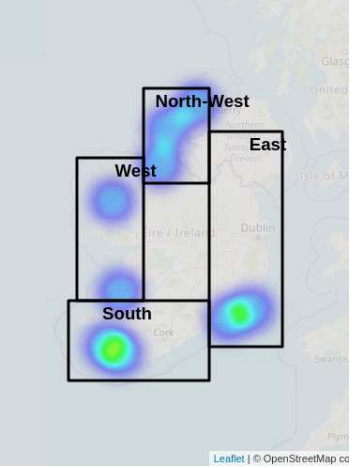
# Ireland's Harmful Algal Bloom Bulletin: Prediction Summary Week 45 01/11/26 - 07/11/26

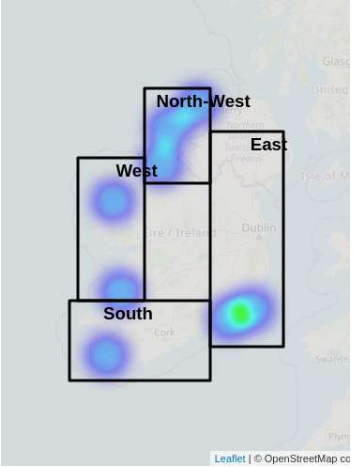
Foras na Mara Marine Institute

## Diarrhetic Shellfish Toxins



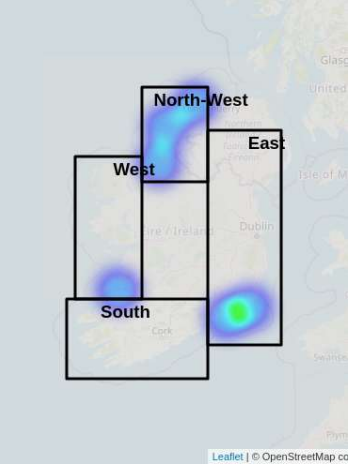

| | |
|---|---|
| Toxic Sites | 0 |
| Analysed Sites | 23 |

## Azaspiracid Shellfish Toxins



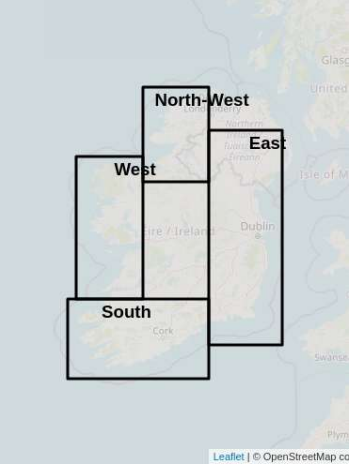

| | |
|---|---|
| Toxic Sites | 0 |
| Analysed Sites | 23 |

## Amnesic Shellfish Toxins



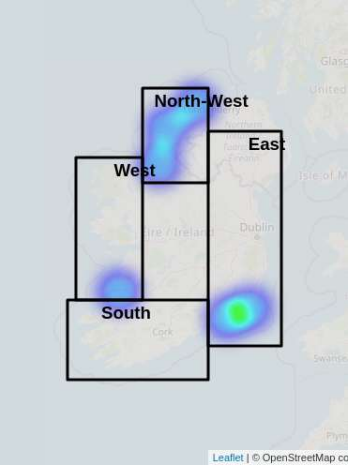

| | |
|---|---|
| Toxic Sites | 0 |
| Analysed Sites | 23 |

## Paralytic Shellfish Toxins




| | |
|---|---|
| Toxic Sites | 0 |
| Analysed Sites | 0 |

## Yessotoxins




| | |
|---|---|
| Toxic Sites | 0 |
| Analysed Sites | 23 |

AST: (Amnesic shellfish toxin) Low Risk: *Pseudo-nitzschia* species cell levels are observed on all coasts. Caution advised.

AZA: (Azaspiracid toxin) Low/Medium risk. Quantifiable AZA of up to 0.03 observed in Bantry Bay sites from Week 44. Azadinium spp. counts indicate presence and spread of potential cells on all coasts especially SW & SE Coasts. Caution advised.

DST: (Dinophysis shellfish toxin) Medium/High Risk: Quantifiable DST of up to 0.05 observed in the Southwest location of Kenmare Bay & 0.02 in Bantry Bay.

PST: (Paralytic shellfish toxins) Low Risk Alexandrium spp. cells observed at low levels on all coasts.

# Diarrhetic Shellfish Toxins & *Dinophysis* species

Regional 4-Week Trends 04/10/26 - 31/10/26

Foras na Mara Marine Institute

In this 4 week period there were 159 Samples tested for DST. These samples were collected at 67 Sites around the country. Resulting in 0 Site(s) with values above the regulatory limit of 0.16 µg/g

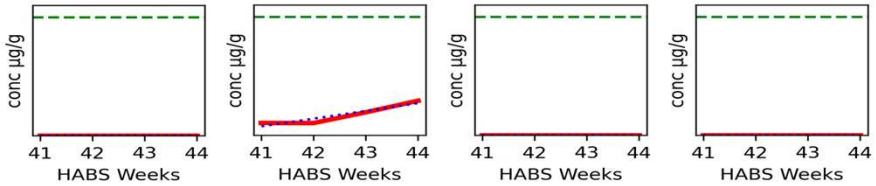
| North-West | South | East | West |
|---|---|---|---|

The plots below indicate the maximum concentration per site in the 4 week period and coloured as follows

>100% threshold | 50-100% threshold | 0-50% threshold | <Limit of Quantification




---- indicates the regulatory threshold. These plots show the max value per week for the previous 4 weeks.

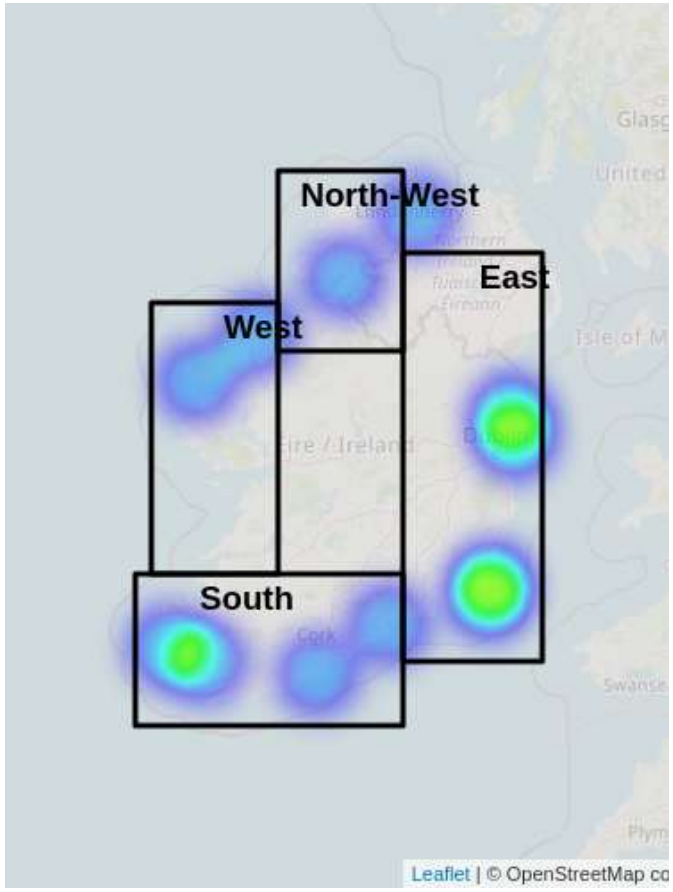



| | | | | |
|---|---|---|---|---|
| Risk: | Low | Medium | Low | Low |
| Trend: | → | ↑ | → | → |

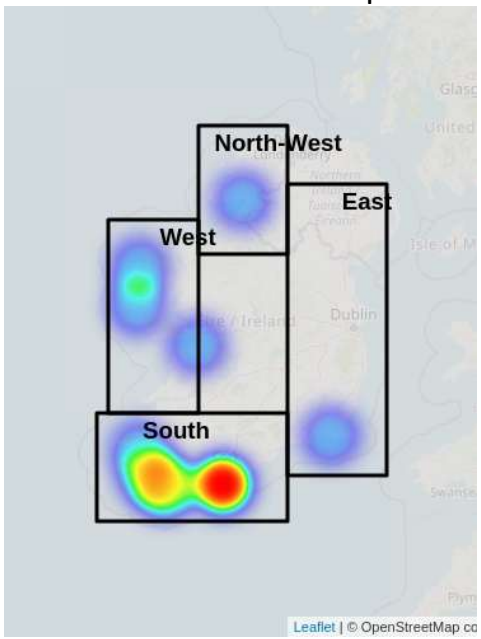
Risk:

Quantifiable DST of up to 0.05 observed in the Southwest location of Kenmare Bay & 0.02 in Bantry Bay.

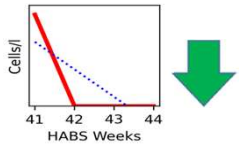
## Diarhettic Shellfish Toxins National 4-Week Heatmap



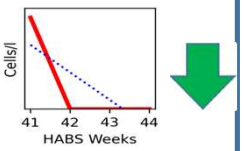

## Phytoplankton *Dinophysis spp.* 4 Week Heatmap



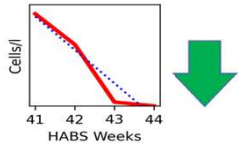

North-West



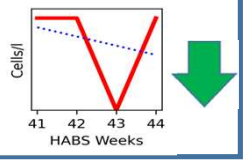

East




South




West

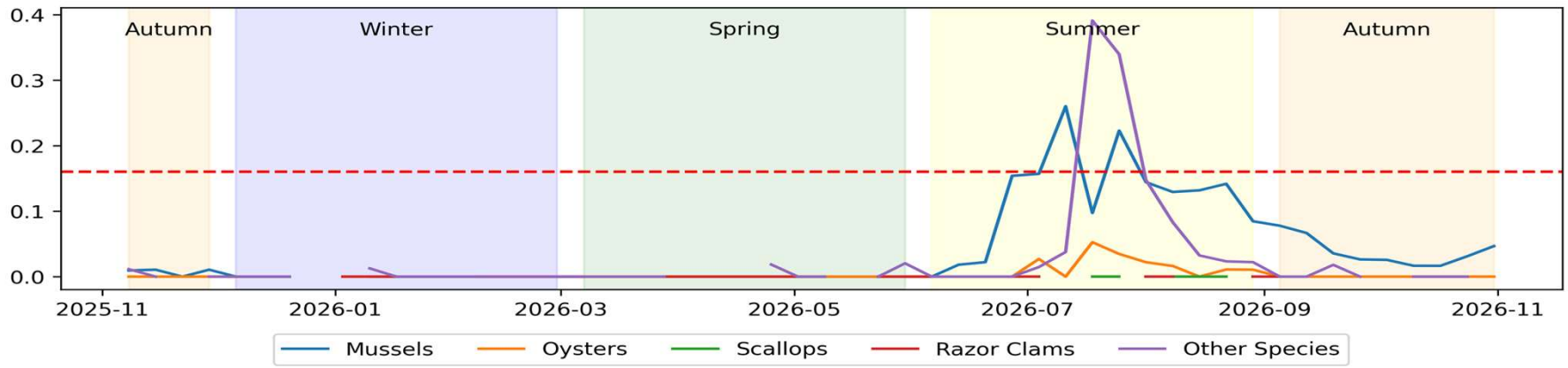


# Diarrhetic Shellfish Toxins & *Dinophysis* species

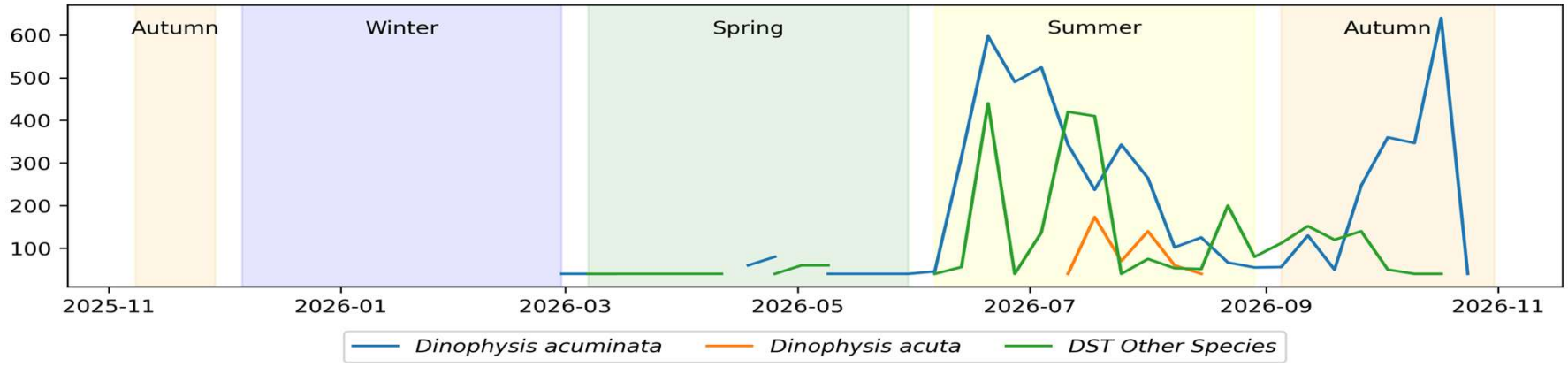
National Yearly Trend 01/11/25 - 31/10/26

Foras na Mara
Marine Institute

Trend of Maximum Toxin concentrations in Shellfish Species (measured in µg/g)




Trend of Average Counts of Toxin Causing PhytoPlankton Species Per Week *(measured in Cells per Litre)*



# Azaspiracid Shellfish Toxins & *Azadinium* species

Regional 4-Week Trends 04/10/26 - 31/10/26

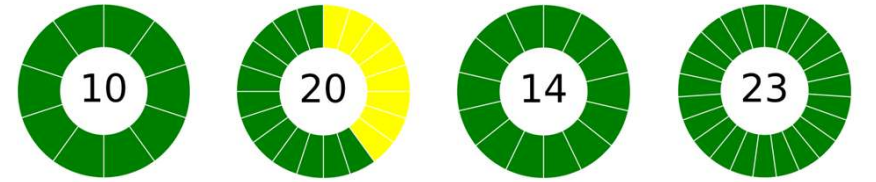
Foras na Mara Marine Institute

In this 4 week period there were 159 Samples tested for AZT. These samples were collected at 67 Sites around the country. Resulting in 0 Site(s) with values above the regulatory limit of 0.16 µg/g

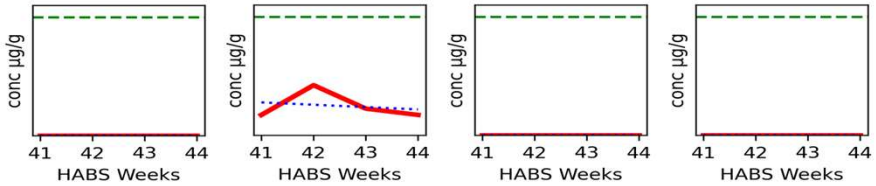
| North-West | South | East | West |
|---|---|---|---|

The plots below indicate the maximum concentration per site in the 4 week period and coloured as follows

>100% threshold | 50-100% threshold | 0-50% threshold | <Limit of Quantification




---- indicates the regulatory threshold. These plots show the max value per week for the previous 4 weeks.

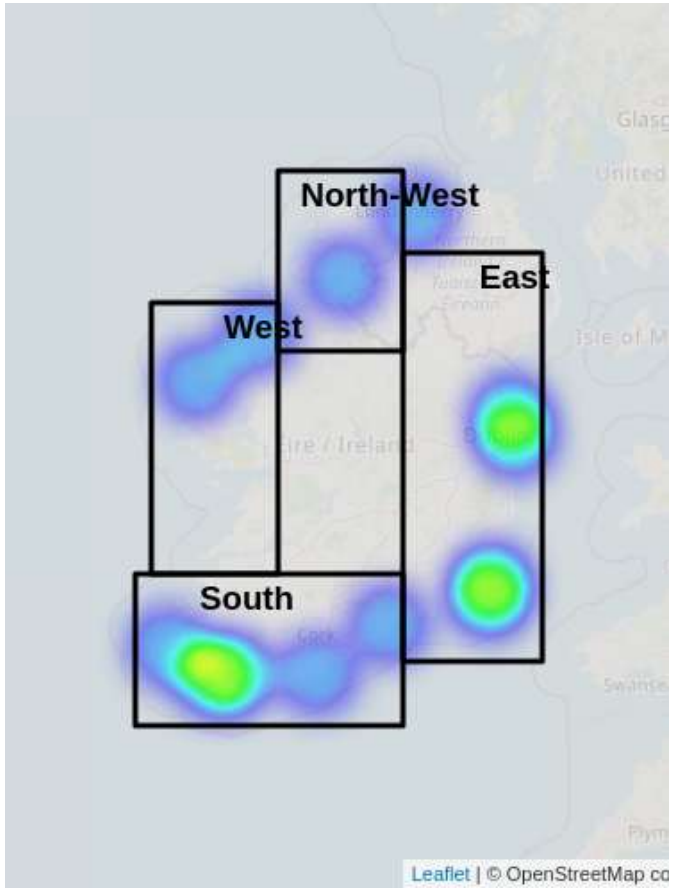



| | North-West | South | East | West |
|---|---|---|---|---|
| Risk: | Low | Medium | Low | Low |
| Trend: | → | → | → | → |

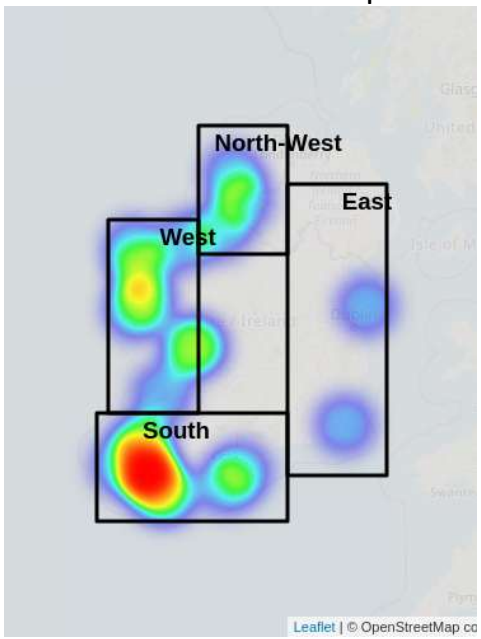
Risk:

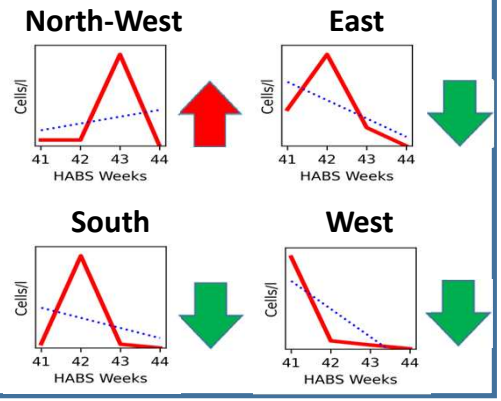
Quantifiable AZA of up to 0.03 observed in Bantry Bay sites from Week 44. Caution still advised.

## Azaspiracid Shellfish Toxins National 4-Week Heatmap




## Phytoplankton *Azadinium spp.* 4 Week Heatmap



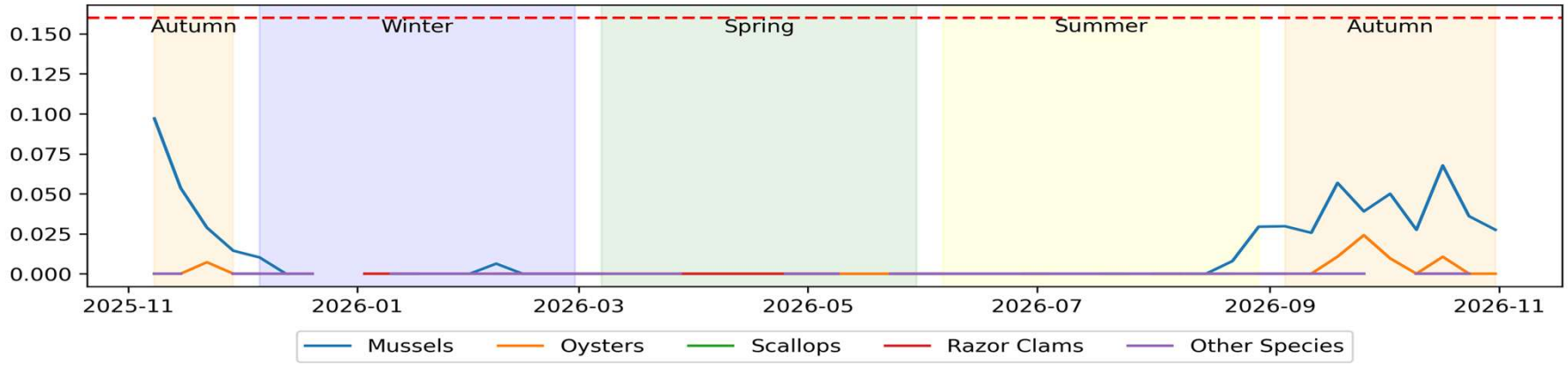



# Azaspiracid Shellfish Toxins & *Azadinium* species

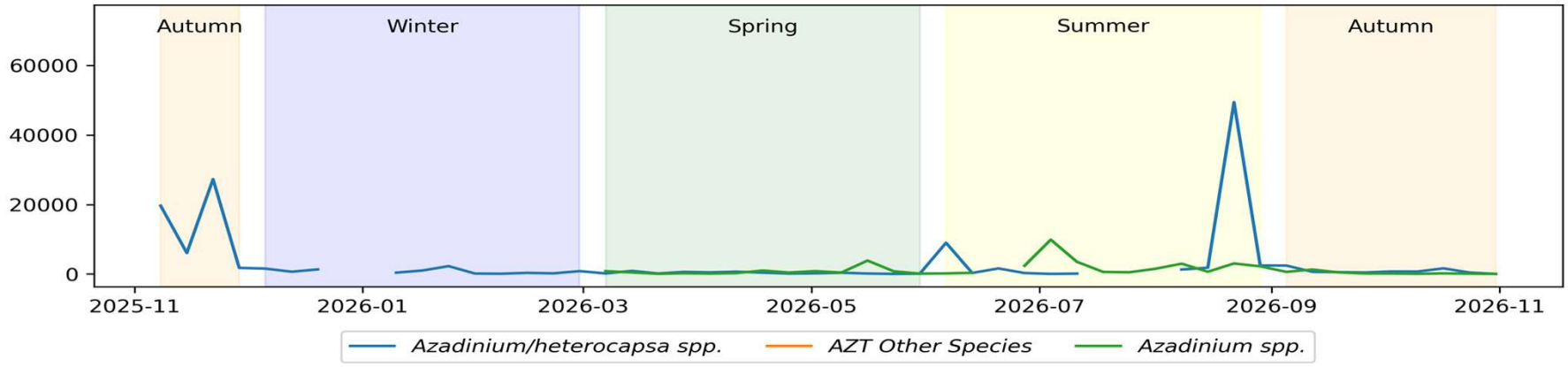
National Yearly Trend 01/11/25 - 31/10/26

Foras na Mara Marine Institute

Trend of Maximum Toxin concentrations in Shellfish Species (measured in µg/g)




Trend of Average Counts of Toxin Causing PhytoPlankton Species Per Week *(measured in Cells per Litre)*



# Amnesic Shellfish Toxins & *Pseudo-nitzschia* species

Regional 4-Week Trends 04/10/26 - 31/10/26

Foras na Mara Marine Institute

In this 4 week period there were 162 Samples tested for AST. These samples were collected at 67 Sites around the country. Resulting in 0 Site(s) with values above the regulatory limit of 20.0 mg/kg

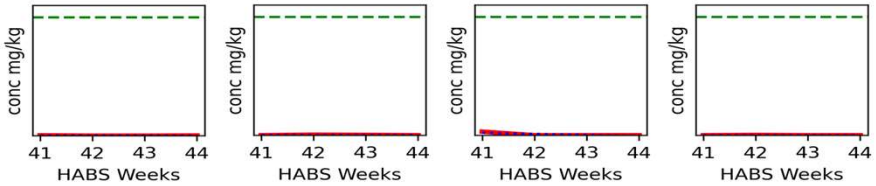
| North-West | South | East | West |
|---|---|---|---|

The plots below indicate the maximum concentration per site in the 4 week period and coloured as follows

>100% threshold | 50-100% threshold | 0-50% threshold | <Limit of Quantification




---- indicates the regulatory threshold. These plots show the max value per week for the previous 4 weeks.

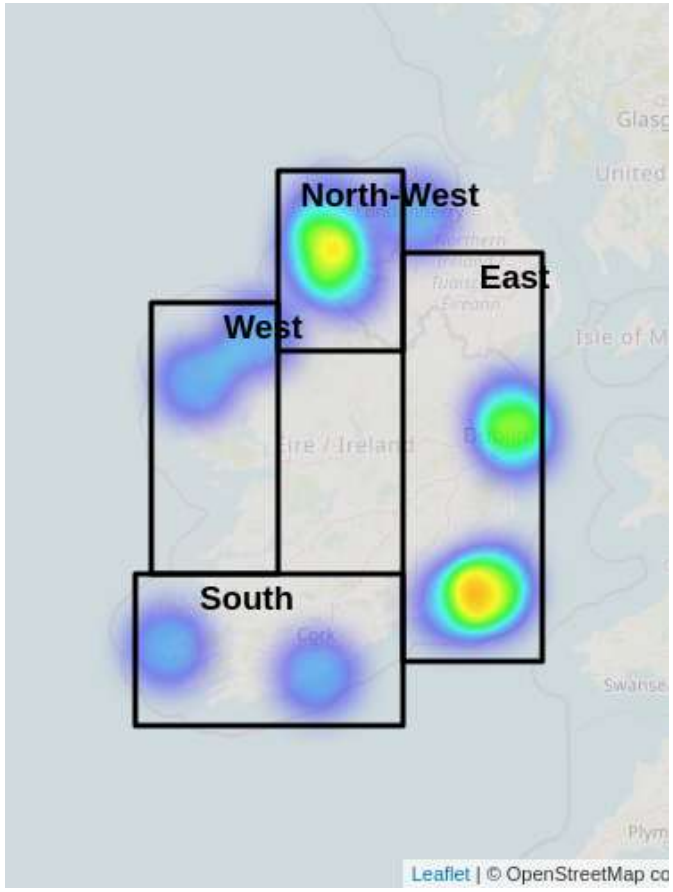



| | | | | |
|---|---|---|---|---|
| Risk: | Low | Low | Low | Low |
| Trend: | → | → | → | → |

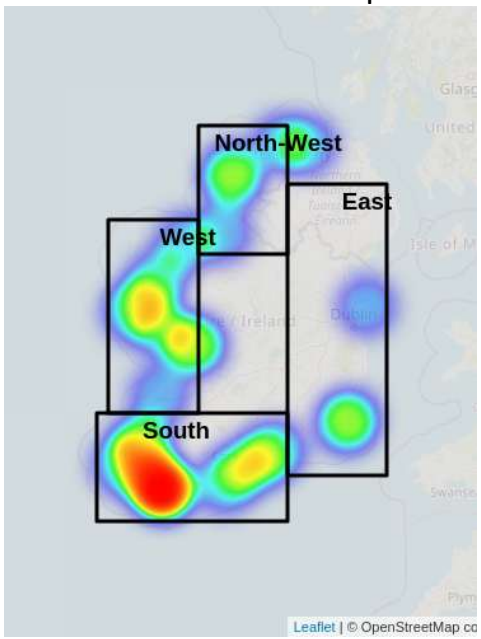
Low Risk:

*Pseudo-nitzschia* species cell levels are observed on all coasts. Caution advised.

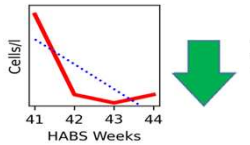
## Amnesic Shellfish Toxins
## National 4-Week Heatmap



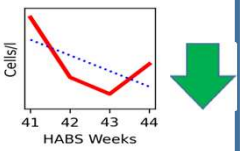

## Phytoplankton *Pseudo-nitzschia spp.*
## 4 Week Heatmap



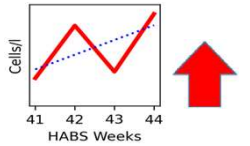

**North-West**



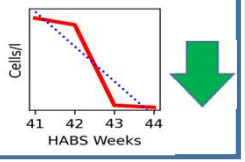

**East**




**South**




**West**

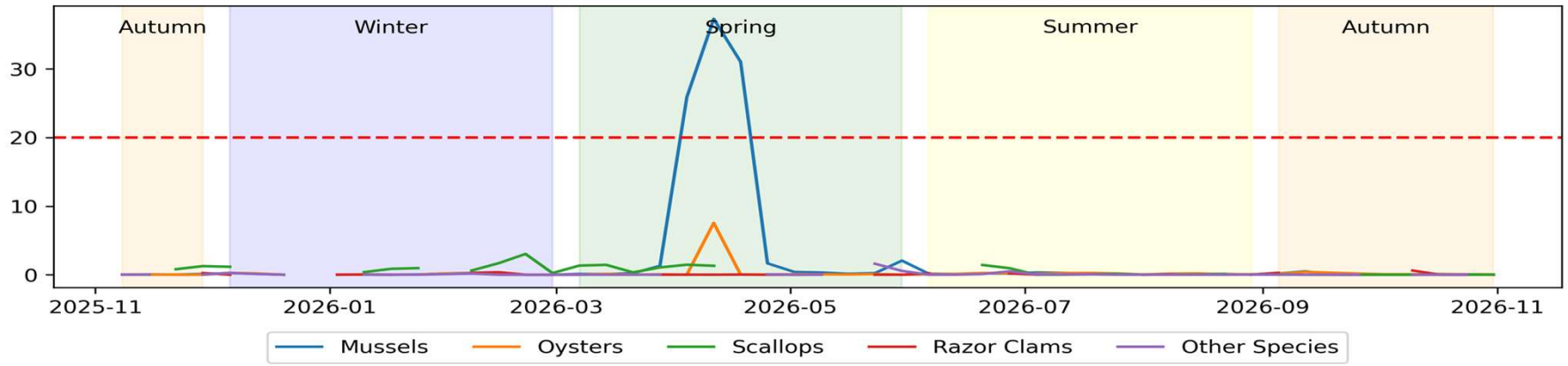


# Amnesic Shellfish Toxins & *Pseudo-nitzschia* species

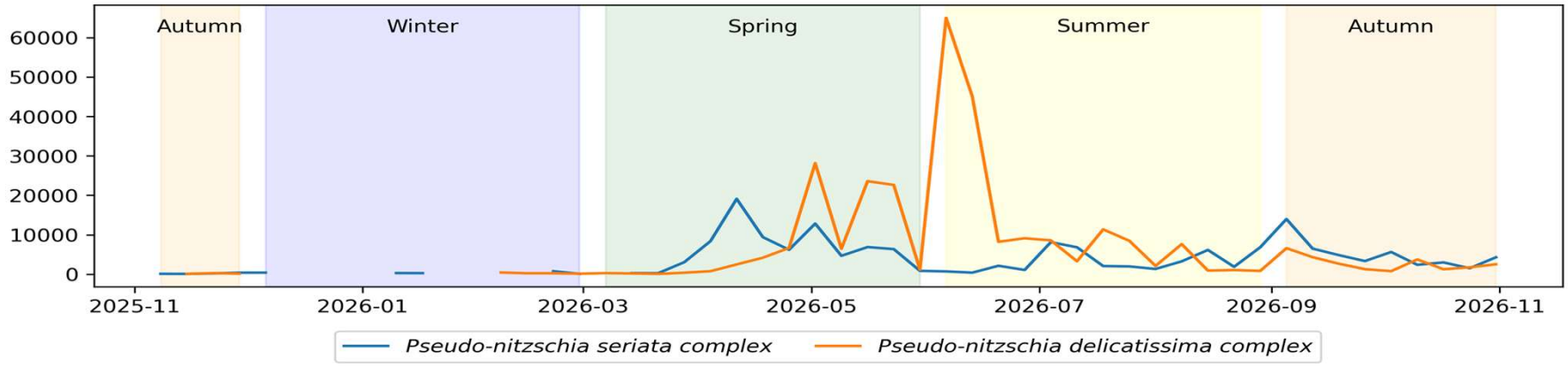
National Yearly Trend 01/11/25 - 31/10/26

Foras na Mara Marine Institute

Trend of Maximum Toxin concentrations in Shellfish Species (measured in mg/kg)




Trend of Average Counts of Toxin Causing PhytoPlankton Species Per Week *(measured in Cells per Litre)*



# Paralytic Shellfish Toxins & *Alexandrium* species

Regional 4-Week Trends 04/10/26 - 31/10/26

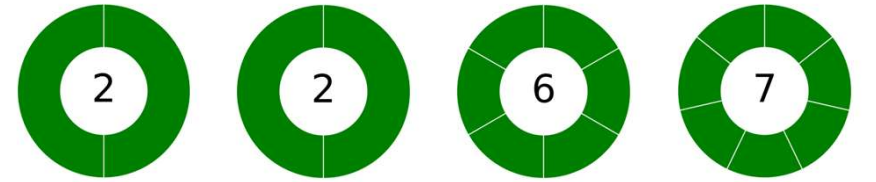
Foras na Mara Marine Institute

In this 4 week period there were 23 Samples tested for PST. These samples were collected at 17 Sites around the country. Resulting in 0 Site(s) with values above the regulatory limit of 800.0 µg/kg

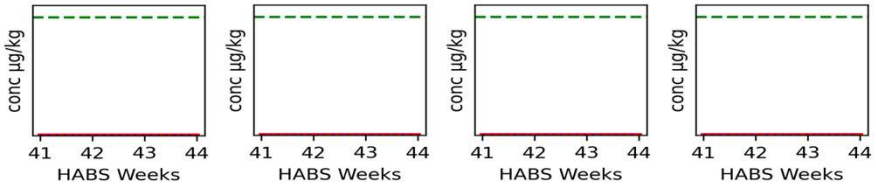
| North-West | South | East | West |
|---|---|---|---|

The plots below indicate the maximum concentration per site in the 4 week period and coloured as follows

>100% threshold | 50-100% threshold | 0-50% threshold | <Limit of Quantification




---- indicates the regulatory threshold. These plots show the max value per week for the previous 4 weeks.

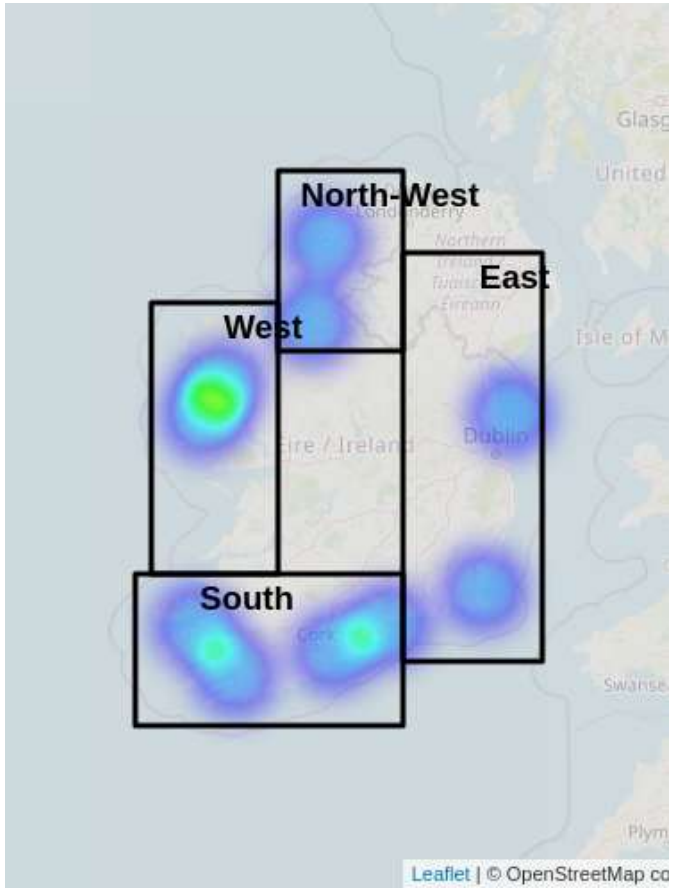



| | North-West | South | East | West |
|---|---|---|---|---|
| Risk: | Low | Low | Low | Low |
| Trend: | → | → | → | → |

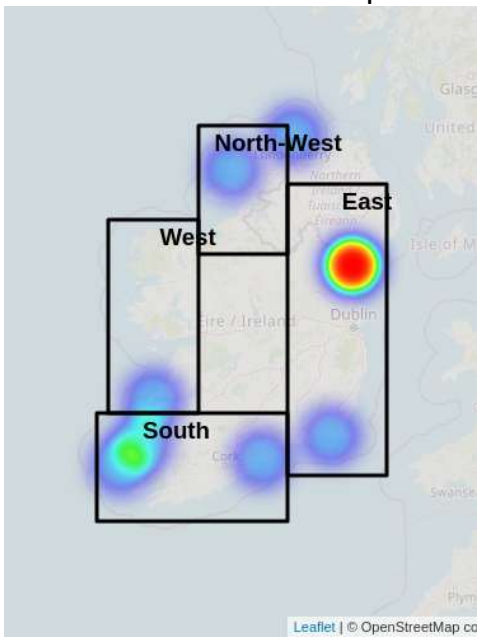
## Low Risk:

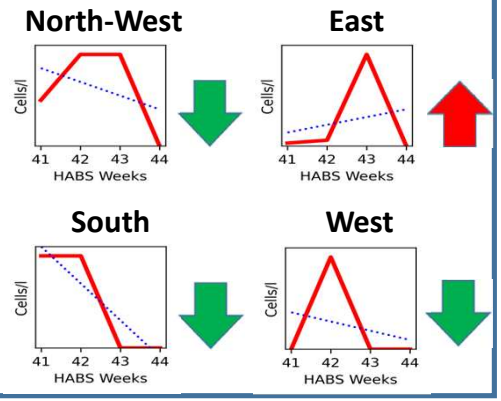
Low Risk Alexandrium spp. cells observed at low levels on all coasts.

## Paralytic Shellfish Toxins National 4-Week Heatmap




## Phytoplankton *Alexandrium spp.* 4 Week Heatmap



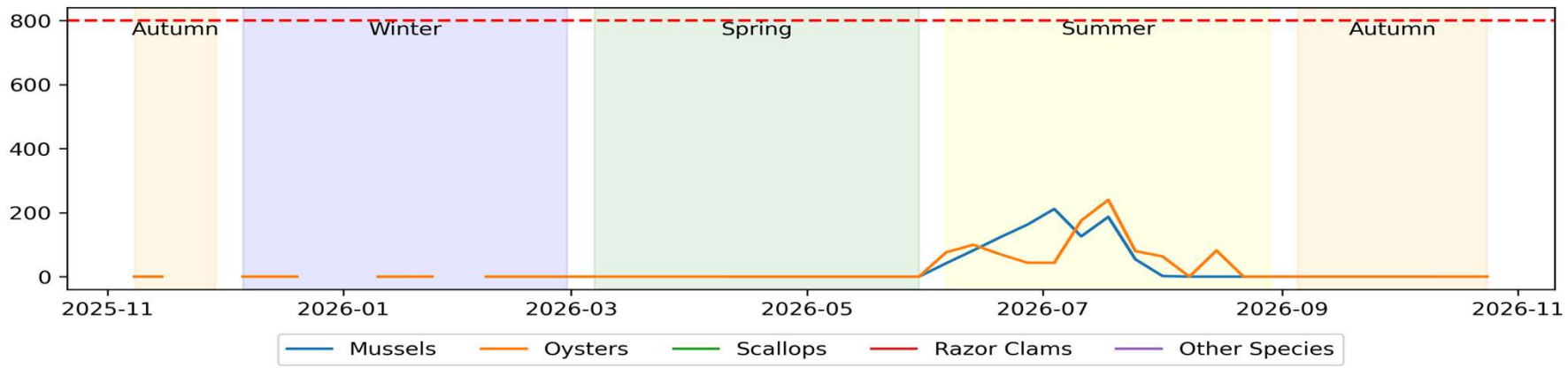



# Paralytic Shellfish Toxins & *Alexandrium* species

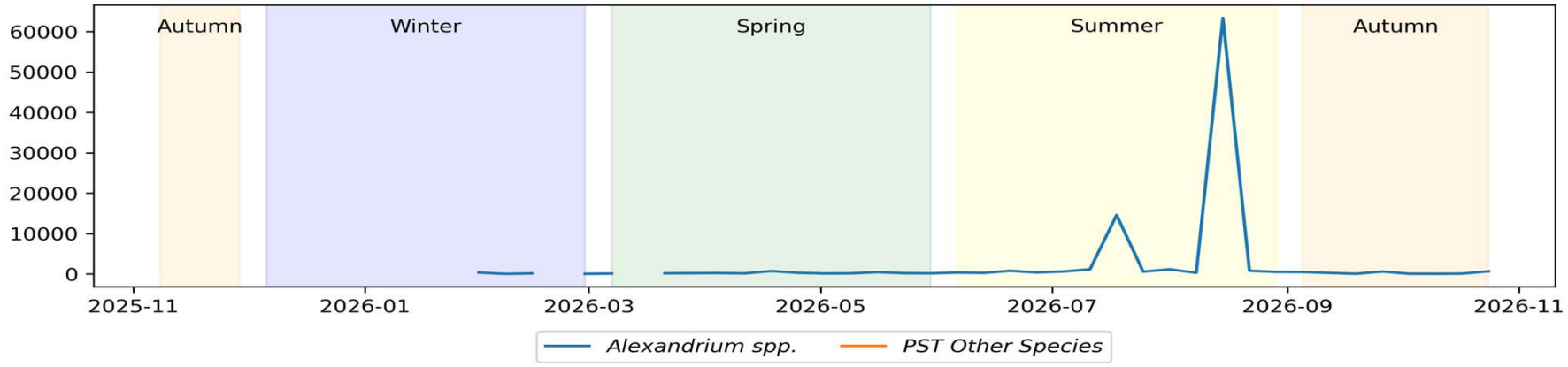
National Yearly Trend 01/11/25 - 31/10/26

Foras na Mara Marine Institute

Trend of Maximum Toxin concentrations in Shellfish Species (measured in µg/kg)



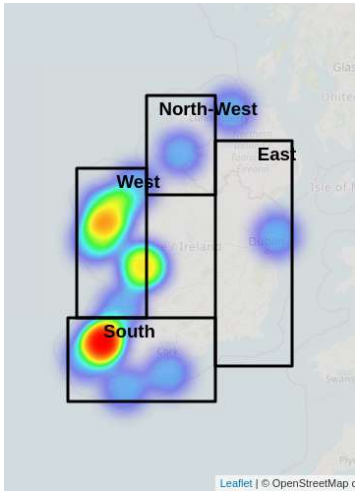

Trend of Average Counts of Toxin Causing PhytoPlankton Species Per Week *(measured in Cells per Litre)*



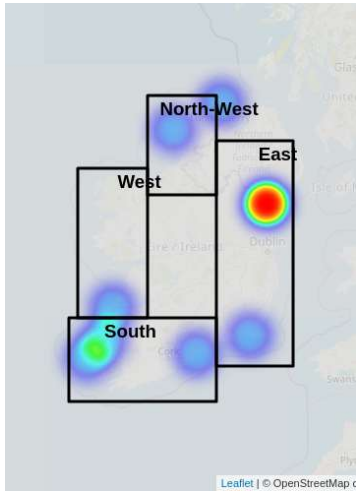
# Fish Harming Phytoplankton

National 4-Week Analysis: 04/10/26 to 31/10/26

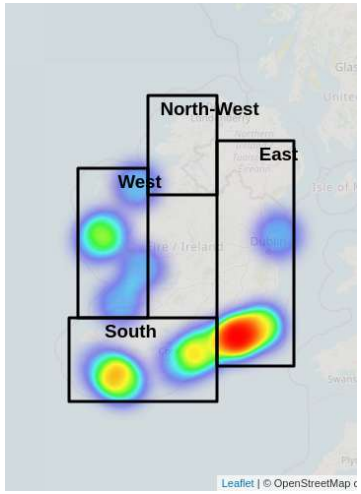
Foras na Mara Marine Institute



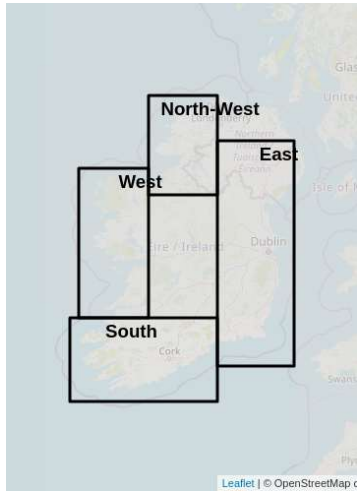

*Heterocapsa sp.*



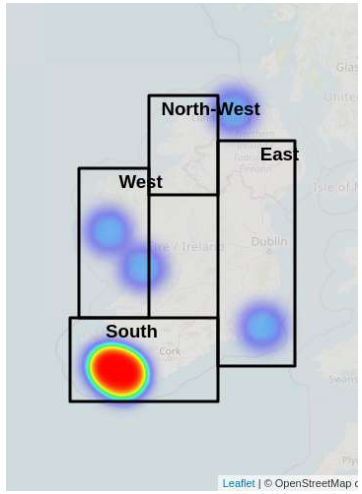

*Alexandrium sp.*



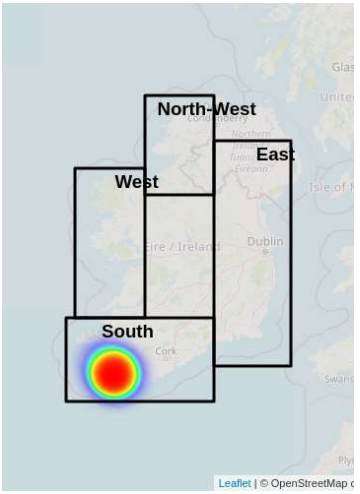

*Coscinodiscus sp.*




*Phaeocystis sp.*

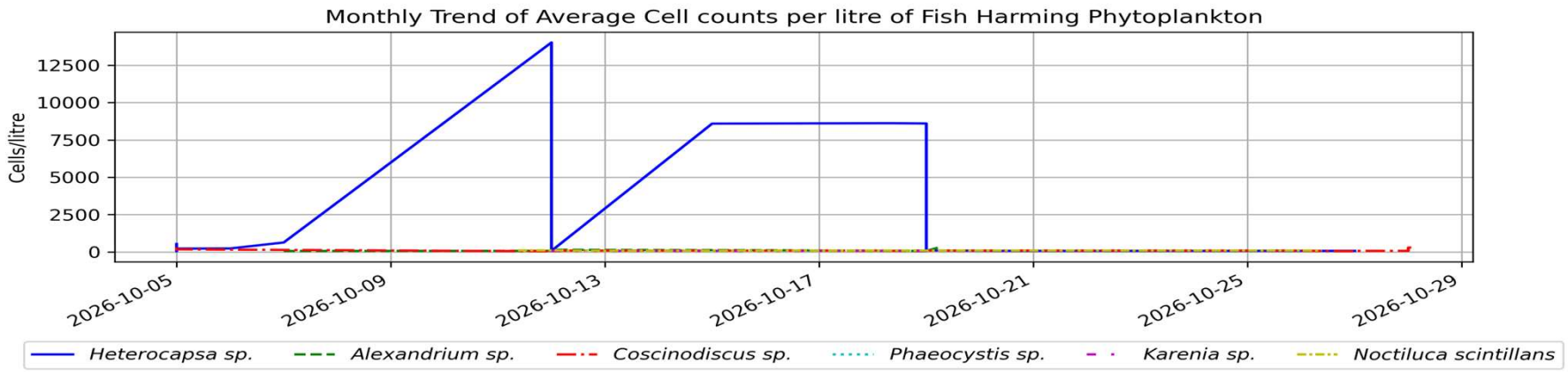



*Karenia sp.*




*Noctiluca Scintillans*

Phytoplankton cell levels are in line with this time of the year. Offshore Sea water temperatures reducing & light levels are at early Winter levels. Offshore transportation potential higher likelihood of occurrence as insitu risk levels of HABs growth increasing significantly. Any Phytoplankton species at sufficient numbers may cause temporary issues in water quality which could impact specific areas over the course of a tidal cycle or for a period of days while specific suitable conditions prevail. Please note some blooms can occur rapidly and acutely. If concerned about a problematic or toxic species level please check specific site information updates at www.marine.ie.

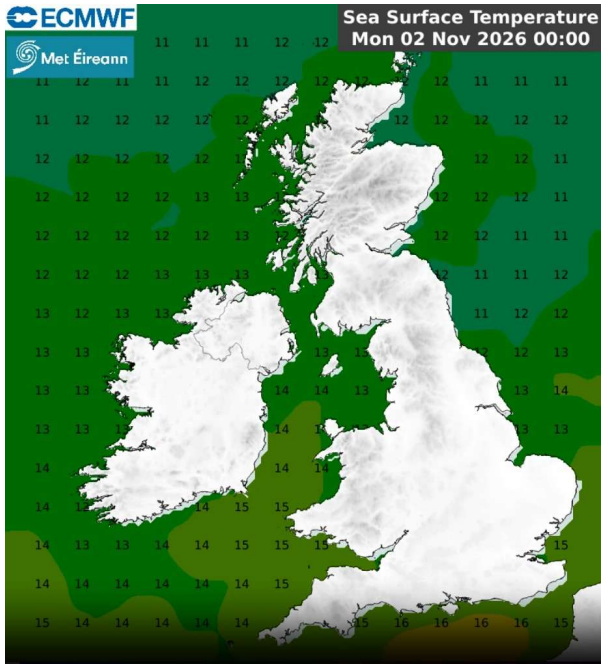


# Satellite Imagery & Oceanographic Data

Surface Chlorophyll and Temperature

Foras na Mara Marine Institute

## Sea Surface Temperature (° C)




## Chlorophyll Concentrations (mg/m3)




Sea water temperatures reducing to Winter levels offshore areas with onshore movements & light levels decreasing. *Dinophysis Spp.* & Azadinium Spp. still observed in the Southwest. *Alexandrium spp* observed on all western coasts. Please check specific area information for local activity.

**Marine Institute Data Buoy – Temperature Data**

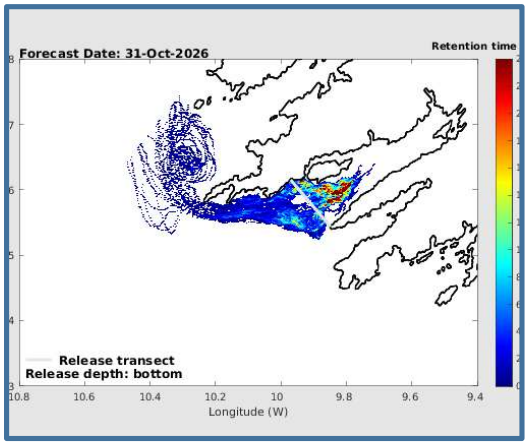



- M4: No buoy data available this week
- SW Coast (M3) Average SST of 13.87 Celcius: Increase of 0.57 Celcius over the historic Weekly Average
- SE Coast (M5) Average SST of 14.92 Celcius: Increase of 1.18 Celcius over the historic Weekly Average

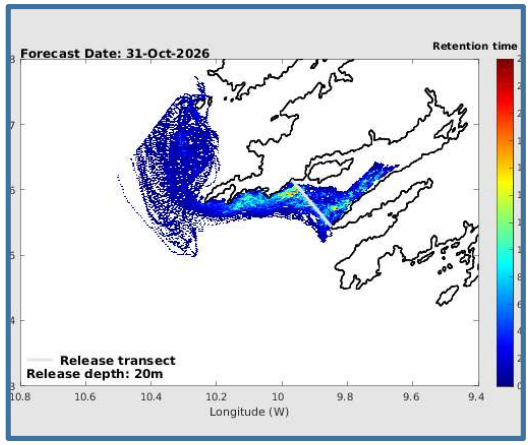
# Ireland modelled data: Estimated Water Pathway SOUTHWEST: Bantry Bay Forecast for the next 3 days

Foras na Mara Marine Institute

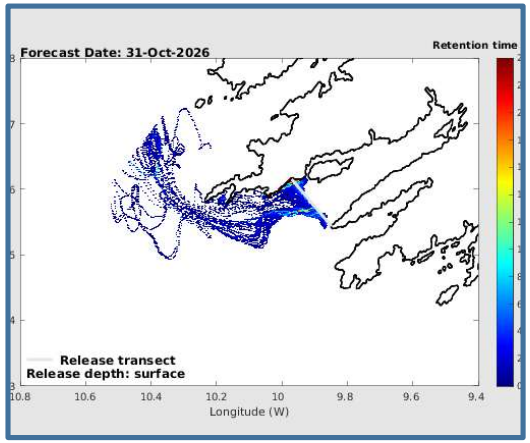
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface).
Reddish colours represent areas where phytoplankton remain longest. Cooler colours represent areas where phytoplankton remain for shorter periods




Bottom water



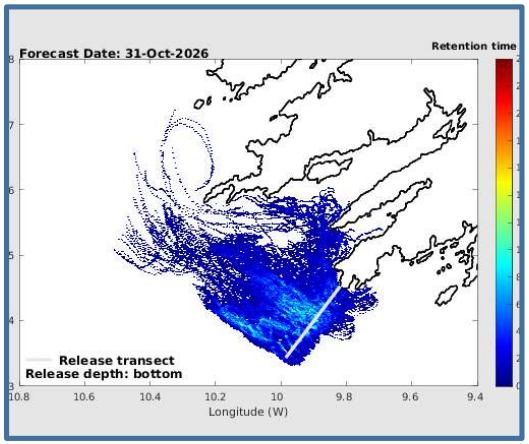

Water @ 20 metres

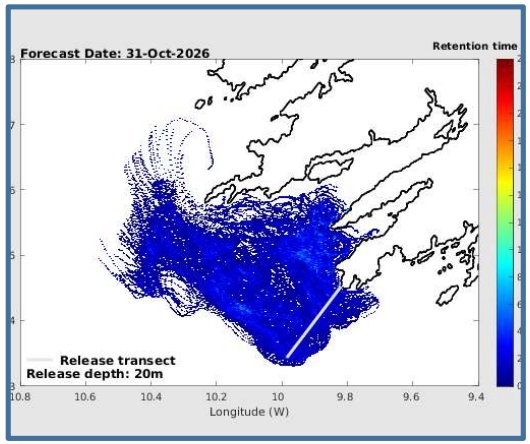


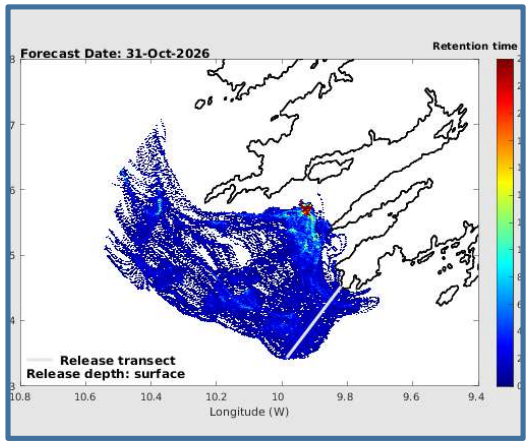

Surface water

## Mouth of Bantry Bay:

Moderate upwelling of offshore waters indicated as dominant transportation.



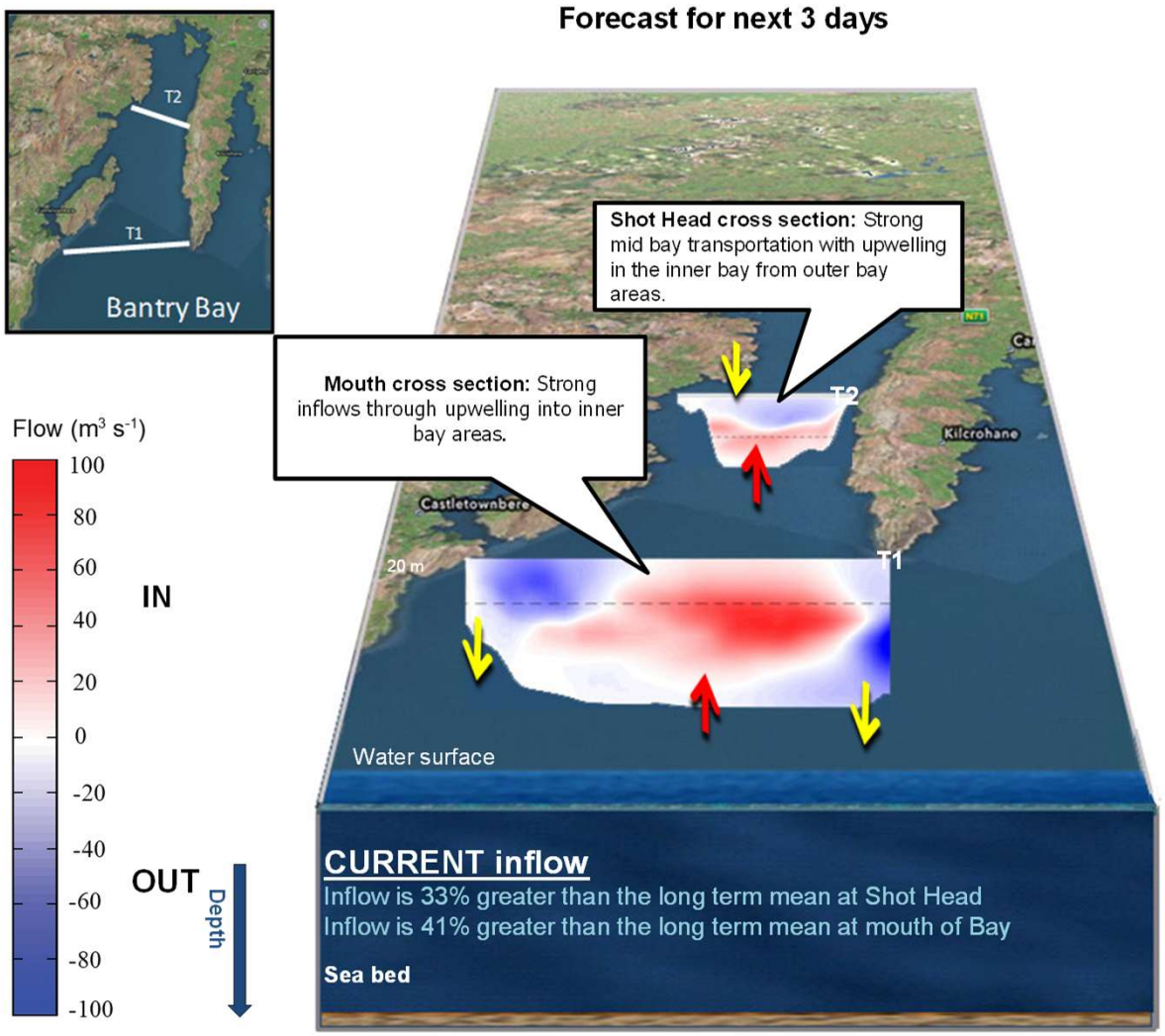




## Mizen Head:

Northern movements dominate in mid water and more southerly water movements at surface depths.

# Ireland modelled data: 3 day estimated water flows at the mouth and mid-bay sections of Bantry Bay

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# Ireland modelled data: Estimated Water Pathway

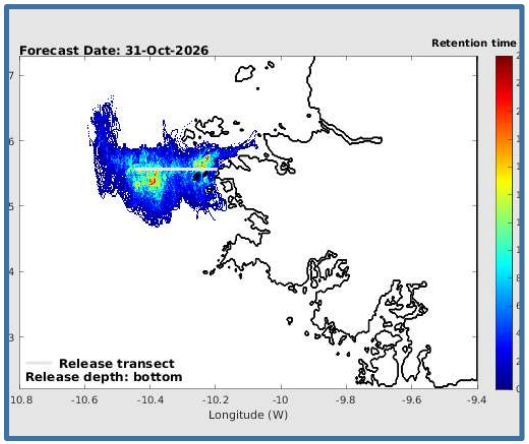
**West: Killary Harbour**

Forecast for the next 3 days

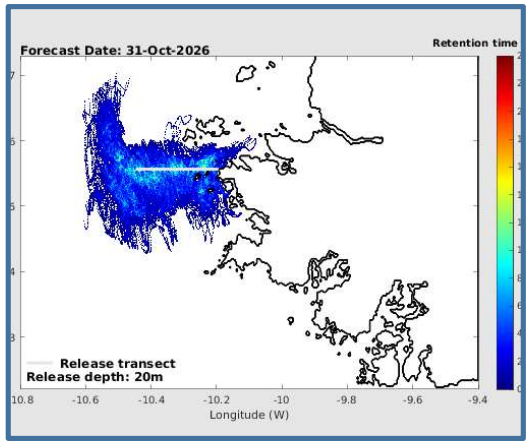
Foras na Mara Marine Institute

The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** i.e. white lines off Aughrus Point and the Mouth of Killary Harbour, and **water depths** (bottom, 20 metres and surface).

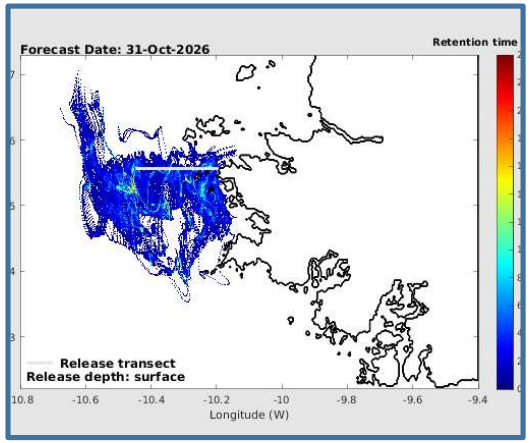
Reddish colours represent areas where phytoplankton remain longest. Cooler colours represent areas where phytoplankton remain for shorter periods




Bottom water



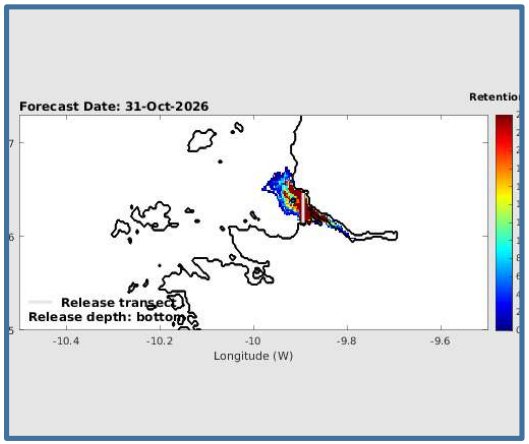

Water @ 20 metres

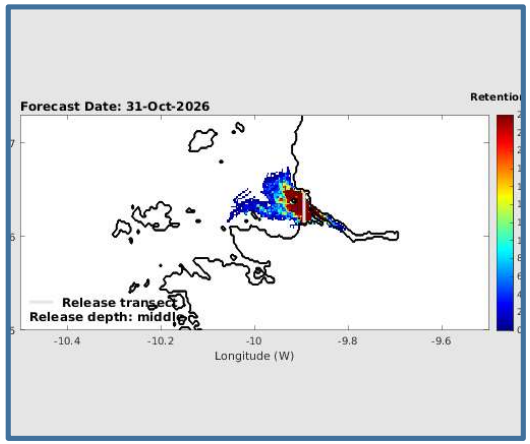


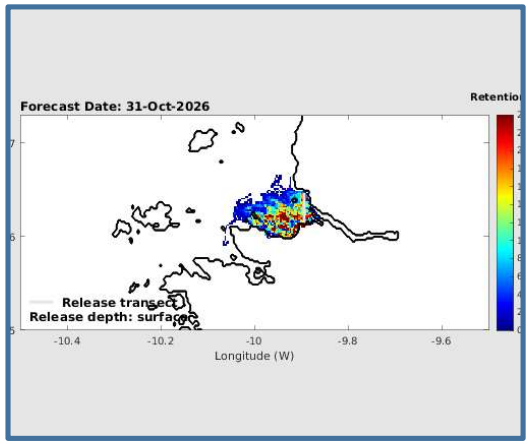

Surface water

## Cleggan

- Mostly southern movements in all depths.



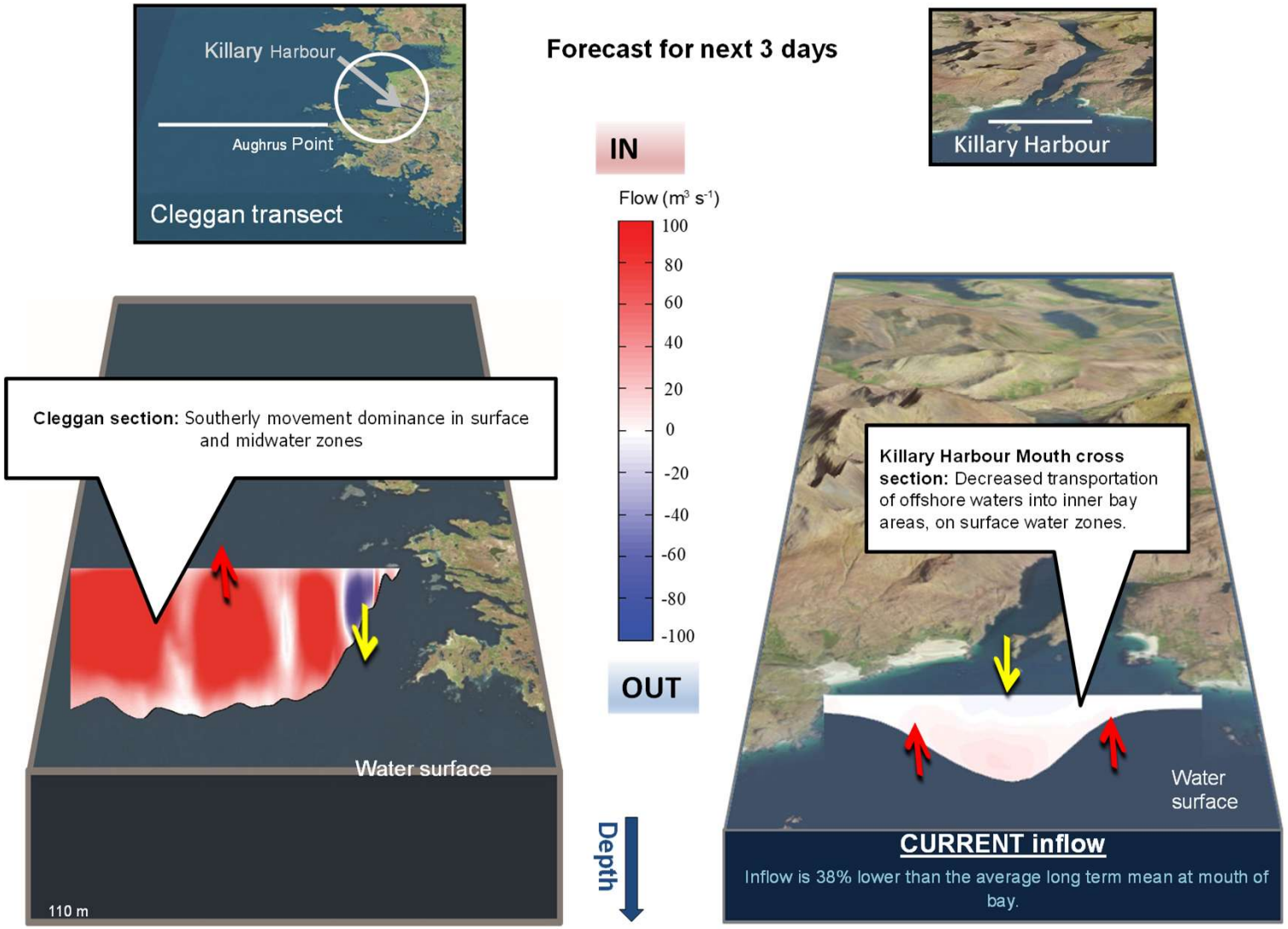




## Killary

- Upwelling of offshore water remains as main inshore transportation.

# Ireland modelled data: 3 day estimated water flows Killary and Cleggan Transects

Foras na Mara Marine Institute



Have a question? Please email us habs@marine.ie

This Harmful Algal Blooms (HAB) Bulletin aims to provide a short (3-5 day) predictive forecast on the likelihood of the onset of a HAB event occurring/continuing in a region.
The data provided for the compilation of this report is derived from a number of sources comprising of in-situ, remote sensing and hydrodynamic modelling datasets. For the latest and historical biotoxin and phytoplankton results for aquaculture production areas please visit https://webapps.marine.ie/habs

In-situ Data

- Biotoxin and Phytoplankton data is provided by National Monitoring Programmes from the HABs database (Marine Institute)
- Heat map images – Leaflet.

Remote Sensing Data

- Sea Surface Temperature Data Product: SST_NWS_SST_L4_NRT_OBSERVATIONS_010_003 (ODYESSA L4 SST from Copernicus CMEMS MCS).
- Chlorophyll image data is provided by:EUR-L4-CHL-ATL-v01 (IFREMER/ DYNECO and CERSAT).
- Sea Surface Temperature observations: Irish weather buoy network (Marine Institute).

Hydrodynamic modelled data

- Particle Tracking Simulation data: The downscale models of areas of particular interest (Bantry Bay, Killary Harbour and Cleggan Bay) incorporate online particle tracking with virtual particles released at pre-defined transects at the start of each model. The operational model produces an estimate of the ocean state once a week and a daily 3-day forecast of the dominant regional physical processes that result in water exchange events between the bay and its adjacent shelf (Marine Institute).
- Hydrodynamic model data: Hydrodynamic nowcast/forecast models show the latest 3-day volumetric flux forecast for vertical transects at the mouth and mid-bay. The results are plotted graphically on a map of the area.

Definitions

- A toxic site is defines as a site that had at least 1 result in the time period indicated greater than the regulatory limit.
- Heat maps represent relative distribution and patterns, and should not be interpreted as indicative of the maximum or absolute concentrations of a toxin in a region.
- Risk levels are calculated based on internal logic applied to measurements captured over the period, along with any additional information available to the evaluator. These risk levels are to be regarded as advisory only.
- Trends are calculated based on average or maximum values per week over the period of time and the slope of the line connecting these points.

Disclaimers

The predictions and comments produced within this bulletin our based on our expert opinion on the datasets and sources as outlined above. The Marine Institute cannot accept any responsibility for business and risk management decisions on harvesting and husbandry based on this report.

Acknowledgements

Funding for the development of this bulletin version has been provided by Interreg Atlantic Area Project: PRIMROSE (Predicting the Impact of Regional Scale events on the Aquaculture Sector) EAPA 182/2106