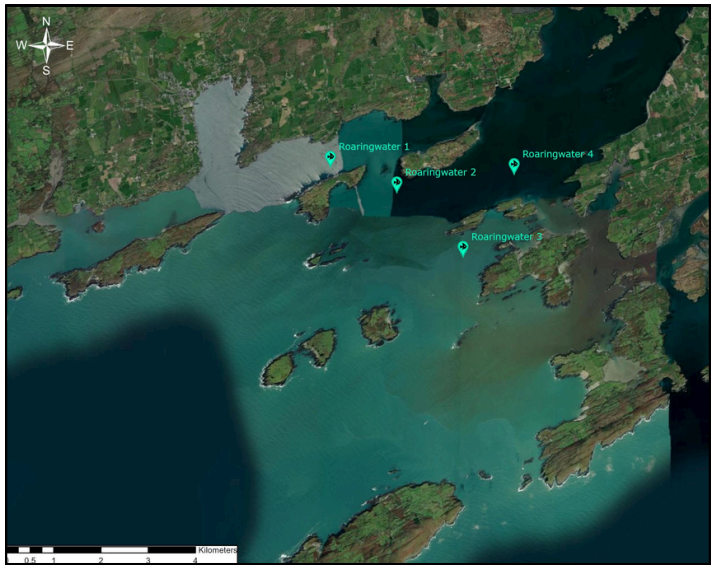
MUSSEL CONDITION INDEX AND LARVAE MONITORING

Weekly Bulletin

Roaringwater Bay

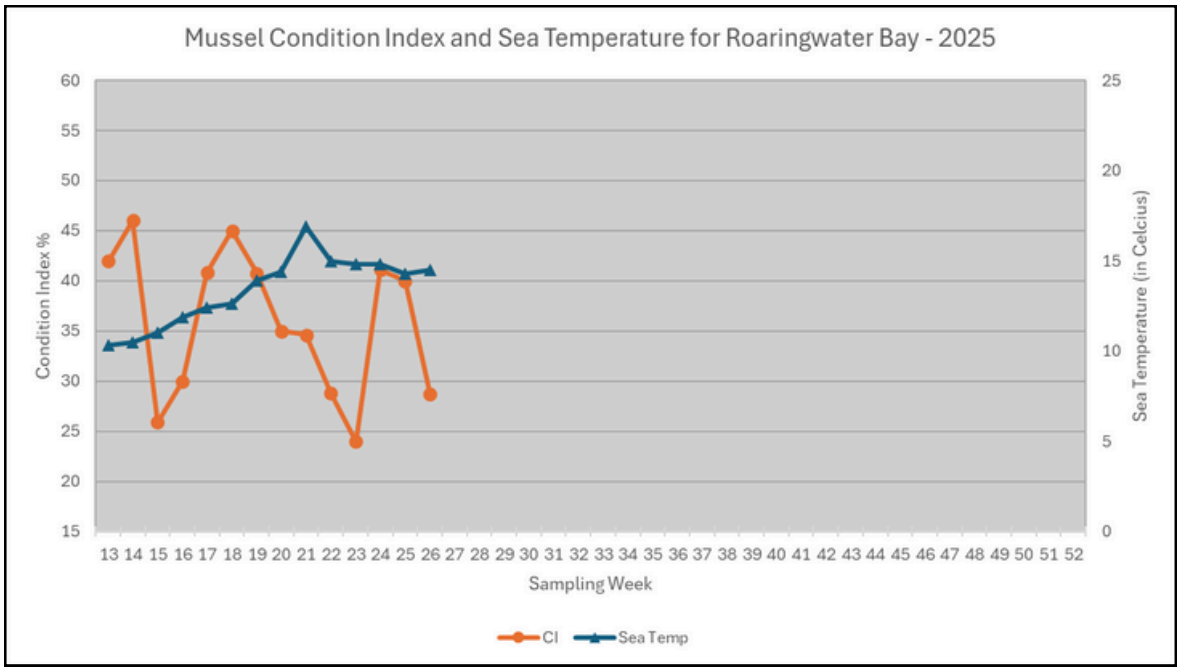


Southwest Mussel Larvae sampling

30th June 2025

Week 26 (23/06/2025 to 29/06/2025)

Condition Index (CI) for Roaringwater Bay



The Condition Index in Roaringwater has sharply decreased on Week 26 (down by 11.3% to 28.7%), while the sea temperature was stable with only an increase of 0.2°c to 14.5°c (based on average temperature recorded during the sampling). The Aquatroll deployed in the bay recorded sea temperature varying between 15 and 16.5°c during the sampling period.

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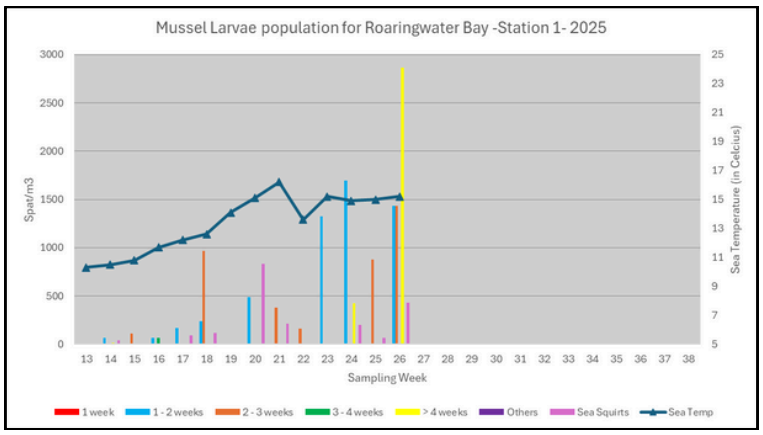
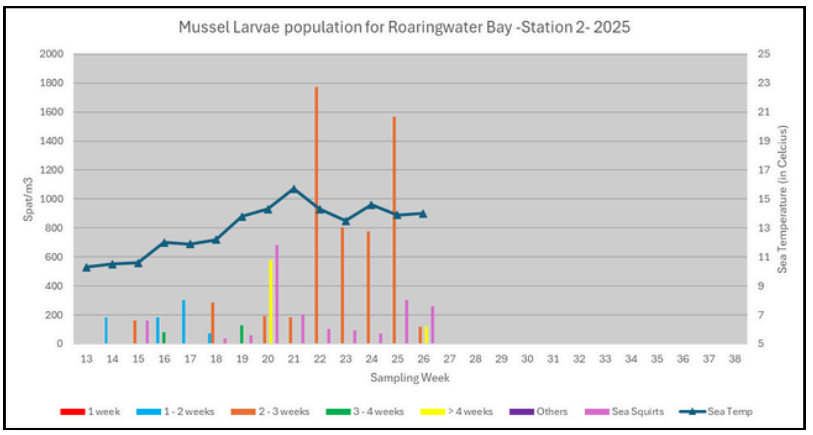
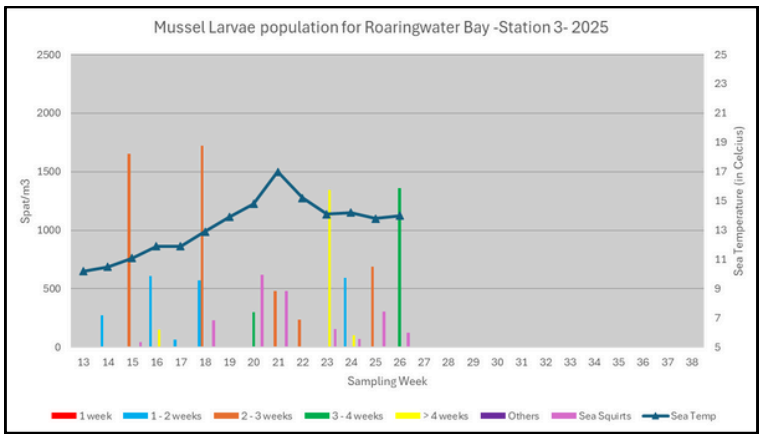
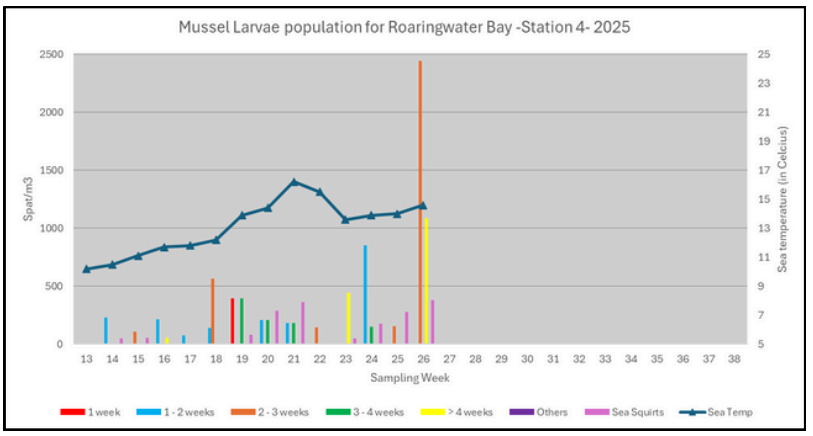
Larvae population evolution in Roaringwater Bay (4 stations)

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

There was a sharp increase in the larvae population at Stations 1, 3 and 4. The total amount of larvae across the 4 stations has reached its highest since the sampling started: 10,850 spat/m3. The highest increase was observed at Station 1 with over 5000 larvae/m^3, followed by Station 4 with over 3500 larvae/m^3. Station 2 was the only sampling site to have less larvae than the previous week. However, those larvae were in the older age class (2 to 3 weeks and 5 to 6 weeks old).

Older larvae are the dominating population age class (4 to 6 weeks old) across the sampling sites which would suggest some further settlement in the coming 1 to 2 weeks (see details in the table in the last page).

The sea temperature for the 4 stations is stable, only indicating a small increase (+0.2°c for Station 1, +0.1°c for Station 2, +0.2°c for Station 3 and +0.6°c for Station 4).

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Further observations from analysis:

- Station 1: The concentration of sea squirt increased to 433 ind./m^3 (from 68 on Week 25). The sample presented low levels of copepods. The concentration of phytoplankton was moderate with Chaetoceros and Protoperidinium dominating the species observed.

- Station 2: The level of seas quirts decreased slightly from the previous week with 261 ind./m^3. The levels of copepods were low again. The phytoplankton biomass in the sample was low with L. danicus dominating.

- Station 3: The sample presented a significant decrease of sea squirt from the previous week with 122 ind./m^3. The copepods concentration was low. A second bivalve species was also present at low level. The phytoplankton biomass in the sample was high with Chaetoceros, Rhizosolenia and Leptocylindrus dominating.

- Station 4: The level of sea squirt increased from the previous week at 377 ind./m^3. Copepods were in moderate concentrations, while barnacles and periwinkles were at low levels. Again, a second bivalve species was observed in moderate concentration. The phytoplankton biomass in the sample was high with L. danicus and Chaetoceros sp. dominant.

The phytoplankton sample could not be analysed.

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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 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
WEEK 26	28.7	16.3	-11.3	+2

Larvae population distribution for the 4 sampling Stations:

Week 24	Spat/m3	Larvae Stage	Sea Temperature	Sea Squirts/m3
Roaringwater Bay 1	5724	50% 4-6 weeks, 25%2-4 weeks,25% 1-2 weeks	15.2	433
Roaringwater Bay 2	242	50% 2-3weeks, 50% 5-6 weeks	14	261
Roaringwater Bay 3	1358	3-5 weeks	14	122
Roaringwater Bay 4	3526	75% 2-4 weeks, 25% 4-6 weeks plus	14.6	377

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