MUSSEL CONDITION INDEX AND LARVAE MONITORING

Weekly Bulletin

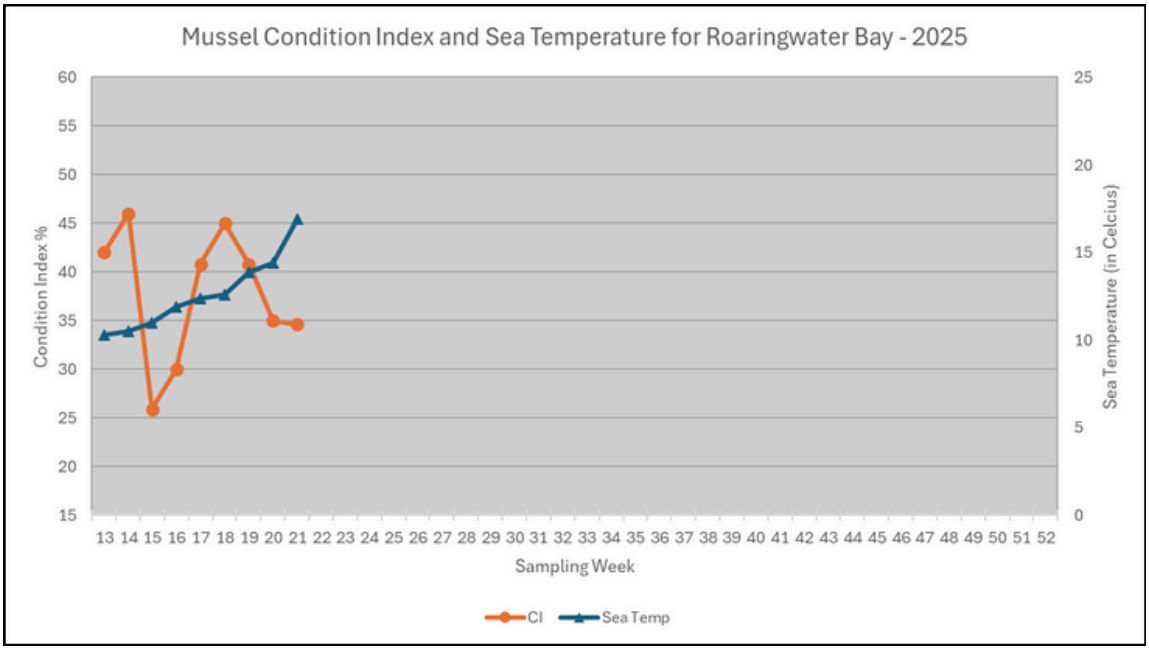
Roaringwater Bay

Southwest Mussel Larvae sampling

26th May 2025

Week 21 (19/05/2025 to 25/05/2025)

Condition Index (CI) for Roaringwater Bay



The Condition Index in Roaringwater is stable at 34.6 % (-0.4% from Week 20). **The sea temperature has increased by 2.5°c to 16.9°c**. The Aquatroll deployed in the bay (in 3 m of water) recorded **17.4°c on the 23rd May (17:24).**

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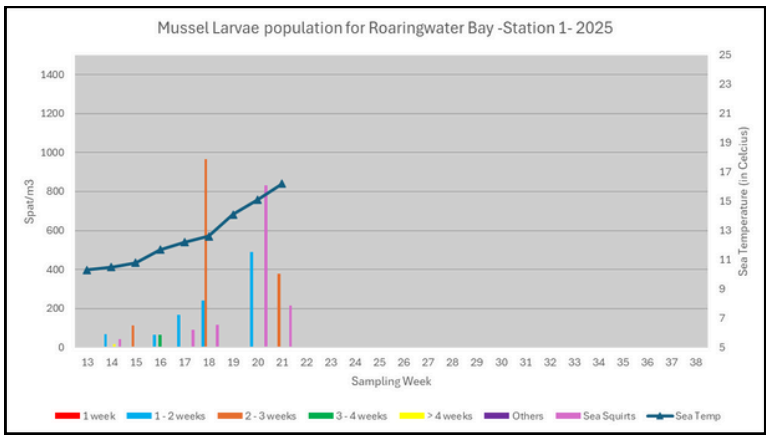
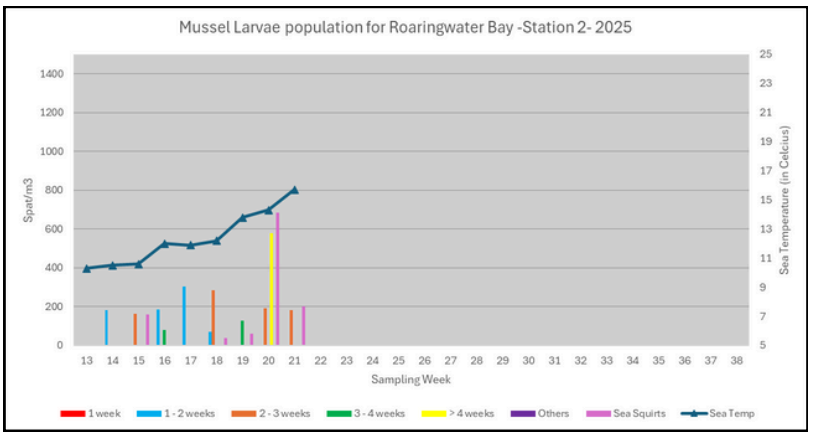
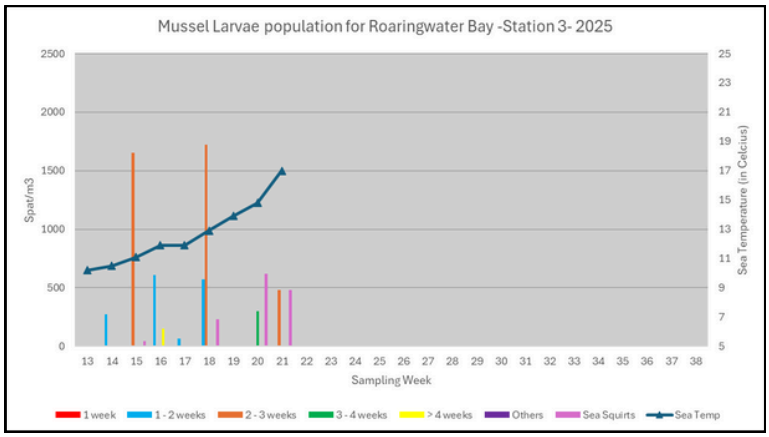
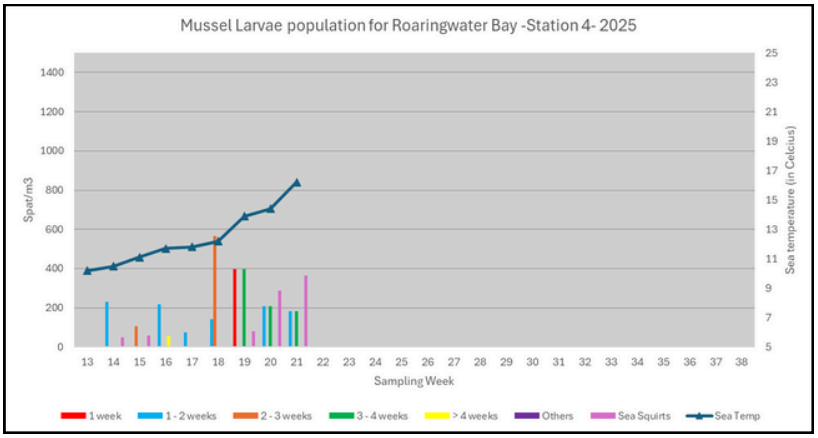
Larvae population evolution in Roaringwater Bay (4 stations)

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 slight decrease in the larvae numbers overall (from 1979 spat/m^3 last week to 1404 spat/m^3 this week). The only increase was observed at Station 3 with 481 spat/m^3 of 2 to 4 weeks old. Some young larvae were observed at Sation 4 (2 weeks old).

The combination of older larvae present in the samples and the decrease in the larvae numbers across all station (starting from Week 19) could indicate that larvae may have settled.

The sea temperature significantly increased more than 1°c for all the sampling stations (+1.1°c for Station 1, +1.4°c for Station 2, **+2.2°c for Station 3 and +1.8°c for Station 4**).

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Further observations from analysis:

- Station 1: The concentration of sea squirts was 216 ind./m^3 (decrease from previous week). Copepods and crab larvae were in low concentrations. Rhizosolenia and Chaetoceros sp. mixed halochaete were at moderate levels.

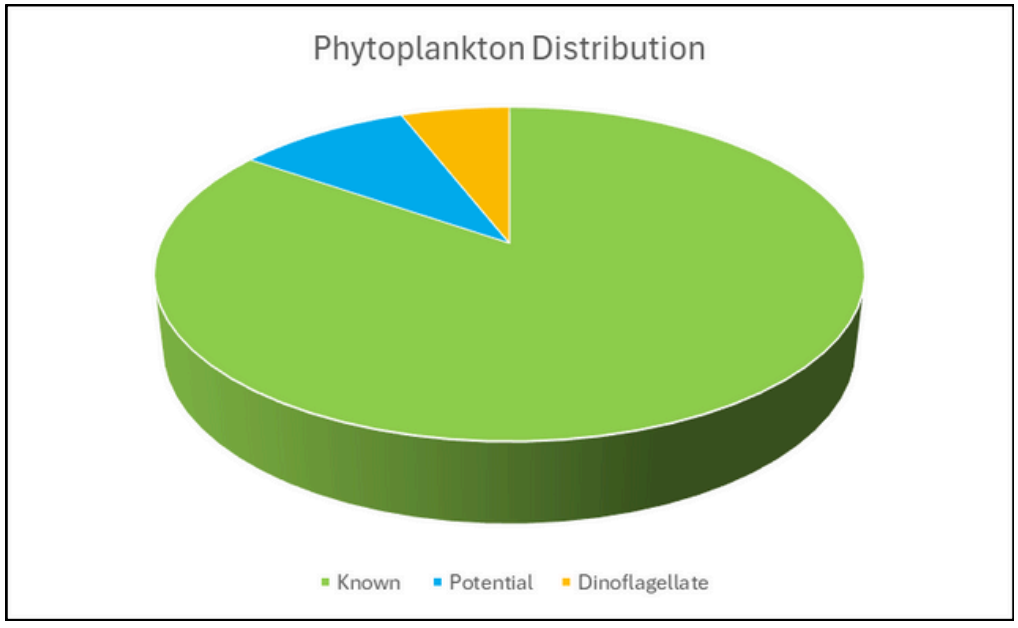
- Station 2: The level of sea squirts was 201 ind./m^3. Copepods were present at a moderate level. Chaetoceros sp. Halocaete, Rhizosolenia sp. and Pseudo Nitizschia seriata group concentrations were low.

- Station 3: The level of sea squirts was 481 ind./m^3. Copepods and crab were in low concentrations. Chaetoceros sp. Halocaete and Rhizosolenia sp. were in low to moderate levels.

- Station 4: The level of sea squirts was 366 ind./m^3. The level of copepods was low. Chaetoceros sp. Halocaete and Rhizosolenia were the dominant phytoplankton species but were in low levels.

There is still a significant amount of sea squirts larvae present in Roaringwater Bay, this could increase fouling on the ropes.

The phytoplankton concentration has increased from the previous week (up to 14,880 cells per litre). The sample was composed mainly of known suitable food species for larvae (85%), followed by potential food source species (9%) and dinoflagellate (6%).



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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 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
WEEK 21	34.6	16.9	-0.4	+2.5

Larvae population distribution for the 4 sampling Stations:

Week 17	Spat/m3	Larvae Stage	Sea Temperature	Sea Squirts/m3
Roaringwater Bay 1	377	2 to 4 weeks	16.2	216
Roaringwater Bay 2	182	2 to 4 weeks	15.7	201
Roaringwater Bay 3	481	2 to 4 weeks	17	481
Roaringwater Bay 4	364	50% 2 wks, 50% 3 to 4 wks	16.2	366

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