



Incident Investigation Summary

Overview

- There are currently five pens on the aquaculture lease, three pens were stocked with 20,000 farmed Yellowtail Kingfish in Providence Bay, two remained unstocked
- A severe storm event from 14-18 January 2018, led to the escape of fish from one of the three pens
- Recovery efforts are ongoing, with 5,000 farmed Yellowtail Kingfish recaptured
- Investigation into the incident suggests that biofouling and particular large barnacles led to the damage of sea pen nets. These barnacles are more robust and quicker growing than barnacle species in Tasmania, where Huon's operations have withstood similar weather conditions
- Huon is taking steps to regularly inspect the remaining pens and address future risk by updating cleaning procedures as part of the trial
- NSW DPI and Huon will be implementing the recommendations of the full investigation report

Status of Marine Aquaculture Research Lease

The Marine Aquaculture Research Lease (MARL) is located in Providence Bay, 6km offshore between Cabbage Tree and Broughton Islands. It is a five-year trial research project between the NSW Department of Primary Industries (NSW DPI) and Huon Aquaculture (Huon) and commenced operations in August 2016. The objective of the project is to assess the viability and sustainability of Yellowtail Kingfish aquaculture in sea pens. One research area is to test the design and structural stability of current sea pen infrastructure and their suitability to the high energy environment of coastal NSW.

NSW DPI is the lease holder and is responsible for production of Yellowtail Kingfish fingerlings at Port Stephens Fisheries Institute, numerous research projects relating to feed development, hatchery production technology and environmental performance. Huon purchase fingerlings from NSW DPI, provide all associated infrastructure and servicing equipment and manage operations at the MARL. Huon's land base is in the Shearwater Estate, Taylors Beach. Huon maintains ownership of fish once transferred from the PSFI and will sell them once harvested.

The project was approved at a State and Commonwealth level after the preparation of an Environmental Impact Statement (EIS) for a State Significant Infrastructure application and then another EIS for a Modification Application to move the leases offshore into deeper waters to accommodate new sea pen technology. Both applications underwent extensive stakeholder consultation and are publically available online. Additionally, nine management plans were prepared and approved including: construction; emergency; water and seabed environmental monitoring; marine fauna; health management; waste; and community engagement.

Performance against these plans is independently monitored by the University of Newcastle.

NSW DPI and Huon regularly publish reports on the performance of the MARL, including;

- Stakeholder updates;
- Independent environmental monitoring results on water quality and seabed condition undertaken by the University of Newcastle;
- Video transects from under the sea pens within the lease area and around the lease area; and
- Annual Environmental Management Report, approved by the NSW Department of Planning and Environment

Incident Details

Between 14 and 18 January 2018 the weather experienced at the site of the MARL was severe, with strong southerly winds and large south to south east swells. This severe weather event was caused by two low pressure systems off the east coast of NSW. The Maximum wave height recorded at the Crowdy Head wave buoy 16th January was 11.27 m, with significant wave heights peaking at 5.35m from the SSE. The Sydney wave buoy also recorded similar conditions.

At the time of the incident there were five sea pens on site with three stocked with Yellowtail Kingfish, totalling 60,000 farmed fish on site.

Inspections were undertaken once safe, and revealed one of the five sea pens (1602) was seriously damaged, resulting in the escape of 20,000 farmed Yellowtail Kingfish.

NSW DPI and Huon Response

Huon immediately notified NSW DPI of the damaged infrastructure following the initial inspection by Huon employees on Thursday 18 January 2018 and commenced securing damaged lease infrastructure.

It was agreed that the Emergency Protocol would be enacted at that time. NSW DPI and Huon jointly notified key stakeholders and media on 19 January 2018.

An incident investigation was undertaken by an Independent Investigation Facilitator in conjunction with NSW DPI and Huon. An investigation team was assembled to conduct site visits, review the incident background and the processes leading up to and following the incident. Key persons were interviewed to gather data that considers People, Environment, Equipment, Procedures and Organisational factors that may have influenced this incident.



Department of Primary Industries



By 25 January 2018, a large number of recreational and commercial fishers were frequenting the area around the lease, resulting in safety concerns for investigators and staff responding to the incident.

Despite efforts of NSW DPI, Roads and Maritime Service and Water Police to provide advice and to keep fishers away from recovery efforts, the volume of traffic within the lease area hindered efforts and was a hazard to workers and divers. Recreational fishermen were not adhering to the minimum separation distance of 60m from divers in the water.

In order to enact the Emergency Protocol safely, a temporary Section 8 Fishing Closure under the *Fisheries Management Act 1994* was put in place on the lease. The temporary fishing ban was initially in place up until, and including, the 7 February 2018. Given ongoing recovery and fish recapture efforts the temporary closure was extended until 28 February 2018.

Advice on the closure was posted at boat ramps, Commercial Fishermen's Co-op and tackle shops, along with Facebook, online postings and Officers also provided on water advice.

Huon recapture efforts were conducted using pole and line with barbless hooks. To date, more than 5,000 escaped fish have been recaptured.

Huon is also investigating:

- Feed inducement to recapture fish;
- Netting; and
- Trapping options.

Key findings

As part of the MARL EIS, Huon engaged independent modelling experts from Norway to identify the engineering specifications for Providence Bay. This was based on data collected from a current and wave buoy located by Huon in Providence Bay and back casting Bureau of Meteorology Data.

The results of this modelling indicated that the infrastructure could withstand significant wave heights of 8.5m from the south and 6.5m from the south east.

The investigation found that the biofouling growth led to damage of sea pen 1602 in two key ways:

- The barnacles, which appear to have caused damage to a number of ropes, led to the remaining ropes holding the nets becoming overloaded.
- The excessive weight due to the biofouling growth put extra strain on the net rigging once the initial compromised ropes had been severed.

These barnacles are more robust and quicker growing than barnacle species in Tasmania, where Huon's similar operations have withstood similar weather conditions.



Department of Primary Industries



Yellowtail Kingfish are highly mobile and the numbers of fish on the MARL are small in comparison to the wild population.

The escaped fish were in good health being checked regularly by a Veterinarian and are of the same parent stock as wild populations with brood fish being sourced locally.

NSW DPI will be reviewing lease conditions and the matter of safety for workers on the sea pens (and the legacy of hooks/lures left by fishers on mooring and net infrastructure) and also the safety of mariners given submerged infrastructure present.

Actions are underway to complete repairs and implement new operations and maintenance activities to ensure the integrity of the MARL in future.

Further Information

The following links are to the assessment website of the NSW Department of Planning & Environment (DPE) which contains the EIS, DPE assessment report, Consent (determination) and stakeholder consultation information.

MARL

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=5149

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=7537

HUON

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=2029

NSW DPI Site

<http://www.dpi.nsw.gov.au/fishing/aquaculture/starting-up/finfish-aquaculture-lease-modification-application>

Further information regarding Huon's operations at the MARL can be located here:

<https://www.huonaqua.com.au/huon-aquaculture-port-stephens/>

The 2017 Annual Environmental Management Report can be located here:

(https://www.dpi.nsw.gov.au/data/assets/pdf_file/0009/795645/MARL-Annual-Report-2017-pdf.pdf.)