

Ireland: Predictions

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

NMP Current closures			
ASP	AZP	DSP	PSP
0	0	0	0

ASP: No change and 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: *Low, except in SW, caution level in sites currently affected-* Steady pattern similar to last week - 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.

PSP: Continued low caution only advised, mainly in historically affected sites (S) . Current weather conditions and patterns are not favourable for bloom issues and would not be likely to become so this late in the growing season.

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

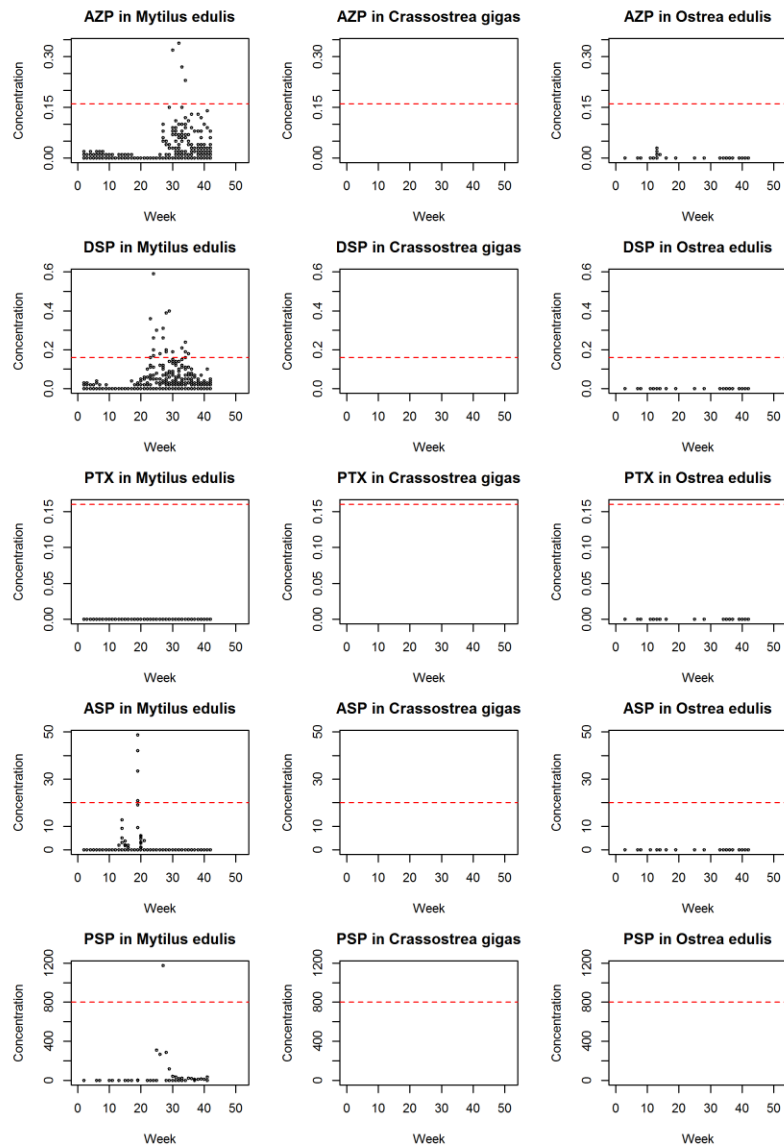
AZP

DSP

PTX

ASP

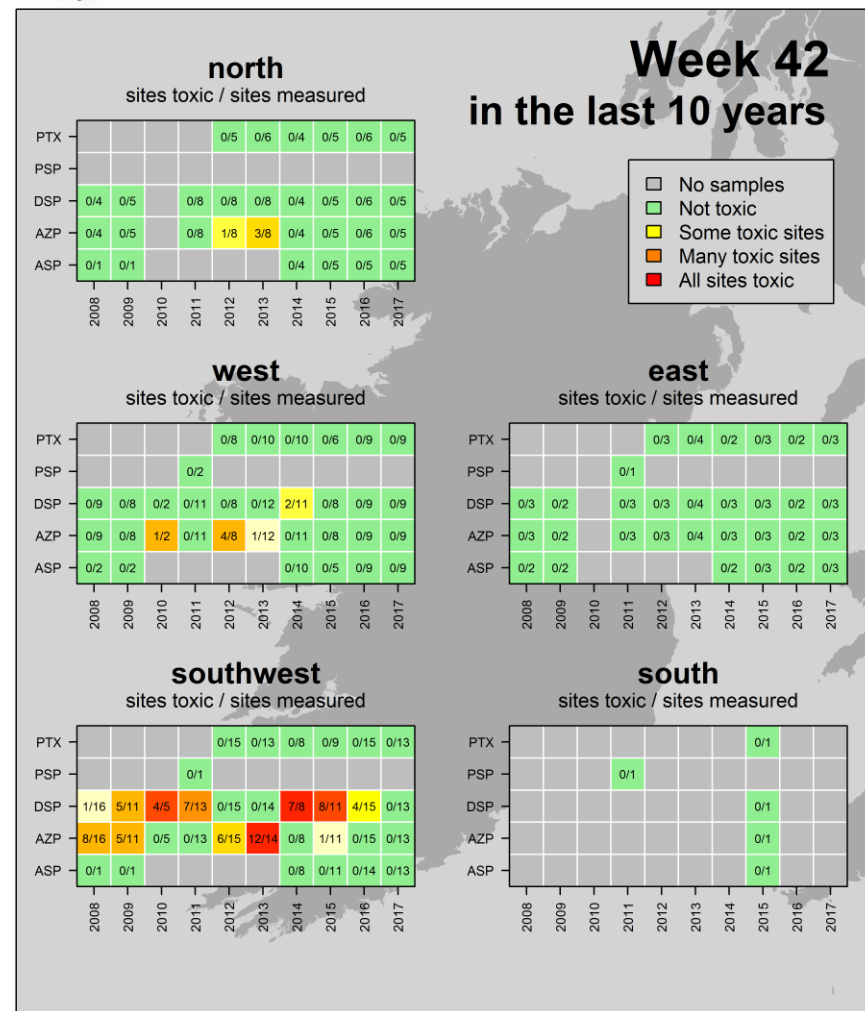
PSP



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



HISTORIC TRENDS



ASP events: mid-March to early May

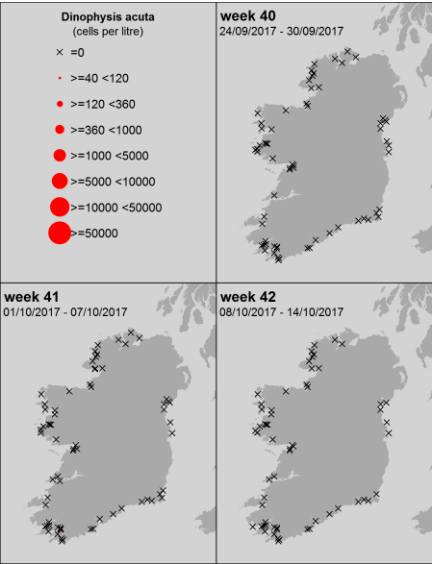
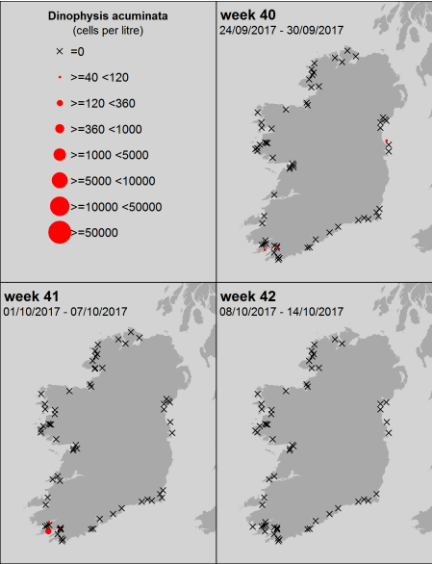
AZP events: April to December

DSP events: May to December

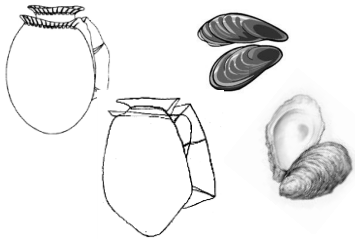
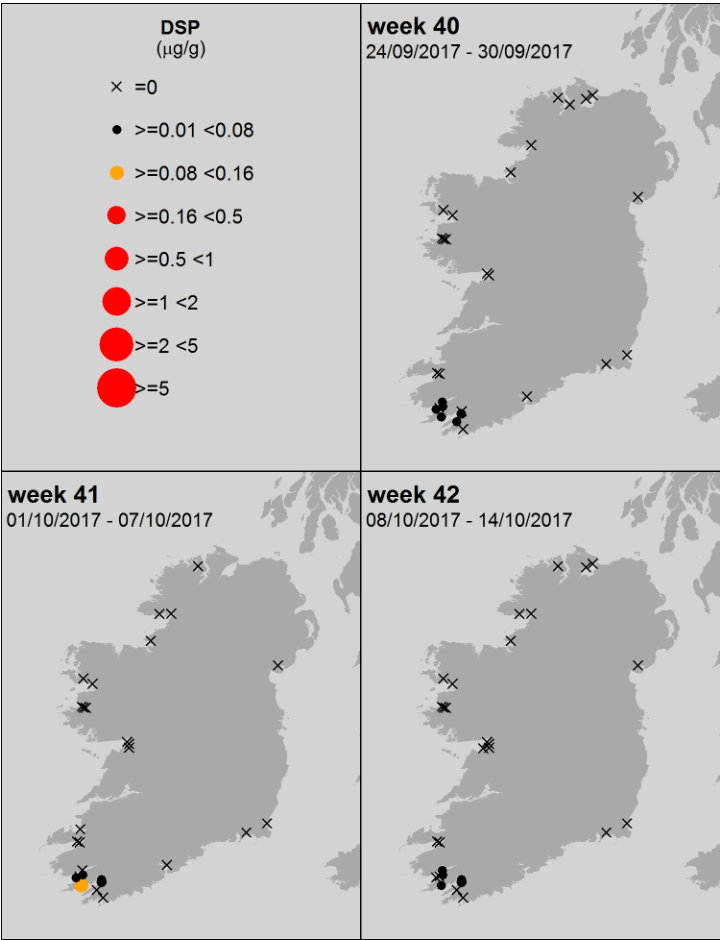
PSP events: June to mid-July and end September; only in Cork Harbour

DSP and Dinophysis sp. current trends

Phytoplankton species – 3 wks.

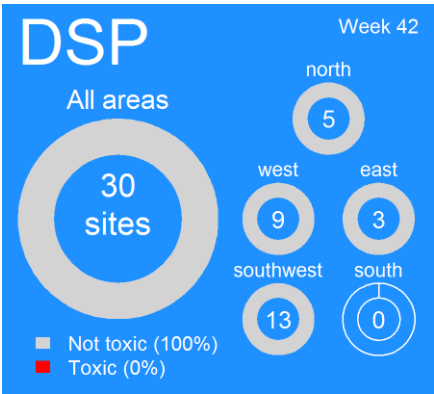


All levels of DSP biotoxin recorded- 3 wks.



Current closures levels

≥ DSP 0.16 µg/g



Comment – Levels continuing to decrease in affected areas. This trend would be expected to continue at this time of year. Slow rates of depuration may be the main issue with this species at this time of year due to naturally decreasing levels of non toxic species of phytoplankton availability.

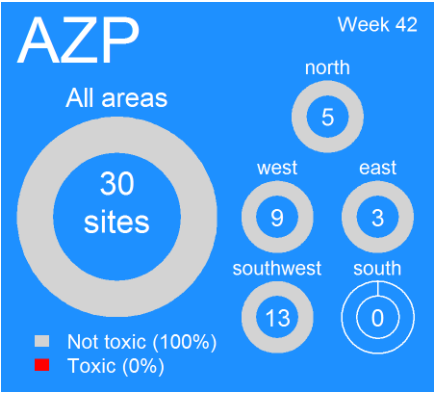
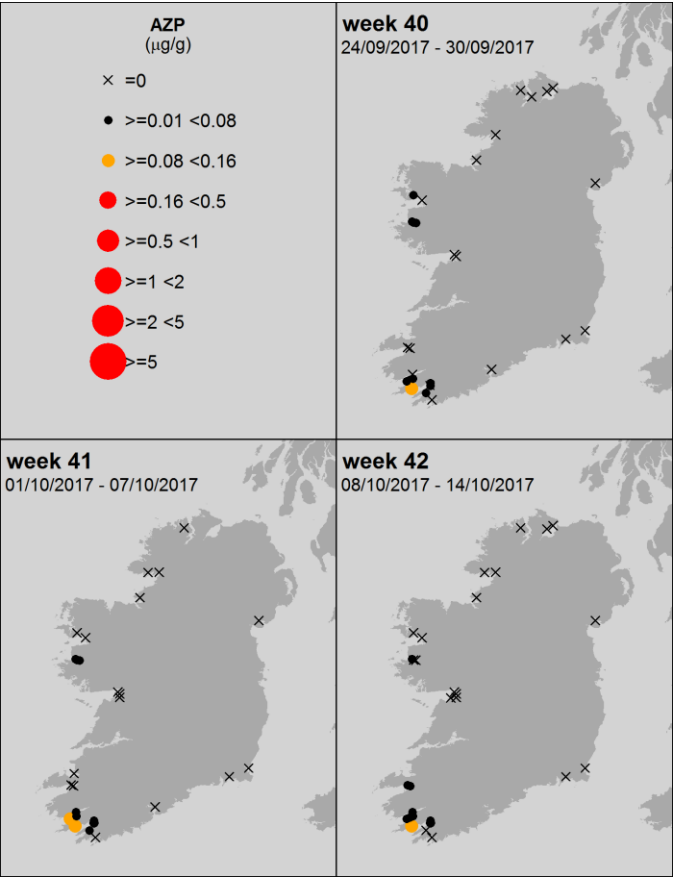
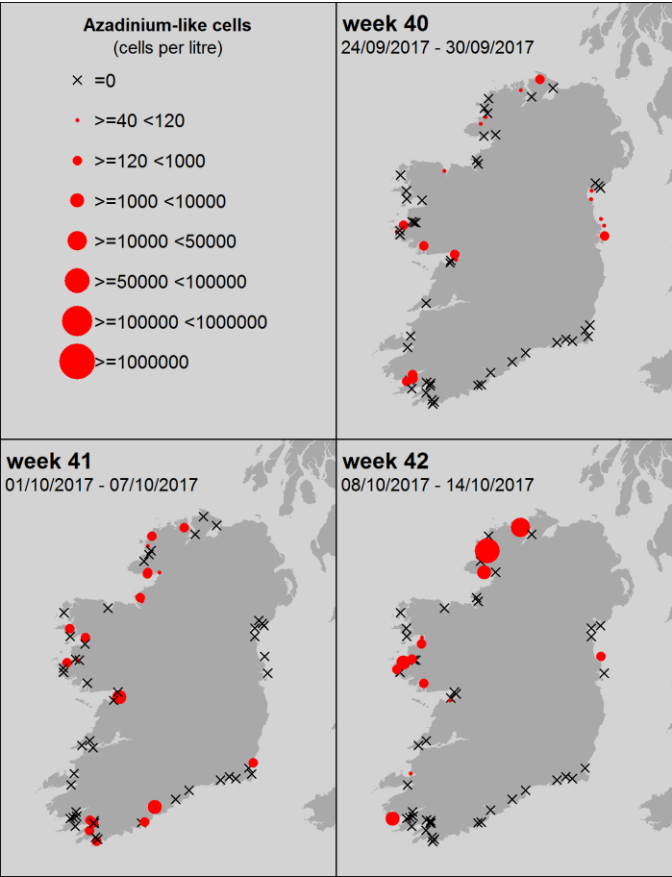
AZP and Azadinium like species current trends



Phytoplankton species – 3 wks.

All levels of AZP biotoxin recorded - 3 wks.

Current closures levels
≥ AZP 0.16 µg/g

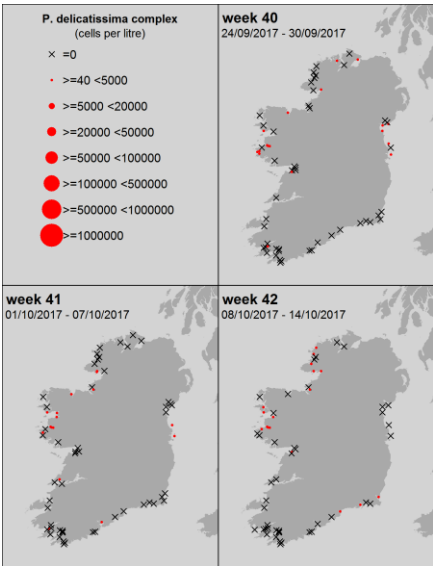


Comments

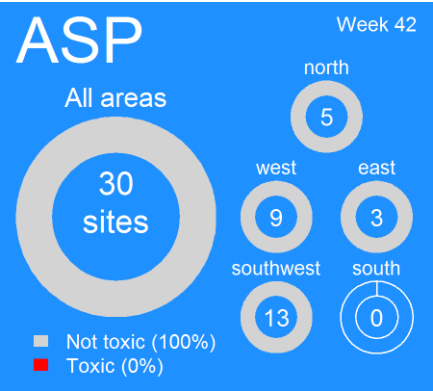
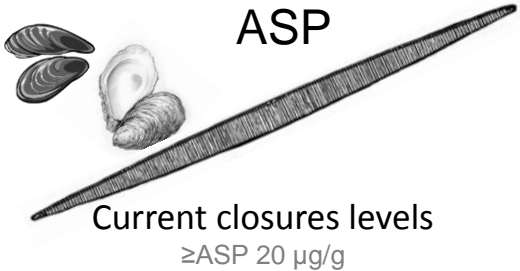
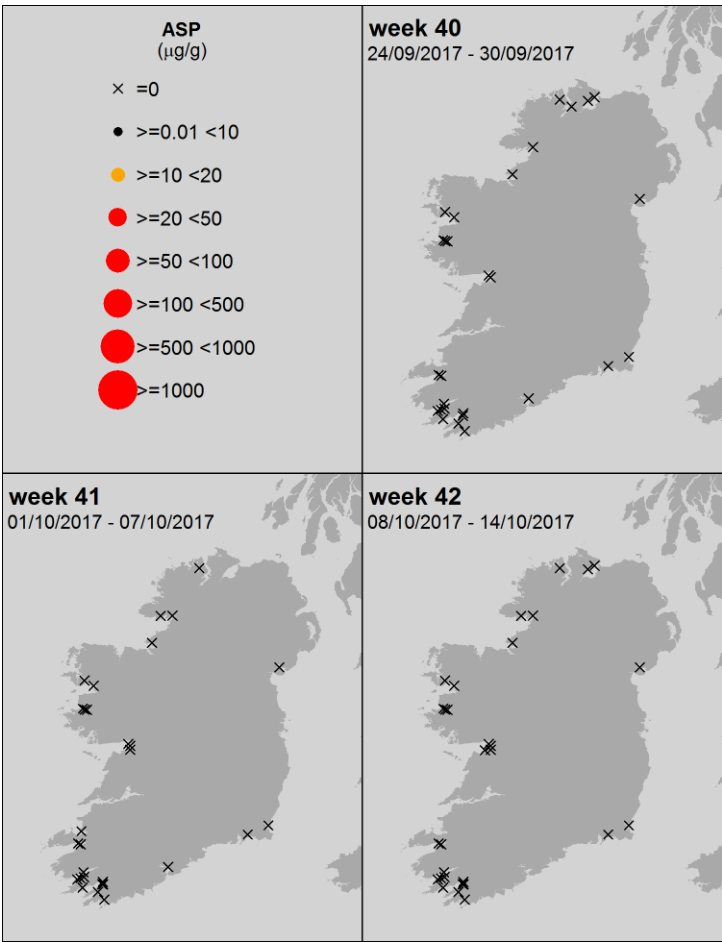
Continued seasonal high levels of caution and observance and testing in affected areas recommended. This problematic species has and can rapidly bloom or get transport into bay areas at bloom levels. Such transport conditions are typical at this time of year- sudden acute issues possible.

ASP and Pseudo nitzschia sp. current trends

Phytoplankton species – 3 wks.



All levels of ASP biotoxin recorded - 3 wks.



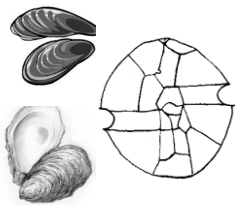
Comments

Seasonal trend steady - No significant toxin levels are currently present but cell levels are fluctuating a little and would traditionally be expected to potentially rise for a period based on historical trends. Currently low to slowly increasing moderate caution levels.

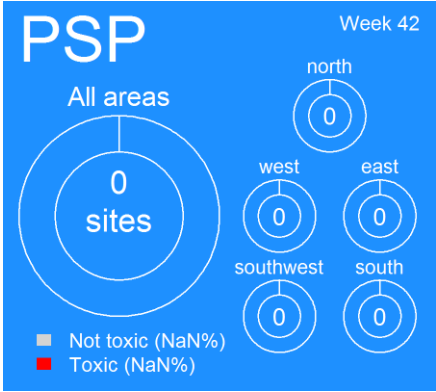
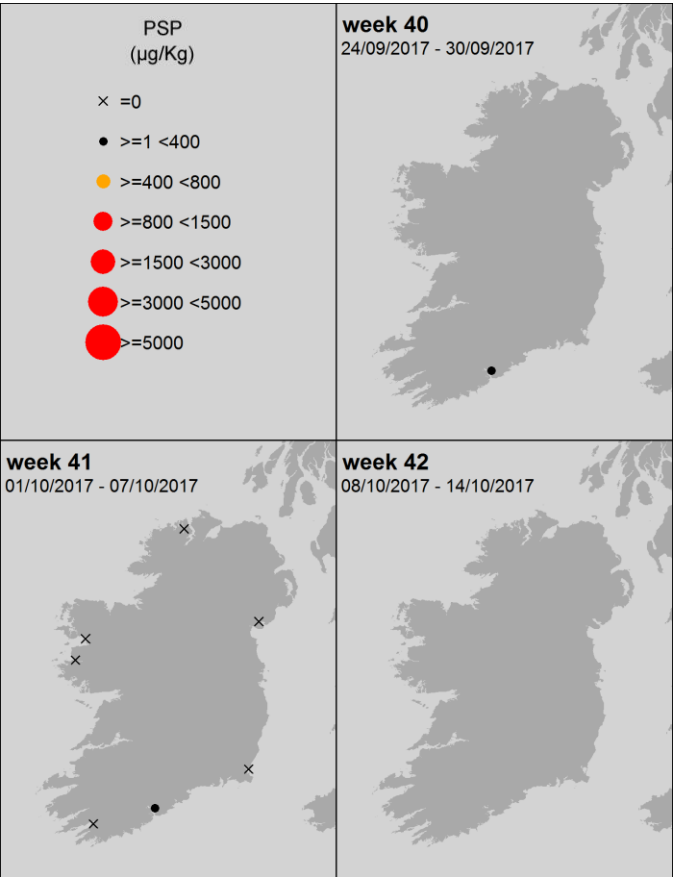
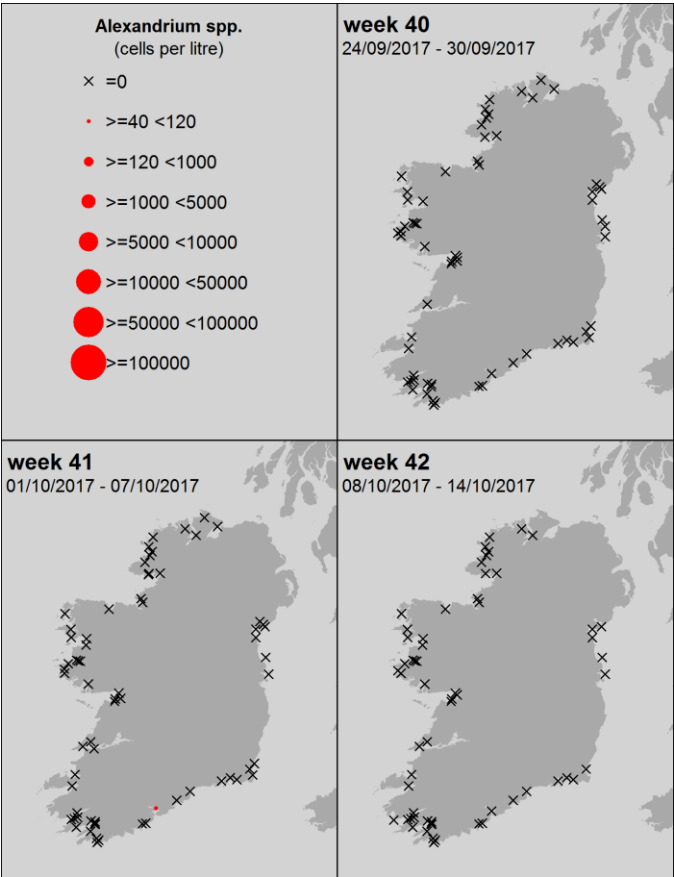
PSP and Alexandrium sp. current trends

Phytoplankton species – 3 wks.

All levels of PSP biotoxin recorded - 3 wks.



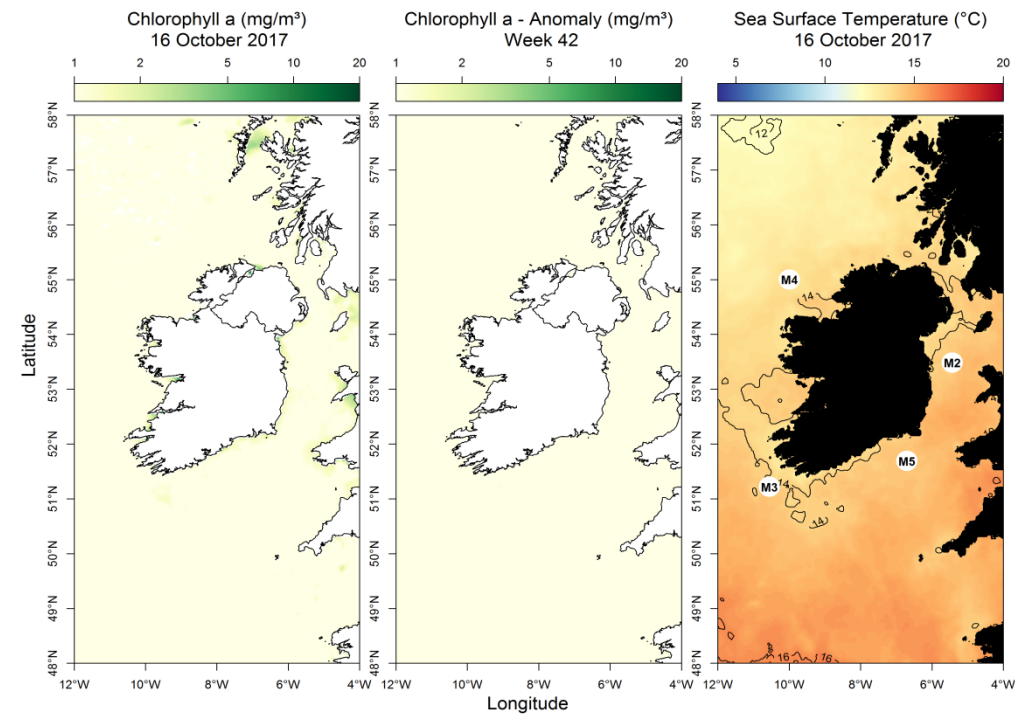
Current closures levels
≥ PSP 800 µg/Kg



Comments

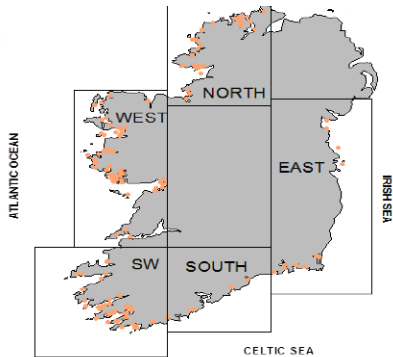
Environmental conditions unlikely to be suitable to sustain growth of potential blooms and potential cell levels low .Low probability of sudden issues at this time of year.

Most up to date available satellite data



No significant chlorophyll levels above average levels for this time of year, recorded around the coastline.

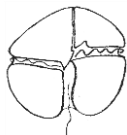
Diatoms dominating recorded related sample results except for the west .



NW coast (M4) Below average by 0.46°C wk41
SW coast (M3) Above average by 0.13°C wk41
SE coast (M5) Below average by 0.07°C wk41

What phytoplankton were blooming at inshore coastal sites last week?

Rank	Region	Species	Rounded Count
1	east	Asterionellopsis glacialis	140000
2	east	Eucampia spp.	15000
3	east	Odontella spp.	10000
4	east	Leptocylindrus danicus	10000
5	east	Prymnesiophytes	8000
1	north	Asterionellopsis glacialis	2248000
2	north	Asterionellopsis spp.	604000
3	north	Chaetoceros (Hyalochaete) spp.	151000
4	north	Pennate diatom	78000
5	north	Azadinium/heterocapsa spp.	65000
1	south	Navicula spp. 20-50 um	30000
2	south	Nitzschia spp. (small)	13000
3	south	Paralia sulcata	9000
4	south	Cylindrotheca closterium/ Nitzschia longissima	7000
5	south	Paralia sp.	7000
1	southwest	Asterionellopsis glacialis	39000
2	southwest	Prorocentrum micans	26000
3	southwest	Prymnesiophytes	17000
4	southwest	Skeletonema spp.	7000
5	southwest	Cerataulina pelagica	6000
1	west	Pennate diatom	62000
2	west	Chaetoceros (Hyalochaete) spp.	32000
3	west	Cylindrotheca closterium/ Nitzschia longissima	19000
4	west	Skeletonema spp.	15000
5	west	Prorocentrum micans	8000

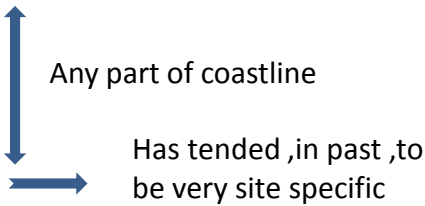


Karenia mikimotoi bloom
warning level – low

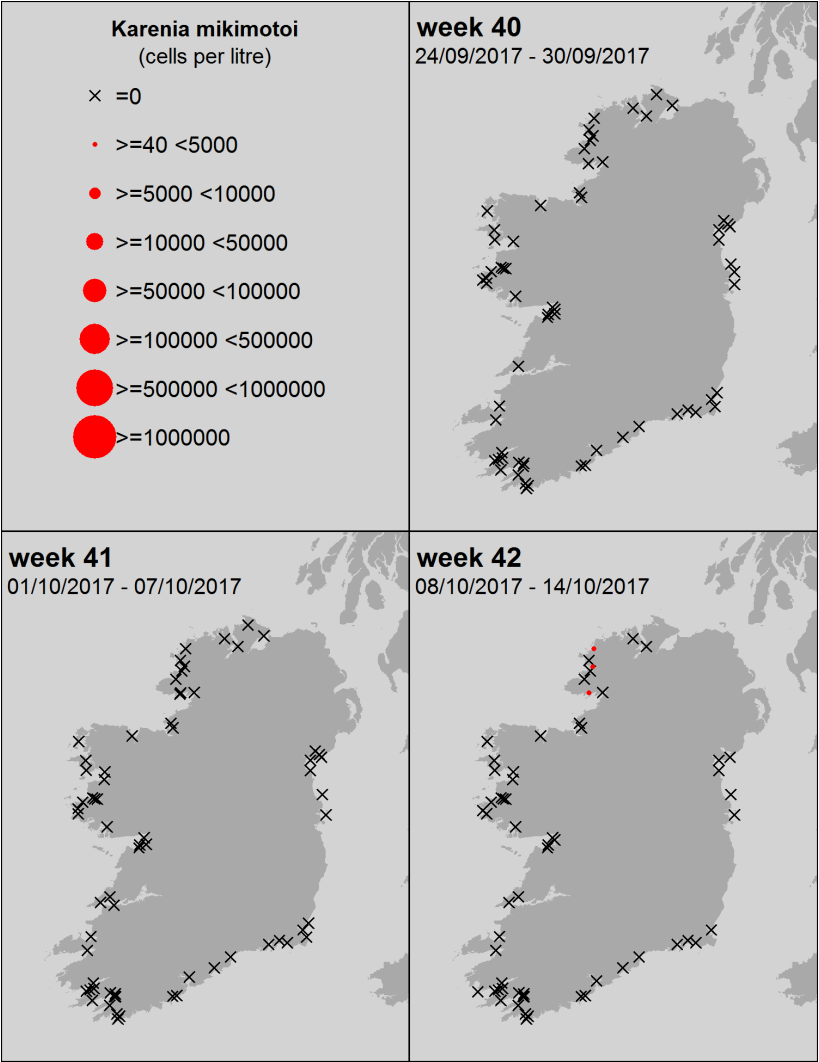
Current general conditions:

Water temperatures and light levels decreasing levels making the possibility of most bloom species causing an issue less likely. Noctiluca species still in residual background low levels in some sites.

Karenia mikimotoi
Heterocapsa spp.
Noctiluca scintillans
Alexandrium spp.



Karenia mikimotoi
(old name: *Gyrodinium aureolum*)



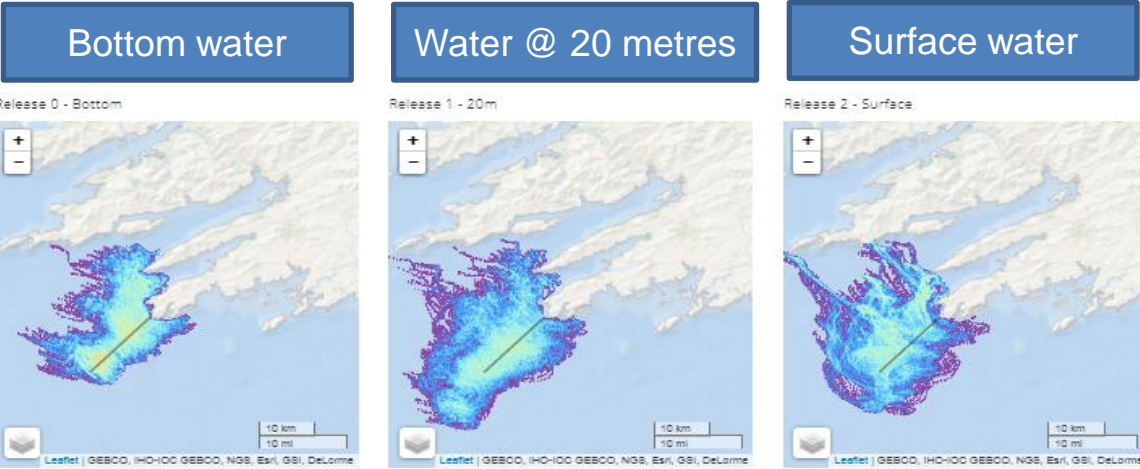
SOUTHWEST: Bantry Bay

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)

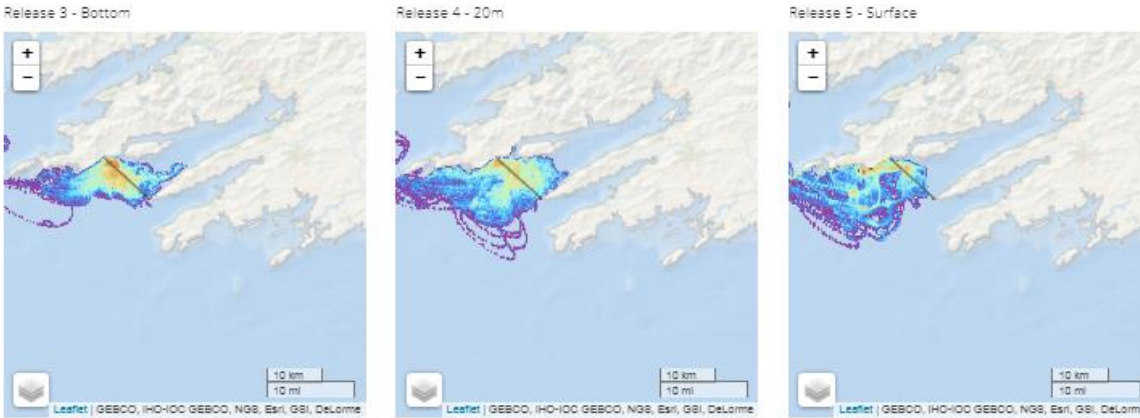
Reddish colours represent areas where phytoplankton remain longest
Cooler colours represent areas where phytoplankton remain for shorter periods

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



Similar pattern as the west , with mixed directional water movements at all depths. Strength of movements indicate potential of offshore waters entering bay mouth areas.



Some upwelling potential indicated through transport of deeper waters into inner bay areas .

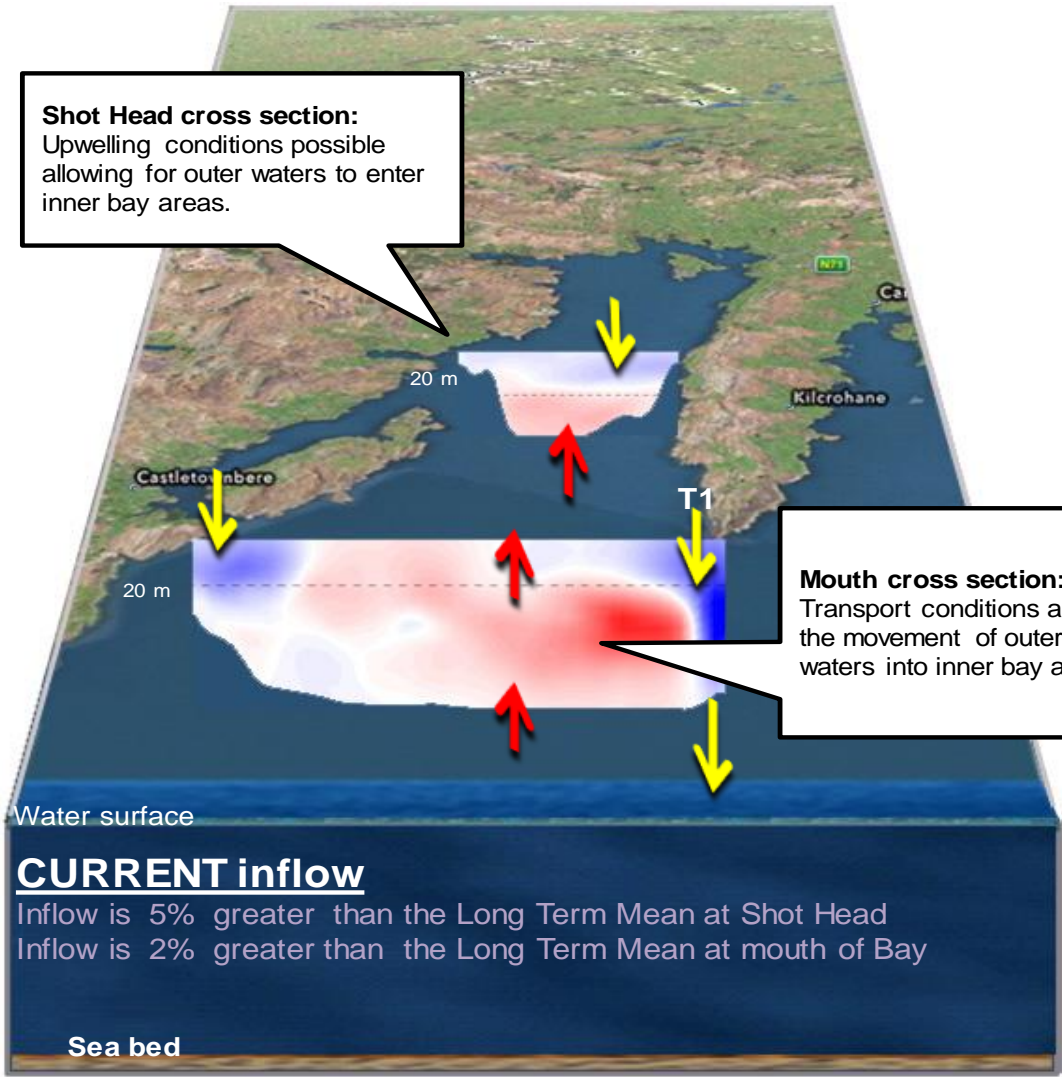
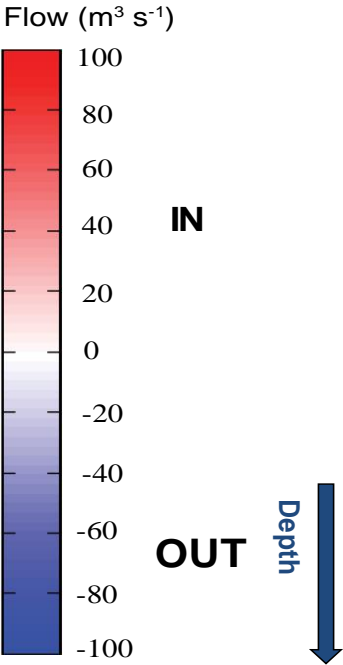
Bantry Bay

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



Forecast for next 3 days

Shot Head cross section:
Upwelling conditions possible allowing for outer waters to enter inner bay areas.



Mouth cross section:
Transport conditions allowing the movement of outer bay waters into inner bay areas.

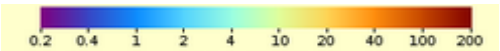
CURRENT inflow

Inflow is 5% greater than the Long Term Mean at Shot Head
Inflow is 2% 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)

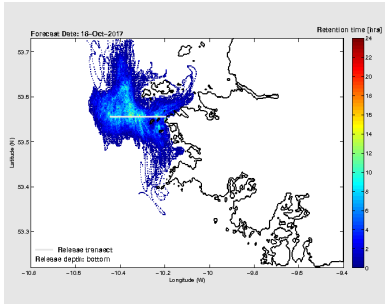
Reddish colours represent areas where phytoplankton remain longest
Cooler colours represent areas where phytoplankton remain for shorter periods



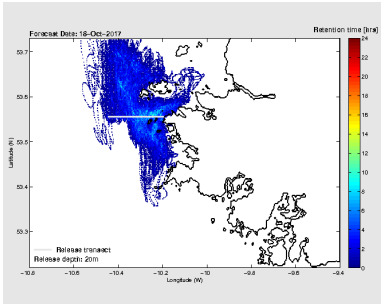
0.2 0.4 1 2 4 10 20 40 100 200
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

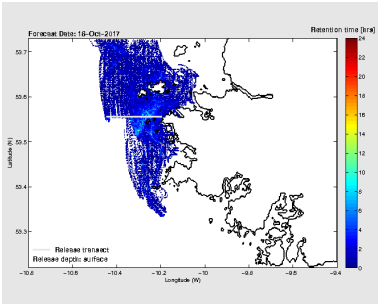
Bottom water



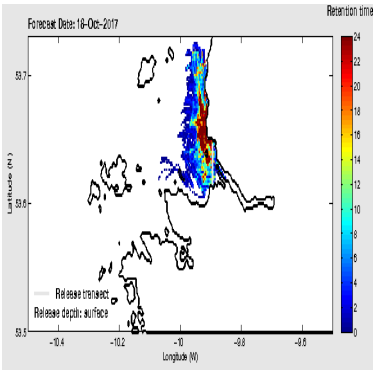
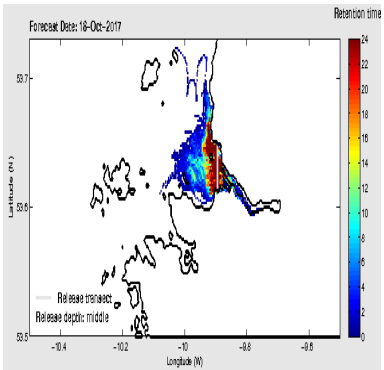
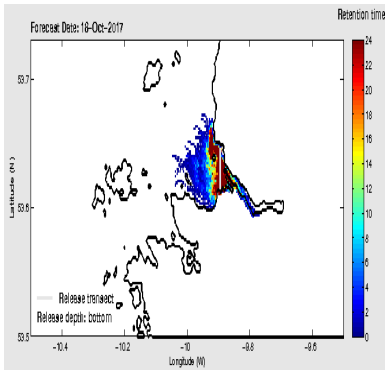
Water @ 20 metres



Surface water



Cleggan
Movement at all depths indicating well mixed waters and onshore incursions with no clear defined pathways.



Killary
Bottom waters indicating transport, possibly thru upwelling mechanisms , into inner bay zones , while inner bay surface waters indicate strong transport out of bay areas .

Killary Harbour

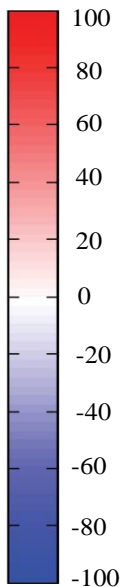
3 day estimated water flows at the mouth of Killary Harbour



Forecast for next 3 days

Killary Harbour Mouth cross section: Again similar to last few weeks, with moderate inflows at all depths skirting bay sides and outflows centre in mid bay areas.

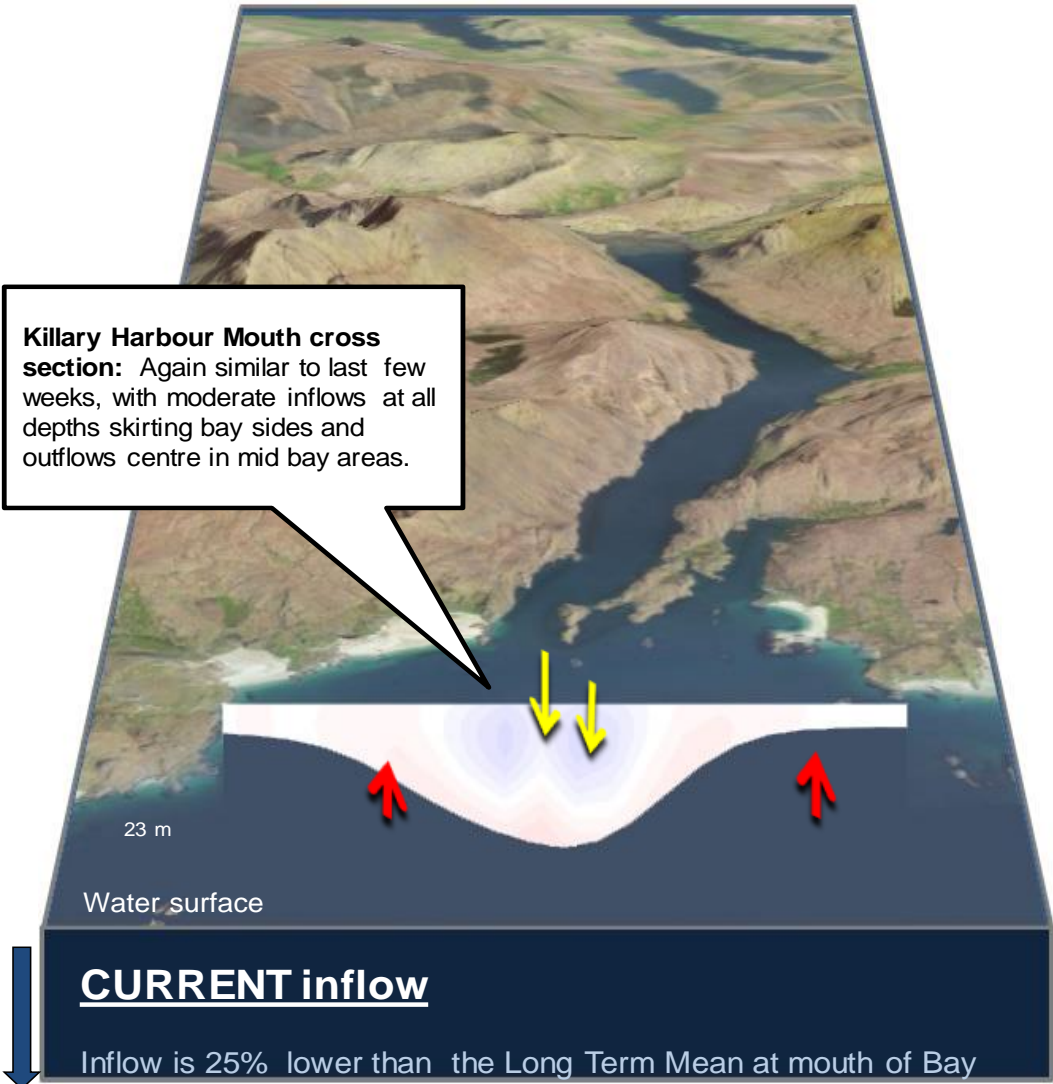
Flow ($\text{m}^3 \text{s}^{-1}$)



IN

OUT

Depth



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



Forecast for next 3 days

