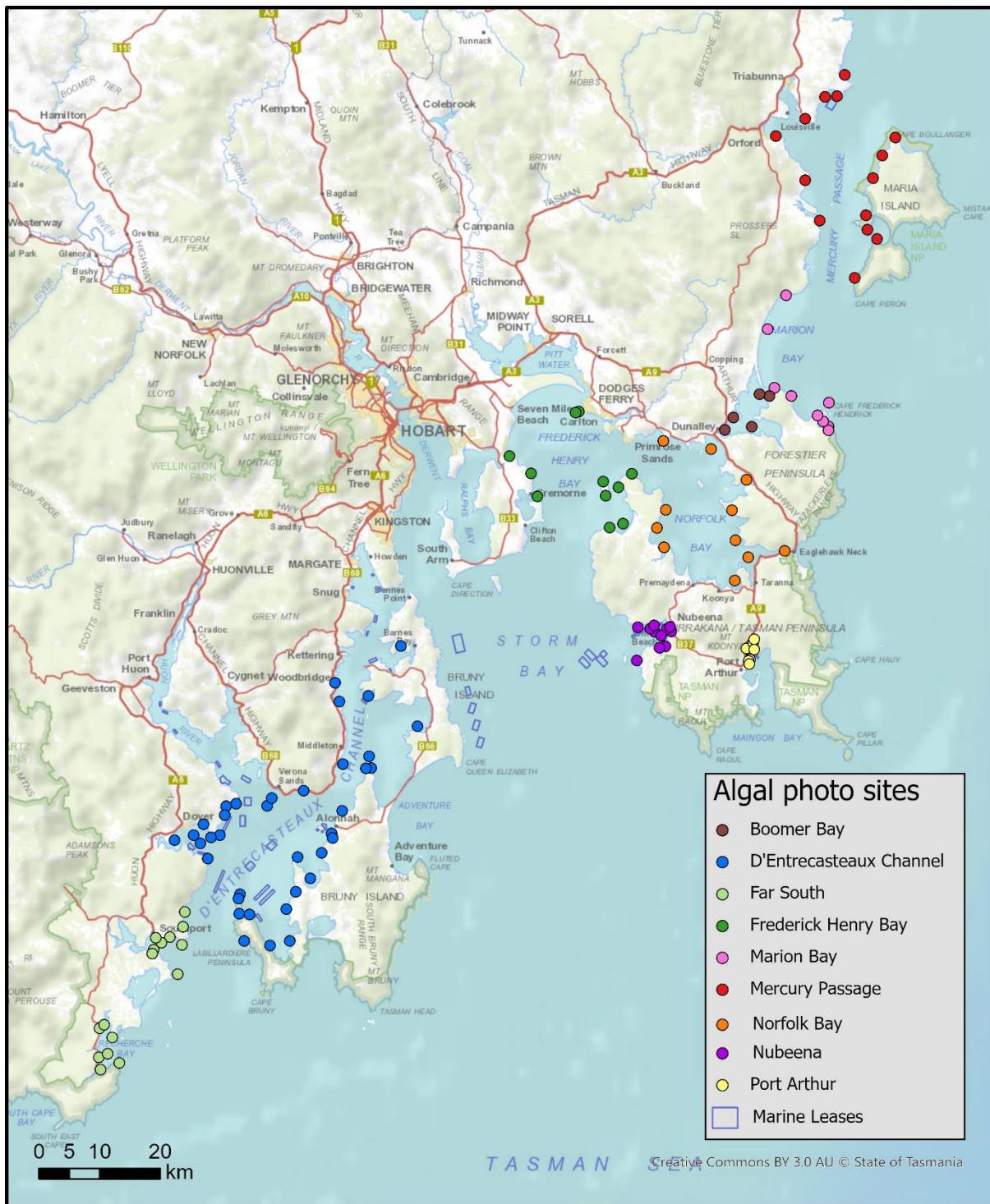
Thompson, P., Wild-Allen, K., Macleod, C., Swadling, K., Blackburn, S. and Volkman, J. (2008). Monitoring the Huon Estuary and D'Entrecasteaux Channel of the Environmental Effects of Finfish Aquaculture. Aquafin CRC Technical Report (CRC Project 4.2(2)/ FRDC Project 2004/074)

White, C., Hortle, J. and Ross, J.: ROV assessment of epiphytic algae in the North D'Entrecasteaux Chanel: **Interim** Report 2. IMAS, February 2021.

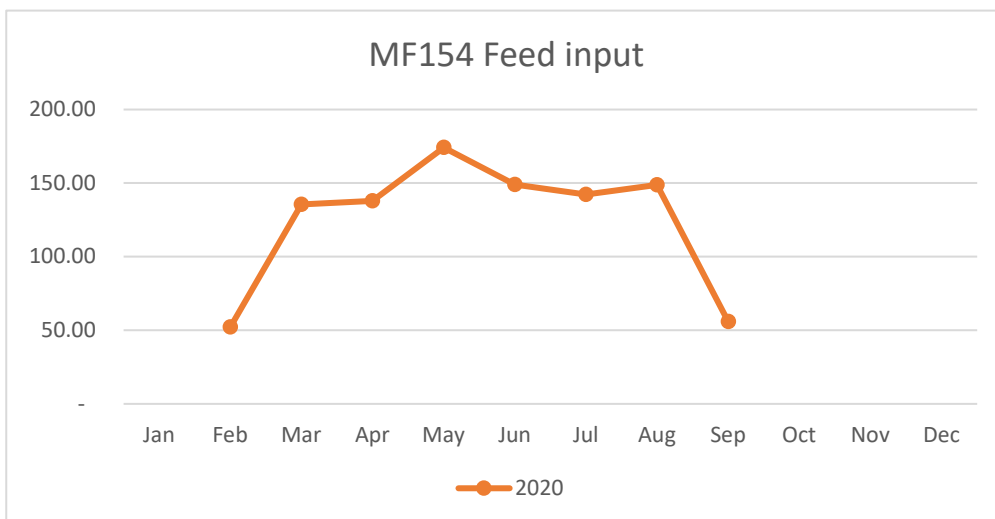
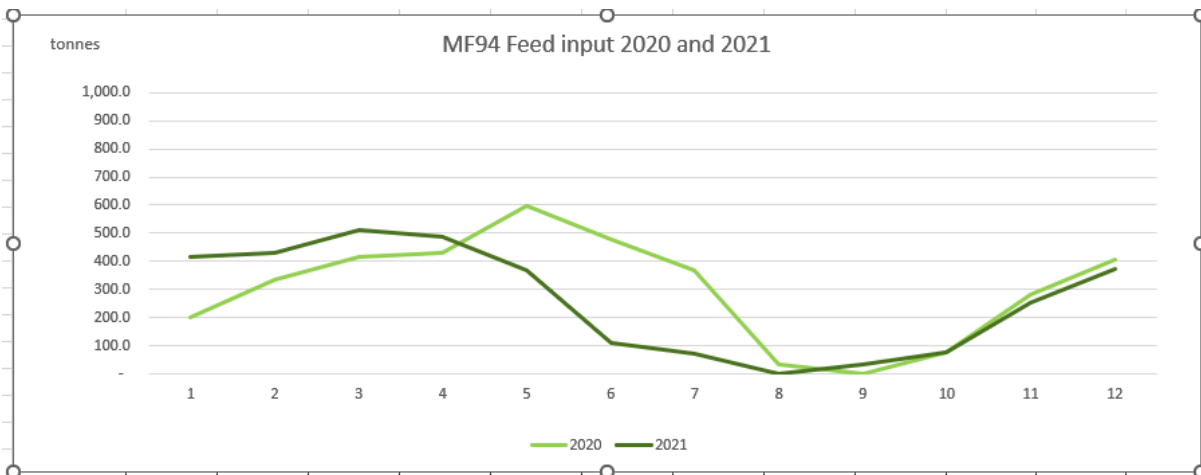
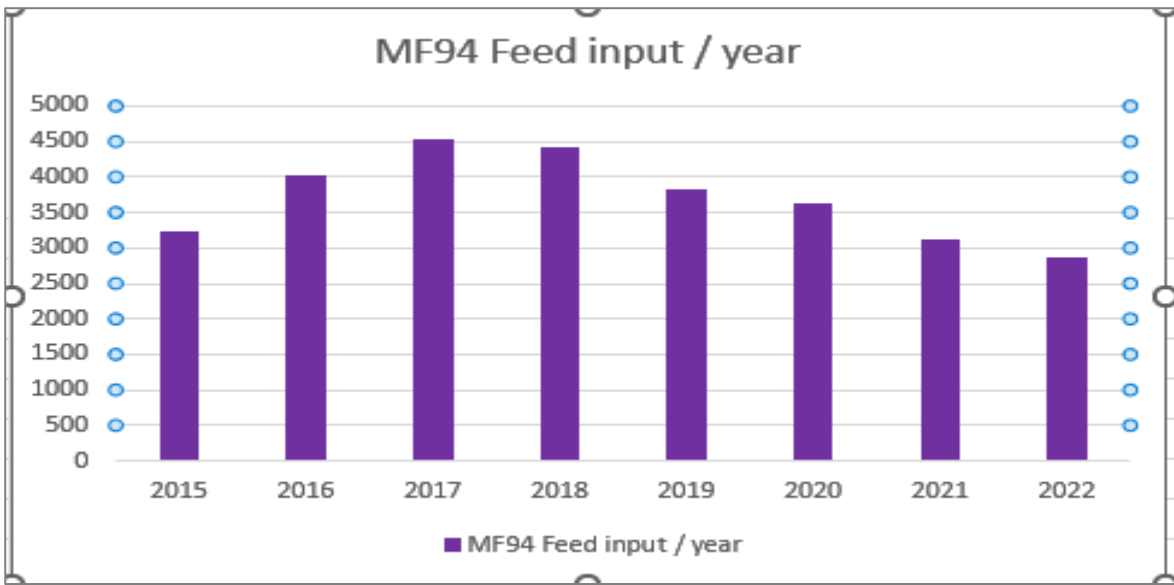
## Attachments

- EPA epiphytic algae monitoring locations
- Production levels for Sheppards and Simmonds Point marine finfish farms

EPA epiphytic algae – photographic monitoring locations



**Production levels for Sheppards (MF 94) and Simmonds Point (MF 154) marine finfish farms**  
**Periods included: 2018 to present**



Note: no other feed input during the 5-year review period