MUSSEL CONDITION INDEX AND LARVAE MONITORING

Weekly Bulletin

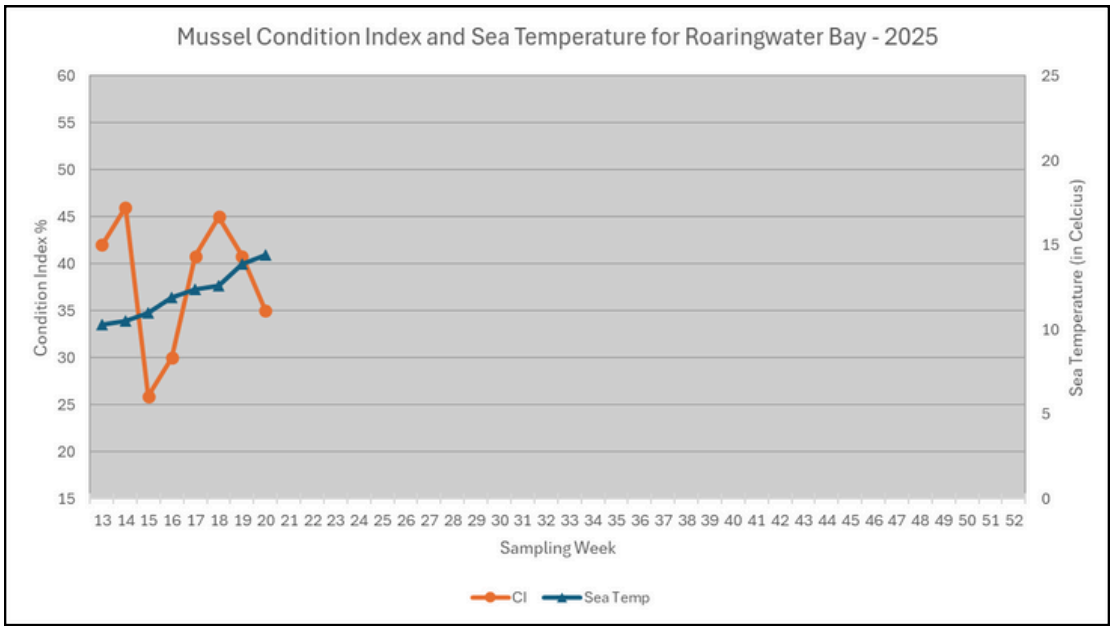
Roaringwater Bay

Southwest Mussel Larvae sampling

19th May 2025

Week 20 (12/05/2025 to 18/05/2025)

Condition Index (CI) for Roaringwater Bay



The Condition Index in Roaringwater decreased by 5.2% between Week 19 and Week 20, to 35 %. The sea temperature has increased by 0.5°c to 14.4°c. The Aquatroll deployed in the bay (in 3 m of water) recorded **16.1°c on the 18th May (12:44).**

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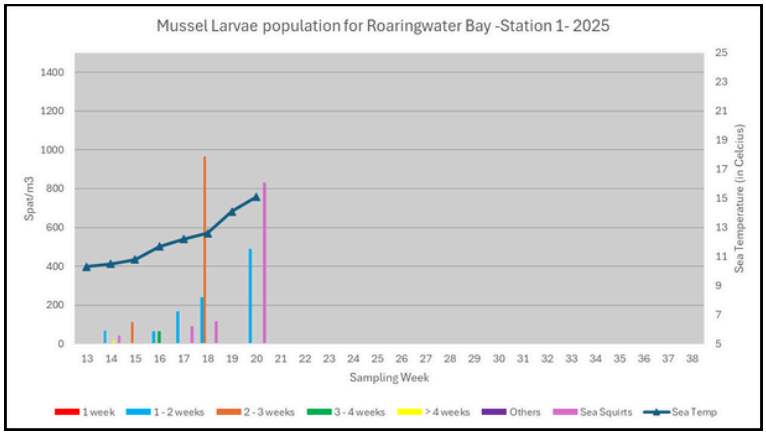
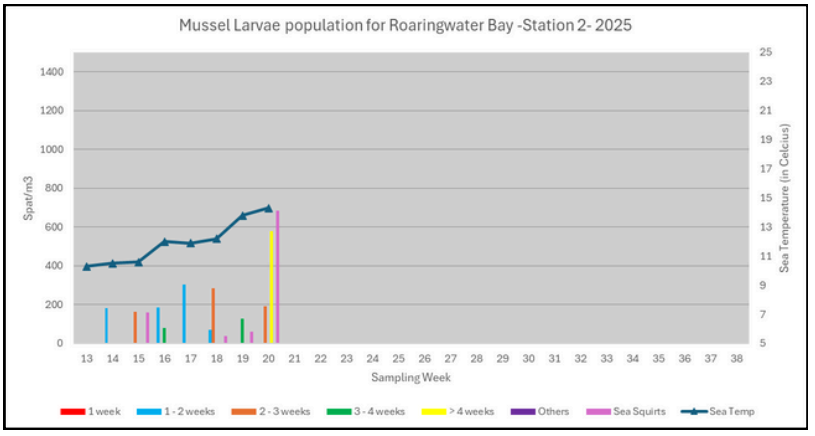
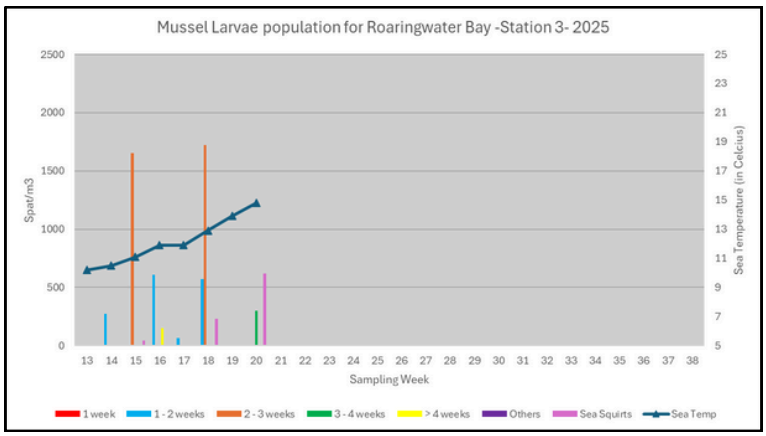
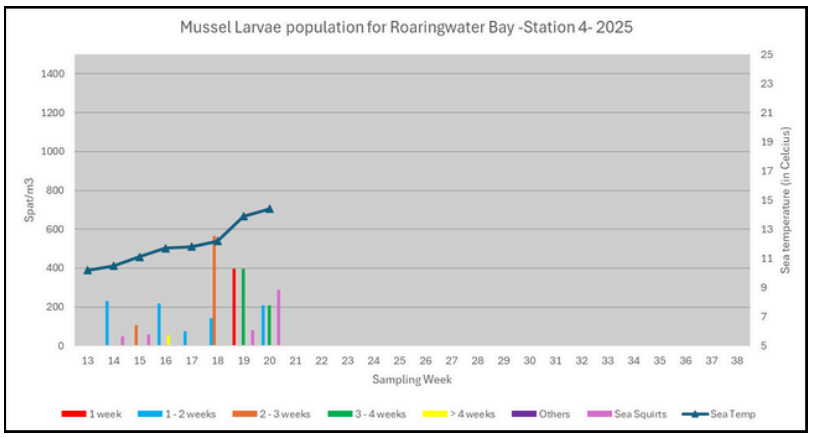
Larvae population evolution in Roaringwater Bay (4 stations)

For each sample, mussel larvae are classed by age: 1 week old, 1 to 2 weeks old, 2 to 3 weeks old, 3 to 4 weeks old, over 4 weeks old and others (younger or older).









Commentary

In comparison with Week 19, there was an increase in the larvae numbers at Stations 1,2 and 3, while a small decrease was observed at Sation 4. Station 2 had the largest number which reached 773 spat/m^3 composed of 75% of 4 to 6 weeks old larvae and 25% of 2 to 3 weeks old.

All stations were dominated by older classes larvae (between 3 to 6 weeks old), this could indicate a possible settlement in the next week or less (Week 21).

The sea temperature significantly increased between +0.5 to +1°c for all the sampling stations (+1°c for Station 1, +0.5°c for Station 2, +0.9°c for Station 3 and +0.5°c for Station 4).

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Further observations from analysis :

- Station 1: **The concentration of sea squirts increased to 833 individuals/m^3** (highest so far this year). Copepods, barnacles and crabs larvae were present at low levels. The sample also indicated a low amount of Chaetoceros sp.

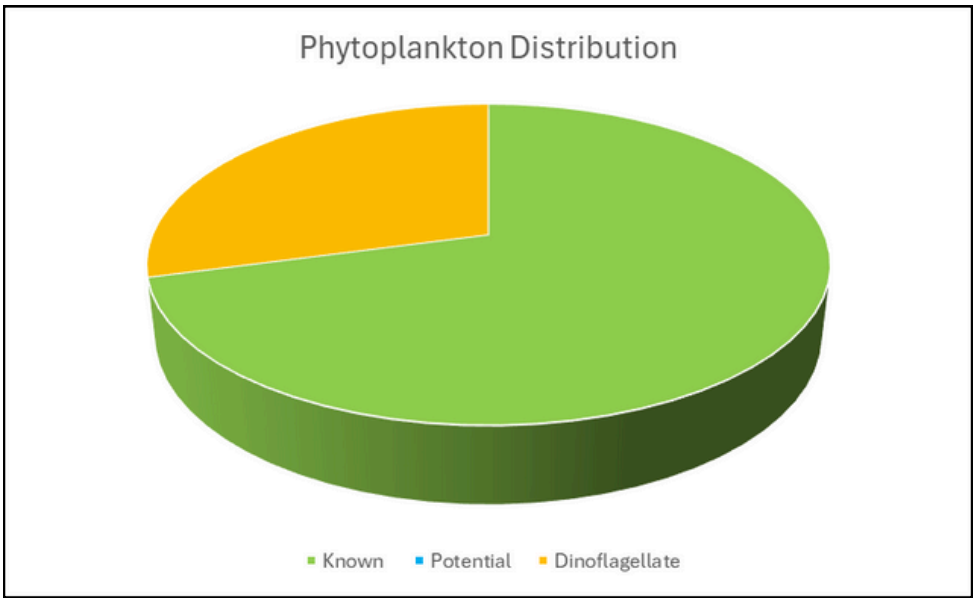
- Station 2: Sea squirts were present at 684 individuals/m^3. Copepods, barnacles, winkles and sea matting concentrations were low. Chaetoceros sp. halochaete was the dominant species of phytoplankton, although it was only present at a moderate level.

- Station 3: The concentration of sea squirts was 622 individuals/m^3. Copepods, barnacles, starfish, urchins and crabs larvae were present at low levels in the sample. Rhizosolenia, Pseudo-nitzschia seriata and Chaetoceros sp. were present at low concentrations with the latter one being dominant in the sample.

- Station 4: The concentration of sea squirts was 288 individuals/m^3 squirts. Copepods, crabs, shrimps and barnacles were observed in moderate concentrations. Chaetoceros sp was at moderate levels.

The peak of sea squirt larvae coincides with a potential mussel settlement, this could have a significant impact on the fouling of the collector ropes.

The phytoplankton concentration was very low. The sample was composed of known suitable food species for larvae (71%) and dinoflagellate (29%). Levels of Chlorophyll A on the Aquatroll are still very low too.



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Summary Tables

Condition Index for the last 5 weeks

SAMPLING WEEK	CONDITION INDEX %	WATER TEMPERATURE (°C)	CI VARIATION	SEA TEMEPRATURE VARIATION
WEEK 16	25.9	11.9	+4.1	+0.9
WEEK 17	40.84	12.4	+10.84	+0.5
WEEK 18	45	12.6	+4.16	+0.2
WEEK 19	40.8	13.9	-4.2	+1.3
WEEK 20	35	14.4	-5.8	+0.5

Larvae population distribution for the 4 sampling Stations:

Week 17	Spat/m3	Larvae Stage	Sea Temperature	Sea Squirts/m3
Roaringwater Bay 1	490	1 to 3 weeks	15.1	833
Roaringwater Bay 2	773	75% 4-6 wks, 25%2-3 wks	14.3	684
Roaringwater Bay 3	301	3-4 wks	14.8	622
Roaringwater Bay 4	415	50% 1-2 wks, 50% 3-5 wks	14.4	288

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