MUSSEL CONDITION INDEX AND LARVAE MONITORING

Weekly Bulletin

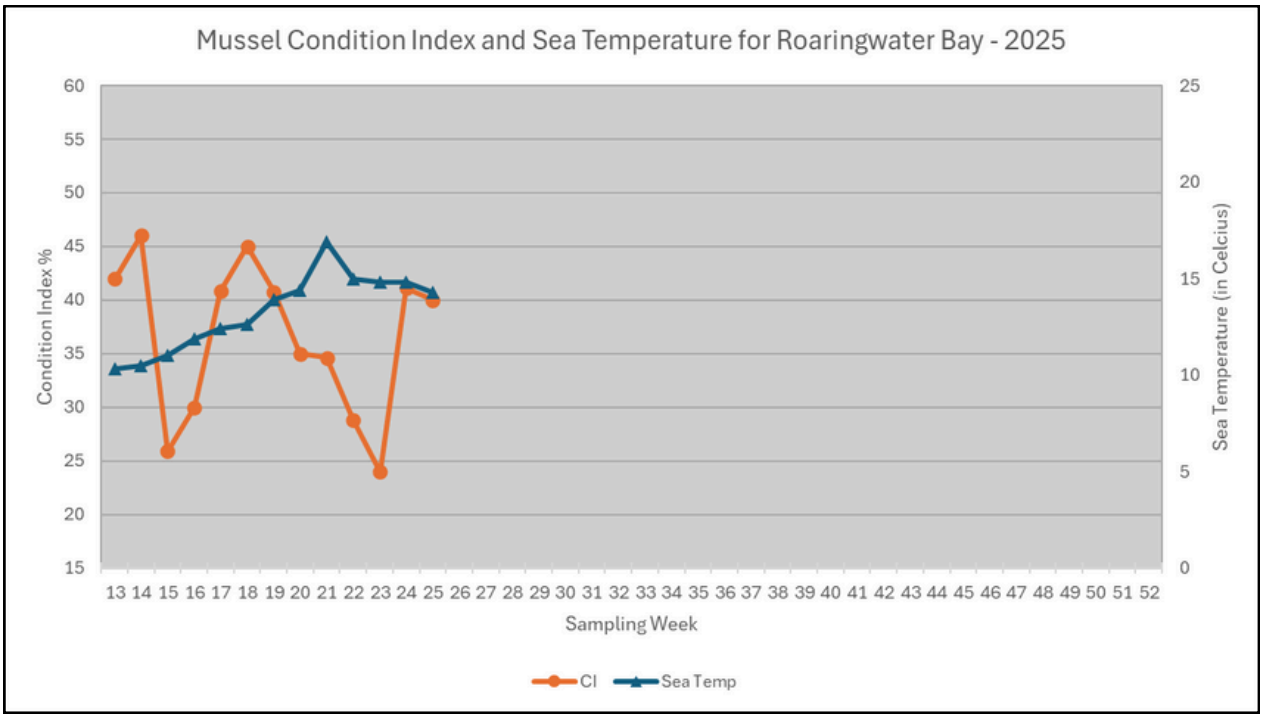
Roaringwater Bay

Southwest Mussel Larvae sampling

23rd June 2025

Week 25 (16/06/2025 to 22/06/2025)

Condition Index (CI) for Roaringwater Bay



The Condition Index in Roaringwater has slightly decreased from Week 24 (down to 40%), while the sea temperature also dropped by 0.5°c to 14.3°c. The Aquatroll deployed in the bay recorded sea temperature varying from 13.5 to 16°c during the sampling period.

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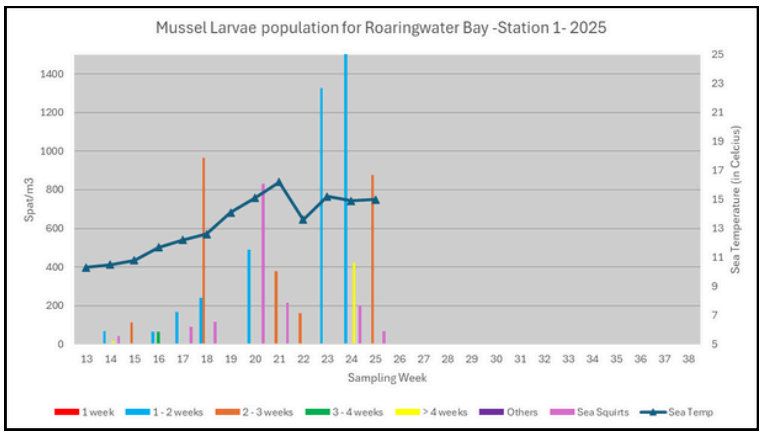
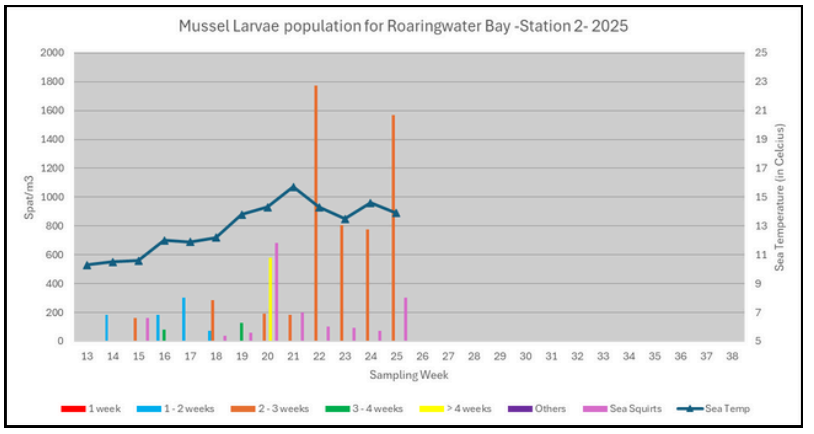
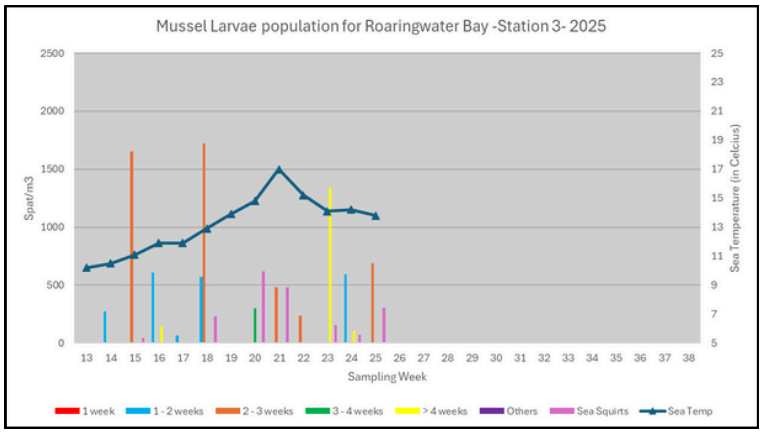
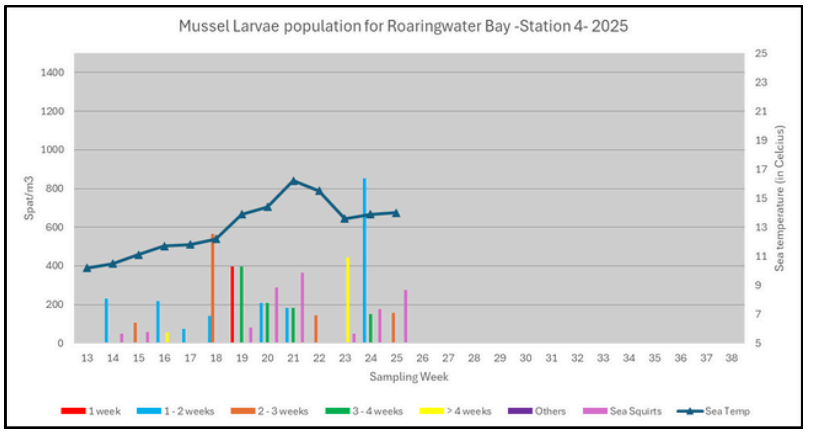
Larvae population evolution in Roaringwater Bay (4 stations)

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

Although the overall quantity of larvae decreased slightly from Week 24 (down to 3,288 spat/m^3), **Station 2 presented a significant increase (from 776 to 1569 spat/m^3)**. The larvae age class across the 4 stations was 2 to 3 weeks old. Station presented a reduction of larvae numbers, but the age class increased from Week 24. Station 3 and Station presented a similar pattern (decrease of the number of larvae but age class increase). This could indicate that those larvae are remaining in the area and growing.

The sea temperature for the 4 stations is stable (-0.1°c for Station 1, -0.7°c for Station 2, -0.4°c for Station 3 and +0.1°c for Station 4).

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Further observations from analysis:

- Station 1: the sample presented a sea squirt concentration of 68 ind./m^3, moderate levels of sea urchin and starfish. The copepods concentrations were very low. There were also low potential eggs (1-2 days). The level of phytoplankton in the sample were high with Chaetoceros and P.n. seriata being the dominant species.

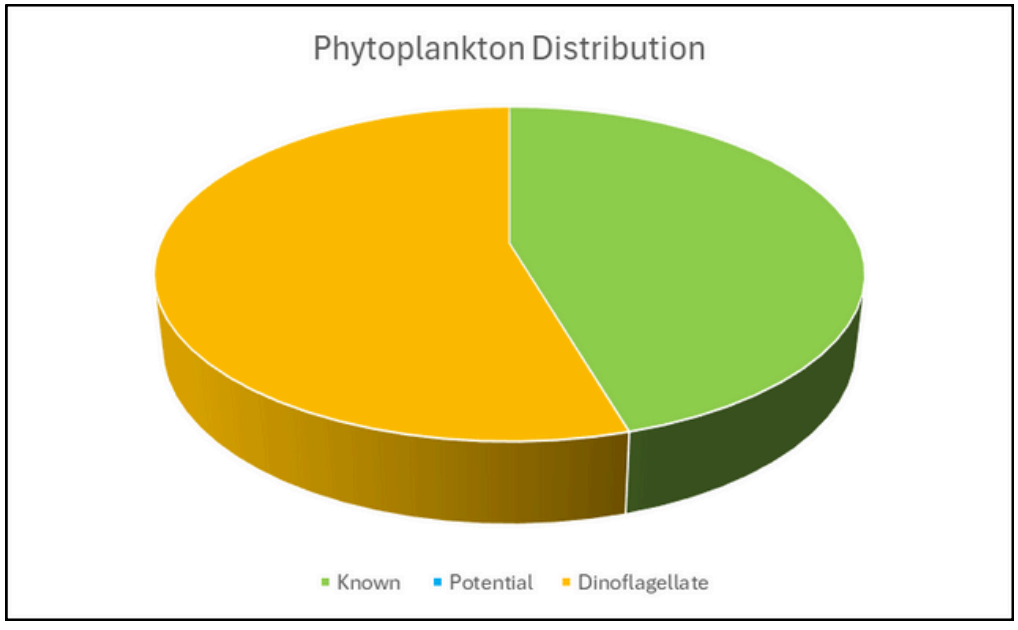
- Station 2: The sea squirt concentration in the sample was 304 ind./m^3, with also very low levels of copepods. Again, the levels of phytoplankton were high with Chaetoceros and P.n. seriata grp dominant and low levels of Coscinodiscus.

- Station 3: The sample presented a similar profile with 308 squirts/m3 and very low copepods. High levels of phytoplankton with P.n. seriata group, Thalassiosira and Chaetoceros sp. dominant.

- Station 4: As per Stations 2 and 3, the sample presented a significant concentration of sea squirts larvae (277 ind./m^3) and very low copepods levels. The phytoplankton level was high again Chaetoceros sp. H and P.n. seriata dominant.

Stations 2,3 and 4 presented elevated concentrations of sea squirts from the previous weeks, this could produce significant fouling on collectors and growing ropes.

The phytoplankton concentration is down (880) from the previous week (8040 cells per litre) composed at 45% of known food source and 55% of dinoflagellate (reflecting results from the samples).



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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 21	34.6	16.9	-0.4	+2.5
WEEK 22	28.8	15	-5.8	-1.9
WEEK 23	24	14.8	-4.8	-0.2
WEEK 24	41.1	14.8	+17.1	0
WEEK 25	40	14.3	-1.1	-0.5

Larvae population distribution for the 4 sampling Stations:

Week 24	Spat/m3	Larvae Stage	Sea Temperature	Sea Squirts/m3
Roaringwater Bay 1	875	2 to 3 weeks	15	68
Roaringwater Bay 2	1569	2 to 3 weeks	13.9	304
Roaringwater Bay 3	688	2 to 3 weeks	13.8	308
Roaringwater Bay 4	15615	2 to 3 weeks	14	277

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