

# Ireland: Predictions

ASP event: Low to moderate  
AZP event: **High**  
DSP event: Moderate  
PSP event: Low (site specific)

NMP Current closures			
ASP	AZP	DSP	PSP
0	0	0	0

ASP: Current steady pattern -Slow seasonal increase in cell levels continues with fluctuating weekly levels. No significant toxic species/toxin currently present .Precautionary increase in levels of caution and species awareness.

AZP: **High caution level** is still advised with this difficult species. Current seasonal impact may rise during onshore water transport conditions in the western and southern areas. This is the main historical occurrence period, suitable environmental conditions continue to prevail and the toxin is currently present in moderate levels. Issues with this toxin can occur suddenly and acutely .

DSP: Steady pattern -*Moderate caution level*- Low toxicity issues and onshore water transport condition could lead to sudden, temporary , peaks at this time but in general cell levels have dropped to low levels and suitable establishment environmental conditions are not currently predicted. However, all sites should continue to insure best sampling practices and obtaining the most recent results available.

PSP: Same pattern as last week -Low caution only advised, mainly in historically affected sites (S) . While current weather conditions and patterns are not favourable for bloom issues , these conditions may yet change. Until cell levels and temperatures have dropped further some caution is still advised.

Blooms: **No current significant issues recorded.** Any unusual water discoloration should be noted and regional labs contacted if concerned /regarding possible need for additional sampling. All feedback is welcome at [Joe.Silke@Marine.ie](mailto:Joe.Silke@Marine.ie) .

## National Monitoring Programme



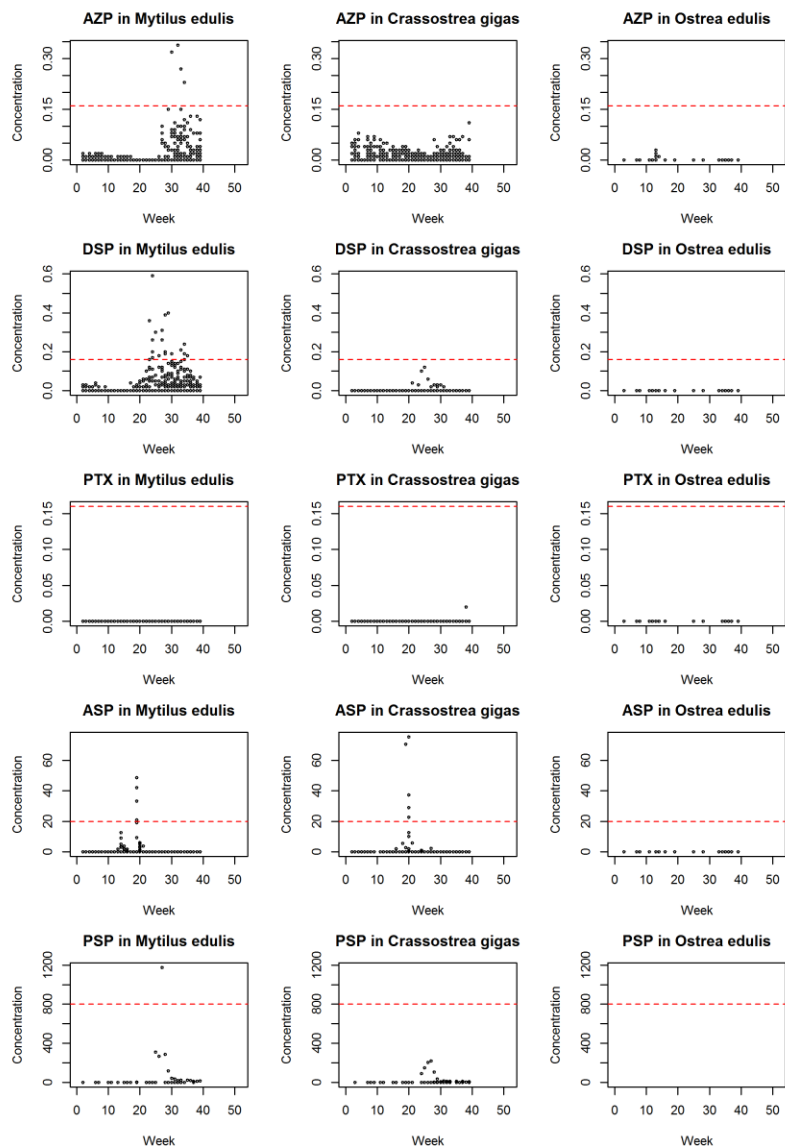
AZP

DSP

PTX

ASP

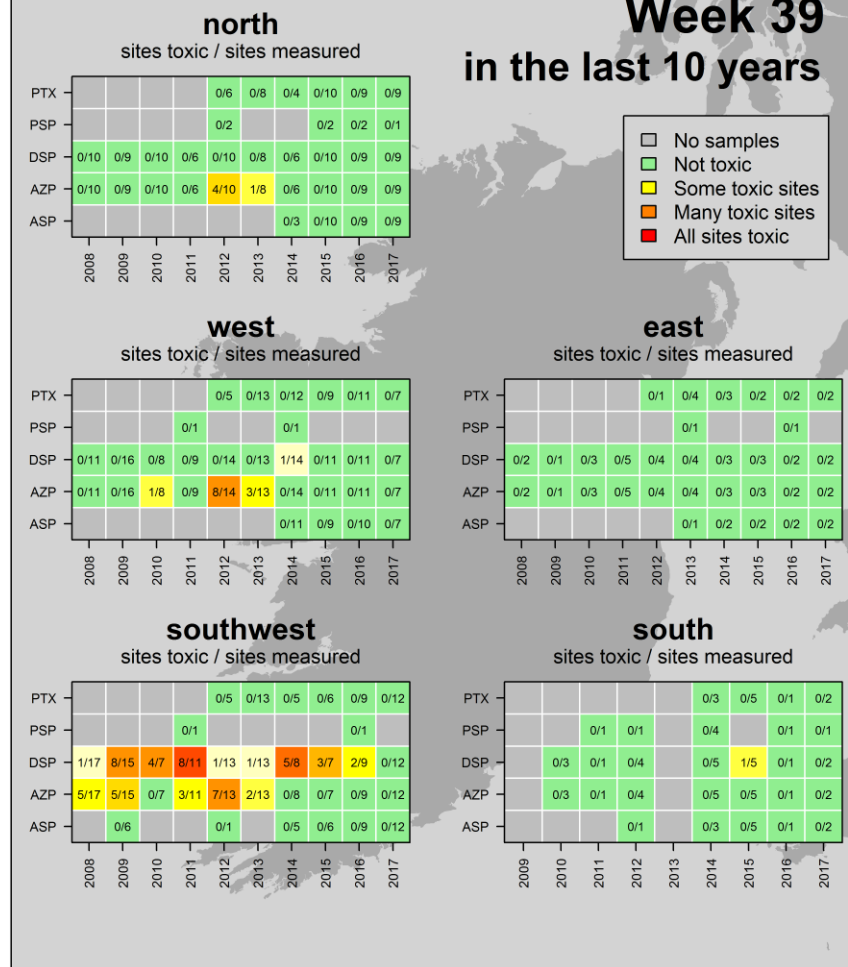
PSP



Levels from week 1 to present week. Regulatory limit - - - - -

## HISTORIC TRENDS

**Week 39**  
in the last 10 years



ASP events: mid-March to early May

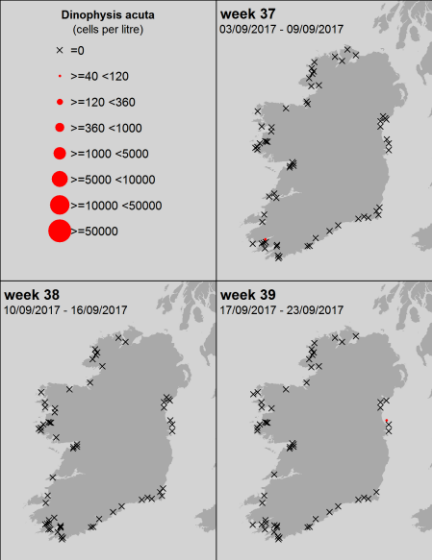
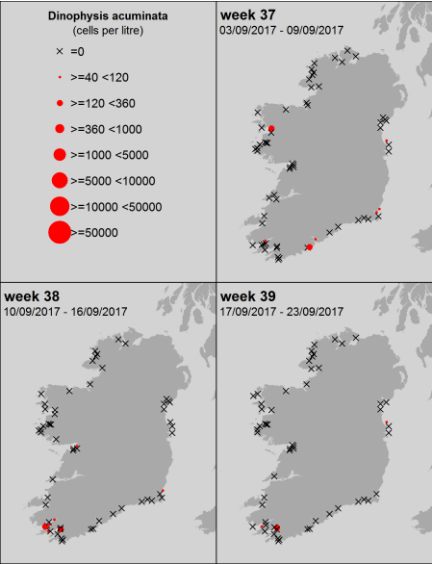
AZP events: April to December

DSP events: May to December

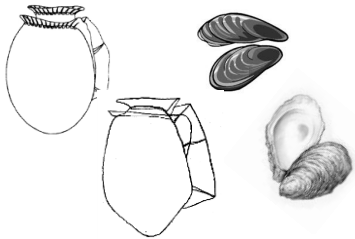
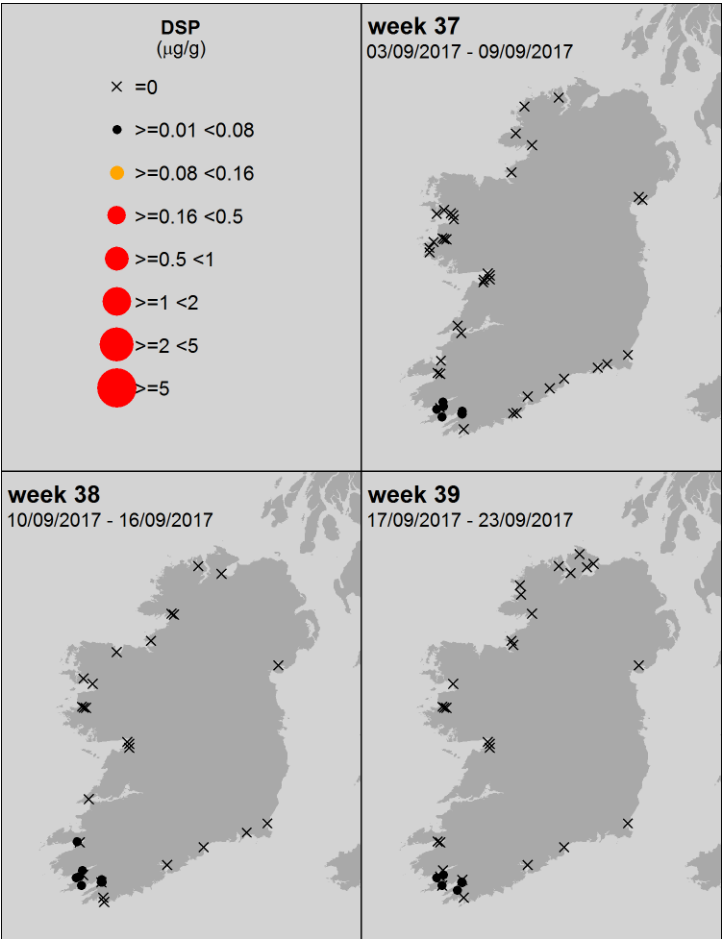
PSP events: June to mid-July and end September; only in Cork Harbour

DSP and Dinophysis sp. current trends

Phytoplankton species – 3 wks.

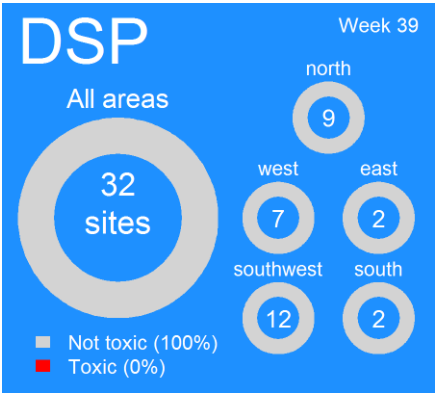


All levels of DSP biotoxin recorded- 3 wks.



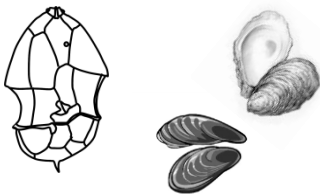
Current closures levels

≥ DSP 0.16 µg/g



Comment – Continued decreasing of seasonal issues in most affected areas. Temporary and sudden peaks in toxin levels still possible during onshore water transport conditions. Moderate caution advised and should be increased if environmental conditions chance suddenly.

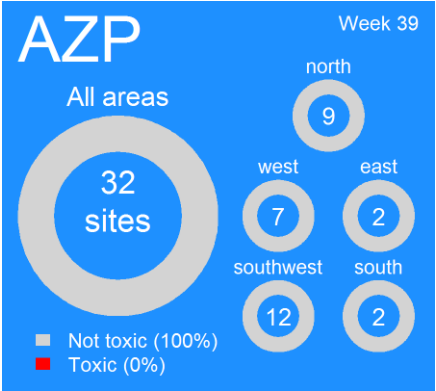
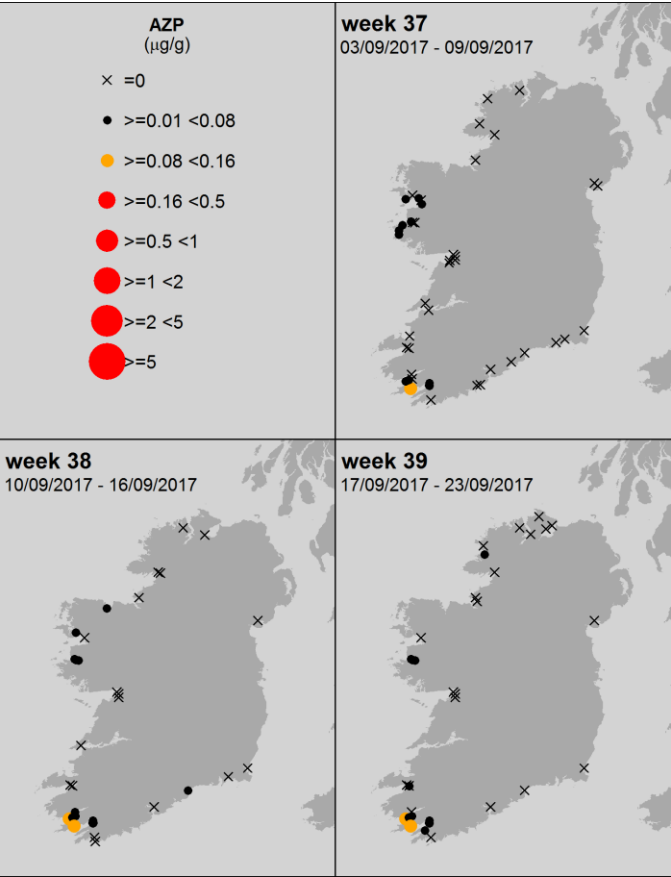
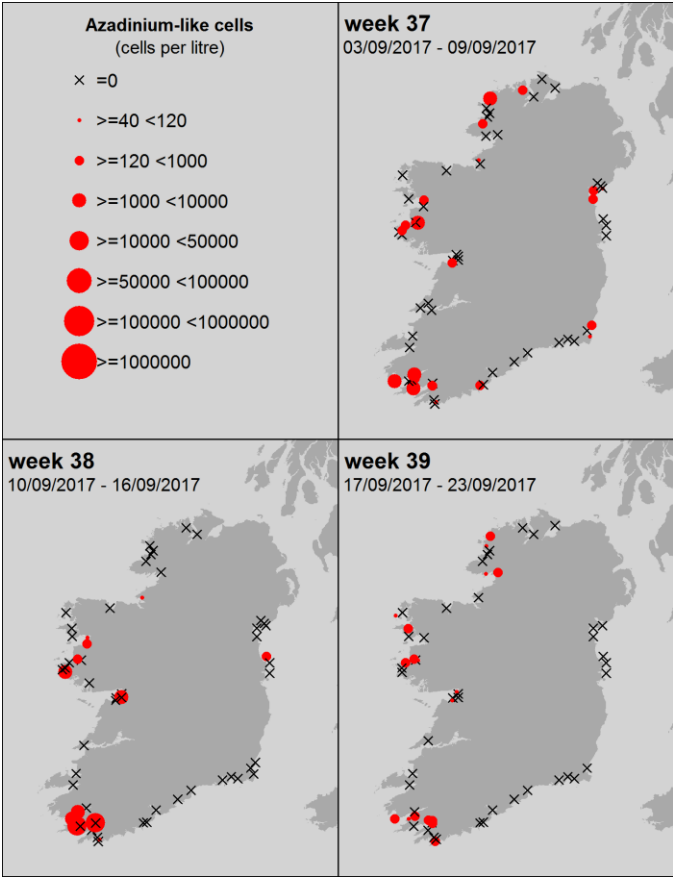
AZP and Azadinium like species current trends



Phytoplankton species – 3 wks.

All levels of AZP biotoxin recorded - 3 wks.

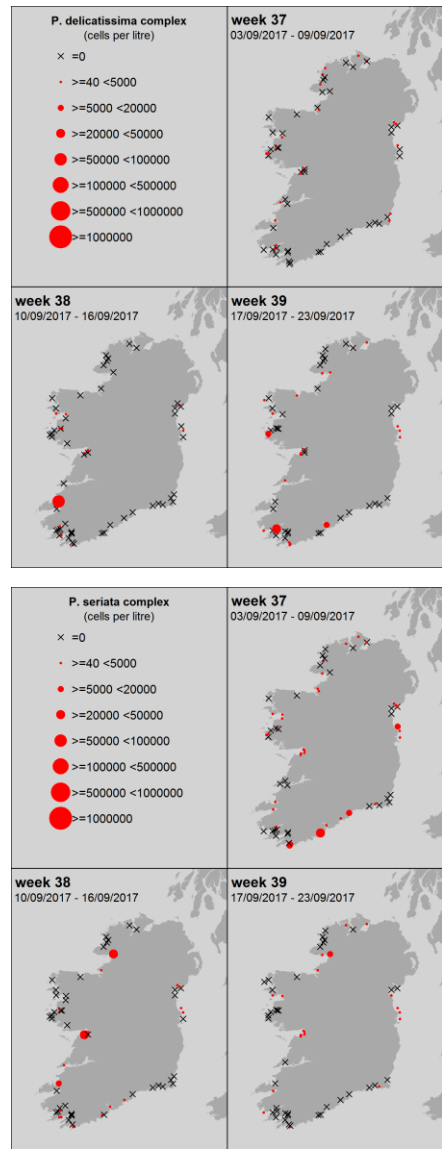
Current closures levels  
≥ AZP 0.16 µg/g



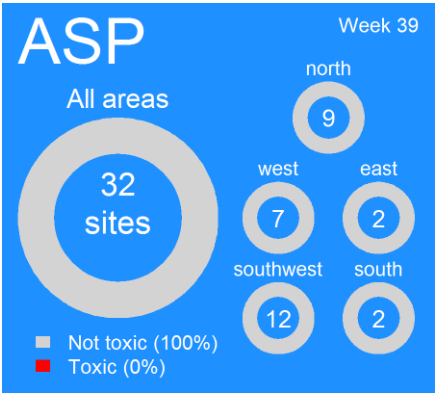
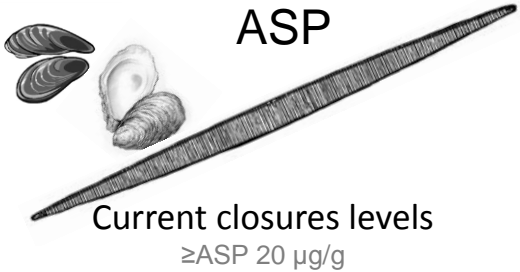
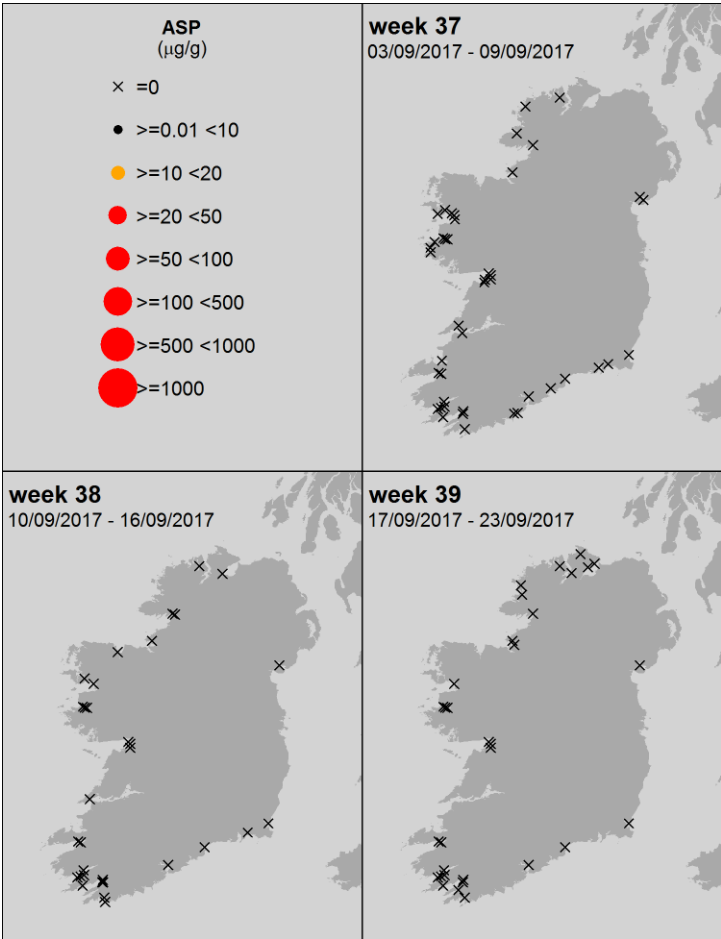
Comments  
Continued weekly fluctuating potential cell levels, currently decreasing, but this species can rapidly bloom or get transport into bay areas at bloom levels. Such transport conditions are typical at this time of year - sudden acute issues possible. High caution still advised with this toxin despite current low levels in sites.

ASP and Pseudo nitzschia sp. current trends

Phytoplankton species – 3 wks.



All levels of ASP biotoxin recorded - 3 wks.



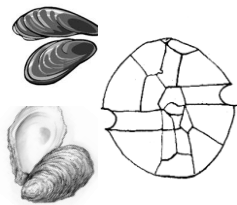
Comments

Second week of same pattern  
-No significant toxin levels are currently present but cell levels are fluctuating and would traditionally be expected to potentially rise for a period based on historical trends.  
Moderate caution levels.

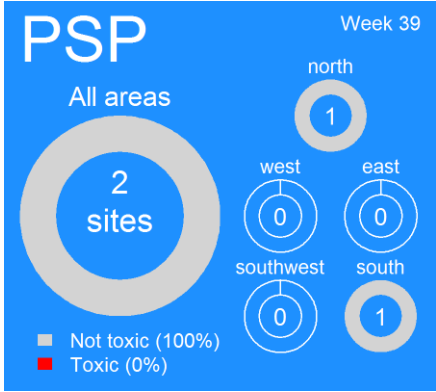
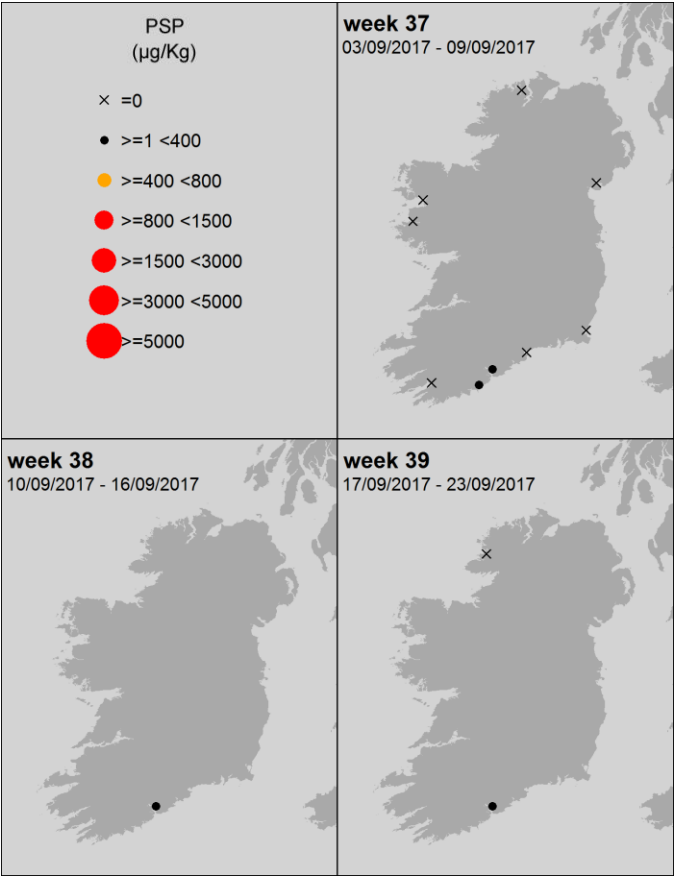
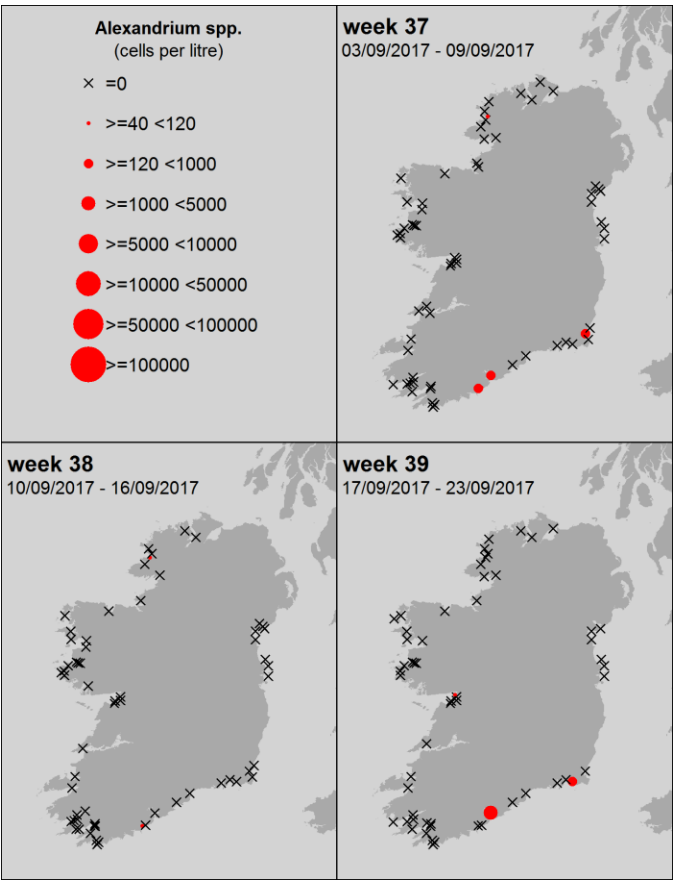
PSP and Alexandrium sp. current trends

Phytoplankton species – 3 wks.

All levels of PSP biotoxin recorded - 3 wks.



Current closures levels  
≥ PSP 800 µg/Kg

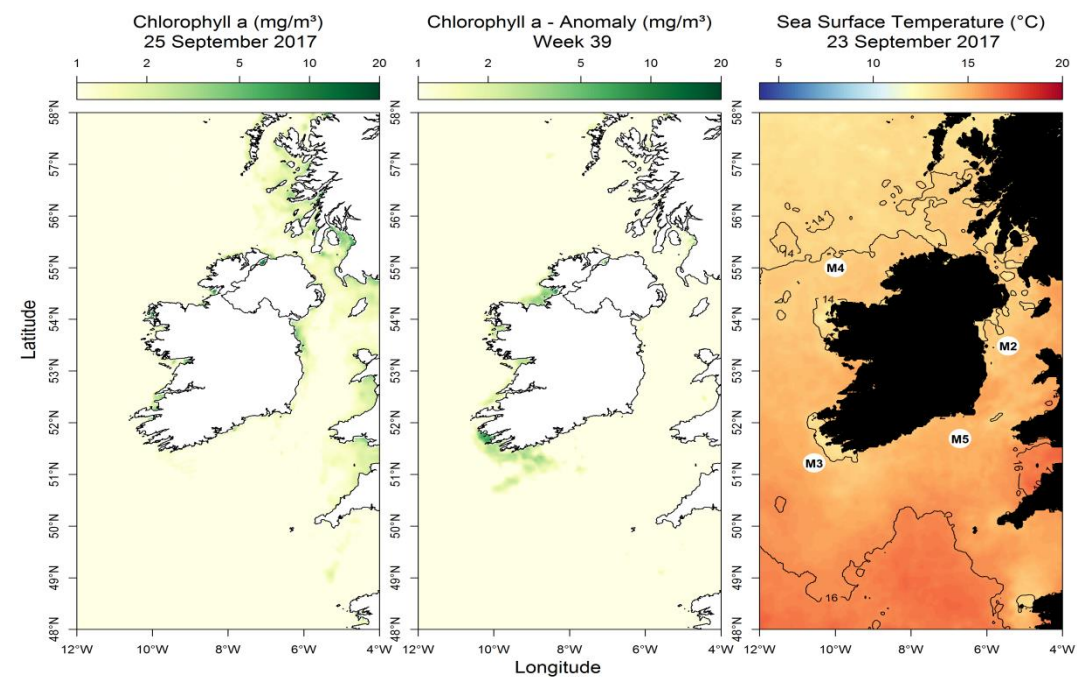


Comments

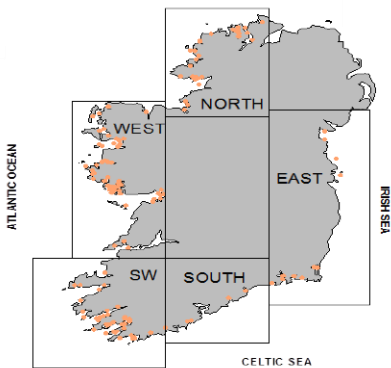
Similar to last week with favourable environmental conditions unlikely for issues related to this species/toxin. Low probability of sudden issues at this time of year.



Most up to date available satellite data



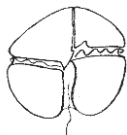
Northern and Southern coastal areas indicating moderate chlorophyll levels with both dinoflagellates and diatoms dominating recorded related sample results.



**NW coast (M4)** Below average by 0.37°C wk38  
**SW coast (M3)** Unavailable  
**SE coast (M5)** Below average by 0.39°C wk38

What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1	east	Navicula spp. <25um	84000
2	east	Skeletonema spp.	75000
3	east	Heterocapsa triquetra	66000
4	east	Centric diatoms <20um	41000
5	east	Prorocentrum balticum/minimum	28000
1	north	Asterionellopsis spp.	9215000
2	north	Asterionellopsis glacialis	405000
3	north	Chaetoceros (Hyalochaete) spp.	265000
4	north	Microflagellate sp.	257000
5	north	Dactyliosolen spp.	227000
1	south	Navicula spp. <25um	77000
2	south	Scrippsiella spp.	47000
3	south	Navicula spp. 20-50 um	45000
4	south	Paralia sulcata	41000
5	south	Pseudo-nitzschia delicatissima complex	15000
1	southwest	Skeletonema spp.	413000
2	southwest	Skeletonema costatum	355000
3	southwest	Lauderia / Detonula sp	178000
4	southwest	Thalassiosira <20um	76000
5	southwest	Chaetoceros (Hyalochaete) spp.	39000
1	west	Skeletonema spp.	344000
2	west	Chaetoceros (Hyalochaete) spp.	171000
3	west	Lauderia / Detonula sp	68000
4	west	Navicula spp. 20-50 um	60000
5	west	Prorocentrum micans	23000



*Karenia mikimotoi* bloom  
warning level – low

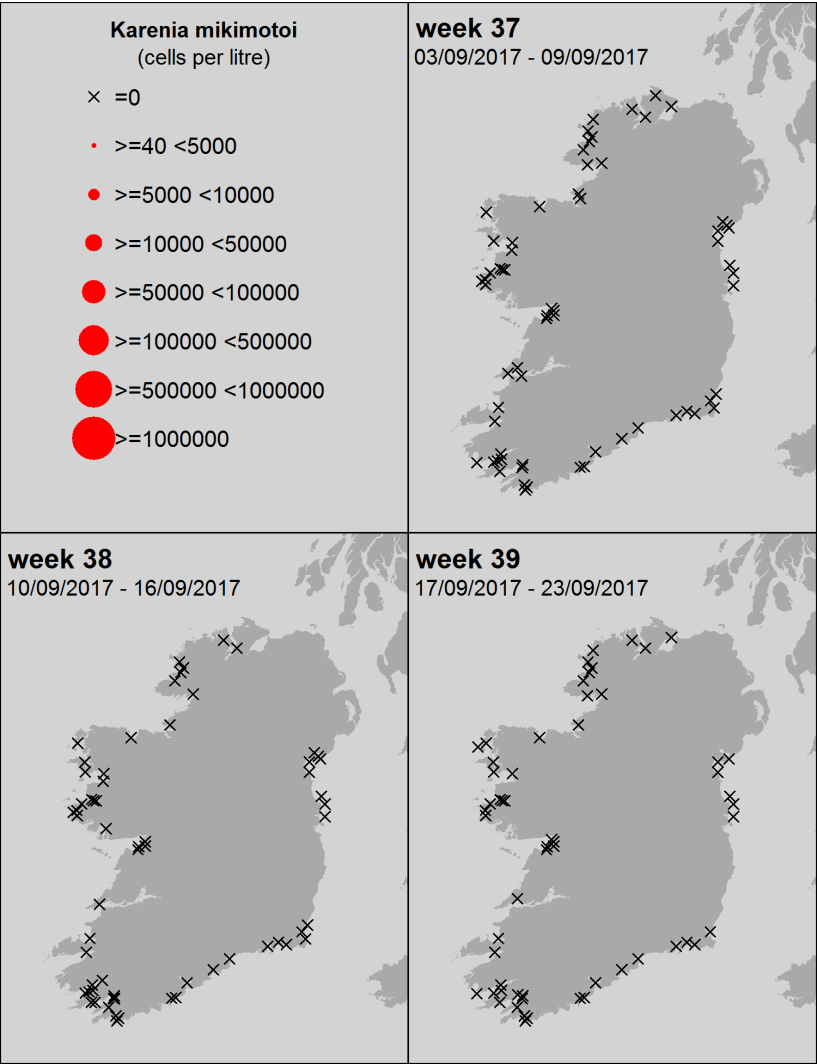
**Current general conditions:**  
Water temperatures and light levels decreasing slowly making the possibility of most bloom species causing an issue less likely. Some bloom potential species , i.e. Noctiluca species, are still present in bays, although at low background levels. Such species should be monitored but it would unusual to have major issues during current environmental conditions.

*Karenia mikimotoi*  
*Heterocapsa spp.*  
*Noctiluca scintillans*  
*Alexandrium spp.*

Any part of coastline

Has tended ,in past ,to be very site specific

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

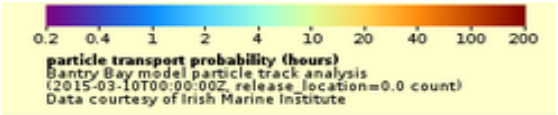




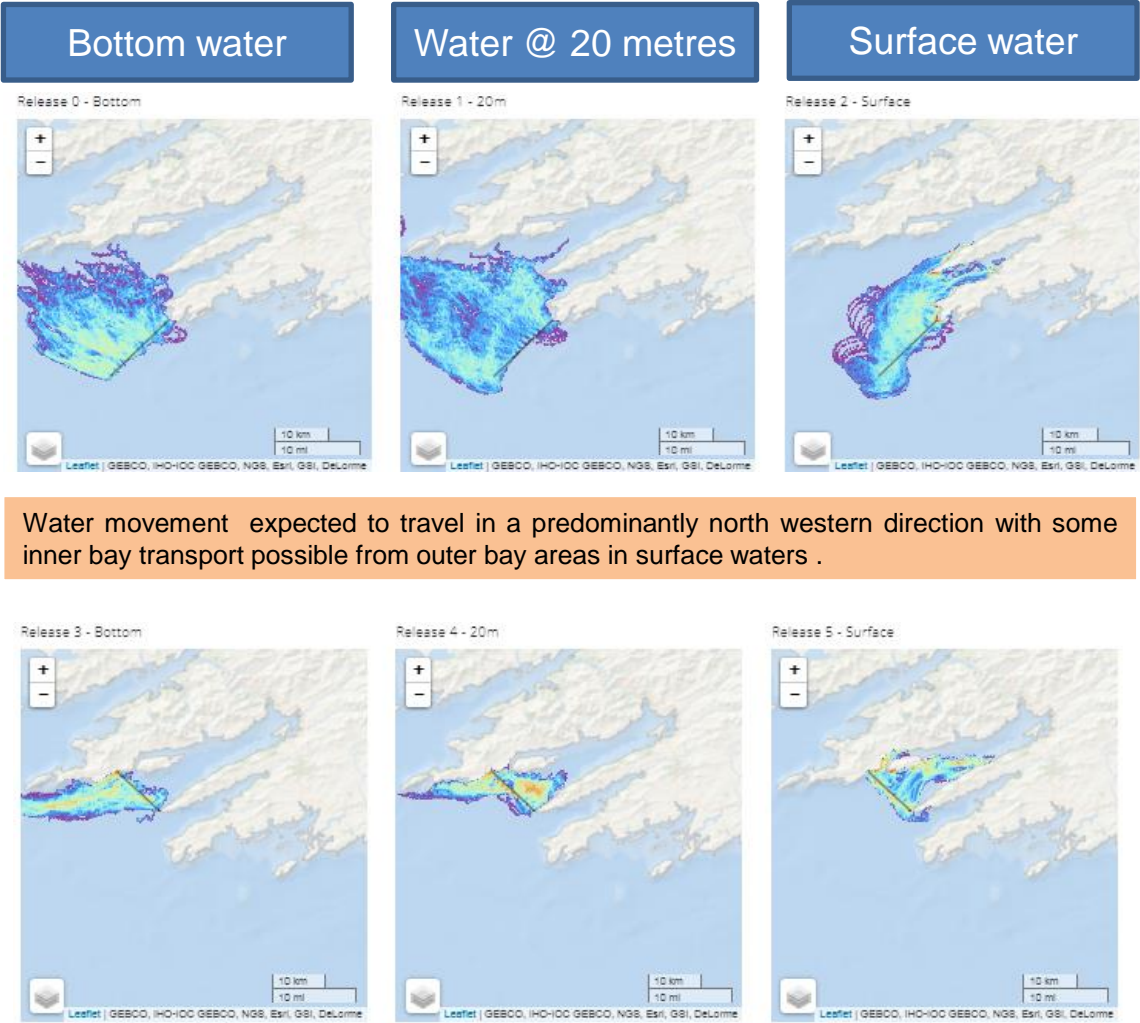
SOUTHWEST: Bantry Bay

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



Forecast for the next 3 days



Water movement expected to travel in a predominantly north western direction with some inner bay transport possible from outer bay areas in surface waters .

Similar to last weeks predictions with down welling and inner bay transport possible from surface and mid water depth water movement predictions.

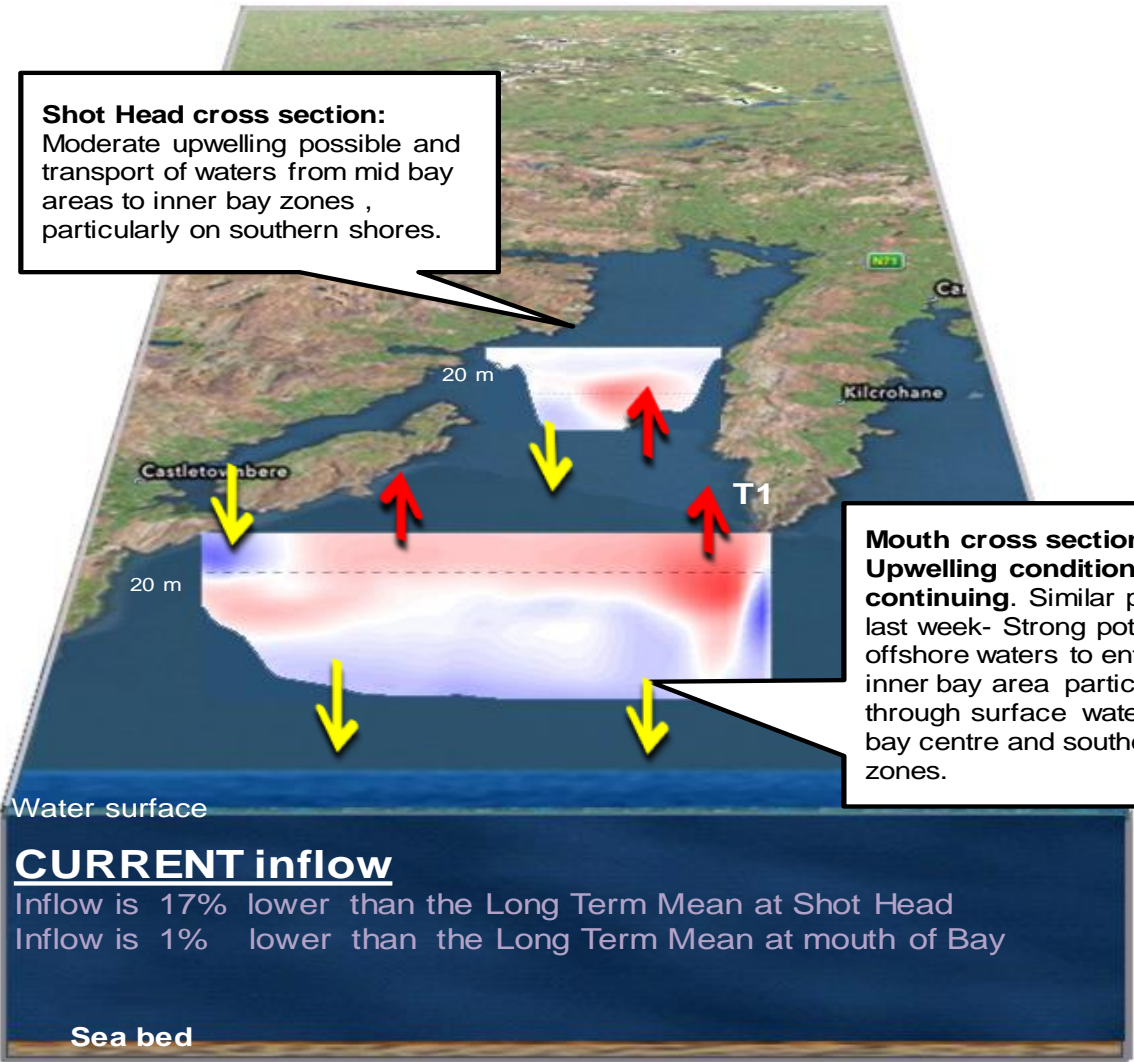
# Bantry Bay

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



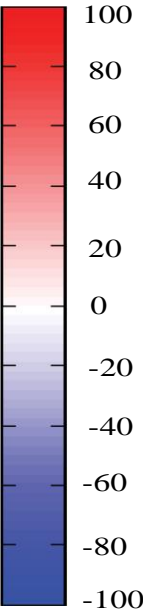
Forecast for next 3 days

**Shot Head cross section:**  
Moderate upwelling possible and transport of waters from mid bay areas to inner bay zones , particularly on southern shores.



**Mouth cross section:**  
**Upwelling conditions continuing.** Similar pattern to last week- Strong potential for offshore waters to enter the inner bay area particularly through surface waters in bay centre and southern zones.

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



IN

OUT

Depth

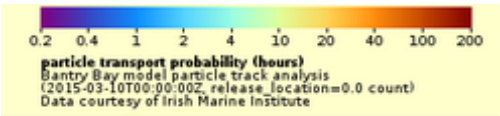
## CURRENT inflow

Inflow is 17% lower than the Long Term Mean at Shot Head  
Inflow is 1% lower than the Long Term Mean at mouth of 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)

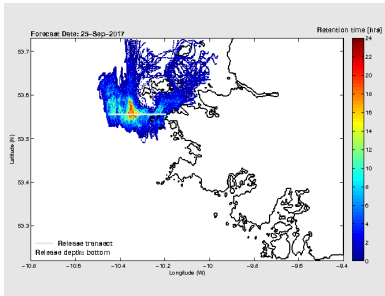
Reddish colours represent areas where phytoplankton remain longest  
Cooler colours represent areas where phytoplankton remain for shorter periods



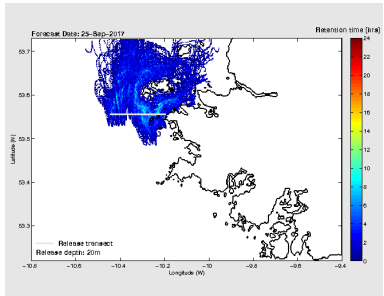
particle transport probability (hours)  
Bantry Bay model particle track analysis  
(2015-03-10T00:00:00Z, release\_location=0.0 count)  
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

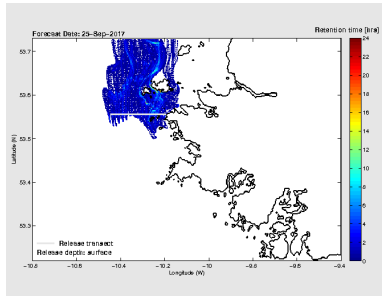
Bottom water



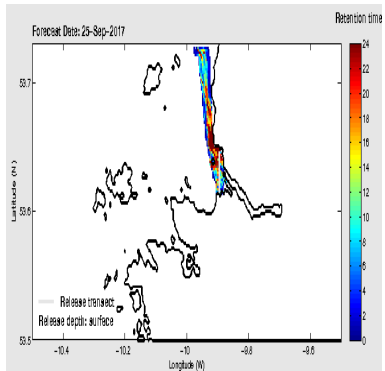
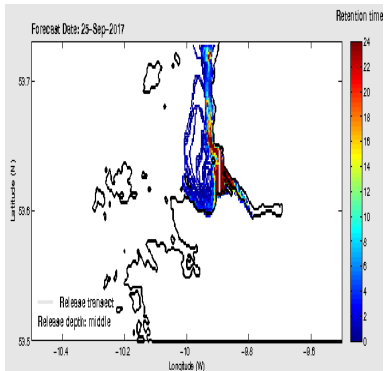
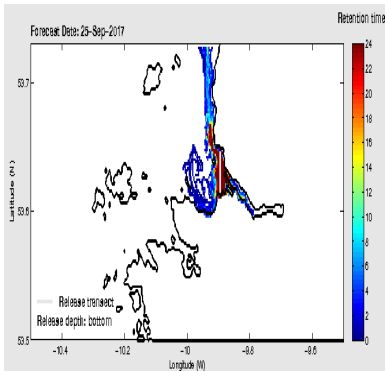
Water @ 20 metres



Surface water



**Cleggan**  
Moderate to strong offshore mixing in predominantly northern directions at all depths, allowing for some offshore waters to reach near shores areas and getting transported into middle bay areas.



**Killary**  
Moderate upwelling in inner bay areas due to potential of intrusions of offshore waters into inner bay areas at depth while surface waters indicate counter movements offshore.

# Killary Harbour

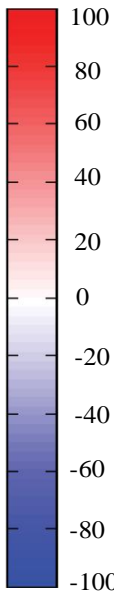
3 day estimated water flows at the mouth of Killary Harbour



Forecast for next 3 days

**Killary Harbour Mouth cross section:** Very low inflows and general mixing and water movements/exchange predicted during the next few days.

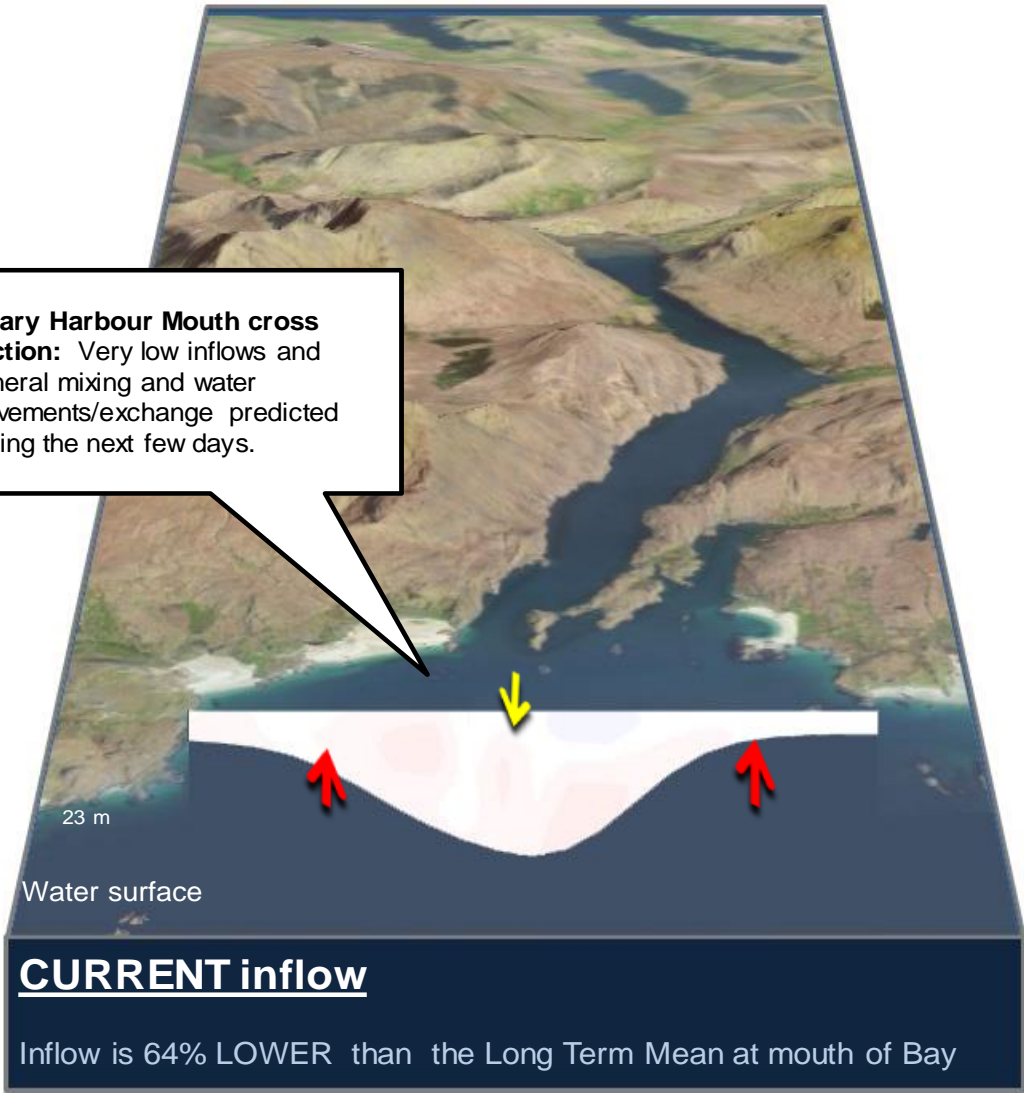
Flow ( $\text{m}^3 \text{s}^{-1}$ )



IN

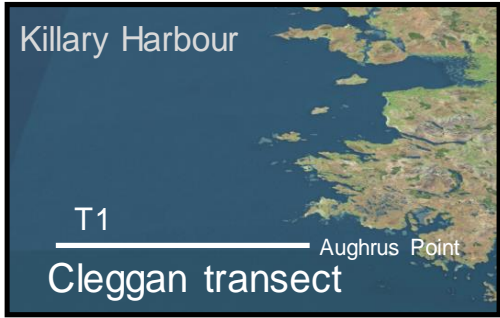
OUT

Depth





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



Forecast for next 3 days

**Cleggan section:** Again strong movement of well mixed waters in northerly directions in offshore areas but with counter directional movements developing in some areas.

