MUSSEL CONDITION INDEX AND LARVAE MONITORING

Weekly Bulletin

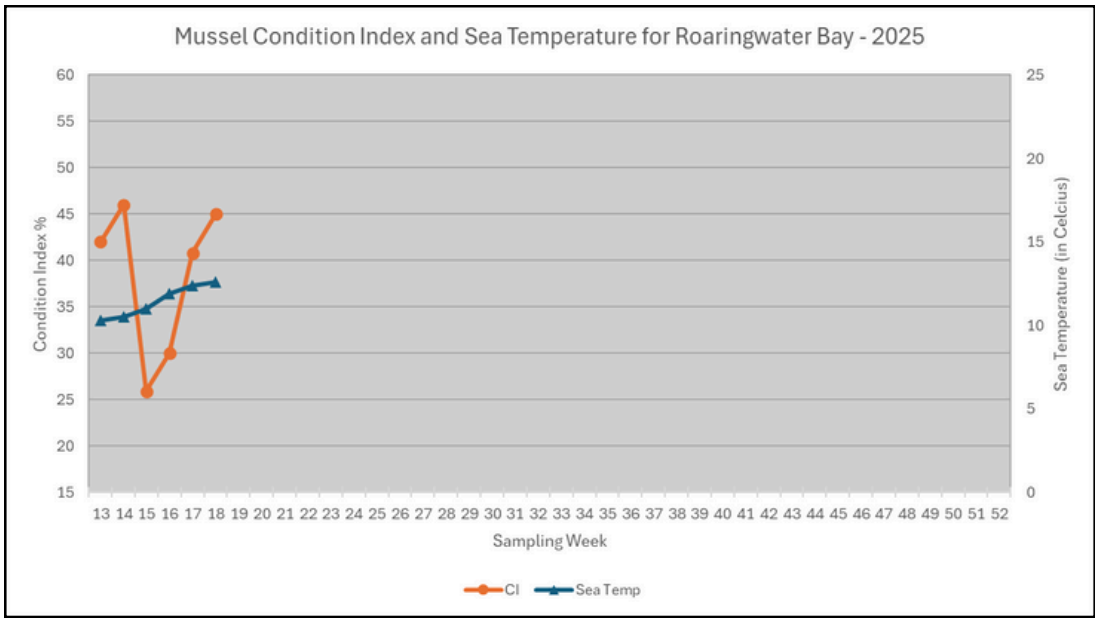
Roaringwater Bay

Southwest Mussel Larvae sampling

2nd May 2025

Week 18 (28/04/2025 to 04/05/2025)

Condition Index (CI) for Roaringwater Bay



The Condition Index in Roaringwater increased again between week 17 and week 18 (+4.16 **%**), while the sea temperature increased by 0.2˚c to 12.6˚c. However, sea temperature at Station 3, reached 12.9˚c.

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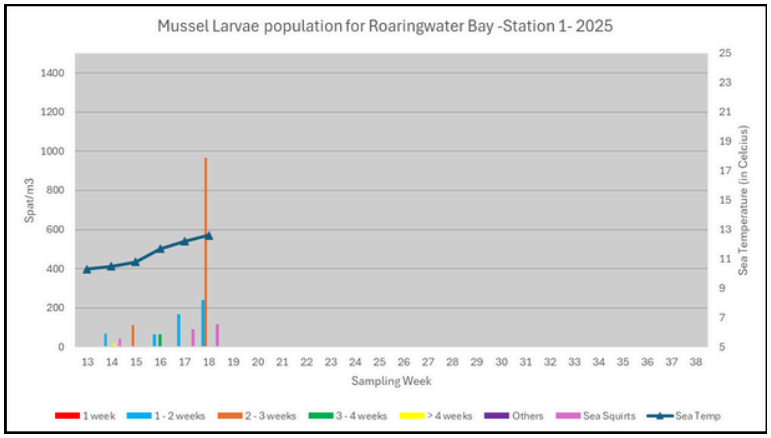
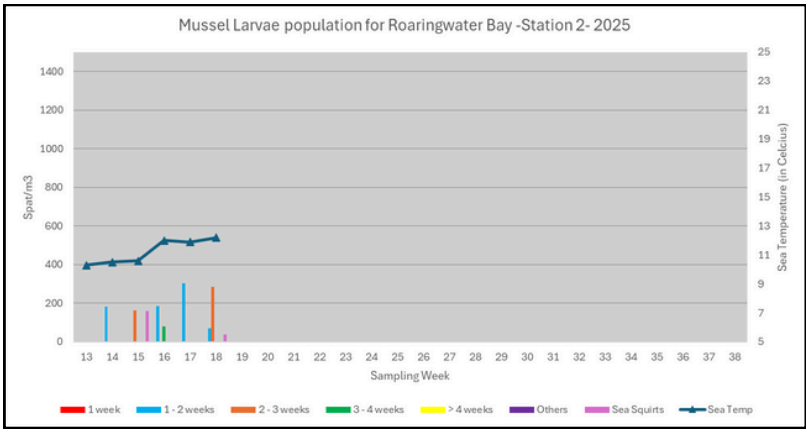
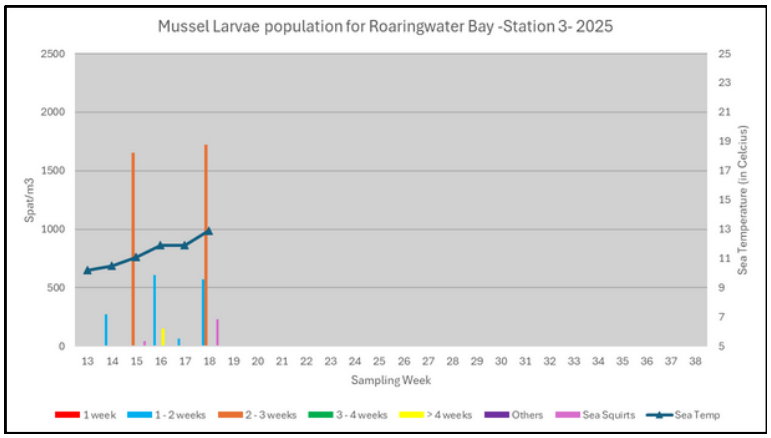
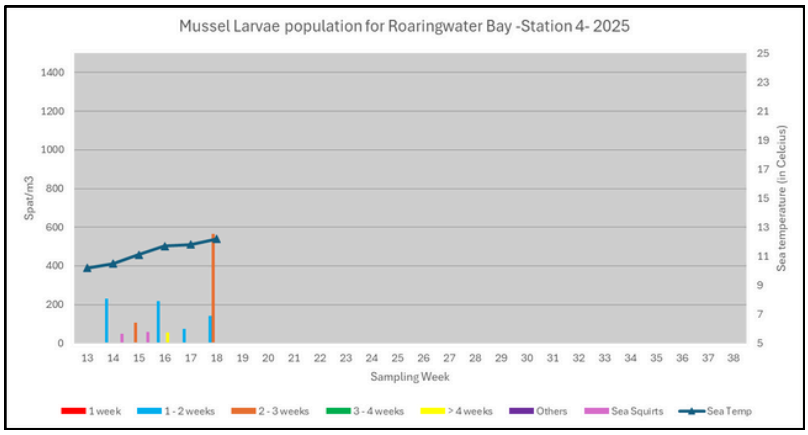
Larvae population evolution in Roaringwater Bay (4 stations)

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

There was a significant increase in the overall number of larvae in the bay (from 610 spat/m^3 in Week 17 to 4567 spat/m^3 in Week 18). **Station 3 had the highest concentration (1721 spat/m^3 of 2 to 3 weeks old and 573 spat/m^3 of 1 to 2 weeks old).** A peak was also observed at Station 1, with 967 spat/m^3 of 2 to 3 weeks old and 242 spat/m^3 of 1 to 2 weeks old. A proportional increase was also observed at Station 4, split into the same categories (567 spat/m^3 of 2 to 3 weeks old and 142 spat/m^3 of 1 to 2 weeks old). Finally, a lesser increase was observed at Station 2 with 284 spat/m^3 of 2 to 3 weeks old and 71 spat/m^3 of 1 to 2 weeks old. The overall concentration of 2 to 3 weeks old larvae across the bay was 3539 spat/m^3 which could be related to the drop in CI between Week 14 and Week 15 (so maybe this drop was not related to different cycles between the stock as mentioned in last week's bulletin).

There is a possibility that settlement could happen in the next 2 to 3 weeks.

The sea temperature increased for all the sampling stations (+0.4°c for Station 1, +0.3°c for Station 2, +1°c for Station 3 and +0.4°c for Station 4).

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Further observations from analysis :

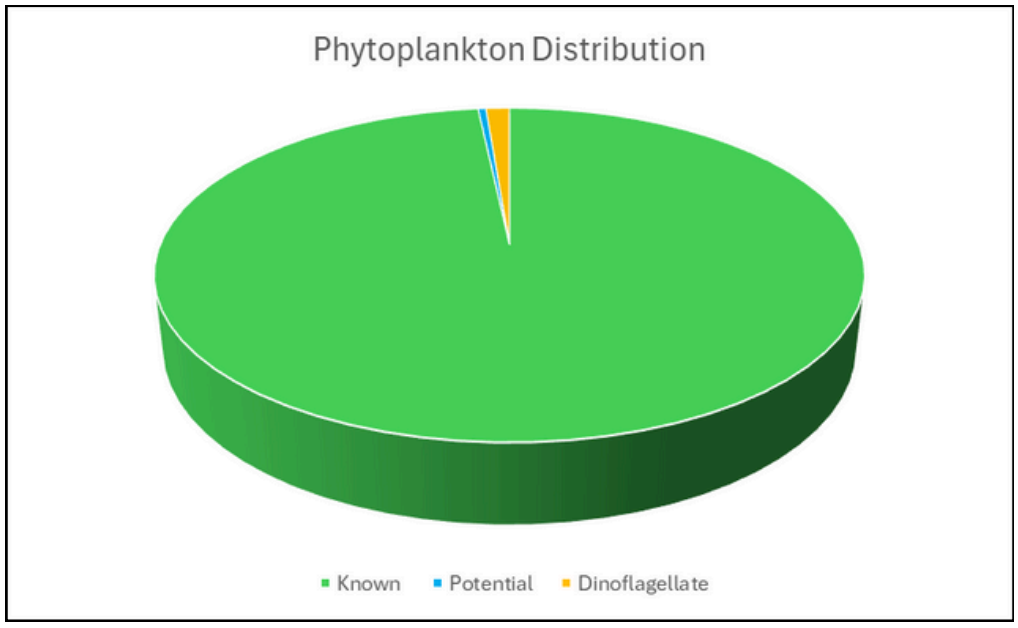
- Station 1: The tunicate concentration was 115 sea squirts/m^3.Copepods, winkles, sea matting, crabs and barnacles concentrations were low. Levels of Chaetoceros and Skeletonemia costatum were moderate.

- Station 2: Sea squirts were present at 37 individuals/m^3.Concentrations of sea matting and winkles were very low. The level of phytoplankton was very low (mainly composed of Chaetoceros and Skeletonemia costatum).

- Station 3: Sea squirts concentration was 231 individuals/m^3 (highest across the 4 stations). Copepods and crabs were in low concentrations, while barnacles were present in moderate quantities. A second bivalve species was also observed at a low level. Chaetoceros sp mixed halochaete was present in moderate concentrations.

- Station 4: Sea squirts concentration was 82 individuals/m^3. Levels of copepods and a second bivalve species were moderate while crabs, sea matting and winkles were low. The concentration of phytoplankton was low with some Skeletonemia costatum and Chaetoceros sp.

- The phytoplankton concentration from the sample taken in Week 18 was low (18,800 cells/ litres), dominated by species known to be suitable food for larvae (98%).



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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 14	46	10.5	+4	+0.2
WEEK 15	25.9	11	-20.1	+0.5
WEEK 16	30	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

Larvae population distribution for the 4 sampling Stations:

Week 17	Spat/m3	Larvae Stage	Sea Temperature	Sea Squirts/m3
Roaringwater Bay 1	1209	80% 2-3 wks, 20% 1-2 wks	12.6	115
Roaringwater Bay 2	355	80% 2-3wks,20%1-2 wks	12.2	37
Roaringwater Bay 3	2294	75%2-3wks,25%1-2wks	12.9	231
Roaringwater Bay 4	709	80% 2-3wks,20%1-2 wks	12.5	82

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