

# Roaringwater Bay

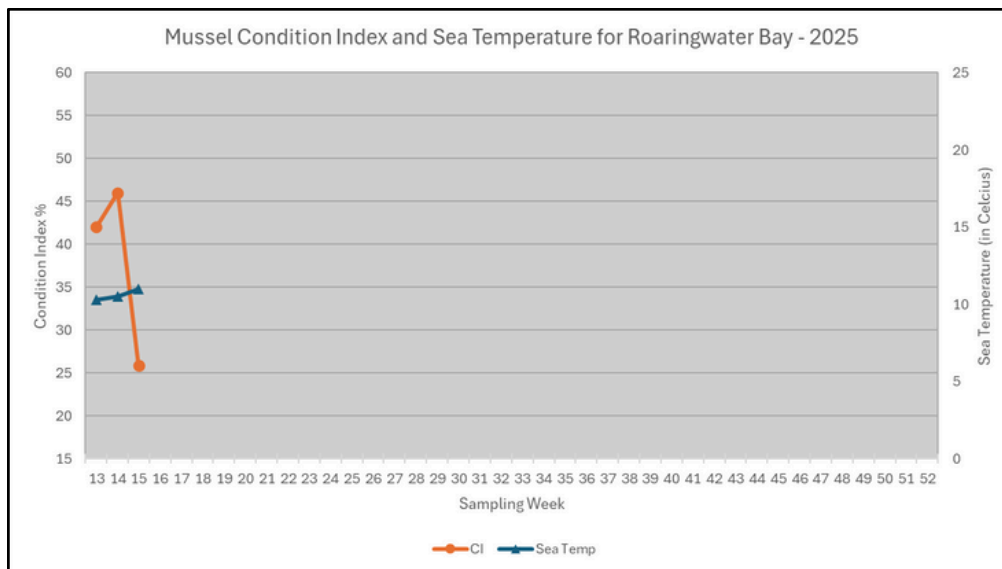
Southwest Mussel Larvae sampling

11<sup>th</sup> April 2025

Week 15 (07/04/2025 to 13/04/2025)



## Condition Index (CI) for Roaringwater Bay

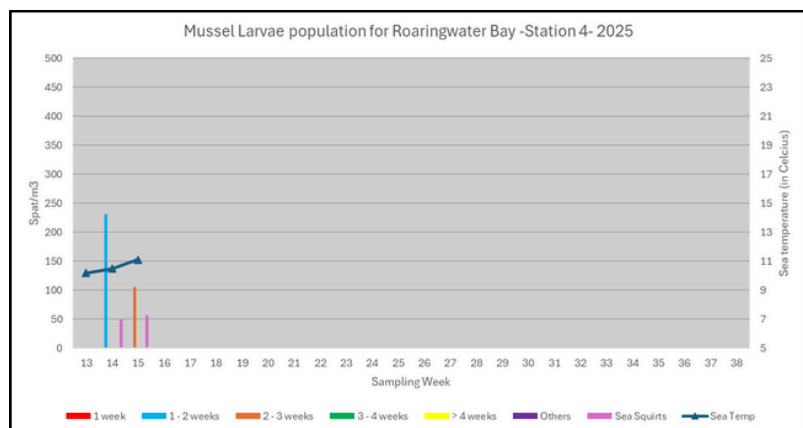
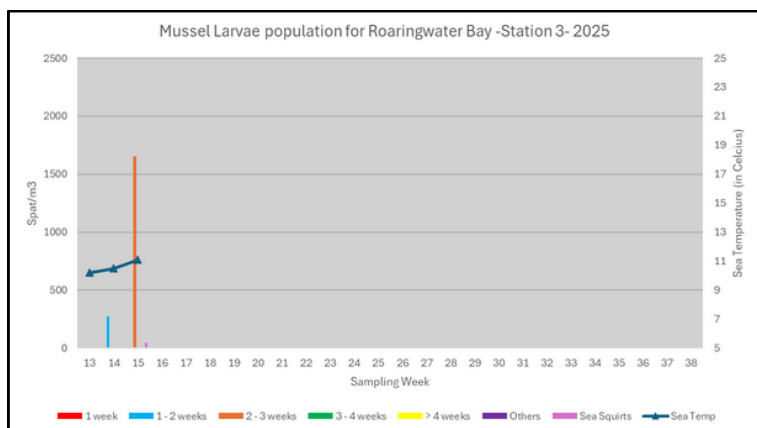
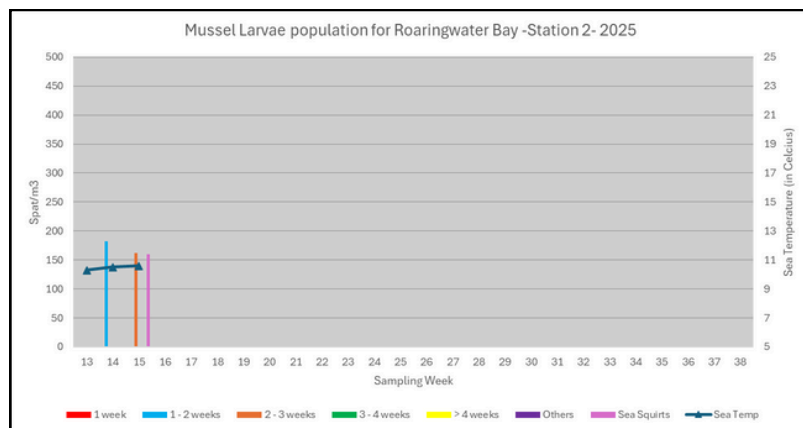
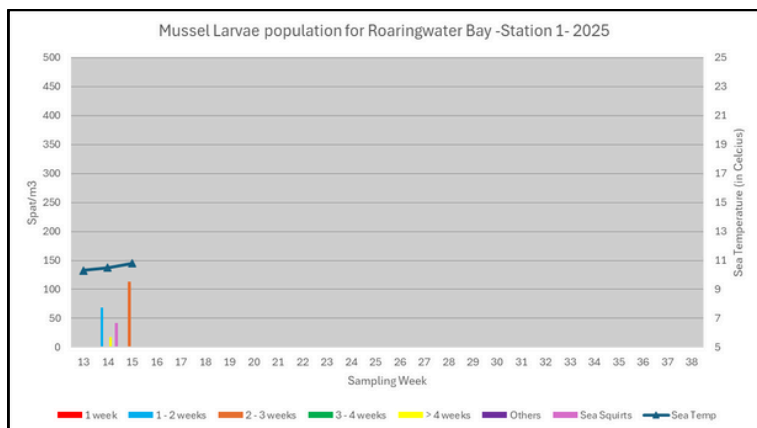


The Condition Index in Roaringwater sharply decreased between week 14 and week 15 ( **-20.1 %** ), while the sea temperature only increased by 0.5°C.

This could indicate that a **significant spawning event took place between those two weeks.**

# 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 4 stations presented different profiles for Week 15. Station 1 sample showed a slight increase in the number (up to 113 spat/m<sup>3</sup>). Station 2 sample results were also stable, indicating a small drop in the larvae population (down to 162 spat/m<sup>3</sup>). **Station 3 sample is seeing a significant increase in the larvae population (up to 1653 spat/m<sup>3</sup>).** Station 4 sample indicates a small decrease (down to 106 spat/m<sup>3</sup>).

**All samples show that larvae are now between 2 and 3 weeks old.** The sea temperature is increasing slightly at all the sampling stations (+0.3°C for Station 1, +0.1°C for Station 2, +0.6°C for Station 3 and 4).



**Further observations from analysis (number of sea squirts/m<sup>3</sup> are now included in the graphs):**

- Station 1: Potential eggs were present in low to moderate amounts. The general phytoplankton level is low with *Thalassiosira* spp being dominant in the sample. The sample also presented low levels of copepods and medusa. No sea squirt was observed in the sample.
- Station 2: The sample indicates 160 sea squirt/m<sup>3</sup> (see graph). Potential eggs were present at a high level. Copepods levels were high. The sample presented a low phytoplankton background with *T.nitzschoides*, *Thalassiosira*, *Navicula* dominant but at low levels. Barnacles were also present but at very low levels.
- Station 3: The concentration of sea squirts for this sample was 44 individual /m<sup>3</sup>. Potential eggs were also present at moderate to high levels. For the phytoplankton, *Phaeocystis* and *Chaetoceros* sp. were in high concentration. Barnacles and medusa were present but at low levels.
- Station 4: The concentration of sea squirts for this sample was 57 individual /m<sup>3</sup>. The sample presented a high level of potential eggs, copepods and *Phaeocystis* (potentially harmful for larvae and adult mussels). However, phytoplankton diatoms were in low concentration.
- **All samples indicated significant amounts of potential eggs. This could be related to the significant drop of the Condition Index of the mussel (spawning event).**
- Considering the levels of *Phaeocystis* across the sampling stations and the recent spawning, it would be advisable to limit stress levels on adult mussels.

The multiparameter sonde Aquatroll has also been redeployed in Roaringwater after being damaged during storm Eowyn. This equipment measures the following parameters (in water at 3 m deep): sea temperature, conductivity, dissolved oxygen, oxygen saturation, turbidity (suspended solids) and chlorophyll A.

Starting on Week 16, additional phytoplankton samples will also be collected (1 per bay). Results will also be communicated on the weekly bulletins.

