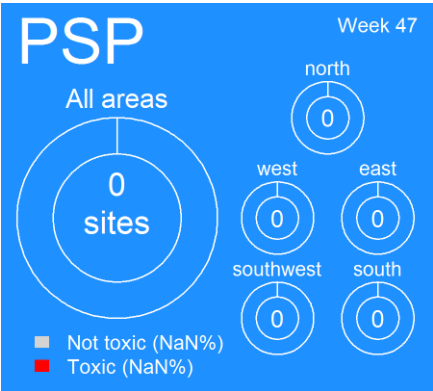
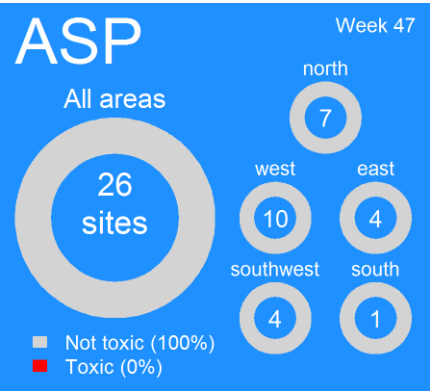
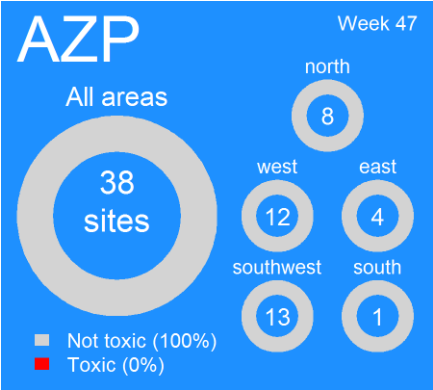
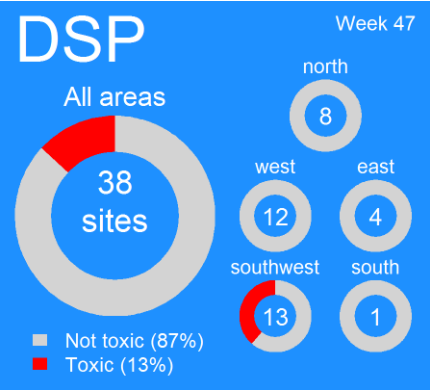


# Ireland: Current Conditions

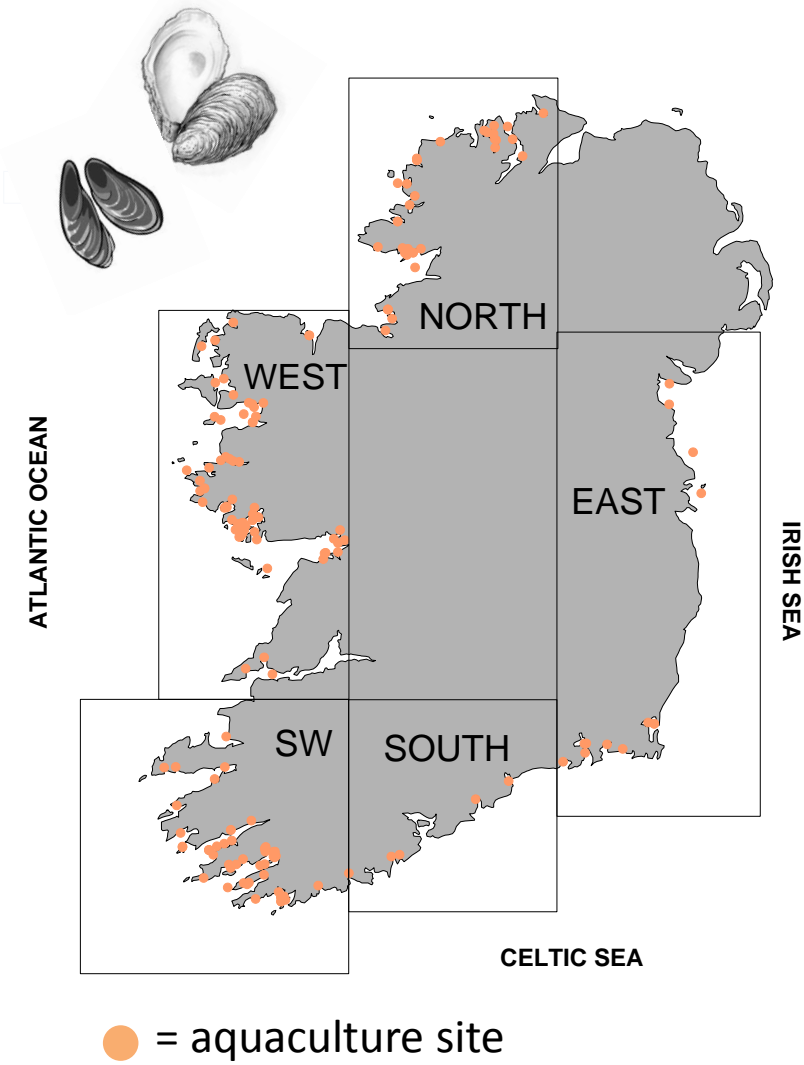
## Shellfish biotoxin report (last week)



**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: Moderate to High

DSP event: Low Risk

PSP event: Low Risk

## Why do we think this?

ASP:

Historically ASP has not been recorded at this time of the year. Cell levels of '*Pseudo-nitzschia seriata*' group have declined in the past few weeks. No toxin has been detected.

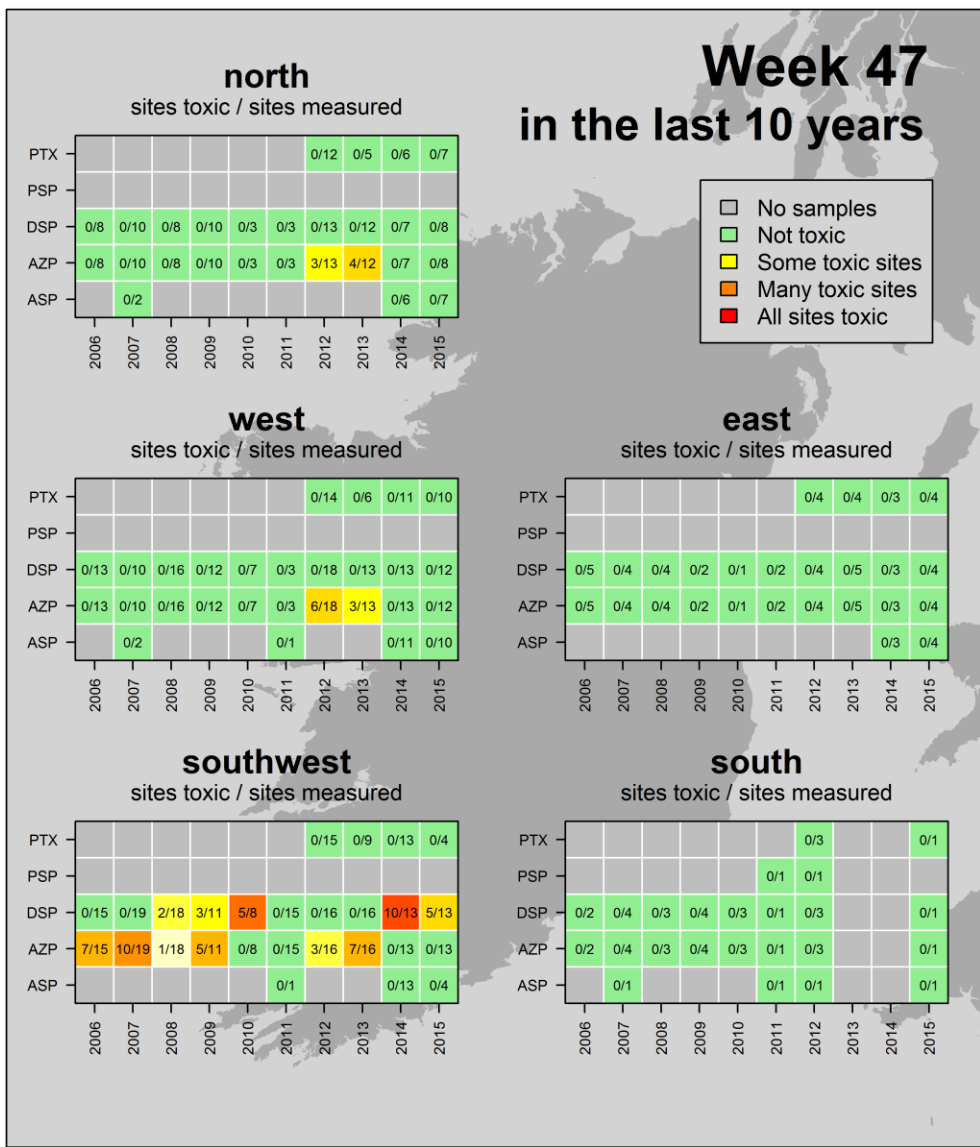
AZP: Historical data shows the SW coast is prone to AZP events at this time of year. The current toxin and *Azadinium*-like spp. trends are changeable. This is a time to be cautious - in the past there has been a sudden rapid toxin increase at this time of year.

DSP: *Dinophysis* spp. cells levels have dropped dramatically so a low risk of new events are predicted. Toxin levels in shellfish remains slow to clear. This is traditionally a poor growth period for the bulk of good phytoplankton biomass that provides food for the bivalves, Lower cell levels of non-toxic species are present in the phytoplankton biomass, thus slowing natural depuration times.

PSP: Toxicity issues are not expected at this time in the year.

# Ireland: Historic Conditions

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



Ireland: Last 3 weeks of available National Monitoring Programme data



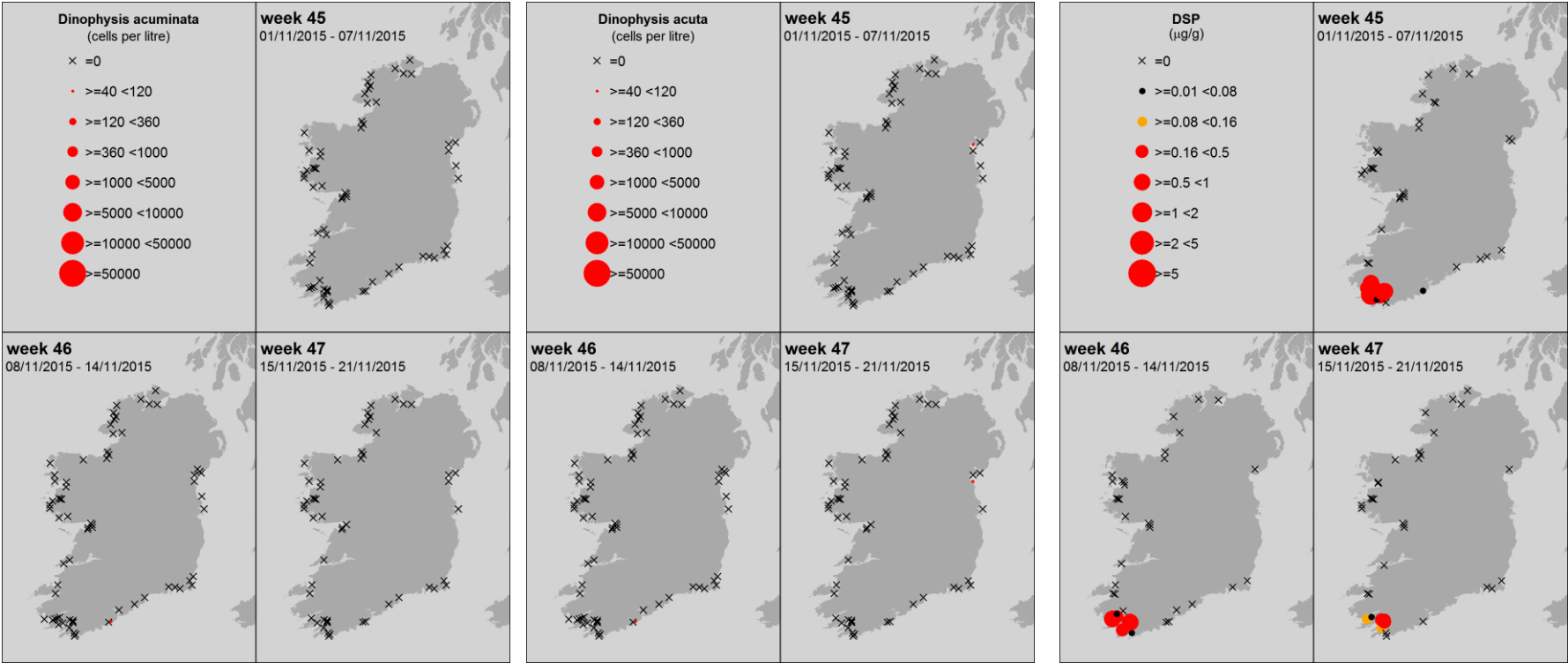
*Dinophysis acuminata*



*Dinophysis acuta*



DSP



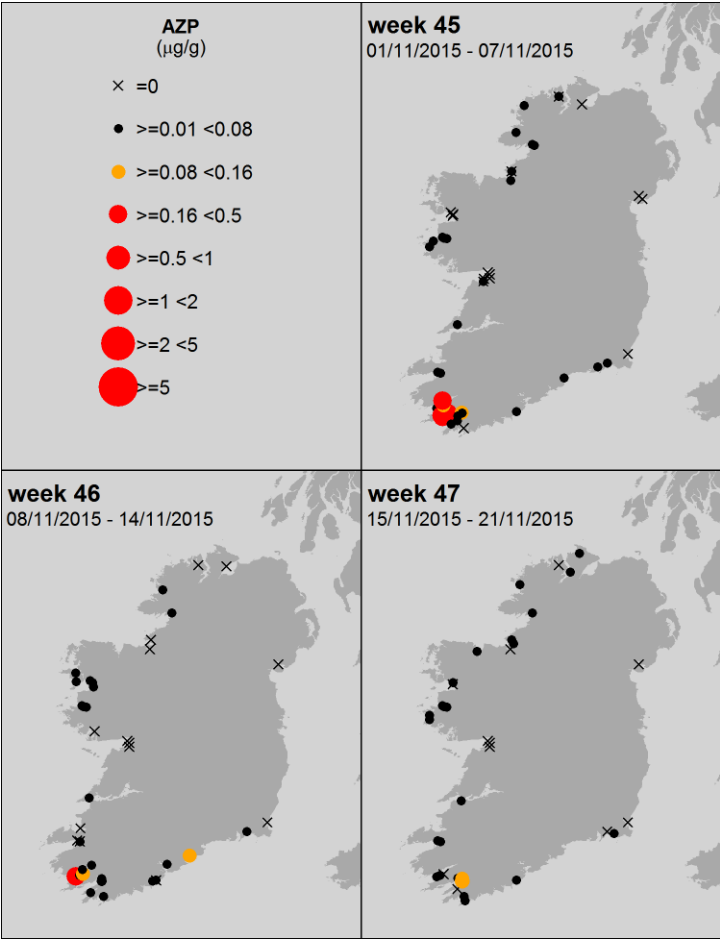
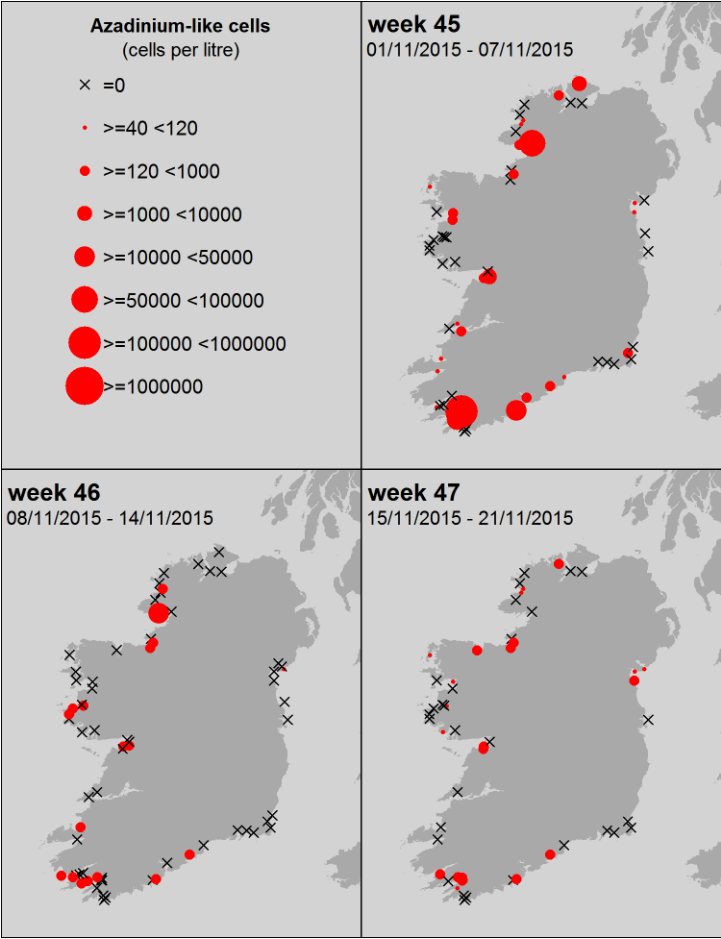
Ireland: Last 3 weeks of available National Monitoring Programme data



*Azadinium* – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

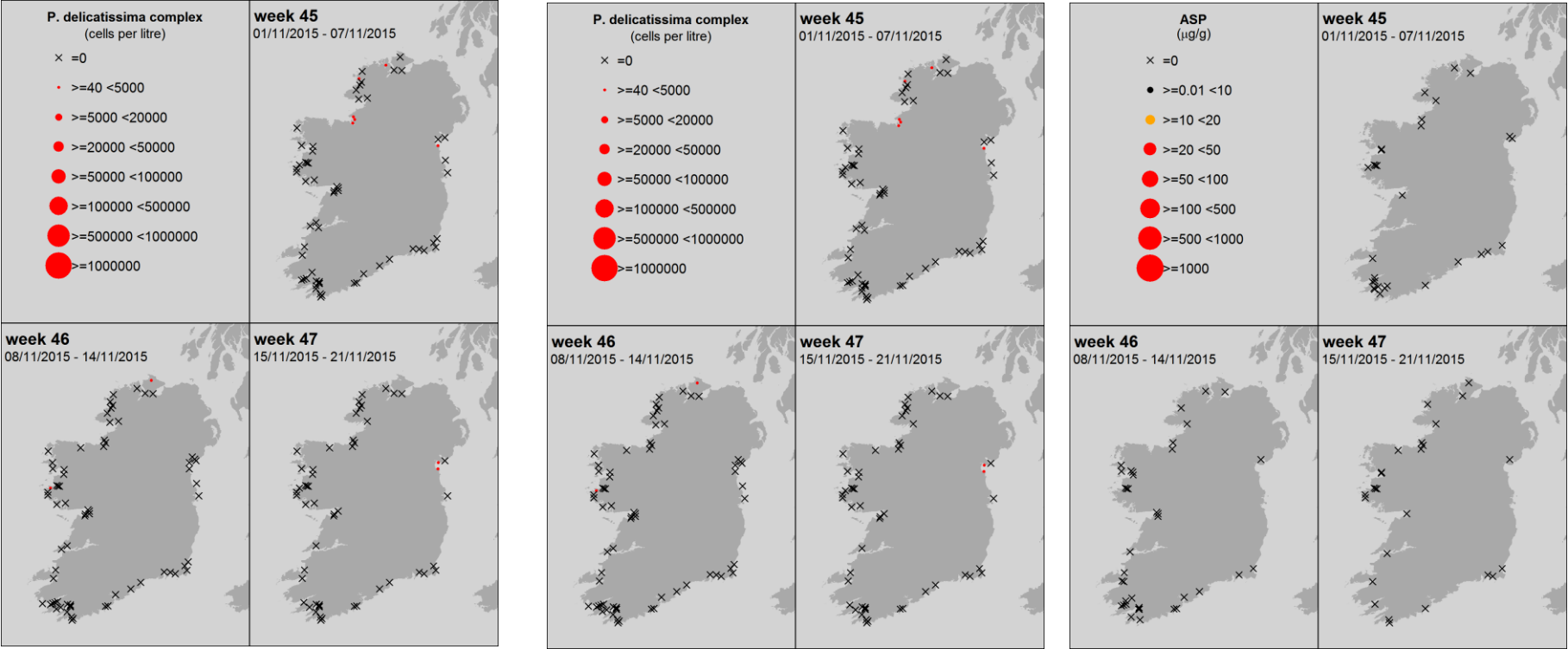
*Pseudo-nitzschia* spp.



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

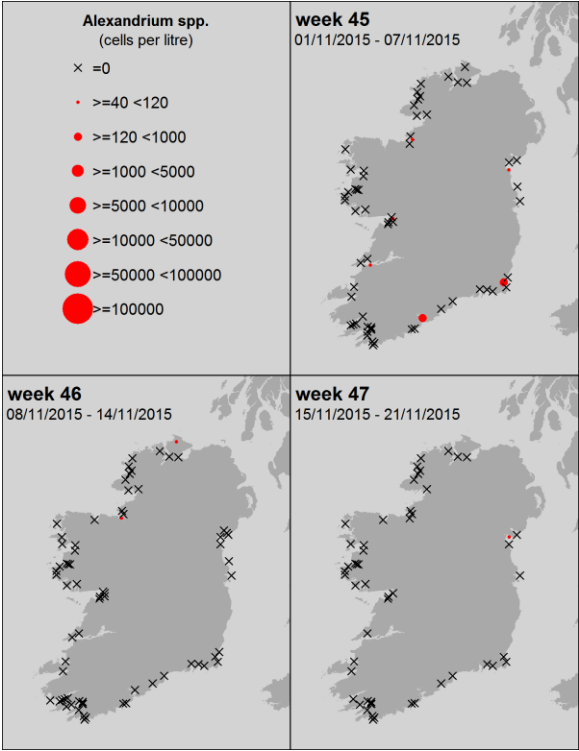


**Taken from the literature:** Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

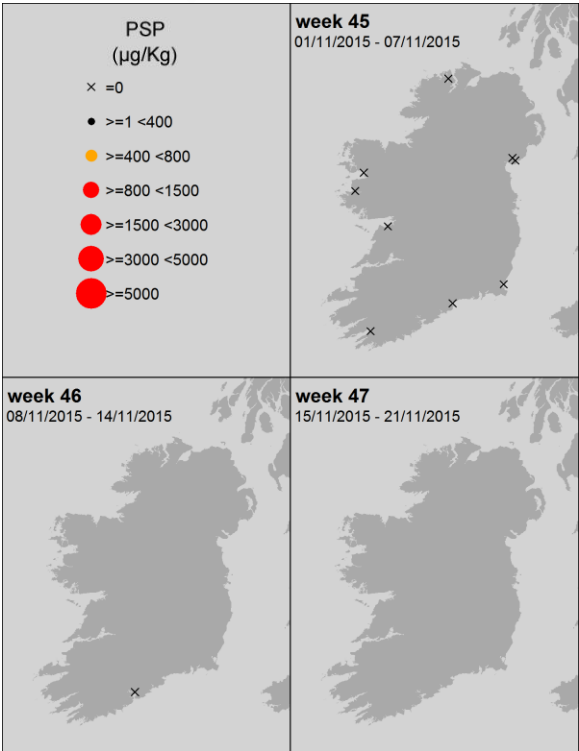
Ireland: Last 3 weeks of available National Monitoring Programme data



*Alexandrium* spp.



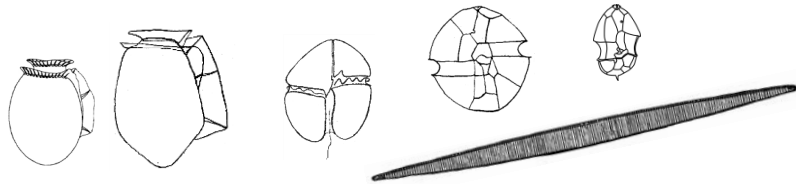
PSP



# Ireland HAB & Biotoxin temporal trends

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

## Ireland: Biotoxins



Toxin groups

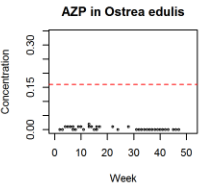
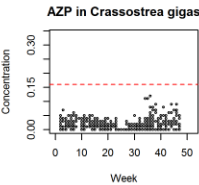
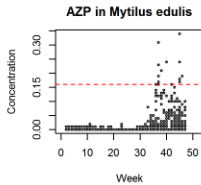
mussels

oysters

oysters

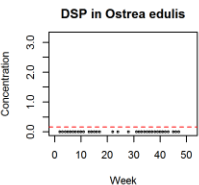
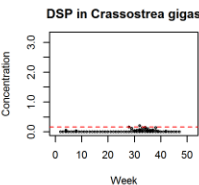
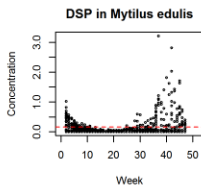
**AZP**

AZaspiracid  
Poisoning



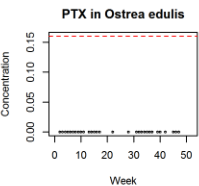
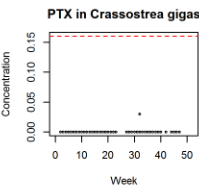
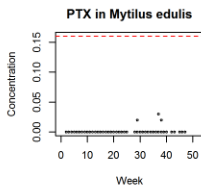
**DSP**

Diarrhetic  
Shellfish  
Poisoning



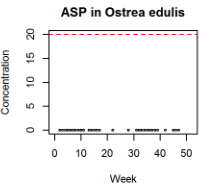
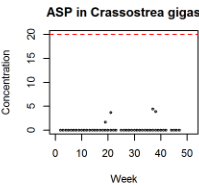
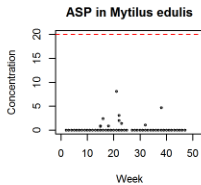
**PTX**

Pectenotoxin



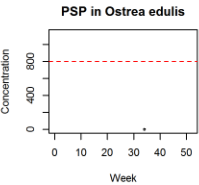
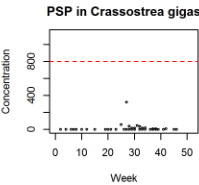
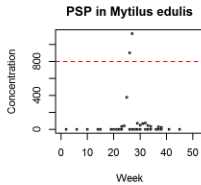
**ASP**

Amnesic  
Shellfish  
Poisoning

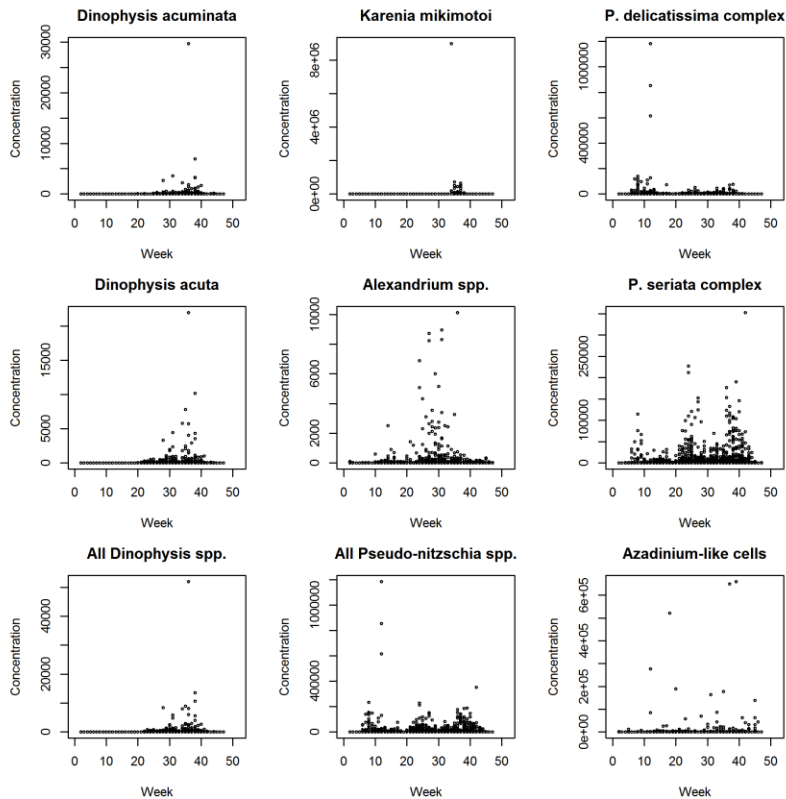


**PSP**

Paralytic  
Shellfish  
Poisoning



## Ireland: HABs

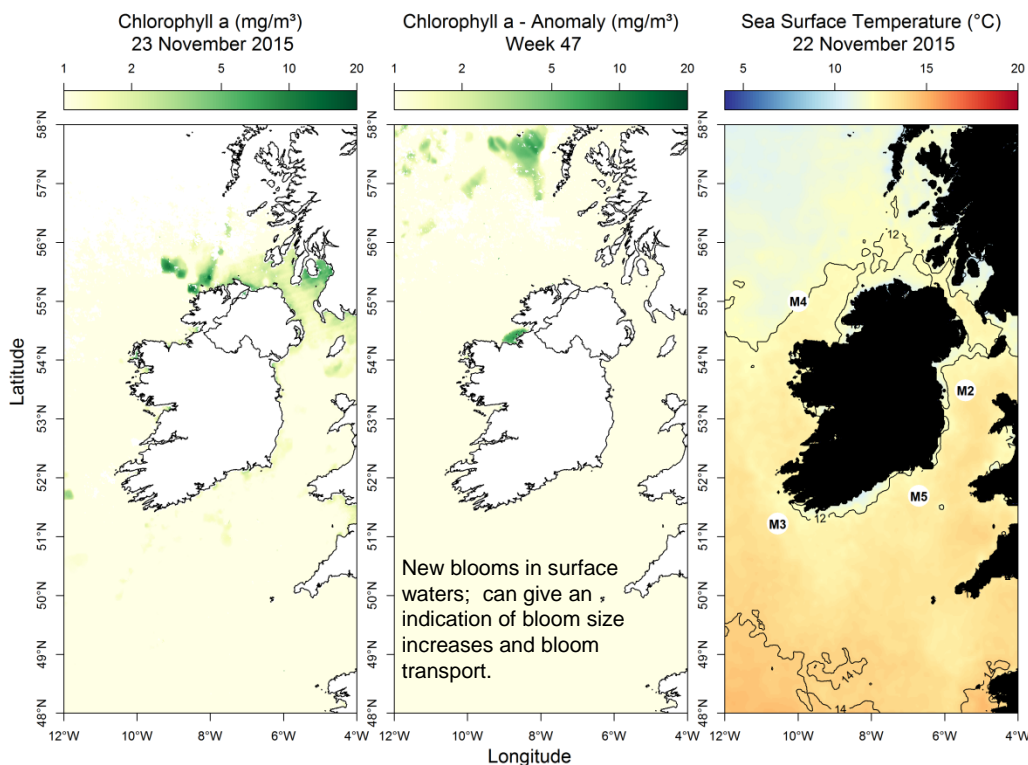


EU Regulatory Limit: ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Regulatory limit = ■■■■■



Most up to date available satellite data

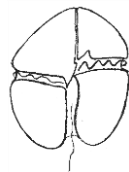


**SST (°C) anomaly for last week:**  
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

- NW coast (M4) above average by 0.43 °C
- SW coast (M3) Offline
- SE coast (M5) above average by 0.78 °C

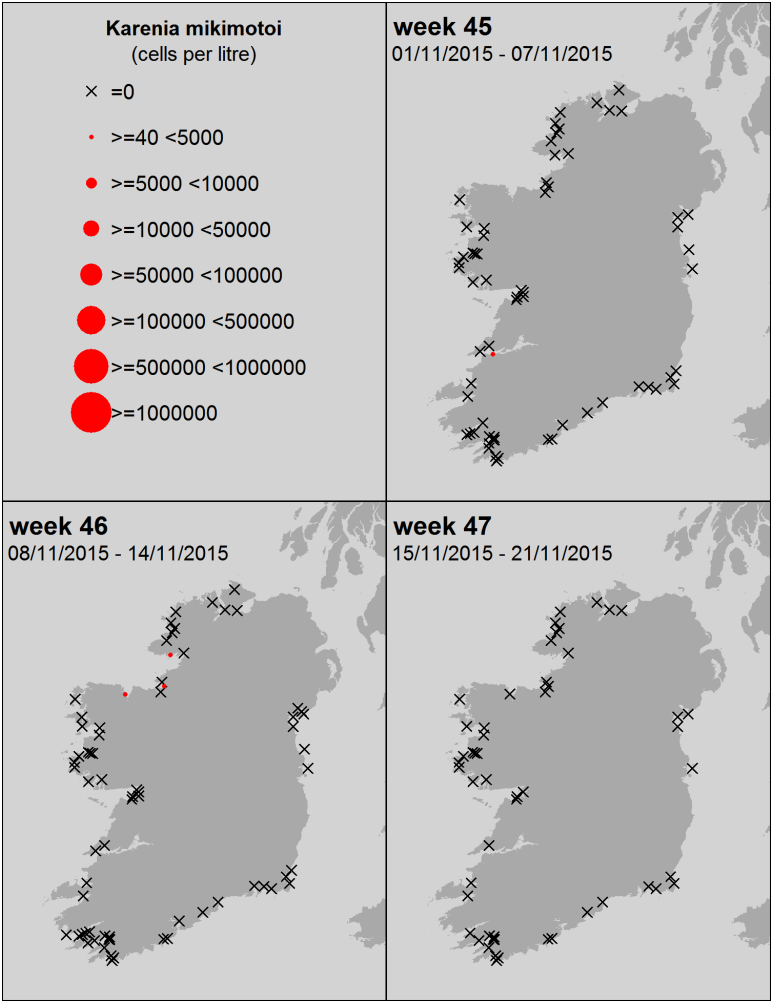
What phytoplankton were blooming at inshore coastal sites last week?

Region	Predominant Phytoplankton	Cells/L	Cells/L
(most abundant taxa)		(rounded)	
north:	<b>Diatoms:</b>		
	<i>Striatella</i> spp.	14,880	15,000
	<i>Asterionellopsis</i> spp.	11,720	12,000
	Pennate diatom	2,320	2,000
	<b>Others:</b>		
west:	Microflagellate sp.	2,880	3,000
	<b>Diatoms:</b>		
	<i>Fragilaria</i> spp.	33,200	33,000
	Pennate diatom	4,480	4,000
	<i>Bacillaria paxillifera</i>	1,560	2,000
SW:	<b>Diatoms:</b>		
	<i>Skeletonema</i> spp.	6,200	6,000
	<i>Paralia sulcata</i>	5,480	5,000
	Navicula spp <25µm	3,720	4,000
	<b>Others:</b>		
south:	Haptophytes	5,320	5,000
	<b>Diatoms:</b>		
	<i>Paralia sulcata</i>	69,840	70,000
	Navicula spp <25µm	52,640	53,000
	<i>Euglena/Eutreptiella</i> spp.	7,360	7,000
east:	Pennate diatom	7,080	7,000
	<i>Lauderia / Detonula</i> spp.	5,520	6,000
	<b>Diatoms:</b>		
	Navicula spp <25µm	99,924	100,000
	<i>Thalassiosira</i> spp <20µm	42,965	43,000
	<i>Chaetoceros</i> (Hyalochaete) spp.	19,169	19,000
	<i>Lauderia / Detonula</i> spp.	12,320	12,000
	Pennate diatom	10,800	11,000
	<b>Others:</b>		
	Microflagellate sp.	38,999	39,000



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

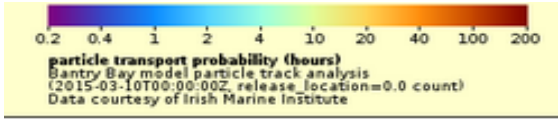
A *Karenia mikimotoi* bloom  
is NOT expected this week



SOUTHWEST: Bantry Bay

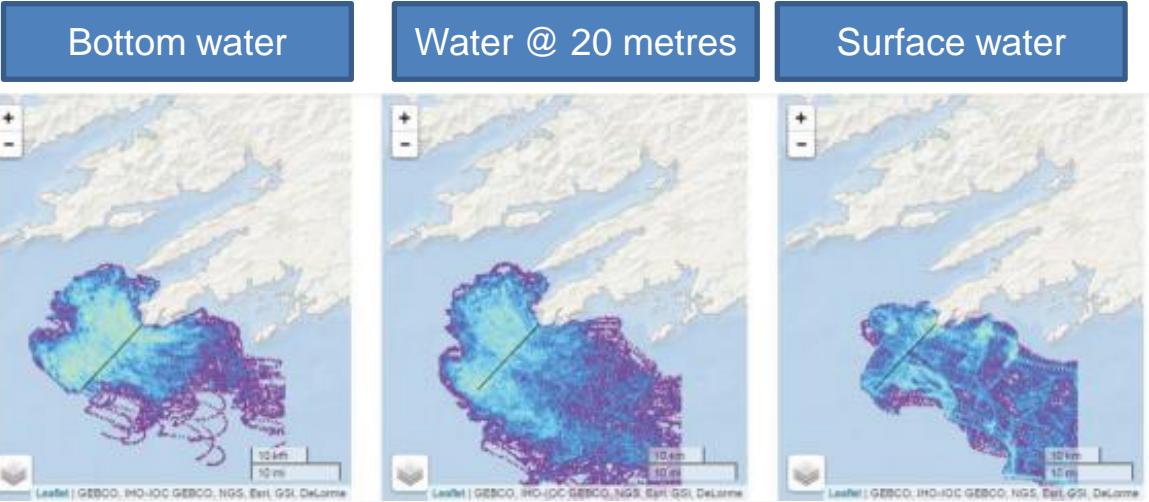
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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



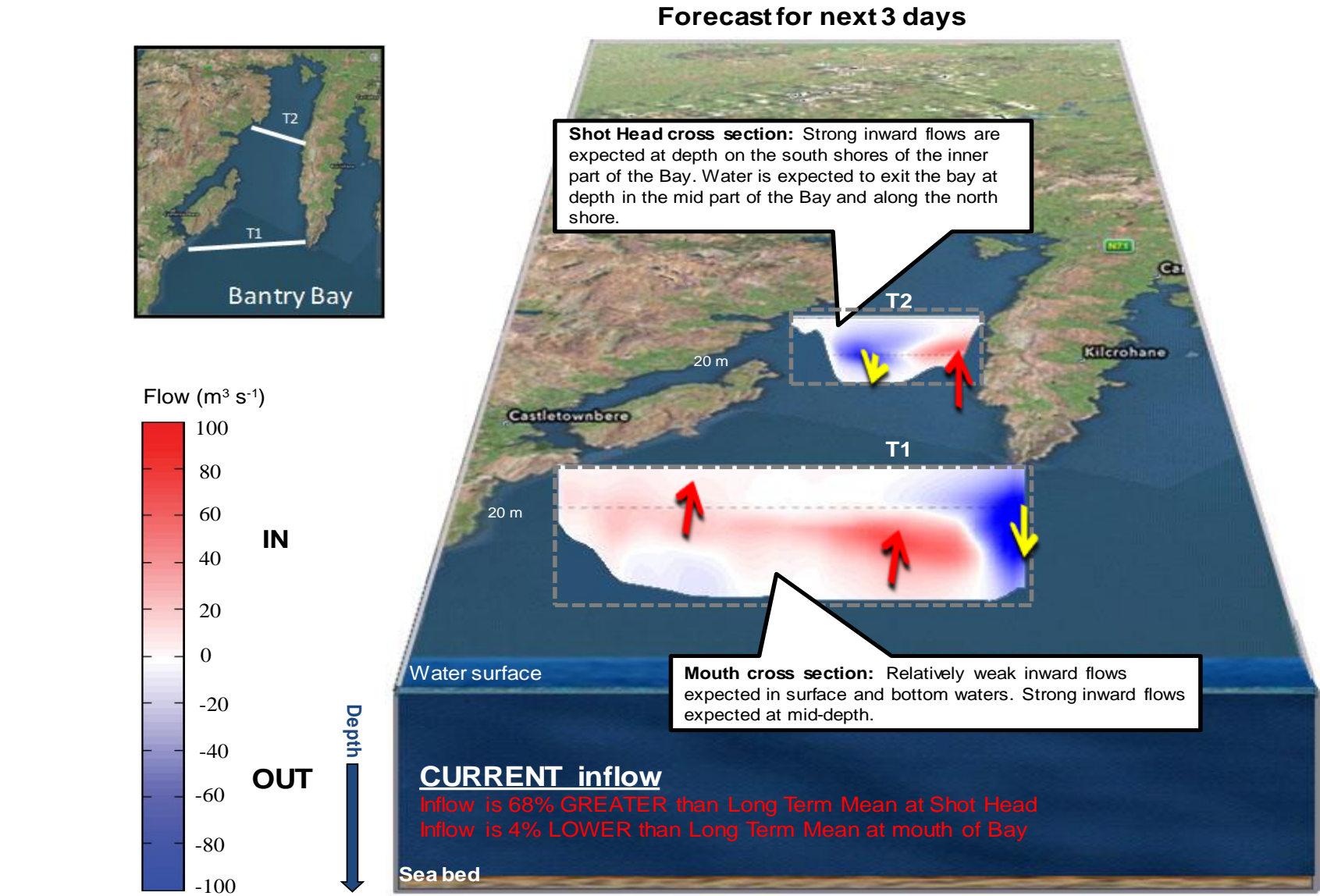
Water flow from the Celtic Sea toward the bays of SW Ireland are restricted with movement primarily in a south-eastward direction; some limited flow toward the mouth of Bantry Bay is likely in subsurface waters.



Expected water flows at the mouth of Bantry Bay show very little movement into the Bay with the exception of some inward flows at 20 m.

# Bantry Bay

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





WEST: Killary Harbour

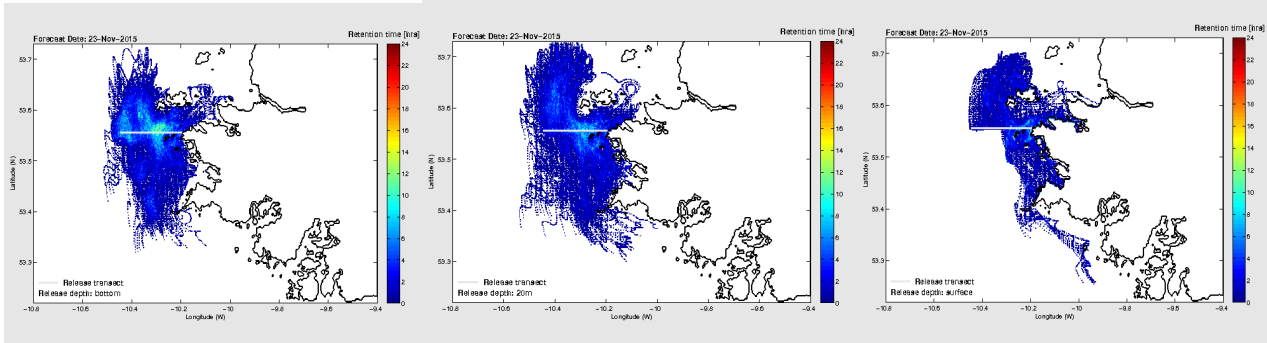
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** i.e. white lines off Aughrus Point and the Mouth of Killary Harbour, and **water depths** (bottom, 20 metres and surface)

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

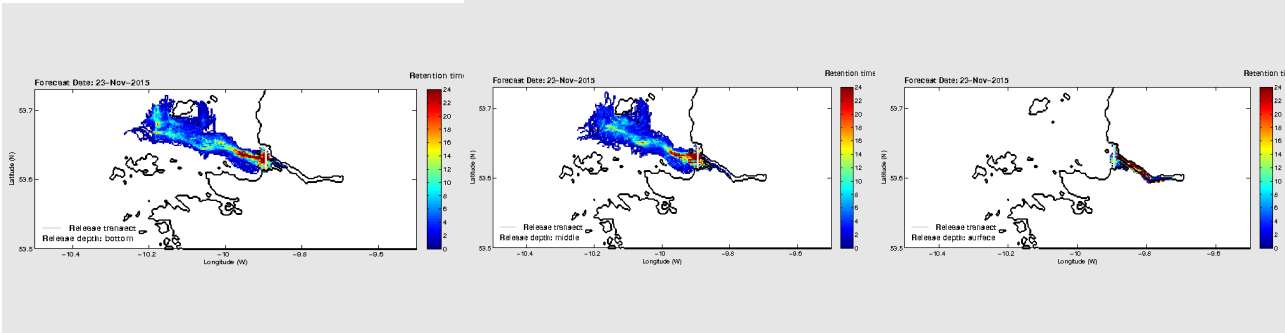
0.2 0.4 1 2 4 10 20 40 100 200  
particle transport probability (hours)  
Bantry Bay model particle track analysis  
(2015-03-10T00:00:00Z, release\_location=0.0 count)  
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

Bottom water      Water @ 20 metres      Surface water



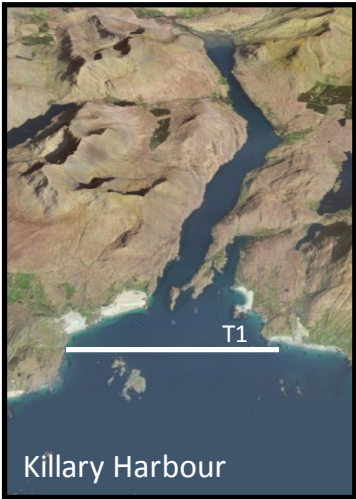
Expected water movement off the west coast will be mixed. Low likelihood of significant volumes of oceanic water reaching Killary Harbour.



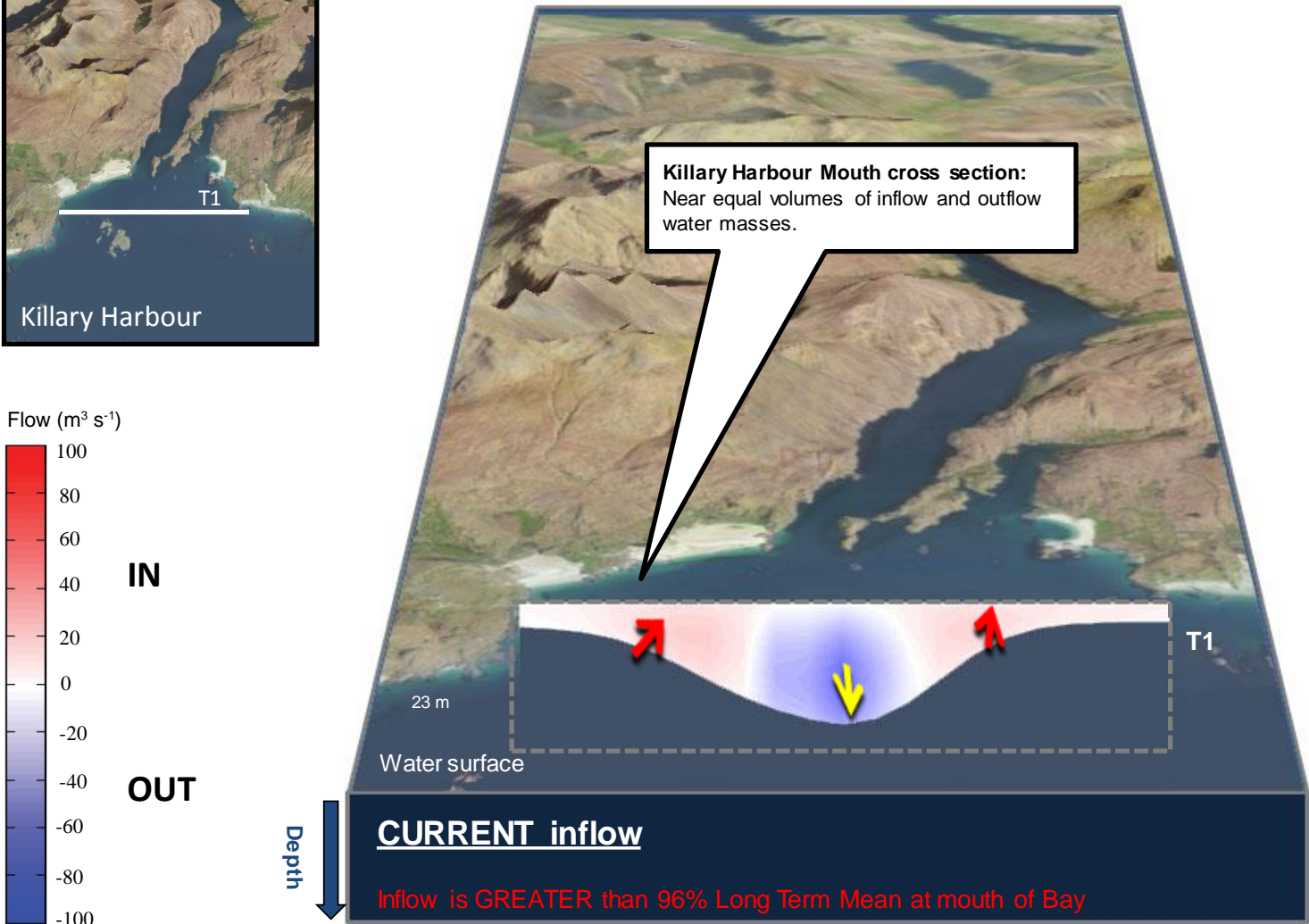
Water circulation patterns at the mouth of Killary Harbour show large volumes of subsurface water exiting the Bay. Surface water is expected to enter the Bay in the coming days.

# Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour



Forecast for next 3 days



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

