BIM Ireland's Seafood Development Agency

MUSSEL CONDITION INDEX AND LARVAE MONITORING

Weekly Bulletin

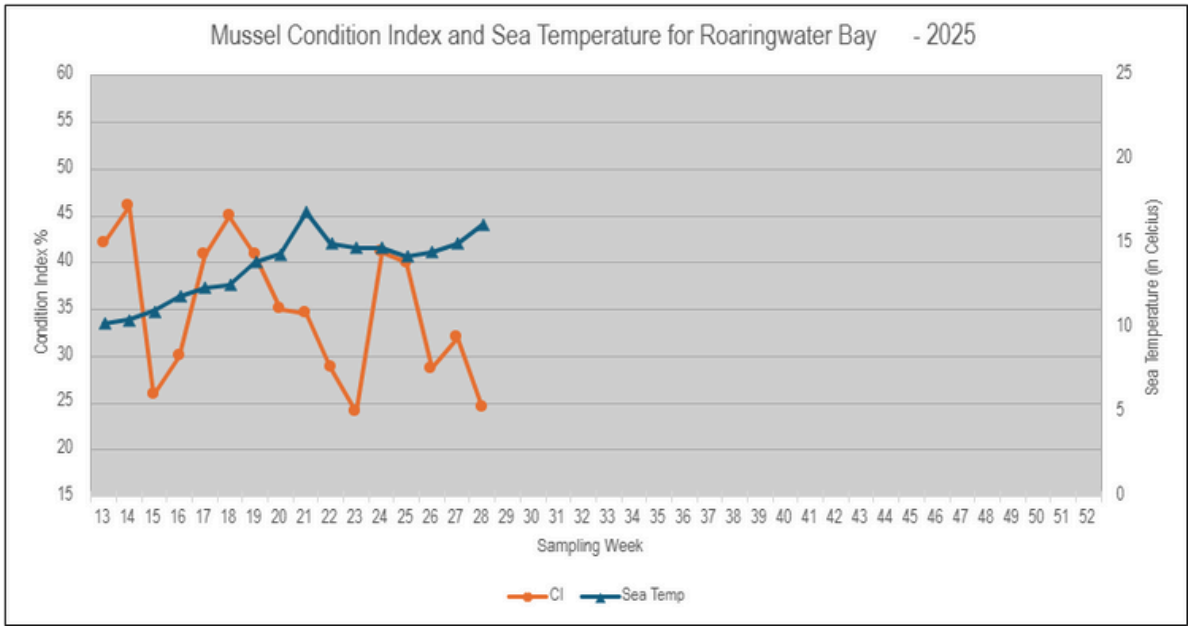
Roaringwater Bay

Southwest Mussel Larvae sampling

14th July 2025

Week 28 (7/07/2025 to 13/07/2025)

Condition Index (CI) for Roaringwater Bay



The Condition Index in Roaringwater decreased on Week 28 (down by 7.4% to 24.6%), while the sea temperature increased by 1.2°C to 16.2°C. The Aquatroll deployed in the bay recorded sea temperature varying between 14 and 17°c during the sampling period.

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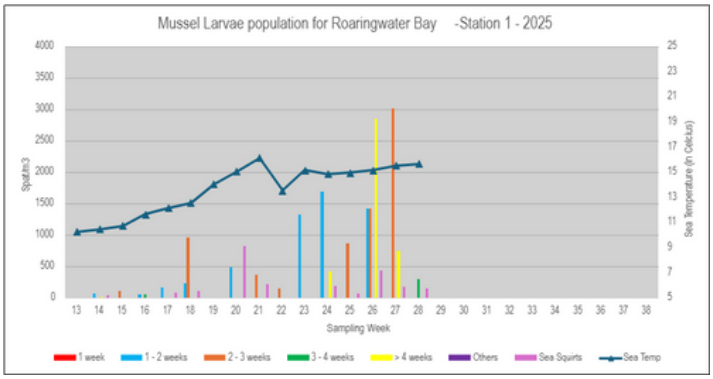
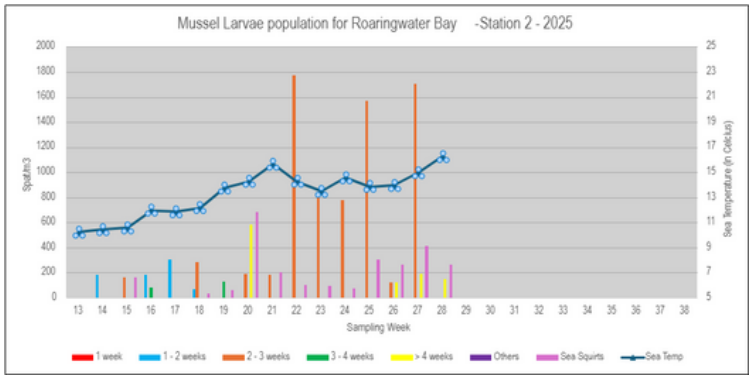
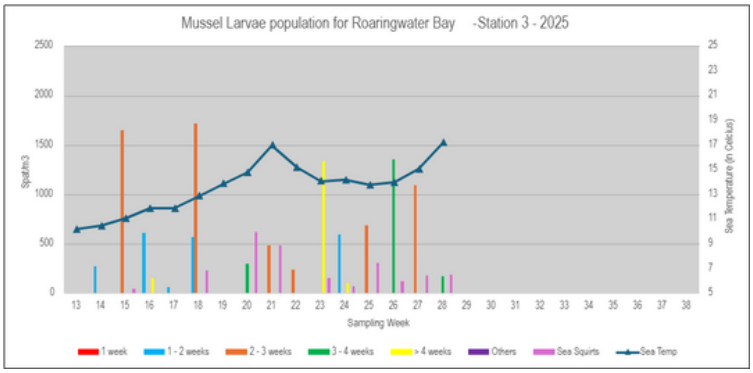
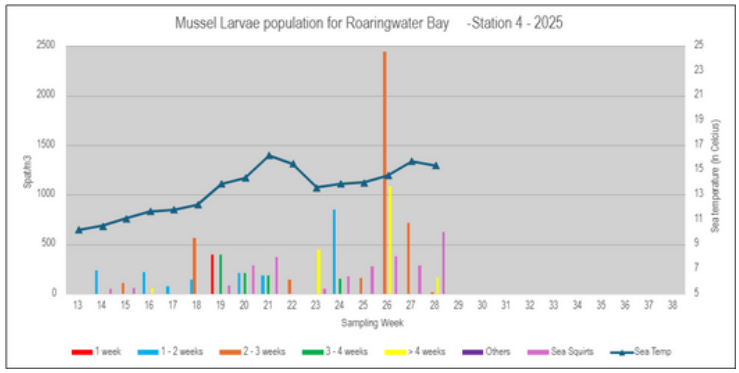
Larvae population evolution in Roaringwater Bay (4 stations)

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

The overall larvae population in Roaringwater Bay has decreased significantly since Week 27: down to an average of 202 spat/m^3. Looking at each station in detail (see table on the last page), the larvae concentration dropped significantly for Stations 1, 2 and 3 in particular and slightly less so at Station 4. The sharpest decrease was observed at Station 1 (from >3700 spat/m^3 on Week 27 to 304 spat/m^3 on Week 28). The age class across the bay was dominated by older larvae (between 2 to 4 weeks old and above).

Considering those numbers and the age class, further settlement should have occurred across the bay. Also, already settled larvae should be visible on collectors (few millimetres in length).

Sea temperature had increased in all stations except for Station 4 which dropped very slightly to 15.4°c from 15.7°C. Notably, a significant increase in temperature was recorded at Station 1, from 15.6°C to 18°C, where the greatest drop in larval numbers was experienced. Temperatures at Stations 2 and 3 were recorded as 16.3°C and 17.2°C, up from 15°C and 15.1°C respectively.

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Further observations from analysis:

- Station 1: The level of sea squirts in the sample was 155 ind./m^3. The sample presented very low levels of copepods and a dominance of the diatom species, Coscinodiscus

- Station 2: The level of sea squirts in the sample was 264 ind./m^3. There were very low numbers of Copepods, low seamatting, starfish and tubeworms. periwinkles and a second bivalve species were in low concentrations. Phytoplankton count was high, dominated by Coscinodiscus. P.n.seriata grp was also present.

- Station 3: The level of sea squirts in the sample was 188 ind./m^3. Copepods levels were very low. The phytoplankton count was also very low, dominated by P.n.Seriata group and with low levels of M.atlantica.

- Station 4: The level of sea squirts in the sample was 622 ind./m^3. Copepods and tubeworms were present in very low concentrations. Levels of P.n. seriata group was the dominant phytoplankton species with Coscodinius and Ceriatum also present.

Overall phytoplankton levels were higher than last week at sample indicated low level concentration (11,640 cells/litre). 72% of which was represented by known food sources and the balance by dinoflagellates

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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 24	41.1	14.8	+17.1	0
WEEK 25	40	14.8	-1.1	-0.5
WEEK 26	40	14.3	-11.3	+2
WEEK 27	28.7	16.3	+3.3	+0.5
WEEK 28	24.6	16.2	-4.1	-0.1

Larvae population distribution for the 4 sampling Stations:

Week 24	Spat/m3	Larvae Stage	Sea Temperature	Sea Squirts/m3
Roaringwater Bay 1	301	3 - 5 weeks	18	155
Roaringwater Bay 2	150	5 - 6 weeks	16.3	264
Roaringwater Bay 3	169	3 - 5 weeks	17.2	188
Roaringwater Bay 4	188	90% 4 - 6 wks 10% 2 - 3 wks	15.4	622

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