

The Bottom Culture Mussel Industry In Ireland

Where are we going



Bottom dredging for mussels in Ireland began in the **mid-20th century**

- **1960s and 1970s**, it became a more structured and commercial activity.
- The development of mechanised dredging transformed the industry, allowing for increased production and the establishment of the **bottom culture mussel industry** we know today.
- **Wexford Harbour and the Irish Sea** were among the early key areas for bottom dredging, with expansion into other regions following in subsequent decades.

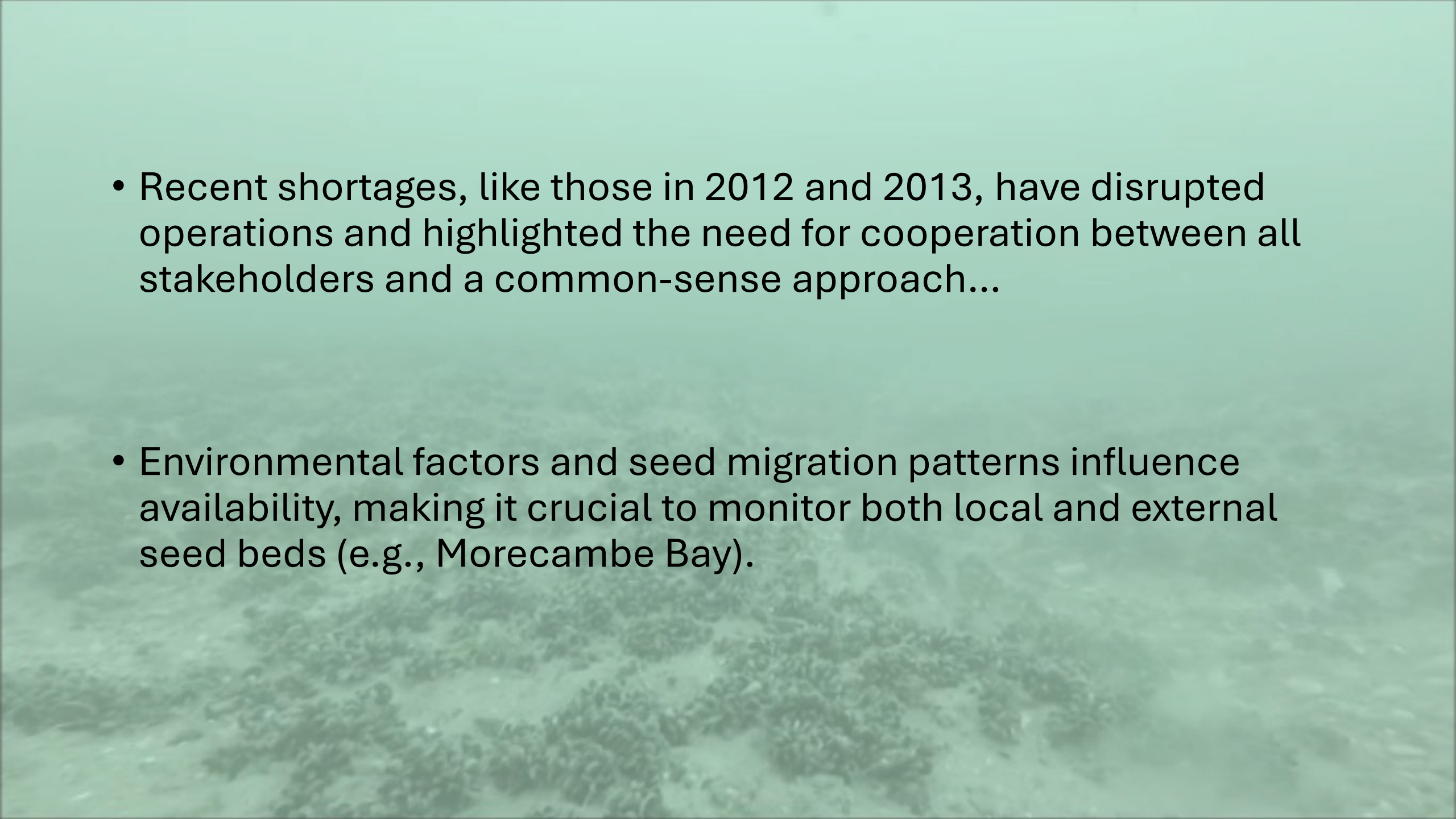
Bottom Culture Mussels

How It Works

- Mussel seed is collected from the Sea bed, relayed to the operator sites, where they grow to market size.
- The seabed serves as a natural substrate for the mussels, offering a cost-effective, environmentally integrated form of aquaculture.
- This process mimics natural mussel growth but allows for more control over harvesting and production by mussel farmers.

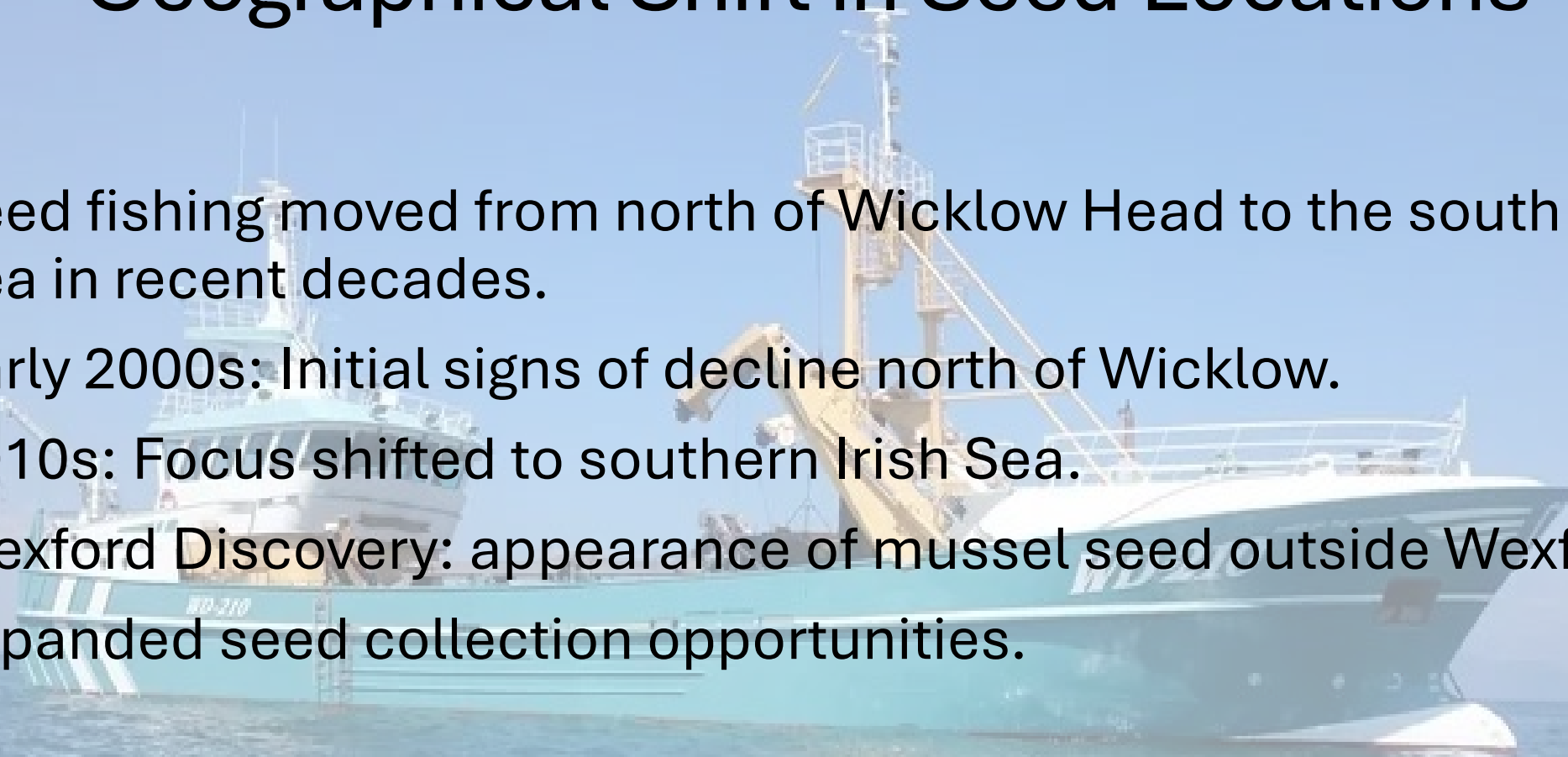
Importance of seed availability in sustaining the industry...

- Seed availability is critical for the growth and success of the bottom culture mussel industry.
- Inconsistent seed supply directly impacts production levels and the profitability of the sector.

- 
- Recent shortages, like those in 2012 and 2013, have disrupted operations and highlighted the need for cooperation between all stakeholders and a common-sense approach...
 - Environmental factors and seed migration patterns influence availability, making it crucial to monitor both local and external seed beds (e.g., Morecambe Bay).

Geographical Shift in Seed Locations

- Seed fishing moved from north of Wicklow Head to the south Irish Sea in recent decades.
- Early 2000s: Initial signs of decline north of Wicklow.
- 2010s: Focus shifted to southern Irish Sea.
- Wexford Discovery: appearance of mussel seed outside Wexford.
- Expanded seed collection opportunities.



Environmental changes in the Irish Sea

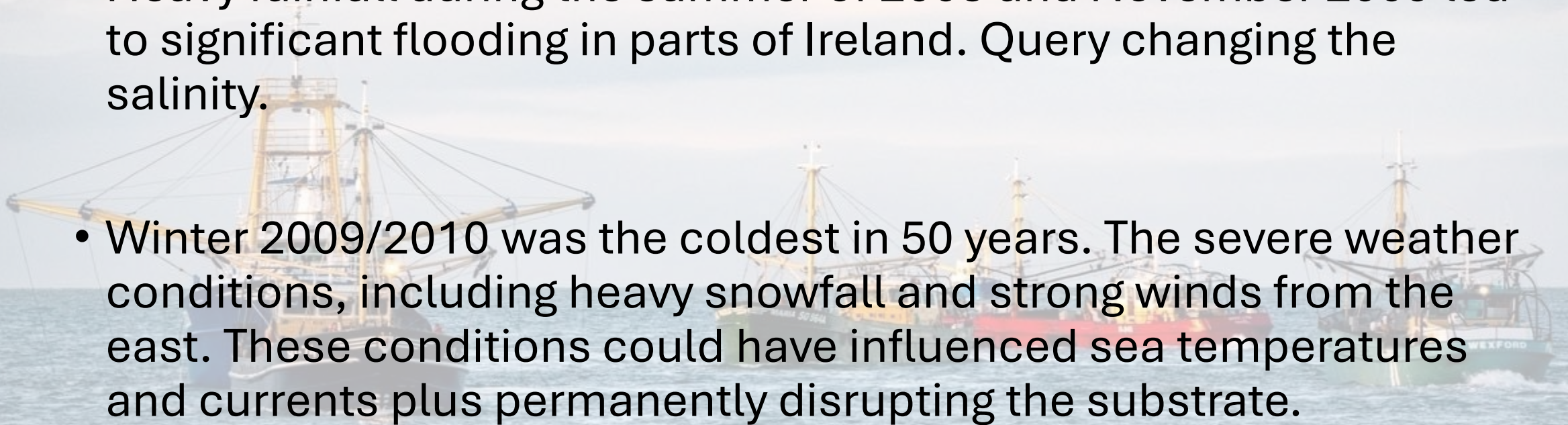
Between 2008 and 2010 there has been a shift in mussel seed settlements from north to south of Wicklow Head.

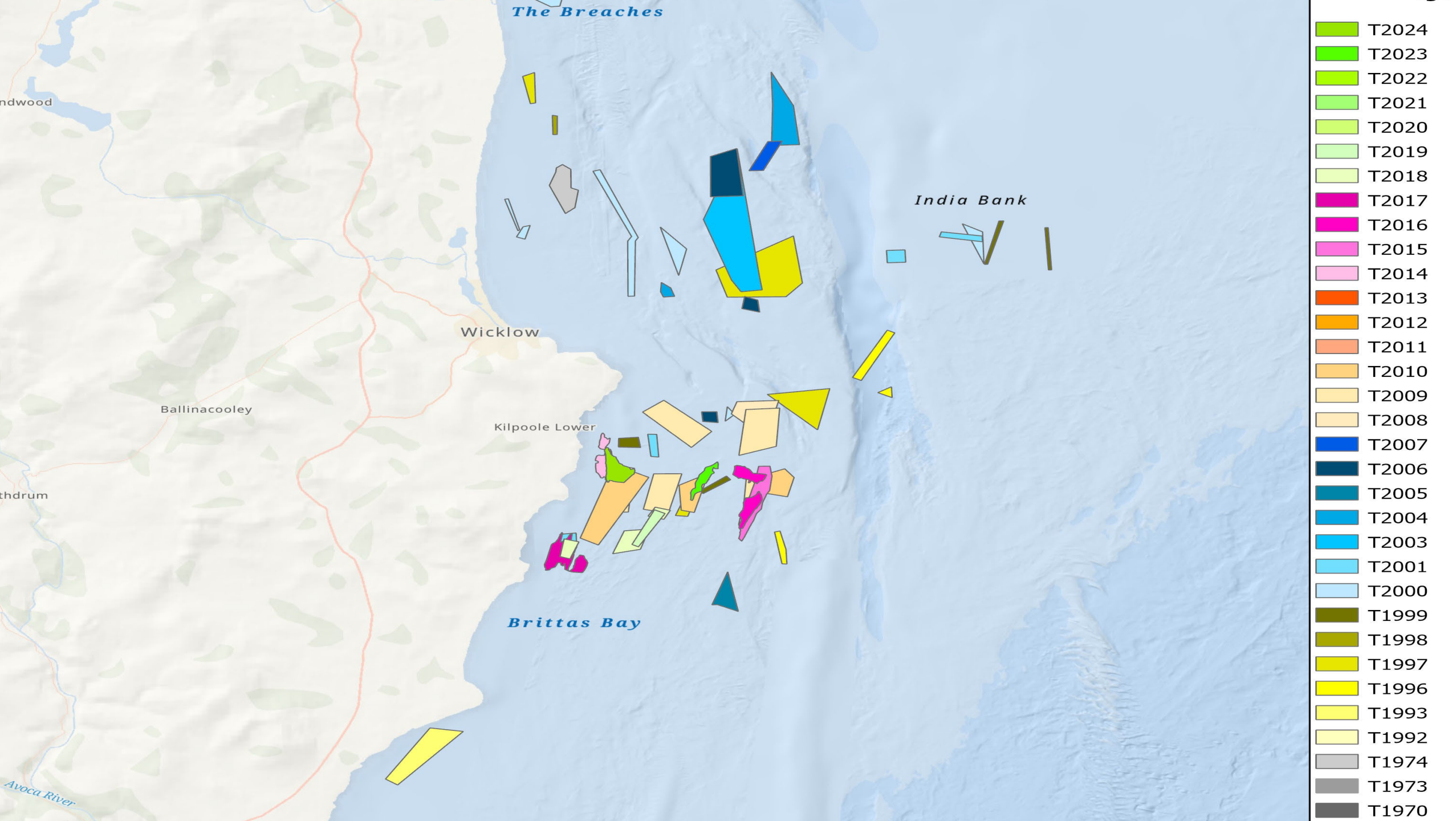
Potential causes:

- Extreme weather events.
- Sea Temperature Variations.
- Ocean Currents and Hydrodynamics.
- Substrate changes.

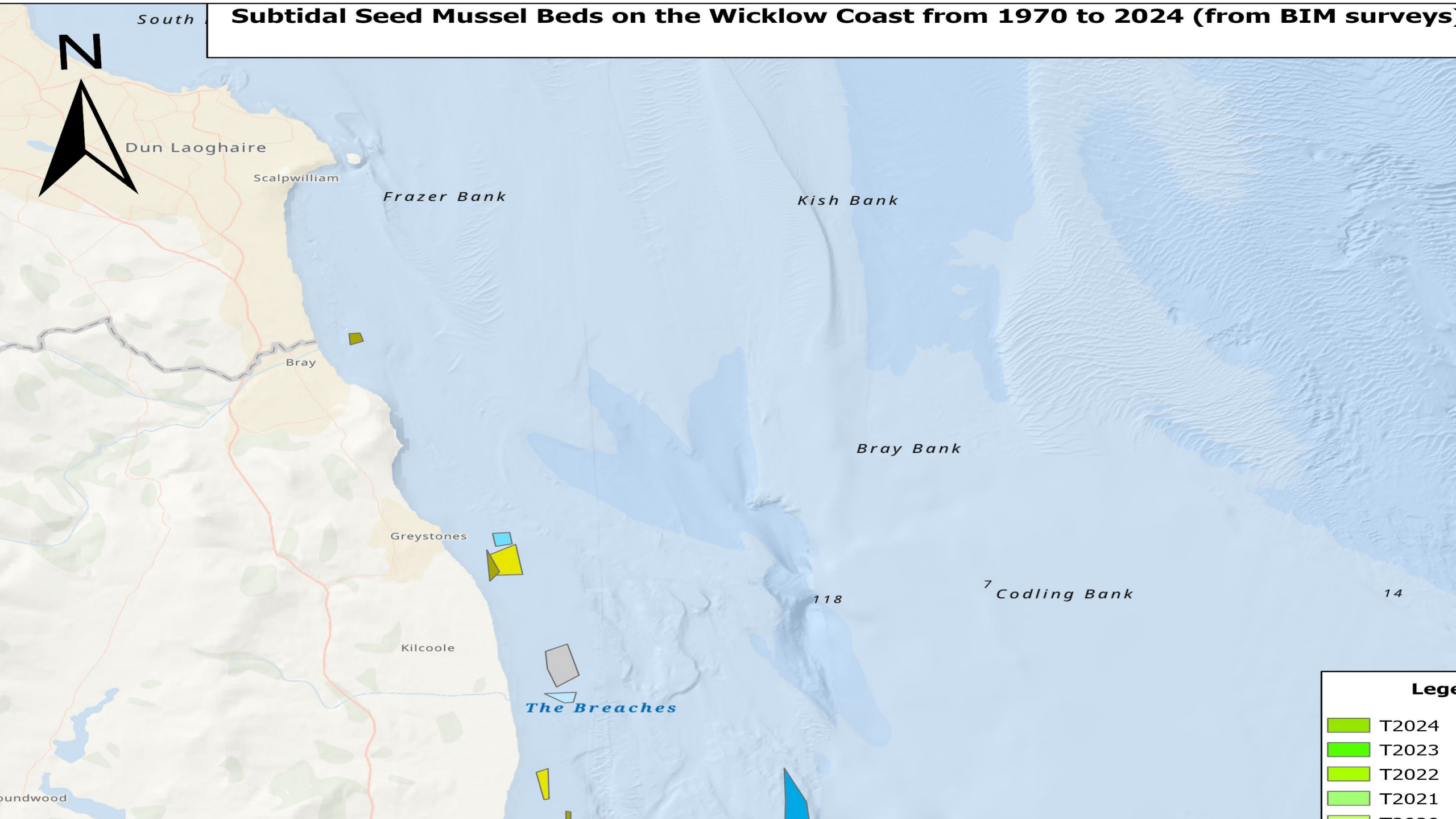
- Heavy rainfall during the summer of 2008 and November 2009 led to significant flooding in parts of Ireland. Query changing the salinity.

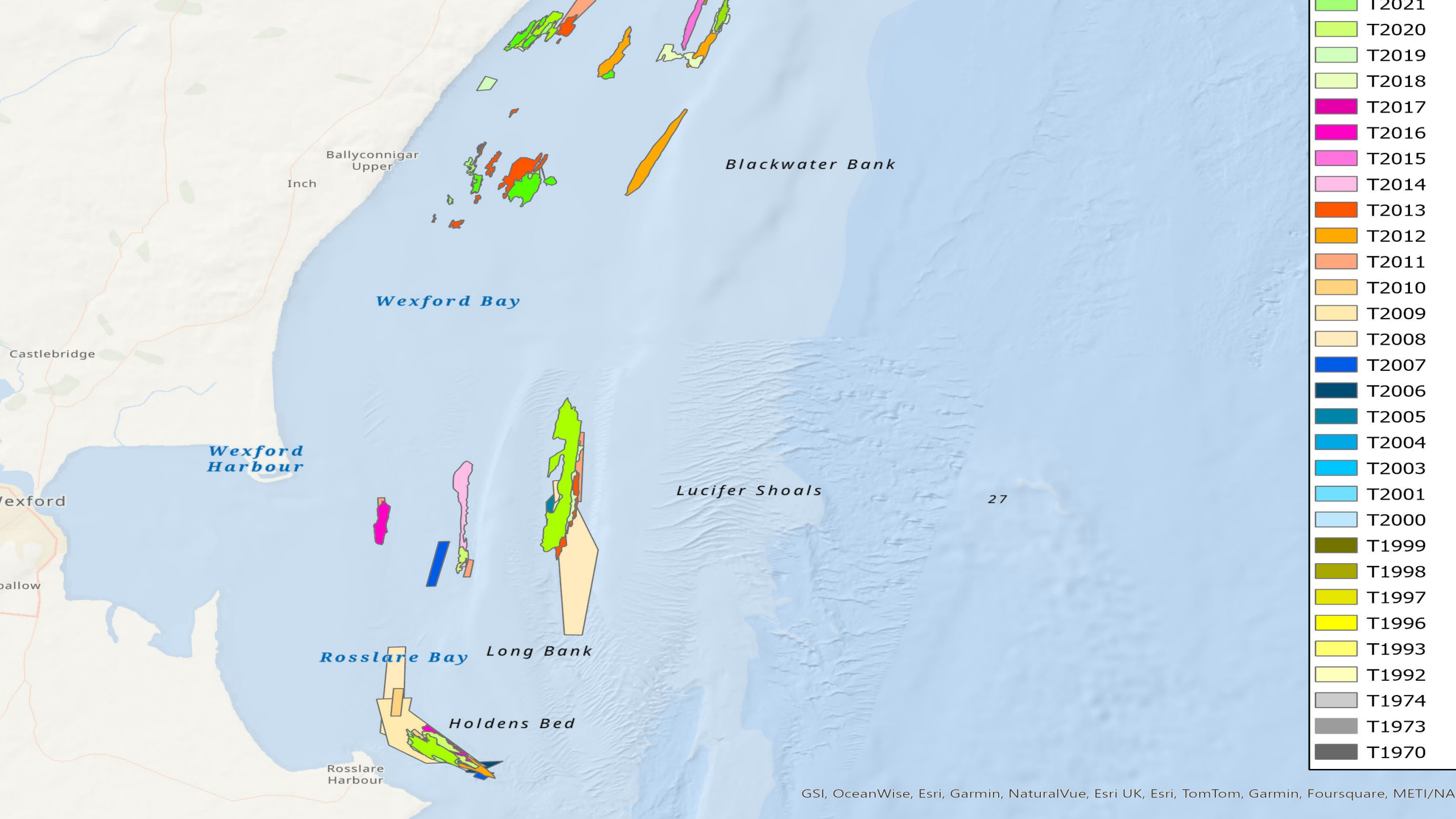
- Winter 2009/2010 was the coldest in 50 years. The severe weather conditions, including heavy snowfall and strong winds from the east. These conditions could have influenced sea temperatures and currents plus permanently disrupting the substrate.



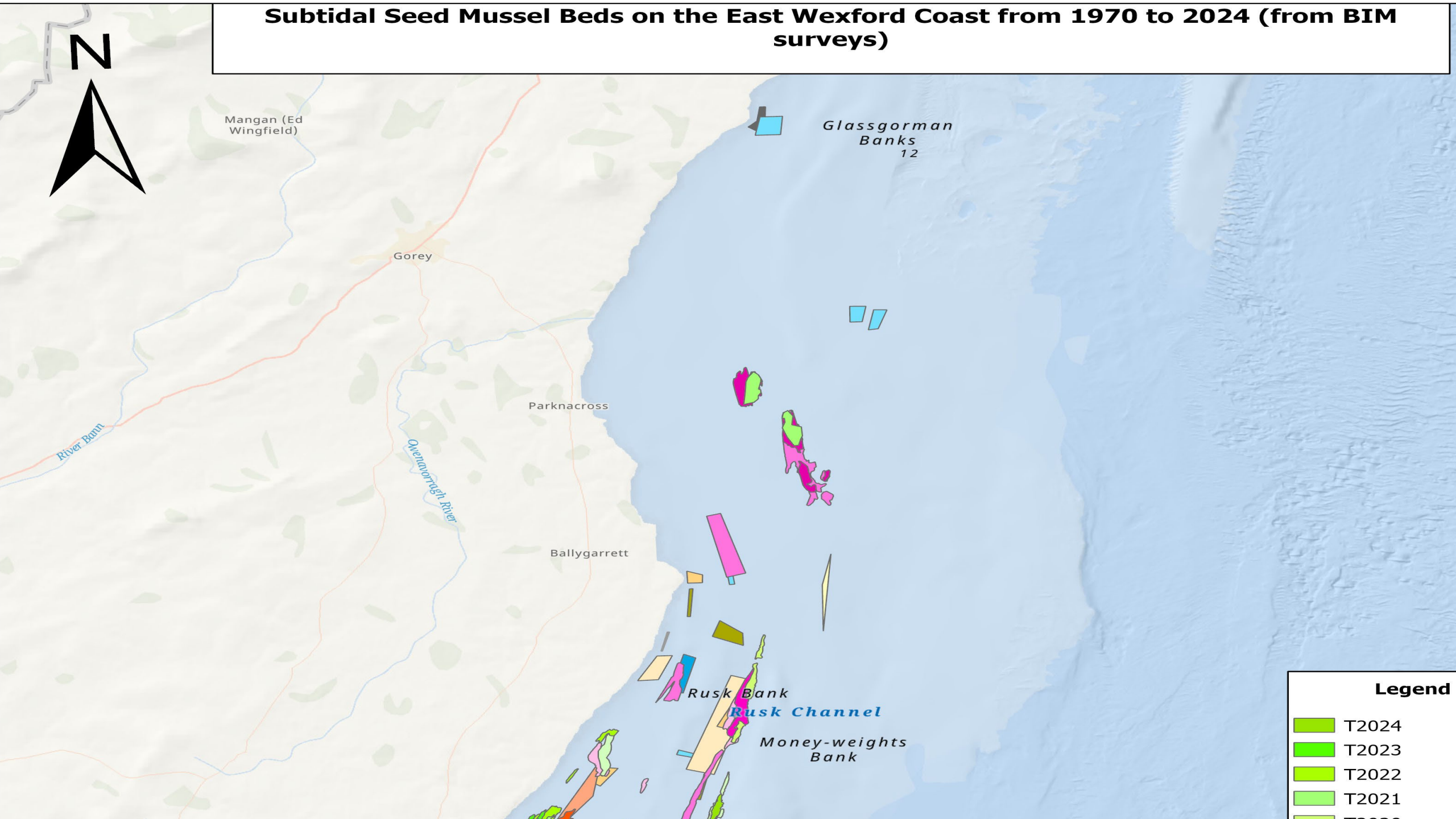


Subtidal Seed Mussel Beds on the Wicklow Coast from 1970 to 2024 (from BIM surveys)



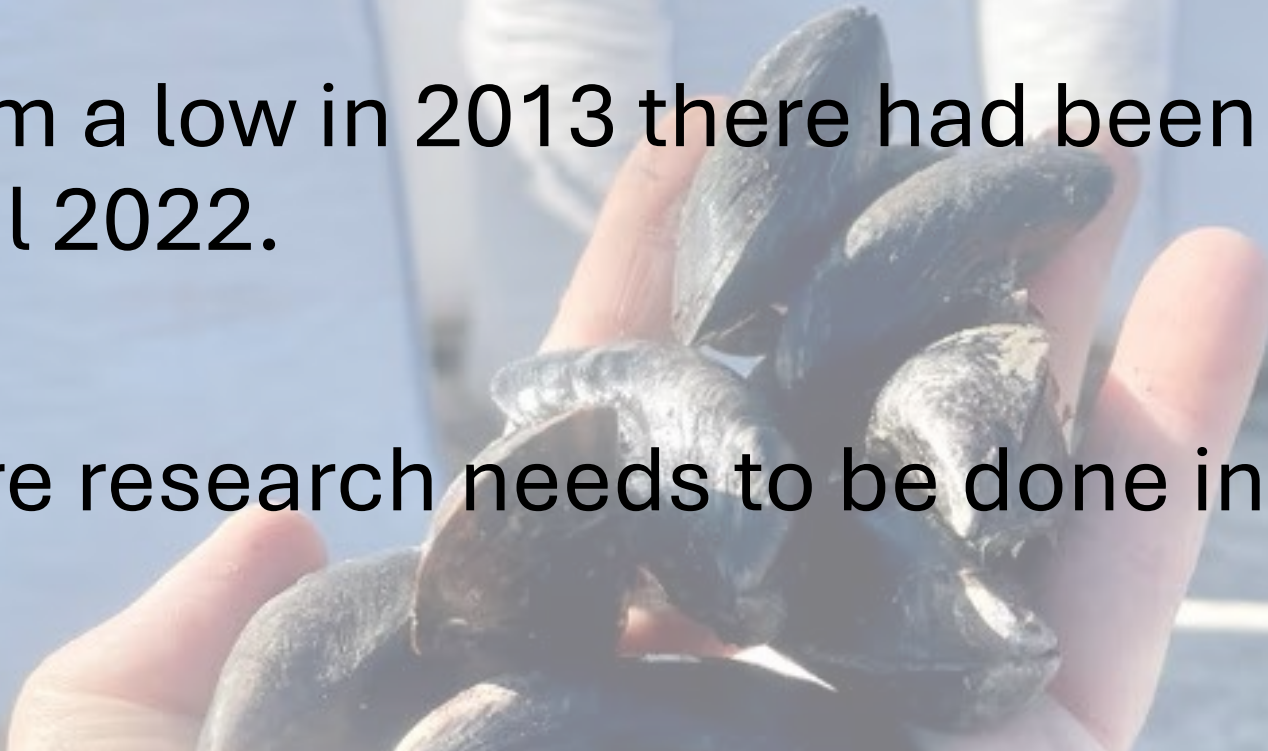


Subtidal Seed Mussel Beds on the East Wexford Coast from 1970 to 2024 (from BIM surveys)



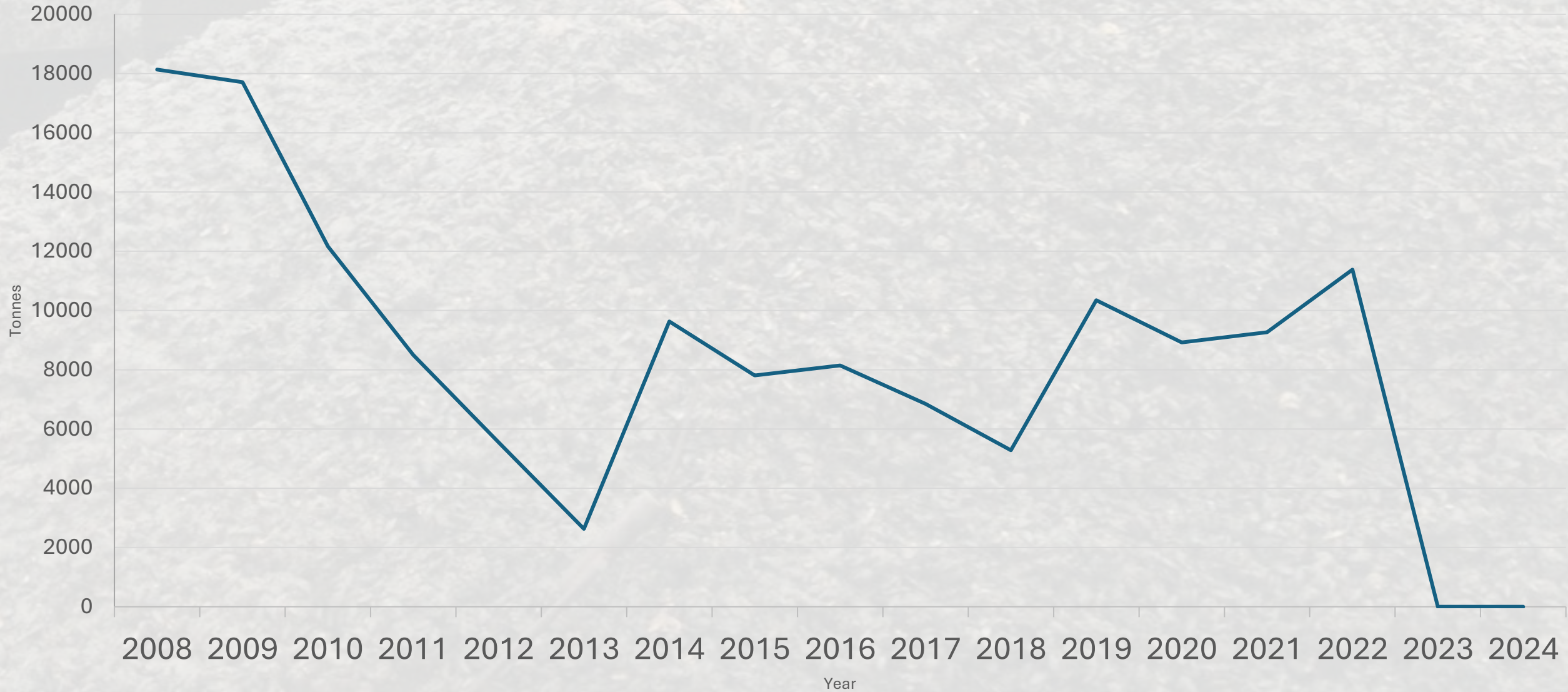
SEED INPUTS

- There has been an overall decline in seed fished since 2008.
- From a low in 2013 there had been a recovery up until 2022.
- More research needs to be done in this area.



Tonnages and Seed Scarcity

Transplanted Seed Mussel Tonnage for the Irish Sea - 2008 to 2024



Correlation to Morecambe Bay Fishery

- Fluctuations in seed availability in the Irish Sea and Morecambe Bay show a notable correlation.
- Good seed availability in Morecambe Bay often coincides with poor seed availability in the southern Irish Sea.
- Shared environmental factors like water temperature, currents, and spawning cycles may influence these patterns.
- Monitoring both fisheries is essential for predicting seed availability and planning sustainable operations.

So, Where To Now

- The bottom culture mussel industry is a vital part of Ireland's aquaculture sector.
- Seed availability is crucial for maintaining production levels and ensuring profitability.
- Historical patterns show a geographical shift in seed collection areas and a correlation with Morecambe Bay seed availability.
- There are positives going forward.

The Positive Future of the Bottom Mussel Fishery

Opportunities for Growth:

- Expanding Seed Sources. New areas like Cork Harbour and the use of lines look promising.
- Improved Monitoring and Management. Advanced seed monitoring and data-driven decision-making can boost sustainability.
- Strong Market Demand. Growing in demand for high-quality Irish mussels supports long-term profitability.

Focus on Sustainability

- Emphasis on environmentally integrated aquaculture practices.
- **Collaboration with research institutions** to better understand seed patterns and environmental changes.



Building Resilience and Innovation

A faded background image of a fishing boat, likely a trawler, on the water. The boat has a blue hull with the number 'VT-231' visible. It features a complex rig of masts and ropes, and is positioned in front of a distant shoreline with hills under a hazy sky.

- Diversification of Seed Sources: New areas and collaboration...
- Investment in Technology: Real-time data for monitoring environmental changes and seed migration patterns.
- Stakeholder Collaboration: Continue partnerships between industry, government, and scientific communities.

The background image shows a salmon processing facility. In the foreground, several large white bulk bags filled with dark, processed salmon are visible. In the background, workers in blue uniforms and yellow aprons are operating machinery, including a conveyor belt and a large circular processing unit. The scene is industrial and brightly lit.

Maintaining Quality Standards

- Ensuring **high-quality, sustainable production** will strengthen Ireland's reputation in global markets.
- **Adapting to climate changes** to protect and grow the industry.

- 
- A young girl with blonde pigtails, wearing a pink long-sleeved shirt and floral patterned pants, is sitting in a large black leather captain's chair on a boat. She is holding a small black electronic device, possibly a GPS or a small tablet, and looking at it with a smile. The chair is positioned in front of a wooden dashboard. On the dashboard, there is a fishing chart and a newspaper titled "FISHING NEWS" with the headline "HARE CHOKER THREAT". To the left of the chair, there is a wooden cabinet with a television on top. The background shows the boat's interior and windows looking out onto a bright day.
- The Mussel Industry has a bright future but we need to protect it and work together for the next generation...