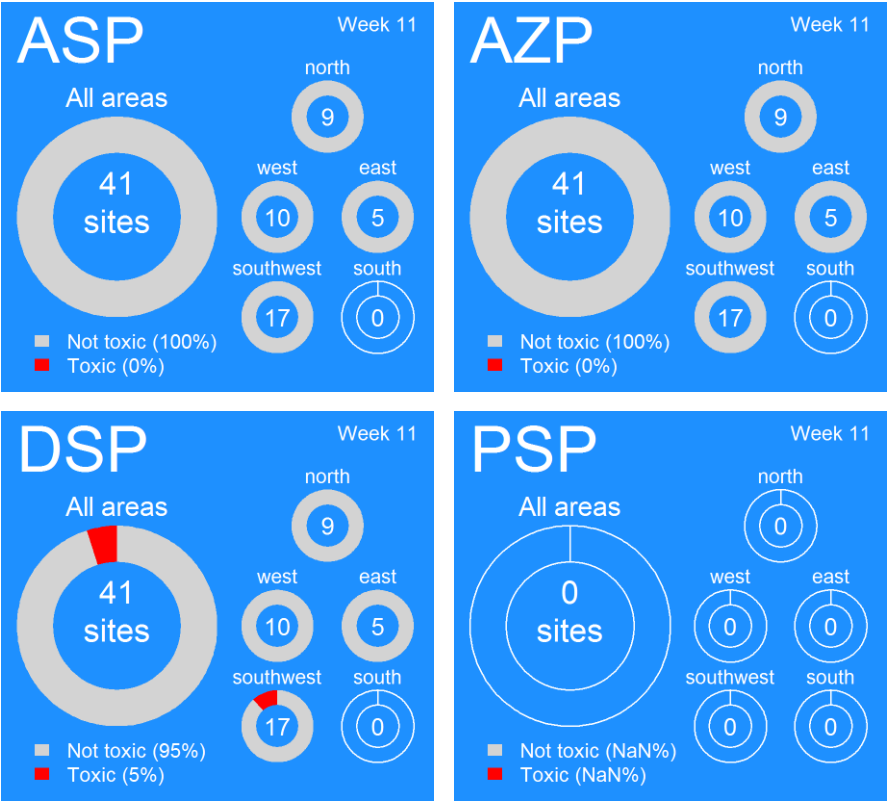


# Ireland: Current Conditions

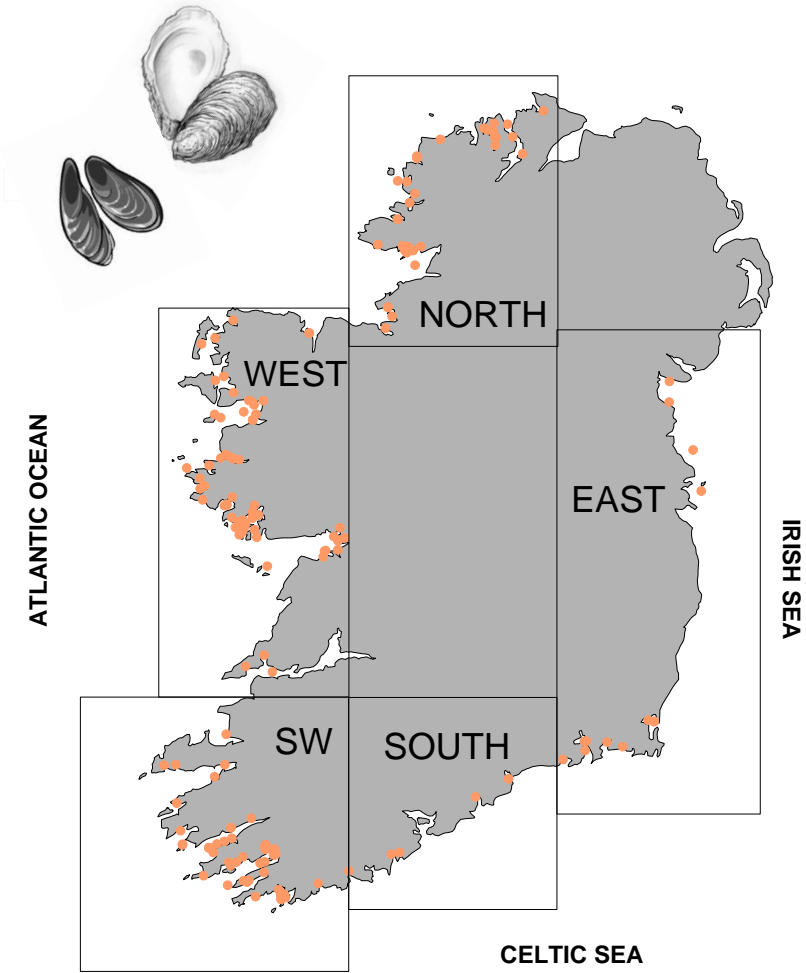
## Shellfish biotoxin report (last week)



**EU Regulatory Limit:**  
ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

**Toxin groups**  
ASP = **A**mnestic **S**hellfish **P**oisoning; AZP = **AZ**aspiracid **P**oisoning;  
DSP = **D**iarrhetic **S**hellfish **P**oisoning; PSP = **P**aralytic **S**hellfish **P**oisoning

### National Monitoring Programme Designated Sampling Sites



● = aquaculture site

# Ireland: Predictions

## Prediction for this week:

ASP event: Some risk remains in the southwest and east coasts.

AZP event: AZP event unlikely.

DSP event: DSP biotoxins (winter carry over) likely to continue to decrease. Contamination might remain above the EU regulatory level at sites where biotoxin levels were high.

PSP event: Very low risk.

## Why do we think this?

ASP: Cell densities of "*P. seriata*" in Bantry Bay have dropped to ~ 3,000 cells/L with background levels of "*P. delicatissima*". The non-toxic diatoms *Skeletonema* is predominant (~130,000 cells/L) in the outer bay while in the inner there is a mix of diatom species at lower cell levels (e.g. Centric diatoms < 20 µm @ 16,000 cells/L).

Maximum cell densities of the potentially toxic "*P. seriata*" size group @ ~ 22,000 cells/L, present in the east coast (Dundalk Bay). There is a large amount of other diatoms present at high cell densities (*Skeletonema* spp. @ 130,000 cells/L) at the site and this should reduce contamination risk.

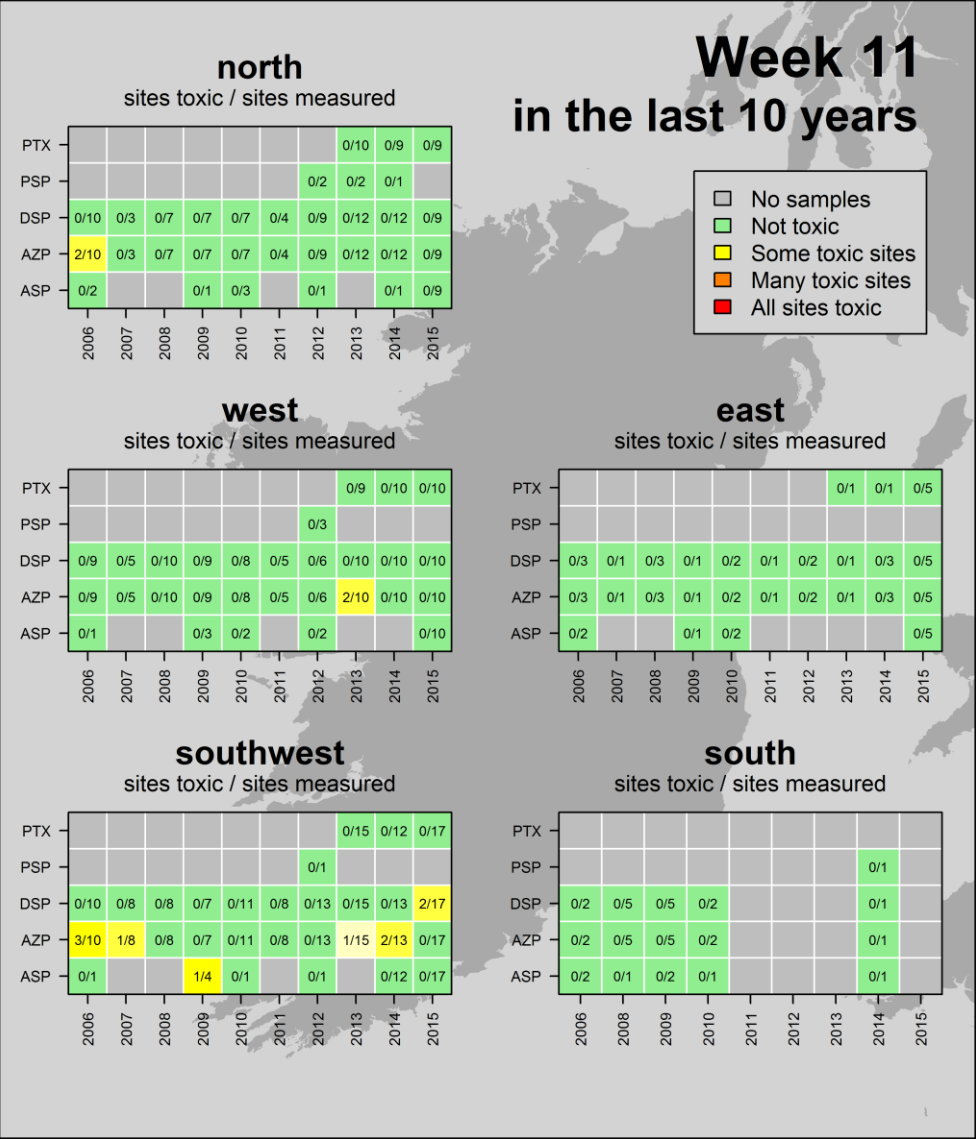
AZP: *Azadinium* - like spp. up to 2,000 cells/L in the north. Low toxin levels with the a maxima of 0.05 µg/g in oysters on the west coast.

DSP: *Dinophysis acuminata* not present in the water and maximum *D. acuta* at 40 cells/L in the north. Biotoxins continue to decrease with temporal variability noticeable at some sites. Chemistry levels of Okadaic acid & equiv. continue to fall at many sites in the SW. Highest record of 0.20 µg/g in outer Bantry Bay mussels while in Kenmare Bay maximum recorded levels at 0.16 µg/g. High variability likely in the same bay; local fluctuations are related to the presence and abundance of non-toxic phytoplankton.

PSP: Historically this a low risk period of the year for all sites. *Alexandrium* species present at two sites on the west and north coasts. Maximum concentrations at 80 cells/L . No biotoxins recorded.

# Ireland: Historic Conditions

A look back at how last weeks biotoxin results compares to other years



## Ireland HISTORIC TRENDS

**2003-2012 Shellfish Toxicity:** does not include winter carry over of biotoxins

ASP events: weeks 11 to 18 (mid-March to early May)

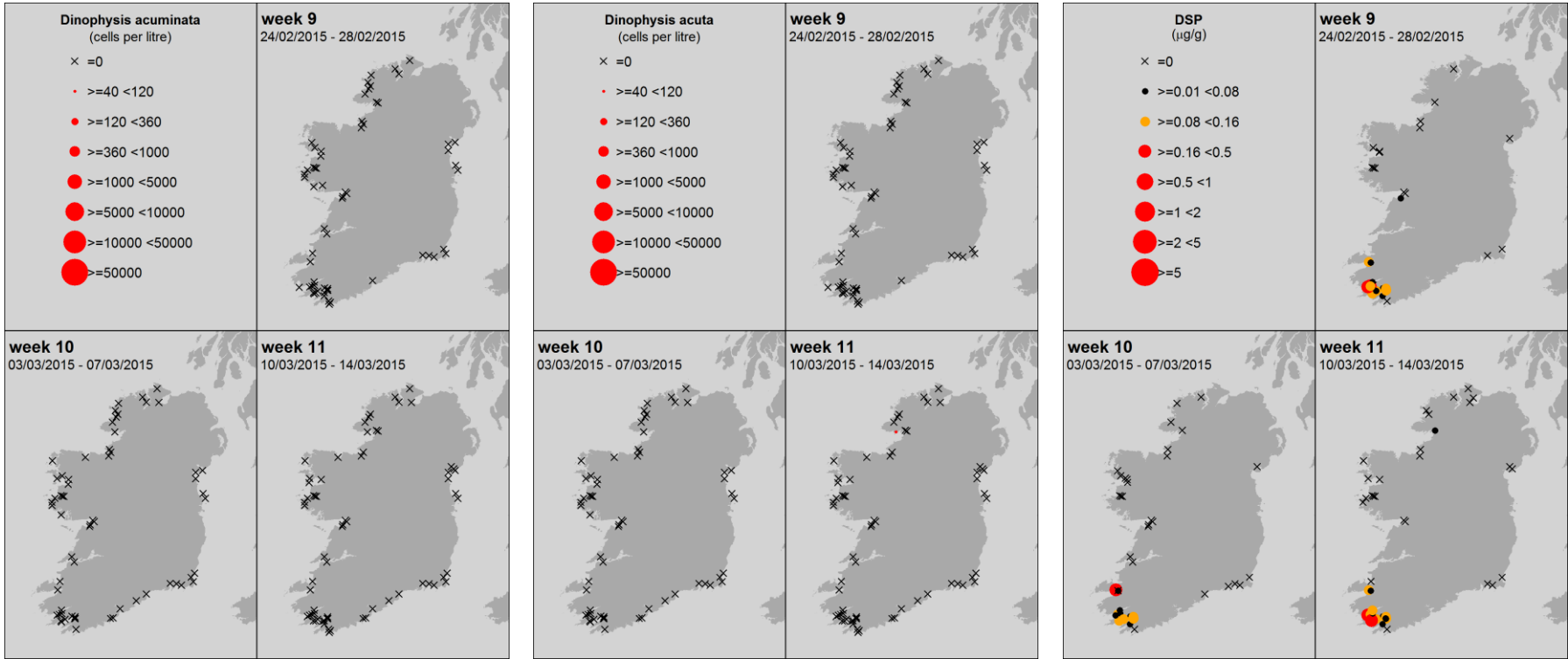
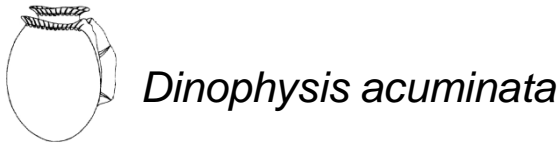
AZP events: weeks 17 to 51 (April to December)

DSP events: weeks 19 to 51 (May to December)

PSP events: weeks 23, 25-28 (June to mid-July) and 38-39 (end September); only in Cork Harbour



Ireland: Last 3 weeks of available National Monitoring Programme data



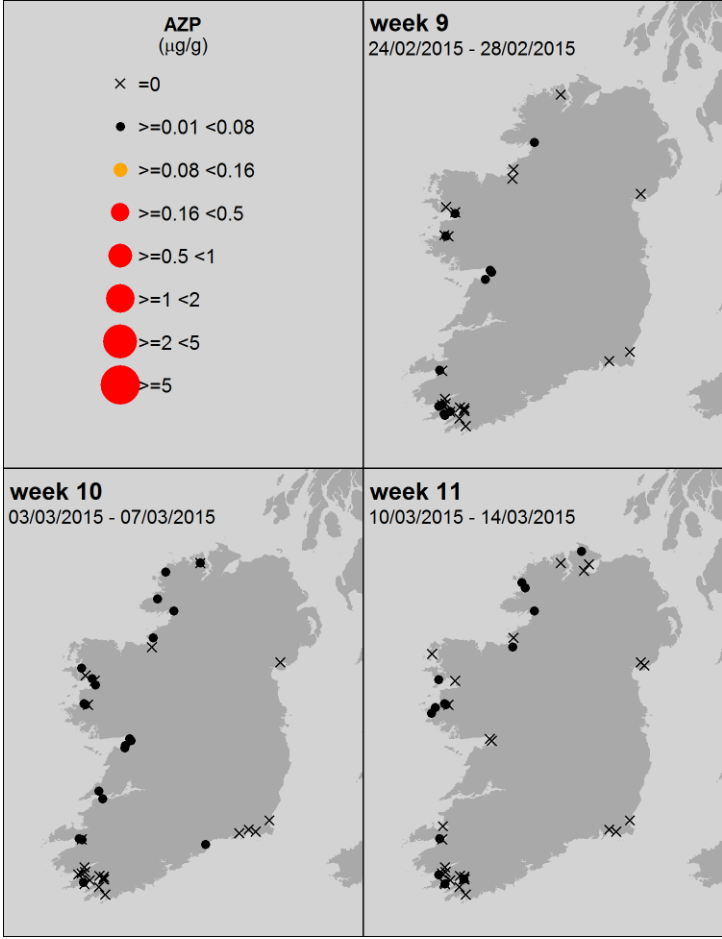
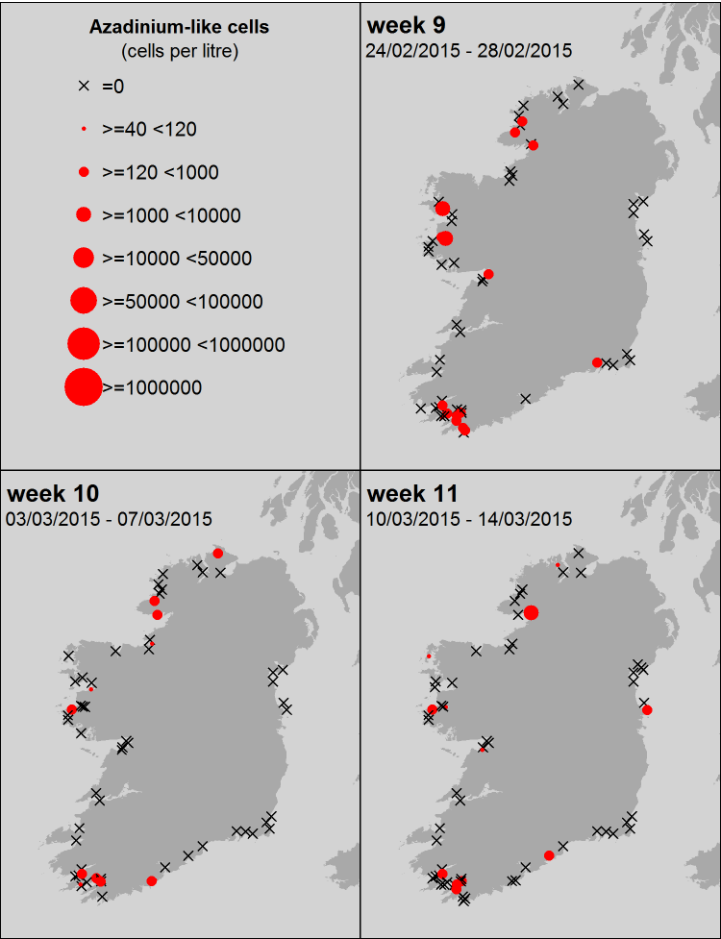
Ireland: Last 3 weeks of available National Monitoring Programme data



*Azadinium* – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

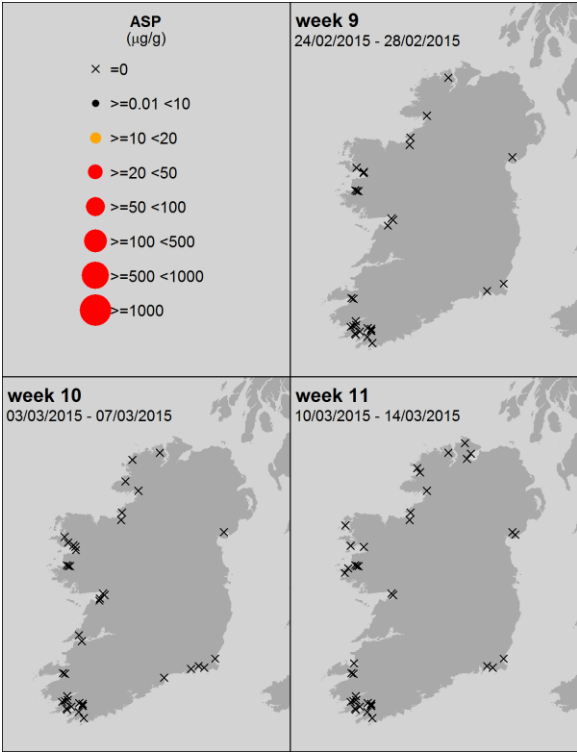
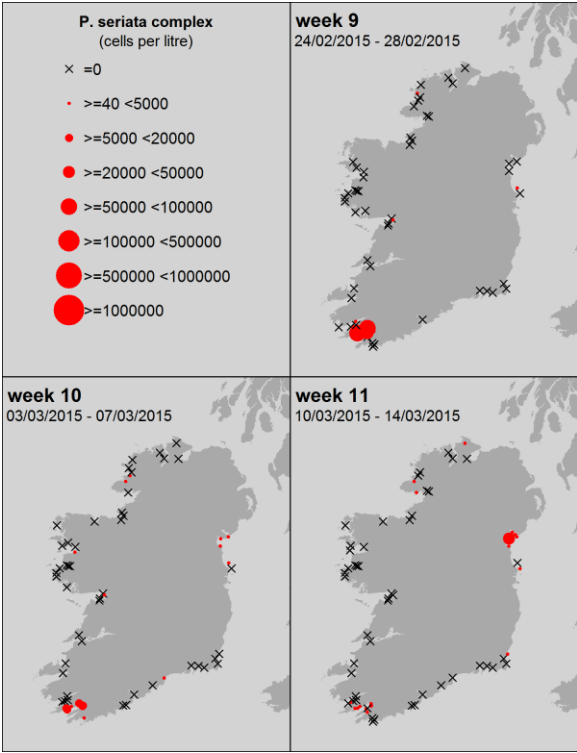
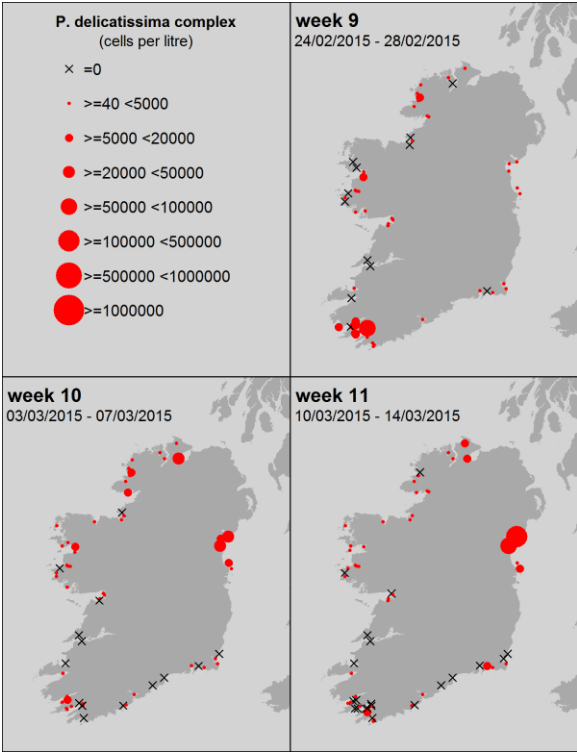
*Pseudo-nitzschia* spp.



ASP

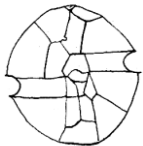
“*P. delicatissima*” complex = small cells  
3 species confirmed in Irish waters

The “*P. seriata*” complex = large cells  
7 species confirmed in Irish waters



Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

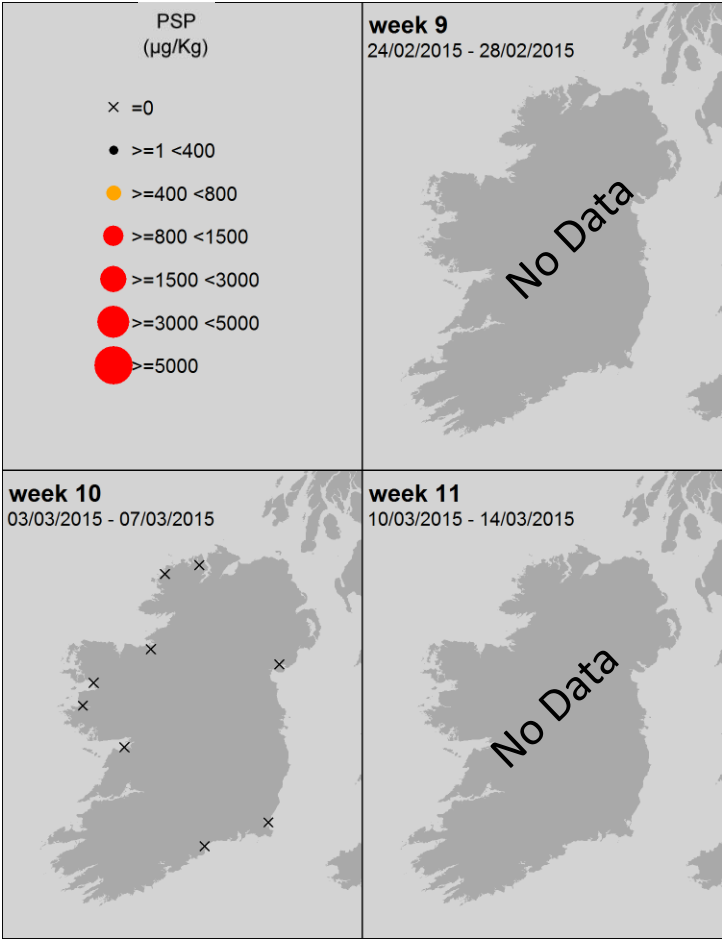
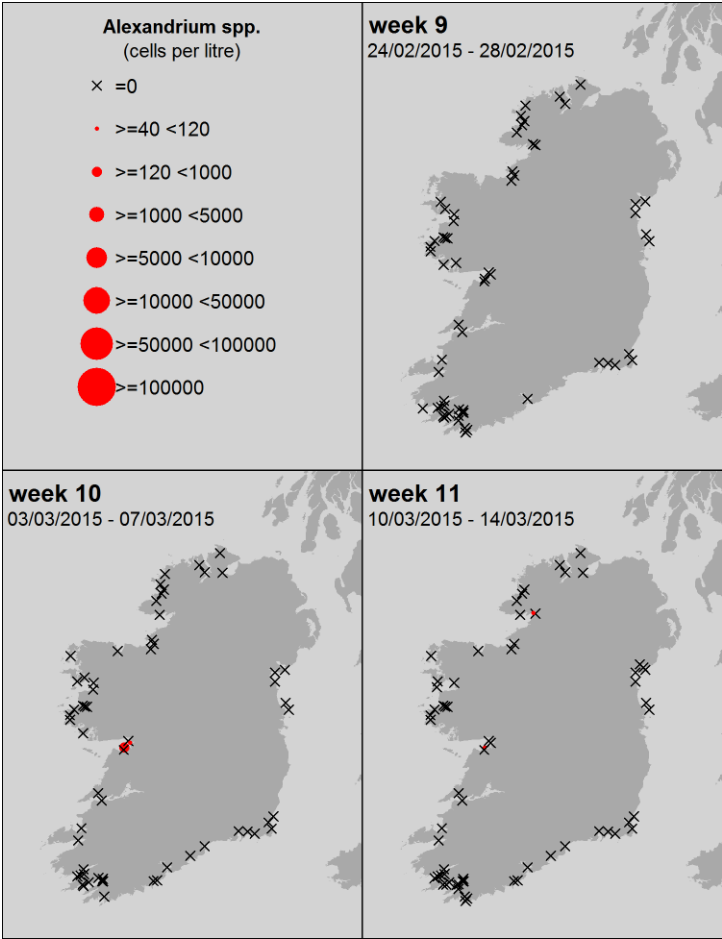
Ireland: Last 3 weeks of available National Monitoring Programme data



Alexandrium spp.

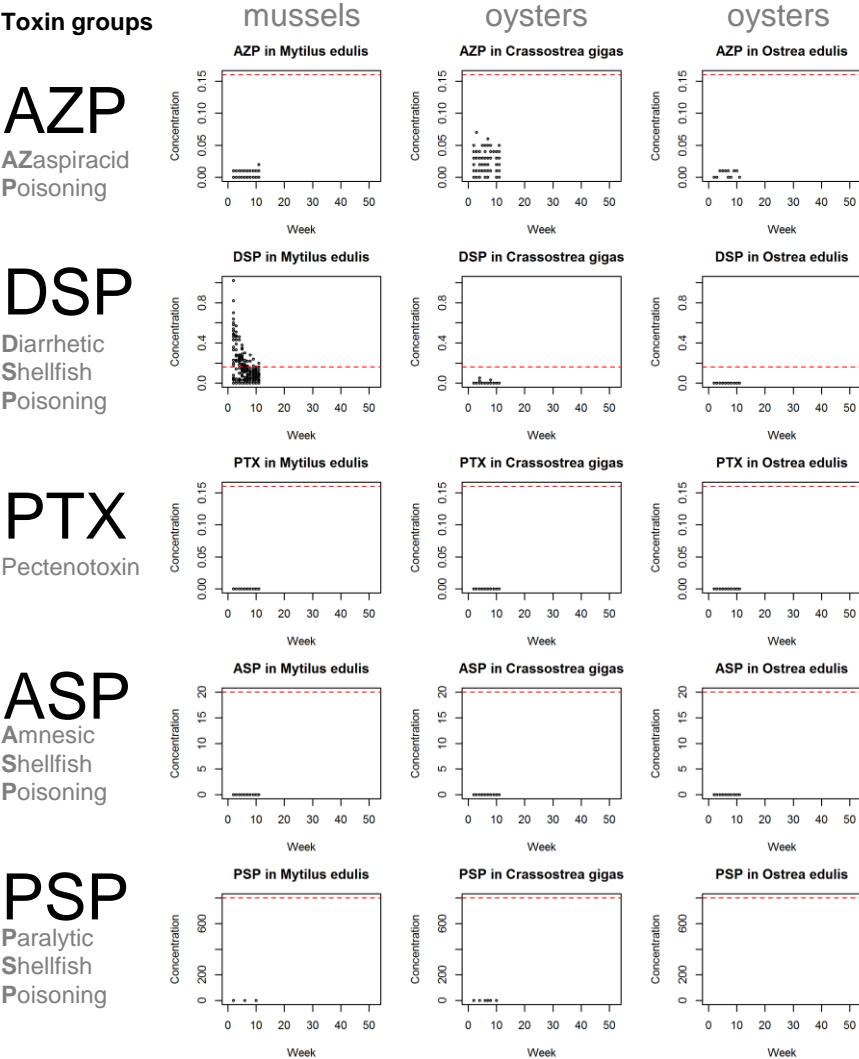
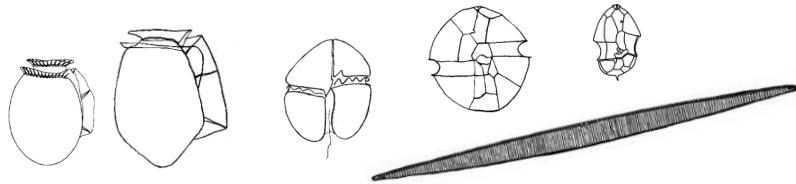


PSP

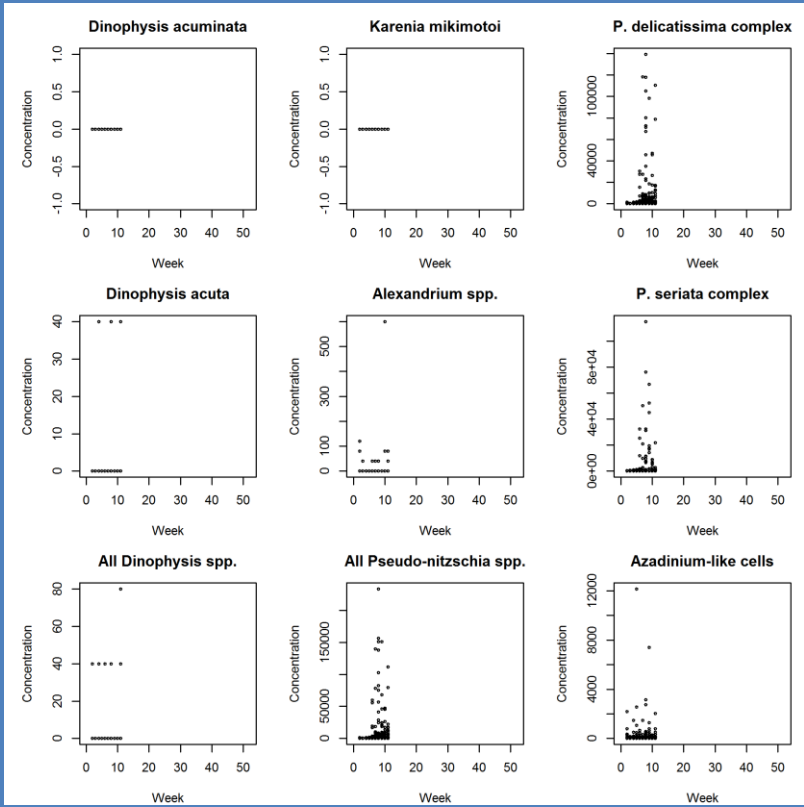


Ireland: HABs and biotoxins Levels from week 1 to present

Ireland: Biotoxins



Ireland: HABs



Week number: 1 to 11

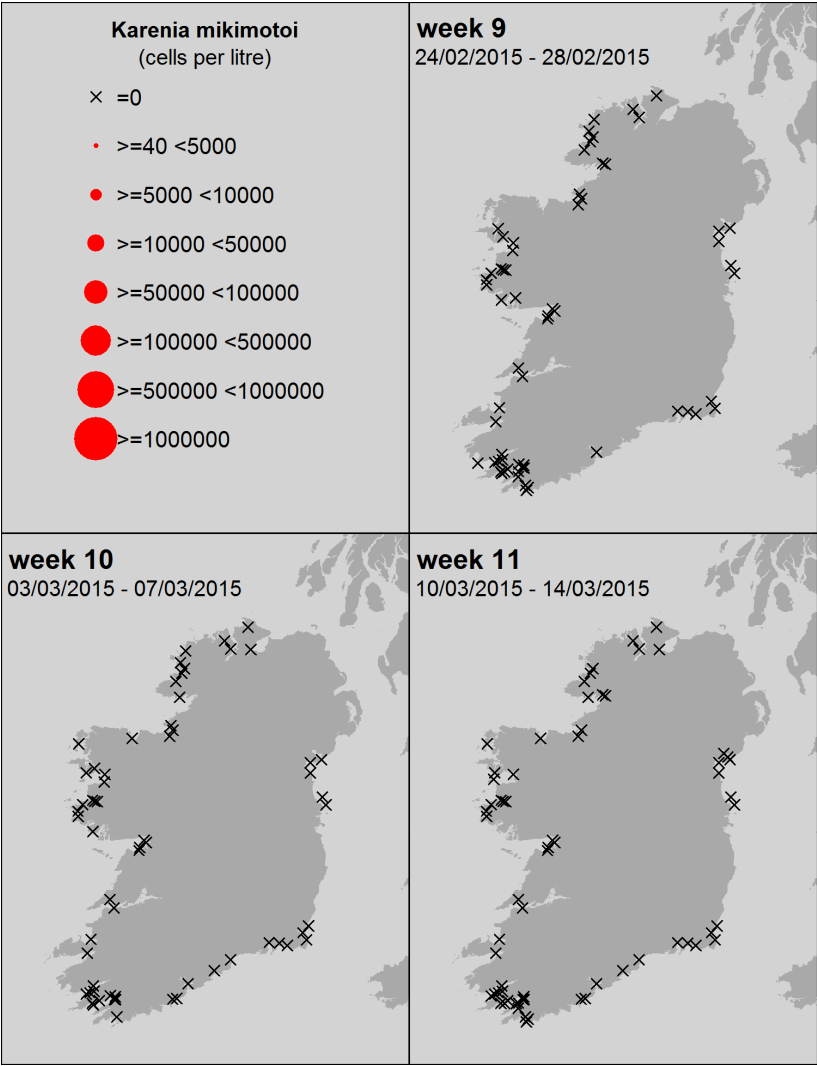
EU Regulatory Limit: ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Regulatory limit = ■■■■■





*Karenia mikimotoi*  
(old name: *Gyrodinium aureolum*)



Ireland: Most up to date available satellite data

Phytoplankton abundance Week 11

- NW coast**

max. diatoms = ~ 210,000 cells/L  
(e.g. *Skeletonema* spp. @ 170,000 cells/L)

max. dinoflagellates = ~ 2,500 cells/L

Max *Phaeocystis* spp. = 17 million cells/L
- West coast**

max. diatoms = ~ 120,000 cells/L  
(e.g. *Thalassionema* spp. @ 70,000 cells/L)

max. dinoflagellates = ~ 800 cells/L
- SW coast**

max. diatoms = ~ 1.7 million cells/L  
(e.g. *Skeletonema* spp. @ 730,000 cells/L,  
*Thalassiosira* < 20 µm @ 900,000 cells/L)

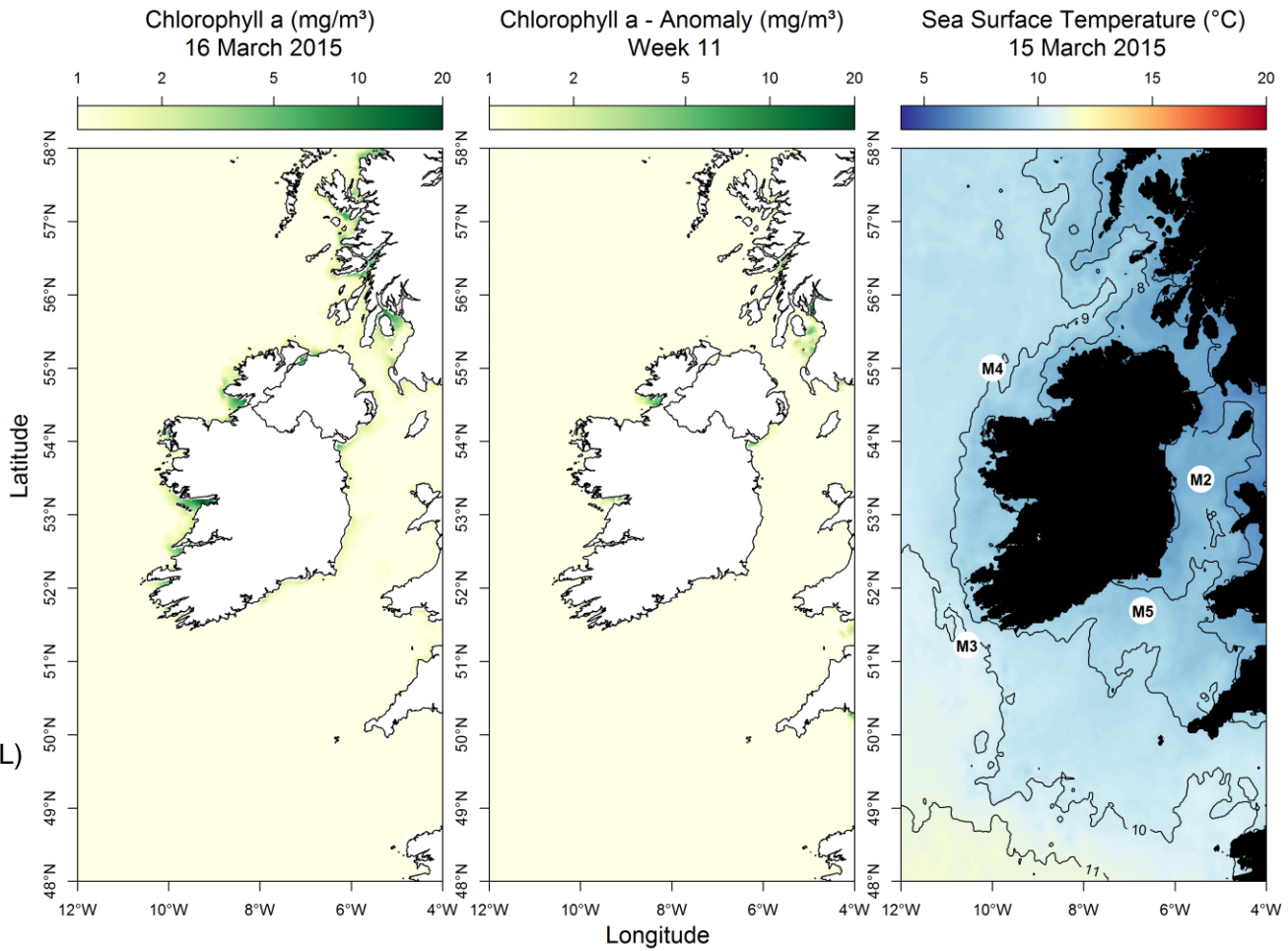
max. dinoflagellates = ~ 1,300 cells/L
- South coast**

max. diatoms = ~ 90,000 cells/L  
(e.g. *Paralia* sp. at @ 40,000 cells/L and  
*Skeletonema* spp. @ 40,000 cells/L)

max. dinoflagellates = ~ 170,000 cells/L  
(e.g. *Heterocapsa triquetra* @ 130,000 cells/L)
- East coast**

max. diatoms = ~ 230,000 cells/L  
(e.g. *Skeletonema* spp. @ 29,000 cells/L)

max. dinoflagellates = ~ 200 cells/L

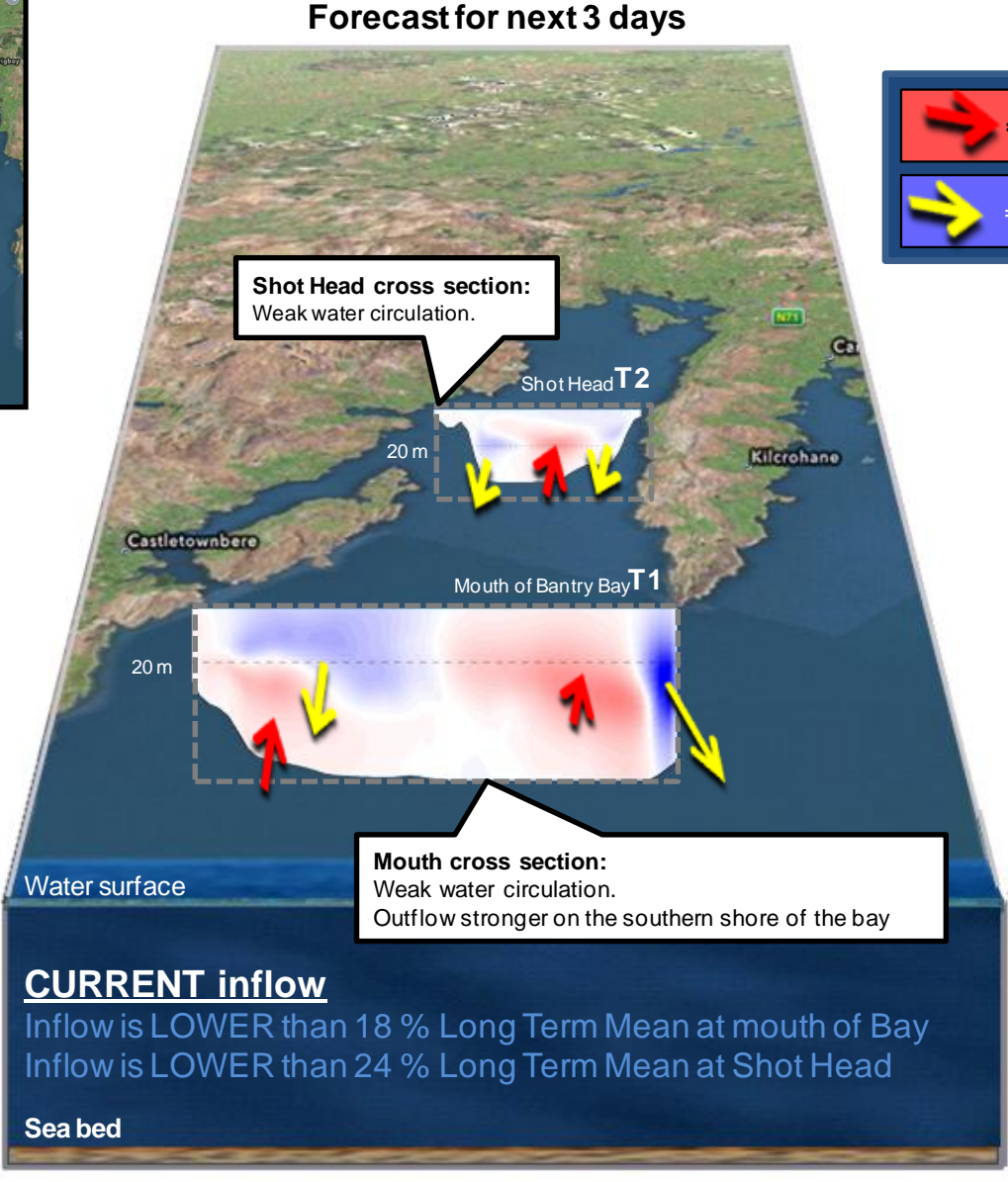
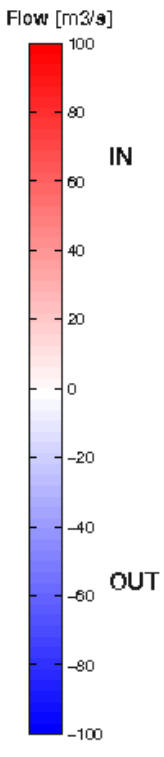
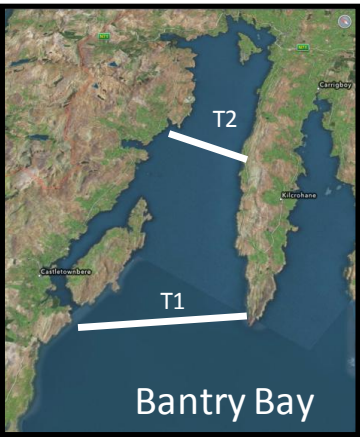


**SST (°C) anomaly for last week:**  
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

**Northwest coast (M4)** below average by 0.03 °C

**Southwest coast (M3)** above average by 1.10 °C

**Southeast coast (M5)** below average by 0.47 °C

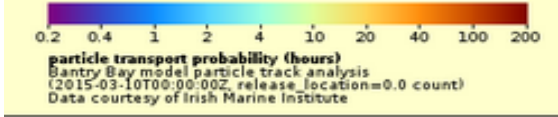


18 – 21 March, 2015 (forecast ends at 00:00 hrs)

Please go to <http://vis.marine.ie/particles/> to view daily forecasts in more detail

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.



0.2 0.4 1 2 4 10 20 40 100 200  
particle transport probability (hours)  
Bantry Bay model particle track analysis  
(2015-03-10T00:00:00Z, release\_location=0.0 count)  
Data courtesy of Irish Marine Institute

