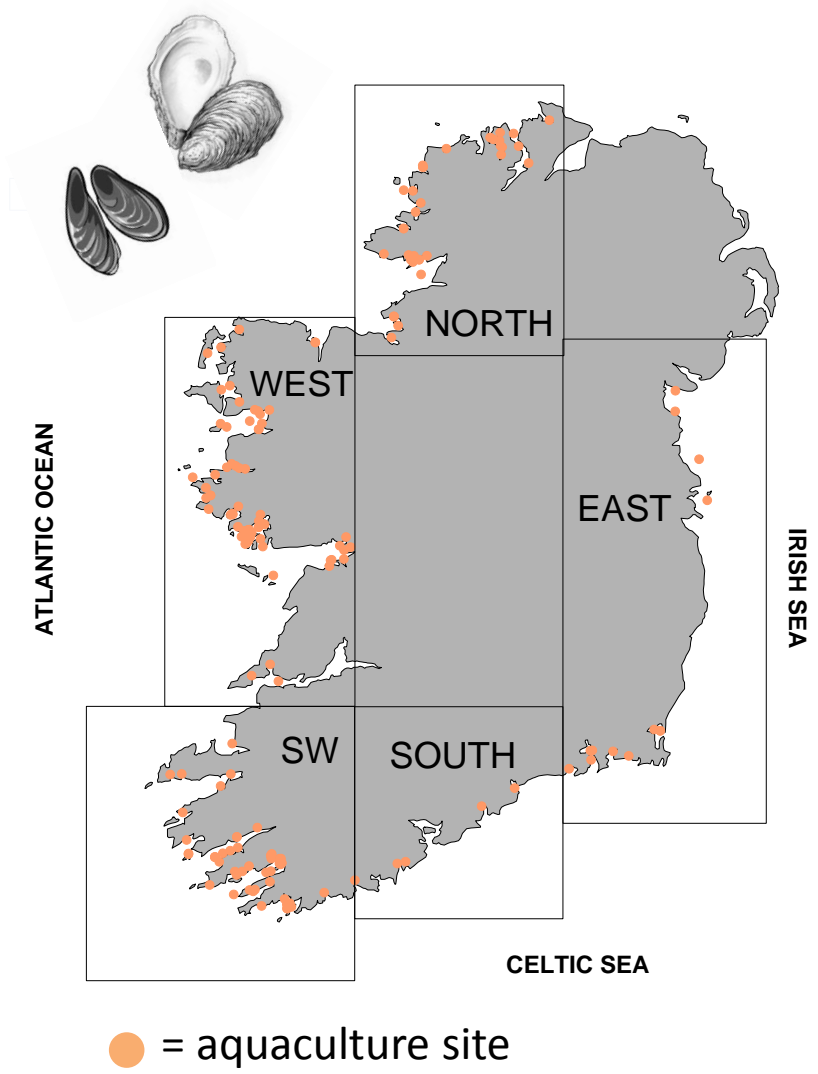


# Ireland: Current Conditions

## Shellfish biotoxin report (last week)



### National Monitoring Programme Designated Sampling Sites



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

# Ireland: Predictions

## Prediction for this week:

ASP event: High

AZP event: Low to medium

DSP event: Low to medium

PSP event: Low

## Why do we think this?

ASP: Sites where *Pseudo-nitzschia* species are present are showing cell levels are continuing to establish and increase, while background non toxic species cell levels are diminishing. It is strongly advised to watch each sites unique conditions closely as toxic species may jump in levels. Additional molecular analysis of waters samples for last week revealed low levels of the toxic species *P.australis* present in SW bays.

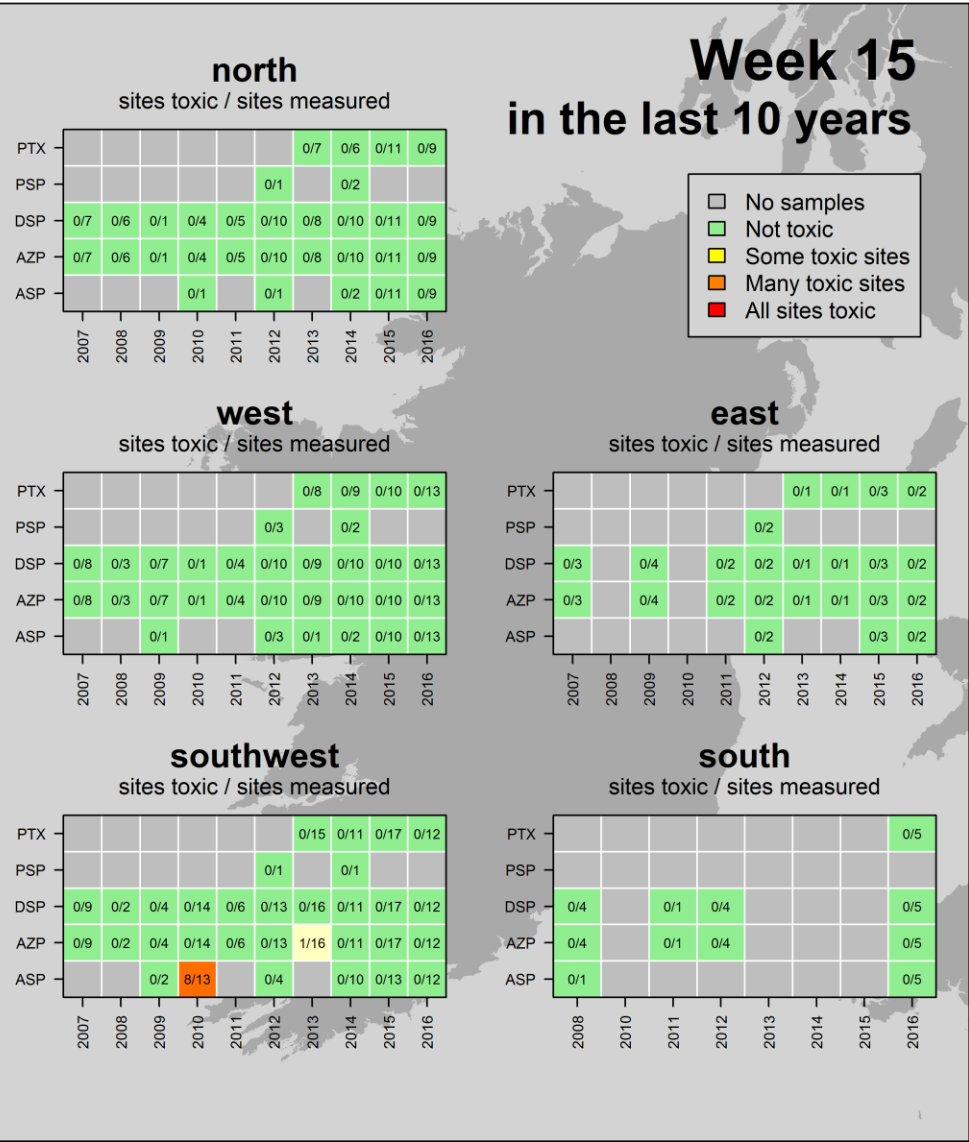
AZP: Historically low levels of caution should apply at this time of the year however due to the geographical spread and persistent presence of *Azadinium* like cells, combined with a potential trend of low increases in biotoxin levels (still below reg limit) additional caution is currently advised.

DSP: This is still early in the historical trend period and cell levels and biotoxins are very low to negligible. However current potential water movement patterns may increase the opportunity for this species to be transported to coastal sites.

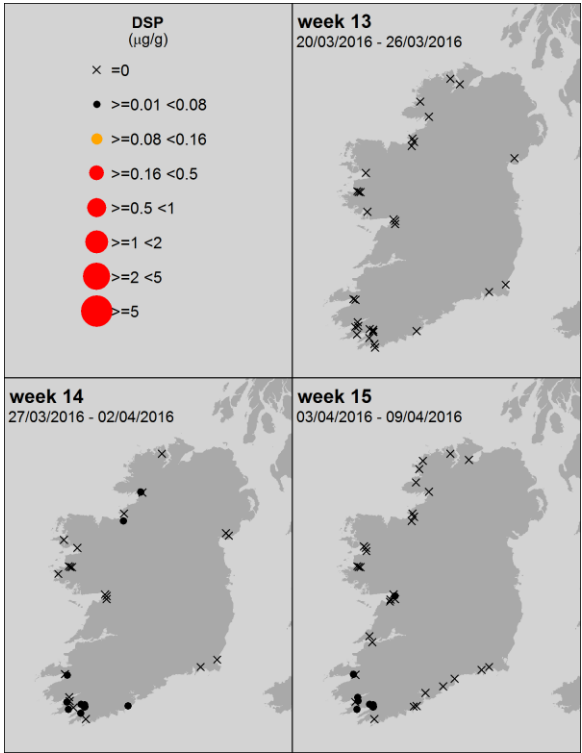
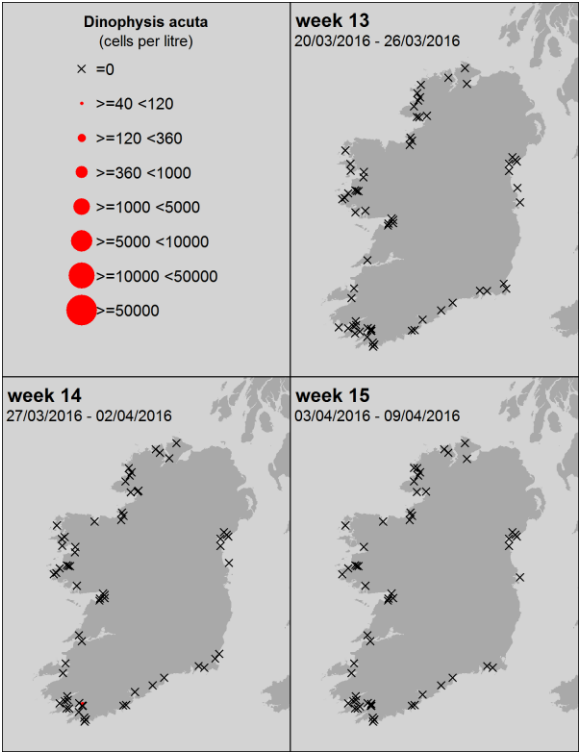
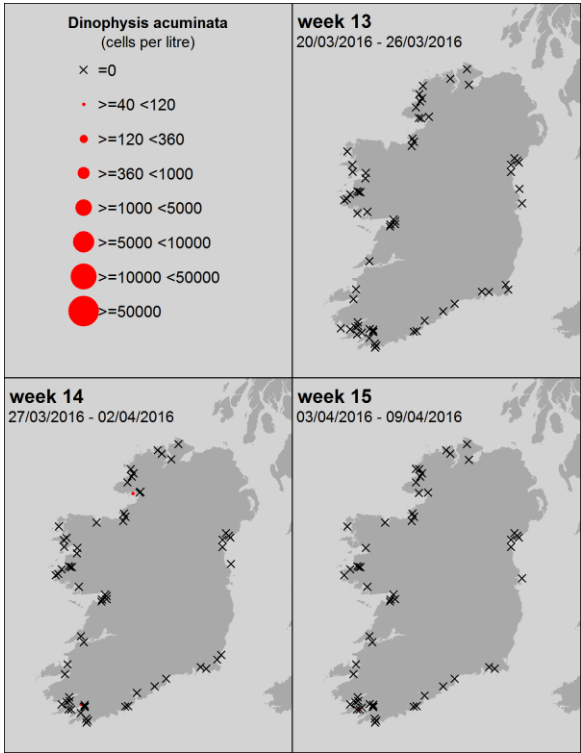
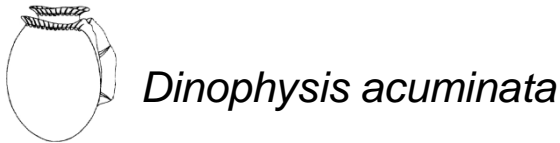
PSP: historical trends and current conditions indicate and event is unlikely to occur.

# 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



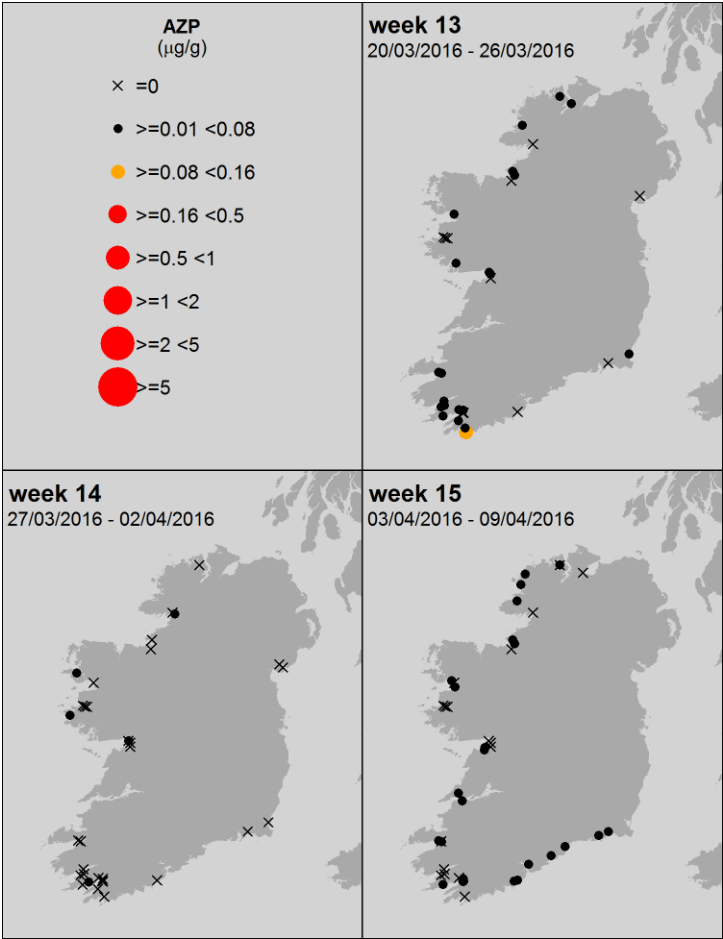
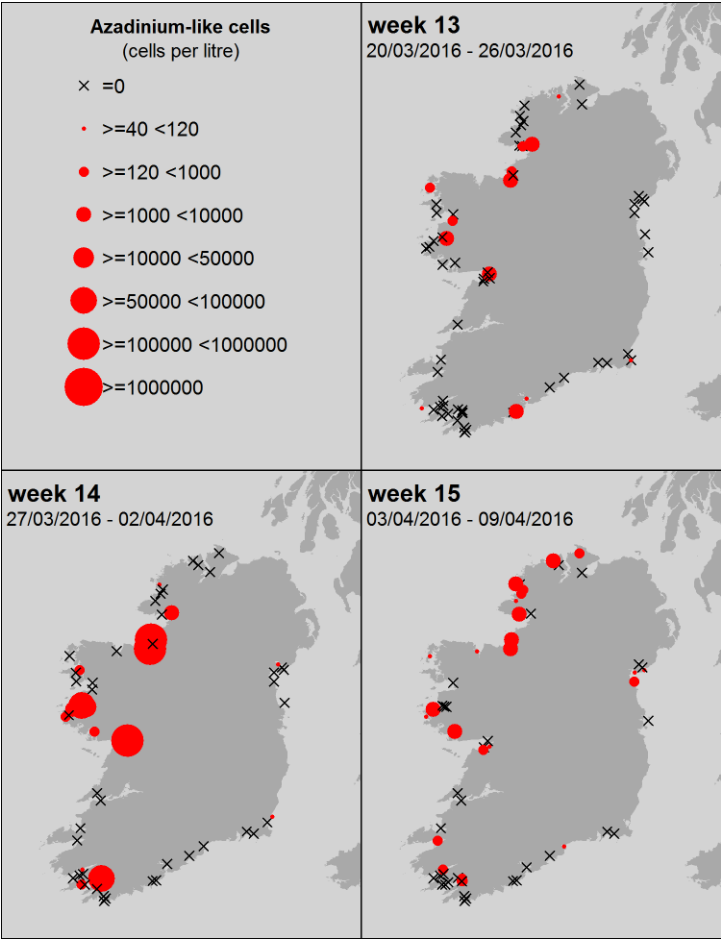
Ireland: Last 3 weeks of available National Monitoring Programme data



*Azadinium* – like spp.



AZP



Ireland: Last 3 weeks of available National Monitoring Programme data

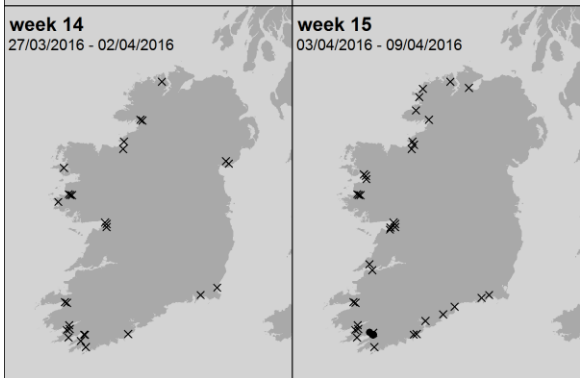
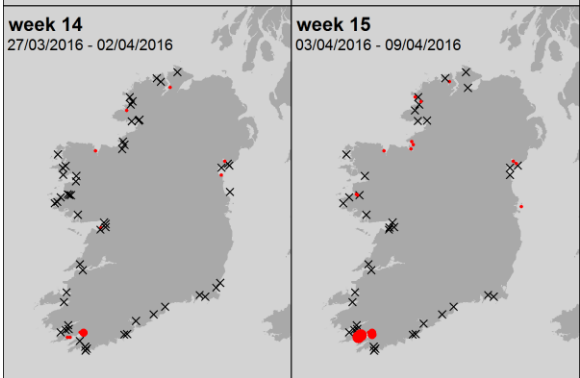
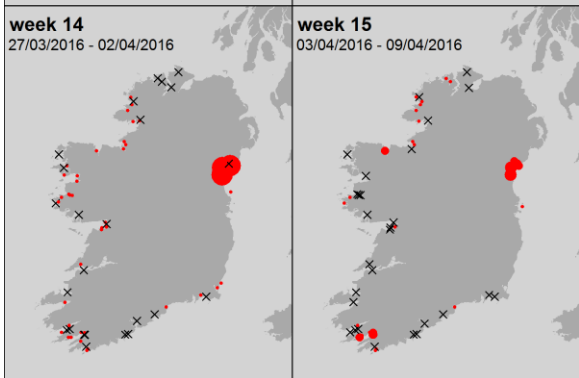
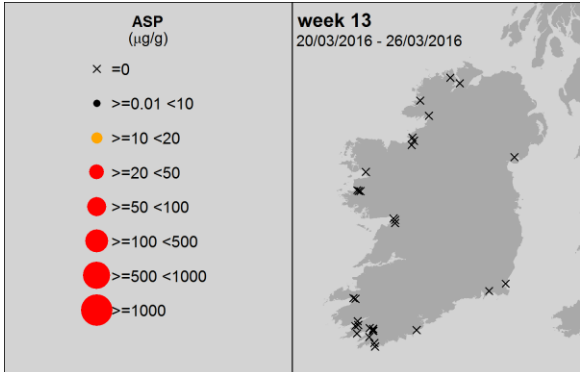
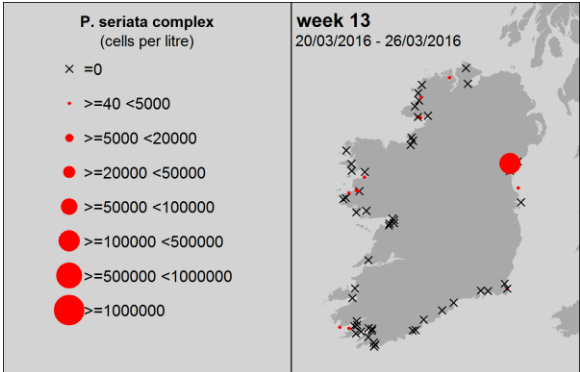
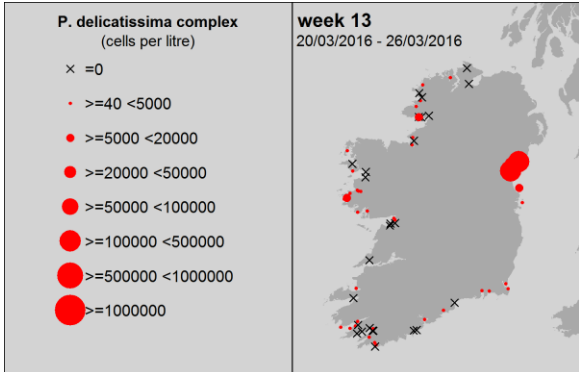
*Pseudo-nitzschia* spp.



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

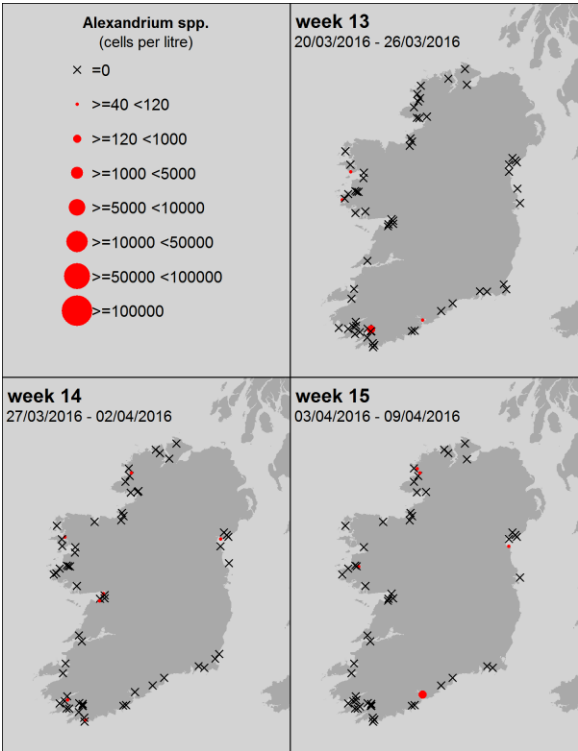


**Taken from the literature:** Of the 4 species (*P. fraudulenta*, *P. australis*, *P. pungens* and *P. delicatissima*) from Irish waters, tested for ASP toxins in culture work, only one, *P. australis* (from the “*P. seriata*” group) was toxic.

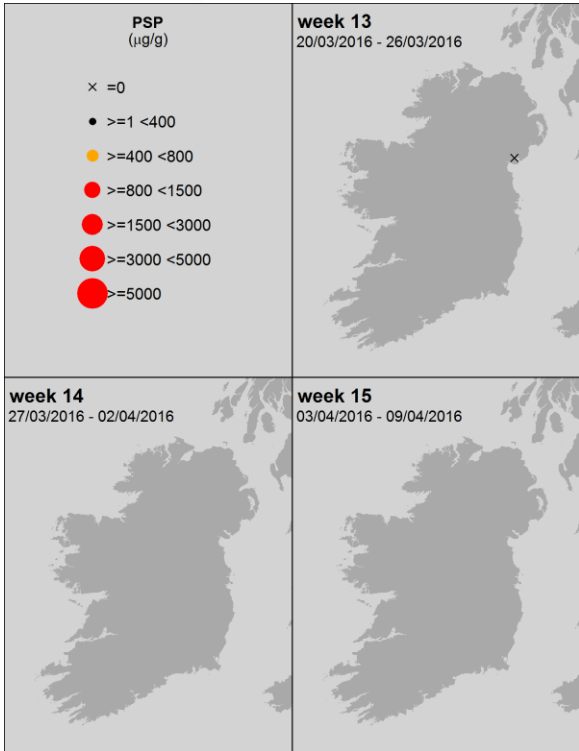
Ireland: Last 3 weeks of available National Monitoring Programme data



Alexandrium spp.



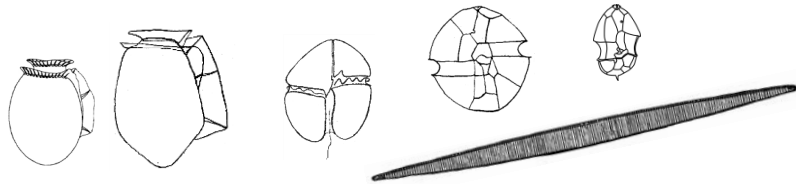
PSP



# Ireland HAB & Biotoxin temporal trends

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

## Ireland: Biotoxins



Toxin groups

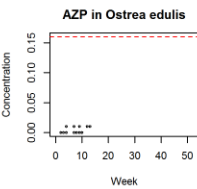
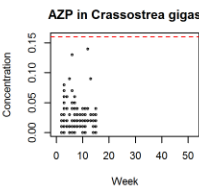
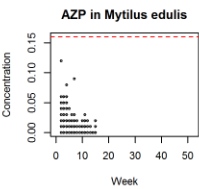
mussels

oysters

oysters

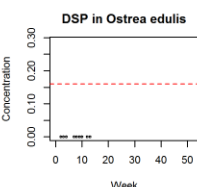
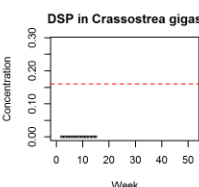
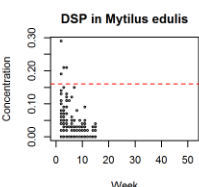
**AZP**

AZaspiracid  
Poisoning



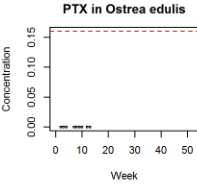
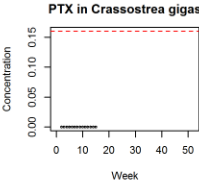
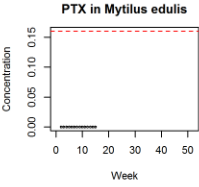
**DSP**

Diarrhetic  
Shellfish  
Poisoning



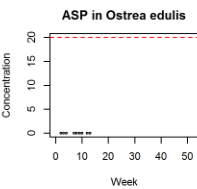
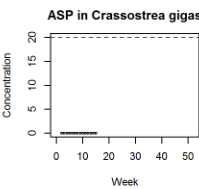
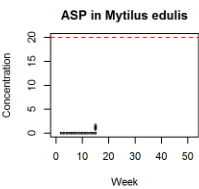
**PTX**

Pectenotoxin



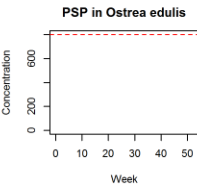
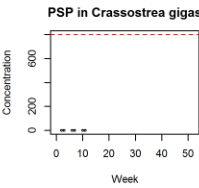
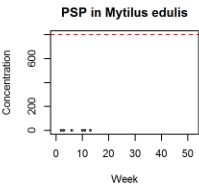
**ASP**

Amnesic  
Shellfish  
Poisoning



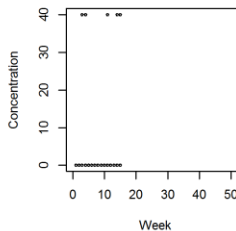
**PSP**

Paralytic  
Shellfish  
Poisoning

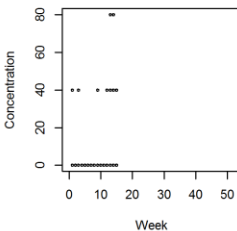


## Ireland: HABs

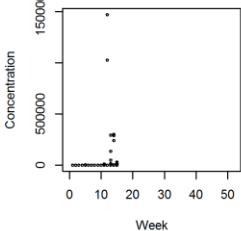
**Dinophysis acuminata**



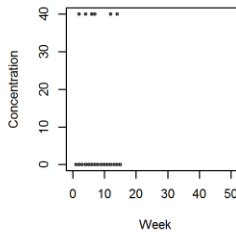
**Karenia mikimotoi**



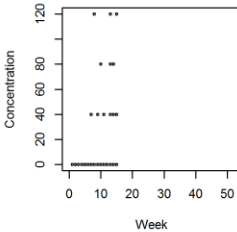
**P. delicatissima complex**



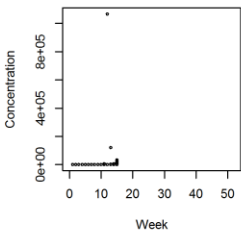
**Dinophysis acuta**



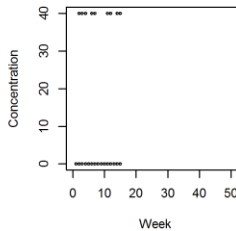
**Alexandrium spp.**



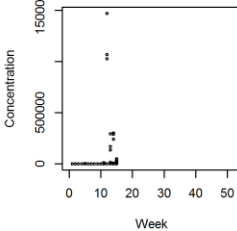
**P. seriata complex**



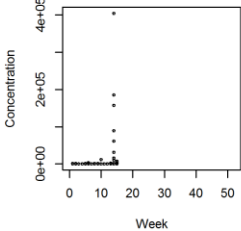
**All Dinophysis spp.**



**All Pseudo-nitzschia spp.**



**Azadinium-like cells**

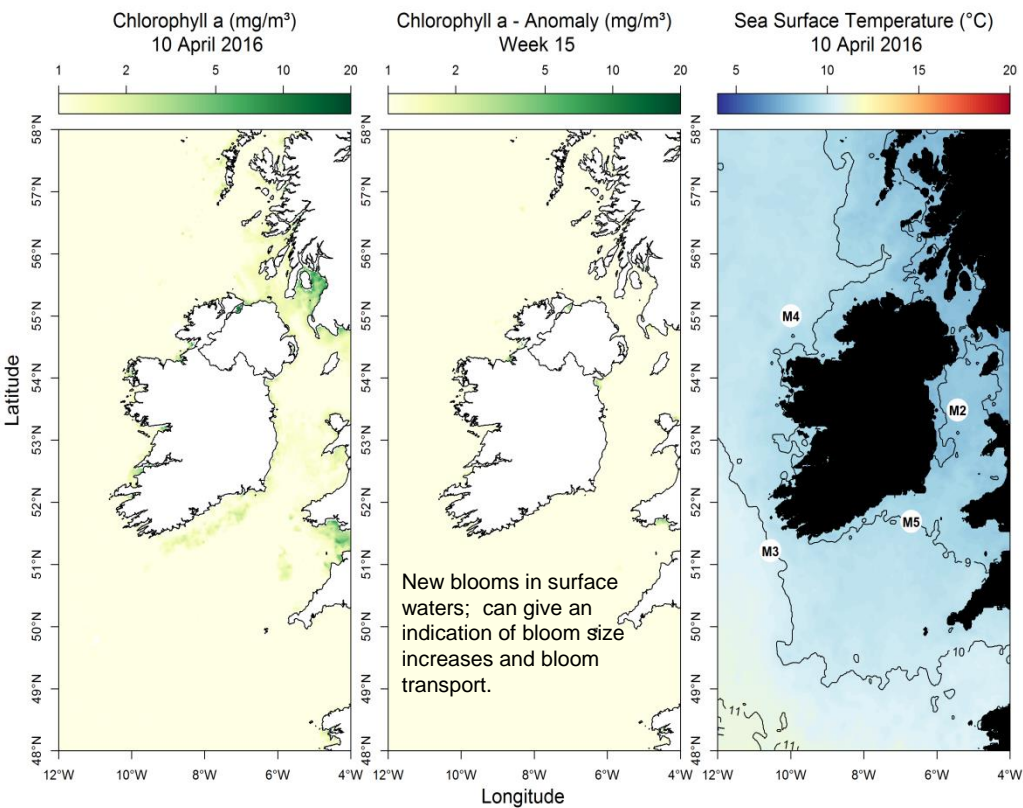


EU Regulatory Limit: ASP 20 µg/g; AZP 0.16 µg/g; DSP 0.16 µg/g; PSP 800 µg/kg

Regulatory limit = ■■■■■



Most up to date available satellite data

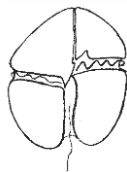


**SST (°C) anomaly for last week:**  
Data taken from the Irish data buoy network where the anomaly is the weekly difference in SST compared to the long term mean (~ 10 yrs)

- NW coast (M4)** Offline
- SW coast (M3)** Offline
- SE coast (M5)** Offline

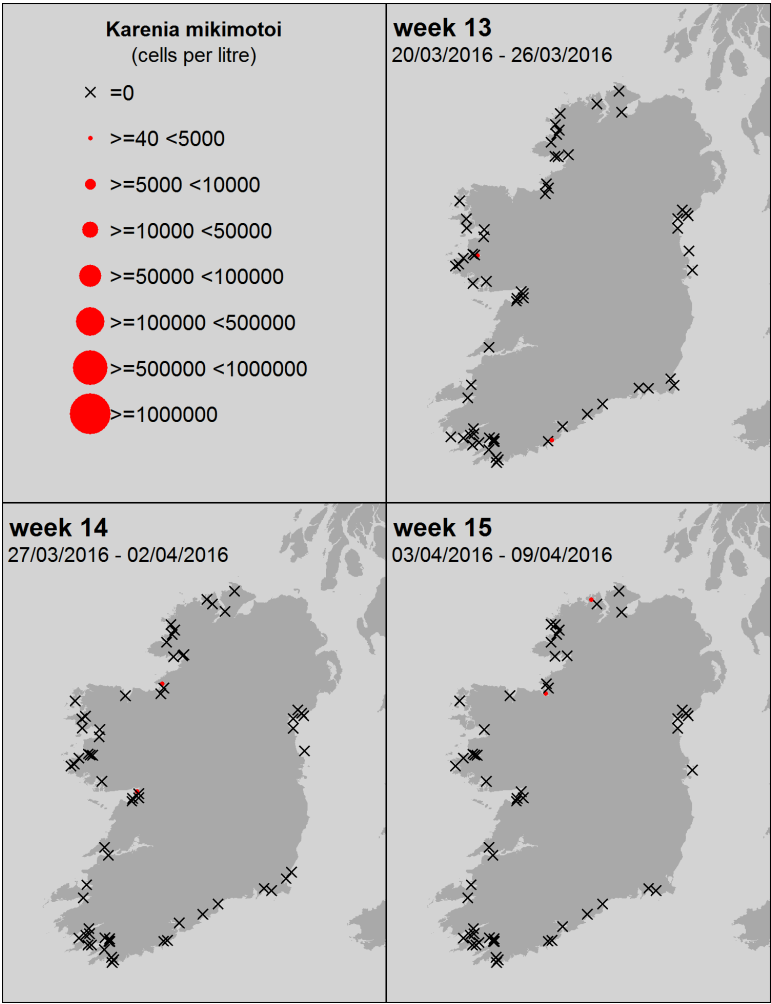
What phytoplankton were blooming at inshore coastal sites last week?

Region	Predominant Phytoplankton (most abundant taxa)	Cells/L (rounded)
north:	<b>Diatoms:</b>	
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	165,500
	<i>Chaetoceros (Hyalochaete) spp.</i>	149,100
	<i>Asterionellopsis spp.</i>	97,300
	<i>Thalassiosira spp.</i>	81,300
	Pennate diatom	65,000
	<b>Dinoflagellates:</b>	
	<i>Azadinium/heterocapsa spp.</i>	3,700
	<b>Others:</b>	
	Microflagellate sp.	10,300
	<i>Euglena/Eutreptiella spp.</i>	8,200
west:	<b>Diatoms:</b>	
	<i>Chaetoceros (Hyalochaete) spp.</i>	34,800
	<i>Skeletonema spp.</i>	33,600
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	20,000
	<i>Thalassiosira 20-50um</i>	19,800
	Pennate diatom	11,900
	<i>Pseudo-nitzschia delicatissima complex</i>	9,600
	<b>Dinoflagellates:</b>	
	<i>Azadinium/heterocapsa spp.</i>	7,400
	<b>SW:</b>	
SW:	<b>Diatoms:</b>	
	<i>Skeletonema spp.</i>	428,500
	<i>Thalassiosira &lt;20um</i>	411,800
	<i>Chaetoceros (Hyalochaete) spp.</i>	51,100
	<i>Pseudo-nitzschia seriata complex</i>	35,200
	<b>Others:</b>	
	Prymnesiophytes	15,300
south:	Haptophytes	11,500
	<b>south:</b>	
	<b>Diatoms:</b>	
	<i>Cylindrotheca closterium/ Nitzschia longissima</i>	2,000
	<i>Paralia sulcata</i>	1,300
	<i>Skeletonema spp.</i>	700
	<b>east:</b>	
east:	<b>Diatoms:</b>	
	<i>Thalassiosira &gt;50um</i>	248,800
	<i>Chaetoceros (Hyalochaete) spp.</i>	161,400
	<i>Detonula sp.</i>	90,200
	<i>Skeletonema spp.</i>	72,500
	<i>Pseudo-nitzschia delicatissima complex</i>	21,200
	<b>Dinoflagellates:</b>	
	<i>Scrippsiella spp.</i>	1,200



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

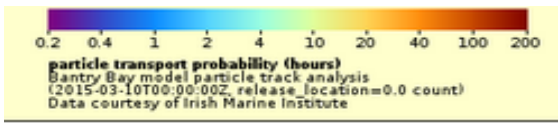
A *Karenia mikimotoi* bloom  
is NOT expected this week



## SOUTHWEST: Bantry Bay

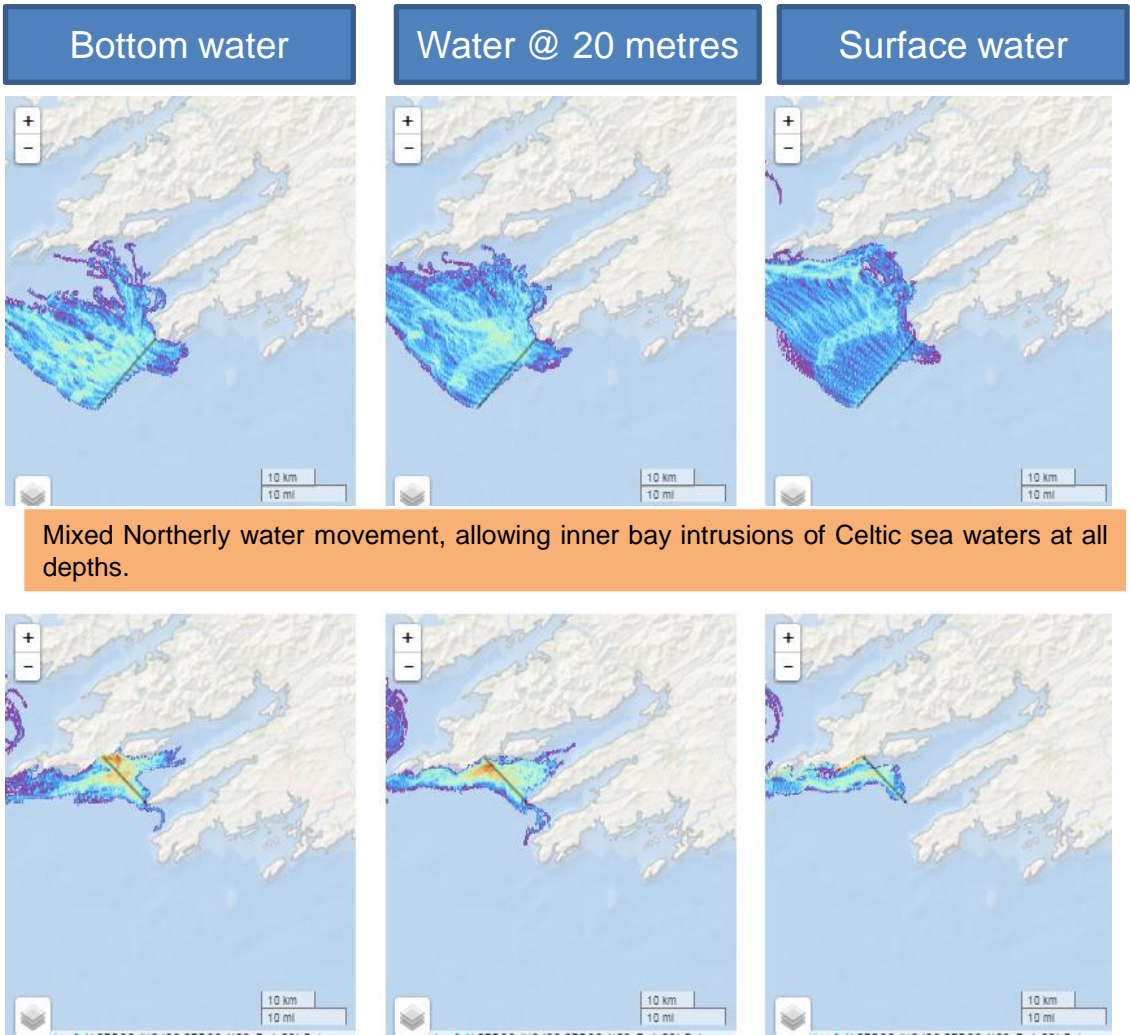
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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

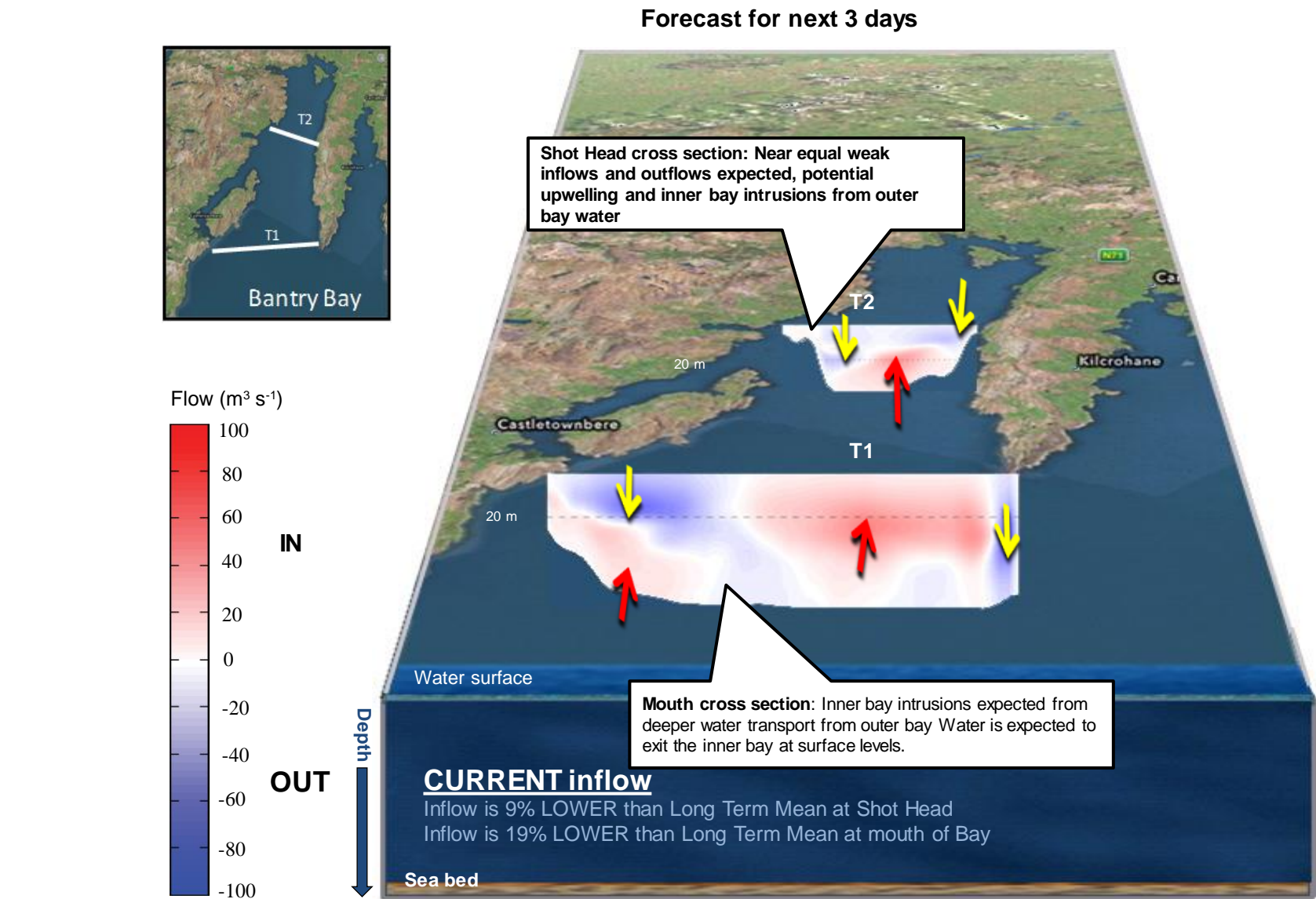


Mixed Northerly water movement, allowing inner bay intrusions of Celtic sea waters at all depths.

Inner Bay intrusions from offshore waters particularly at bottom and deeper waters. Slight transport of waters out of bay area at surface levels.

# 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



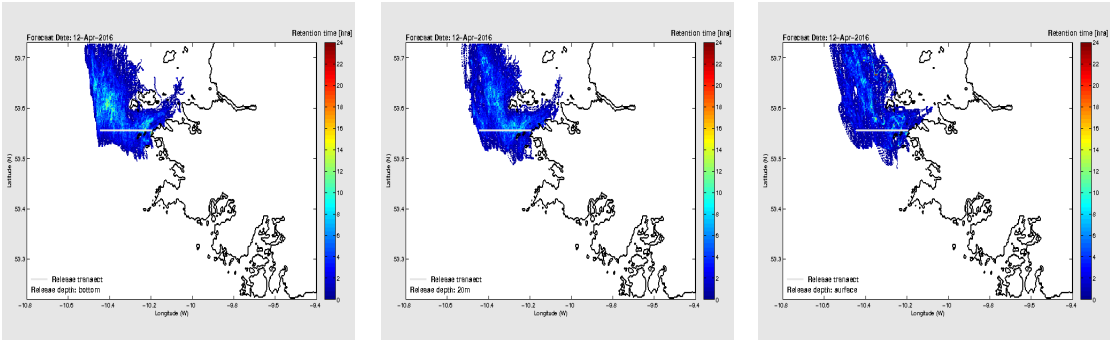
0.2 0.4 1 2 4 10 20 40 100 200  
particle transport probability (hours)  
Bantry Bay model particle track analysis  
(2015-03-10T00:00:00Z, release\_location=0.0 count)  
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

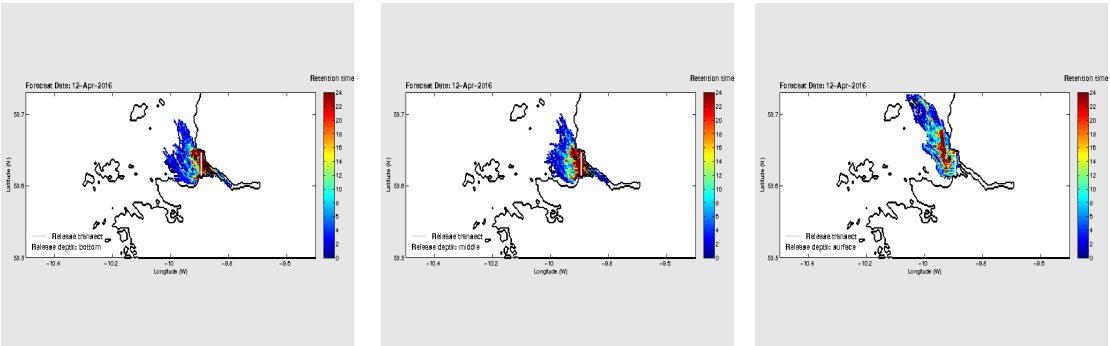
Bottom water

Water @ 20 metres

Surface water



Mixed Northerly movement of water at all depths dominating outer bay.

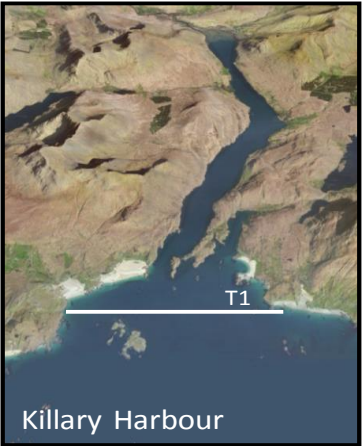


Intrusions into inner bay waters likely at bottom and deeper waters in particular.

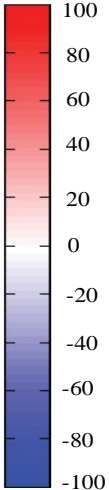


# Killary Harbour

3 day estimated water flows at the mouth of Killary Harbour



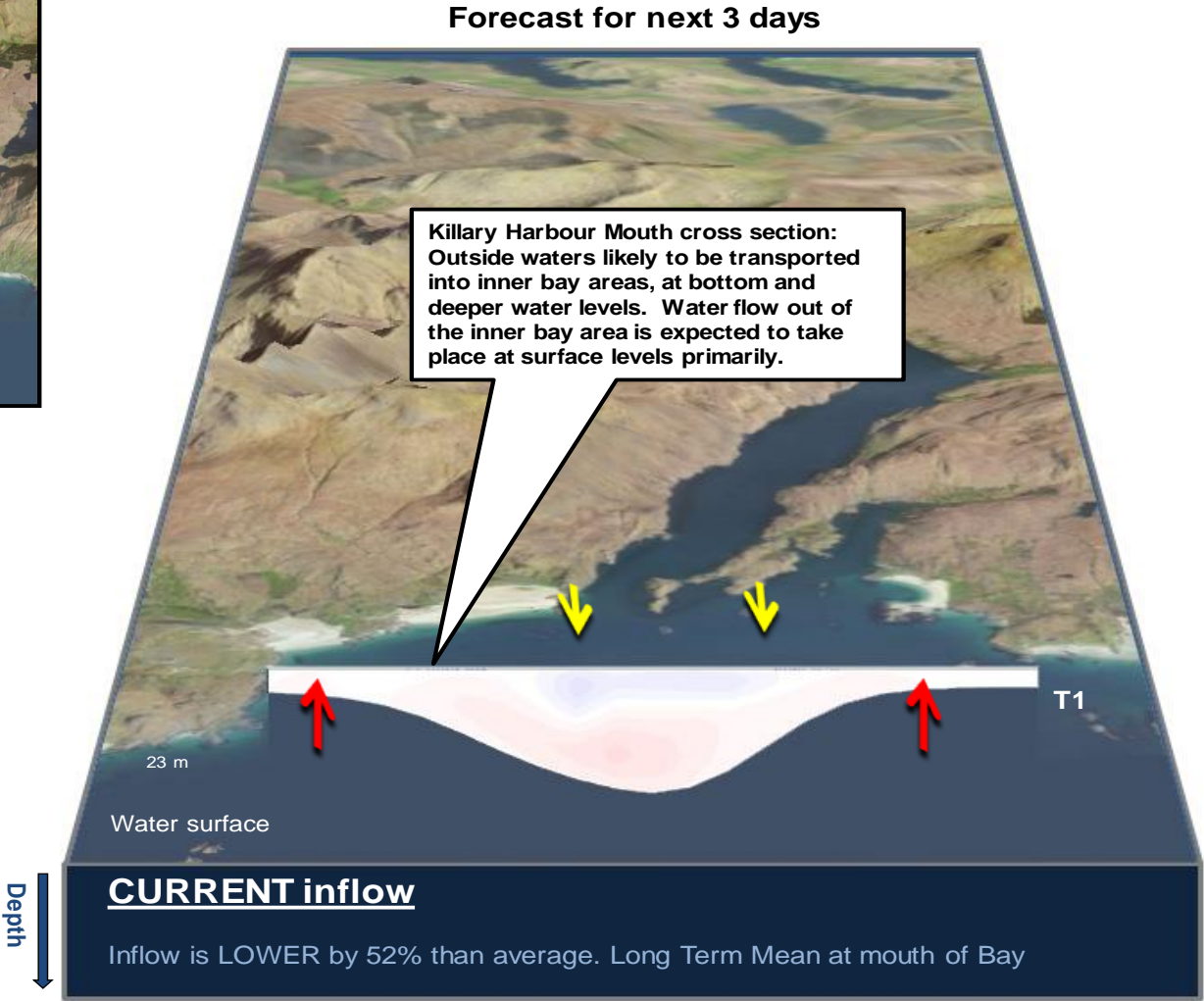
Flow ( $\text{m}^3 \text{s}^{-1}$ )



IN

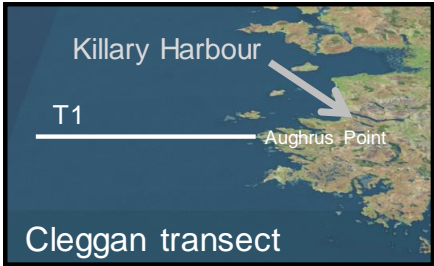
OUT

Depth

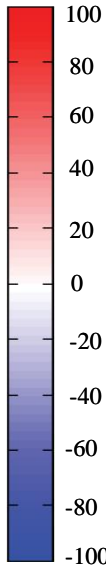


# West Coast - 3 day estimated water flows along a transect off Aughrus Point

Forecast for next 3 days



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



northward  
flow

southward  
flow

Depth

