

Kathy Mitchell
Crib Point EES Inquiry and Advisory Committee

Dear Kathy,

RE: CRIB POINT EES SUBMISSION

Thank you for the opportunity for VRFish, the peak body for recreational fishing in Victoria, to comment on the Crib Point Environment Effects Statement (EES).

Recreational fishers have approached VRFish to express their concerns regarding the potential impact of the proposed Gas Import Jetty and Pipeline development on fish stocks, sensitive habitats our fish rely upon and the quality of their fishing experience.

Recreational fishers are strong advocates for the environment of Western Port who seek to improve recreational fishing while supporting measures that continue to improve water quality and habitat.

There is also a great deal of uncertainty expressed by fishers who are looking at AGL to answer critical questions whether this proposed development will have an unacceptable impact on their fish stocks, fish habitats and fishing.

Our submission covers concerns raised relating to coldwater pollution, marine organism entrainment and chlorination.

COLDWATER POLLUTION

Recreational fishers know first-hand the profound impact that water temperature has on fish availability and behaviour. The floating storage and regasification unit (FSRU) will discharge approximately 7°C cooler than the ambient seawater temperature. The modelled information presented indicates the cold water plume will remain in the area of the FSRU before dissipating.

While we accept marine organisms in Western Port used to large seasonal and short-term variations in seawater temperature, an assumption in the EES has been made that fish are mobile and will simply swim away. What has not been considered is the movement behaviours and preferences for fish. The EES has not addressed the risk cold water pollution could act as a thermocline barrier and have a much larger area of avoidance than the worst-case scenario footprint of 20ha. Avoidance behaviour and response must be considered in conjunction with the impact of chlorine discharges.

**Let's make fishing
better, for everyone.**

The EES appears to discount the importance to benthic invertebrate communities in the coldwater plume area on the basis they are distributed across 36,000 ha in Western Port. This conclusion understates any important ecological role benthic invertebrates could play, such as the in the processing of detritus and organic matter from adjacent seagrass meadows – and as prey for fish species.

Overall, the EES has not considered ecological relationships and interdependencies between and has instead taken a simplistic approach and refer to impact in the context of the entirety of Western Port

FISH LARVAE AND PLANKTON ENTRAINMENT

Western Port is a known fish nursery area. The EES has quantified fish larval entrainment of between 20-100 fish larvae per 100m³ of seawater in Spring and Summer. If the FRSU was permitted to operate and at a maximum capacity this equates to 93,600 – 468,000 fish larvae per day. Over a month of continuous peak operations, entrainment could be as high as 14 million fish larvae.

The EES states that “*higher gas production rates are more likely to occur during autumn and winter, when demand for gas for heating is high, and when fish larvae and fish eggs are lower in abundance in Western Port*”. We assume there are a range of factors that could affect gas demand and the EES provides no guarantees that high demand could extend into spring months.

The EES does propose to limit the daily inflow to 312,000 m³ during spring and summer. This equates to 62,400 – 312,000 fish larvae per day, or up to 9.36 million over a month. This is still a vast number of fish larvae that will perish through the entrainment process and would be difficult for recreational fishers to accept, regardless of the species. The EES has not address how the ongoing removal of large numbers of fish larvae will have on fish populations.

The EES has used a theoretical assumption in an attempt to quantify natural fish larvae and plankton mortality. The EES then compare these assumptions against the impact of entrainment from the FRSU. This is a grossly simplistic approach. The reason that many fish species have high numbers of offspring is to ensure that at least a small percentage survives. Plankton density is critical for fish larvae survival. Fish larvae are poor swimmers and in effect need to ‘bump’ into their preferred size prey (plankton) to avoid mortality. Fish larvae settlement is associated with preferred nursery habitat. The EES does not adequately address the impact of entrainment using this assumption and the complex environmental variables that leads to successful recruitment.

The EES does not discuss or quantify the impact of entrainment of marine organisms to the marine food web, particularly to those recreationally important fish species. The 12 month fish larvae sampling data did not record snapper eggs or larvae and detected only small numbers of King George whiting larvae. The sampling however only occurred over a 12 month timeframe so the EES does not consider annual variations in fish larval presence and density.

The EES seeks to locate FRSU intakes below the surface as a mitigation measure, however the EES has not adequately taken into account the diurnal vertical migration of fish larvae.

Chlorination

As a strong oxidant, chlorine does dissipate rapidly creating hypochlorous acid and hypochlorite, then reacting to create hypobromous acid and hypobromite ion. While these are short-lived and not persistent in the environment - however are toxic.

The EES state that 47 kilograms per day would be discharged per day in a peak scenario – or up to 1.4 tonnes over a month. The ESS states that under peak operations 5ha of seabed would be exposed to chlorine concentrations in excess of the CSIRO recommended guideline value for 99% species protection of 6 µg/L.

A concern lies with the complex reactions that does take place creating a numerous chlorination by-products. There is not adequate acknowledgement and assessment of these compounds which can be persistent in the environment and toxic to marine organisms subject to long-term exposures.

The EES does not address how chlorine related toxicants can be exported from FRSU footprint into other sensitive areas.

Overall, the EES provides many assumptions and risk assessment is based upon predictions and modelling. As indicated in our submission there are gaps in the EES that must be addressed. The marine chapter of the EES either oversimplified ecosystem-level impacts or selectively ignored these impacts and risks.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Rob Loats'.

Rob Loats
Chair
Victorian Recreational Fishing Peak Body

26 August 2020