SCHEDULE 3 – MACQUARIE HARBOUR

MARINE FARMING LICENCE CONDITIONS RELATING TO ENVIRONMENTAL MANAGEMENT OF A FINFISH FARM

Conditions relating to the environmental management of finfish farms are in two parts:

1. Compliance with environmental standards
2. Environmental records and reporting

In this schedule:
"the Director" means the Director, Marine Resources, the Department of Primary Industries, Parks, Water and Environment or any person authorised to act on the Director’s behalf and “the Department” means the Department of Primary Industries, Parks, Water and Environment

1 Compliance with Environmental Standards

The licence holder must comply with the following environmental standards in carrying out operations on the marine farming lease area or lease areas to which this licence relates (the Lease Area):

1.1 There must be no significant visual, physico-chemical or biological impacts at or extending beyond 35 metres from the boundary of the Lease Area. The following impacts may be regarded as significant.

Visual impacts:

• Presence of fish feed pellets.
• Presence of bacterial mats (e.g. Beggiatoa spp.).
• Presence of gas bubbling arising from the sediment, either with or without disturbance of the sediment, presence of numerous opportunistic polychaetes (e.g. Capitella spp., Dorvilleid spp.) on the sediment surface.

In the event that a significant visual impact is detected at any point 35 metres or more from the lease boundary, the licence holder may be required to undertake a triggered environmental survey or other remedial activity determined by the Director.

Physico-chemical:

Redox
• A corrected redox value which differs significantly from the reference site(s) or is < 0 mV at a depth of 3 cm within a core sample.

Sulphide
• A corrected sulphide level which differs significantly from the reference site(s) or is > 250 µM at a depth of 3 cm within a core sample.

Biological:

• A 20 times increase in the total abundance of any individual taxonomic family relative to reference sites, an increase at any compliance site of greater than 50 times the total Annelid abundance at reference sites.
• a reduction in the number of families by 50 per cent or more relative to reference sites complete absence of fauna.

• As natural environmental variation renders some locations more susceptible to significant changes in parameter values, the above thresholds will be considered in addition to baseline environmental information for determining the presence/absence of a significant impact.

1.2 There must be no significant visual impacts within the Lease Area. The following impacts may be regarded as significant.

**Visual impacts within Lease Area**

• Excessive feed dumping.
• extensive bacterial mats (e.g. *Beggiatoa* spp.) on the sediment surface prior to restocking.
• spontaneous gas bubbling from the sediment.

1.3 Where areas are fallowed due to visual impacts, the Lease Area shall not be restocked until the sediments have recovered to the satisfaction of the Director.

1.4 The licence holder must comply with any written request from the Director specifying waste disposal actions for the purpose of mitigating against any effect on the ecology of the marine environment or nearby shoreline associated with marine farming operations including harvesting, processing of salmonids and the removal of fouling organisms.

1.5 All fish mortalities arising in connection with marine farming operations must be disposed of in accordance with relevant acts and council by-laws.

1.6 Levels of antibiotics, or chemical residues derived from farm therapeutic use, present in sediments within or outside the Lease Area, are not to exceed levels specified to the licence holder by prior notice in writing by either the Director or the Chief Veterinary Officer, Tasmania.

1.7 Prior to any stock being treated with therapeutants, the licence holder must advise the Director, and provide a copy of any medication authority specific to stock treatment that has been issued. The licence holder must comply with requirements to undertake any reasonable residue testing prescribed by the Director.

1.8 Any liners and/or other disposal items associated with fish harvesting and fish transport activities must be disposed of via deep burial, incineration or other method approved by an inspector appointed under the *Animal Health Act* 1995.

1.9 Harvest bins and other transport containers used in the Plan area must not be used in other regions and vice versa.

1.10 Grey water (defined as non-industrial wastewater generated from domestic processes such as dish washing, laundry and bathing, excluding water from the toilet) from marine farming vessels and structures within the Lease Area must be managed in such a way as to ensure that the release of the components of domestic sewage are not harmful to the marine environment. Measures may include but not be limited to the use of screens to remove food scraps, the removal of fats and oils prior to washing, and the use of environmentally friendly soaps.
1.11 Marine farming operations in the Lease Area must not cause the threshold levels listed in the following table to be exceeded within the Lease Area.

<table>
<thead>
<tr>
<th>Element</th>
<th>Sediment (mg/kg dry wt)</th>
<th>Water Column (µg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc</td>
<td>410</td>
<td>15</td>
</tr>
</tbody>
</table>

1.12 The Licensee must take all reasonable steps to ensure that no fish, dead or alive of the species authorised by this licence are found outside cages on the Lease Area.

1.13 The rolling annual median indicator values for combined compliance region* sites, where directly attributable to marine farming operations, must not exceed the indicator limits specified in the following table:

* Indicators and Limits:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia (at 2 metres)</td>
<td>0.033 mg-N/L (max.)</td>
</tr>
<tr>
<td>Ammonia (at 20 metres)</td>
<td>0.024 mg-N/L (max.)</td>
</tr>
<tr>
<td>Nitrate (at 2 metres)</td>
<td>0.053 mg-N/L (max.)</td>
</tr>
<tr>
<td>Oxygen (at 2 metres)</td>
<td>6.82 mg/L (min.)</td>
</tr>
</tbody>
</table>

* Sites defining the compliance region are identified in the following map and table:
Table 1: Sample site descriptions, Coordinates are Map Grid of Australia 1994 (MGA94) Zone 55.

<table>
<thead>
<tr>
<th>Site No</th>
<th>Type</th>
<th>Location</th>
<th>Easting</th>
<th>Northing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Water</td>
<td>Hell’s Gates</td>
<td>353712</td>
<td>5323353</td>
</tr>
<tr>
<td>2</td>
<td>Water</td>
<td>Swan Basin</td>
<td>357871</td>
<td>5326207</td>
</tr>
<tr>
<td>3</td>
<td>Water</td>
<td>King River</td>
<td>361455</td>
<td>5325885</td>
</tr>
<tr>
<td>4</td>
<td>Water</td>
<td>Compliance Region</td>
<td>360144</td>
<td>5321607</td>
</tr>
<tr>
<td>5</td>
<td>Water</td>
<td>Cosy Channel</td>
<td>356107</td>
<td>5319158</td>
</tr>
<tr>
<td>6</td>
<td>Water</td>
<td>Compliance Region</td>
<td>366157</td>
<td>5318703</td>
</tr>
<tr>
<td>8</td>
<td>Water</td>
<td>Compliance Region</td>
<td>362734</td>
<td>5313569</td>
</tr>
<tr>
<td>9</td>
<td>Water</td>
<td>Compliance Region</td>
<td>370850</td>
<td>5312281</td>
</tr>
<tr>
<td>10</td>
<td>Water</td>
<td>Compliance Region</td>
<td>370224</td>
<td>5309960</td>
</tr>
<tr>
<td>11</td>
<td>Water</td>
<td>Gordon River</td>
<td>375845</td>
<td>5303913</td>
</tr>
</tbody>
</table>

2 Environmental records and reporting

Renewal of annual licences will be subject to compliance with all environmental reporting requirements. Reporting of information to the Director is to be made in electronic format or writing, or by (e-mail: mfarming.environment@dpipwe.tas.gov.au).

2.1 The following records unless otherwise determined by the Director, must be kept by the licence holder for a period of five years and reported as specified below to the Marine Farming Branch of the Department using electronic reporting templates specified by the Director.

<table>
<thead>
<tr>
<th>Records</th>
<th>Parameter</th>
<th>Reporting Frequency</th>
<th>Reporting format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feed Usage</td>
<td>• Monthly quantity by pen bay</td>
<td>Quarterly</td>
<td>electronic template</td>
</tr>
<tr>
<td>Chemical Usage (Antifoulants)</td>
<td>• Paint type and Quantity</td>
<td>In line with APVMA reporting requirements</td>
<td>electronic template</td>
</tr>
</tbody>
</table>
| Chemical Usage (Antibiotics and Therapeutants) | • Antibiotics –Type and Quantity  
• Therapeutants – Type and Quantity | Quarterly           | electronic template      |
| Present Site Management           | • Biofouling Management – Type and Frequency of Cleaning Operations      | Quarterly           | electronic template      |
| Biomass by species, Production and Employment | • Monthly smolt inputs  
• Monthly harvest weight  
• Monthly mortalities weight  
• Monthly standing biomass  
• Monthly maximum stocking density  
• Regional harvest weight HOG  
• Statewide employment | Quarterly           | electronic template      |
| Production Planning               | • Feed Inputs  
• Average and historical biological FCR’s  
• Smolt Inputs  
• Fallowing Regimes | Annual /On request/Audit | electronic template |
Information that is required as part of routine quarterly reporting, is to be submitted to the Department within fourteen days of the end of each reporting period. If the information is to be provided on request, then that information is to be provided to the Marine Farming Branch of the Department within the period specified in the request for the information.

2.2 The licence holder must report any suspected or known incidents of disease or mortality affecting > 0.25 per cent of fish per day for three consecutive days in any individual cage. Such reports are to be provided as soon as possible to the Department assigned fish veterinarian or an inspector under the Animal Health Act 1995.

2.3 The licence holder must notify the Director in writing of the presence of any unusual or uncharacteristic marine flora or fauna found within the Lease Area (including any introduced marine pests). (e-mail: mfarming.environment@dpipwe.tas.gov.au).

2.4 The licence holder must report to the Director any significant incident of fish escapes within 24 hours of becoming aware of the escape. A significant escape is defined as any loss of licensed species to the marine environment in excess of 500 individuals at any one time. (e-mail: mfarming.environment@dpipwe.tas.gov.au).

2.5 The licence holder must give prior written notice to the Director and Chief Veterinary Officer of any proposal to move or re-deploy marine farming equipment from a Marine Farming Development Plan (MFDP) area located in one geographic region to a MFDP area located in another geographic region. Geographic regions include the south east, north and west of the state. (e-mail: mfarming.environment@dpipwe.tas.gov.au).