

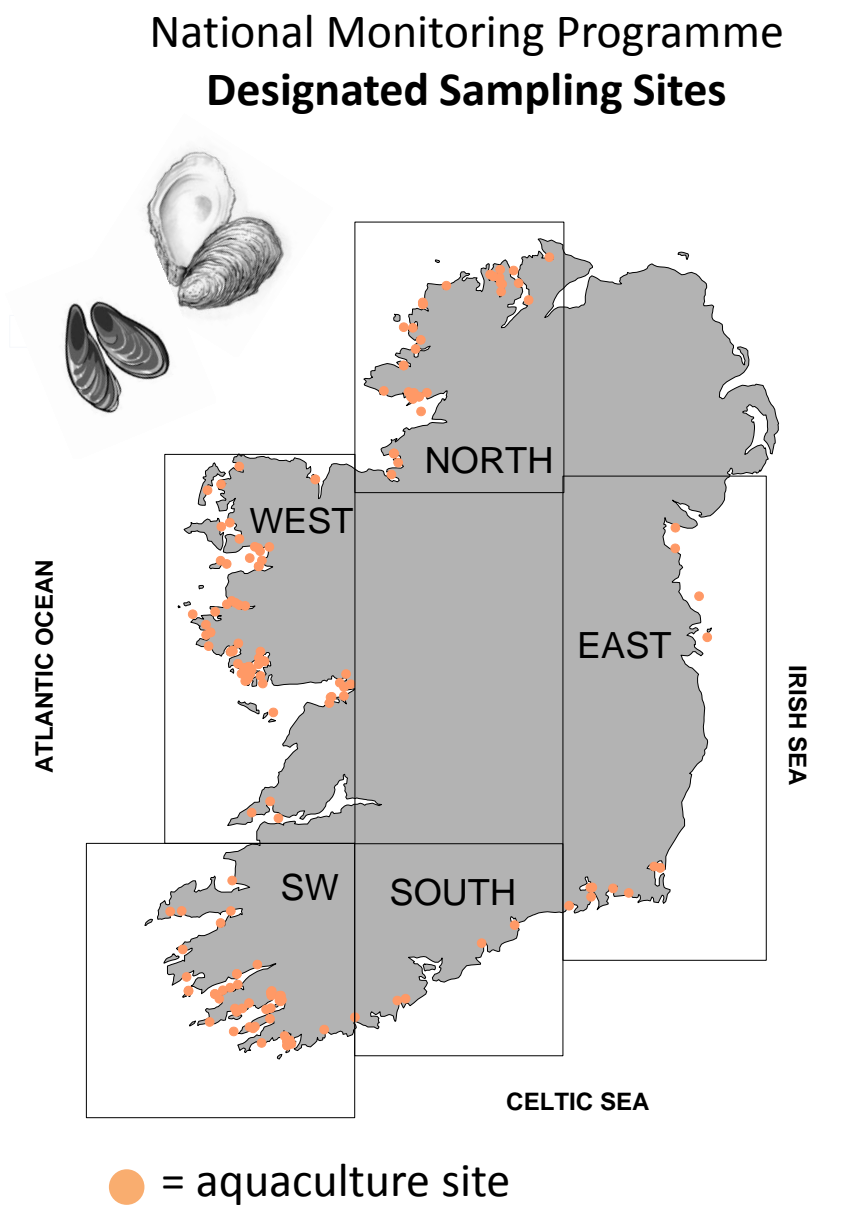
Ireland: Current Conditions

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 = **A**Zaspiracid **P**oisoning;
DSP = **D**iarrhetic **S**hellfish **P**oisoning; PSP = **P**aralytic **S**hellfish **P**oisoning



Ireland: Predictions

Prediction for this week:

ASP event: Low risk

AZP event: Low risk

DSP event: Low risk

PSP event: Low risk

Why do we think this?

ASP event: Over the last week, *Pseudo-nitzschia* cell levels have decreased (maximum ~ 10,000 cells/L). While no toxic species have been detected in the majority of the National samples, a toxic species, *P. australis*, was detected in two samples in Bantry (very low cell levels) and Roaring Water Bays. *Pseudo-nitzschia* (represents 1-5 % of the phytoplankton) are part of a larger developing phytoplankton community in these bays including several non toxic diatoms and dinoflagellates. This reduces the possibility of it dominating the food source for bivalves and therefore for ASP to become an issue. To date, toxic events (mussel and oyster culture) have only occurred in SW long-line mussels. Historical data shows that this is a high risk period. Past ASP events have occurred between March to early May, with one exception in early June.

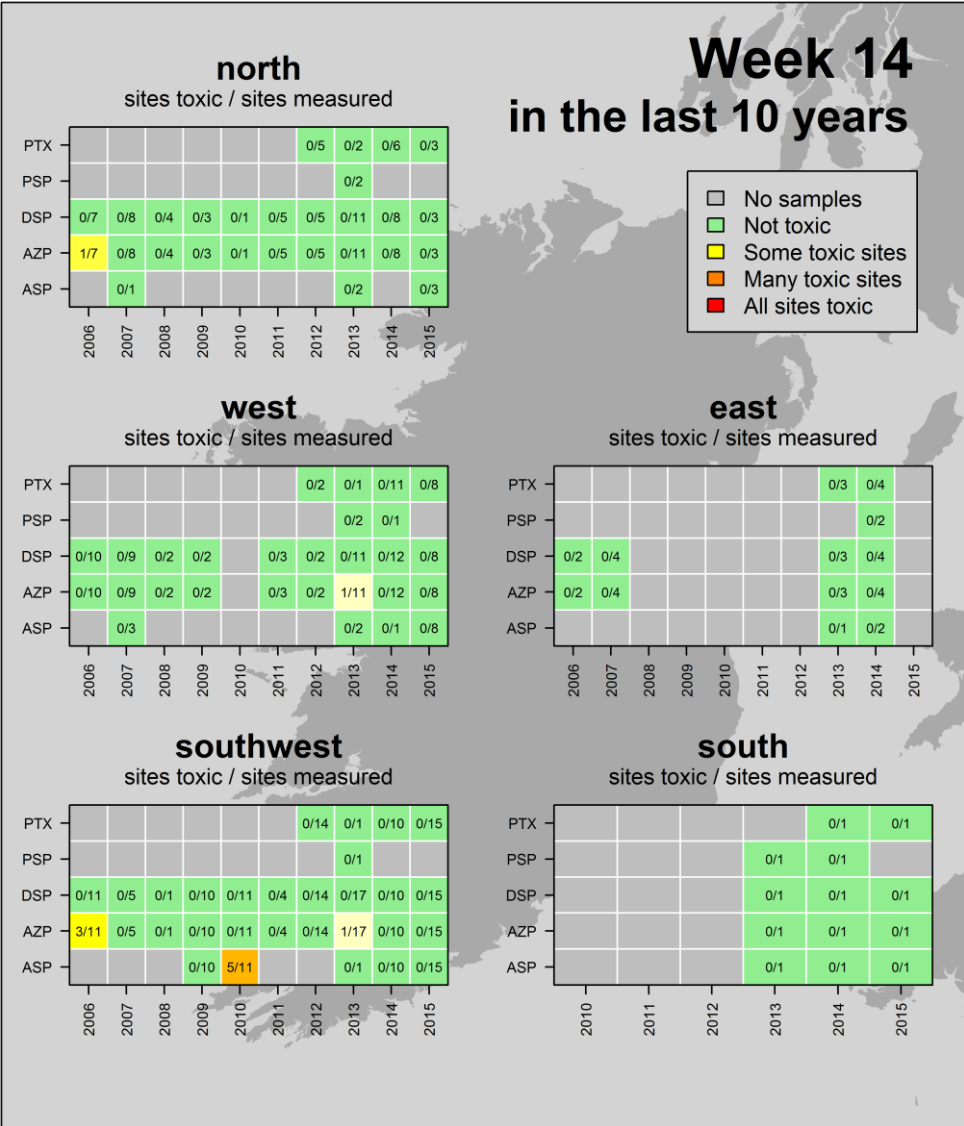
AZP: *Azadinium*-like species picked up at 11 sites along the western seaboard; maximum in the west @ ~ 9,000 cells/L. The toxic nature of the species present is not known. Historic data shows events in the past have occurred as early as end of April (this does not take into account winter carry over).

DSP: *Dinophysis acuminata* not detected in the water. *Dinophysis acuta* found at background levels (40 cells/L) at one site on west coast. Biotoxins levels in mussels have dropped significantly (maximum = 0.04 µg/g).

PSP: Historically this a low risk period of the year for all sites. *Alexandrium* species present at eight sites on the west and southwest coasts. Maximum concentrations of ~ 2,500 cells/L in southwest. 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)

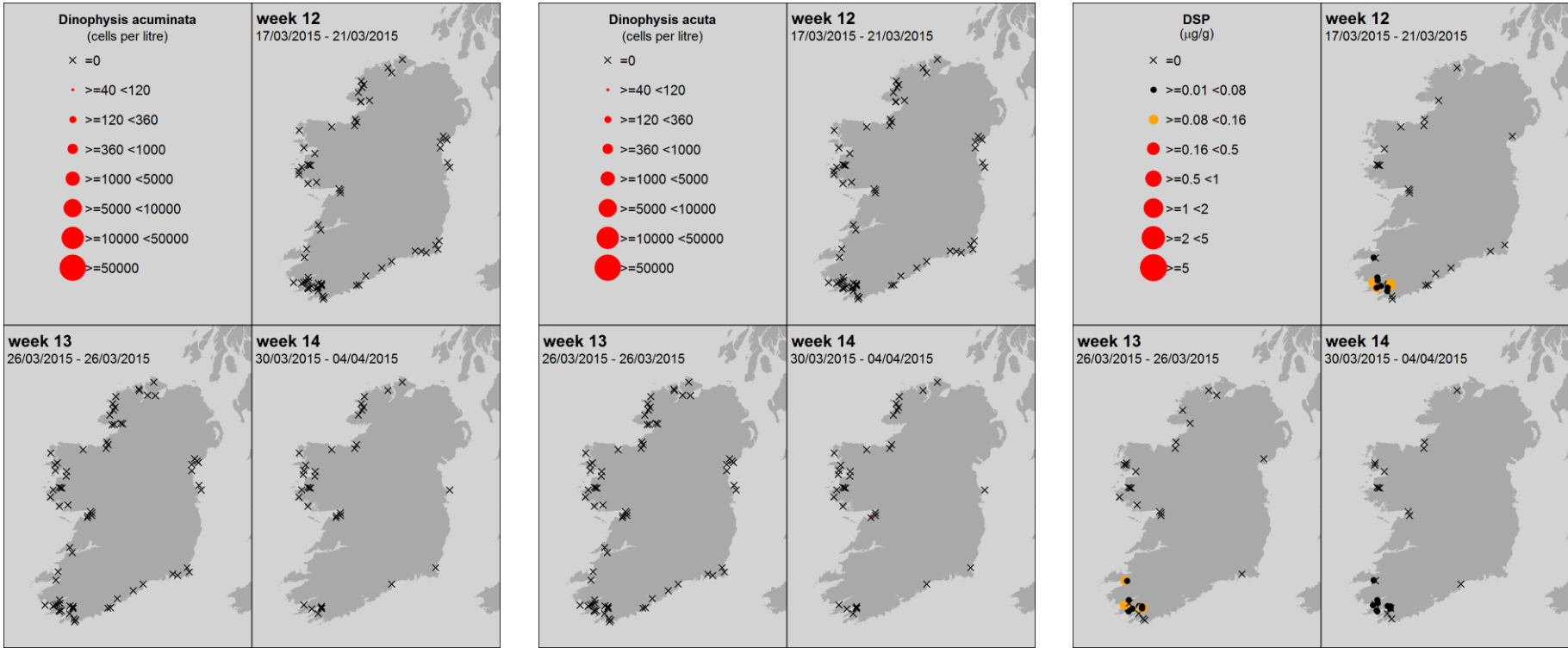
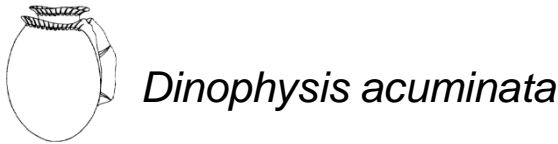
AZP events: weeks 17 to 51 (April to December)

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



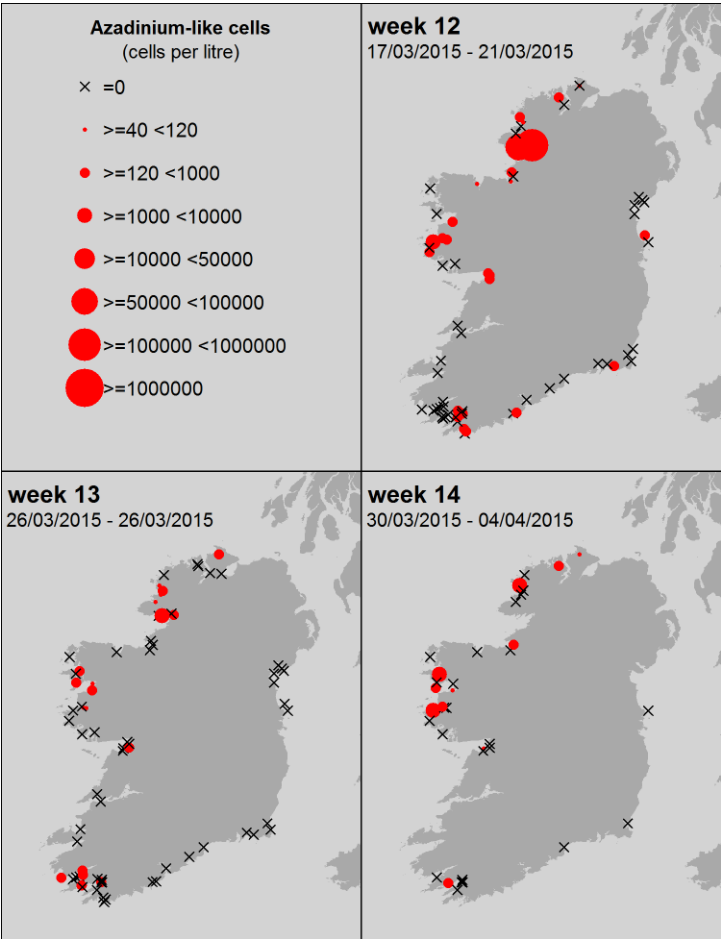
Ireland: Last 3 weeks of available National Monitoring Programme data



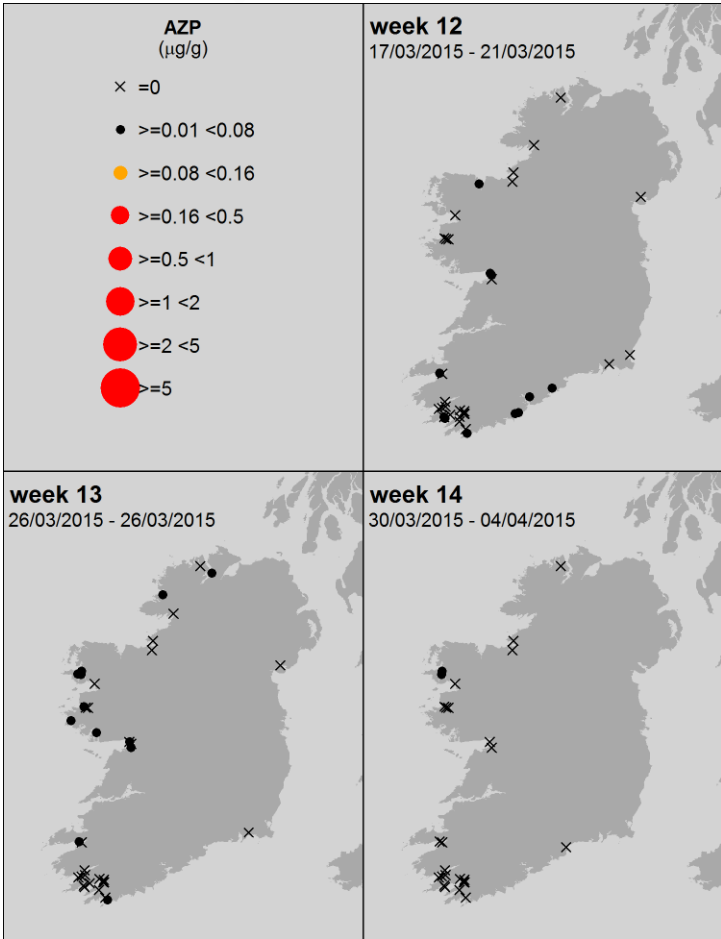
Ireland: Last 3 weeks of available National Monitoring Programme data



Azadinium – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

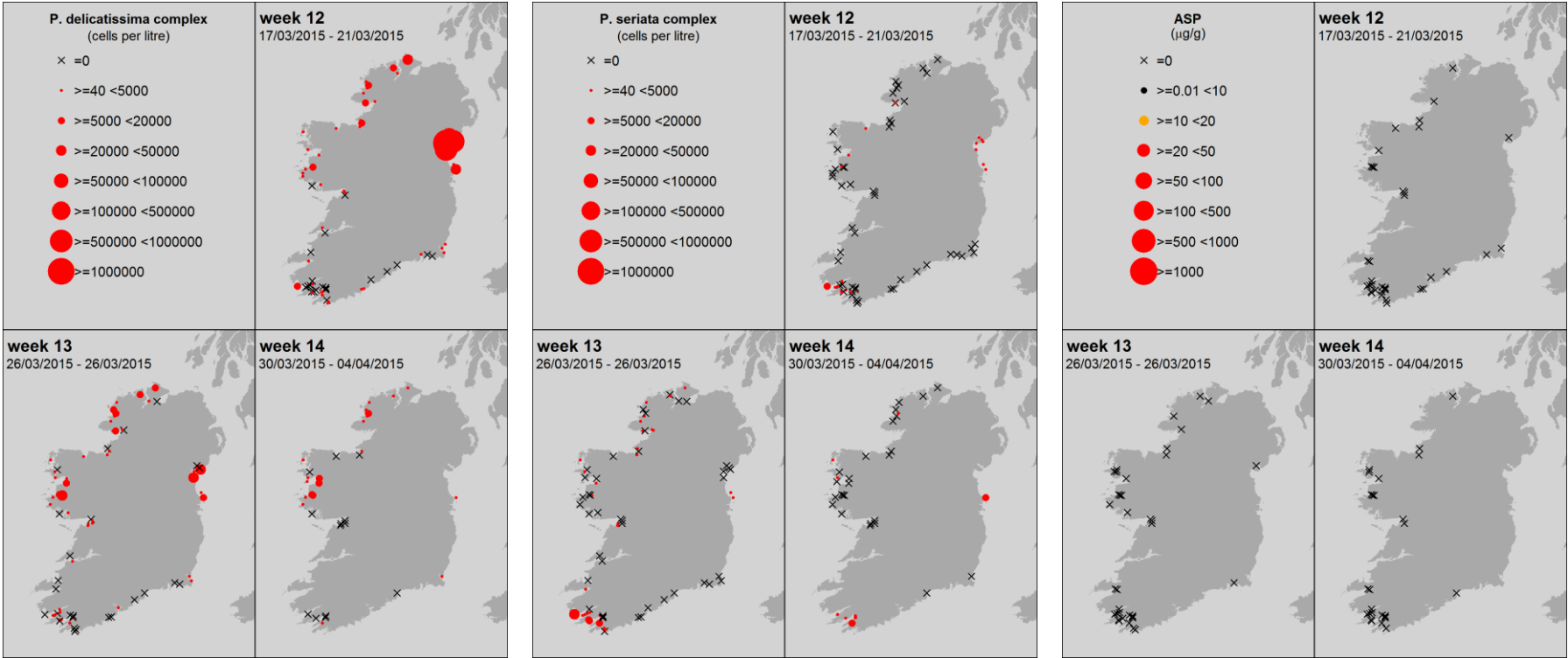
Pseudo-nitzschia spp.



ASP

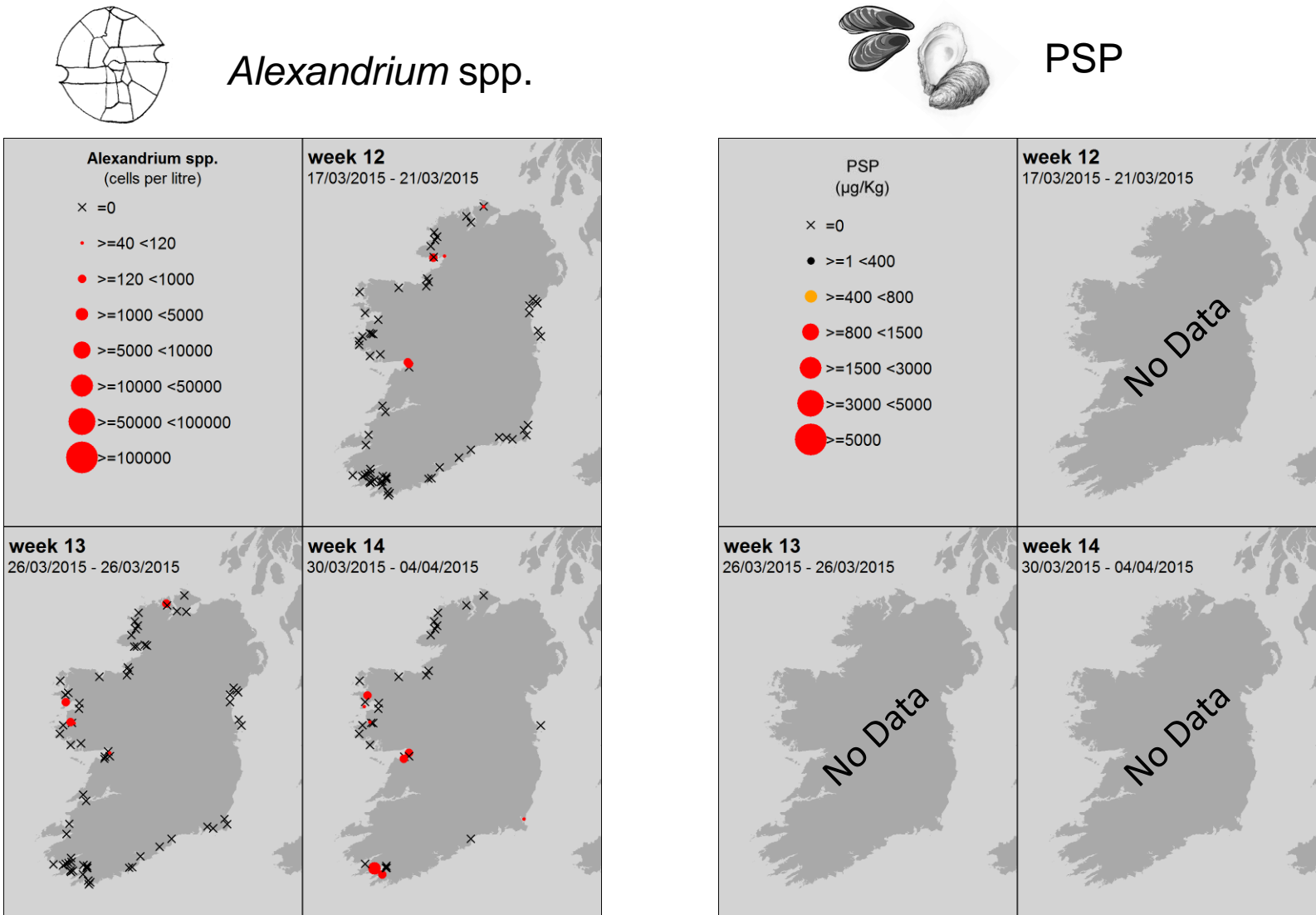
“*P. delicatissima*” complex = small cells
3 species confirmed in Irish waters

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



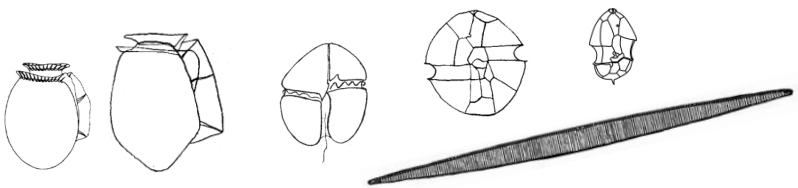
Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

Ireland: Last 3 weeks of available National Monitoring Programme data

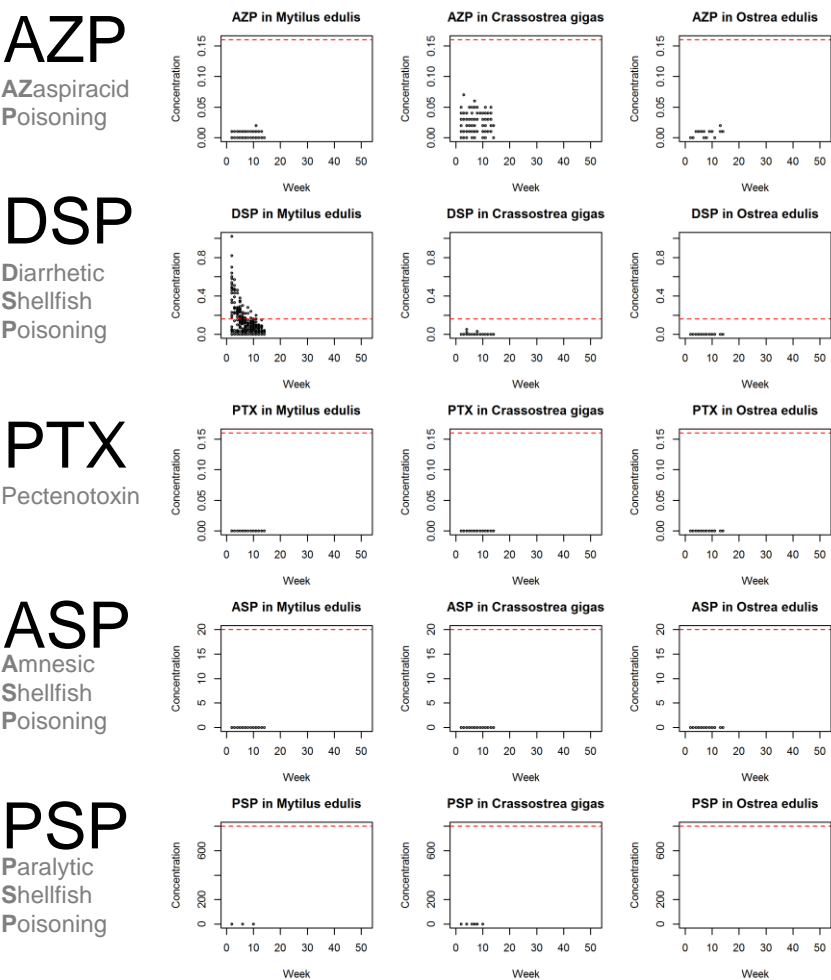


Ireland: HABs and biotoxins Levels from week 1 to present

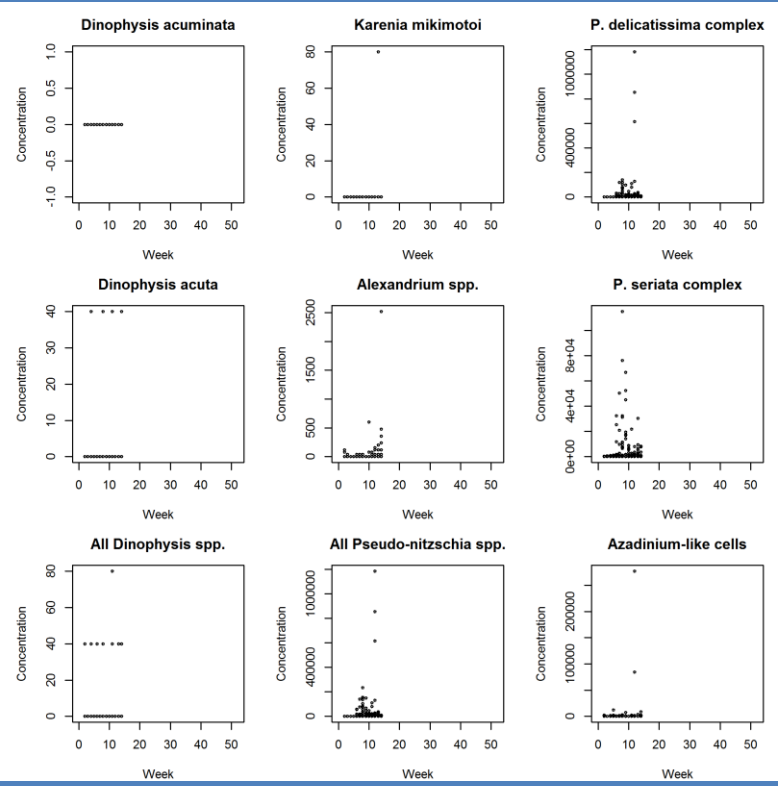
Ireland: Biotoxins



Toxin groups mussels oysters oysters



Ireland: HABs



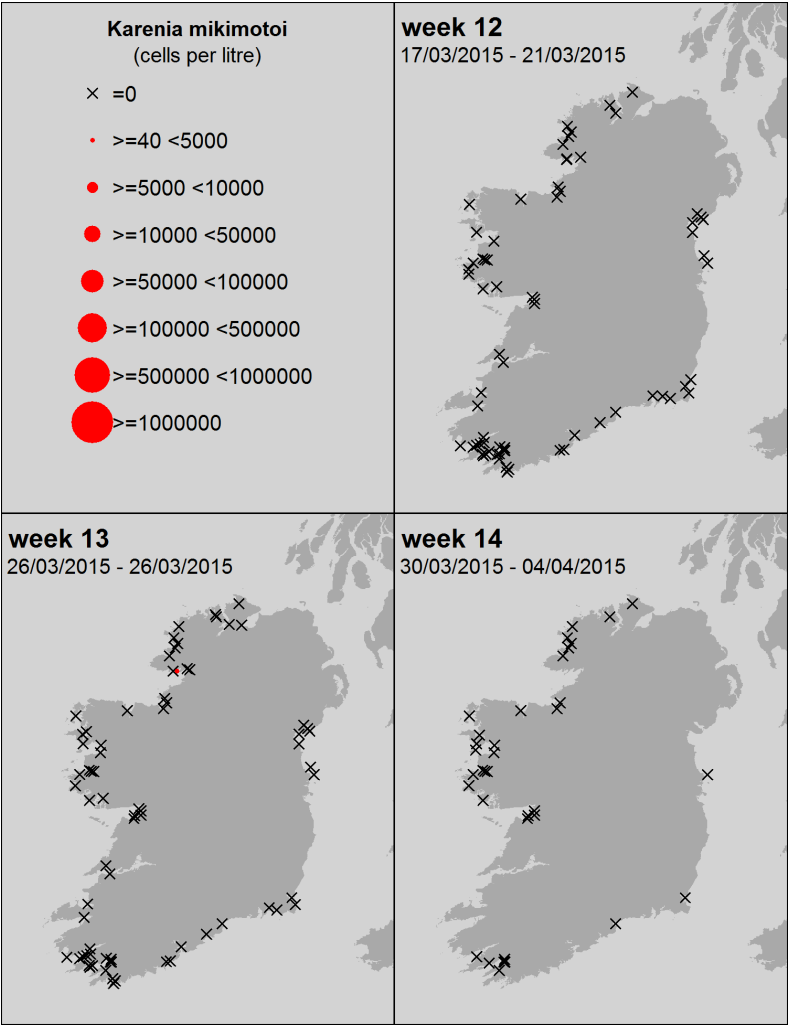
Week number: 1 to 14

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

Regulatory limit = ■■■■■



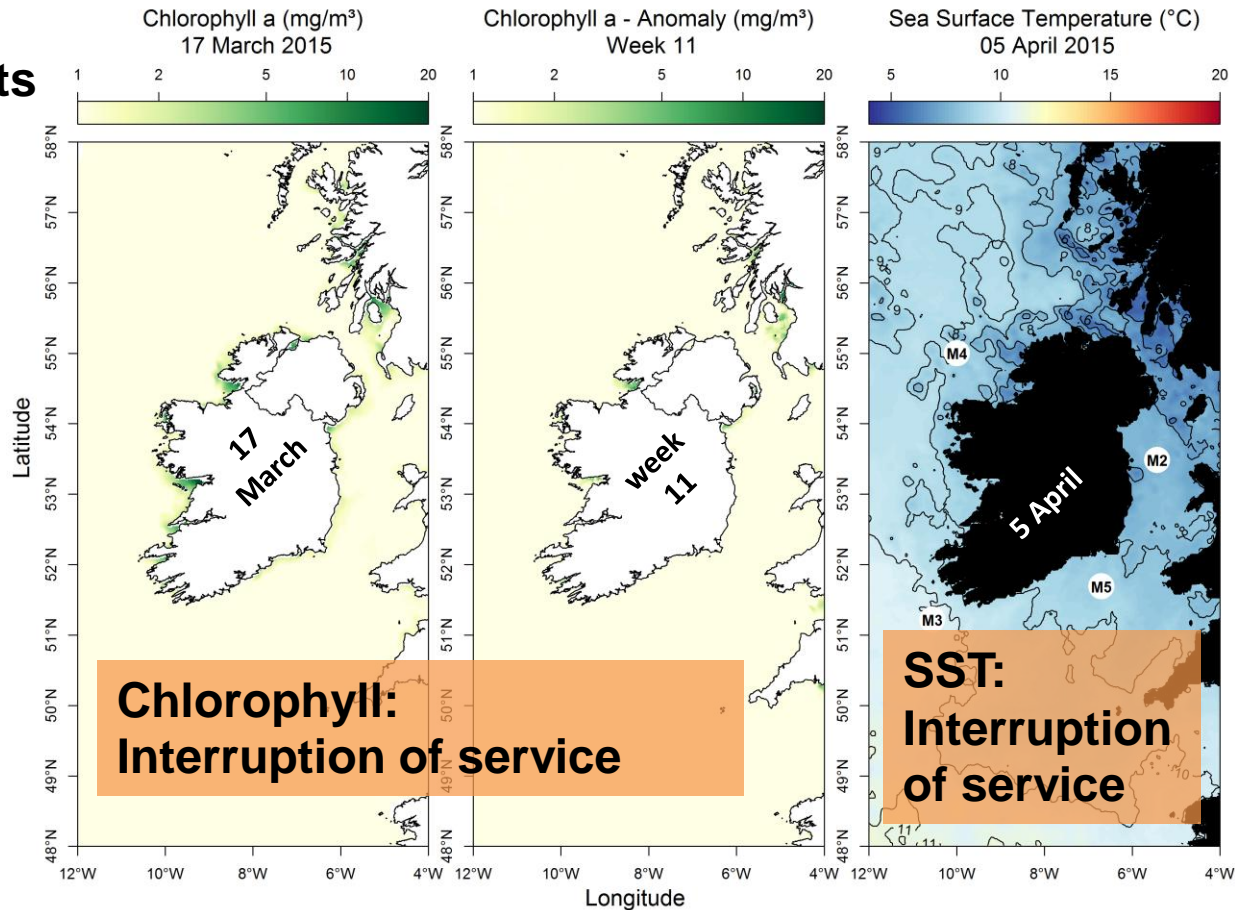
Karenia mikimotoi
(old name: *Gyrodinium aureolum*)



Ireland: Most up to date available satellite data

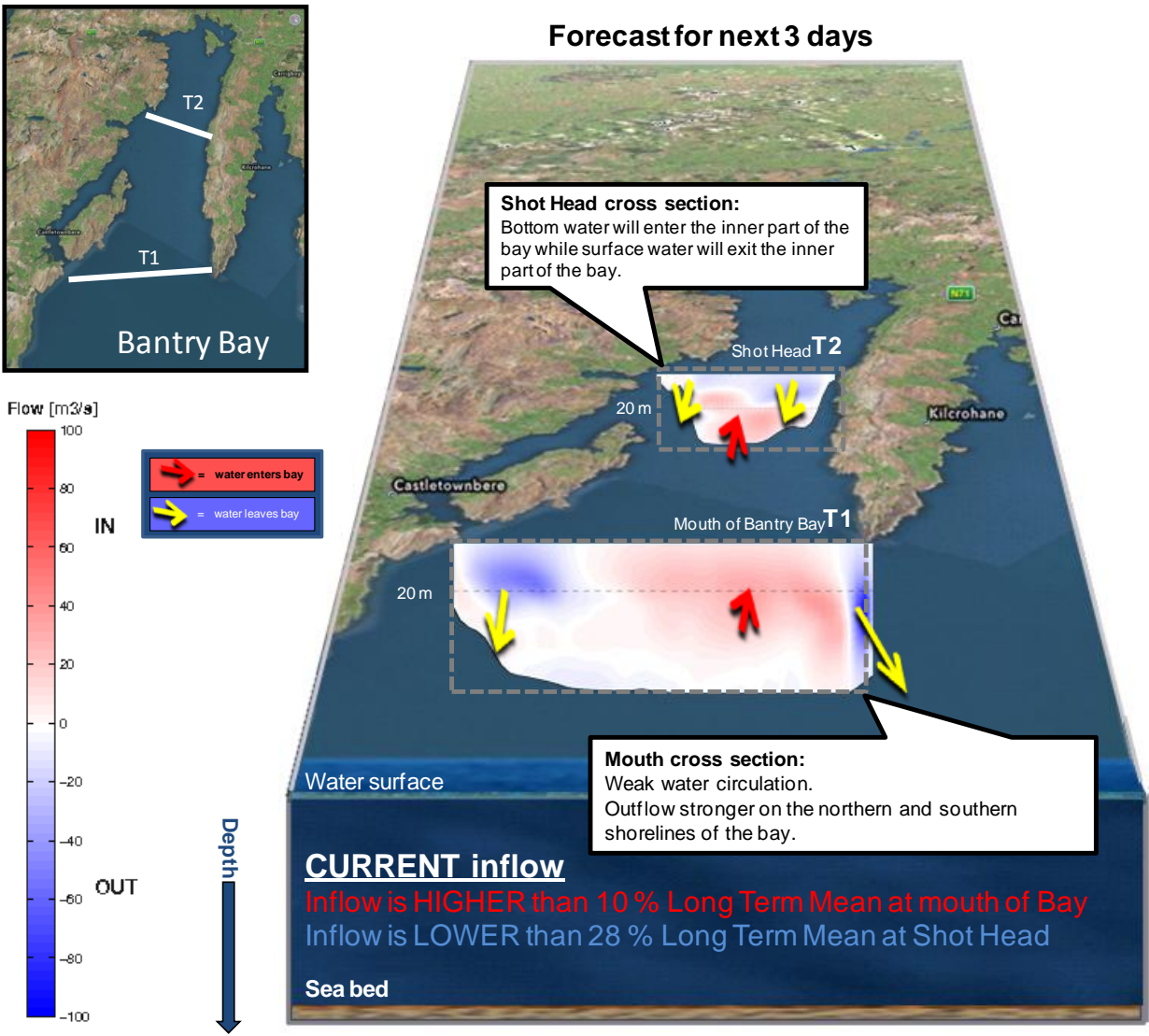
last week – maximum counts

Region	Predominant Phytoplankton
north:	Diatoms: <i>Chaetoceros</i> (<i>Hyalochaete</i>) spp. (~70,000 cells/L) and others
west:	Diatoms: <i>Cylindrotheca closterium</i> / <i>Nitzschia longissima</i> (~193,000 cells/L) and others
SW:	Diatoms: <i>Thalassiosira</i> <20µm (~ 621,000 cells/L) and others
south:	Diatoms: <i>Thalassiosira</i> <20µm (~ 8,500 cells/L) and others
east:	Diatoms: <i>Asterionellopsis</i> spp. (~ 442,000 cells/L) and others



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)

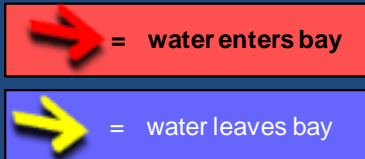
Northwest coast (M4)	below average by 0.30 °C
Southwest coast (M3)	above average by 0.34 °C
Southeast coast (M5)	below average by 0.66 °C



Bantry Bay

3 day estimated water flows at the mouth and mid-bay sections of Bantry Bay

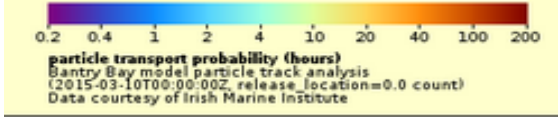
No big water exchange event predicted in the next few days



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

