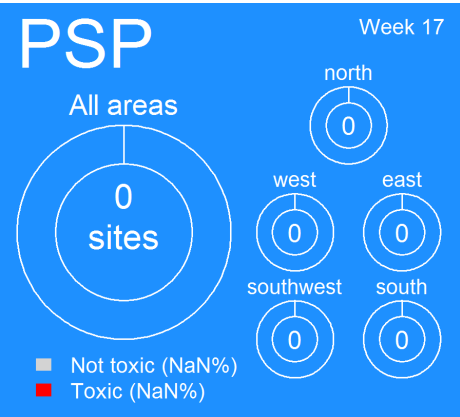
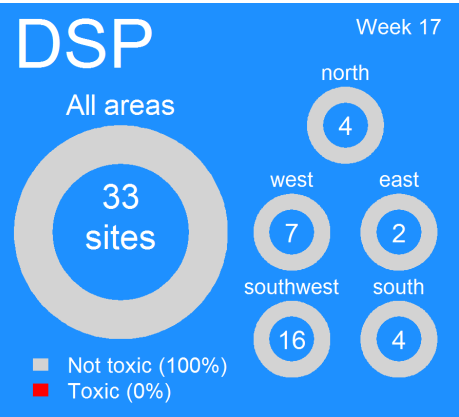
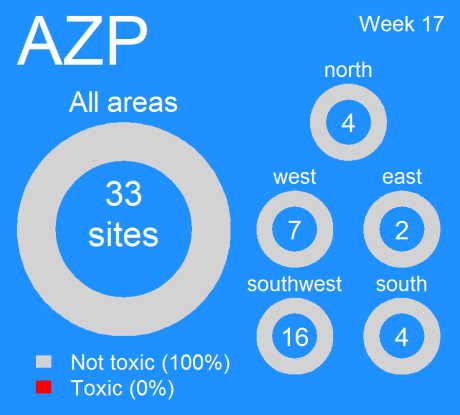
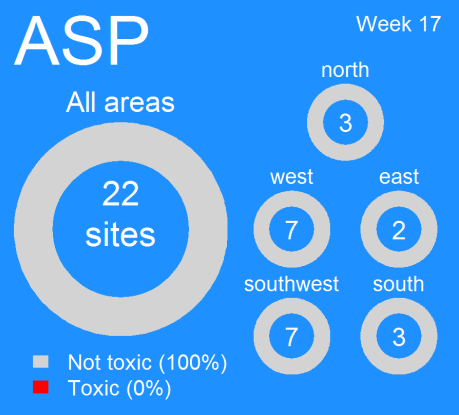


Ireland: Current Conditions

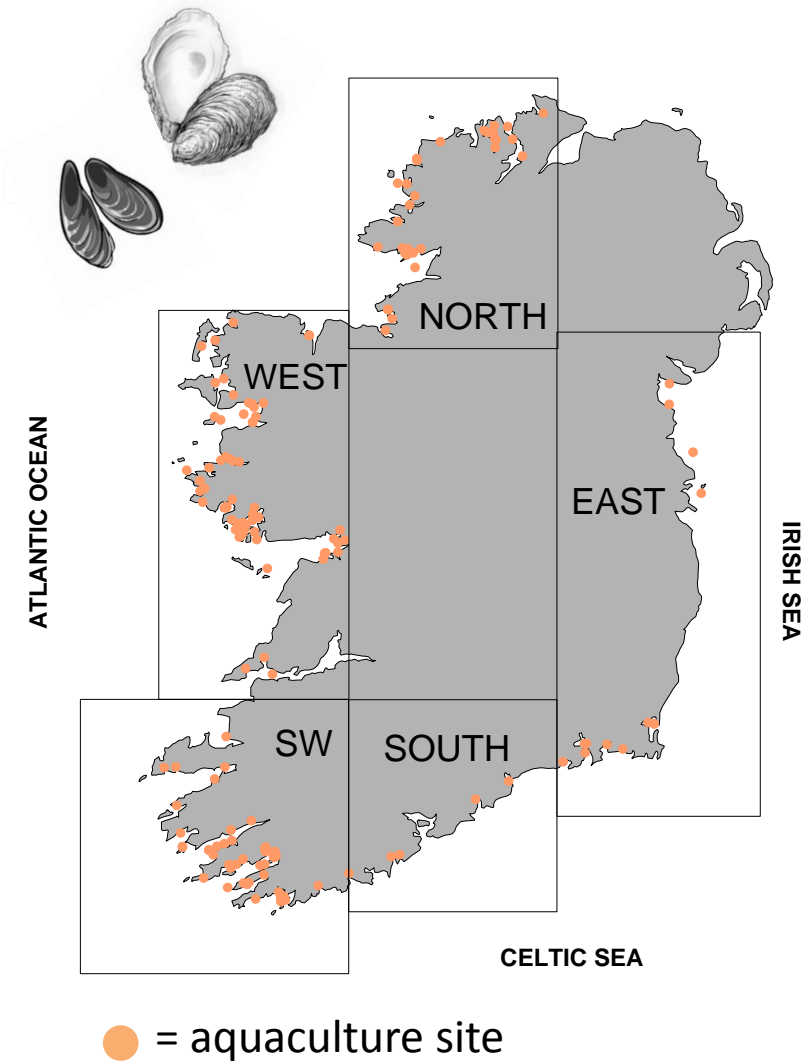
Shellfish biotoxin report (last week)



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



Ireland: Predictions

Prediction for this week:

ASP event: Medium risk

AZP event: Low risk

DSP event: Low risk

PSP event: Low risk

Why do we think this?

ASP : Over the last week, *Pseudo-nitzschia* cell levels have increased slightly at some sites in the southwest and east coasts (maximum ~ 24,000 cells/L in the SW and 35,000 in the E). While no toxic species have been detected in the majority of the National samples, 1 toxic species, *P. australis*, was detected in 1 sample from the SW coast. Currently *Pseudo-nitzschia* represents 1 – 7 % of the total phytoplankton abundance in the SW, which is dominated by nontoxic diatoms. This low toxic cell presence and high nontoxic cell food availability reduces the possibility of ASP becoming an issue at this time. Historical data tells us that the SW sites have been more prone geographically to toxic events. In terms of the time of year, we are now in a high risk period. ASP events in the past have occurred between March to early May, with one exception in early June. So while there is currently no issues with ASP toxins, extra care should be taken as this is a high risk period and conditions can change rapidly at this time of year.

AZP: *Azadinium*-like species picked up at 24 sites nationally; most of these sites have low levels $\leq 5,000$ cells/L and 1 site with ~ 30,000 cells/L. The toxic nature of the species present is not fully 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: Biotoxins not detected last week. *Dinophysis acuta* and *D. acuminata* not detected in the water.

PSP: Historically this a low risk period of the year for all sites. *Alexandrium* species present at 5 sites nationally; maximum cell levels in the north @ ~ 120 cells/L. No biotoxins recorded.

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



Likely times for Shellfish Toxicity: does not include winter carry over of biotoxins

ASP events: mid-March to early May

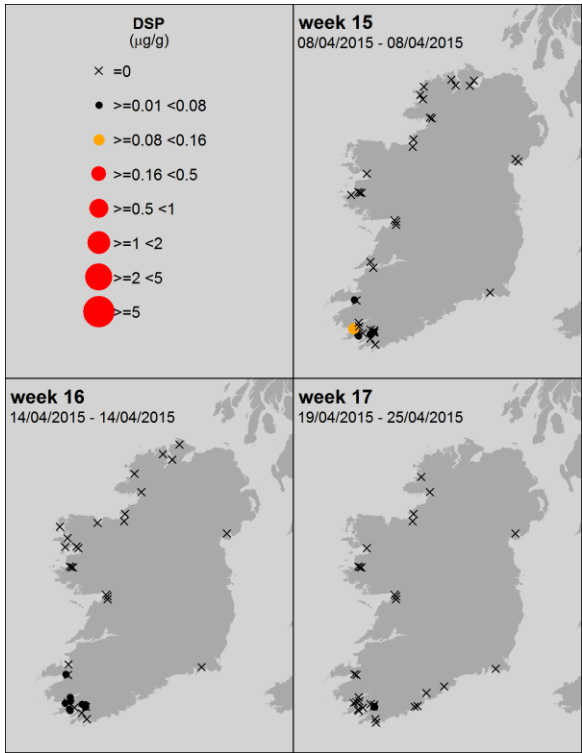
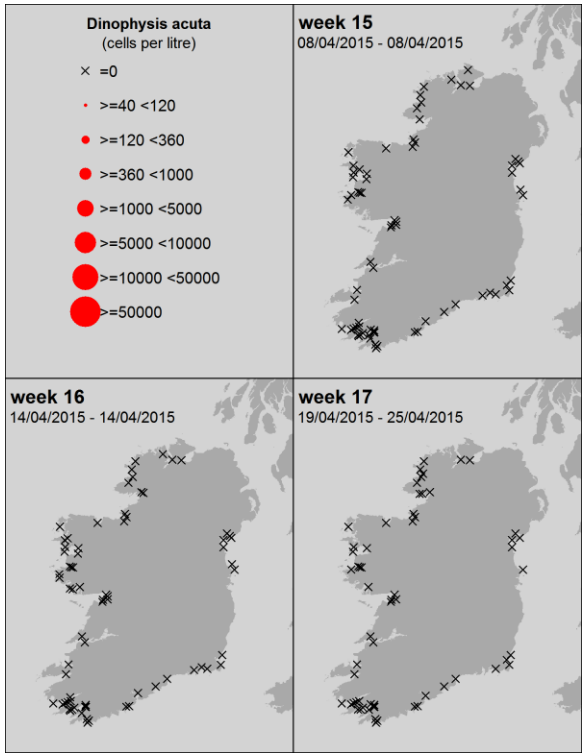
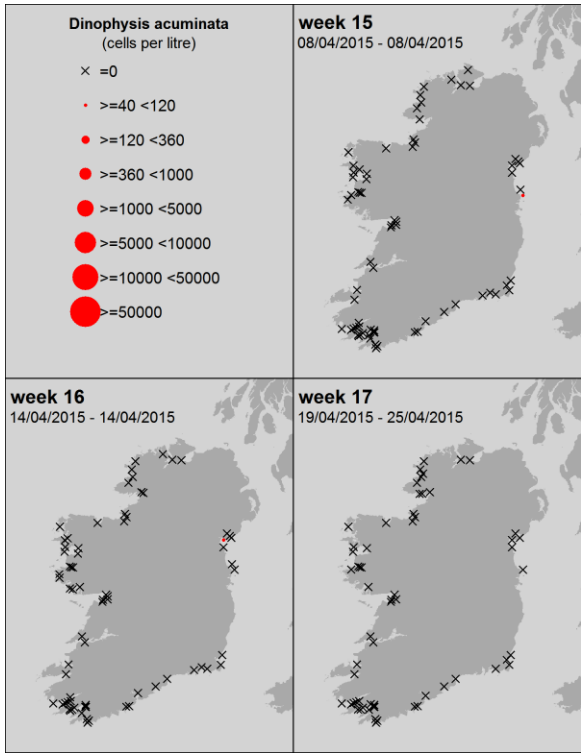
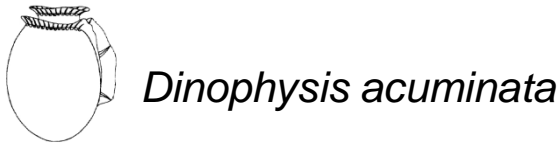
AZP events: April to December

DSP events: May to December

PSP events: June to mid-July and end September; only in Cork Harbour



Ireland: Last 3 weeks of available National Monitoring Programme data



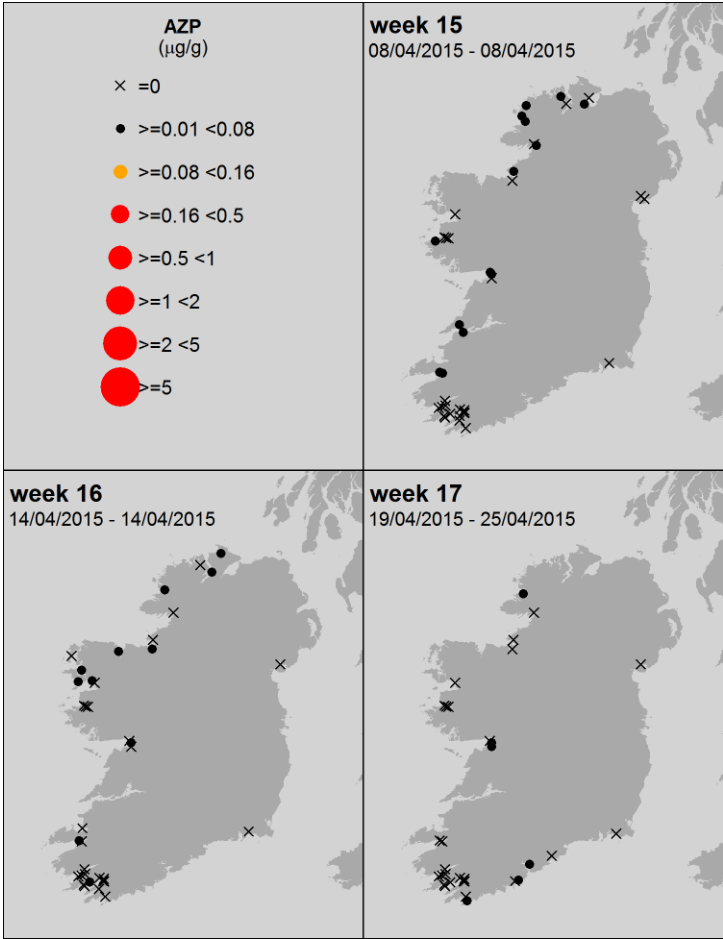
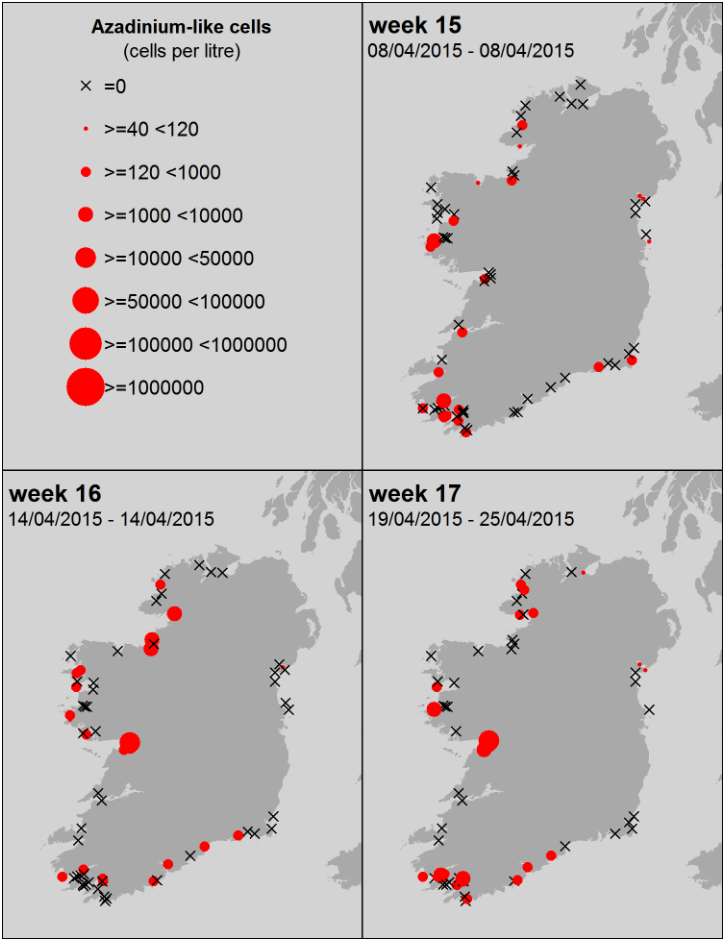
Ireland: Last 3 weeks of available National Monitoring Programme data



Azadinium – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

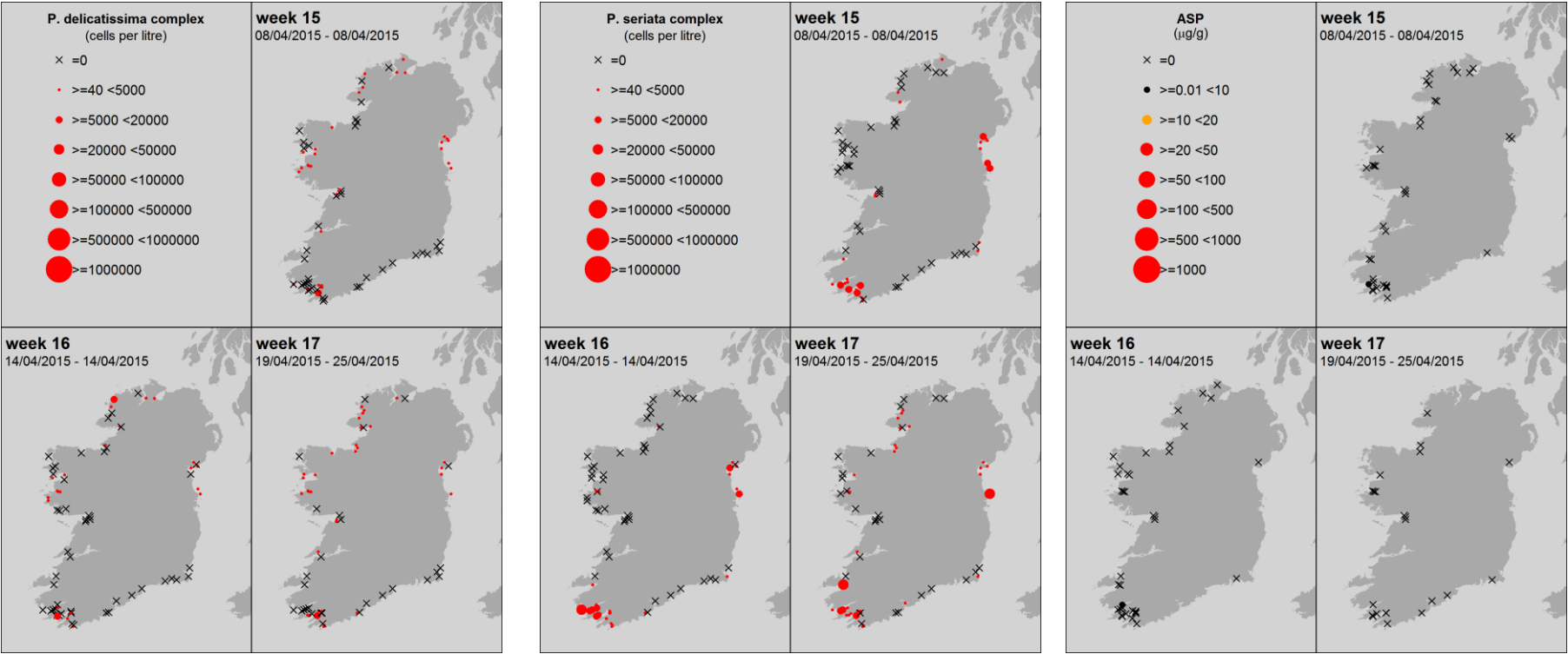
Pseudo-nitzschia spp.



ASP

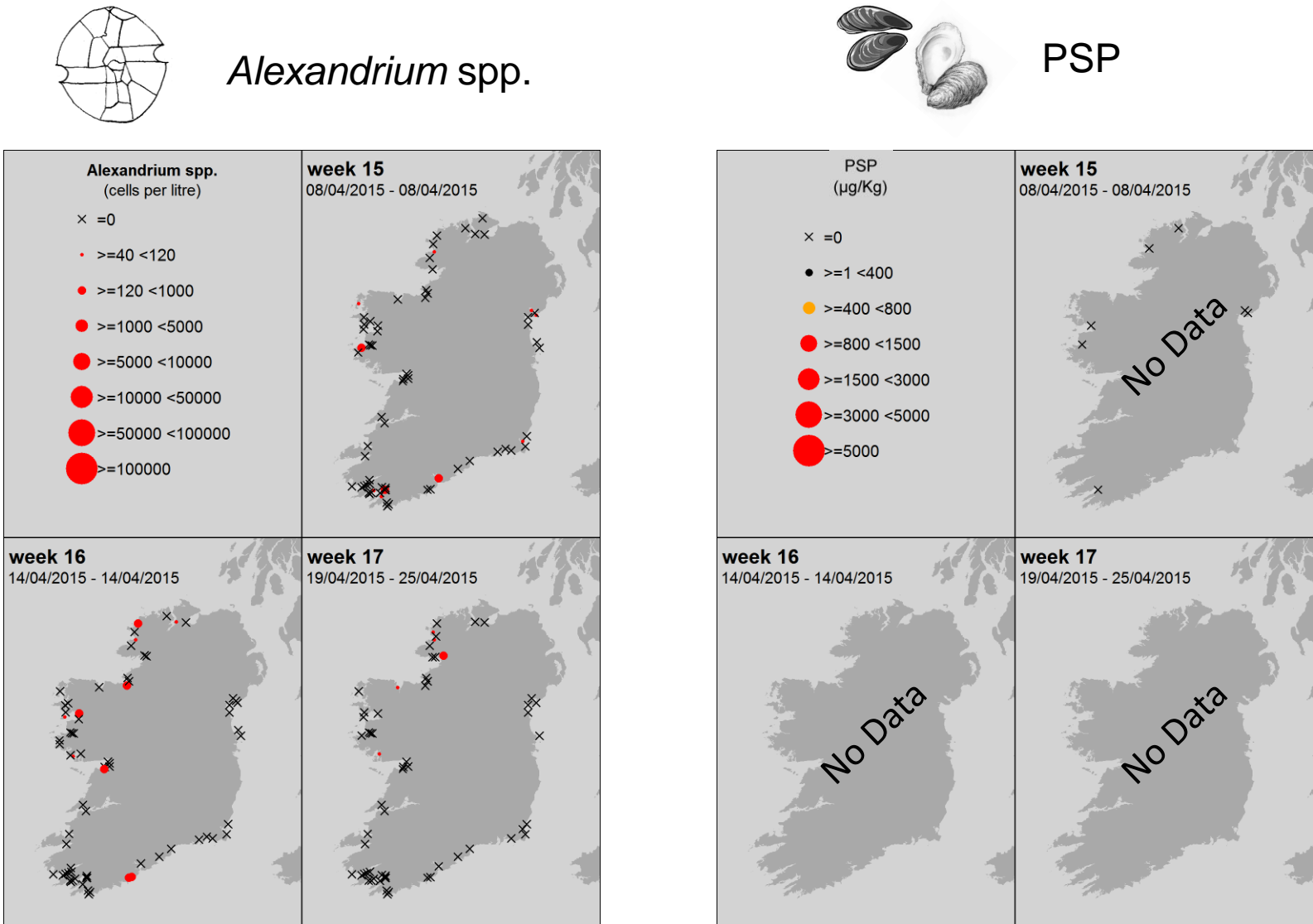
“*P. delicatissima*” complex = small cells
Taken from the literature:
3 species confirmed in Irish waters

“*P. seriata*” complex = large cells
Taken from the literature:
7 species confirmed in Irish waters



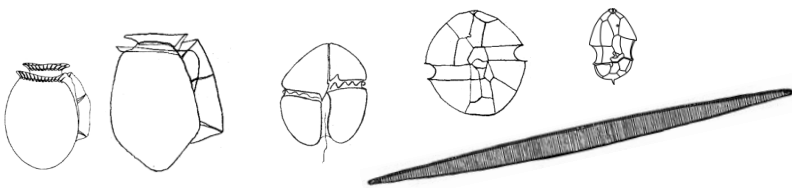
Taken from the literature: Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

Ireland: Last 3 weeks of available National Monitoring Programme data



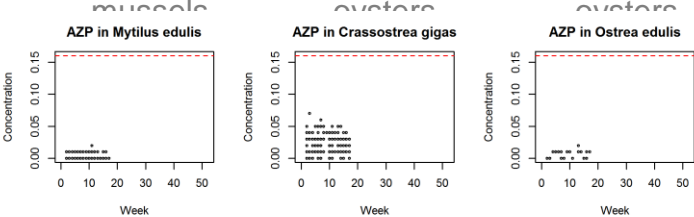
Ireland: HABs and biotoxins Levels from week 1 to present

Ireland: Biotoxins

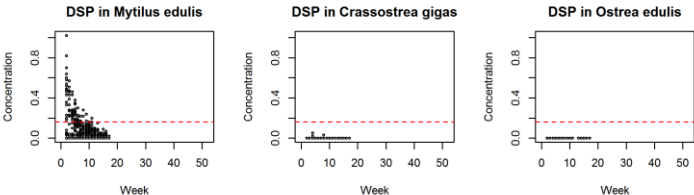


Toxin group

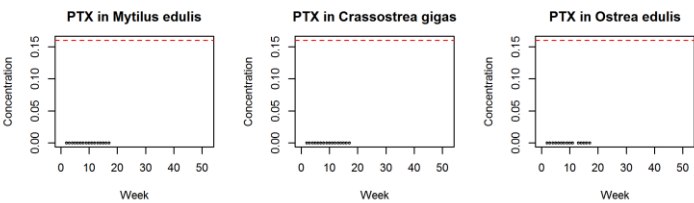
AZP
AZaspiracid
Poisoning



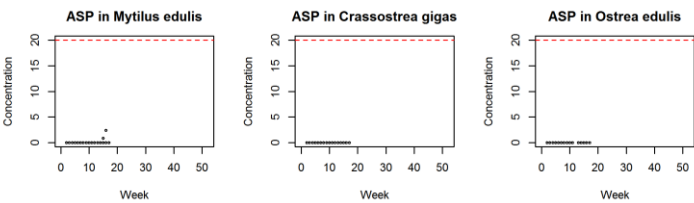
DSP
Diarrhetic
Shellfish
Poisoning



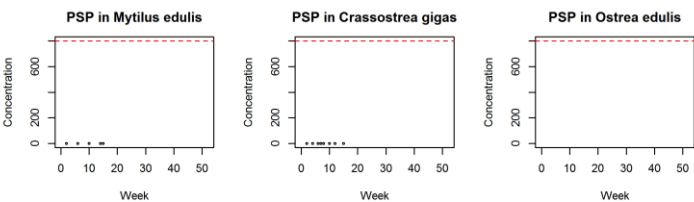
PTX
Pectenotoxin



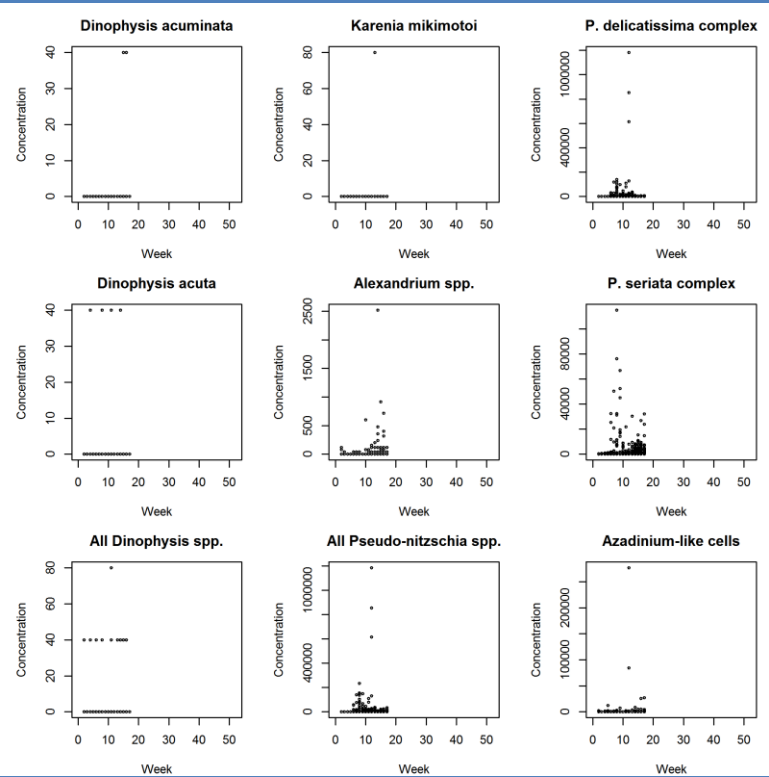
ASP
Amnesic
Shellfish
Poisoning



PSP
Paralytic
Shellfish
Poisoning



Ireland: HABs



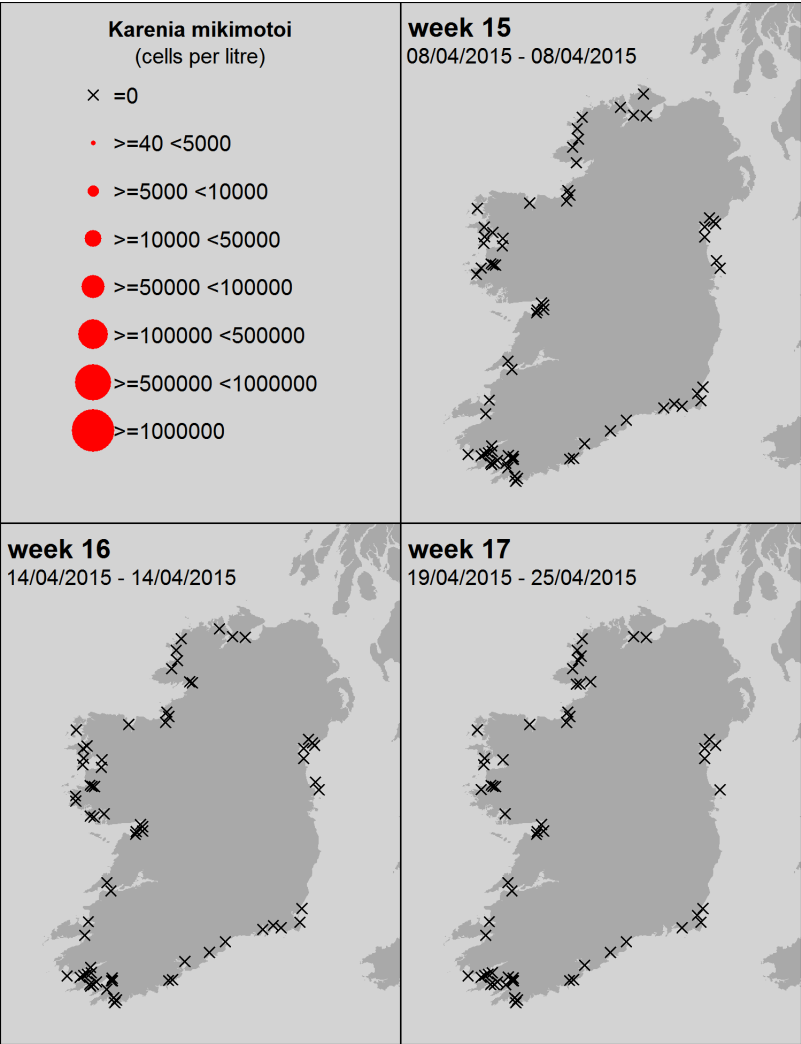
Week number: 1 to 17

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

Regulatory limit = ■■■■■



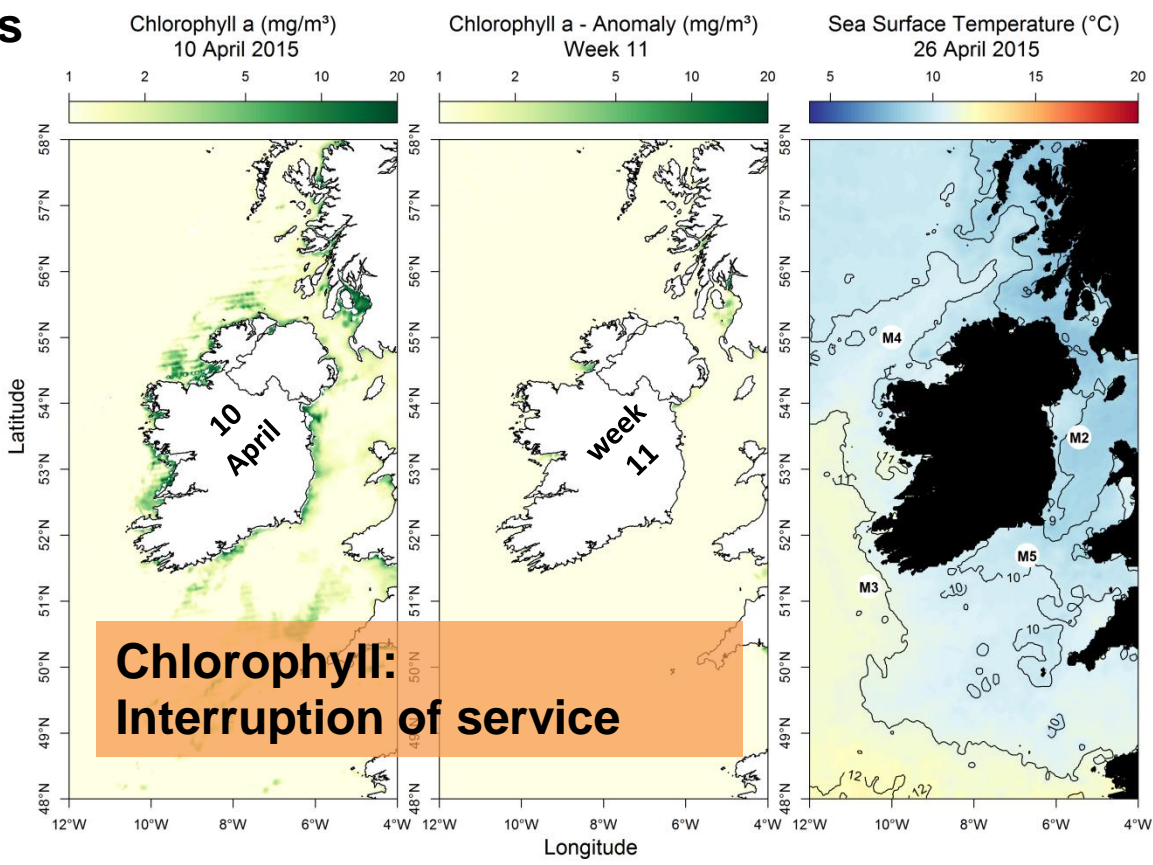
Karenia mikimotoi
(old name: *Gyrodinium aureolum*)



Ireland: Most up to date available satellite data

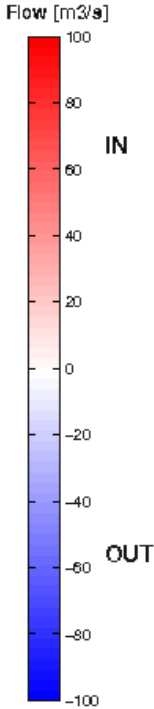
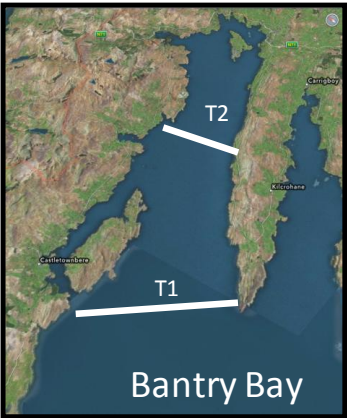
last week – maximum cell counts

Region	Predominant Phytoplankton
north:	Diatoms: <i>Asterionellopsis</i> spp. (up to ~ 1 million cells/L) and others (e.g. <i>Chaetoceros</i> spp.)
west:	Diatoms: <i>Chaetoceros socialis</i> (up to ~ 2 million cells/L) and others (e.g. <i>Asterionellopsis</i> spp. & <i>Euglena / Eutreptiella</i> spp.)
SW:	Diatoms: <i>Thalassiosira</i> spp. (up to 1 million cells/L)
south:	Diatoms: <i>Thalassiosira</i> spp. (up to ~ 500,000 cells/L) and others (e.g. <i>Skeletonema</i> spp.)
east:	Diatoms: <i>Thalassiosira</i> spp. (up to ~ 170,000 cells/L) and others

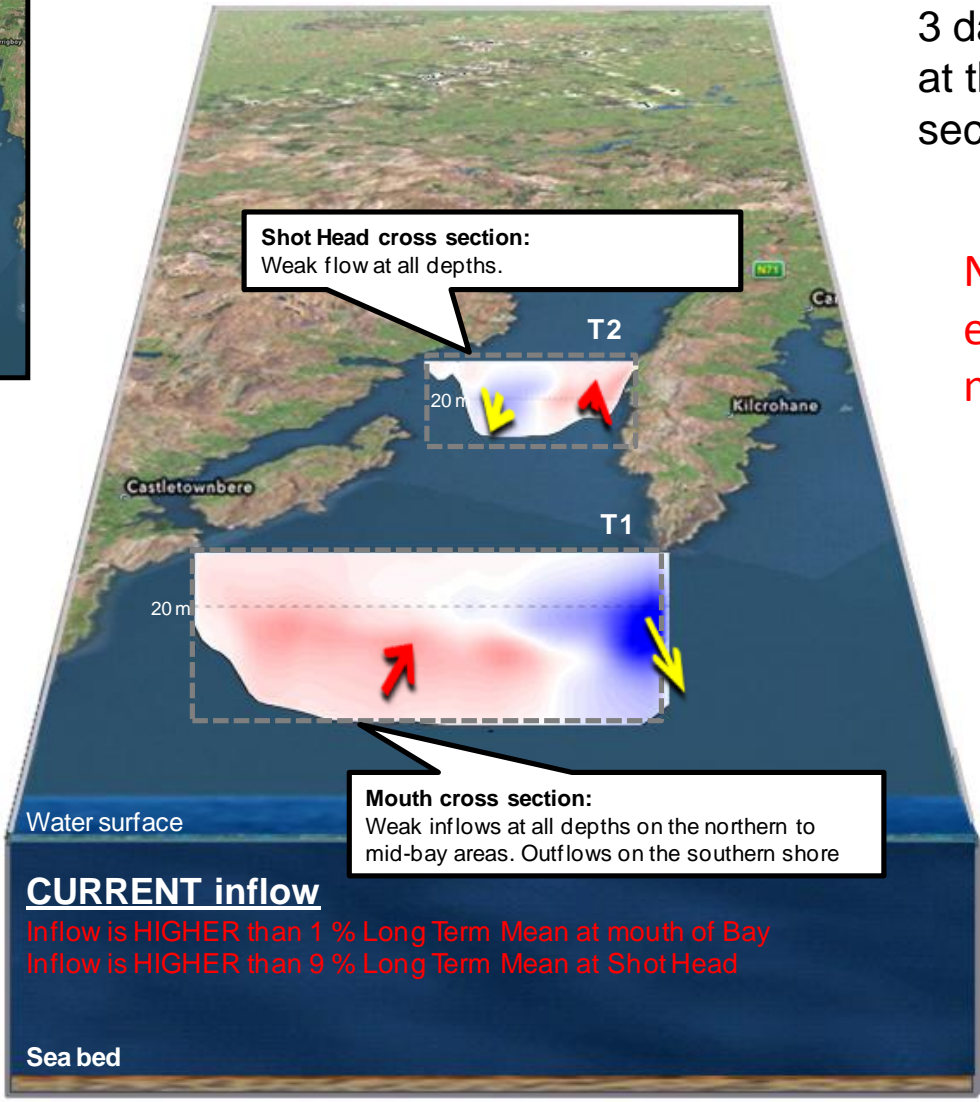


SST (°C) anomaly for last week:
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

Northwest coast (M4)	<u>above average by 0.18 °C</u>
Southwest coast (M3)	<u>above average by 0.88 °C</u>
Southeast coast (M5)	<u>below average by 0.60 °C</u>



Forecast for next 3 days



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

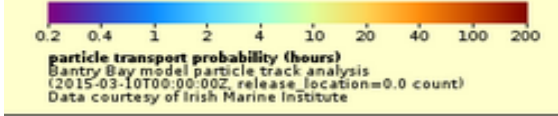
= water enters bay

= water leaves bay

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

