



ENVIRONMENTAL MONITORING

- Aquaculture, like all farming practices, has the potential to impact the environment through the introduction of nutrients, which is why Huon supports the continuous, rigorous monitoring of our operations.
- The impact of Huon’s operations on the environment has been the subject of 30+ years of scientific investigation. A variety of reports, surveys and research exists covering a range of potential impacts, from benthic (seabed) changes, near-farm seafloor, and broad scale (far from farm) water quality changes across all three growing zones (Macquarie Harbour, Huon & Channel and Storm Bay). All marine farm and environmental licence conditions are publicly available [via the ListMAP](#)
- Huon complies with a range of environmental monitoring processes; some for the regulator (the EPA), some for compliance reasons (State Government), some for internal purposes while other monitoring is linked to research collaboration (IMAS, CSIRO, FRDC and the Blue Economy CRC).
- As an example of the monitoring undertaken at Huon, every month, under every pen, a survey of the sea-bed is undertaken assessing bacteria, faeces, pellets, sediment (seafloor) colour and condition, and animals including fish, crustaceans and worms.
- Huon was the first agribusiness globally to develop an interactive online [Sustainability Dashboard](#). Data presented on our Dashboard includes wildlife interactions, temperature and dissolved oxygen data, underwater footage, employee figures, and research spend. In recognition of our commitment to real-time data reporting, the Dashboard was awarded the inaugural Contribution to Sustainable Development or Protection of the Environment award at the 2019 TasICT awards.

MARINE OPERATIONS

- Before commencing farming at a new marine site, a **baseline survey** is conducted to establish and document baseline environmental conditions. This process involves looking at approximately 30 ROV (remotely operated vehicle) dive sites within the lease boundary and 34-40 sites outside the boundary. In addition to visual surveys, sediment and core samples are also taken.
- Each operational site is surveyed by ROV every 3-4 weeks and this data, together with the baseline, allow us to monitor any changes in the marine environment to ensure that our farming operations remain compliant with legislation. We also undertake environmental surveys post following.
- On top of our baseline surveys, we also conduct **annual underwater video surveys** for the EPA and for inclusion in our internal reports (this has been an environmental regulatory requirement since 1997 – the regulator can require marine farmers to conduct underwater video surveys more frequently). During these surveys, we record everything we see on the seafloor and make written observations to accompany the video findings. In our observations, we look at the physical properties of the floor, what species are present, and whether there are any fish feed pellets, or fish



faeces visible. We also send GPS files to show where our reports are based down to the metre, and our ROV files.

- Conducting annual surveys has allowed us to collate a comprehensive record of the history of Huon's interactions with the environment in which we operate. This has allowed us to better plan our following process, understand our environment and innovate our practices to continually minimise the impact of Huon's farming activities to the natural environment.

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 has long been the only fish farm monitoring program in the world assessing effects outside Allowable Zone of Effect (AZE's) or close to/inside the farm boundaries.
- Data is independently collected and evaluated by [IMAS](#) and 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 undertaken 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

NITROGEN INPUTS

- Aquaculture, like all farming practices, has the potential to impact the environment through the introduction of nutrients; nitrogen in particular can have an impact as it can impact the productivity of coastal marine systems. Nitrogen enters the environment from excess feed pellets, faeces and urine.



- In accordance with the Huon/Channel nutrient inputs from the farmed salmon industry are regulated through a feed cap, while in Macquarie Harbour there is a maximum permissible biomass limit. State Government are still determining appropriate nutrient cap for Storm Bay (Dec 2021).

FRESHWATER OPERATIONS

- Huon uses Splashback, a data management software, to share environmental monitoring data from freshwater hatchery sites across the company with the EPA; as the data is loaded into the system it is instantly accessible by the EPA (also used to share data from our PMC processing facility with the EPA). Wastewater produced at our processing facility is also recorded (and accessible by the EPA) in Splashback. The use of this software is not a condition of our environmental licences with the EPA yet Huon has recognised the benefit of sharing information.

LEGISLATION

- The Tasmanian salmon industry is heavily regulated, adhering to hundreds of pieces of legislation, both State and Federal, as well as local government conditions. As part of the approval process any new application for a farming lease must be assessed against the Federal Environment Protection and Biodiversity Conservation Act (to ensure the protection of any threatened or vulnerable species).
- The Tasmanian salmon industry is assessed as a Level 2 Activity under EMPCA – the same as oil refineries, pulp and paper works and mines. No other farmer including any other aquaculture industry in Tasmania is assessed as Level 2. There is no legislation or statutory regulation (whether active, amended or repealed) that requires public reporting of stock mortalities across any agricultural industry in Tasmania however, in accordance with our licence conditions we report in real time, to both the State Government (EPA, DPIWPE and Office of Chief Veterinarian) and RSPCA in relation to fish mortalities.

