



## BROADSCALE ENVIRONMENTAL MONITORING PROGRAM (BEMP)

- The Tasmanian salmon industry leads the world in terms of best-practice monitoring for potential broadscale environmental impacts.
- The Broadscale Environmental Monitoring Program (BEMP) was initiated in 2009 by the State Government to provide knowledge and information on ecosystem function in the D'Entrecasteaux Channel and Huon Estuary. A similar BEMP was established for Macquarie Harbour in 2011 and for Storm Bay in 2019. The objective of each program is to document (on an ongoing basis) broadscale spatial and temporal trends for key environmental parameters, allowing assessment of the environmental effects of finfish aquaculture in the region. Marine farming licence conditions include participation in respective BEMPs.
- The BEMP program is unique globally, with few other salmonid farming countries undertaking a detailed BEMP as is undertaken in Tasmania.
- Data are independently collected and evaluated by [IMAS](#), as well as external marine consultants.
- The BEMP program initially covered assessment of water column and sediment health at a broadscale level but has been expanded to include inshore reef, deep-reef and seagrass distribution and health (for the Storm Bay BEMP only).
- Sediment sampling includes benthic infauna, stable isotopes, particle size, visual assessment, redox analysis, and sulphide measurements. Visual assessment, redox and sulphide analysis is carried out each year, while analysis of benthic infauna, stable isotopes and particle size is undertaken every four years. In the intervening years these samples are collected, preserved and retained.
- Water quality analytes include physico-chemical parameters (temperature, dissolved oxygen and salinity), nutrients (dissolved nutrients: ammonia, nitrate, phosphate, and silicate, nutrients: total nitrogen, total phosphorous), chlorophyll a and phytoplankton species counts. Water quality sampling is conducted at least monthly.
- 35 sites are included in the South/East monthly monitoring program: 20 sites in Storm Bay, 9 sites in the D'Entrecasteaux Channel MFDP, 5 sites in the Huon River/Port Esperance MFDP's and a control site at Recherche Bay, south of Southport Lagoon while the Macquarie Harbour BEMP sites can vary.
- All BEMP reports are publicly available via the [Environmental Protection Agency website](#) and [IMAS BEMP - search under Salmon](#) tab

### HUON & CHANNEL

- The 2020/21 Huon & Channel BEMP is imminently due for release (early 2022).



- Previous reports have continued to indicate that fish farming in the Huon and Channel does not have a significant or adverse environmental effect on the water quality or sediments. Full analysis, undertaken by IMAS on behalf of the EPA can be read [here](#).

## STORM BAY

- The first Storm Bay BEMP was published in July 2021 and indicated no evidence to suggest that farming at Huon's Yellow Bluff lease had impacted, system-wide, on the water quality, soft-sediment, and inshore reef habitats of Storm Bay. Full analysis, undertaken by IMAS on behalf of the EPA can be read [here](#).
- The next Storm Bay BEMP (2020/21) is imminently due for release.

## MACQUARIE HARBOUR

- While the marine environment in Macquarie Harbour is complex and unpredictable, growing conditions are conducive to finfish production provided production limits are well controlled and scientifically based.
- The low water exchange characteristics of MH also have relevance to fish health and biosecurity. Huon firmly believes this must also be an important consideration in determining biomass limits. Biomass limits should not be designed to squeeze every last tonne of production out of MH. To be truly sustainable there must be element of precaution in the biomass limits to acknowledge the well-known complex and unpredictable environment of the Harbour.
- The most recent BEMP undertaken in the Harbour (2020) by [IMAS Report October 2020](#) indicates oxygen concentrations in the middle and bottom waters have remained variable, with most recent surveys showing improved benthic conditions, highlighting that both faunal abundance and the number of species had returned to or were closely approaching the range observed prior to the decline in spring 2016-early 2017 at the majority of both lease and external sites. Additional information including FRDC research can be found [IMAS Publications & Resources](#) (search under Salmon)

