



Rialtas na hÉireann
Government of Ireland



Arna chomhchistiú ag
an Aontas Eorpach

Co-Funded by the
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BIM Southwest Mussel Monitoring Programme 2025

Background

- Limited to no seed mussel settlement on rope in 2024 between Kenmare River and Roaringwater Bay
- Recruitment variations can be due to multiple factors such as population genetics, food availability, environmental conditions, and husbandry conditioning and population management (Saurel et al., 2004; Chopin, 2024)
- With the advancement in population genomics we are learning more about the different stocks around our coast
- The phytoplankton data which supports the national biotoxin monitoring programme can provide insight into food availability over time and there are numerous sources of environmental data available to producers.
- There were no records of condition index in stocks or larval abundance in the water column

Condition Index & Plankton Samples

- Monitoring condition index allows us to accurately establish the spawning time of the mussels
- Plankton samples allow us to estimate the larval abundance in the water column and the developmental stage of the larvae
- larvae cycle is approximately 4 to 5 weeks prior to settlement (Gosling, 2022) and the timing of settlement is strongly influenced by water temperature so this will also be recorded at the time of sampling
- Timing of collector deployment can be determined by the data collected

Plan for 2025

- 6 production areas will be targeted: Roaringwater Bay, Dunmanus Bay, Bantry Bay, Castletownbere, Ardgroom and Kilmakilloge
- Licensed mussel farmers will be contracted to sample weekly
- Condition index will be recorded on a weekly basis in each bay from Spring through to late July, early August
- Zooplankton samples will be taken on a weekly basis and sent to SouthWest AquaTech for analysis



Condition Index

- 1kg of mussels will be cooked without adding water until all shells are open
- All flesh is removed and set on clean kitchen paper for 5 minutes
- Cooked meat weight and shell weight are measured
- The C.I. calculation recommended for this study is:

$$\frac{\text{cooked meat weight}}{\text{cooked meat weight} + \text{shell weight}} \times 100 = \text{Percentage meat yield or condition index}$$

- Location, time and date of sampling, water temperature and C.I result will be sent by text to BIM

Planktonic Larvae Sampling

- All samplers will have 50 micron nets to allow identification of the earliest larval stages
- Labelled sampling bottles, supply of lugols iodine, pipettes, pre-paid envelopes and a temperature logger
- Location, time and date of sampling, length of rope deployed, weather and sea conditions will be recorded and sent with the sample as well as by SMS to BIM
- All results will be published weekly on the BIM website.

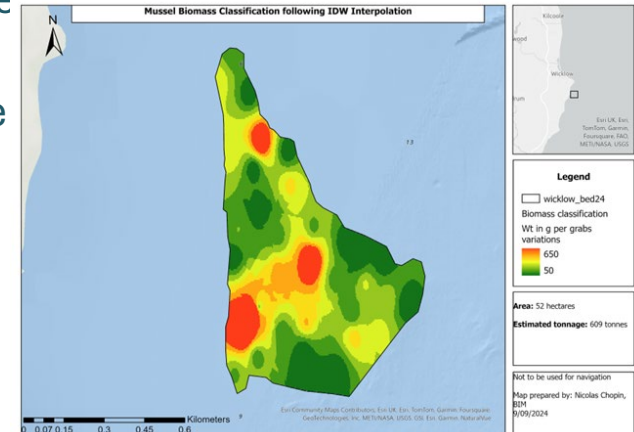


BIM East Coast Seed Mussel Survey 2025

Nicolas Chopin

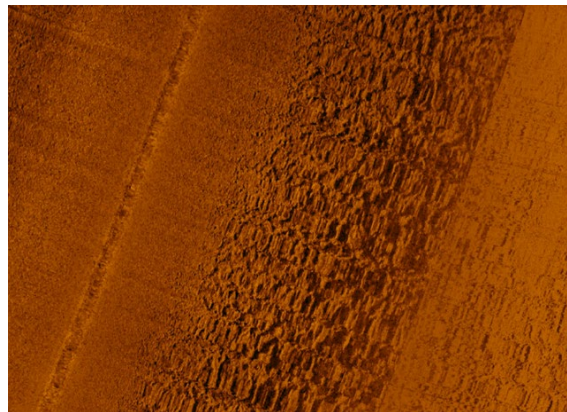
2024 Survey summary

- 15 days searching/ surveying mainly due to adverse weather conditions and the survey vessel still being out of action
- Covered over 3,000 hectares with the sonar and carried 143 tows
- Only two small beds were found: one in Wicklow with only 609 tonnes and one in the Rusk Channel where the biomass was too scattered to be estimated
- Traces of seed observed at the end of 2023 were visible in 2024
- Although the seed found appeared to be healthy, the required biomass threshold for the opening of the fishery was not found again in 2024



Plan for 2025

- Survey vessel should be operational by March
- Increase the number of survey days (still weather dependent)
- Acquisition of new equipment to maximize data collection while surveying (AUV, electric winch)
- We also expect to expand the survey team to maximise the number of days
- → This will allow BIM to extend survey areas



Thank you