MUSSEL CONDITION INDEX AND LARVAE MONITORING

Weekly Bulletin

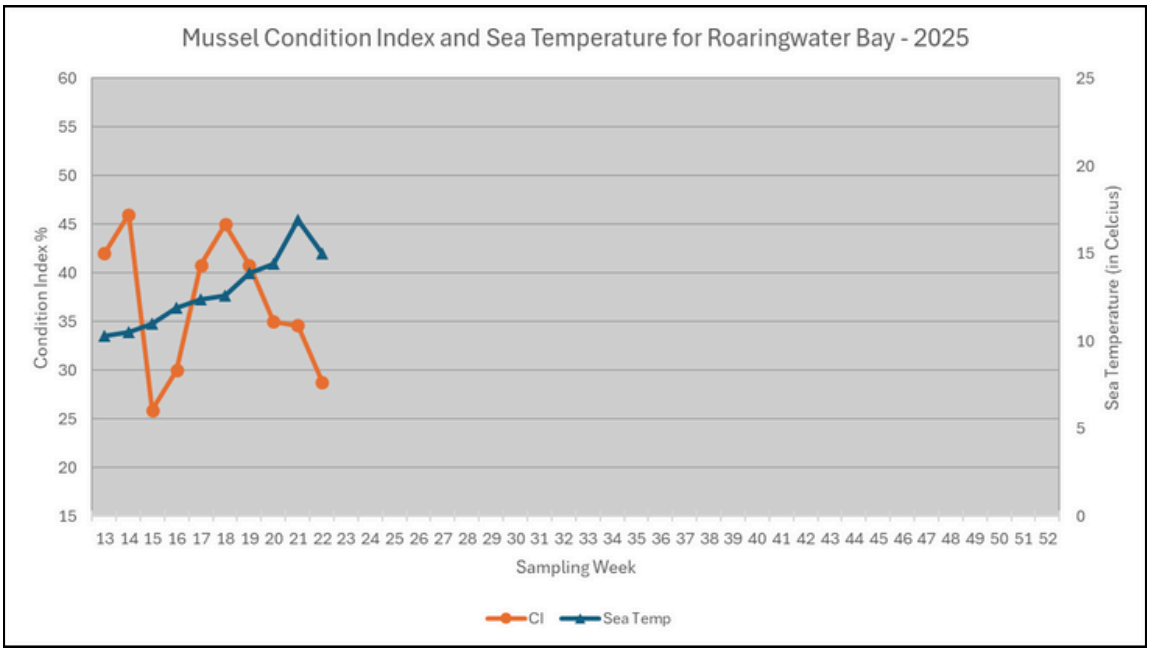
Roaringwater Bay

Southwest Mussel Larvae sampling

4th June 2025

Week 22 (26/05/2025 to 1/06/2025)

Condition Index (CI) for Roaringwater Bay



The Condition Index in Roaringwater has dropped significantly to 28.8 % (-5.8% from Week 21). The sea temperature decreased by 1.9°c to 15°c. The Aquatroll deployed in the bay (in 3 m of water) recorded 15.78°c on the 28th May (12:44).

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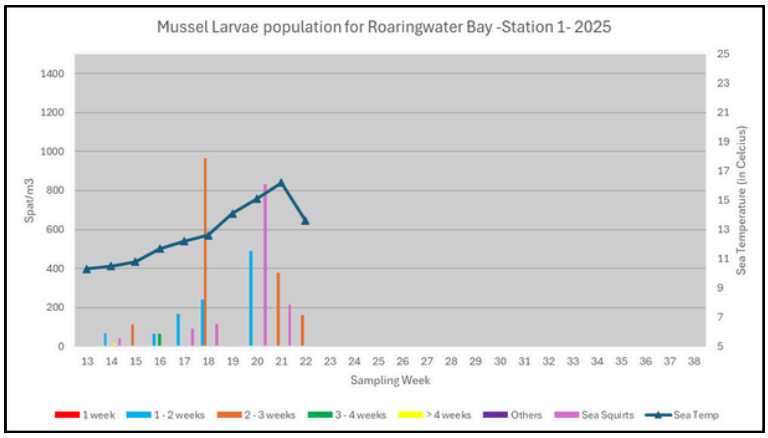
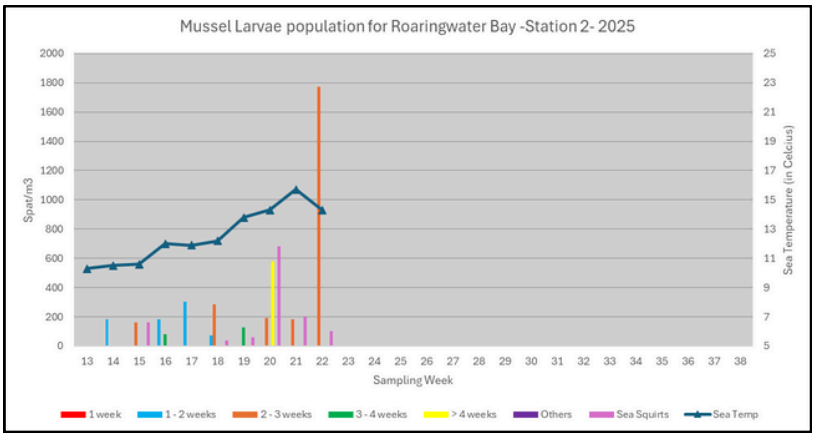
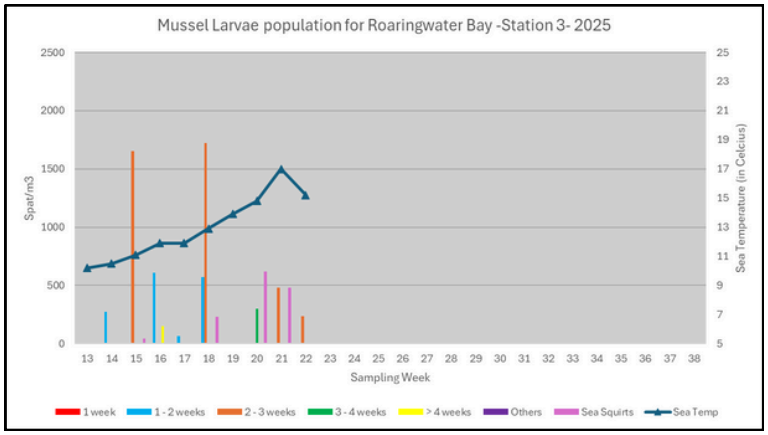
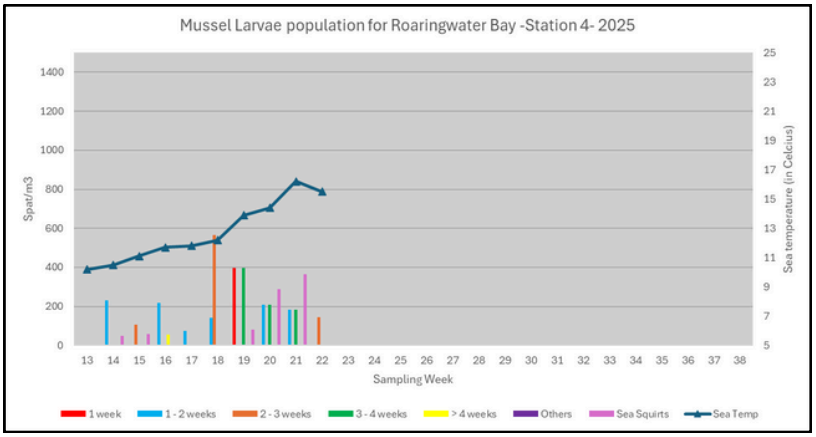
Larvae population evolution in Roaringwater Bay (4 stations)

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

There was a decrease in the larvae numbers for Station 1, 3 and 4 with respectively 161 spat/m^3 of 2 to 4 weeks old larvae, 237 spat/m^3 of 2 to 3 weeks old and 144 spat/m^3 of 2 to 4 weeks old. However, **a large increase of larvae was observed at Station 2 (1774 spat /m^3 of 2 to 4 weeks old)**, this is the highest concentration recorded across the 4 stations this year so far.
The consistent decrease in the CI since Week 18, likely due to spawning, could explain this significant increase of the larvae population.

The sea temperature decreased for all the sampling stations (-2.6°c for Station 1, -1.4°c for Station 2, -1.8°c for Station 3 and -0.7°c for Station 4).

Considering that 2 to 4 weeks old larvae were observed in most sample, it is possible that settlement could be expected in the next 2 to 3 weeks.

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Further observations from analysis:

- Station 1: No sea squirts were observed in the sample. Copepods were in high concentration. Rhizosolenia and L. danicus were observed in high concentration in the sample and were the dominant phytoplankton species.

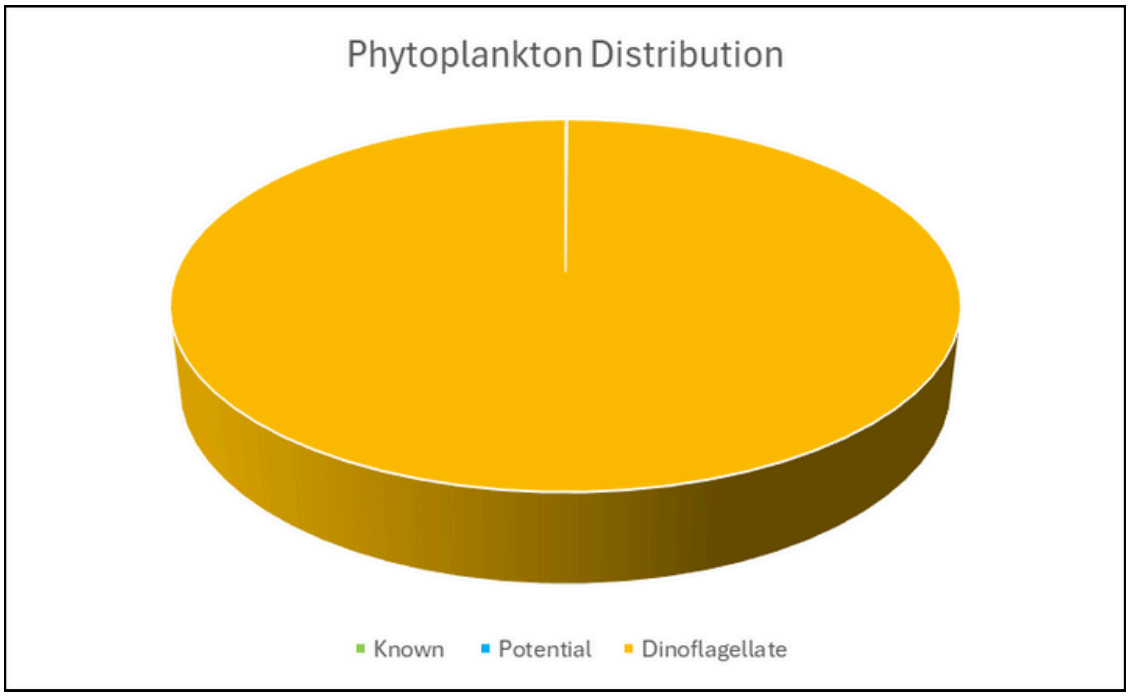
- Station 2: The sample presented a moderate level of sea squirt with 102 ind./m^3. Sea matting, barnacles and crab were in low levels. The phytoplankton levels in the sample were high with Rhizosolenia sp. mixed and L. danicus being the dominant species.

- Station 3: No sea squirts were observed in the sample. Copepods were in moderate concentration. Phytoplankton levels in the sample were moderate with Rhizosolenia and L. danicus dominating the species.

- Station 4: No sea squirts were observed in the sample. Phytoplankton levels in the sample were high with Rhizosolenia and L. danicus dominating the species.

The decrease in the sea squirt larvae concentration across the stations could indicate that they have settled. Considering possible a mussel settlement in the coming weeks, substantial fouling on the collectors could be expected.

The phytoplankton concentration has substantially increased from the previous week (up to 132,680 cells per litre). The sample was composed mainly of dinoflagellate (100%).



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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 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
WEEK 21	34.6	16.9	-0.4	+2.5
WEEK 22	28.8	15	-5.8	-1.9

Larvae population distribution for the 4 sampling Stations:

Week 17	Spat/m3	Larvae Stage	Sea Temperature	Sea Squirts/m3
Roaringwater Bay 1	161	2 to 4 weeks	13.6	0
Roaringwater Bay 2	1774	2 to 4 weeks	14.3	102
Roaringwater Bay 3	237	2 to 3 weeks	15.2	0
Roaringwater Bay 4	144	2 to 4 weeks	15.5	0

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