Building Woodfibre LNG in the middle of Herring spawn central is not a good idea.

We can see that Howe Sound is recovering. We hear reports of Orcas, Grey and Humpback whales, and if lucky, see them ourselves. But how much do we know about the recovery? And why does Woodfibre LNG pose a threat to it?

The Squamish River is the biggest source of sediment rich fresh water in Howe Sound.

Squamish

The red lines

often spawn was found

since 2010 in

a location.

Concerned Citizens

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Version-5

Produced by

Rowen

show how

After Herring spawn was noticed in Squamish's estuary & harbour, Herring spawn has been found around the Woodfibre site every year since 2011.

Herring is an important part of the food-chain between plankton and larger fish, marine mammals and birds. This is one of the reasons we see dolphins and whales return to Howe Sound.

Although Woodfibre LNG knew Herring spawn around Woodfibre was documented by a local from Squamish, when deciding what type of cooling system to use for its LNG facility, it used Fisheries & Oceans (DFO) Howe Sound Herring spawn data:
-Data known to be limited in scope, full of time gaps and seriously outdated.

That's why its solution for cooling system and water intake are only acceptable for a location without Herring spawn. The problem is, there is Herring spawn, and the water intake should be at least 2 kilometers away from the spawn, not 50 meters as now proposed.

The Once Through Cooling system will suck up nutrient rich Howe Sound water, filter it, chlorinate it to kill remaining sea-life and use it to cool the part that needs cooling. Its daily thirst is enough to fill 163 Olympic sized swimming pools (408 million liters or 108 million gallons) of seawater.

DFO 2 km exclusion zone for water intakes. Center circle at Woodfibre.(*)

The red lines show how often spawn was found since 2011 in a location.

Defense

Islands

Woodfibre Squamish river water flow

The map shows that nutrient rich Squamish river water flows south, is deflected west towards Wooddfibre, where it bends south and flows along the west shore down south(1). Is this the reason why Herring spawn is being found around the Woodfibre site

(1) Surface Currents upper Howe Sound (Buckley, 1977)

since 2011?

Howe Britania
Beach

*When Herring spawn is present in an area, DFO's Guidelines for Seawater intakes in BC say: -'Seawater intakes are to be located 2 km or more away from documented Herring Spawn areas. Distances less than 2 km away could pose a serious risk to Herring and other marine fish larvae which have little or no swimming ability.'

Coming out of the cooling cycle, the water is de-chlorinated and spewed back into Howe Sound, 10 degrees warmer than it was when sucked in. This would go on day-in day-out for 25 years. The proposed discharge location is only 50 meters away from documented Herring spawn.

Sources: -Pacific Herring Spawn Surveys – 2010- 2015 - Howe Sound North - John Buchanan | -Guidelines for Minimizing Entrainment and Impingement of Aquatic organisms at Marine Intakes in B.C.'(DFO-Fedorenko,

1991). | -Woodfibre LNG Application for an Environmental Assessment Certificate January 2015 - Section 5.18. | -Woodfibre LNG Herring Survey Summary Report- Hemmera - May 2015) | Woodfibre LNG Project: Response to the Seawater Cooling System Intake Information Request - (Hemmera 2015).