

Ireland: Predictions

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

NMP Current closures			
ASP	AZP	DSP	PSP
0	0	1	0

ASP: same as last week -slow traditional increase in cell levels has begun. No toxic species/toxin currently present and it is still early in the historic season. We are however beginning to enter the historic period of occurrence and, combined with cell levels rising , it is time to slowly increase this level 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 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: **High caution level-** Continued toxicity issues and onshore water transport condition may lead to sudden, temporary , peaks at this time. All sites should insure best sampling practices and obtaining the most recent results available. Threats from this species are not over until temperatures drop significantly for a sustained period of time. Full caution is still advised.

PSP: Moderate caution still advised particularly in historically affected sites (S) and any site with significant species levels . Current weather conditions and patterns may still be favourable for bloom issues .Until cell levels and temperatures have dropped further caution is still advised.

Blooms: **Noctiluca scintillans blooming in localised areas in South. High risk of spreading based on current weather forecast.** 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

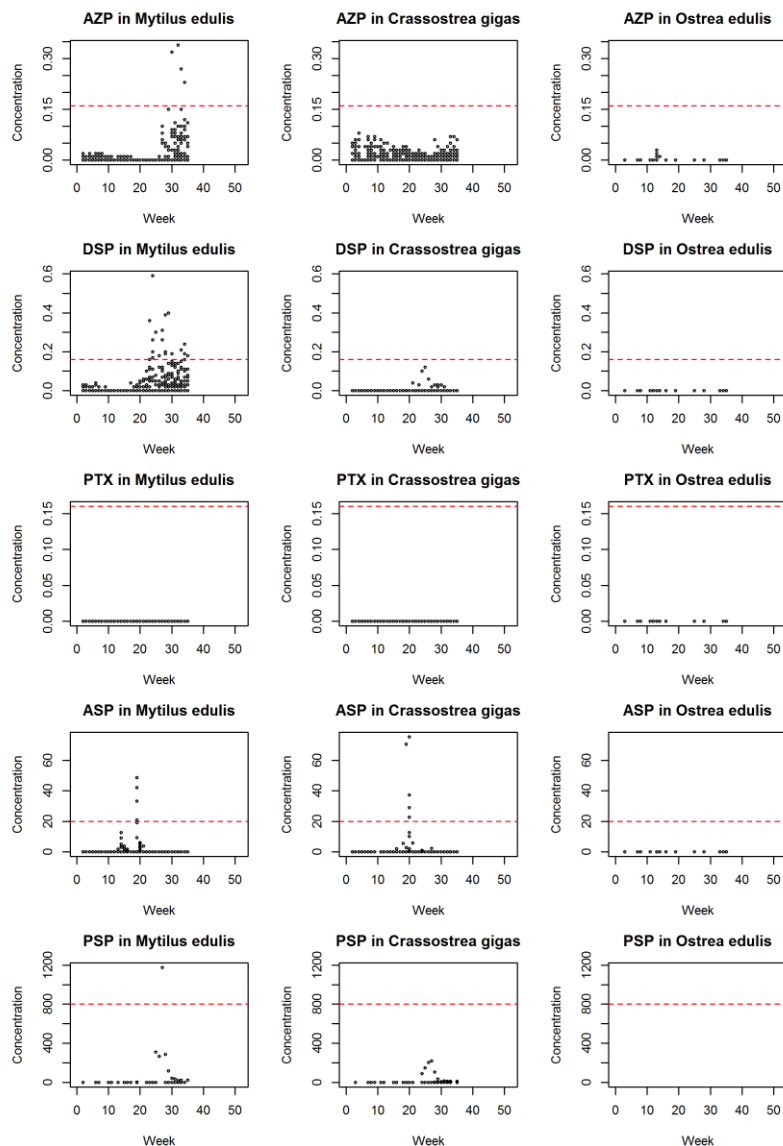
AZP

DSP

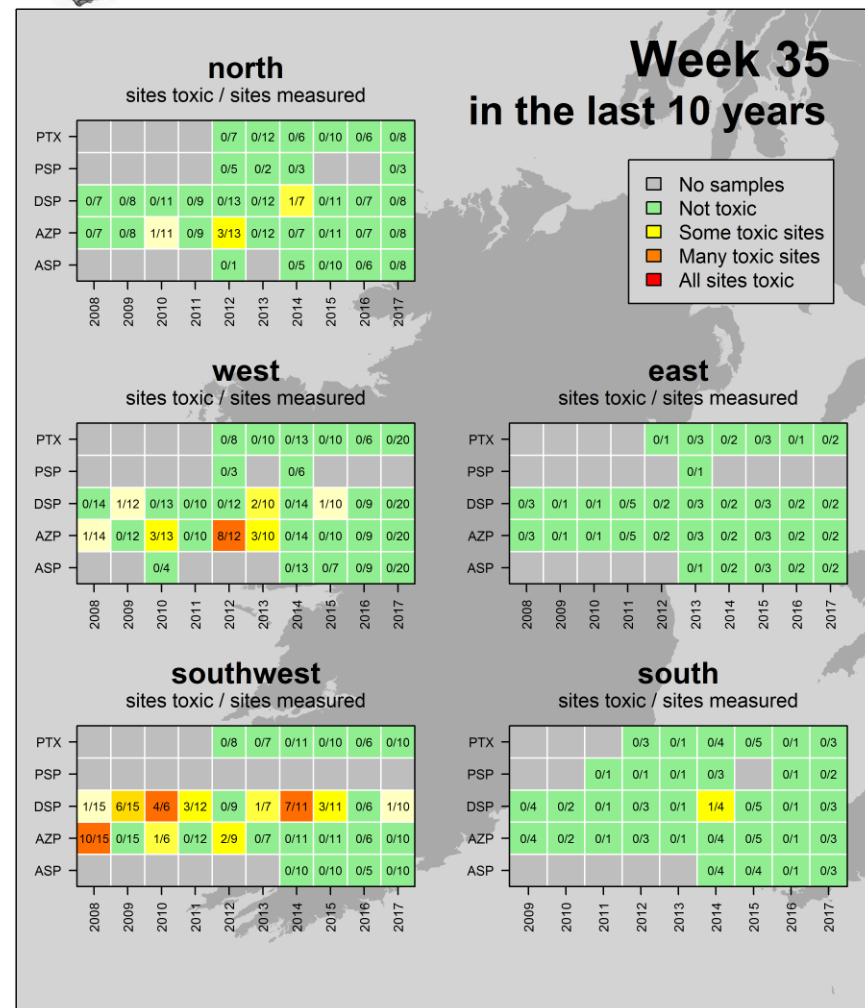
PTX

ASP

PSP



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



ASP events: mid-March to early May

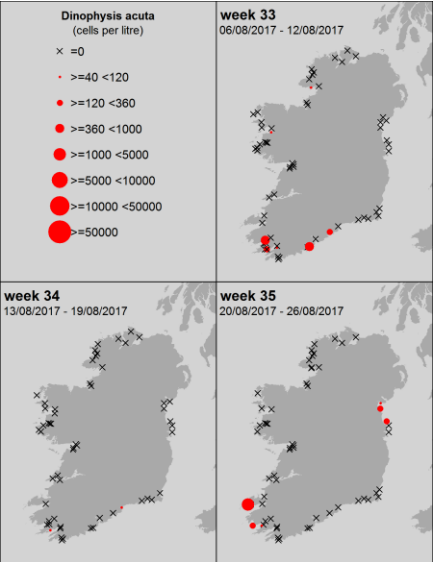
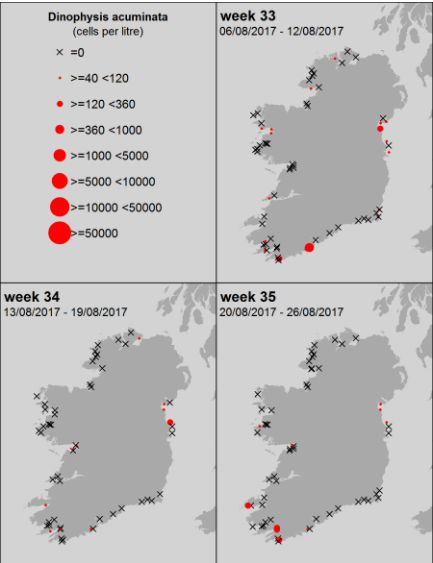
AZP events: April to December

DSP events: May to December

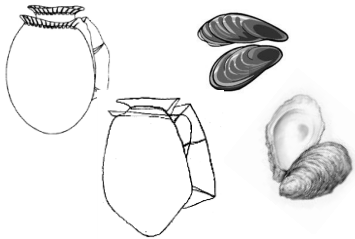
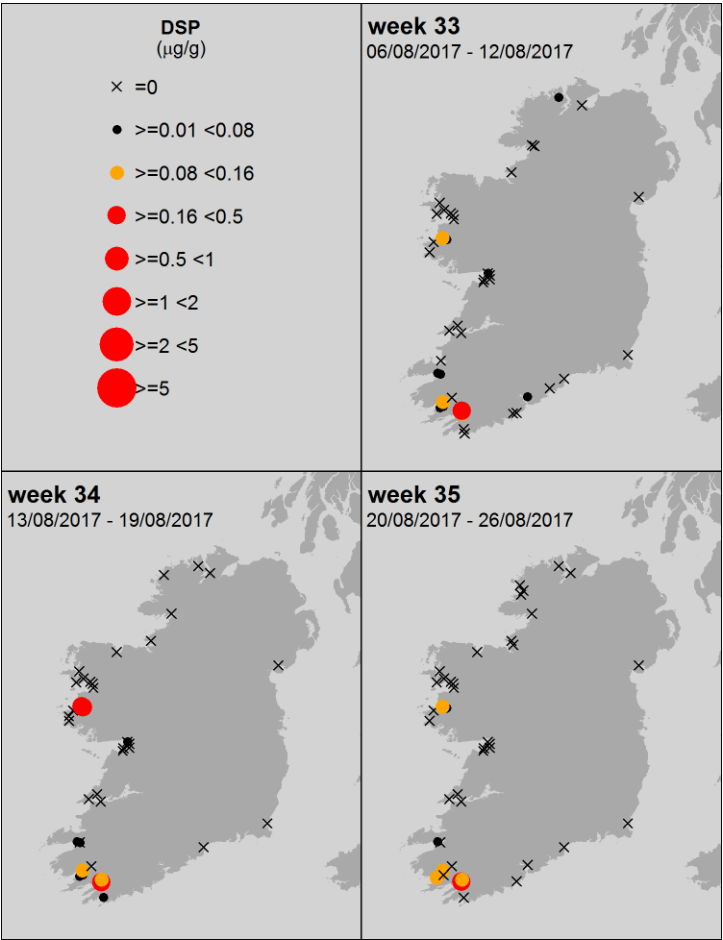
PSP events: June to mid-July and end September; only in Cork Harbour

DSP and Dinophysis sp. current trends

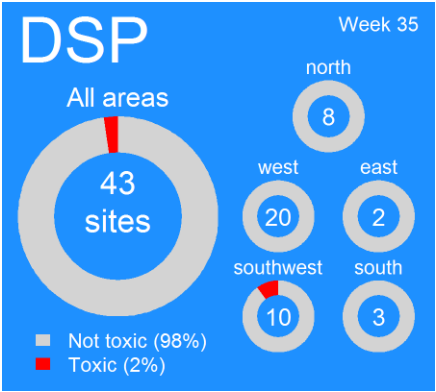
Phytoplankton species – 3 wks.



All levels of DSP biotoxin recorded- 3 wks.



Current closures levels
≥ DSP 0.16 µg/g



Comment – Seasonal issues likely to continue in many areas. Temporary and sudden peaks in toxin levels possible during onshore water transport conditions. Continued highest caution advised.

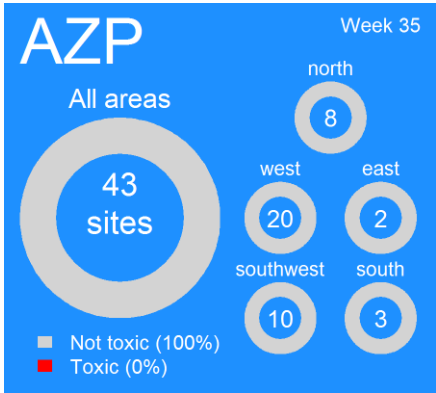
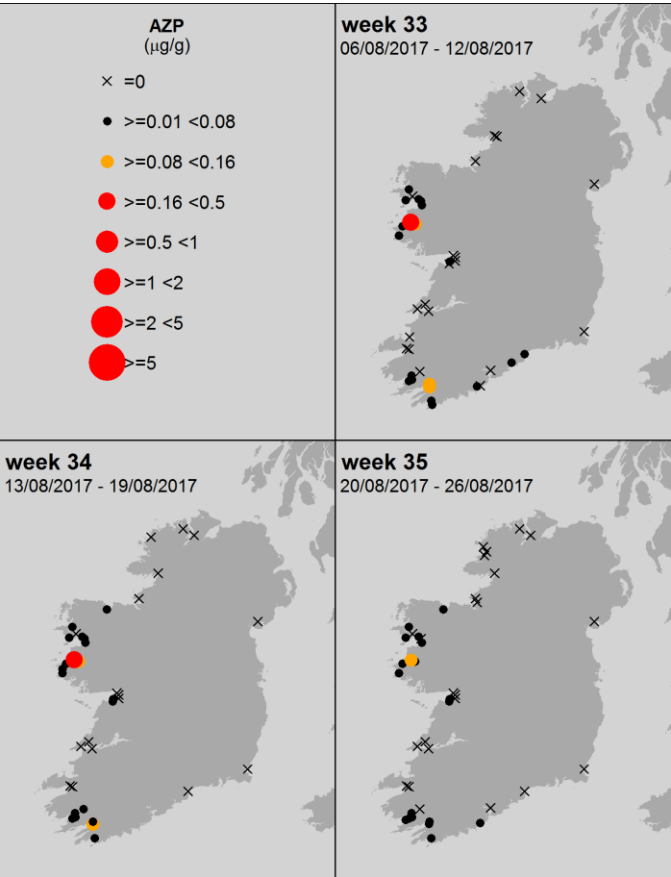
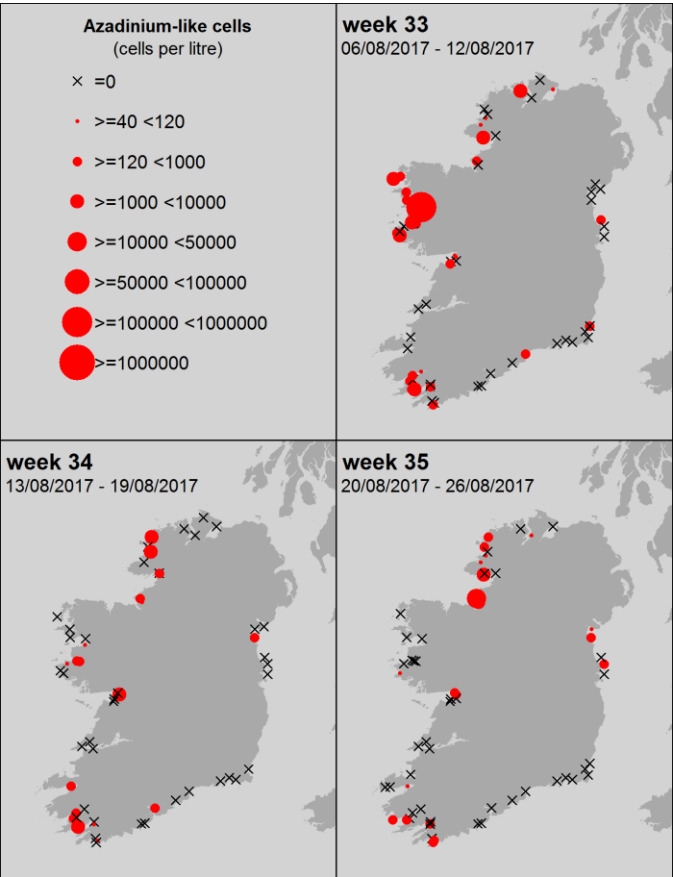
AZP and Azadinium like species current trends



Phytoplankton species – 3 wks.

All levels of AZP biotoxin recorded - 3 wks.

Current closures levels
≥ AZP 0.16 µg/g

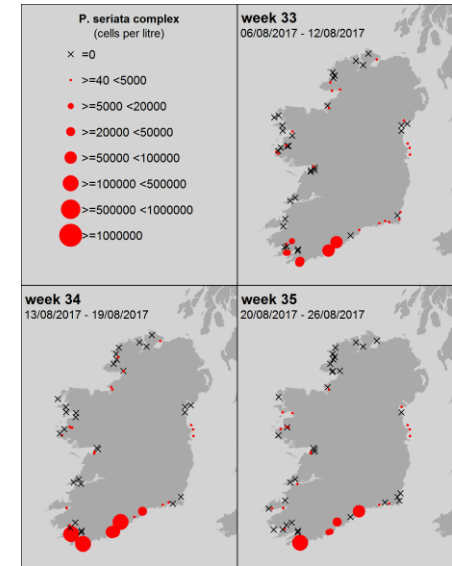
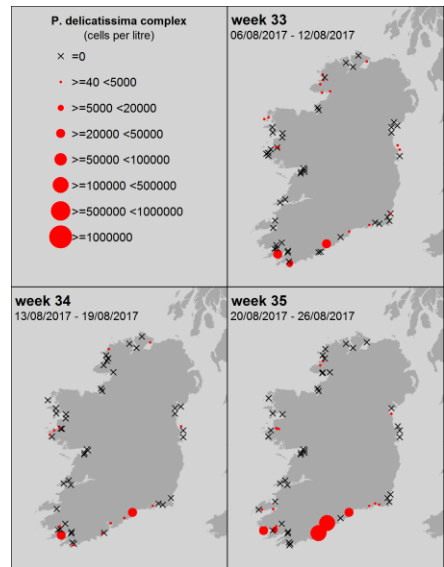


Comments

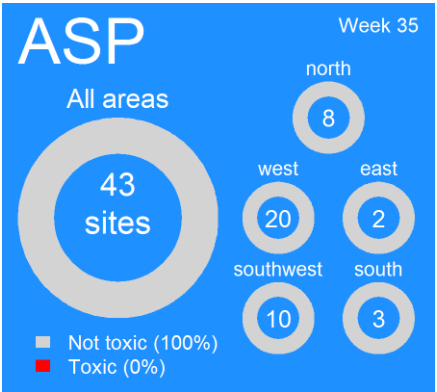
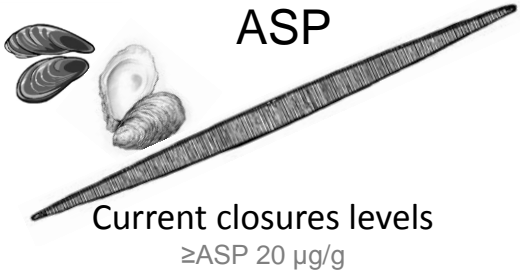
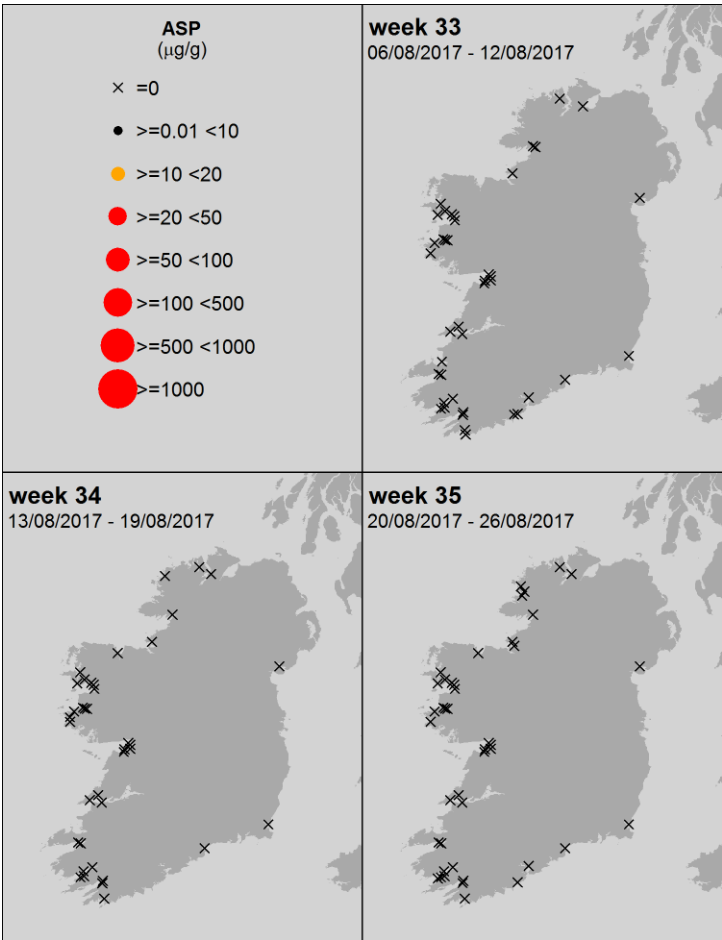
High levels of caution and observance and testing in affected areas recommended. This species has can rapidly bloom or get transport into bay areas at bloom levels. Such transport conditions are typical at this time of year- sudden acute issues possible.

ASP and Pseudo nitzschia sp. current trends

Phytoplankton species – 3 wks.



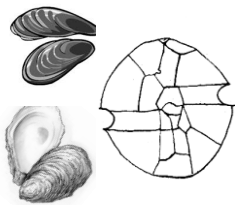
All levels of ASP biotoxin recorded - 3 wks.



Comments

Beginning of the seasonal increased risk period and cell levels appear to be rising . No significant toxin levels are currently present and it would be the norm for this to continue at this point in the season but with the trend to increase caution coming into affect.

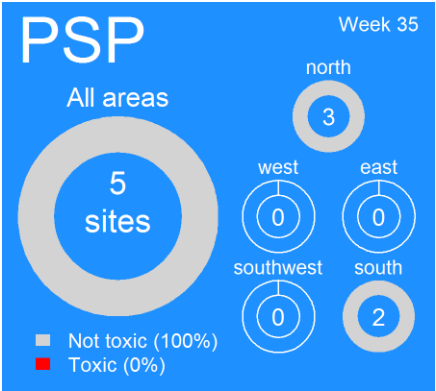
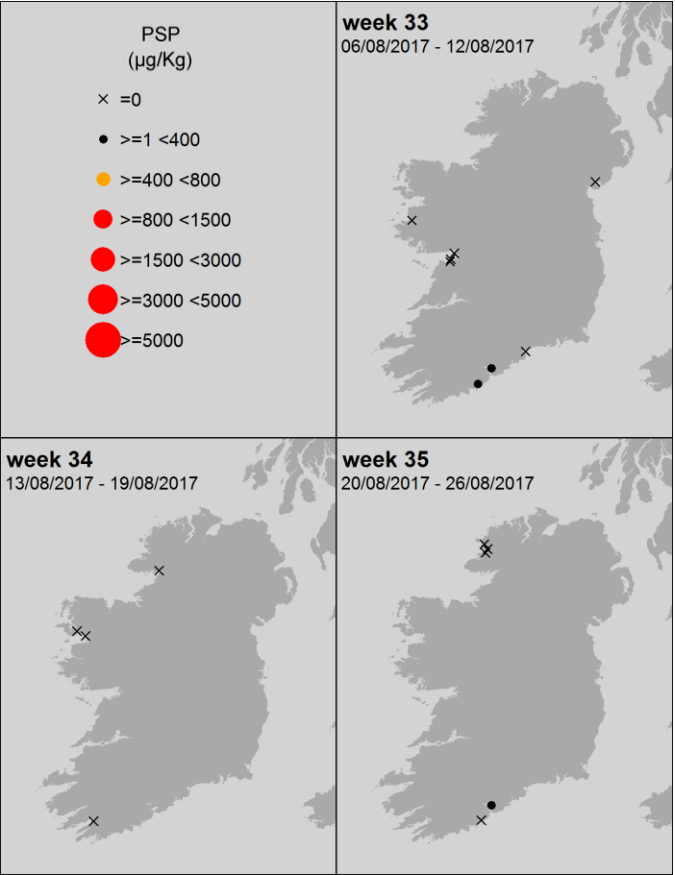
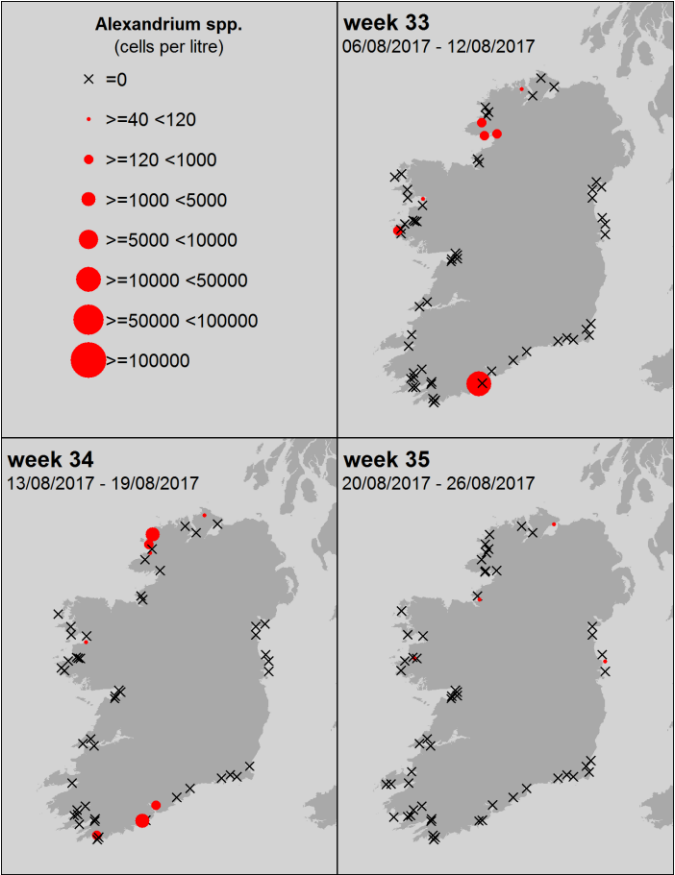
PSP and Alexandrium sp. current trends



Phytoplankton species – 3 wks.

All levels of PSP biotoxin recorded - 3 wks.

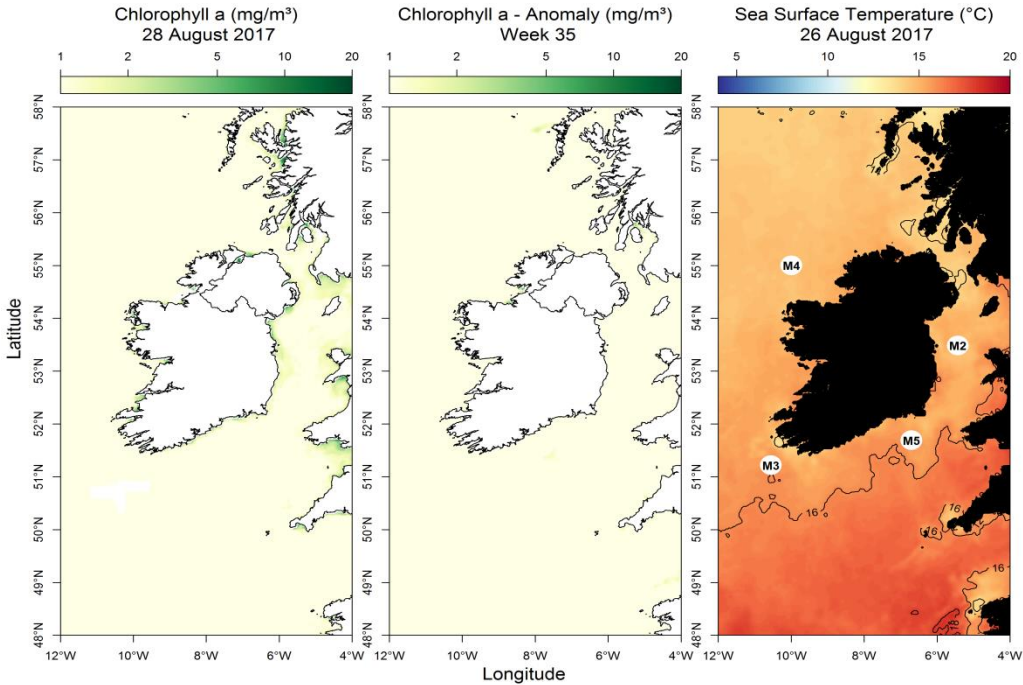
Current closures levels
≥ PSP 800 µg/Kg



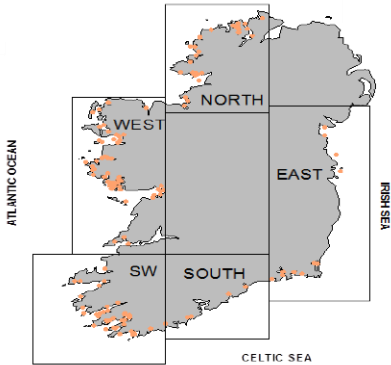
Comments

While favourable calm and moderately warm conditions continue ,moderate caution is still advised. This level should be lowering in the coming weeks as we near the end of the favourable growing season.

Most up to date available satellite data



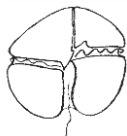
Diatoms are still the main type of plankton present in most areas but changes in levels would be expected in the coming weeks.



NW coast (M4) Below average by 0.65°C wk34
SW coast (M3) Unavailable
SE coast (M5) Above average by 0.01°C wk34

What phytoplankton were blooming at inshore coastal sites last week?

Ran k	Region	Species	Rounded Count
1	east	Cylindrotheca closterium/ Nitzschia longissima	31000
2	east	Skeletonema spp.	22000
3	east	Dactyliosolen spp.	14000
4	east	Chaetoceros (Hyalochaete) spp.	13000
5	east	Chaetoceros danicus	9000
1	north	Glenodinium spp.	2776000
2	north	Asterionellopsis spp.	423000
3	north	Asterionellopsis glacialis	405000
4	north	Microflagellate sp.	63000
5	north	Skeletonema spp.	56000
1	south	Leptocylindrus minimus	659000
2	south	Pseudo-nitzschia delicatissima complex	123000
3	south	Pseudo-nitzschia seriata complex	81000
4	south	Paralia sp.	68000
5	south	Chaetoceros (Hyalochaete) spp.	59000
1	southwest	Asterionellopsis glacialis	1045000
2	southwest	Skeletonema costatum	215000
3	southwest	Cyanophyte	132000
4	southwest	Pseudo-nitzschia seriata complex	107000
5	southwest	Skeletonema spp.	105000
1	west	Chaetoceros (Hyalochaete) spp.	153000
2	west	Pennate diatom	84000
3	west	Ciliates	78000
4	west	Prorocentrum micans	54000
5	west	Cylindrotheca closterium/ Nitzschia longissima	26000



Karenia mikimotoi bloom warning level – Medium to low

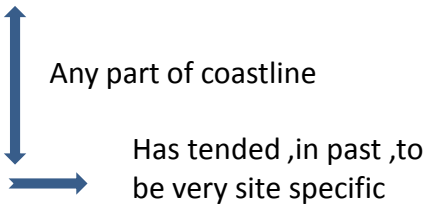
Noctiluca scintillans- Very High

Current calm weather and the presence of increasing cell levels are very favourable for *Noctiluca* sp. issues this week. This species is currently forming ‘slicks’ and localised bloom patches in 1 bay in the South. Depending on suitable calm environmental conditions this ‘blooming’ process could cause varying types of environmental water quality issues locally.

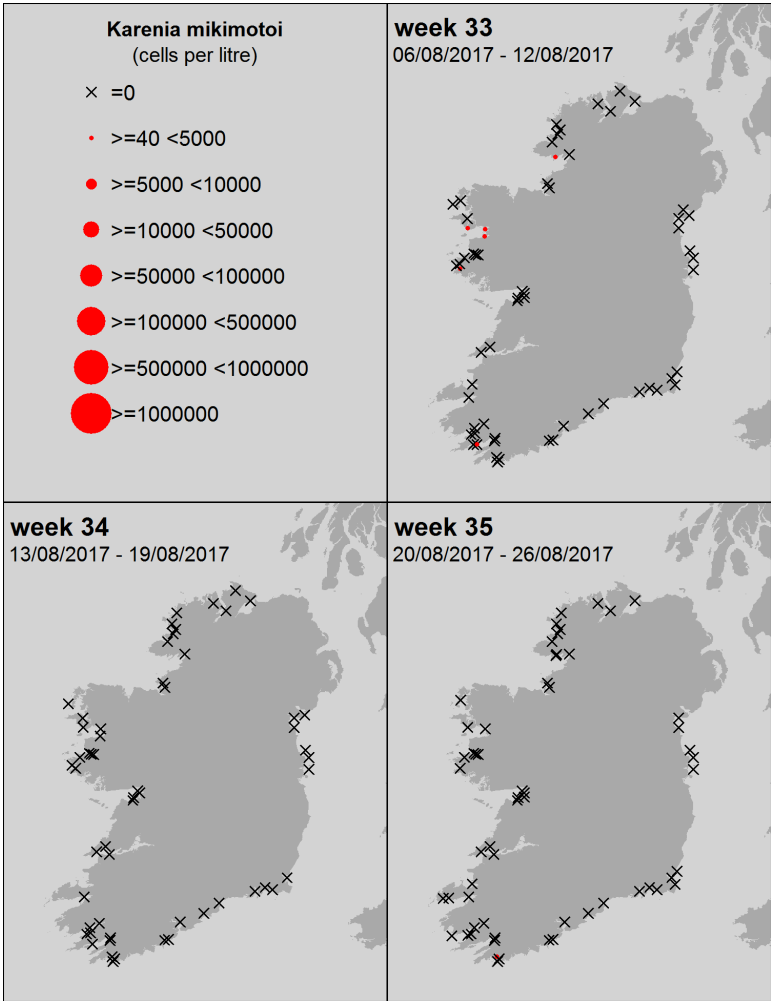


Dunmanus Bay, Carbery Island –
29-8-17 (M.Sammon)

Karenia mikimotoi
Heterocapsa spp.
Noctiluca scintillans
Alexandrium spp.



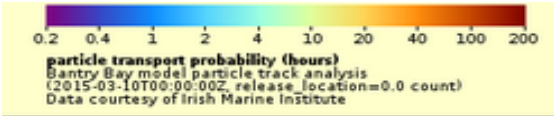
Karenia mikimotoi
(old name: *Gyrodinium aureolum*)



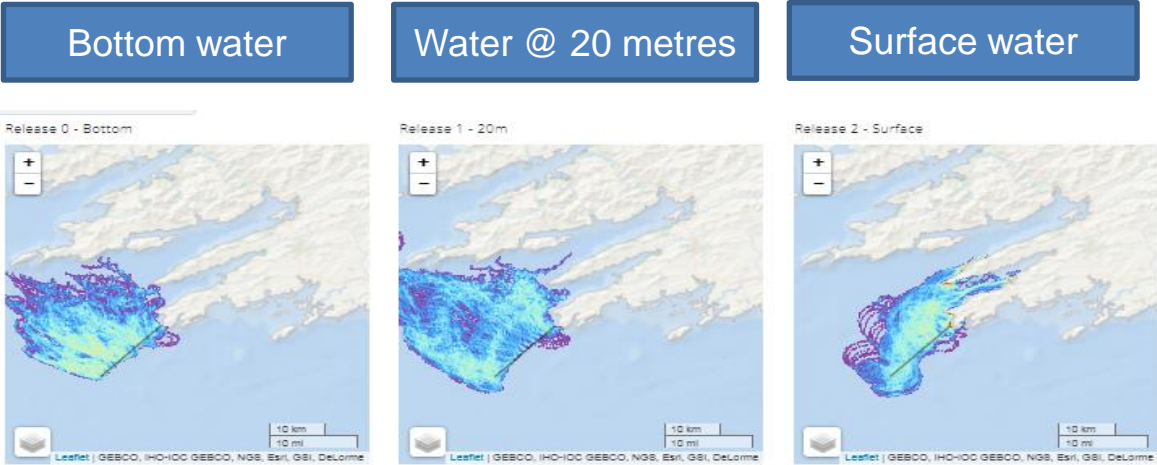
SOUTHWEST: Bantry Bay

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



Water movement expected to travel in a predominantly northerly direction with inner bay transport possible from outer bay areas as depth decreases.



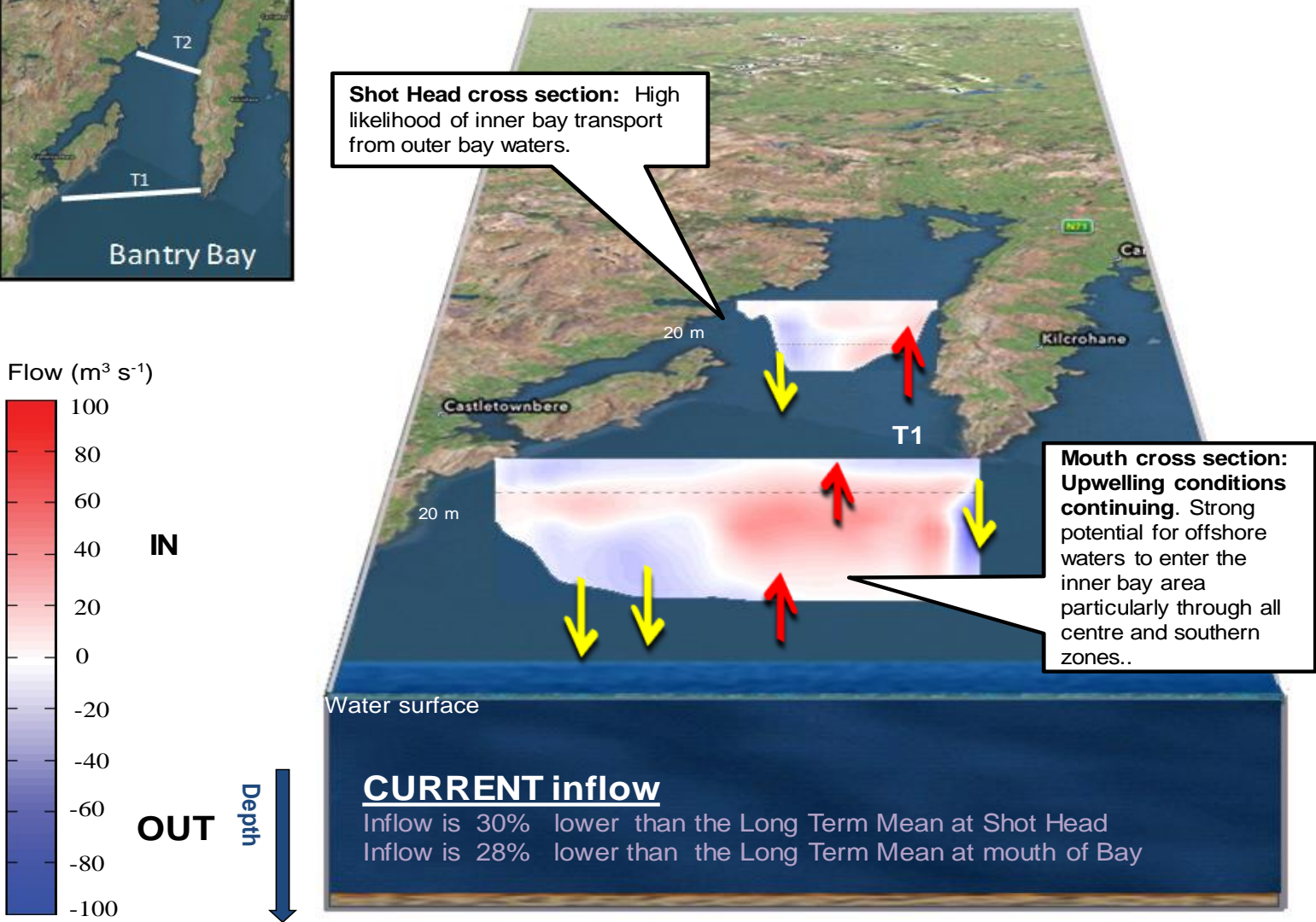
Down welling and inner bay transport possible from surface and mid water depth water movement predictions.

Bantry Bay

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



Forecast for next 3 days

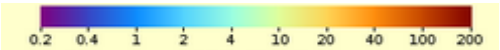


WEST: Killary Harbour

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

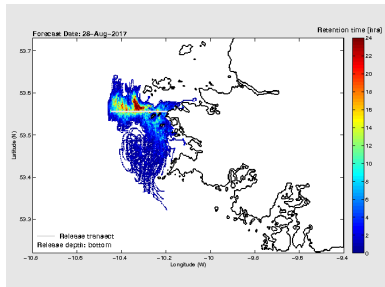


0.2 0.4 1 2 4 10 20 40 100 200

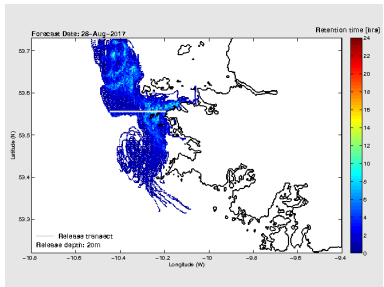
particle transport probability (hours)
Bantry Bay model particle track analysis
(2015-03-10T00:00:00Z, release_location=0.0 count)
Data courtesy of Irish Marine Institute

Forecast for the next 3 days

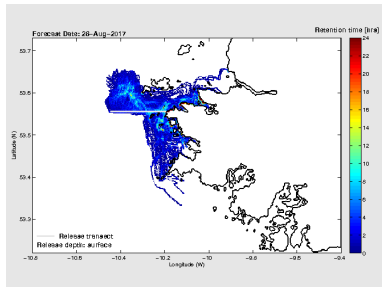
Bottom water



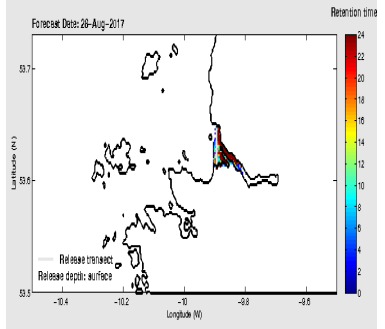
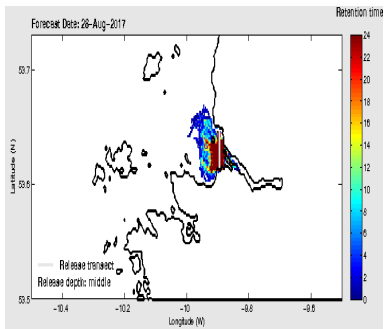
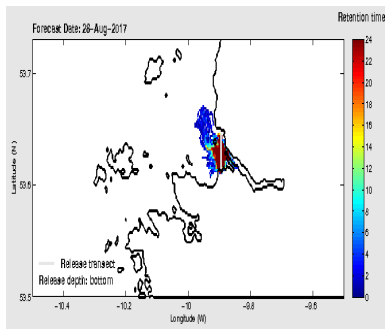
Water @ 20 metres



Surface water



Cleggan
Mixed directional water movements expected at all depths allowing for offshore waters reaching near shores areas and getting transported into middle bay areas.



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

Killary Harbour

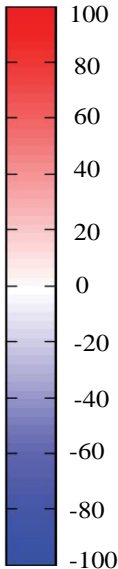
3 day estimated water flows at the mouth of Killary Harbour



Forecast for next 3 days

Killary Harbour Mouth cross section: Moderate to weak inflow rates dominating with mixing conditions further in the bay area transporting outer bay waters to inner bay areas.

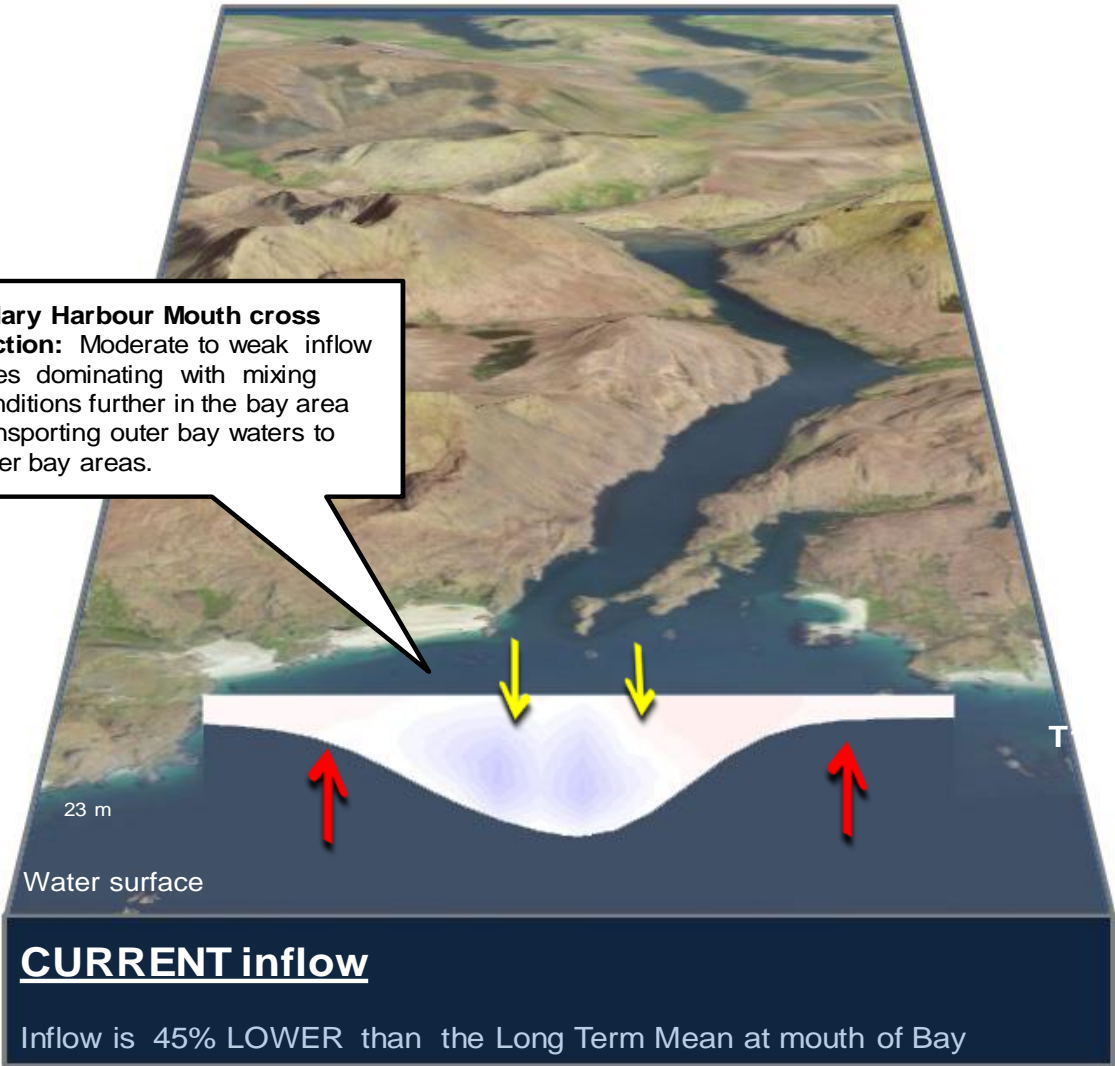
Flow ($\text{m}^3 \text{s}^{-1}$)



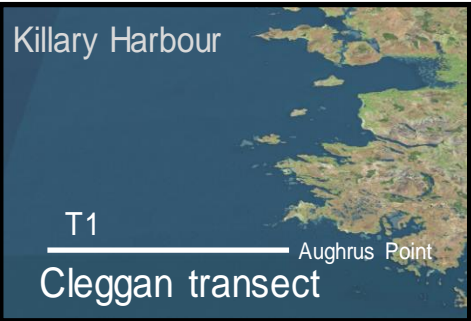
IN

OUT

Depth



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



Forecast for next 3 days

