

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: 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: **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: 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.

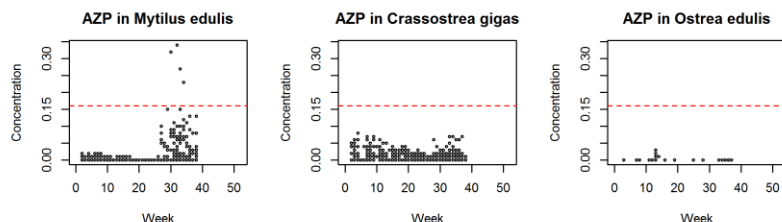
National Monitoring Programme



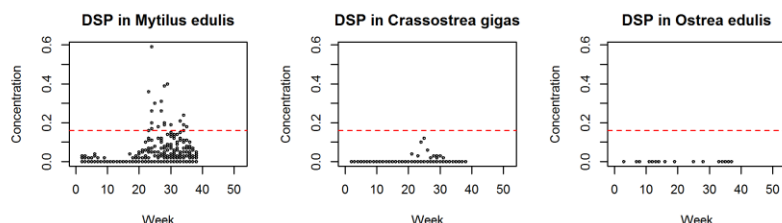
HISTORIC TRENDS



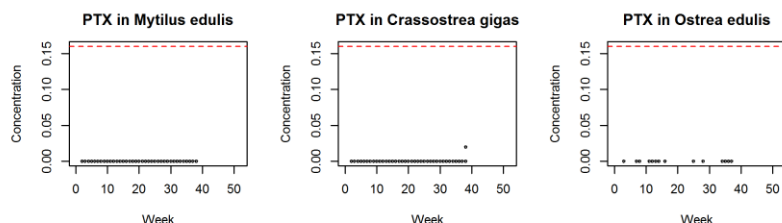
AZP



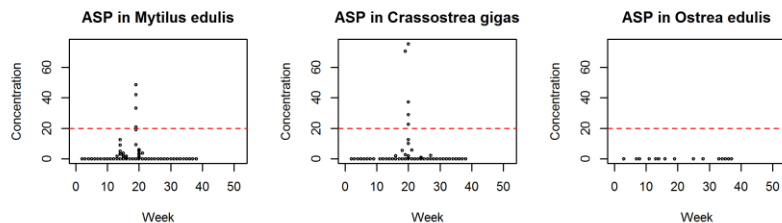
DSP



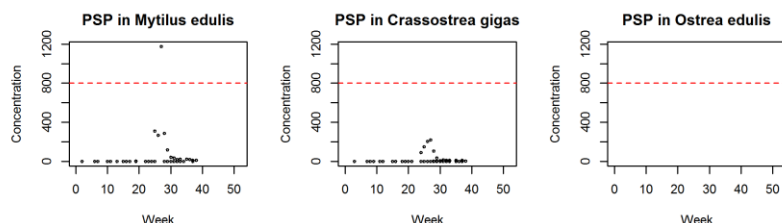
PTX



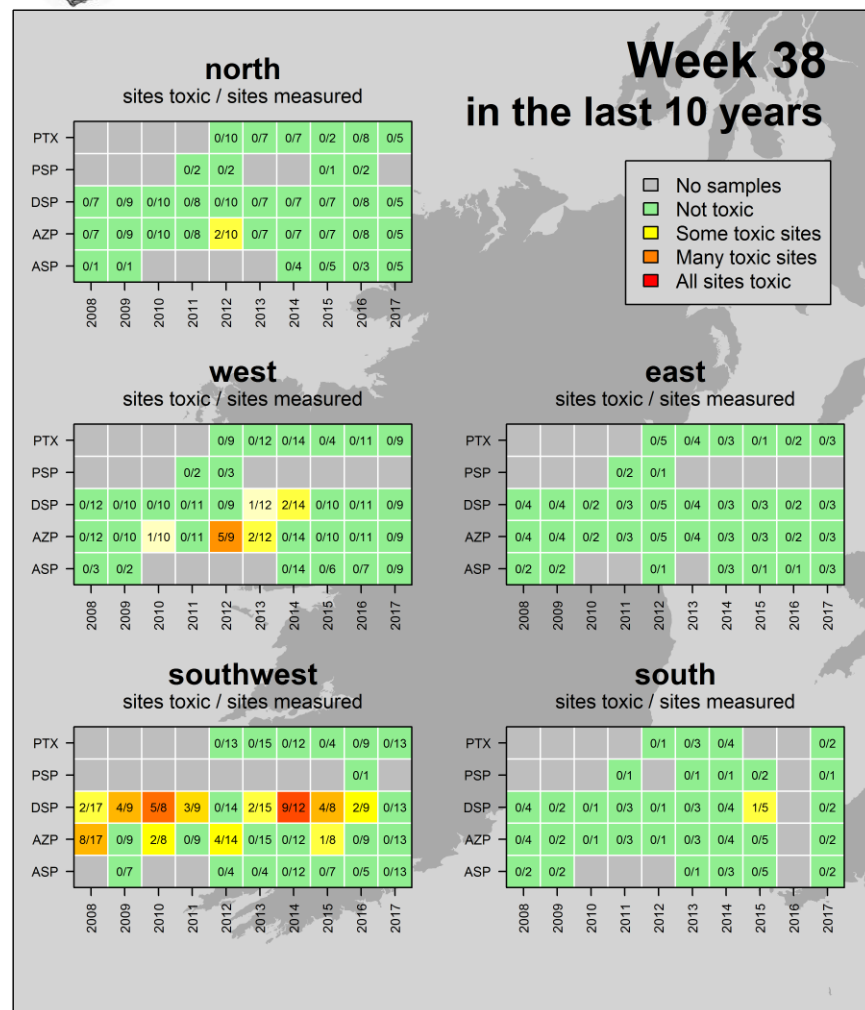
ASP



PSP



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



ASP events: mid-March to early May

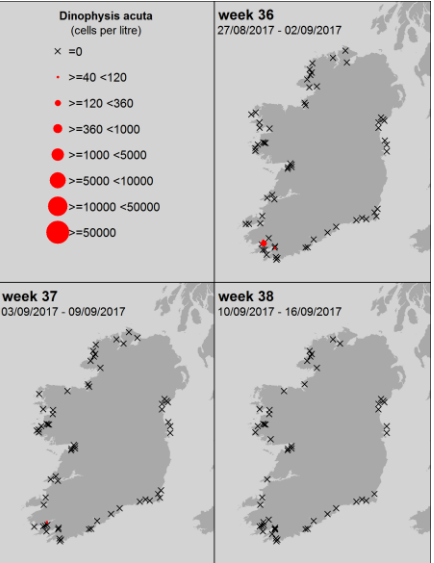
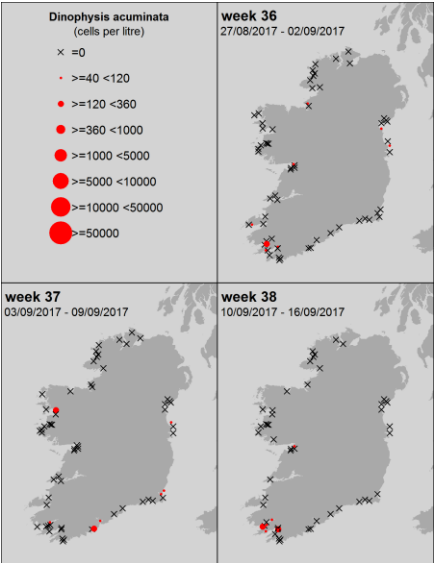
AZP events: April to December

DSP events: May to December

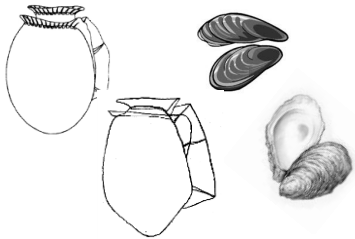
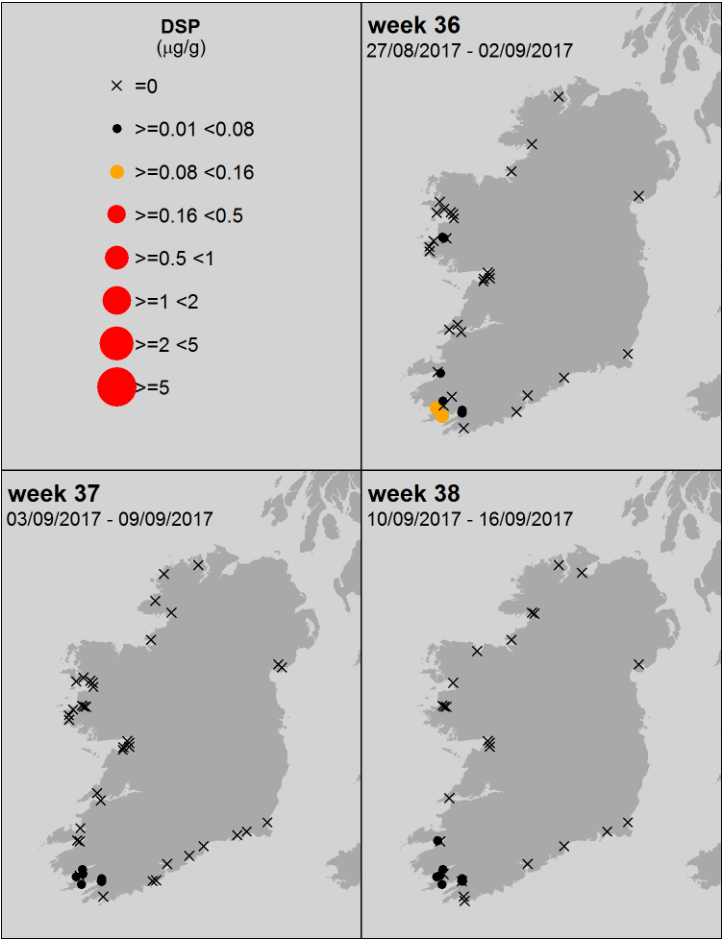
PSP events: June to mid-July and end September; only in Cork Harbour

DSP and Dinophysis sp. current trends

Phytoplankton species – 3 wks.

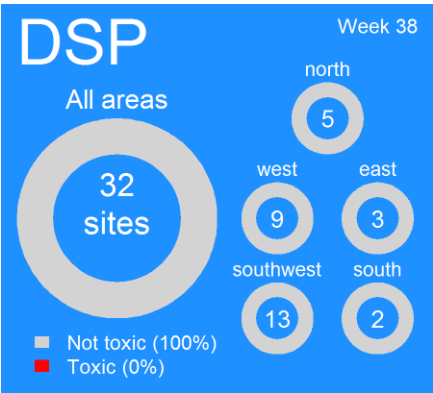


All levels of DSP biotoxin recorded- 3 wks.



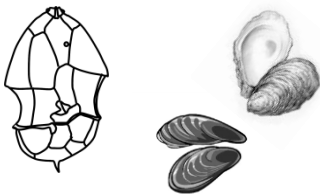
Current closures levels

≥ DSP 0.16 µg/g



Comment – Seasonal issues decreasing in many 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.

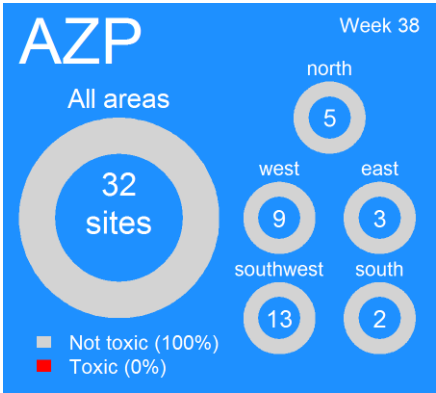
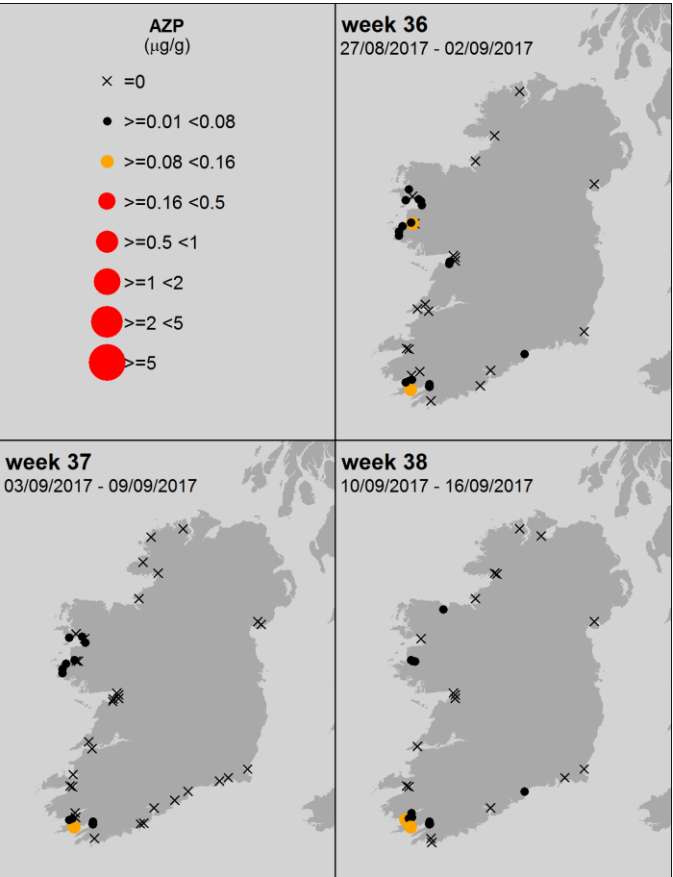
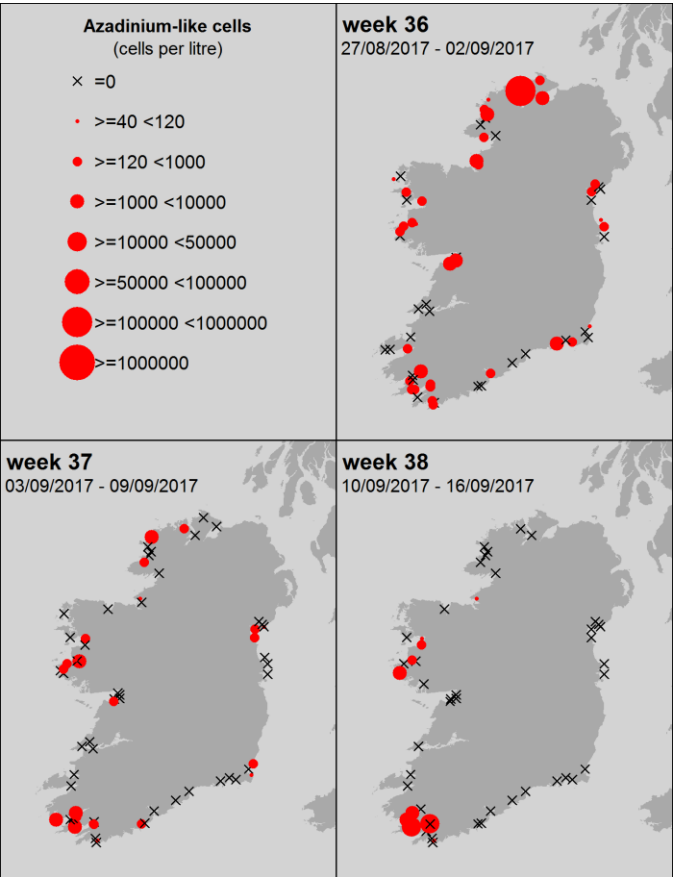
AZP and Azadinium like species current trends



Phytoplankton species – 3 wks.

All levels of AZP biotoxin recorded - 3 wks.

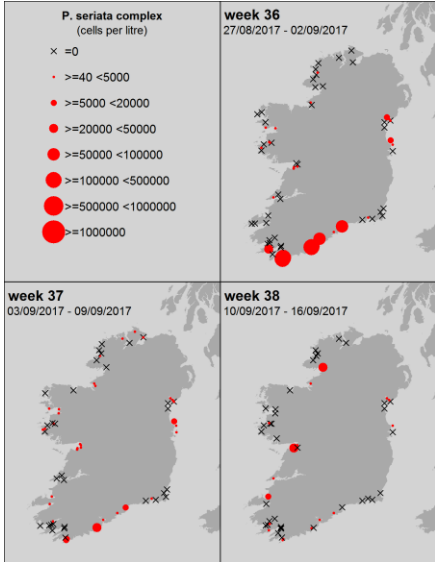
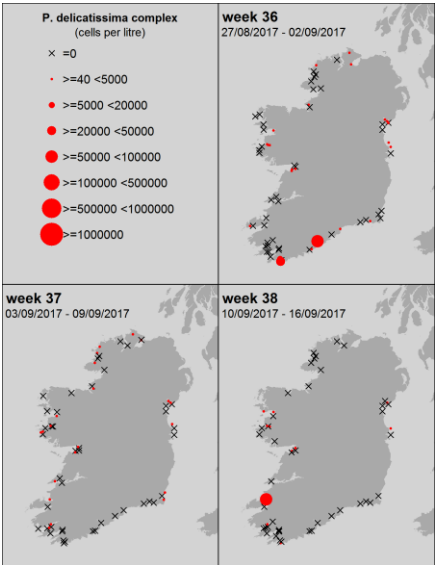
Current closures levels
≥ AZP 0.16 µg/g



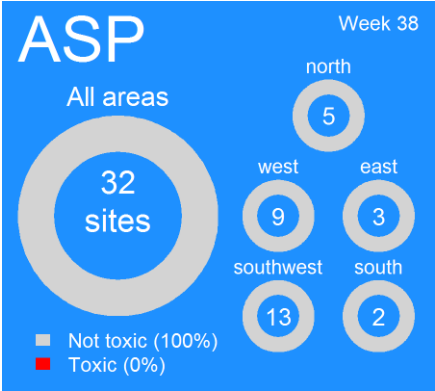
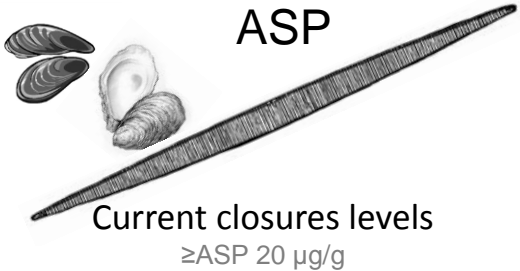
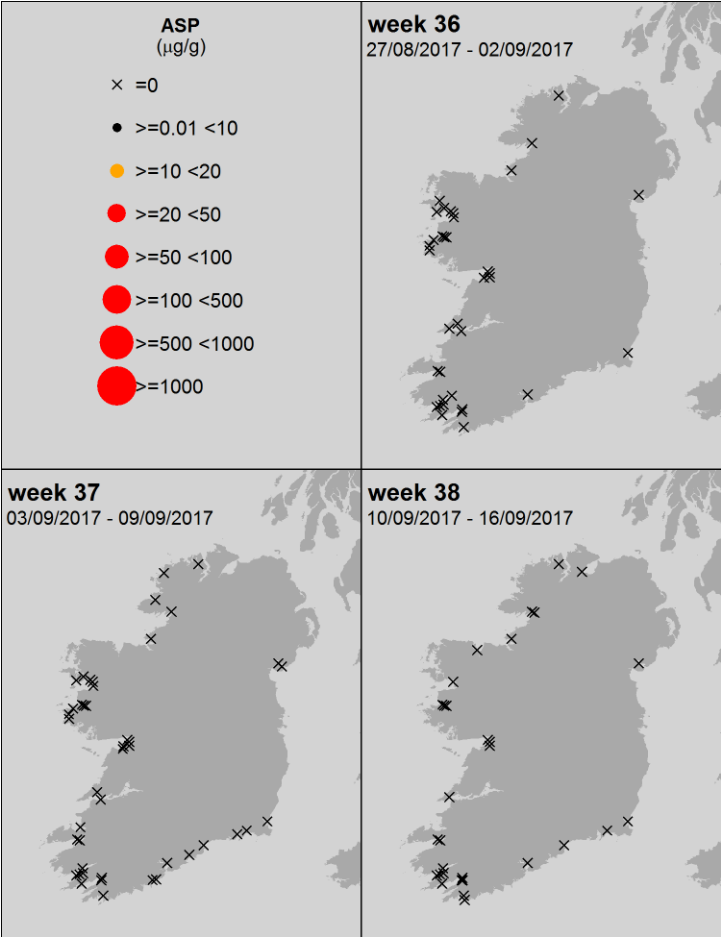
Comments
High levels of caution and observance and testing in affected areas recommended. This species has can rapidly bloom or get transport into bay areas at bloom levels. Such transport conditions are typical at this time of year- sudden acute issues possible.

ASP and Pseudo nitzschia sp. current trends

Phytoplankton species – 3 wks.



All levels of ASP biotoxin recorded - 3 wks.



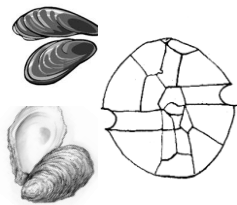
Comments

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.

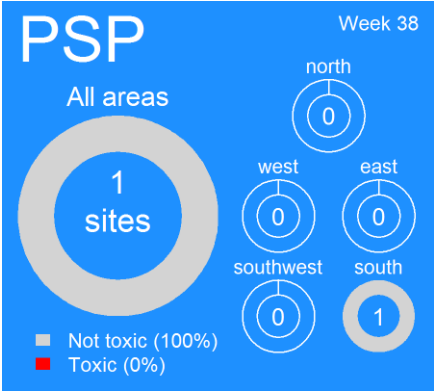
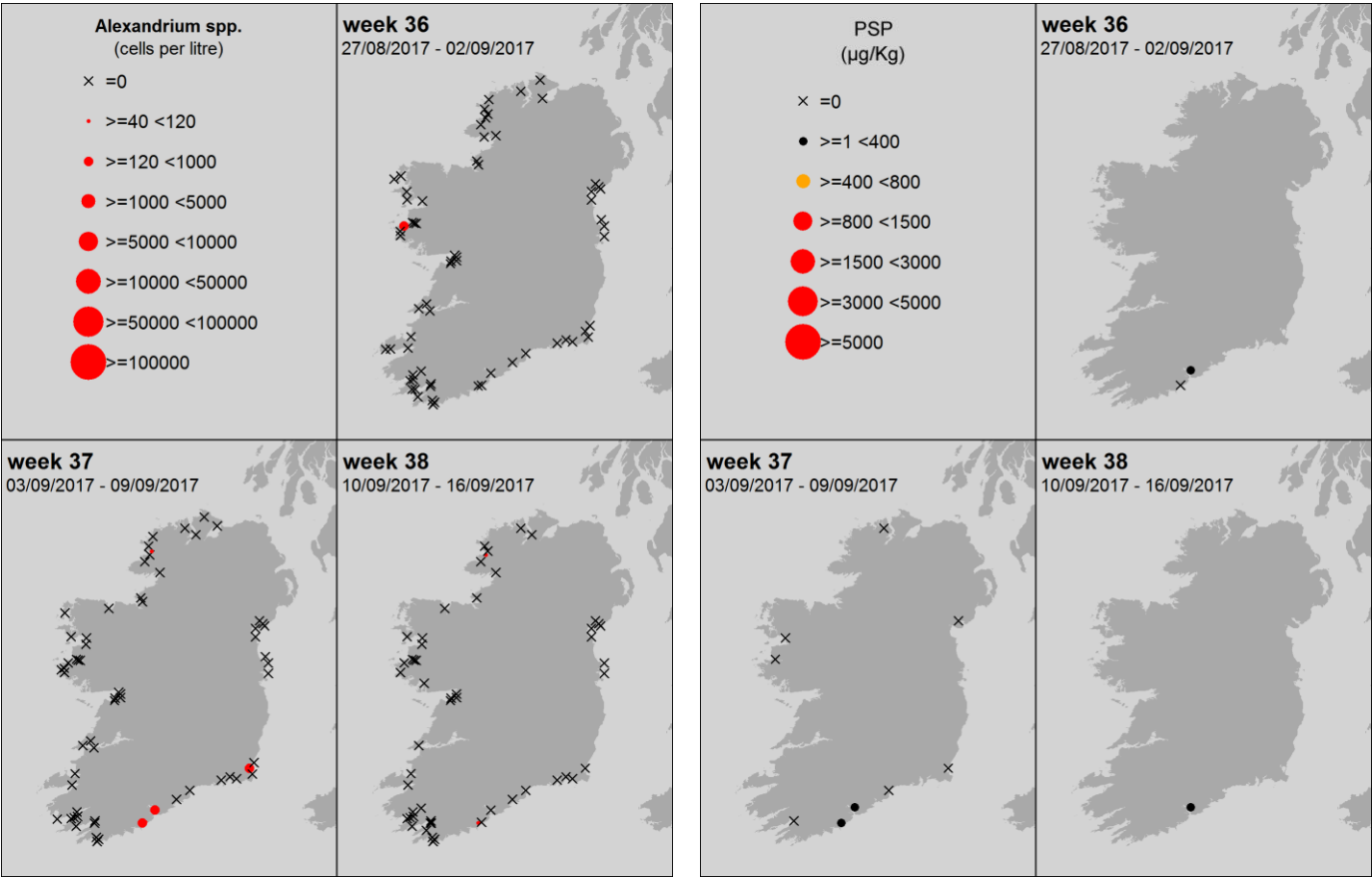
PSP and Alexandrium sp. current trends

Phytoplankton species – 3 wks.

All levels of PSP biotoxin recorded - 3 wks.



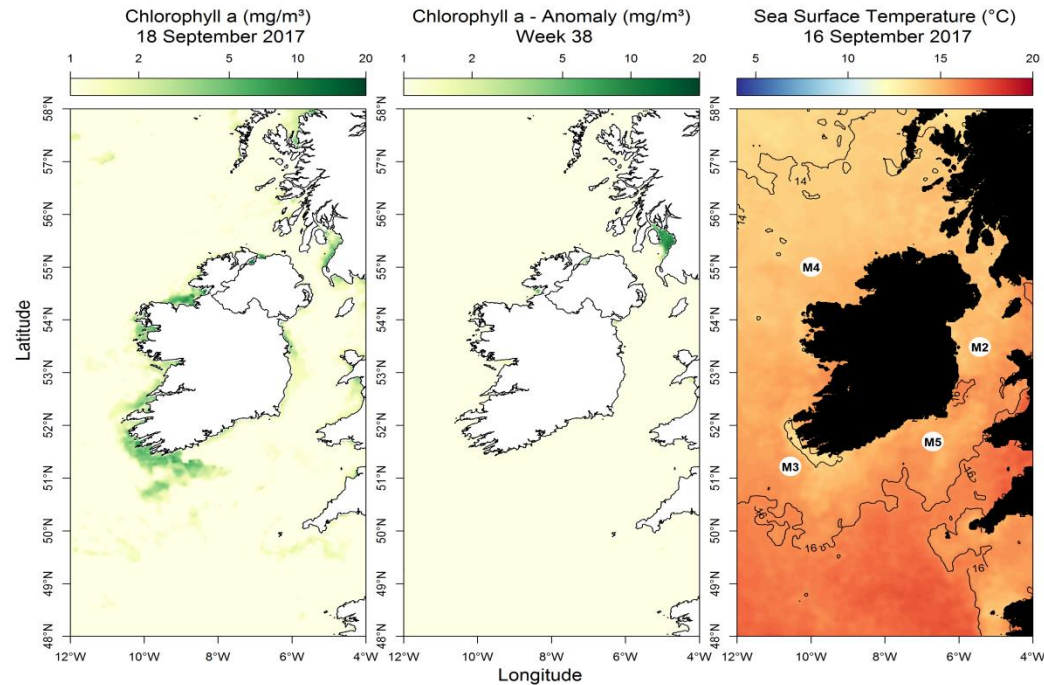
Current closures levels
≥ PSP 800 µg/Kg



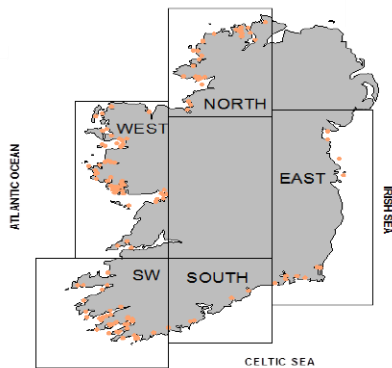
Comments

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



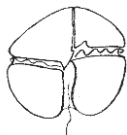
Western and Southern coastal areas indicating moderate chlorophyll levels with diatoms dominating recorded related sample results.



NW coast (M4) Below average by 0.65°C wk37
SW coast (M3) Unavailable
SE coast (M5) Below average by 0.19°C wk37

What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1	east	Prorocentrum minimum	40000
2	east	Centric Diatom	40000
3	east	Pennate diatom	15000
4	east	Leptocylindrus danicus	13000
5	east	Cylindrotheca closterium/ Nitzschia longissima	10000
1	north	Asterionellopsis glacialis	3882000
2	north	Chaetoceros (Hyalochaete) spp.	77000
3	north	Pseudo-nitzschia seriata complex	24000
4	north	Skeletonema spp.	18000
5	north	Cylindrotheca closterium/ Nitzschia longissima	16000
1	south	Leptocylindrus minimus	669000
2	south	Euglena/Eutreptiella spp.	3000
3	south	Skeletonema spp.	3000
4	south	Pennate diatom	3000
5	south	Cylindrotheca closterium/ Nitzschia longissima	2000
1	southwest	Microflagellate spp. <10um	853000
2	southwest	Skeletonema spp.	602000
3	southwest	Pseudo-nitzschia delicatissima complex	67000
4	southwest	Glenodinium spp.	39000
5	southwest	Euglena/Eutreptiella spp.	38000
1	west	Chaetoceros (Hyalochaete) spp.	433000
2	west	Skeletonema spp.	116000
3	west	Pennate diatom	66000
4	west	Cylindrotheca closterium/ Nitzschia longissima	25000
5	west	Pseudo-nitzschia seriata complex	21000

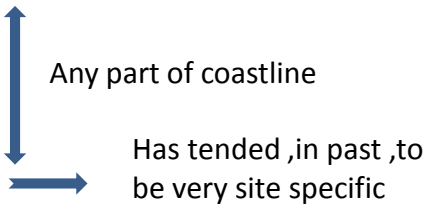


Karenia mikimotoi bloom
warning level – low

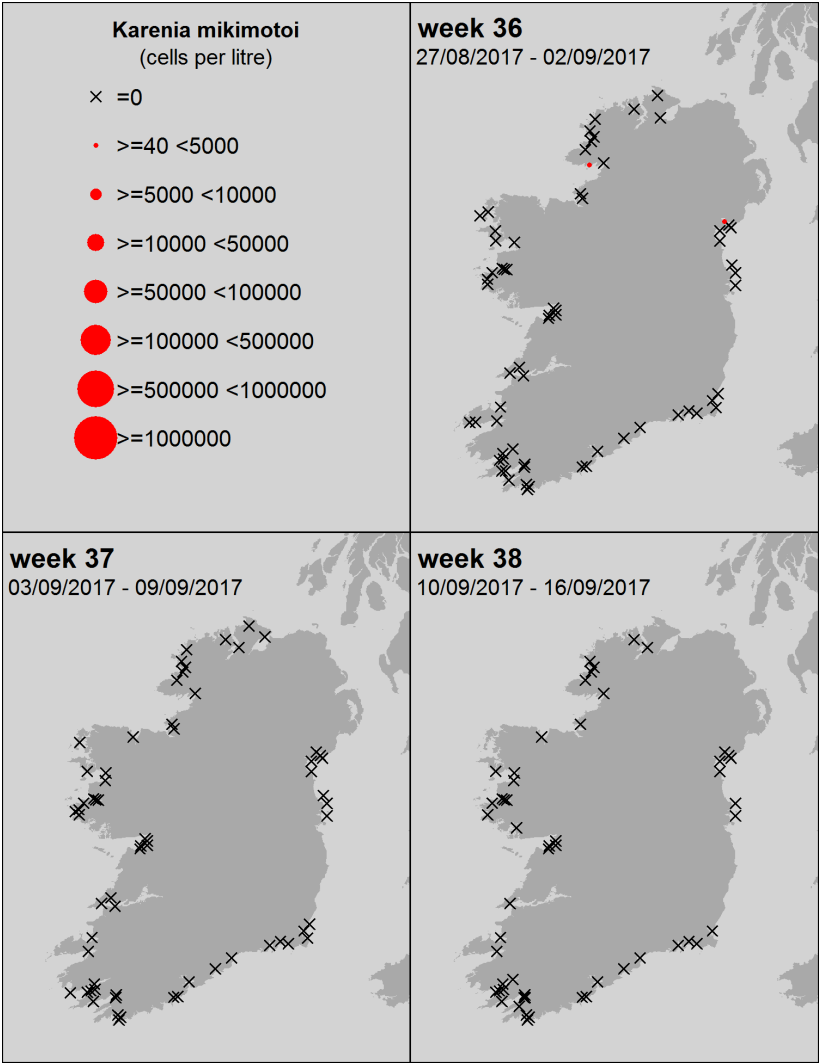
Current general conditions:

Water temperatures and light levels decreasing slowly making the possibility of most bloom species causing an issue less likely.

Karenia mikimotoi
Heterocapsa spp.
Noctiluca scintillans
Alexandrium spp.



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)



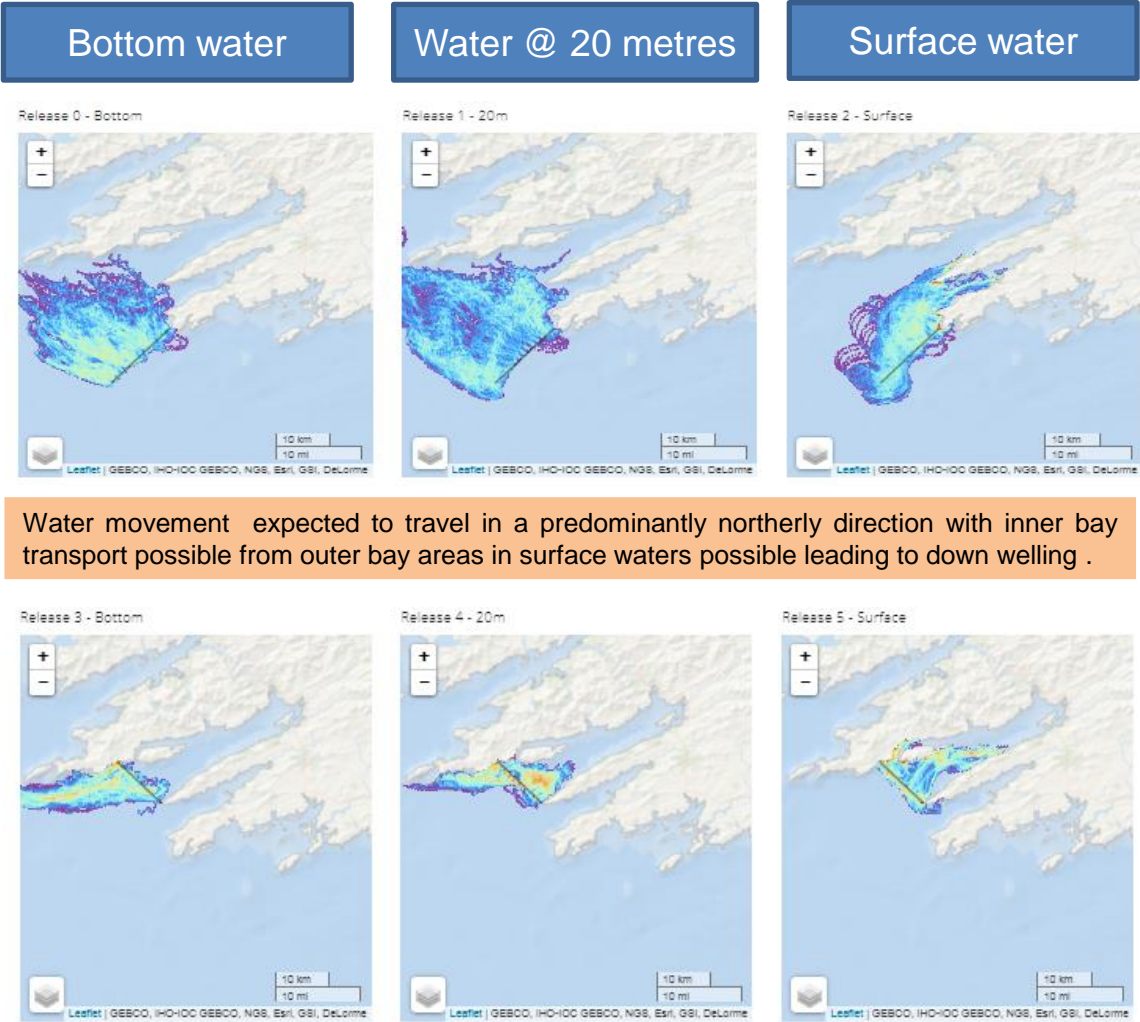
SOUTHWEST: Bantry Bay

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

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



Water movement expected to travel in a predominantly northerly direction with inner bay transport possible from outer bay areas in surface waters possible leading to down welling .

Down welling and inner bay transport possible from surface and mid water depth water movement predictions.

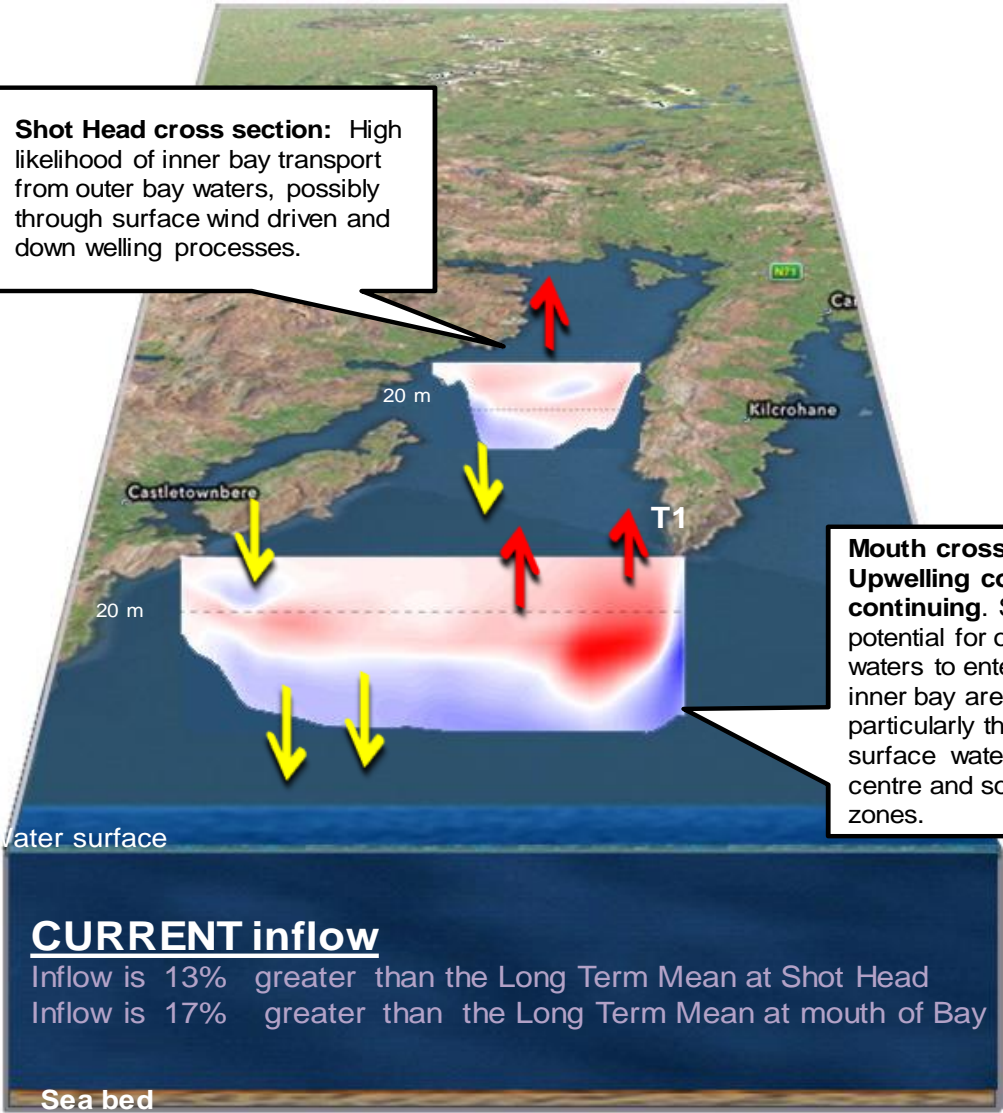
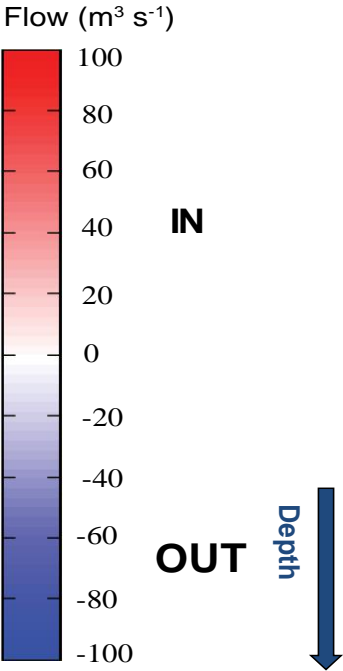
Bantry Bay

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



Forecast for next 3 days

Shot Head cross section: High likelihood of inner bay transport from outer bay waters, possibly through surface wind driven and down welling processes.



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

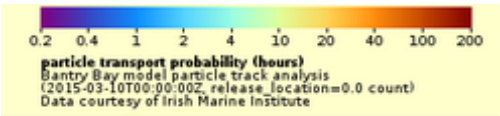
CURRENT inflow

Inflow is 13% greater than the Long Term Mean at Shot Head
Inflow is 17% greater 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)

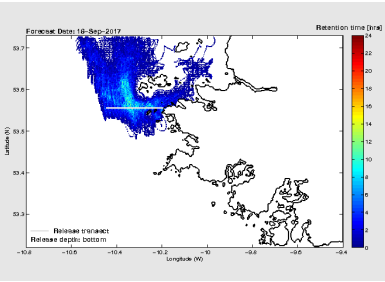
Reddish colours represent areas where phytoplankton remain longest
Cooler colours represent areas where phytoplankton remain for shorter periods



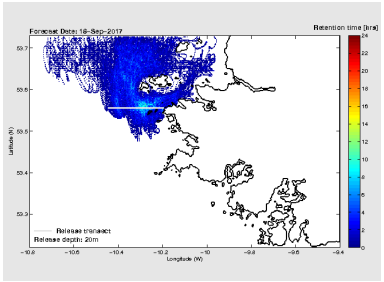
0.2 0.4 1 2 4 10 20 40 100 200
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

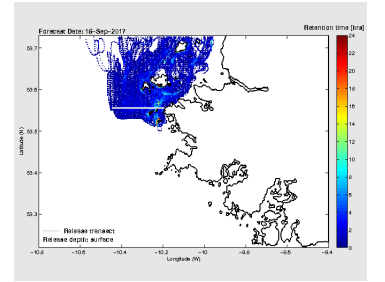
Bottom water



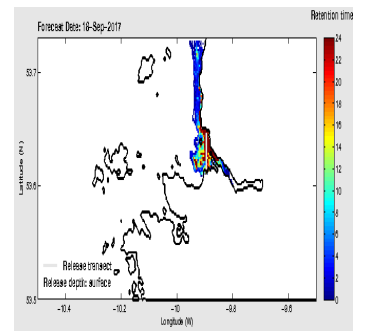
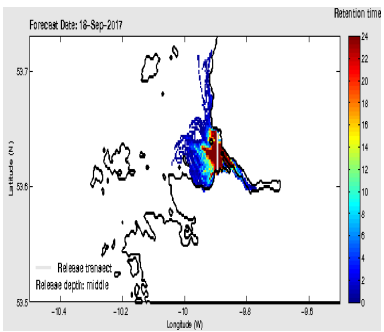
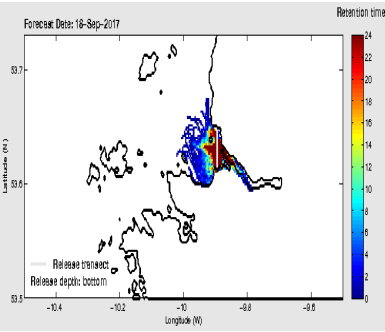
Water @ 20 metres



Surface water



Cleggan
Strong mixing and predominantly northern movement of water expected at all depths allowing for offshore waters reaching near shores areas and getting transported into middle bay areas.



Killary
Moderate potential of intrusions of offshore waters into inner bay areas , particularly in surface waters..

Killary Harbour

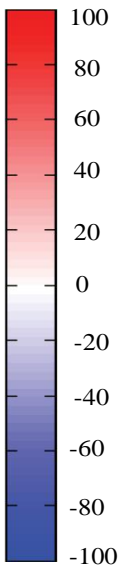
3 day estimated water flows at the mouth of Killary Harbour



Forecast for next 3 days

Killary Harbour Mouth cross section: Moderate upwelling and transport conditions possible allowing offshore waters into inner bay areas.

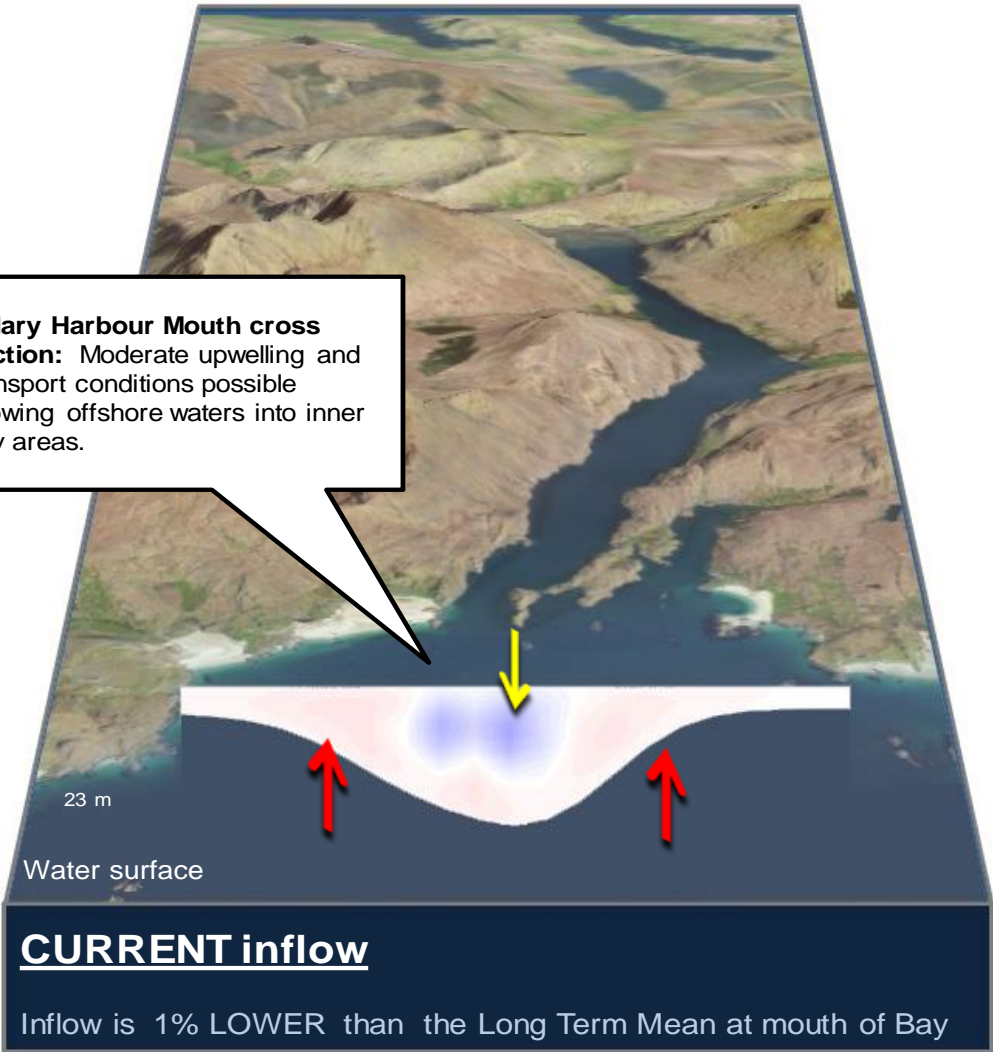
Flow ($\text{m}^3 \text{s}^{-1}$)



IN

OUT

Depth



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



Forecast for next 3 days

Cleggan section: Strong dominant well mixed northerly water movement in offshore areas but with counter directional movements in some areas.

