MUSSEL CONDITION INDEX AND LARVAE MONITORING

Weekly Bulletin

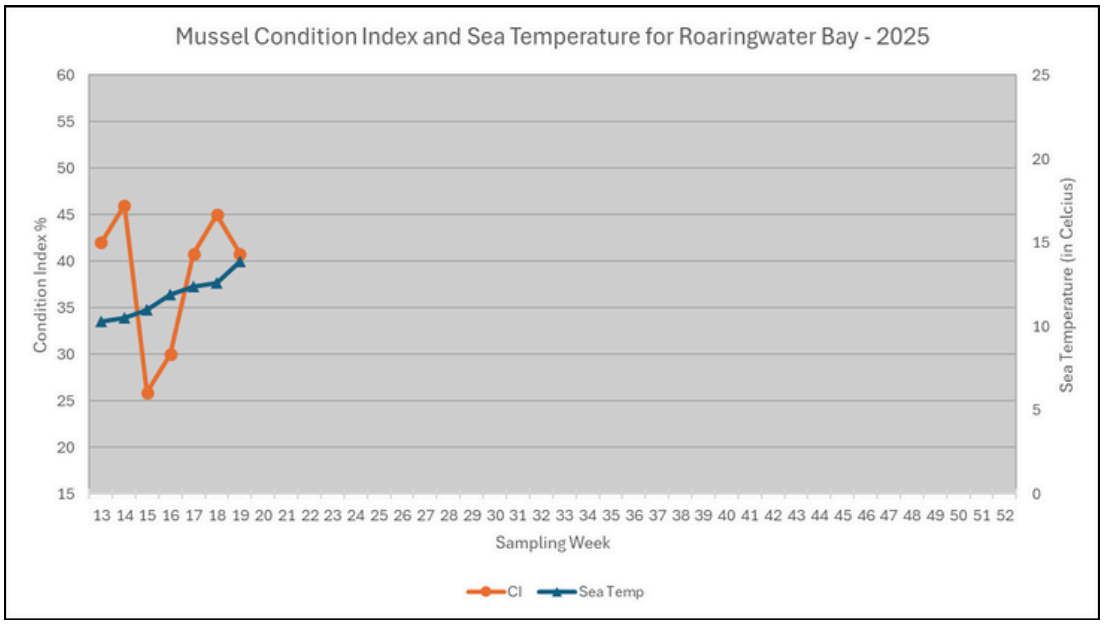
Roaringwater Bay

Southwest Mussel Larvae sampling

12th May 2025

Week 19 (05/05/2025 to 11/05/2025)

Condition Index (CI) for Roaringwater Bay



The Condition Index in Roaringwater decreased by 4.2% between Week 18 and Week 19, to 40.8%. The sea temperature has increased by 1.3°c to 13.9°c. The Aquatroll deployed in the bay (in 3 m of water) recorded **15.3°c on the 11th May.**

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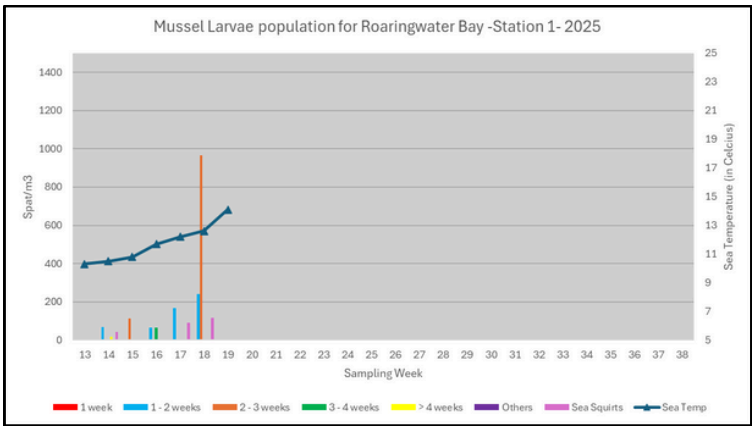
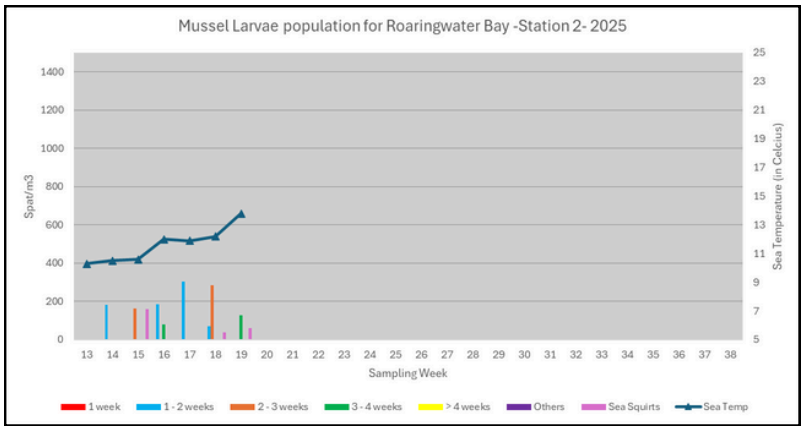
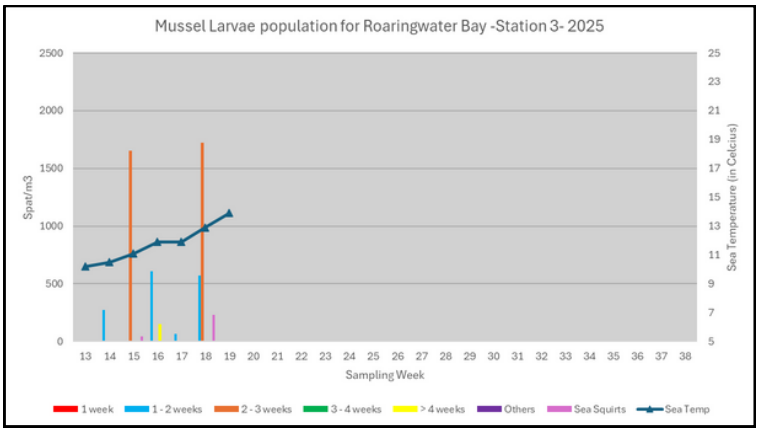
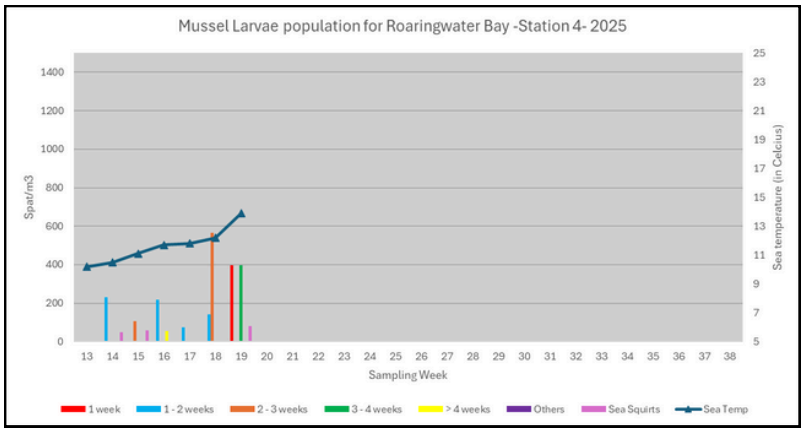
Larvae population evolution in Roaringwater Bay (4 stations)

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). All 4 stations were sampled on the same day (09/04/2025).









Commentary

The amount of larvae across the stations was low with no larvae for Stations 1 and 3, although, significant quantities of larvae were observed on Week 18 for both locations. Only 129 spat/m^3 (3 to 4 weeks old) were observed at Station 2. The highest number was observed at Station 4 with 792 spat/m^3 divided equally between 1 week old (396 spat/m^3) and 3 to 4 weeks old (396 spat/m^3).

The sea temperature significantly increased by +1°c for all the sampling stations (+1.5°c for Station 1, +1.6°c for Station 2, +1°c for Station 3 and +1.7°c for Station 4).

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Further observations from analysis :

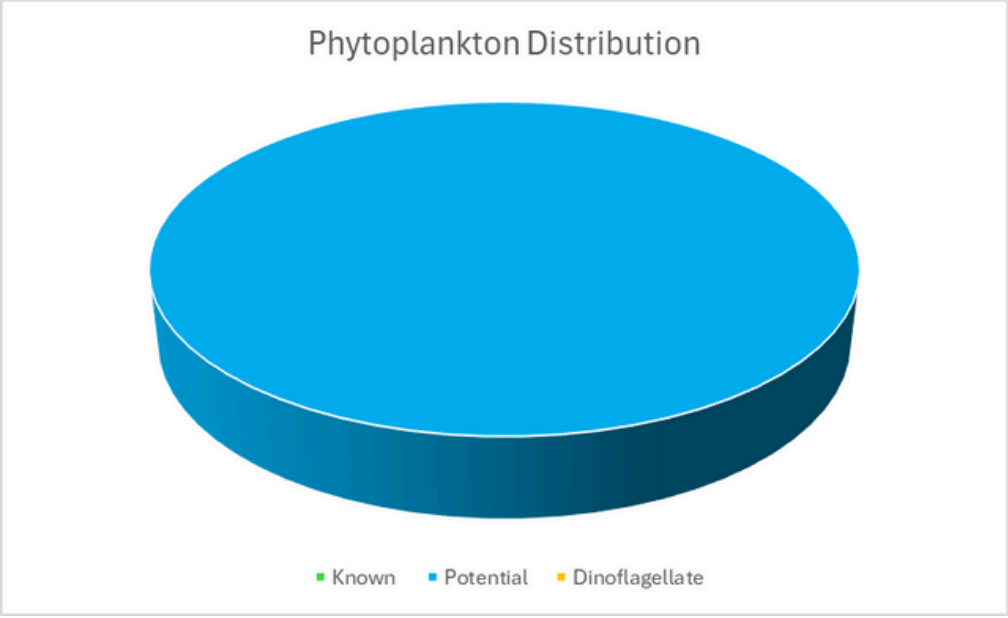
- Station 1: No sea squirts were observed in the sample while concentrations of copepods, crabs and barnacles were low. Chaetoceros sp. was present in moderate concentration.

- Station 2: 61 sea squirts /m^3 were observed in the sample. Levels of copepods, barnacles and crab larvae were moderate. There was a high concentration of a type of egg (not mussels). Again, Chaetoceros sp was in moderate concentration.

- Station 3: The sample presented high levels of barnacles and crab larvae and a moderate level of copepods. **A high concentration of juvenile tubeworm was observed**. Again the concentration of eggs (not mussel) was high. There was no sea squirt in the sample. Chaetoceros and s.costatum species were in low concentrations.

- Station 4: The sample presented a sea squirt concentration of 81 individuals/m^3. The concentrations of copepods, crabs and barnacles were moderate. Again the concentration of eggs (not mussel) was high. The Chaetoceros sp. concentration was low.

- The phytoplankton concentration from the sample taken in Week 19 is still low (29,650 cells/ litres) which is a slight increase from the previous week. The sample was exclusively composed of species potentially suitable food for larvae (100%). Levels of Chlorophyll A on the Aquatroll were also low despite a very small increase between April 28th and May 3rd.



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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 15	25.9	11	-20.1	+0.5
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	1.9	-4.2	+1.3

Larvae population distribution for the 4 sampling Stations:

Week 17	Spat/m3	Larvae Stage	Sea Temperature	Sea Squirts/m3
Roaringwater Bay 1	0	na	14.1	0
Roaringwater Bay 2	129	3-4 wks	13.8	61
Roaringwater Bay 3	0	na	13.9	0
Roaringwater Bay 4	792	50% 1wk, 50% 3-4 wks	13.9	81

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