

Ireland: Current Conditions

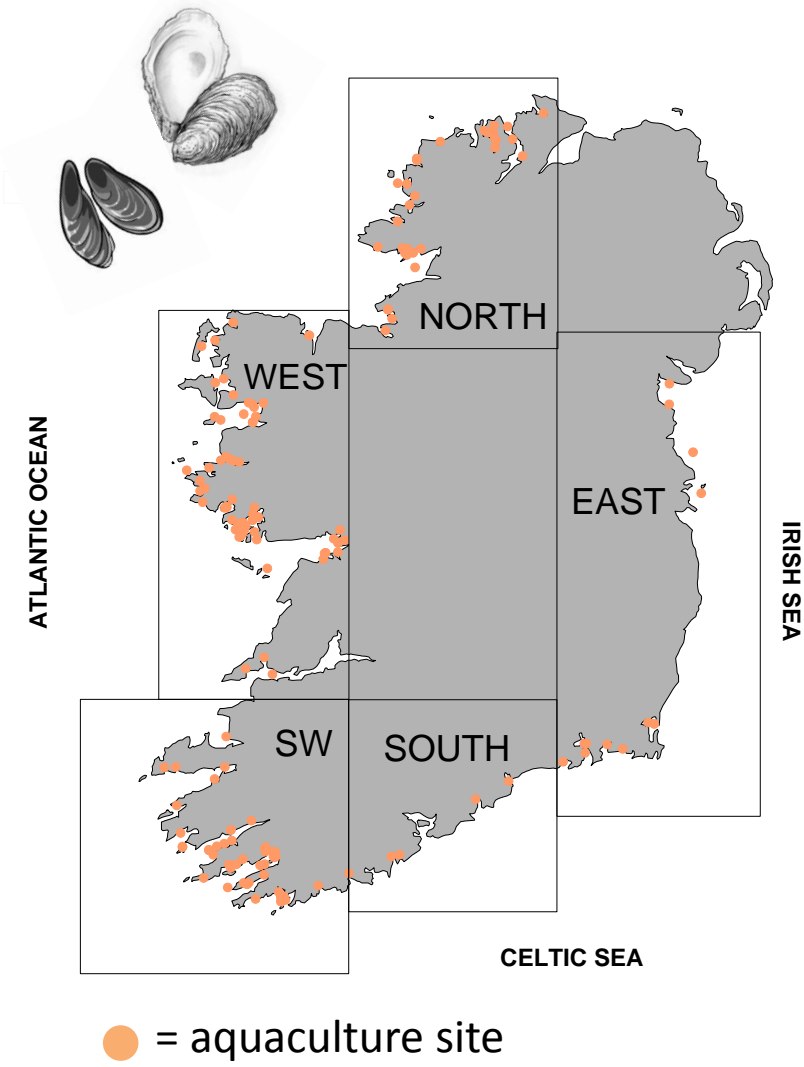
Shellfish biotoxin report (last week)



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: Low risk

AZP event: Low risk

DSP event: Low risk

PSP event: Low risk

Why do we think this?

ASP : No toxins recorded. The “*P. seriata*” group was found at 33 out of 72 sites nationwide. Maximum cell levels of 17,000 cells/L) in the east, elsewhere max of 3,000 cells/L. A toxic species, *P. australis* was observed in 2 sites in the southwest. Populations only represent a maximum of 2 % of the total phytoplankton present.

AZP: Very low levels of toxins (i.e. background levels of 0.01 to 0.04 µg/g in oysters) picked up at 6 out of 25 sites nationally. *Azadinium*-like species recorded at 20 sites - cell levels are relatively low with maximum recorded in the west (~ 3,500 cells/L). Since historic data shows events in the past have occurred at this time of the year, some caution is advised.

DSP: Background levels of toxins detected in SW last week (range = 0.02 to 0.05 µg/g). *Dinophysis* species found at background levels (*D. acuminata* at 40 to 80 cells/L) in 2 sites nationwide (southwest and east).

PSP: Historically this a low risk period of the year for all sites. *Alexandrium* species present at 6 sites out of 72 sites nationally; maximum cell levels in the southwest @ 480 cells/L. No available toxin data.

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



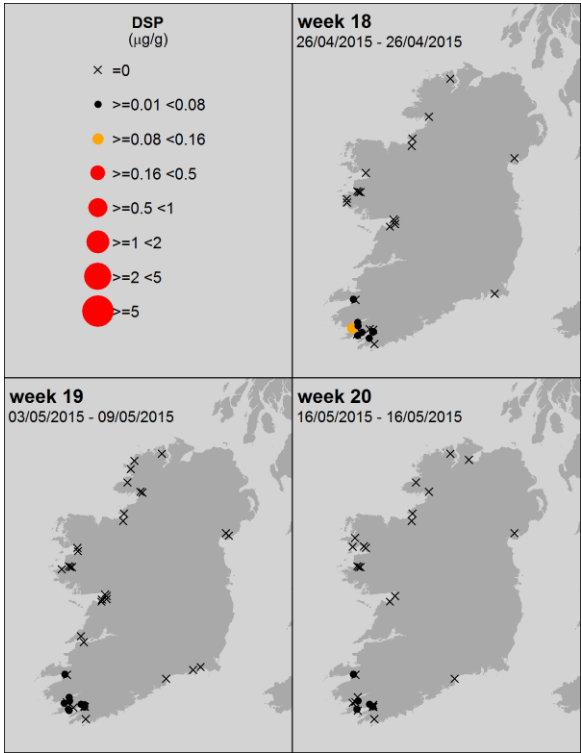
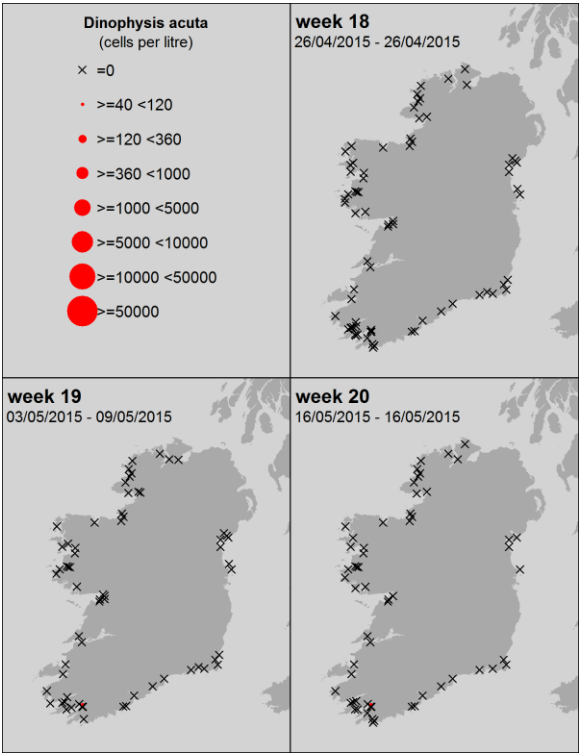
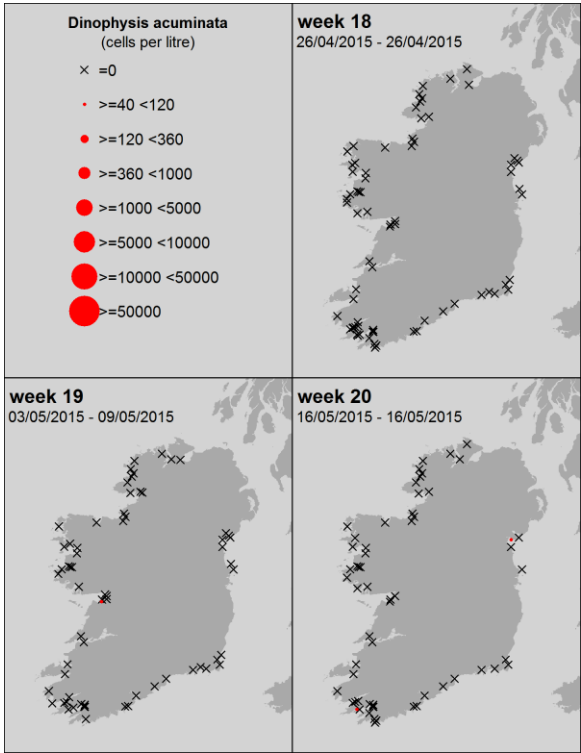
Dinophysis acuminata



Dinophysis acuta



DSP



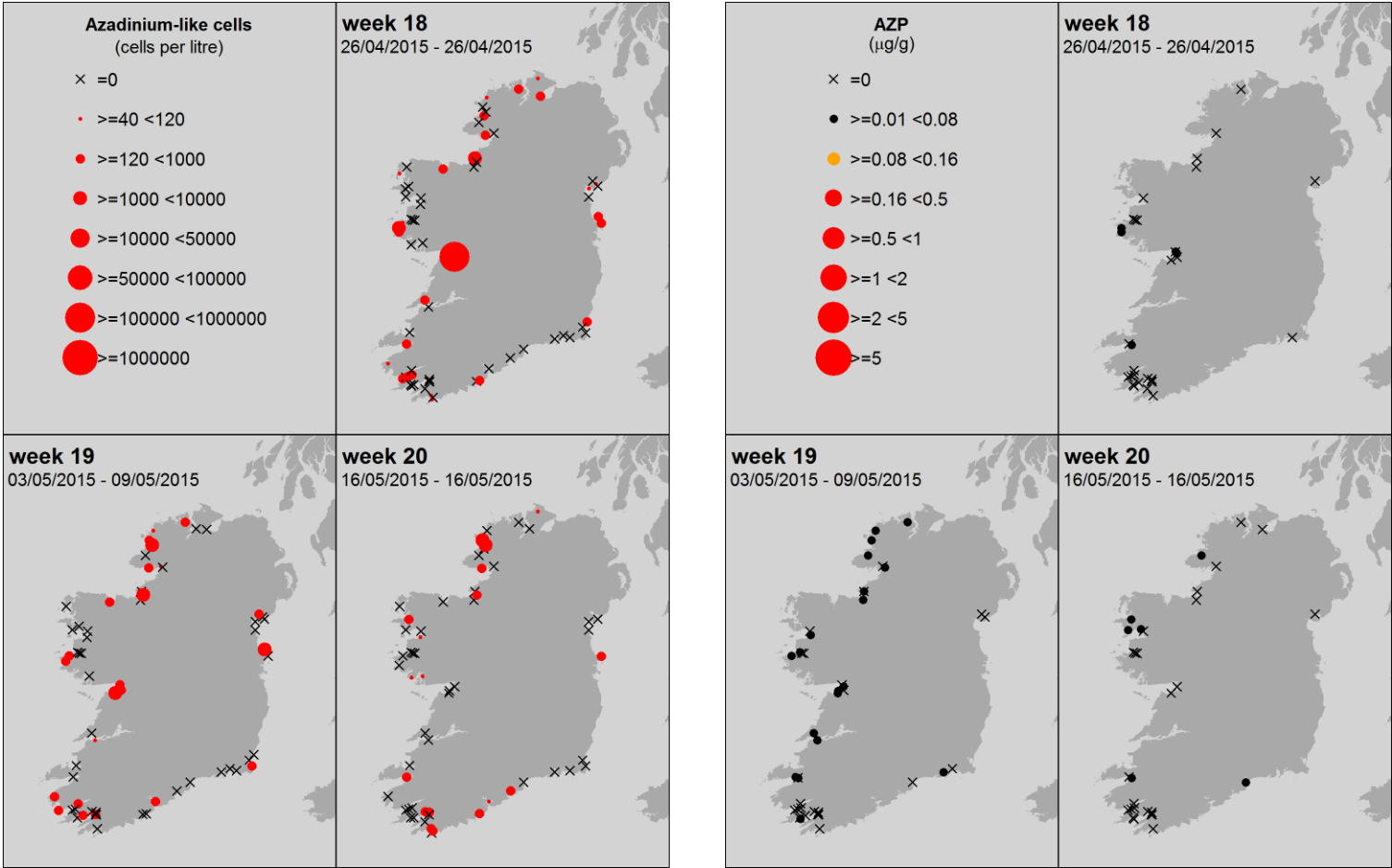
Ireland: Last 3 weeks of available National Monitoring Programme data



Azadinium – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

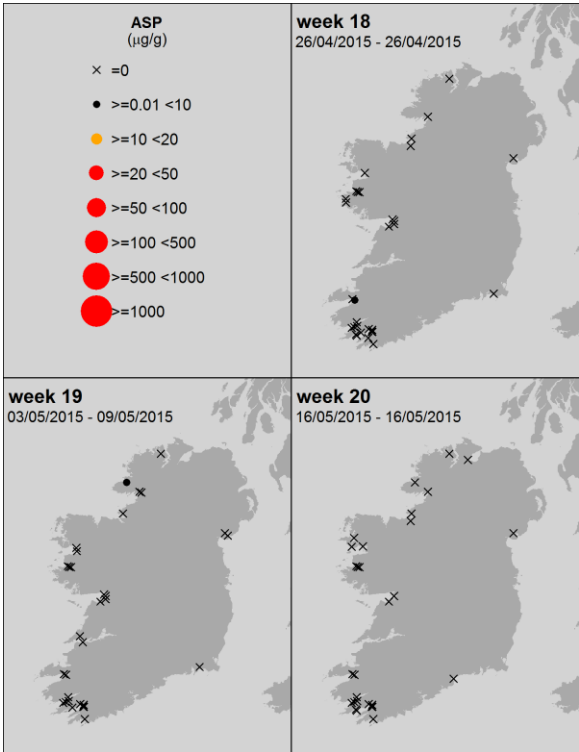
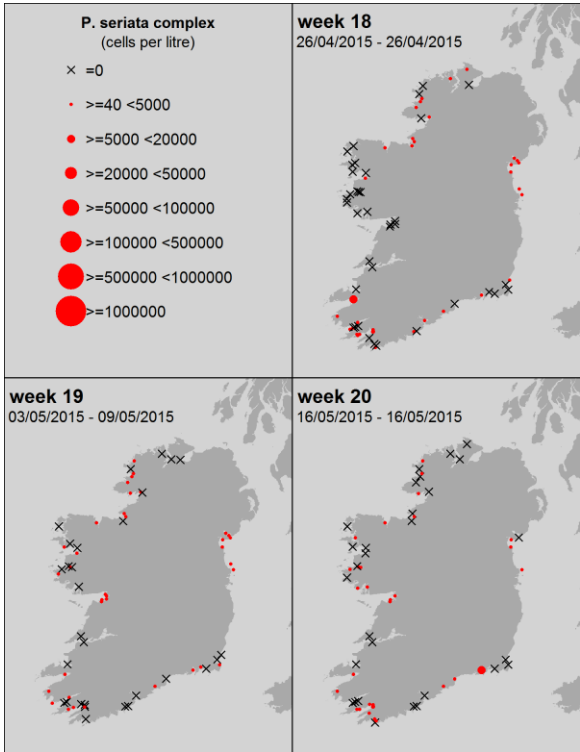
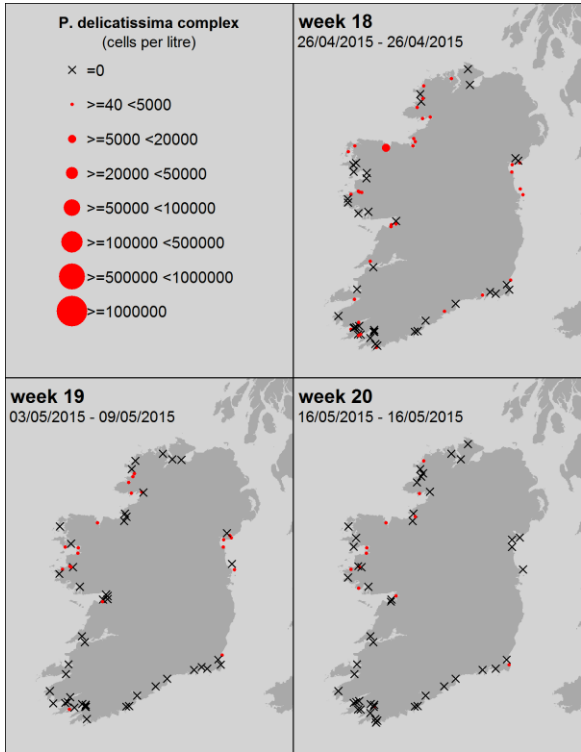
Pseudo-nitzschia spp.



ASP

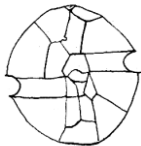
“*P. delicatissima*” complex = small cells
Taken from the literature:
3 species confirmed in Irish waters

“*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.

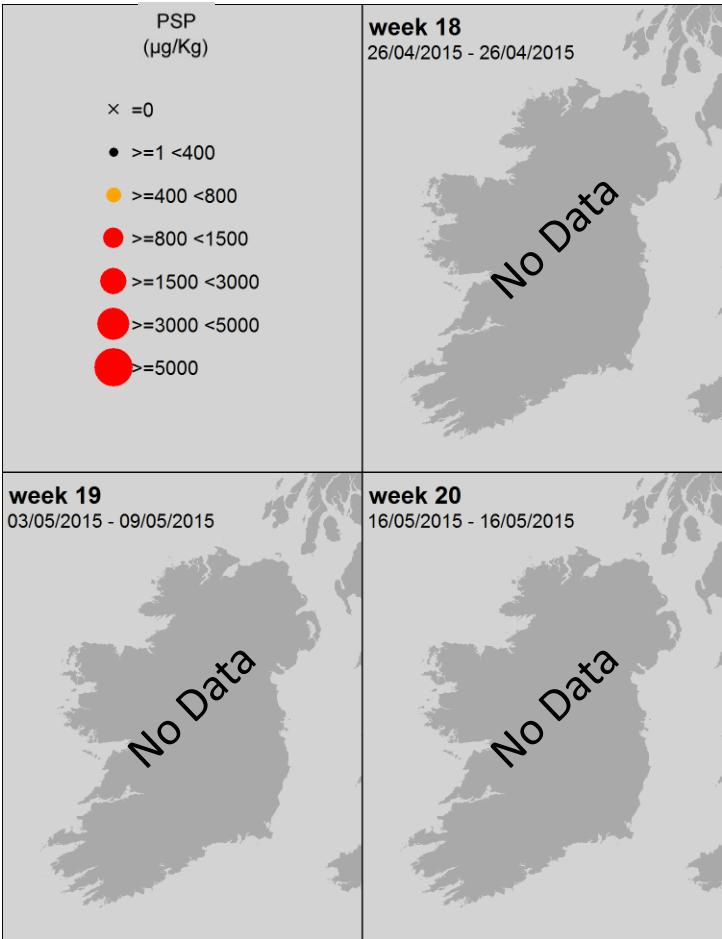
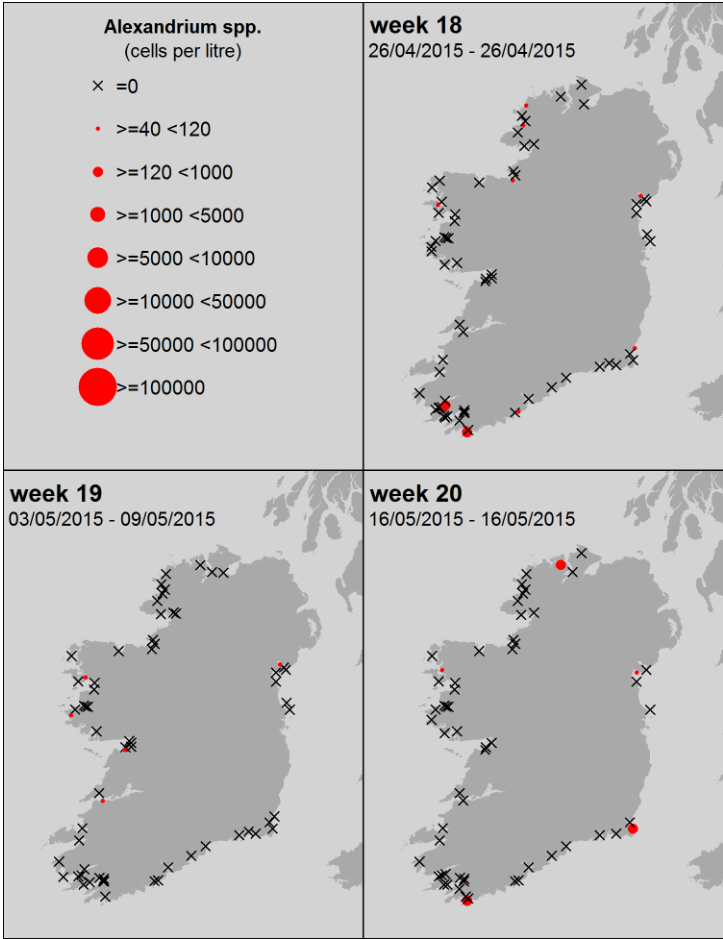
Ireland: Last 3 weeks of available National Monitoring Programme data



Alexandrium spp.

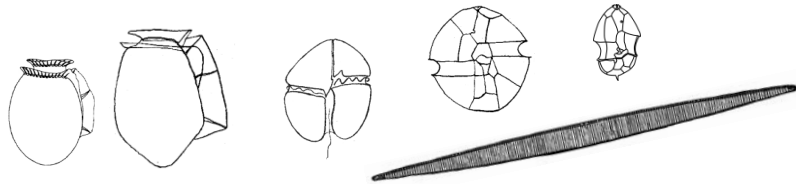


PSP



Ireland: **HABs and biotoxins** Levels from week 1 to present

Ireland: **Biotoxins**



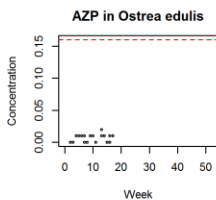
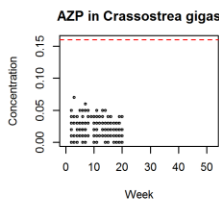
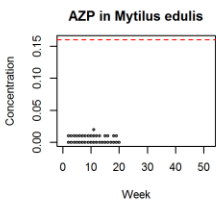
Toxin groups

mussels

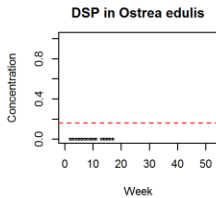
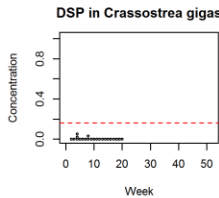
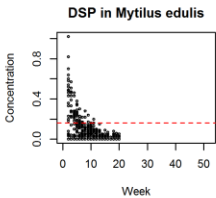
oysters

oysters

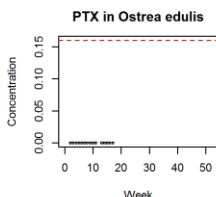
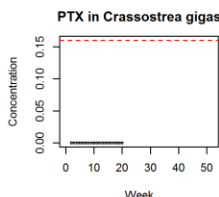
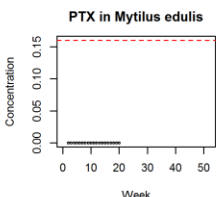
AZP
AZaspiracid
Poisoning



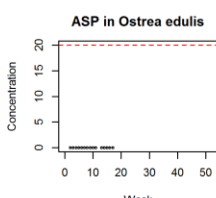
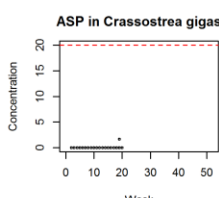
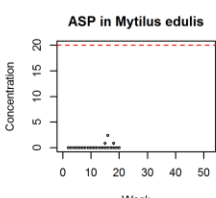
DSP
Diarrhetic
Shellfish
Poisoning



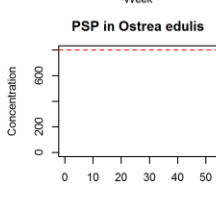
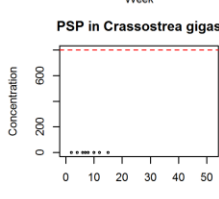
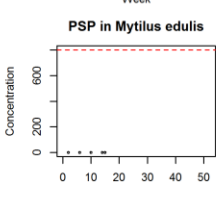
PTX
Pectenotoxin



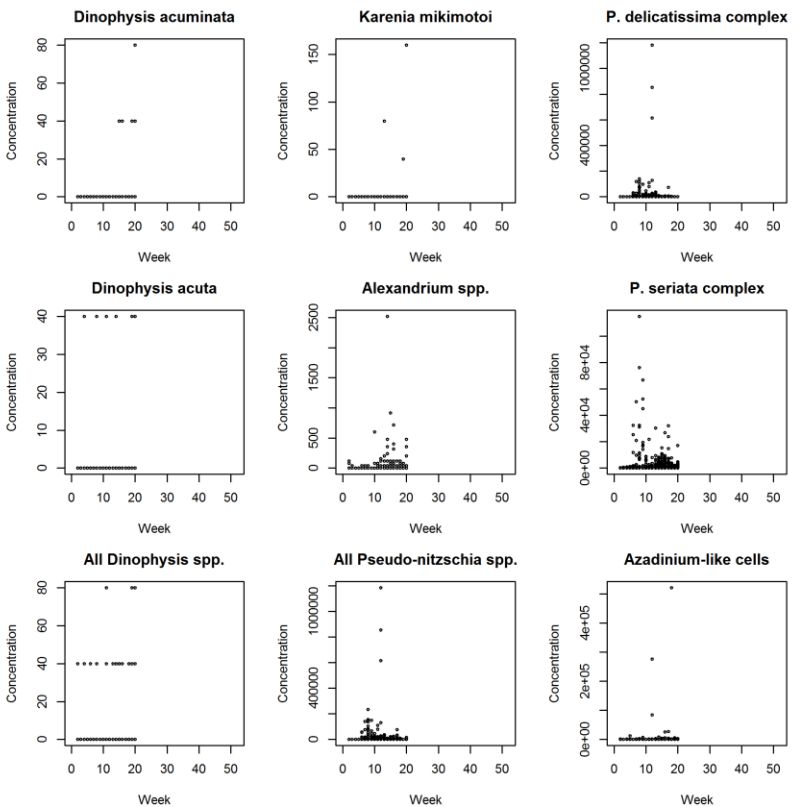
ASP
Amnesic
Shellfish
Poisoning



PSP
Paralytic
Shellfish
Poisoning



Ireland: **HABs**



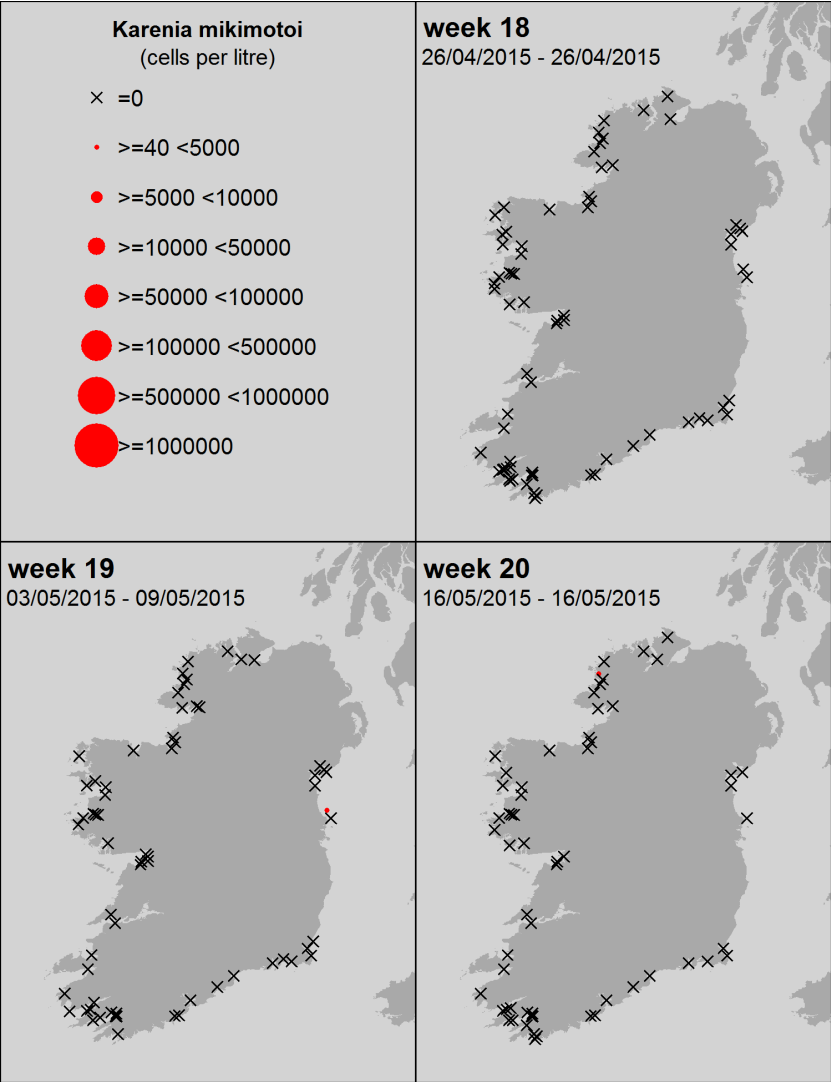
Week number: 1 to 20

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

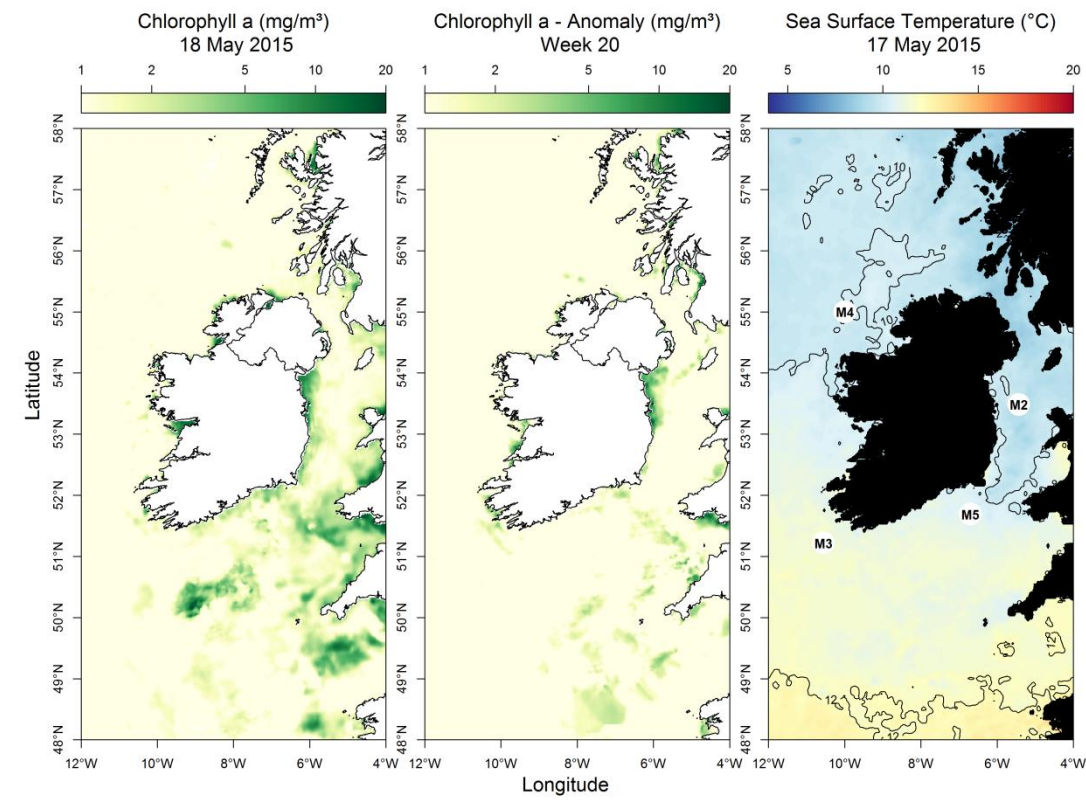
Regulatory limit = ■■■■■



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)



Most up to date available satellite data

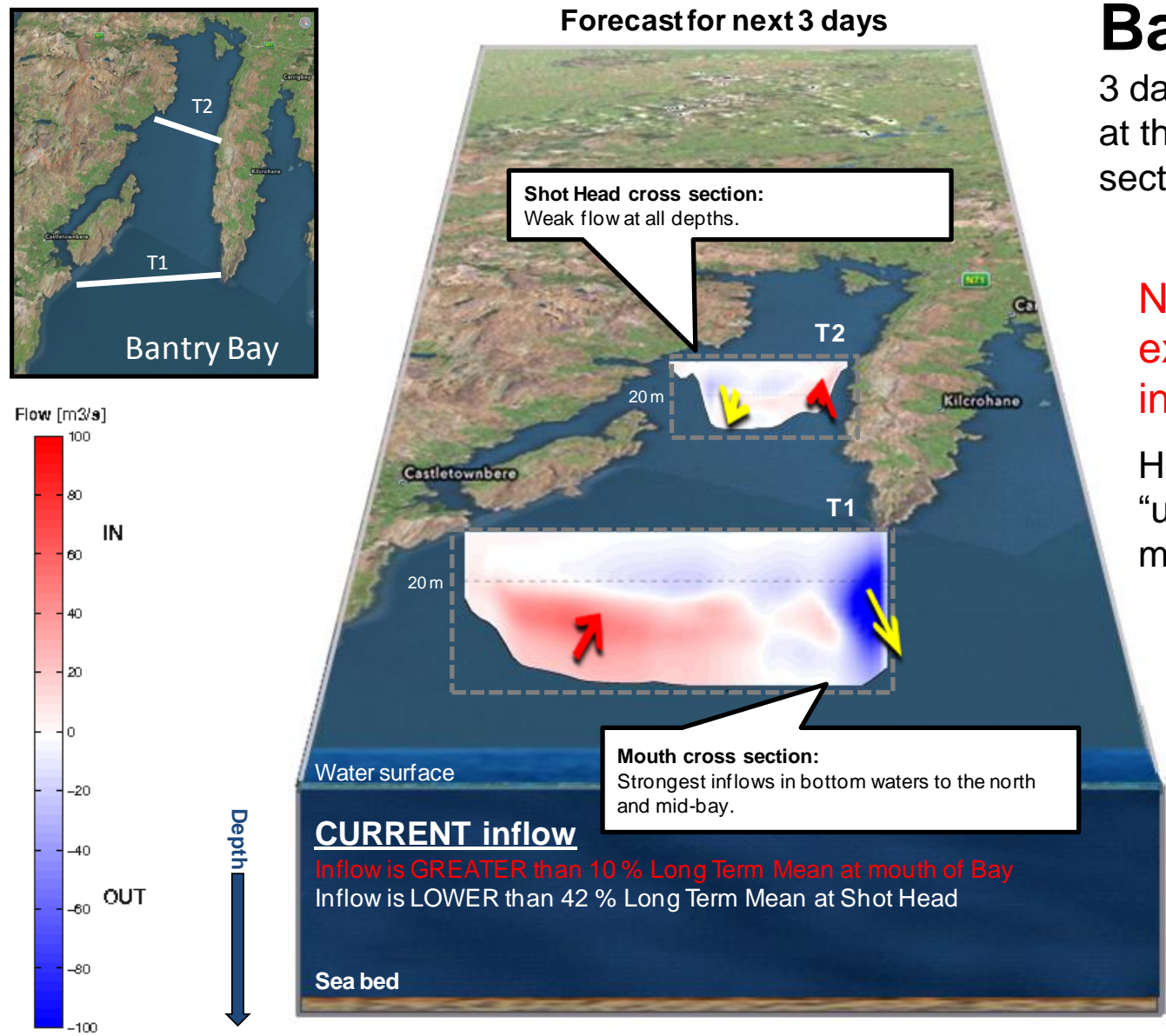


SST (°C) anomaly for last week:
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

NW coast (M4) below average by 0.64 °C
SW coast (M3) Offline
SE coast (M5) below average by 0.64 °C

What phytoplankton were blooming around the coast last week?

Region	Predominant Phytoplankton	Cells/L (rounded)
north:	Diatoms: <i>Asterionellopsis</i> spp.	843,000
	Dinoflagellates: <i>Glenodinium</i> spp.	90,000
	Other: Microflagellate spp.	153,000
west:	Diatoms: <i>Guinardia delicatula</i>	152,000
	<i>Chaetoceros</i> (Hyalochaete) spp.	114,000
	<i>Skeletonema</i> spp.	47,000
SW:	Other: Microflagellate spp.	13,000,000
	Diatoms: <i>Leptocylindrus danicus</i>	582,000
	<i>Thalassiosira rotula / gravida</i>	101,000
	<i>Thalassiosira</i> spp. (20-50 µm)	101,000
south:	Diatoms: <i>Skeletonema</i> spp.	190,000
	Other: <i>Euglena / Eutreptiella</i> spp.	13,000
east:	Diatoms: <i>Guinardia delicatula</i>	441,000
	<i>Rhizosolenia</i> spp.	72,000
	<i>Bacteriastrum</i> spp.	26,000



Bantry Bay

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

No MAJOR water exchange event predicted in the next few days.

However, very weak “upwelling” is likely at the mouth.

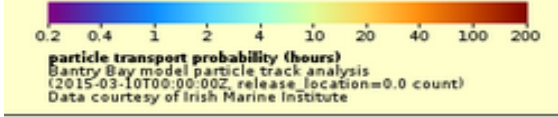
= water enters bay

= 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

