

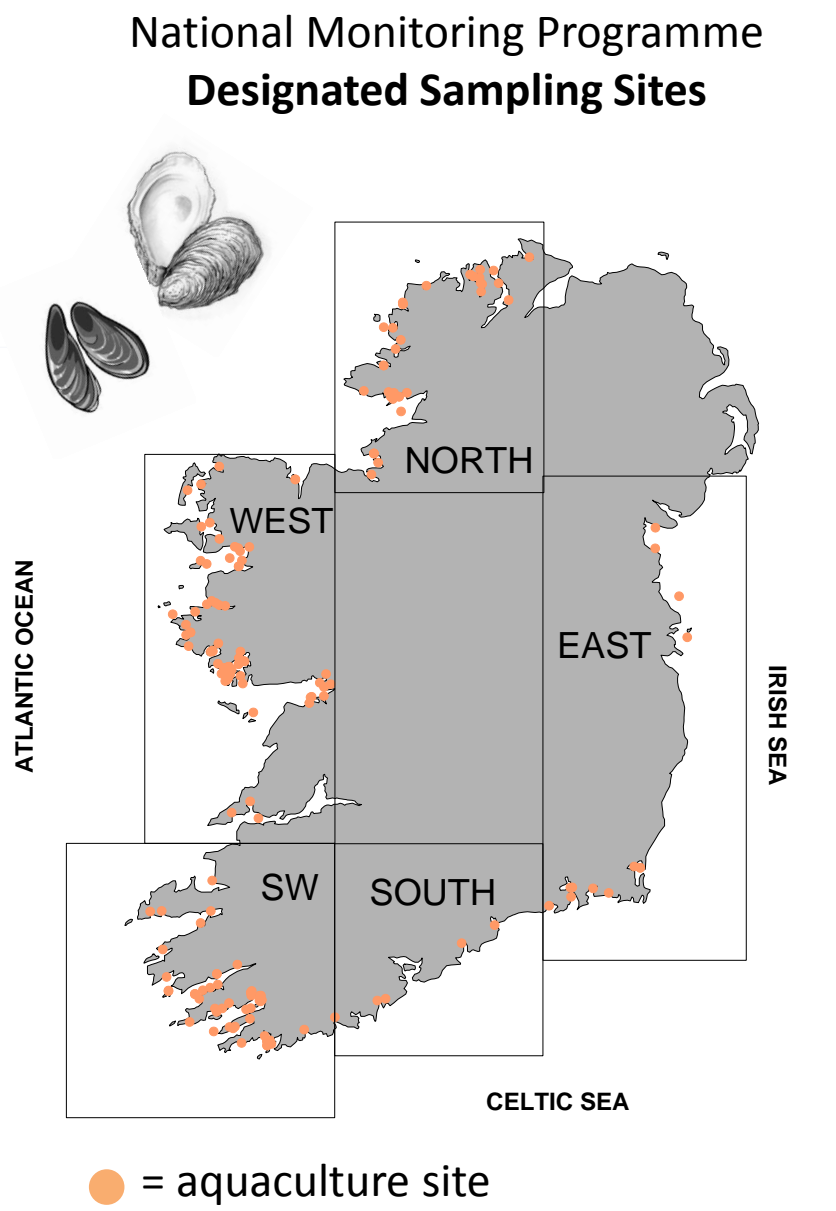
# Ireland: Current Conditions

## 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

AZP event: Moderate- High

DSP event: High (SW)

PSP event: Moderate

## Why do we think this?

ASP: Low cell levels of *Pseudo nitzschia* species continue to be observed in many sites around the coast . Corresponding biotoxin levels continue to remain well below regulatory limits. Toxin issues from this species are not historically expected at this time.

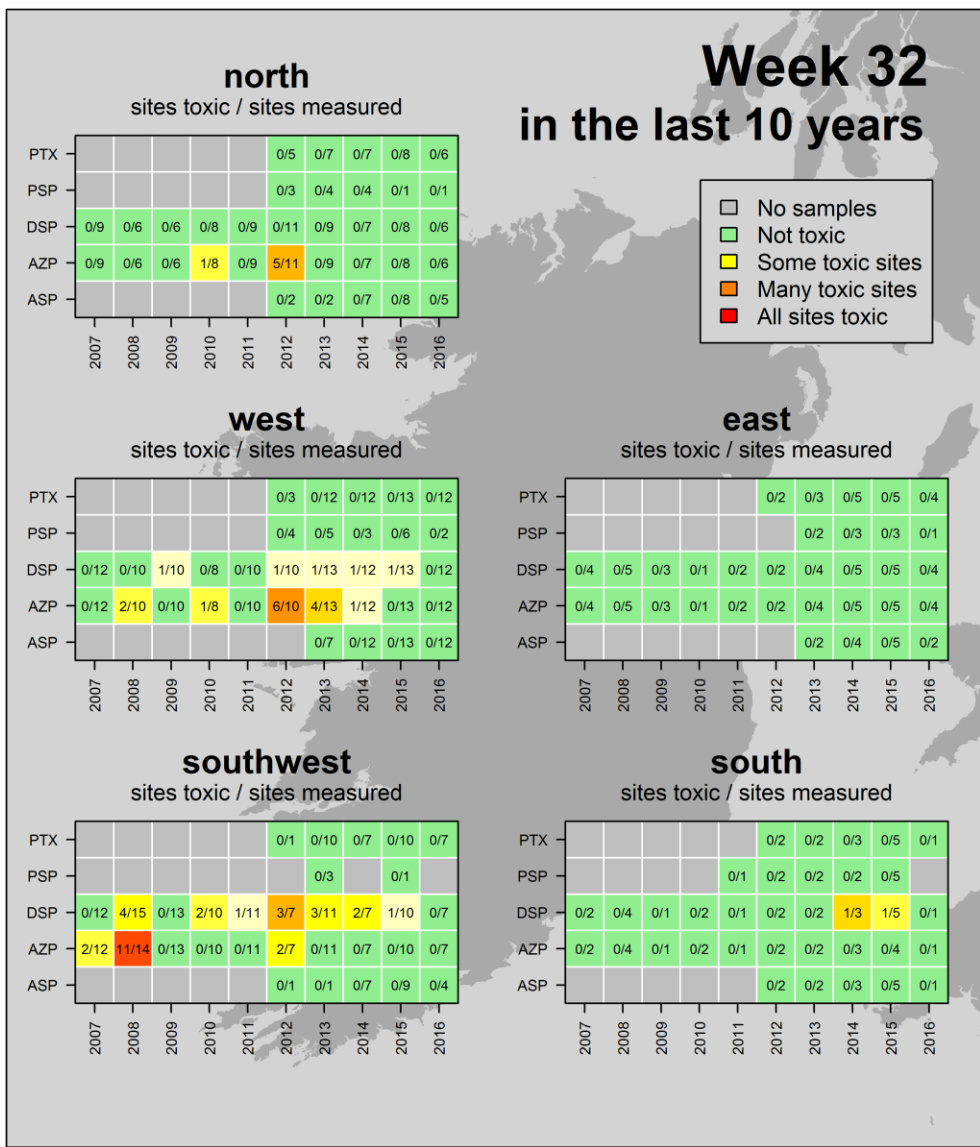
AZP: *Azadinium* type species continue to be observed in all areas around the coastline. Biotoxin levels currently remain well below the regulatory limit in all sites. This is historically within the period of occurrence so caution is encouraged .

DSP: This is historically the main risk period, *Dinophysis* spp. have appeared in the SW and numbers have increased with toxin levels also increased. All areas should exercise caution and adjacent regions to closed areas should take all precautions necessary.

PSP: We have passed the high risk time of year, historical trends and current conditions indicate an event is unlikely to occur but be cautious as high temperatures, calm weather and sunshine are predicted. While *Alexandrium* sp cells have been observed in low levels throughout the coastline only 1 site in the SW has had related biotoxin levels, at well below regulatory limit.

# Ireland: Historic Conditions

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



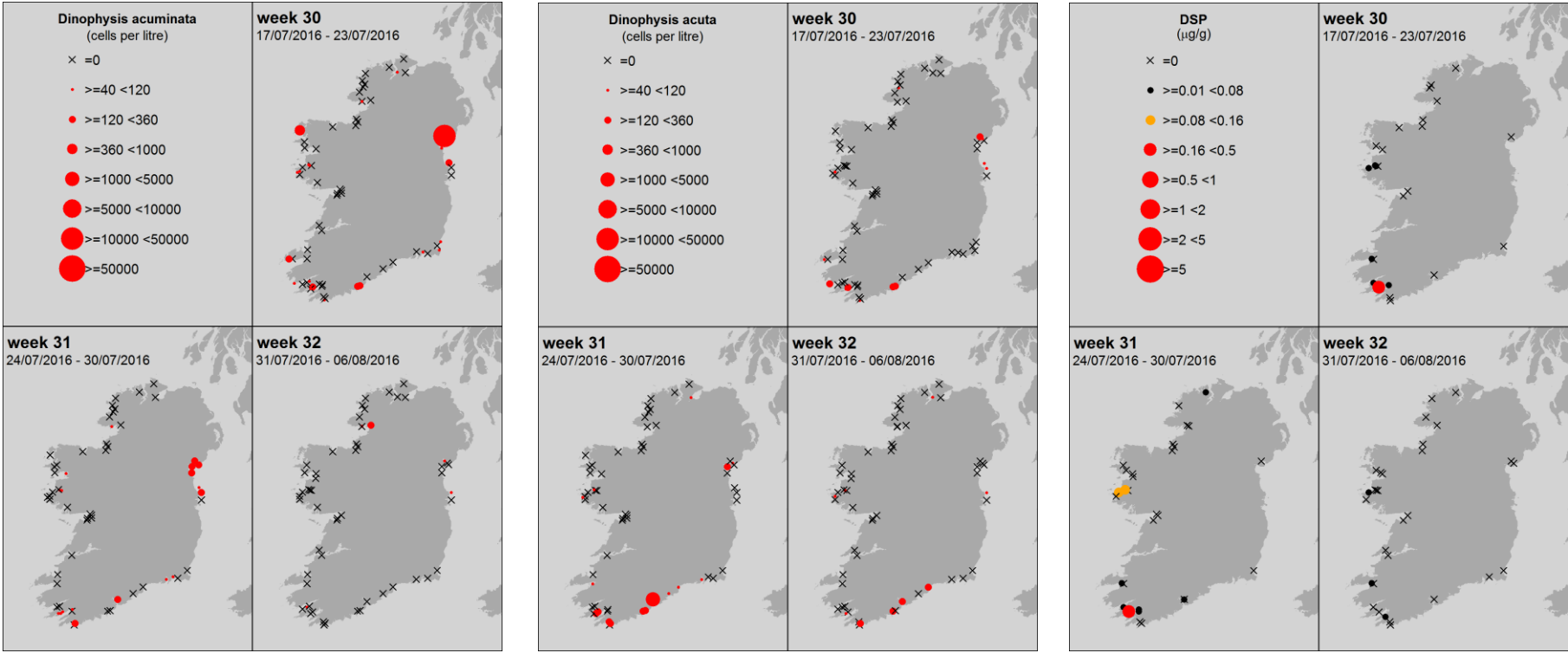
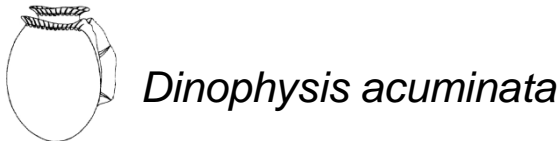
## Ireland HISTORIC TRENDS

**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



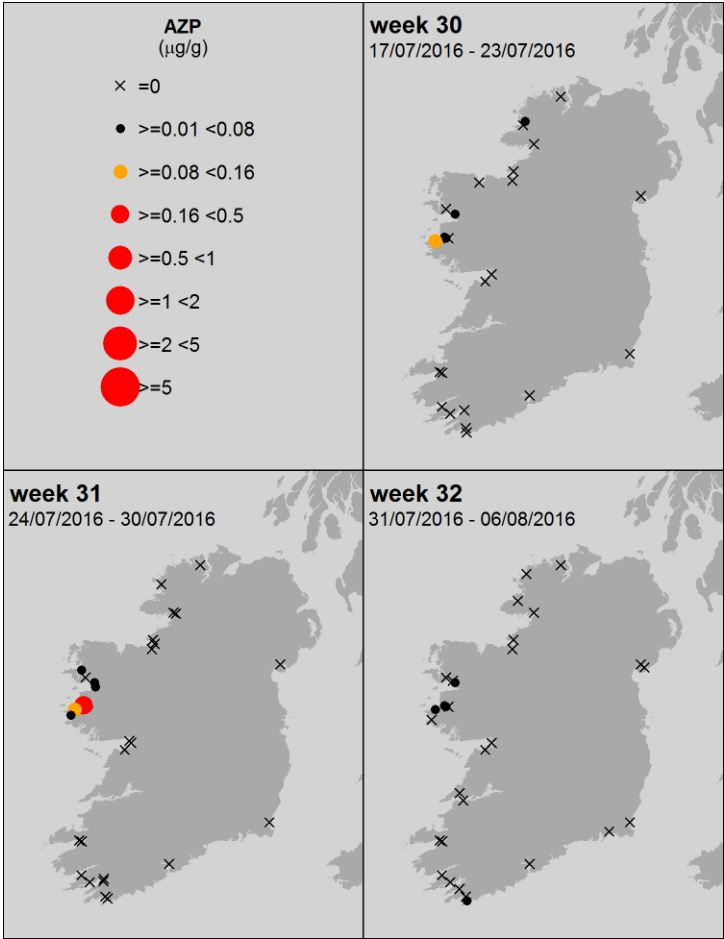
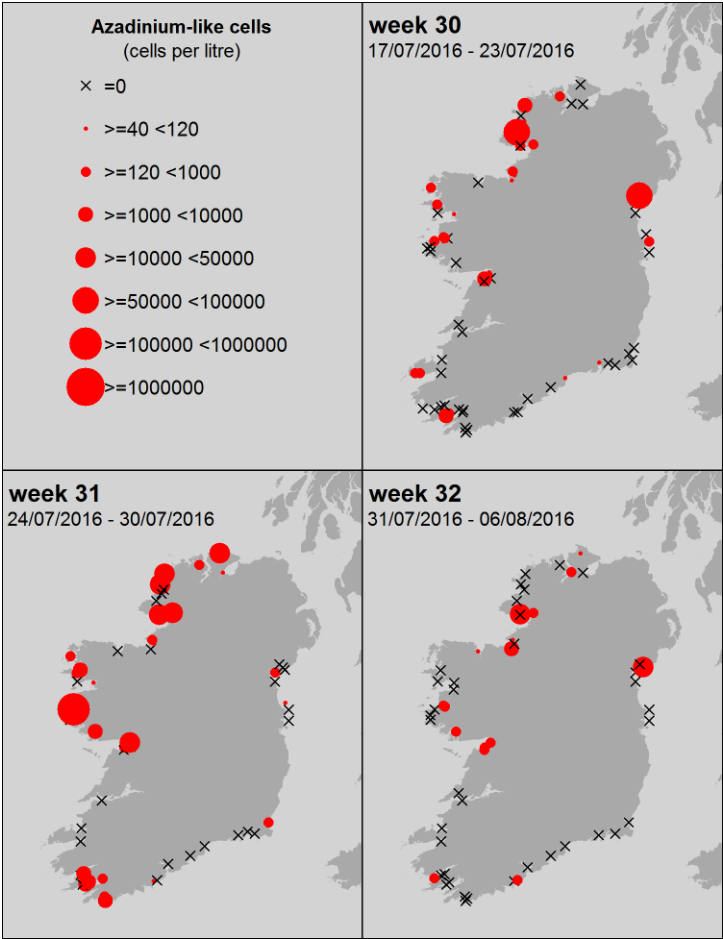
Ireland: Last 3 weeks of available National Monitoring Programme data



*Azadinium* – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

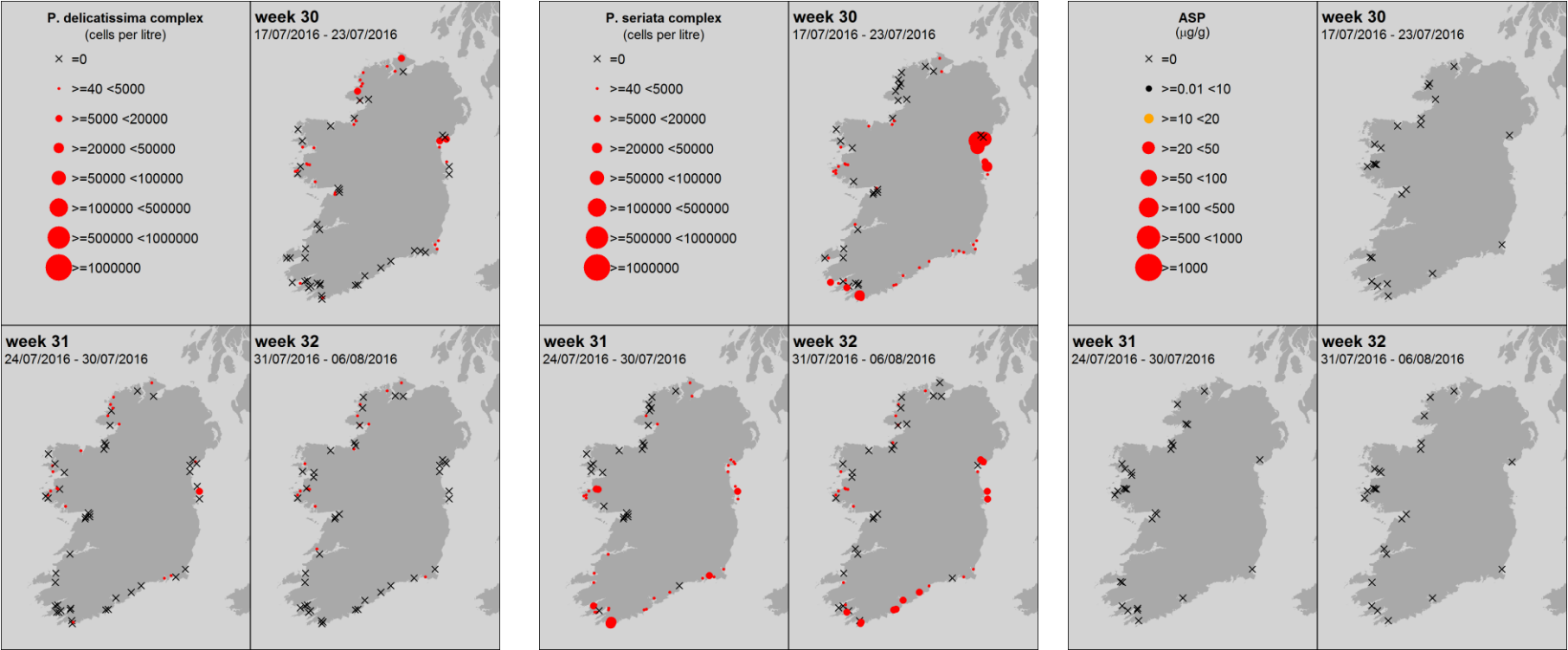
*Pseudo-nitzschia* spp.



ASP

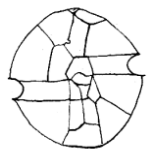
“*P. delicatissima*” complex = small cells  
Taken from the literature:  
3 species confirmed in Irish waters

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

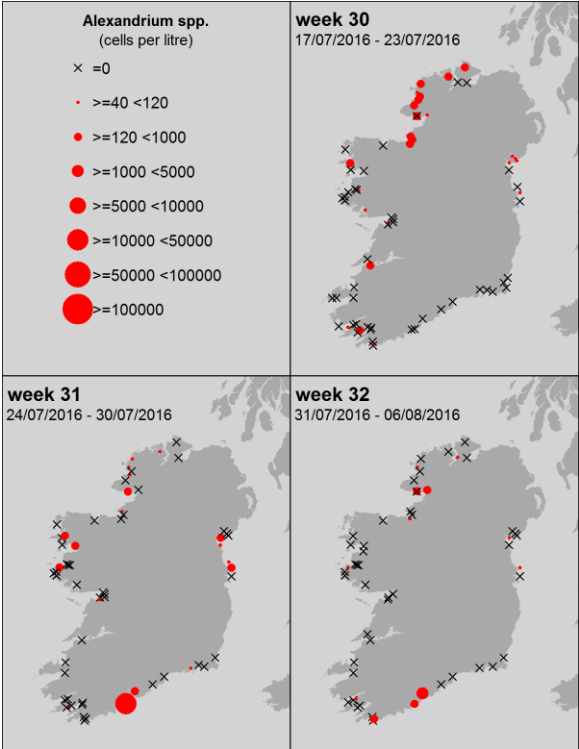


**Taken from the literature:** Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

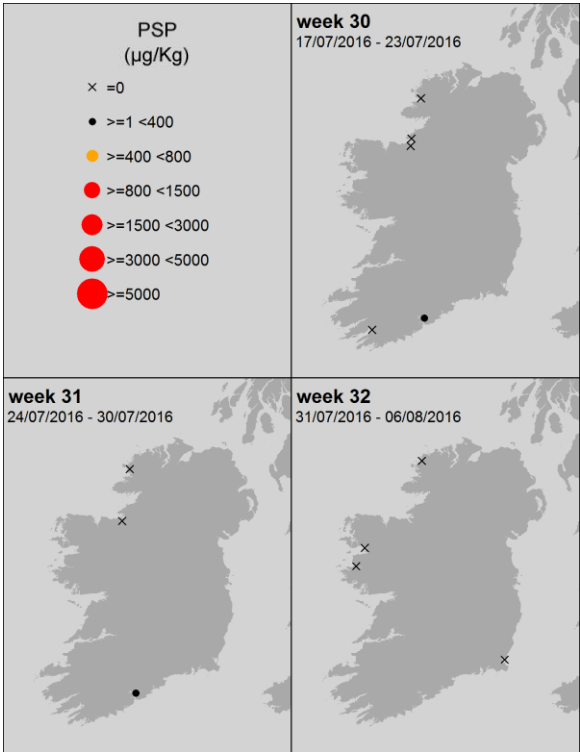
Ireland: Last 3 weeks of available National Monitoring Programme data



*Alexandrium* spp.



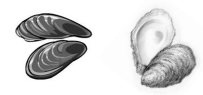
PSP



# Ireland HAB & Biotoxin temporal trends

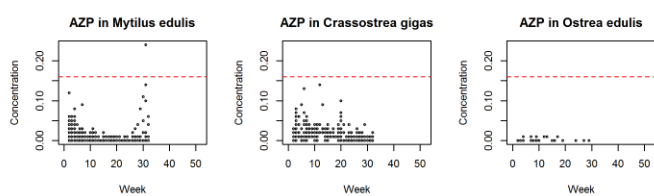
Ireland: **HABs and biotoxins** Levels from week 1 to present

## Ireland: Biotoxins

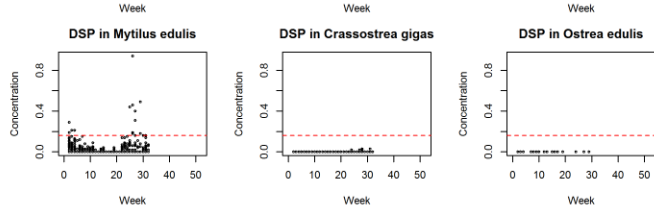


Toxin groups      mussels      oysters      oysters

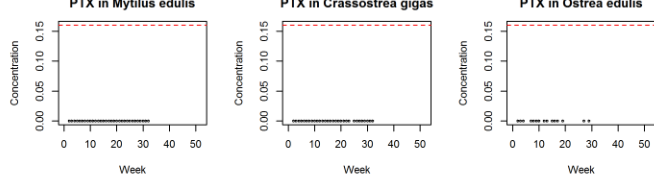
**AZP**  
AZaspiracid  
Poisoning



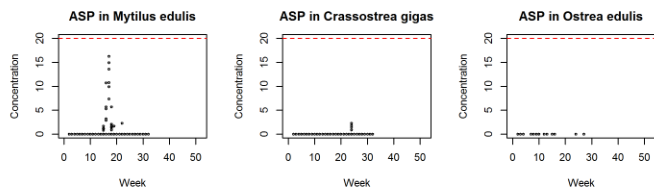
**DSP**  
Diarrhetic  
Shellfish  
Poisoning



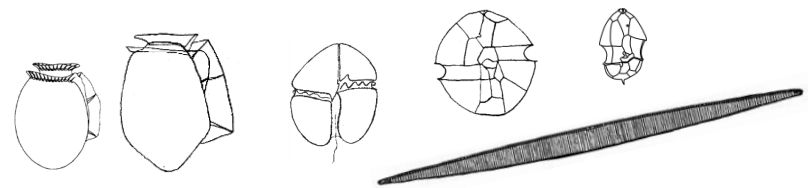
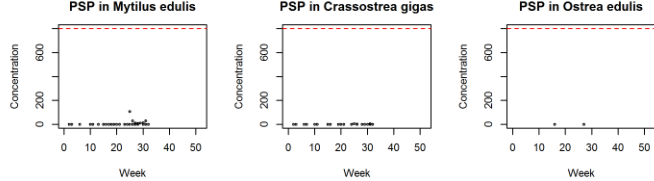
**PTX**  
Pectenotoxin



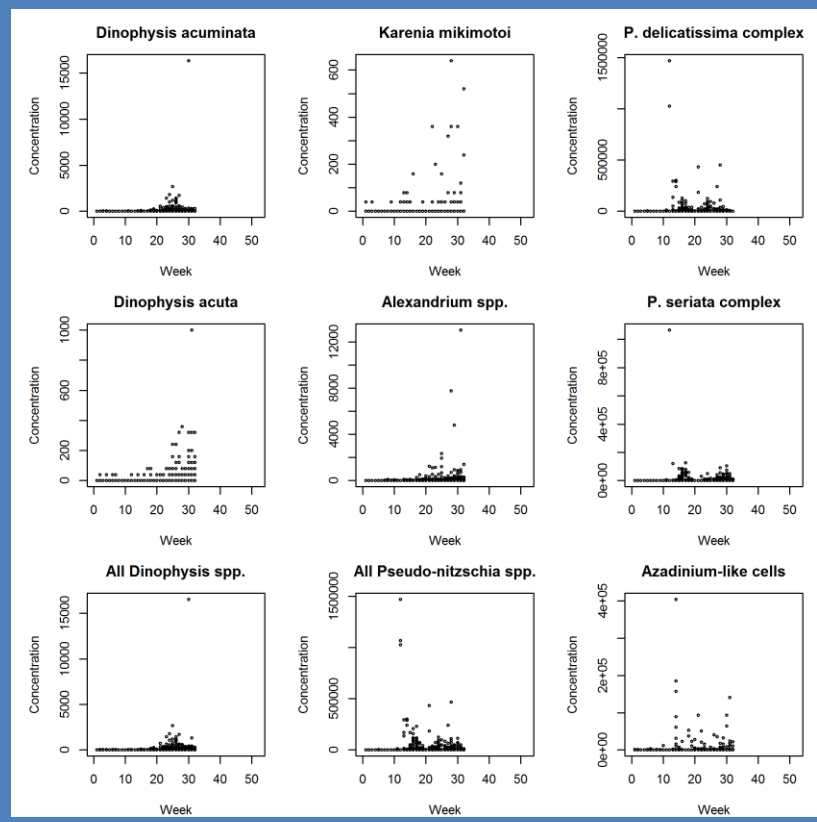
**ASP**  
Amnesic  
Shellfish  
Poisoning



**PSP**  
Paralytic  
Shellfish  
Poisoning



## Ireland: HABs

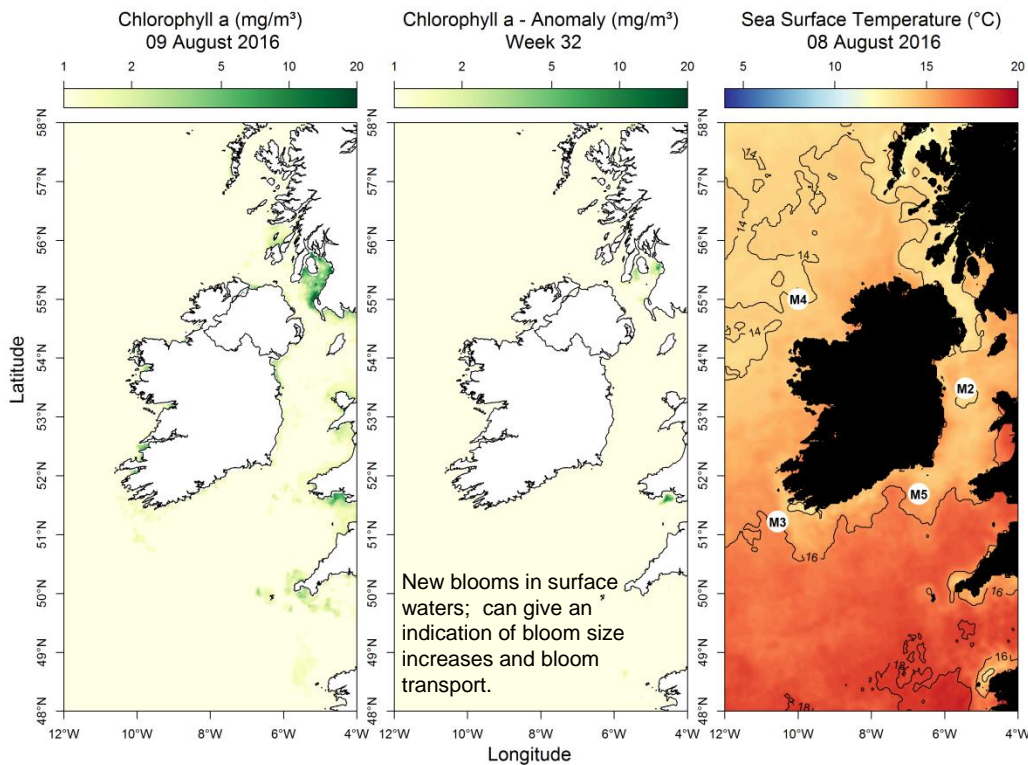


EU Regulatory Limit: ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Regulatory limit = ■■■■■

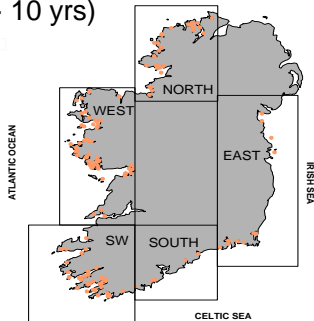


Most up to date available satellite data



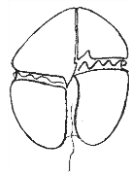
**SST (°C) anomaly for last week:**  
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

- NW coast (M4) Below average by -0.51 °C
- SW coast (M3) Above average by 0.05 °C
- SE coast (M5) Below average by -1.31 °C



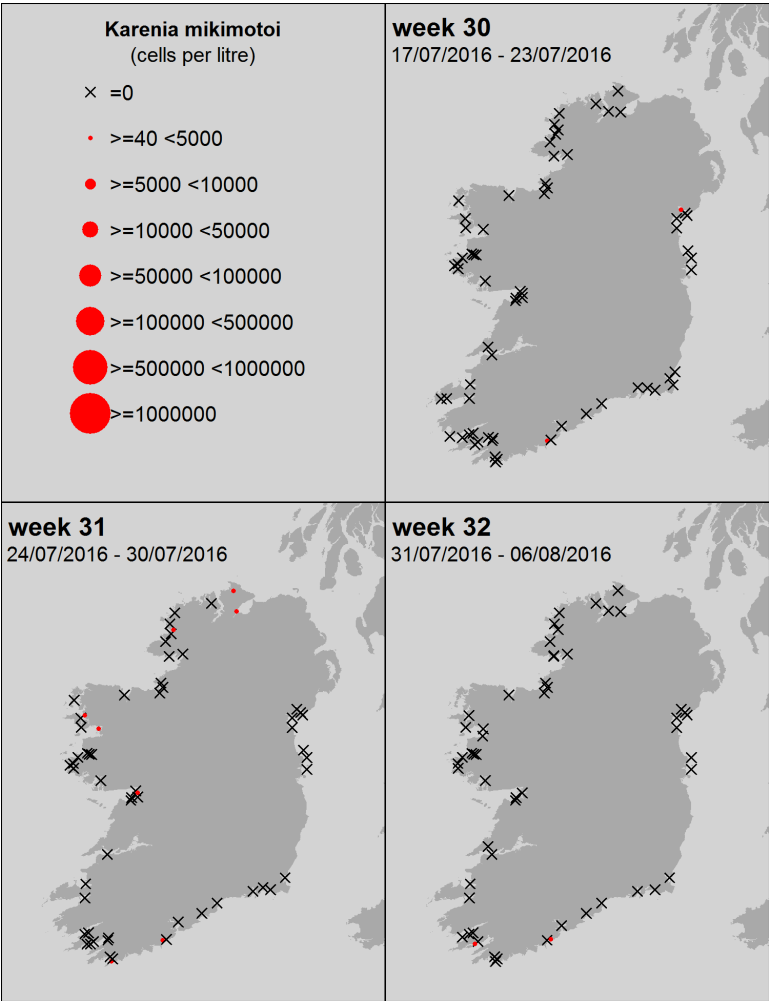
What phytoplankton were blooming at inshore coastal sites last week?

Region	Predominant Phytoplankton (most abundant taxa)	Cells/L (rounded)
north:	<b>Diatoms:</b>	
	<i>Leptocylindrus minimus</i>	10,180,000
	<i>Chaetoceros</i> (Hyalochaete) spp.	387,000
	<i>Leptocylindrus danicus</i>	145,000
	<i>Cylindrotheca closterium</i> / <i>Nitzschia longissima</i>	105,000
	<b>Dinoflagellates:</b>	
west:	Naked dinoflagellate <20µm	633,000
	<b>Others</b>	
	<i>Euglena/Eutreptiella</i> spp.	156,000
	<b>Diatoms:</b>	
	<i>Chaetoceros</i> (Hyalochaete) spp.	170,000
	Pennate diatom <20µm	72,000
SW:	<i>Navicula</i> spp. 20-50µm	43,000
	<b>Others</b>	
	Microflagellate sp.	27,000
	<b>Diatoms:</b>	
	<i>Skeletonema costatum</i>	59,000
	Pennate diatom <20µm	55,000
south:	<i>Thalassiosira nordenskiöldii</i>	34,000
	<b>Dinoflagellates:</b>	
	<i>Prorocentrum micans</i>	60,000
	<b>Others</b>	
	<i>Prymnesiophytes</i>	46,000
	<b>Diatoms:</b>	
east:	<i>Thalassiosira nordenskiöldii</i>	364,000
	<i>Thalassiosira</i> <20µm	138,000
	<i>Leptocylindrus minimus</i>	74,000
	<i>Navicula</i> spp. 20-50µm	45,000
	<i>Chaetoceros</i> (Hyalochaete) spp.	22,000
	<b>Others</b>	
	<i>Prymnesiophytes</i>	116,000
	<b>Diatoms:</b>	
	<i>Chaetoceros</i> (Hyalochaete) spp.	145,000
	<i>Asterionellopsis glacialis</i>	47,000
	<i>Skeletonema</i> spp.	17,000
	<i>Chaetoceros socialis</i>	15,000
	<i>Pseudo-nitzschia seriata</i> complex	12,000
	Pennate diatom	12,000
	<b>Others</b>	
	Microflagellate sp.	125,000



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

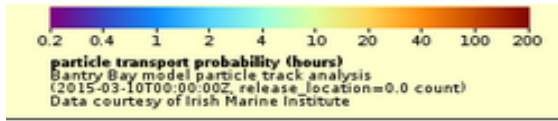
A *Karenia mikimotoi* bloom  
is NOT expected this week



SOUTHWEST: Bantry Bay

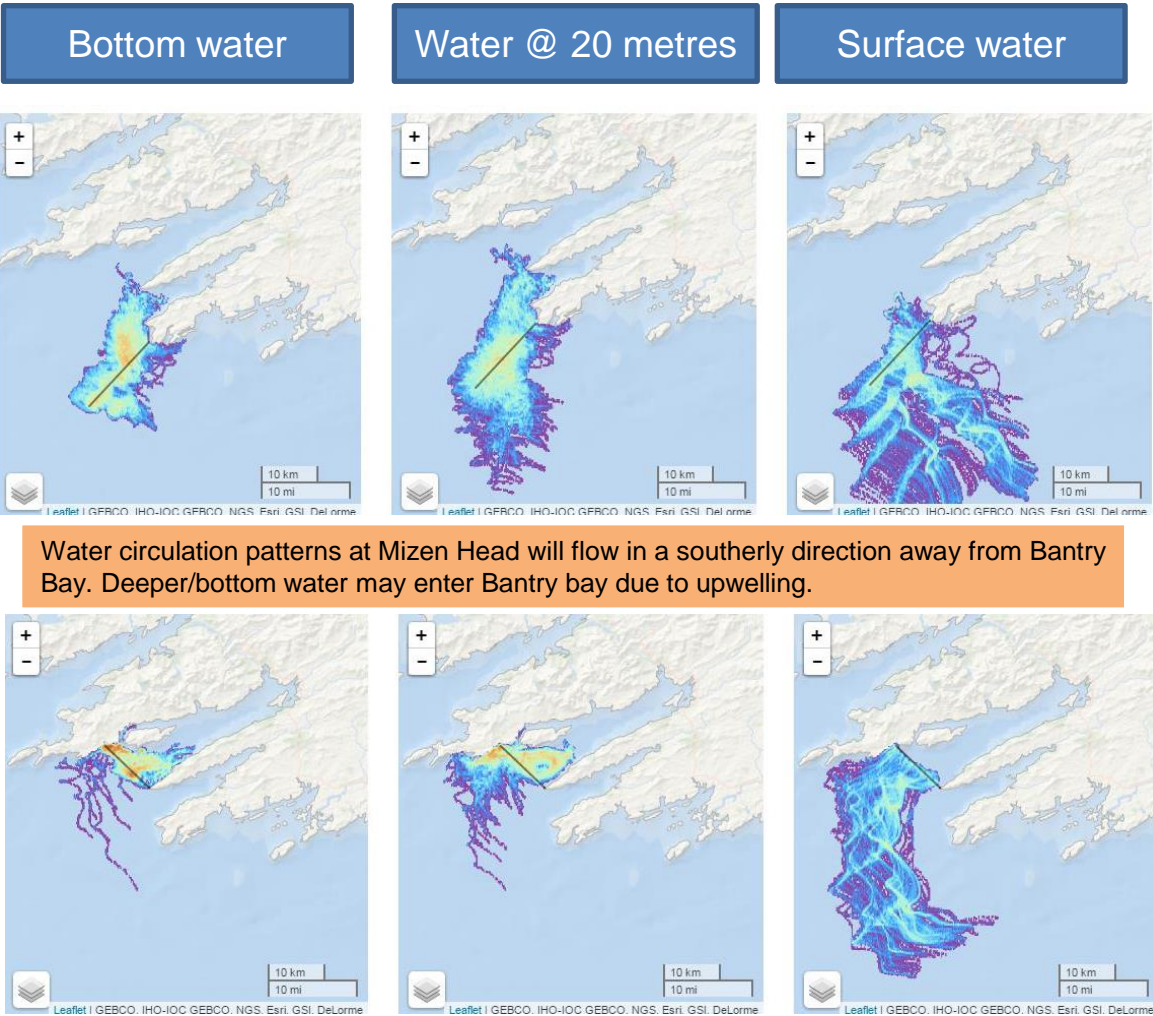
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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



Go to <http://vis.marine.ie/particles/> to view daily forecasts

Forecast for the next 3 days

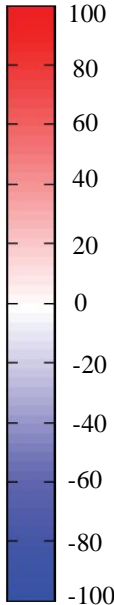


# Bantry Bay

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



Flow ( $\text{m}^3 \text{s}^{-1}$ )

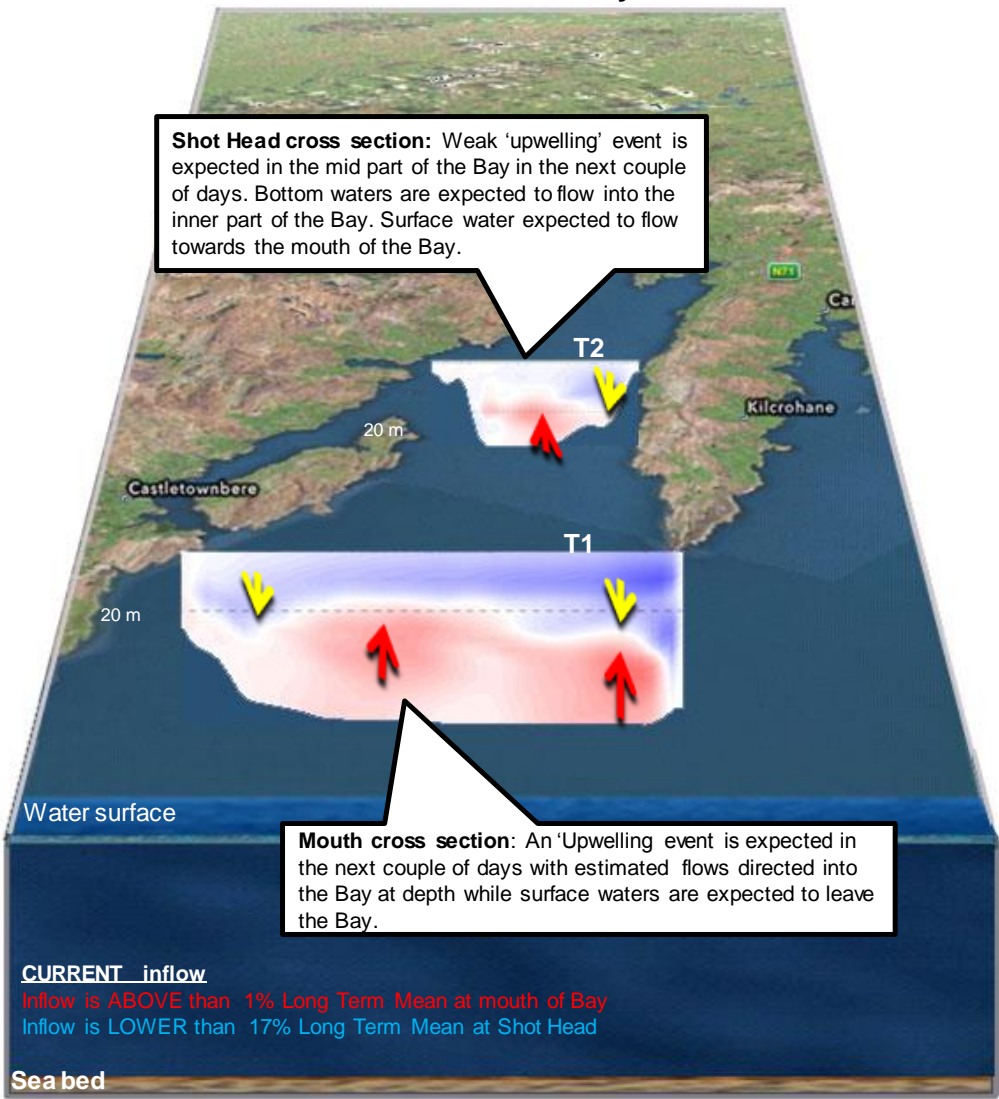


IN

OUT

Depth ↓

Forecast for next 3 days






WEST: Killary Harbour

Forecast for the next 3 days

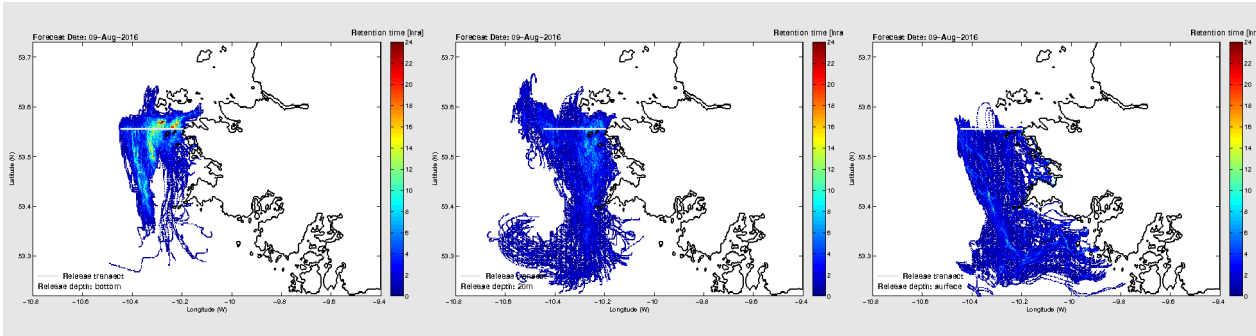
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** i.e. white lines off Aughrus Point and the Mouth of Killary Harbour, and **water depths** (bottom, 20 metres and surface)

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

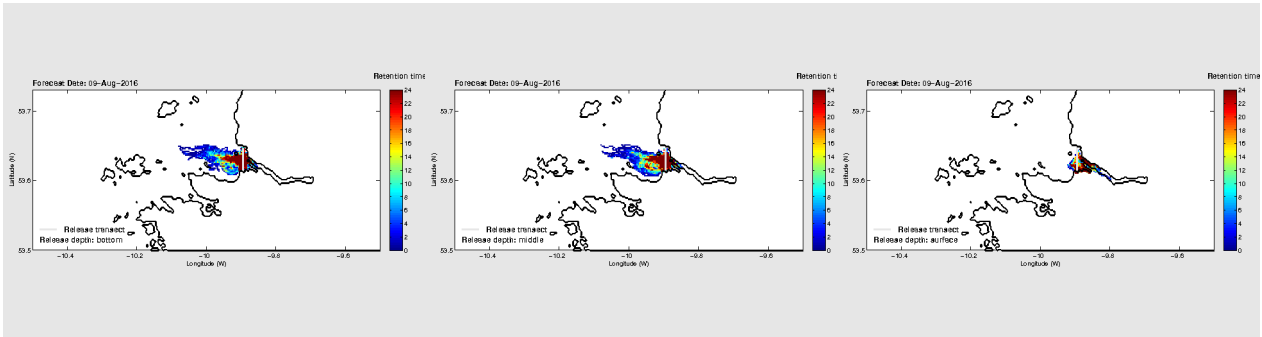


0.2 0.4 1 2 4 10 20 40 100 200  
particle transport probability (hours)  
Bantry Bay model particle track analysis  
(2015-03-10T00:00:00Z, release\_location=0.0 count)  
Data courtesy of Irish Marine Institute

- Bottom water
- Water @ 20 metres
- Surface water



Water flows off the west coast will predominately south flowing offshore water masses not likely to reach Killary Harbour in the next couple of days.



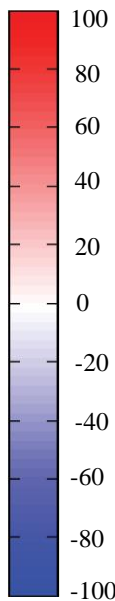
Estimated water circulation patterns at the mouth of Killary Harbour shows that water is expected to flow west from the mouth with possibly some surface water likely to reach Killary middle.

# Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour



Flow ( $\text{m}^3 \text{s}^{-1}$ )



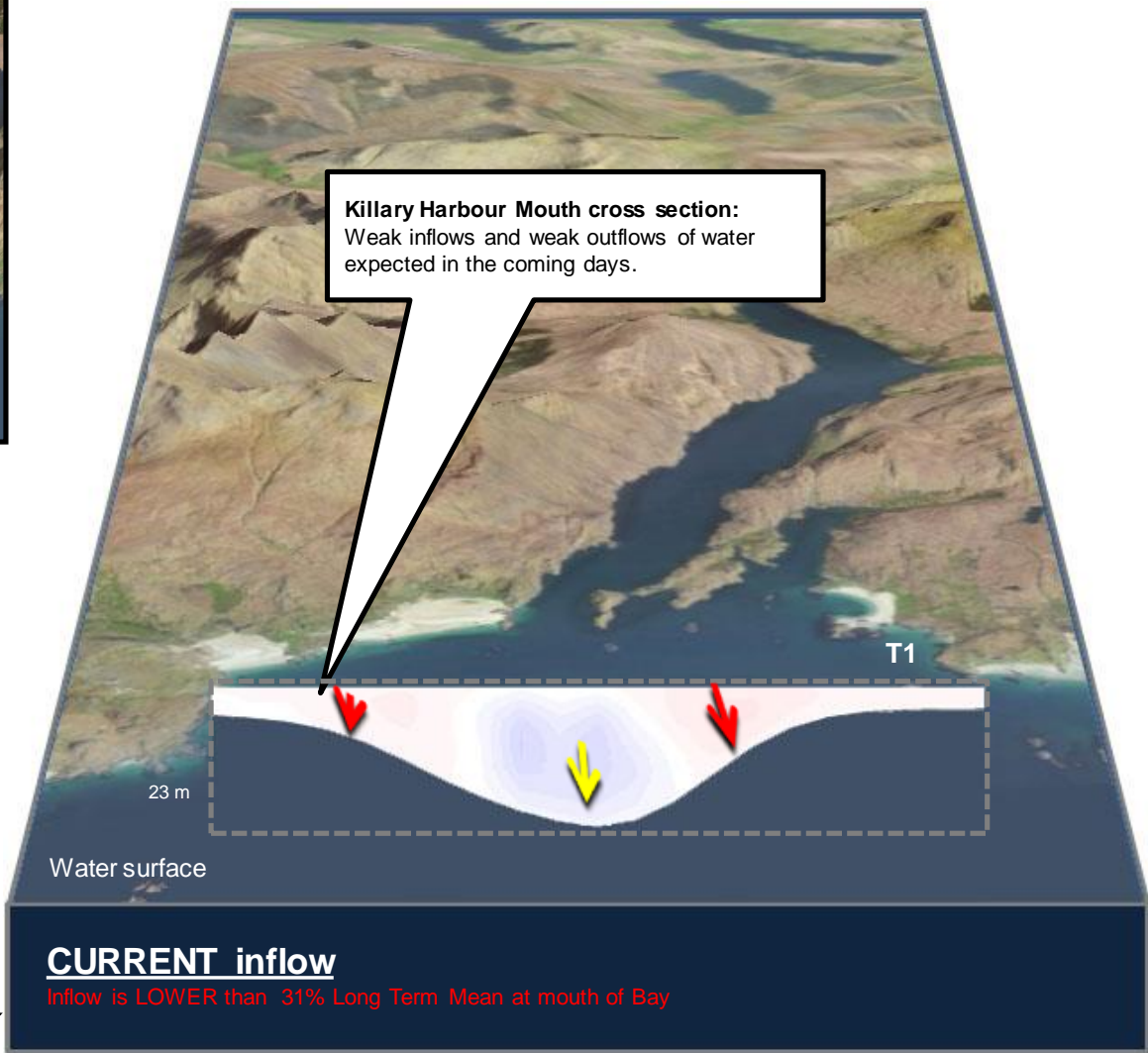
IN

OUT

Depth



Forecast for next 3 days



# West Coast - 3 day estimated water flows along a transect off Aughrus Point

Forecast for next 3 days

