

Ireland: Predictions

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

NMP Current closures			
ASP	AZP	DSP	PSP
0	0	0	0

ASP: No immediate issues indicated - 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: Continued **High caution level** is still advised with this difficult species. Current seasonal impact may rise during onshore water transport conditions in any area. 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 in sites currently affected*- Low toxicity issues in general, but there is still the possibility of short term peaks at this seasonal transitional period. Cell levels continuing to decrease would be the expected trend with toxicity issue sites being dependant on sufficient levels of non toxic phytoplankton to depurate completely. However, all sites should continue to insure best sampling practices and obtaining the most recent results available.

PSP: Continued 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.

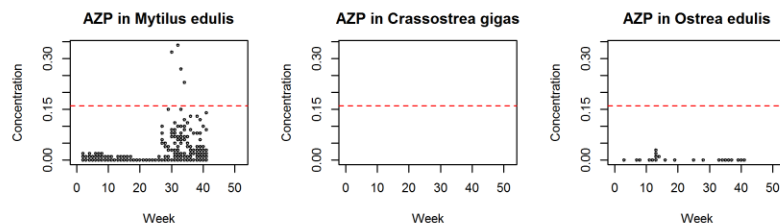
Blooms: **No current significant issues recorded but Noctiluca sp at low levels in background.** Any unusual water discoloration should be noted and regional labs contacted if concerned /regarding possible need for additional sampling. All feedback is welcome at Joe.Silke@Marine.ie .

National Monitoring Programme

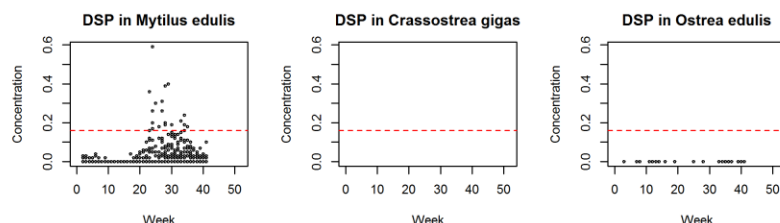


HISTORIC TRENDS

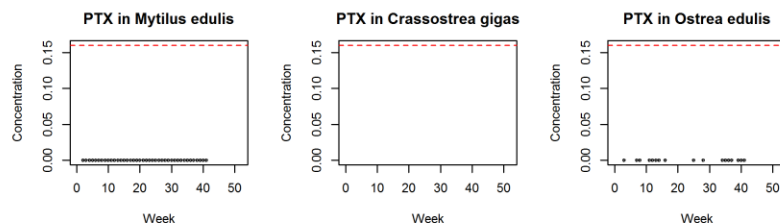
AZP



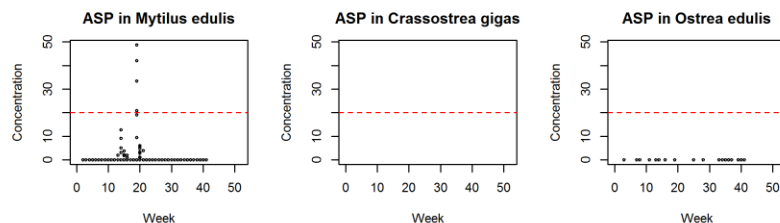
DSP



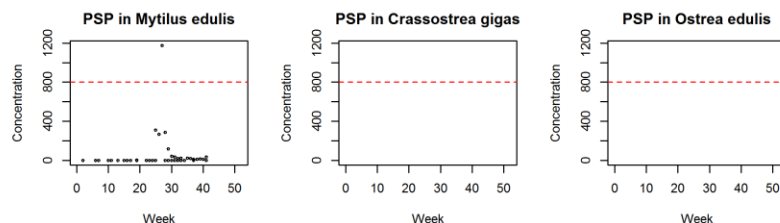
PTX



ASP

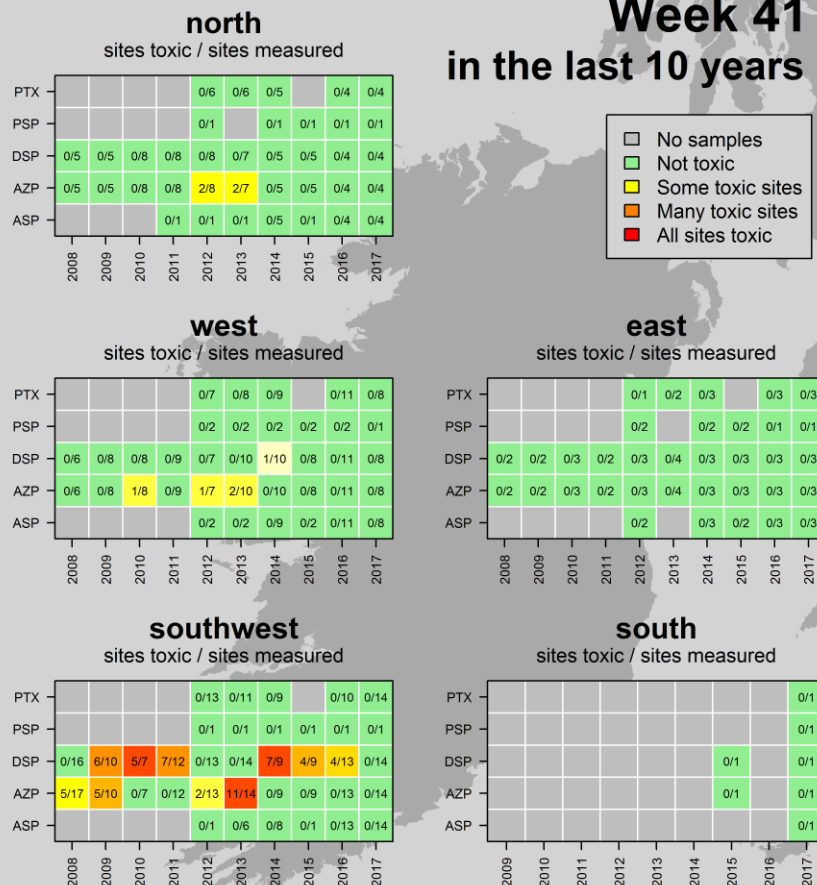


PSP



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

Week 41
in the last 10 years



ASP events: mid-March to early May

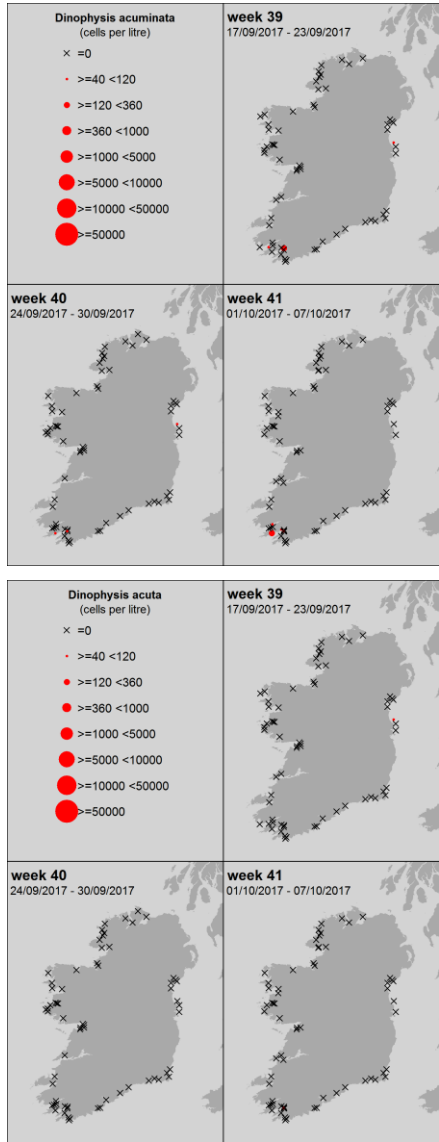
AZP events: April to December

DSP events: May to December

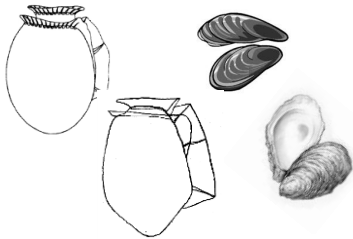
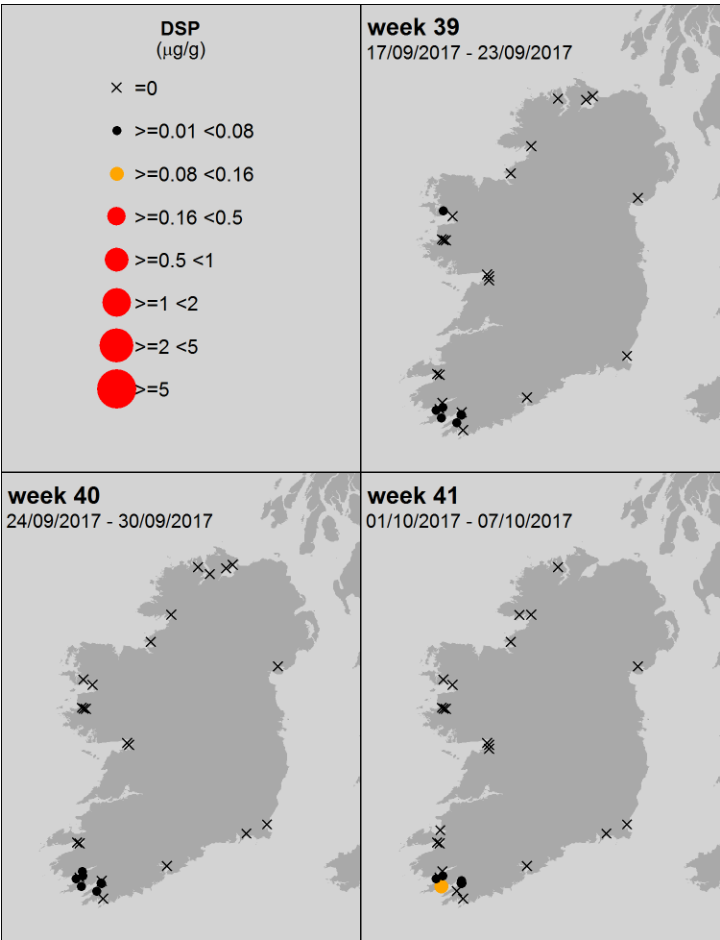
PSP events: June to mid-July and end September; only in Cork Harbour

DSP and Dinophysis sp. current trends

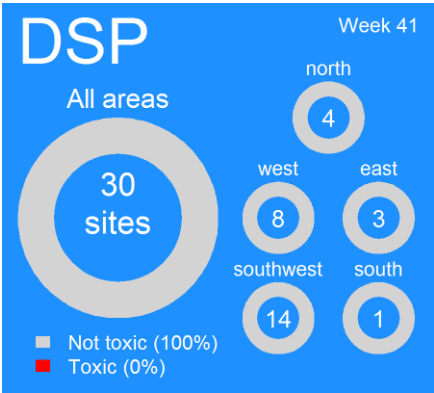
Phytoplankton species – 3 wks.



All levels of DSP biotoxin recorded- 3 wks.

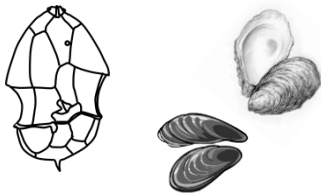


Current closures levels
≥ DSP 0.16 µg/g



Comment – Similar to last week - Residual toxin issues , at low levels , still persisting in specific areas. While it would be expected, based on long term trends, that Dinophysis species should not be increasing in cell levels, toxic events still occur at this time of year.

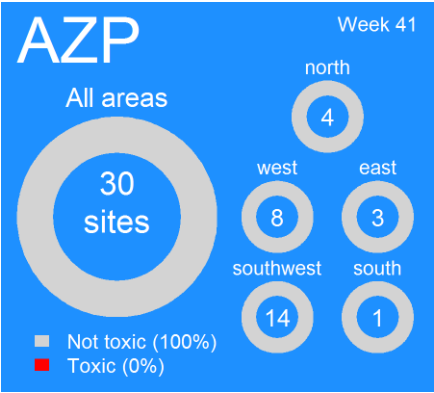
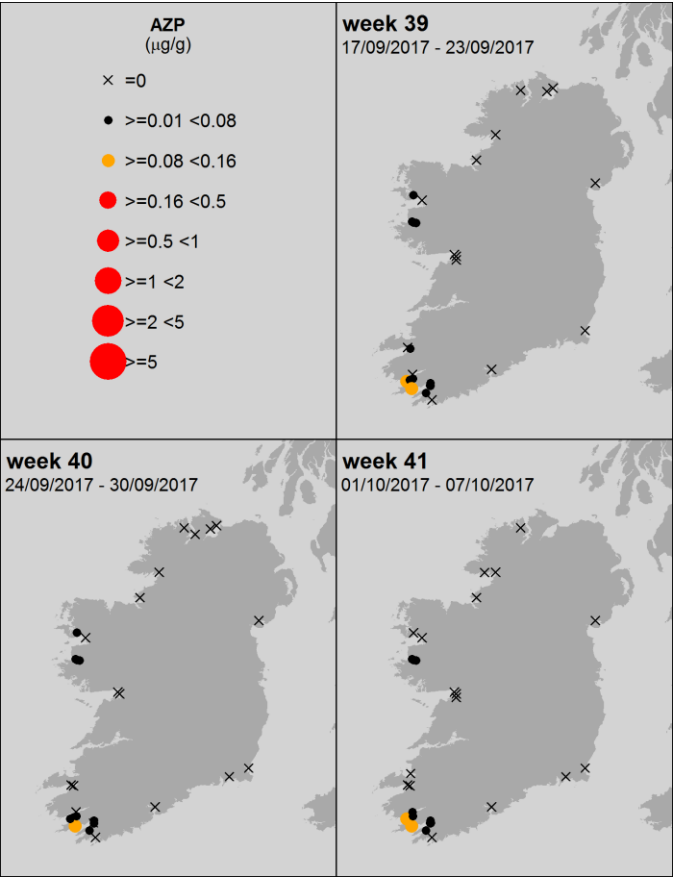
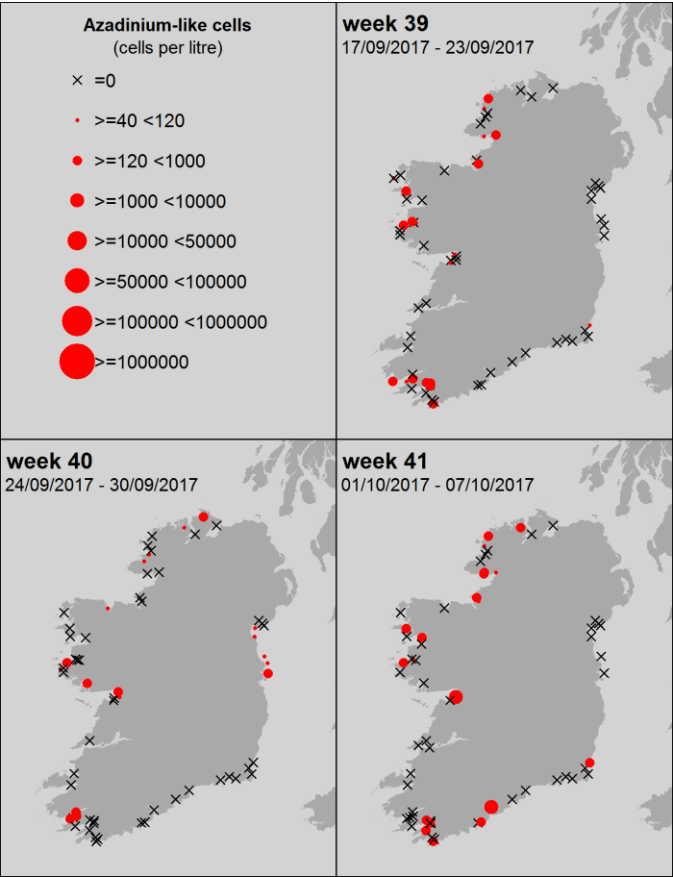
AZP and Azadinium like species current trends



Phytoplankton species – 3 wks.

All levels of AZP biotoxin recorded - 3 wks.

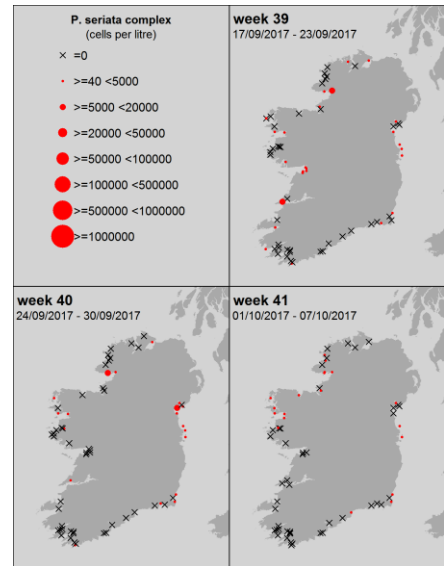
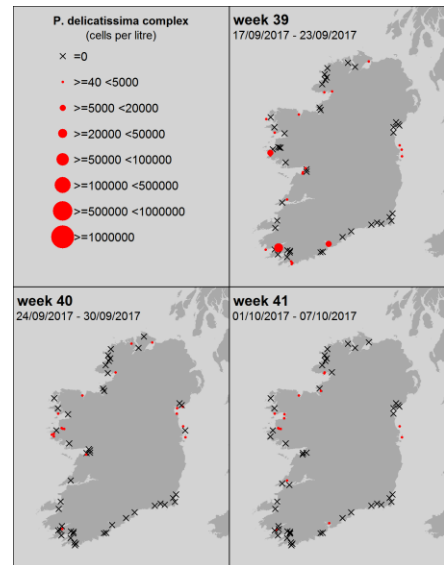
Current closures levels
≥ AZP 0.16 µg/g



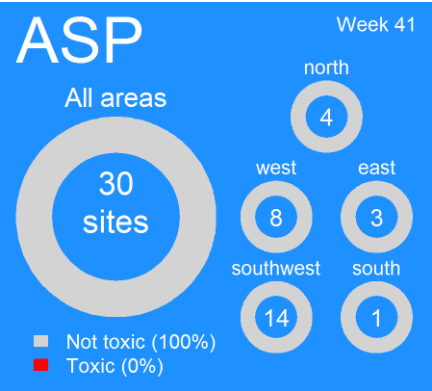
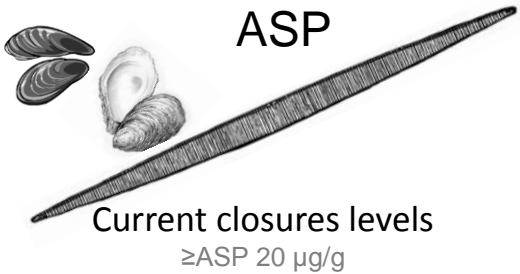
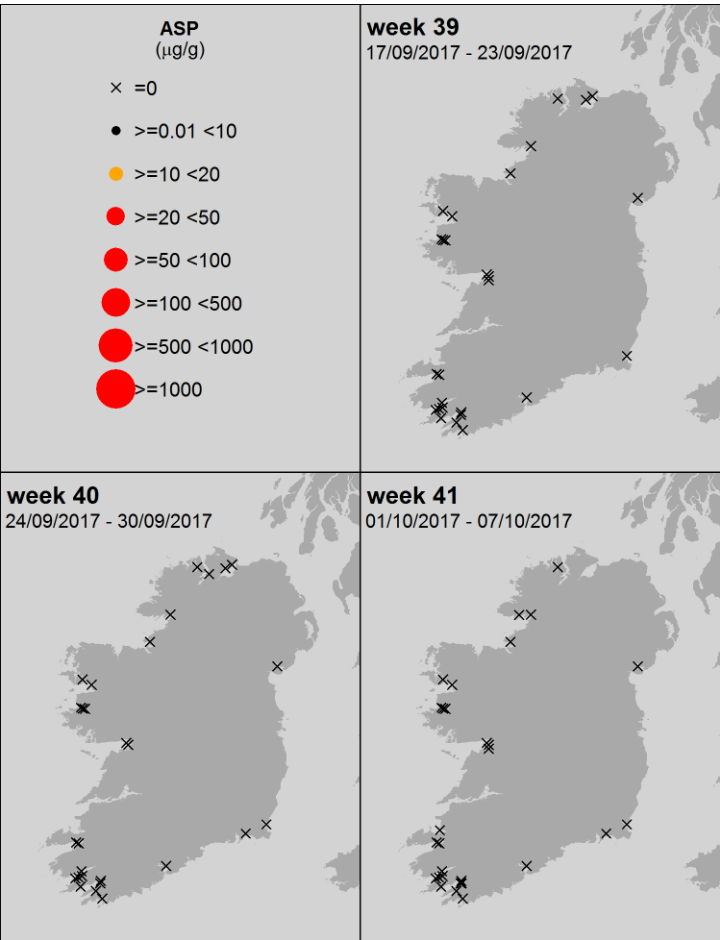
Comments
Continued high levels of caution and observance and testing in affected areas recommended. This species has can rapidly bloom or get transport into bay areas at bloom levels. Such transport conditions are typical at this time of year- sudden acute issues possible.

ASP and Pseudo nitzschia sp. current trends

Phytoplankton species – 3 wks.



All levels of ASP biotoxin recorded - 3 wks.



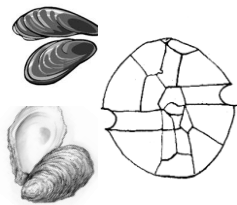
Comments

Similar to last week - 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.

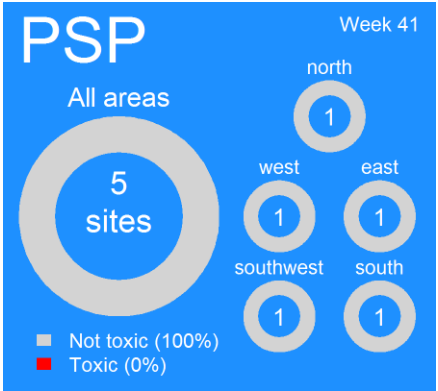
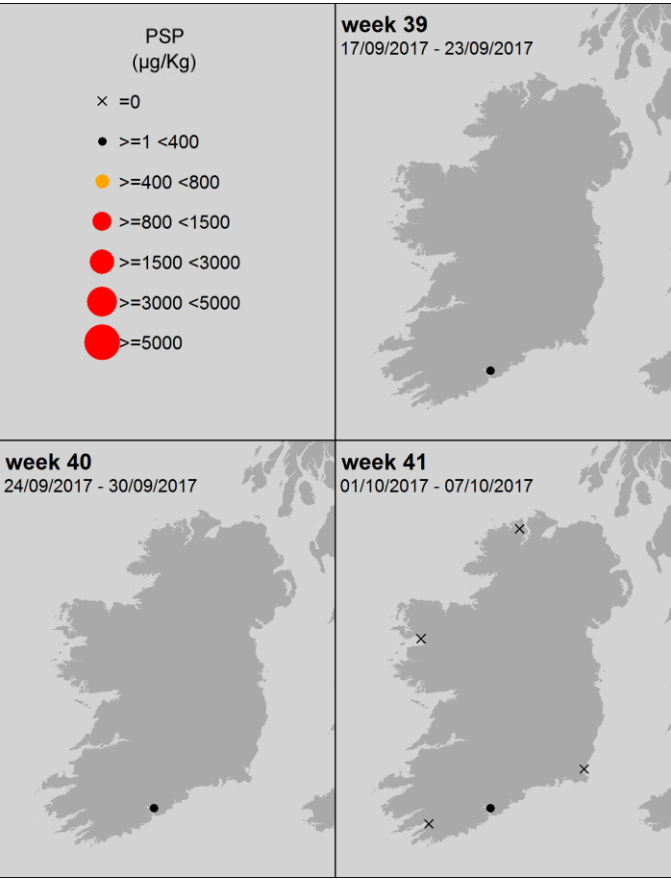
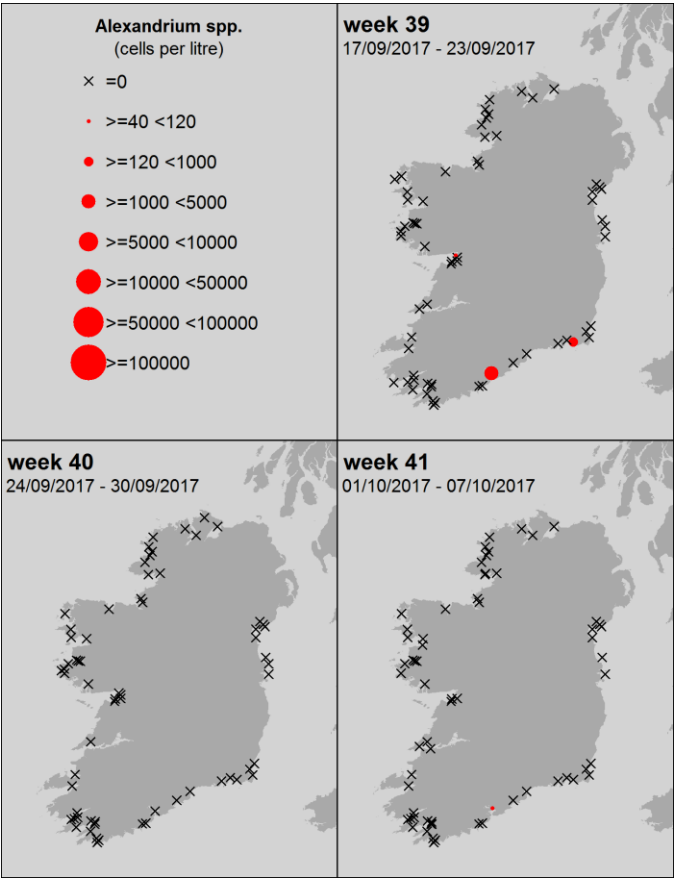
PSP and Alexandrium sp. current trends

Phytoplankton species – 3 wks.

All levels of PSP biotoxin recorded - 3 wks.



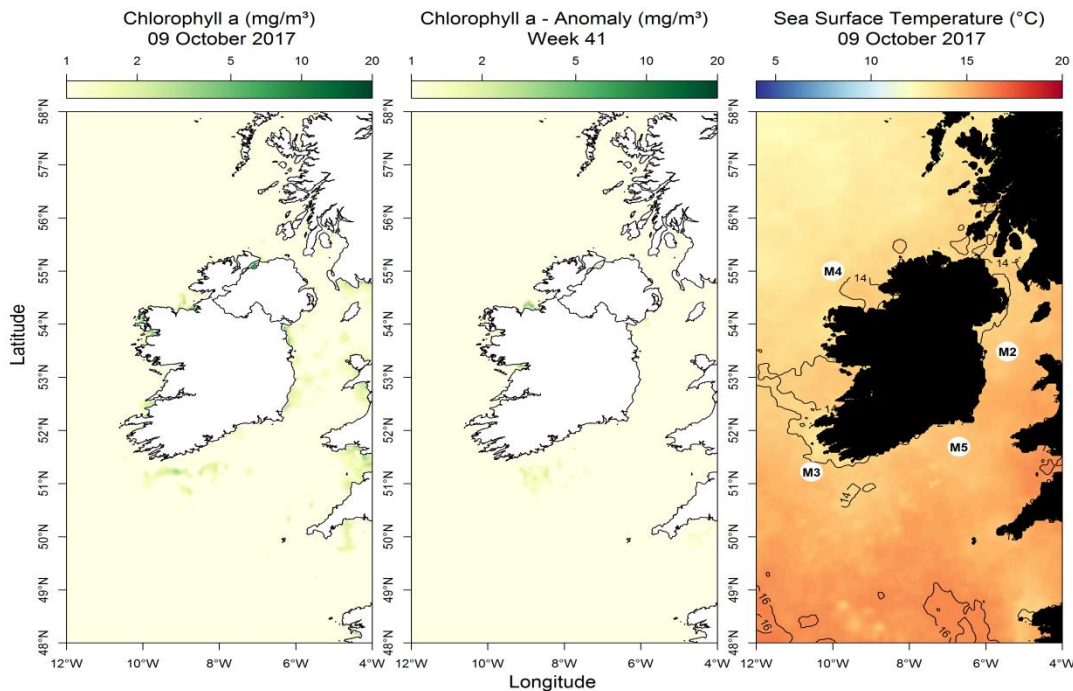
Current closures levels
≥ PSP 800 µg/Kg



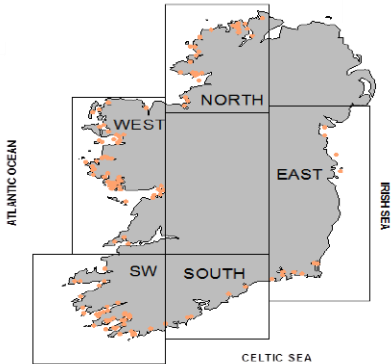
Comments

Environmental conditions not indicated as suitable to allow this species to achieve sufficient cell levels to cause issues.

Most up to date available satellite data



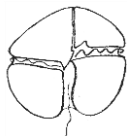
No significant potential additional growth indicated.
Diatoms dominating recorded related sample results.



NW coast (M4) Below average by 0.72°C wk40
SW coast (M3) Below average by 0.03°C wk40
SE coast (M5) Below average by 0.17°C wk40

What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
5	east	Prorocentrum minimum	22000
4	east	Centric Diatom	47000
3	east	Pennate diatom	79000
2	east	Heterocapsa triquetra	100000
1	east	Raphidophytes	1917000
5	north	Chaetoceros (Hyalochaete) spp.	17000
4	north	Rhizosolenia sp	21000
2	north	Pennate diatom	46000
2	north	Microflagellate spp. <10um	46000
1	north	Asterionellopsis glacialis	590000
5	south	Skeletonema spp.	11000
4	south	Bacteriastrium spp.	14000
3	south	Ciliates	16000
2	south	Euglena spp.	72000
1	south	Prymnesiophytes	130000
5	southwest	Haptophytes	22000
4	southwest	Prymnesiophytes	43000
3	southwest	Thalassiosira <20um	46000
2	southwest	Thalassiosira nordenskioldii	52000
1	southwest	Pennate diatom >50um	200000
5	west	Cylindrotheca closterium/ Nitzschia longissima	16000
4	west	Prorocentrum micans	26000
3	west	Chaetoceros (Hyalochaete) spp.	33000
2	west	Skeletonema spp.	39000
1	west	Pennate diatom	81000

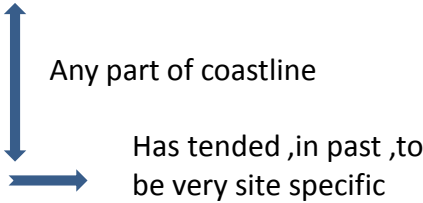


Karenia mikimotoi bloom
warning level – low

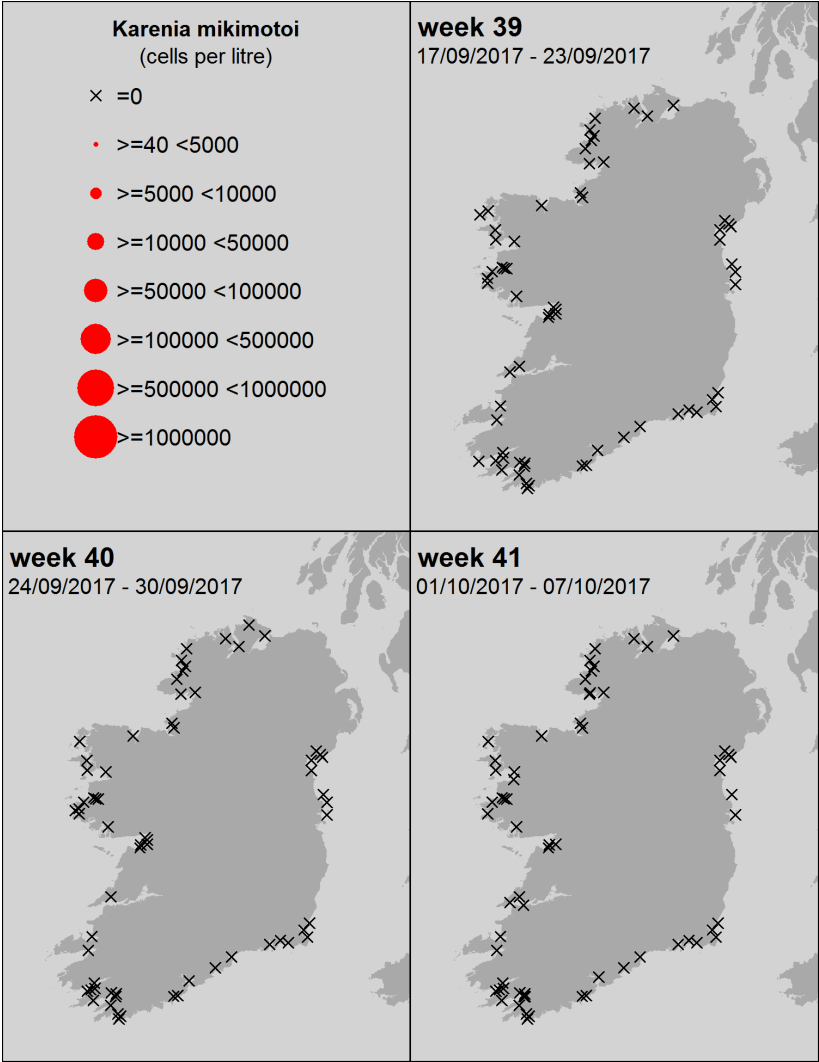
Current general conditions:

Water temperatures and light levels decreasing levels making the possibility of most bloom species causing an issue less likely. Noctiluca species continue to be observed at residual background levels in some sites.

Karenia mikimotoi
Heterocapsa spp.
Noctiluca scintillans
Alexandrium spp.



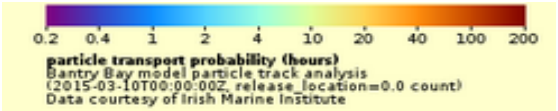
Karenia mikimotoi
(old name: *Gyrodinium aureolum*)



SOUTHWEST: Bantry Bay

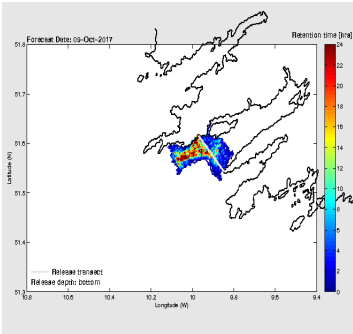
The maps show the **most likely transport pathways for the next 3 days of phytoplankton** found along the **presented transects** (black lines off Mizen Head and the Mouth of Bantry Bay) and **water depths** (bottom, 20 metres and surface)

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

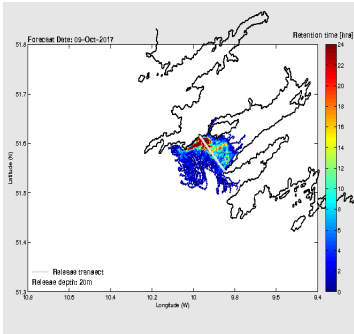


Forecast for the next 3 days

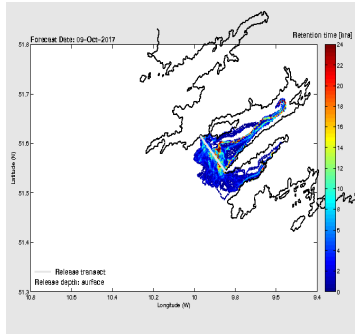
Bottom water



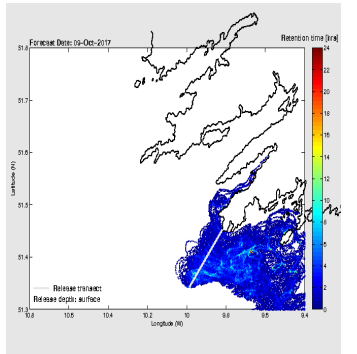
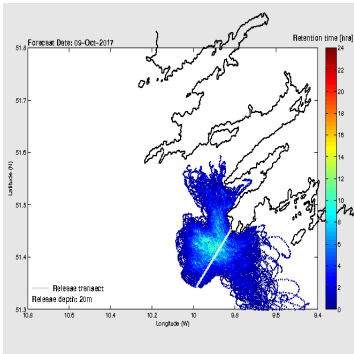
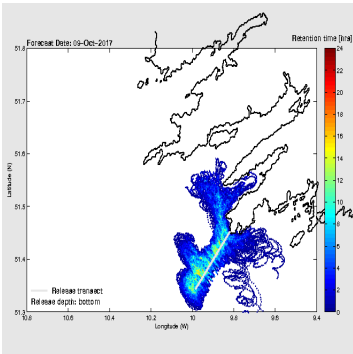
Water @ 20 metres



Surface water



Strong inshore water transportation in surface waters from outer bay areas.



Similar to last week -Off shore waters indication counter movements related to depth. Deeper water indicating Northerly directional movement while surface water indicating southerly directional movement.

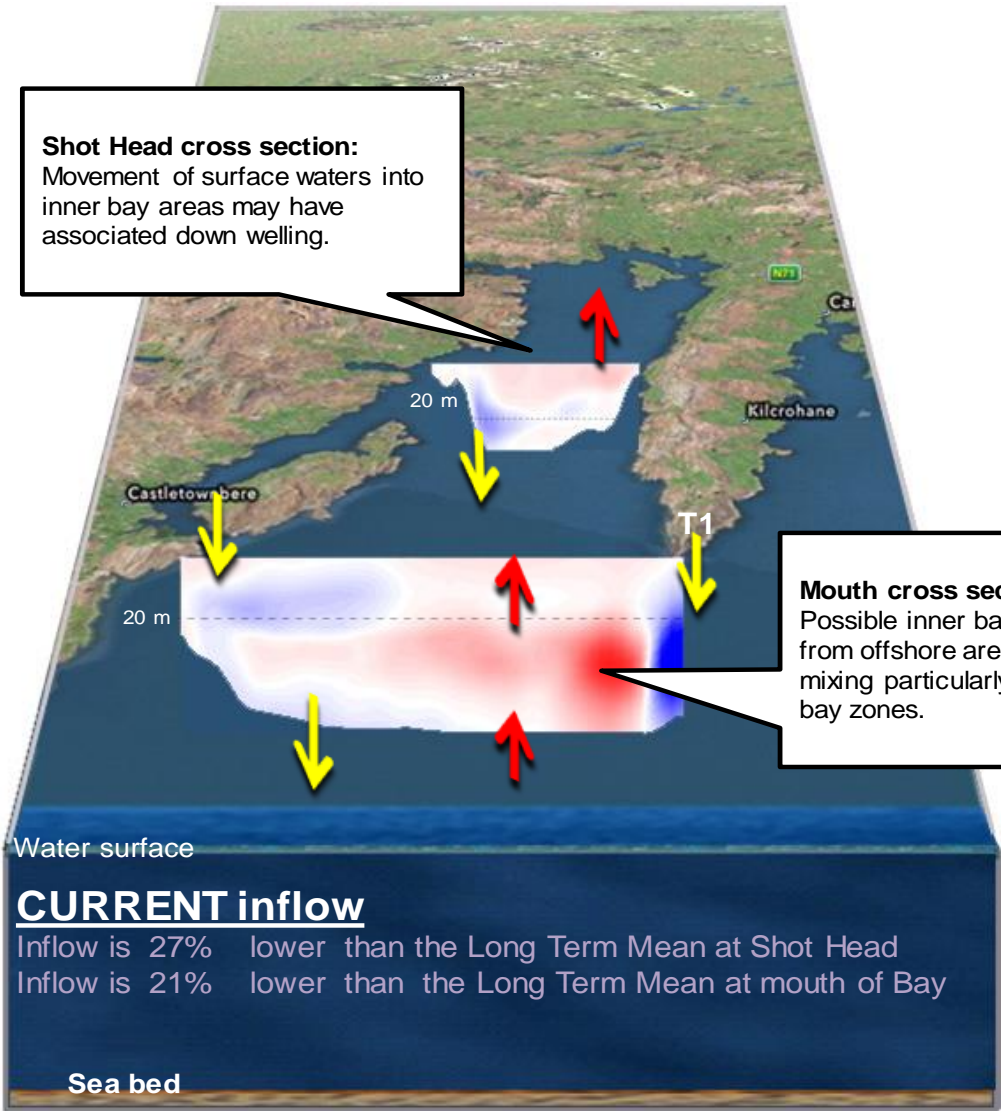
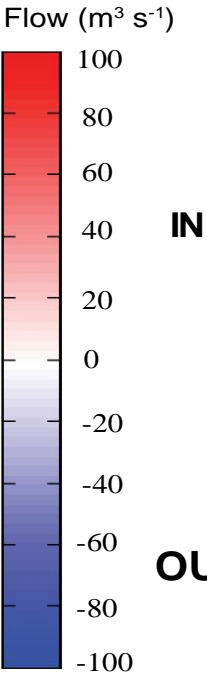
Bantry Bay

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



Forecast for next 3 days

Shot Head cross section:
Movement of surface waters into inner bay areas may have associated down welling.



Mouth cross section:
Possible inner bay transport from offshore areas and mixing particularly in central bay zones.

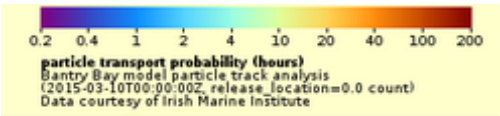
CURRENT inflow

Inflow is 27% lower than the Long Term Mean at Shot Head
Inflow is 21% 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)

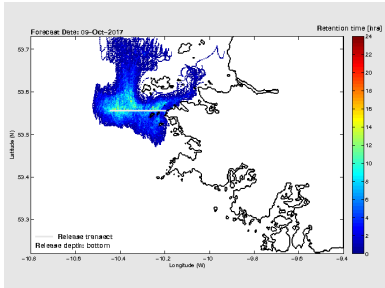
Reddish colours represent areas where phytoplankton remain longest
Cooler colours represent areas where phytoplankton remain for shorter periods



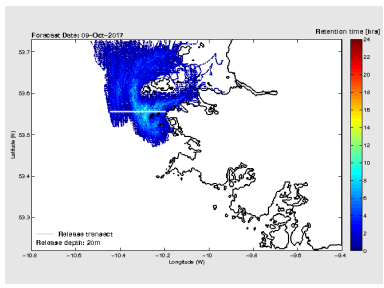
0.2 0.4 1 2 4 10 20 40 100 200
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

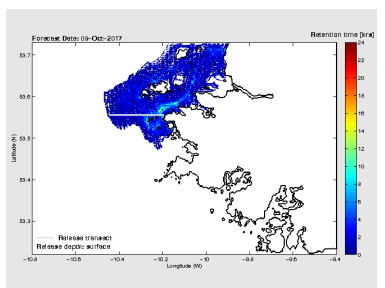
Bottom water



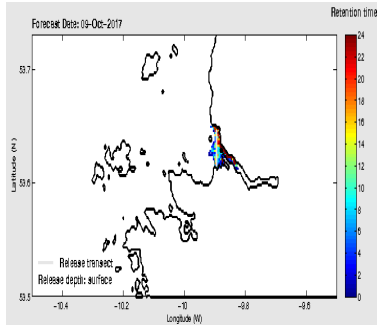
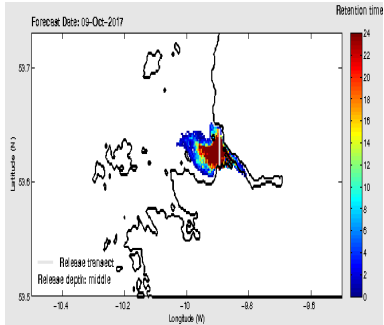
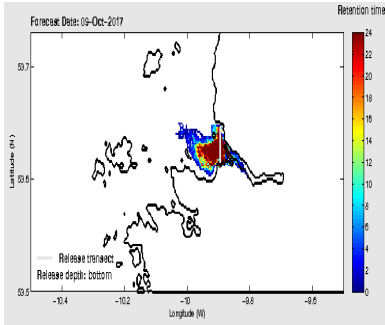
Water @ 20 metres



Surface water



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



Killary
Low water movement in bay mouth area with only moderate to low potential of strong inshore transportation.

Killary Harbour

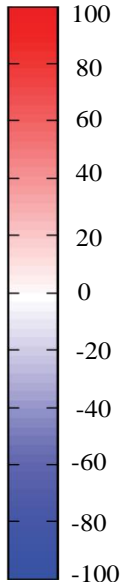
3 day estimated water flows at the mouth of Killary Harbour



Forecast for next 3 days

Killary Harbour Mouth cross section: Similar to last week with moderate inflows at all depths skirting bay sides and outflows centre in mid bay areas.

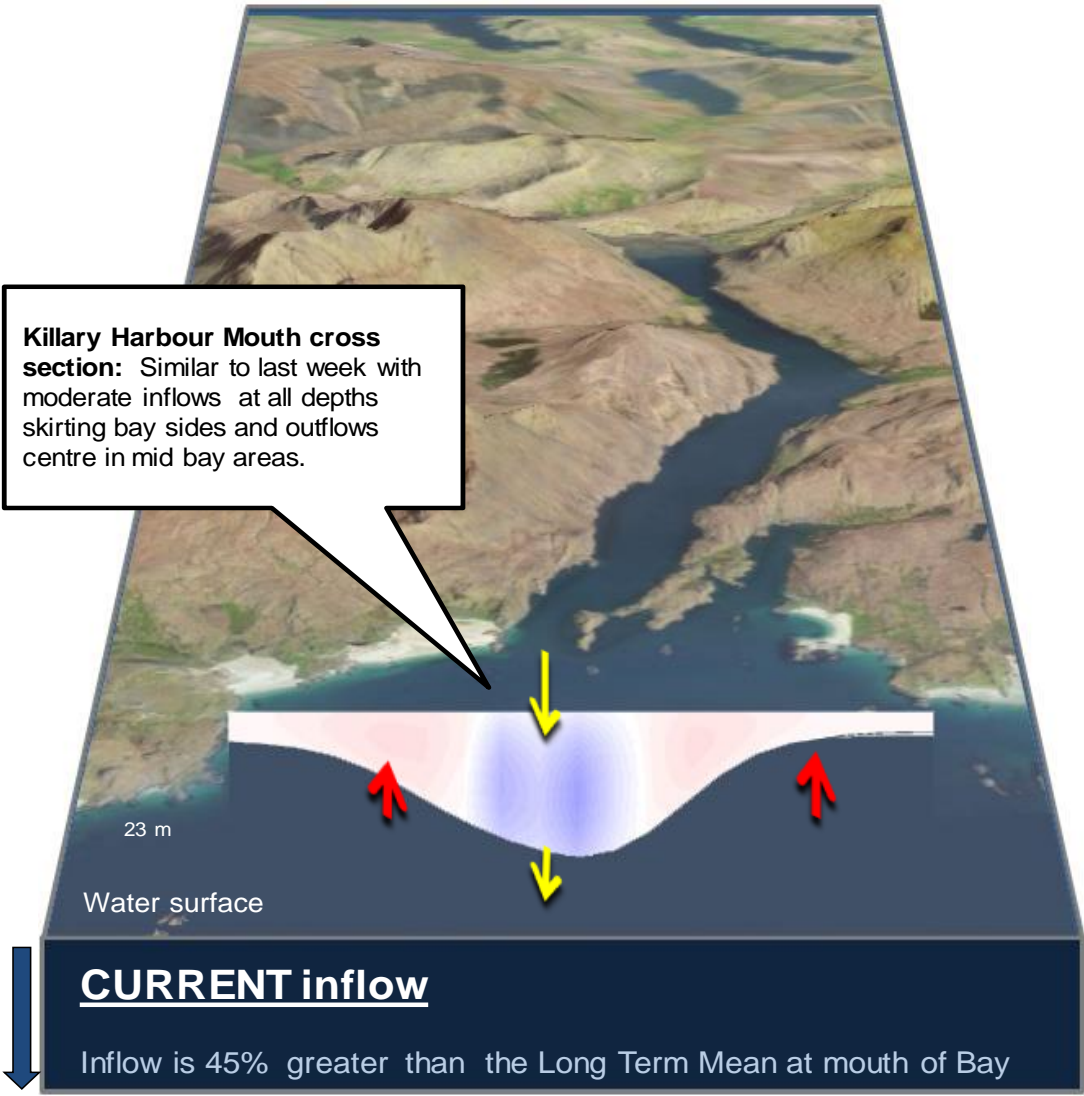
Flow ($\text{m}^3 \text{s}^{-1}$)



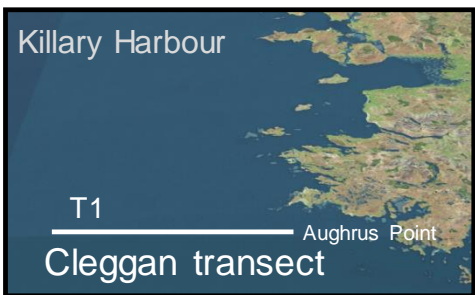
IN

OUT

Depth



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



Forecast for next 3 days

