Cefas contract report C5666 – C5667

Annual report on the results of the Biotoxin and Phytoplankton Official Control Monitoring Programmes for England & Wales - 2014

Contract Reference: FSA 199

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Not to be quoted without prior reference to the authors

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Quality statement: This report is a compilation of the information included on the reports provided daily/weekly to the FSA and showing the results of the phytoplankton and toxin analyses undertaken on samples submitted by local authorities. All results were quality checked and approved prior to release to the FSA and the results compiled in this report have been further checked against a copy of the original reports held on a central database. Information relating to the origin of the samples (place (including co-ordinates), date and time of collection) is as provided by local authority staff and has not undergone verification checks by Cefas.

 The co-ordinates used to depict the location of the monitoring points are the default co-ordinates of the FSA sampling points.

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1. Executive summary

This report describes the results of the Official Control Biotoxin Monitoring Programme for England and Wales for the period 1st January to 31st December 2014. Results from previous periods are available on the toxin monitoring pages of the Cefas website.
The laboratory testing for biotoxins in shellfish and harmful phytoplankton in water, co-ordination of the programme and its logistics were conducted by the Centre for Environment, Fisheries and Aquaculture Science (Cefas) on behalf of the Food Standards Agency (FSA), the national competent authority for food safety. The programme aimed at delivering the testing required for the statutory monitoring of marine biotoxins in shellfish classified production and relaying areas, as described in EC Regulations 854/2004, 882/2004 and 2074/2005.

In the reported period, 53 of the 54 classified English and Welsh harvesting and relaying areas were monitored (directly or indirectly[1]) from 94 inshore sampling locations (Figures 1 and 2), giving a coverage rate of 98%[2]. A total of 844 inshore shellfish samples and 998 phytoplankton samples were submitted for analysis by staff from 37 local authorities.

In addition to the samples collected from inshore classified production and relaying areas, samples of wild Pectenidae were collected from auction houses, dispatch centres and/or processing plants in 2014 for the purpose of wild pectenidae verification monitoring.
A total of 126 samples (consisting of 76 samples of whole king scallops and 50 processed products) were submitted by 15 local authorities.

[1] In this case, the classified production areas were monitored by sampling adjacent areas where appropriate
[2] 2% of the classified production areas were commercially inactive during the reporting period and hence not monitored

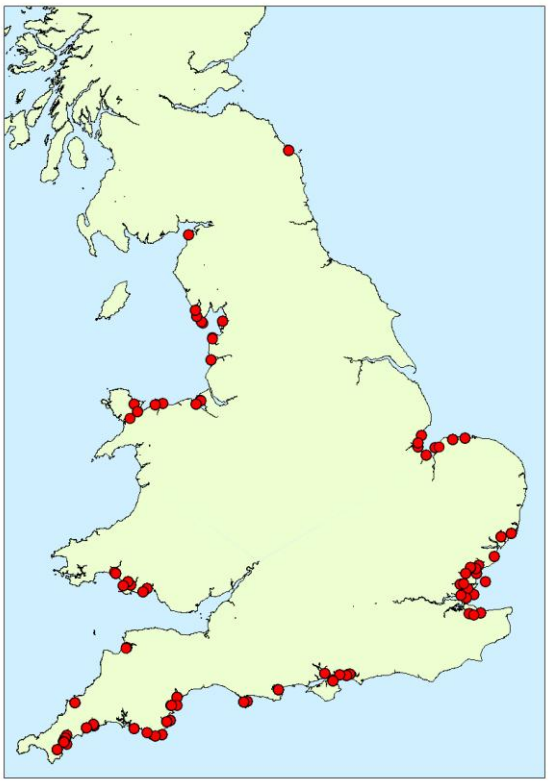


Figure 1: English and Welsh flesh sampling locations – 2014 Biotoxin monitoring programme

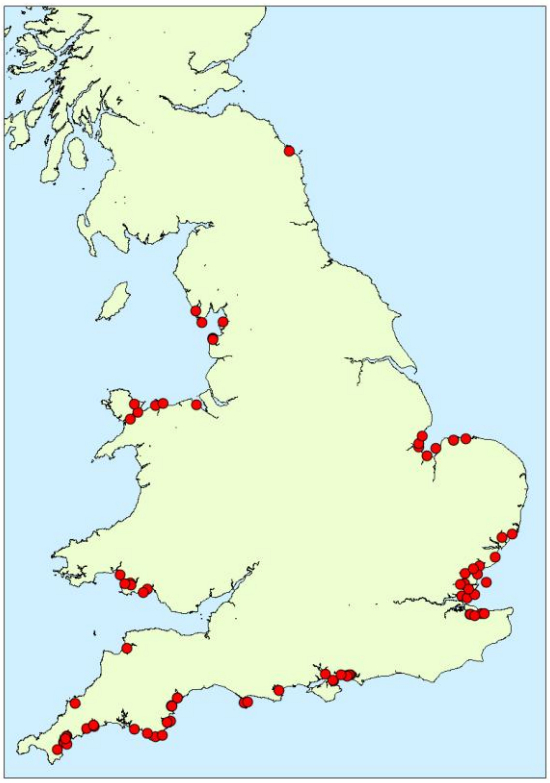


Figure 2. English and Welsh water sampling locations – 2014 Biotoxin monitoring programme

Results of the shellfish monitoring programme for the twelve month period were as follows (all toxin results stated for paralytic shellfish poisoning toxins (PSP) and lipophilic toxins (LTs) refer to the high value calculated from method uncertainty):

- **ASP Summary**

703 inshore shellfish samples were tested for Amnesic Shellfish Poisoning (ASP) toxins using a high performance liquid chromatography (HPLC) method. ASP toxins were detected in 36 samples from 22 production areas (Figure 3). Twenty six of these results were recorded in the south west of England, from Poole in Dorset to the Taw/Torridge in North Devon, between April and July. The number of occurrences of ASP has varied year on year, however 2014 has recorded the highest number of individual occurrences, over the largest number of production areas since Cefas started testing in 2001.

One sample of mussels exceeded the maximum permitted limit (MPL) of 20 mg [domoic+*epi*-domoic acid]/kg [shellfish tissue] (Table 1 & Figure 4). This sample had been collected from the Portland production area on 13/05/2014. It is the first time that ASP toxins have exceeded the MPL in an English classified production and relaying area since 2001. ASP toxins below the MPL and *Pseudo-nitzschia* species above the re-sampling trigger level (set at 150,000 cells/L) were detected in the week prior to the 13/05/2014 in this production area.

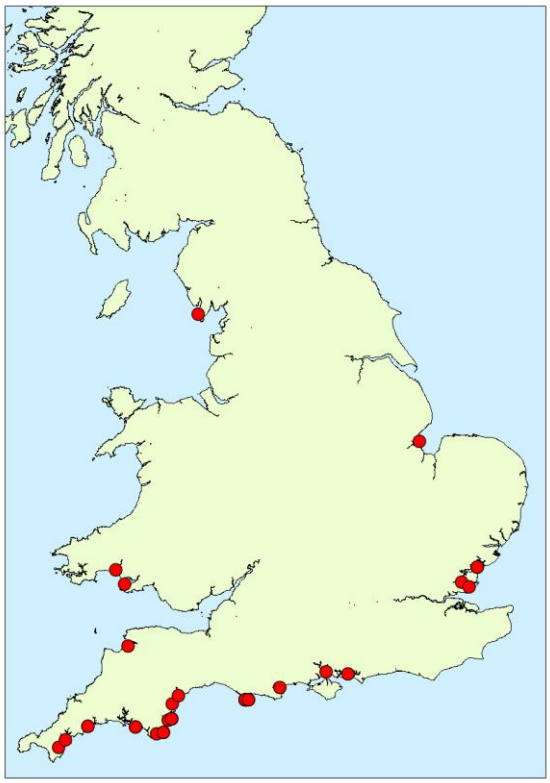


Figure 3: Location of sites where ASP toxins were detected below the MPL (20 mg [domoic+*epi*-domoic acid]/kg [shellfish tissue] from classified production and relaying areas

Figure 4: Location of sites where ASP toxins were detected above MPL (20 mg [domoic+*epi*-domoic acid]/kg [shellfish tissue] from classified production and relaying areas

A further 115 samples of scallops were analysed for ASP toxins, consisting of 67 whole shellfish samples and 48 samples which had been shucked prior to collection by the local authority (pre-shucked). Of the 67 whole scallop samples, 63 contained ASP toxins with 61 exceeding the MPL. All samples which exceeded the MPL were collected by local authorities along the south west coast of England (Cornwall to Dorset). Where ASP toxins were detected, concentrations ranged from 9 to 174 mg/kg. Results peaked in June 2014 and have shown a steady decline since that time although all whole scallops samples collected from the South West coast and submitted between June and December 2014 continued to record ASP results above the MPL. Of the 47 shucked samples, 23 contained low levels of ASP toxins ranging from 1.1 to 4.5 mg/kg.

PSP summary

744 shellfish samples were screened for PSP toxins using a separate HPLC method. Three samples were forwarded for full quantitative analysis, with one mussel sample from the Yealm production area (collected on 25/06/2014) recording a high value of 315µg STX eq/kg (Figure 5). This is the lowest number of recorded PSP occurrences in England and Wales since the HPLC full quantitative method was introduced in 2008. This may be partially attributed to several sites which have traditionally recorded PSP toxins not being monitored over the period from April to September 2014, due to changes in harvesting activities (Fal, Fowey and Milford Haven).

Figure 5: Location of sites where PSP toxins were detected (below the MPL of 800 µg [saxitoxin di-HCl equivalent]/kg [shellfish tissue]) in 2014 from classified production and relaying areas

An additional 35 scallop samples were analysed for PSP toxins (22 whole scallops and 13 shucked samples). Three samples were analysed using the full PSP quantitative method, however concentrations did not exceed the method reporting limit of 160 µg STX eq/kg.

- **Lipophilic toxins summary**

A total of 753 samples were analysed for LTs using a Liquid Chromatography with tandem mass spectrometry (LC-MS/MS) method. The lipophilic toxins are sub-divided into the three regulated groups.

  - Yessotoxins (YTXs) were detected in one mussel sample collected from the Brixham production area (Figure 6) on 03/06/2014. This is the first time YTXs have been detected in an English classified production/relaying area since the LCMS method was introduced in 2011. The result did not exceed the MPL (set at 3.75 mg YTX eq/kg).

- Azaspiracid group toxins (AZAs) were detected in one Pacific oyster sample from the Holy Island production area (Figure 6). The results did not exceed the MPL (set at 160 µg AZA1 eq/kg).

Figure 6: Location of sites where AZA ( ) and YTX ( ) group toxins were detected in 2014 (all below the MPL)

- Okadaic Acid/Dinophysistoxins/Pectenotoxins (OA/DTX/PTX) were detected in 92 samples from twelve production areas (Figure 7). This is the highest number of recorded instances of LTs in inshore shellfish since the LC-MS/MS method was introduced in 2011. Twenty four mussel samples from three production areas contained OA/DTX/PTXs above the MPL (set at 160 µg OA eq/kg) (Table 1 & Figure 8).

The St. Austell Bay production area recorded 11 consecutive results above the MPL (the largest number of consecutive >MPL results for any English or Welsh production area since the LC-MS/MS method was introduced). Thirteen results in total exceeded the MPL between 01/07/2014 and 22/09/2014. *Dinophysiaceae* were detected on the 17/06/2014 along with OA/DTX/PTX group toxins below the MPL (59 µg/kg). This instigated weekly sampling, with the following weeks results showing a continued increase in concentration of this toxin group. Recorded toxin concentrations reached a peak on 04/08/2014 of 3700 µg/kg (over 20 times the regulatory limit). It was not until a sample collected on the 01/10/2014 that the site recorded a second consecutive result below the MPL and was subsequently allowed to reopen. Toxins continued to be detected in this production area until the end of November 2014.

The Fowey production area (which is adjacent to the St. Austell Bay area) recorded five results above the MPL in samples collected between 14/07/2014 and 18/08/2015. The highest concentration during this event was recorded in a sample collected on 28/07/2014 (623 µg/kg). In the month prior to toxins exceeding the MPL, both *Dinophysiaceae* and OA/DTX/PTX toxins were detected, which instigated weekly sampling in this production area. The second consecutive result below the MPL was recorded in a sample collected on 01/09/2014. This toxin group continued to be detected at this site until the end of 2014.

The Taw/Torridge production area recorded six consecutive results above the MPL in samples collected between 11/08/2014 and 15/09/2014. The highest concentration during this event was recorded in a sample collected on 18/08/2015 (583 µg/kg). The second consecutive result below the MPL was recorded in a sample collected on 29/09/2014. This toxin group continued to be detected at this site until the end of 2014.

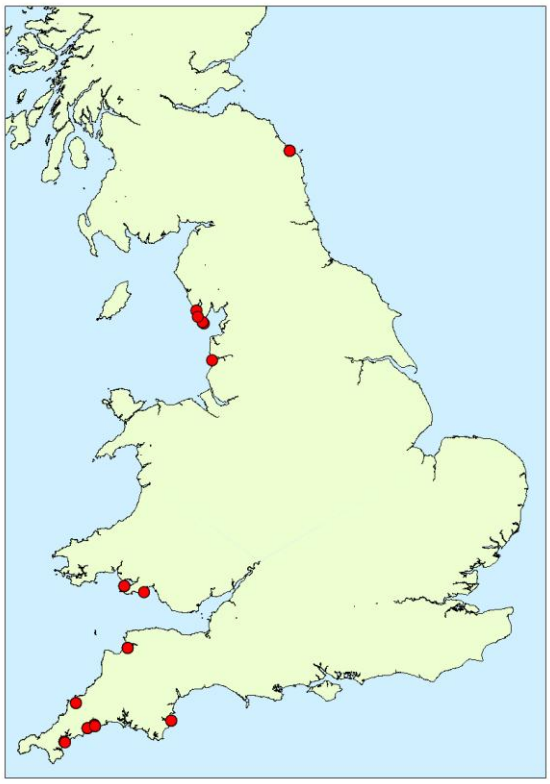


Figure 7: Location of sites where OA/DTXs/PTXs group toxins were detected below the MPL of 160 µg [OA equivalent]/kg [shellfish tissue] in 2014 from classified production and relaying areas

Figure 8: Location of sites where OA/DTXs/PTXs group toxins were detected above the MPL of 160 µg [OA equivalent]/kg [shellfish tissue] in 2014 from classified production and relaying areas

Table 1: Summary of sites where either ASP, PSP or lipophilic toxins were detected above the regulatory limits in 2014.

Toxin	Samples where toxin levels exceeded the maximum permitted level (ASP: > 20 mg [domoic +*epi*-domoic acid]/kg [shellfish flesh]; OA/DTXs/PTXs: >160 µg [OA eq.]/kg [shellfish flesh]; AZAs: >160 µg [AZA1 eq.]/kg [shellfish flesh]; YTXs: >3.75 mg [YTX eq.]/kg [shellfish flesh]; PSP: > 800 µg [STX eq.]/kg [shellfish flesh])			
	Local Authority	**Production area & site**	**Date samples collected**	**Highest value reported (Shellfish species)**
ASP	Weymouth PHA	Portland: North Eastern Breakwater	13/05/2014	36 mg/kg (Mussels)
OA/DTXs/ PTXs	Cornwall PHA	St. Austell Bay: Ropehaven Outer	01/07/2014 to 22/09/2014 (13 samples during this period)	3513 ug/kg (Mussels)
		Fowey: Pont Pill	14/07/2014 to 18/08/2014 (5 samples during this period)	623 ug/kg (Mussels)
	Torridge DC	Taw/Torridge: Spratt Ridge East	11/08/2014 to 15/09/2014 (6 samples during this period)	583 ug/kg (Mussels)
AZAs	None	None	None	None
YTXs	None	None	None	None
PSP	None	None	None	None

- **Insufficient/unsuitable samples**

Seventeen samples (2%) were not tested during the reported period for various reasons including sample quality, timeliness or frequency of submission or ongoing toxin events. Two other samples were not analysed due to an issue at the laboratory.

Results of the phytoplankton monitoring from classified production and relaying areas for the twelve month period are summarised below. Where the stated trigger levels were exceeded additional flesh and water samples were requested the following week.

- *Pseudo-nitzschia* species were recorded in 511 samples from 50 production areas. The trigger level (set at 150,000 cells/L) was exceeded on 19 occasions from 8 production areas (Figure 10). The highest concentration was recorded in a sample from Brixham: Fishcombe Cove collected on 03/06/2014 (1,347,000 cells/L). The number of samples which have exceeded the trigger level has varied from year to year with 4 in 2007, up to 33 in 2006. 2014 did not see an exceptional number of samples exceeding the trigger level and the peak concentration recorded was relatively low compared to previous years. However, all samples which exceeded the trigger level were recorded on the south west coast of England (Devon and Dorset) and this was associated with much higher levels of ASP toxins recorded in flesh samples from these areas.
- *Alexandrium species* were recorded in 41 samples from 19 production areas (Figure 9). This is the lowest number of recorded *Alexandrium* occurrences since the water monitoring programme was introduced in its current form in June 2005. The highest cell concentration recorded in 2014 was 1,300 cells/L in a sample from the Yealm, Devon in September (the trigger level is presence). The low number of occurrences may (as stated in the PSP summary) be partly attributed to a number of sites not being monitored over the course of the summer months.
- *Dinophysiaceae* were recorded in 90 samples from 26 production areas. The trigger level (set at 100 cells/L) was exceeded by 71 samples from 24 production areas (Figure 11). This is the highest number of trigger level breaches recorded since June 2005, (an 82% increase from 2013 with 39 samples from 13 production areas). *Dinophysiaceae* were detected consistently prior to and during toxins events in both the Fowey and St. Austell Bay production areas.
- *Prorocentrum lima* was detected in 4 samples from 3 production areas. The trigger level (set at 100 cells/L) was exceeded by 2 samples from 2 production areas (Figure 12)**.** This is consistent with previous reporting periods with *Prorocentrum lima* occurring infrequently and at low concentrations.

Of the 998 phytoplankton samples submitted, 9.1% (n=91) of the phytoplankton samples were rejected as unsuitable for analysis, 79 due to high sediment content. This is an increase of 2.4% from the previous year. A further 12 samples were not analysed for various reasons including sample quality, timeliness or frequency of submission or ongoing toxin events.

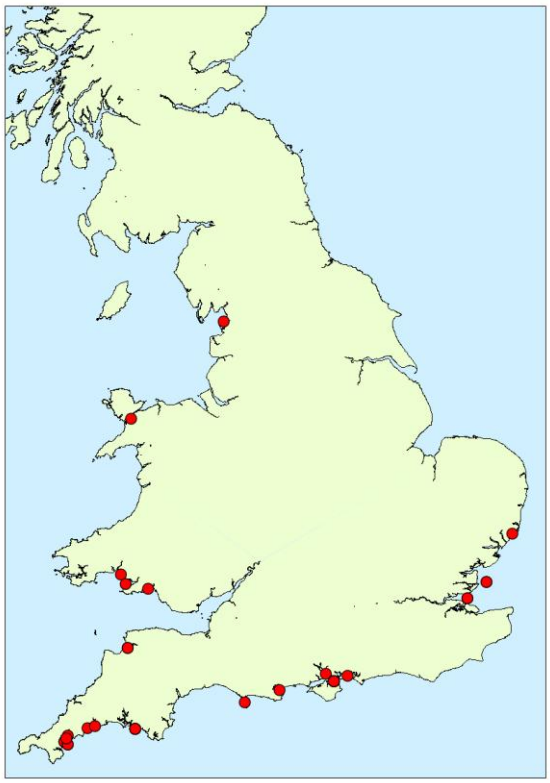


Figure 9: Locations of sites where *Alexandrium* species were detected above trigger level in 2014

Figure 10: Locations of sites where *Pseudo – nitzschia* species were detected above trigger level in 2014

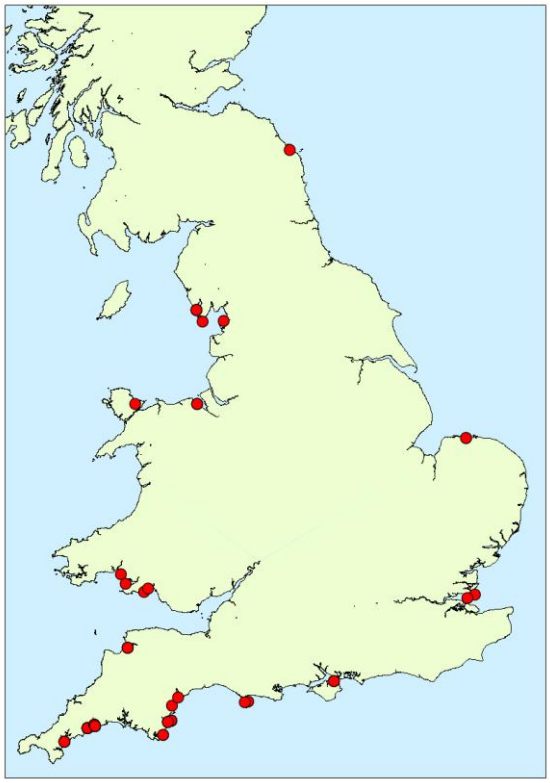


Figure 11: Locations of sites where *Dinophysiaceae* were detected above trigger level in 2014

Figure 12: Locations of sites where *Prorocentrum lima* was detected above trigger level in 2014

2. Glossary

AOAC	AOAC International
ASP	Amnesic Shellfish Poisoning
AZA	Azaspiracid
AZP	Azaspiracid Poisoning
Cefas	The Centre for Environment, Fisheries and Aquaculture Sciences
DA	Domoic Acid
DSP	Diarrhetic Shellfish Poisoning
DTX	Dinophysistoxin
dcSTX	decarbomoyl Saxitoxin
EC	European Commission
EU	European Union
EURL	European Union Reference Laboratory for Marine Biotoxins
EHO	Environmental Health Officer
FSA	Food Standards Agency
GTX	Gonyautoxin
HPLC	High Performance Liquid Chromatography
LA(s)	Local Food Authority(ies)
LC-MS	Liquid Chromatography – Mass Spectrometry
LTs	Lipophilic toxins
MPL	Maximum permitted limit
N/A (na)	Not Applicable
ND	Not Detected
OC	Official Controls
OA	Okadaic Acid
PSP	Paralytic Shellfish Poisoning
PST	Paralytic Shellfish Toxins
PTX	Pectenotoxin
PTX2sa	Pectenotoxin 2 seco acid
7-*epi* PTX2sa	7-epi-Pectenotoxin 2 seco acid
RL (<RL)	Reporting Limit
SOP(s)	Standard Operating Procedure(s)
STX	Saxitoxin
UKNRL	UK National Reference Laboratory for Marine Biotoxins
YTX	Yessotoxin

3. Introduction

At certain times of the year naturally occurring algae in the sea can give rise to blooms, which may not necessarily be visible or noticeable. Algae in these blooms may produce potent and secondary metabolites which can accumulate in filter-feeding bivalve molluscs and also sometimes in other shellfish such as grazing gastropods.

Consumption of shellfish contaminated with biotoxins may pose risks to the human consumer and impact the seafood industry. To date, eight major classes of marine phytotoxins have been identified and are distinguished by their chemical structure and physico-chemical behaviour. Five of these groups are known to induce human illness - Okadaic acid and Dinophysistoxins (OA/DTXs) responsible for Diarrhetic Shellfish Poisoning (DSP), Azaspiracids (AZAs) responsible for Azaspiracid Poisoning (AZP), the Saxitoxins linked to Paralytic Shellfish Poisoning (PSP), domoic acid responsible for Amnesic Shellfish Poisoning (ASP) and the brevetoxins linked with Neurotoxic Shellfish Poisoning (NSP). Pectenotoxins (PTXs), Yessotoxins (YTXs) and Cyclic Imines (CIs) form the remaining three groups, although currently there is a lack of toxicological evidence regarding human illness from these compounds.

In the European Union (including the UK), there are three major shellfish biotoxin groups which are subject to statutory testing to protect human health:

1. PSP toxins: PSP is associated with algae of the genera *Alexandrium, Gymnodinium* and *Pyrodinium*. The active component in PSP is saxitoxin and its derivatives, which act upon blocking the voltage dependent sodium channels in nerves, thereby blocking nerve conduction. The symptoms seen following consumption of PSP affected shellfish include numbness in the mouth and fingertips followed by impaired muscle co-ordination. Respiratory distress and paralysis can occur and this may be fatal.

   In recent years, PSP toxins have been detected in flesh samples from the Helford, Fal, Fowey, Yealm and Salcombe production areas in the South West, in the Milford Haven production area in South Wales and in the Holy Island production area in the Northwest. PSP toxicity is usually an annual event in many of the above locations, although levels may not exceed the maximum permitted limit (MPL) of 800µg [saxitoxin equivalent (STX eq.)] per kilogram [shellfish tissue] (EC Regulation 853/2004).

   Lipophilic toxins: Of the lipid-soluble toxins, it is the OA/DTXs, AZAs, YTXs, PTXs, and CIs that contribute to this class and collectively, they are referred to as lipophilic toxins (LTs). DSP toxins (OA and DTX groups) are produced by algae of the genera *Dinophysis* and *Prorocentrum.* PTXs are also produced by algae of the genera *Dinophysis*. AZP toxins (AZAs) are produced by *Azadinium* and *Amphidoma* species. Predominant symptoms of DSP and AZP are diarrhoea, nausea, vomiting and abdominal pain. OA and DTX-1 have also been shown to be cancer promoters in mouse skin bioassays and this poses another possible health problem (van Egmond *et al*. 1993). YTXs are produced by a number of algal species including *Lingulodinium polyedrum, Gonyaulax spiniferia* and *Protoceratium reticulatum.*

Since the introduction of the LC-MS/MS method in England and Wales in July 2011, OA/DTX/PTXs have been detected in 14 production areas. Samples from five of these areas; St. Austell Bay, Fowey and the Taw/Torridge in South West England, Swansea Bay in South Wales and Blackwater on the east of England have recorded concentrations which exceed the MPL. AZAs have been detected in two production areas; Holy Island in the North East and St. Austell Bay. In both cases recorded levels did not exceed the MPL. Prior to 2014 YTXs had not been detected in England and Wales.

2. ASP toxins: ASP is caused by domoic acid produced by marine diatoms of the genus *Pseudo-nitzschia.* Symptoms include vomiting, diarrhoea, abdominal cramps and loss of short term memory which may be permanent. In a small number of cases ASP has been fatal.

   ASP toxins have been detected in 35 production areas since 2001 including the Blackwater, River Alde and Colne production areas on the East coast; in the Holy Island production area in the North East; in the Liverpool Bay production area in the North West; in the Three Rivers and Burry Inlet production areas in South Wales and in the Fal, Start Bay, Brixham and Portland production areas in the South West. There had been no instance of ASP exceeding the MPL set at 20mg [Domoic/epi-domoic acid] per kg shellfish flesh in shellfish from classified production/relaying areas between 2001 and 2014.

Because of the above health risks to consumers of shellfish, legal controls are placed on the production and marketing of fishery products worldwide. In the European Union controls are prescribed in Regulation (EC) 854/2004. Regulation (EC) 853/2004 prescribes the statutory maximum levels of biotoxins permitted in live bivalve molluscs being placed on the market by food business operators. Chapter V of Section VII, Annex III applies to the statutory levels of biotoxins. The regulations are further supported by Regulation (EC) 2074/2005 which lays down the implementing measures for certain products, including live bivalve molluscs. Regulation (EC) 882/2004 further specifies requirements for the methods used for analysis of official control samples and the validation status of these methods. The above package of EU Regulations is directly applicable across all member states and is intended to ensure a uniform approach to feed and food law across Europe.

Table 2: Regulatory limits of toxins in shellfish flesh[3]

Toxin	Maximum Permitted Limits
ASP	Exceeding 20 mg [Domoic/epi-domoic acid]/kg [shellfish flesh]
LTs	Diarrhetic shellfish poisoning (DSP) toxins and pectenotoxins (PTX) together, exceeding 160µg [okadaic acid (OA) equivalents]/kg [shellfish flesh] or Yessotoxins, exceeding 3.75mg [yessotoxin (YTX) equivalents]/kg [shellfish flesh] or Azaspiracids, exceeding 160µg [azaspiracid (AZA) equivalents]/kg [shellfish flesh].
PSP	Exceeding 800µg [saxitoxin equivalents (STX di-HCl eq.)]/kg [shellfish flesh]

In the UK the national competent authority is the Food Standards Agency (FSA), which delegates stated official control functions through local Food Authorities e.g. local

[3] Regulation (EC) 853/2004

enforcement and sampling activities. The Centre for Environment, Fisheries and Aquaculture Science (Cefas) is contracted by the FSA to undertake the co-ordination of the programme and its logistics, laboratory analysis for marine biotoxins and harmful phytoplankton and provide scientific advisory duties for the official control monitoring programme for marine biotoxins in England and Wales.

Monitoring for algal biotoxins during the reported period was divided into three elements, the flesh monitoring programme, where samples of shellfish from designated shellfish harvesting areas were tested, and the phytoplankton monitoring programme, where water samples were collected from fixed sites within selected harvesting areas and the composition of marine algae identified and enumerated. In 2014, samples of wild Pectenidae were also collected from auction houses, processing plants and/or dispatch centres in accordance with FSA guidelines. Sampling frequencies, analysis required and sample composition (shucked or whole animal) were defined on a risk based strategy by the local authority submitting the sample.

This report summarises the findings of the English and Welsh biotoxin monitoring programme for the period 1st January to 31st December 2014.

4. Results of the 2014 English and Welsh biotoxin monitoring programme from classified production and relaying areas

Between 1st January and 31st December 2014, shellfish and phytoplankton samples were collected for analysis from inshore sampling sites selected from 53 designated bivalve mollusc production and relaying areas classified in England and Wales, as of September 2014 (Figure 1).

The Anglesey – Inland Sea production area was not monitored as no commercial harvesting took place in 2014. Monitoring in the Anglesey – Red wharf Bay and Bigbury and Avon production areas ceased during 2014 due to changes in harvesting patterns. The Morecambe Bay – Roosebeck area was monitored indirectly; using flesh and water samples from an adjacent production area (within a 10km radius). The reason for this approach was due to the inaccessibility of monitoring points. For the purposes of this report, the Fal and Truro River are all listed as The Fal production area.

Methodologies for the collection of shellfish samples, their transport to the laboratory, the assessment of samples on arrival, toxin analyses and reporting of results to the FSA are described in Appendix 1 of this report.

Methodologies for the collection of water samples, their transport to the laboratory, their assessment on arrival, the enumeration and identification of phytoplankton cells and the reporting of results to the FSA are described in Appendix 2 of this report.

The following section gives a breakdown of all results and logistics overview by local authority and production area for the period 1st January to 31st December 2014.

Map Key

Biotoxin monitoring point

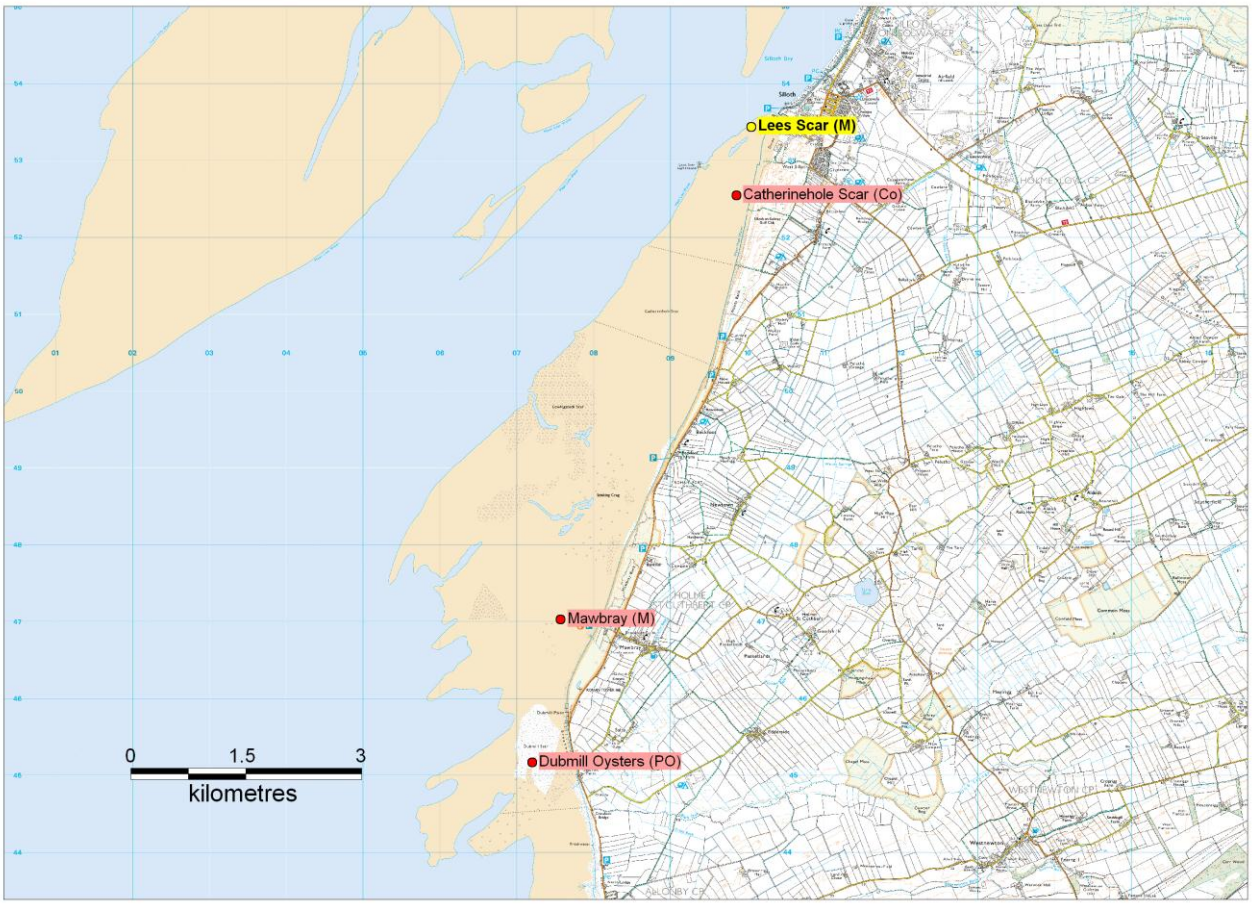
Classification monitoring point only

Species abbreviations:

M: Mussels (*Mytilus* spp)
PO: Pacific oysters (*C. gigas*)
NO: native oysters (*O. edulis*)
Co: Cockles (*C. edule)*
HC: Hard clams (*M. mercenaria*)
CLS: Sand Gapers (*Mya arenaria*)
Man: Manila clams (*T. philippinarum*)
PFS: Peppery Furrow Shell (*S. plana*)
Raz: Razor shells (*Ensis* spp)
SC: Surf clams (*S. solida*)
Ts: *Tapes* species
Qrty: Quarterly classification sampling

4.1. Allerdale BC

Silloth



Sample Details

	Flesh	Water
Biotoxin monitoring point	Lees Scar (B059L) - Mussels	N/A (see comments)
Classification points only	Mawbray (M), Catherine Hole Scar (Co), Dubmill Oysters (PO)	
Alternate Point used	No	N/A
Fortnightly monitoring (April to Sept)	No	N/A

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	N/A
No. of samples received	9	N/A
No. of Insufficient/ unsuitable samples	0	N/A

Silloth (cont)

Flesh Results

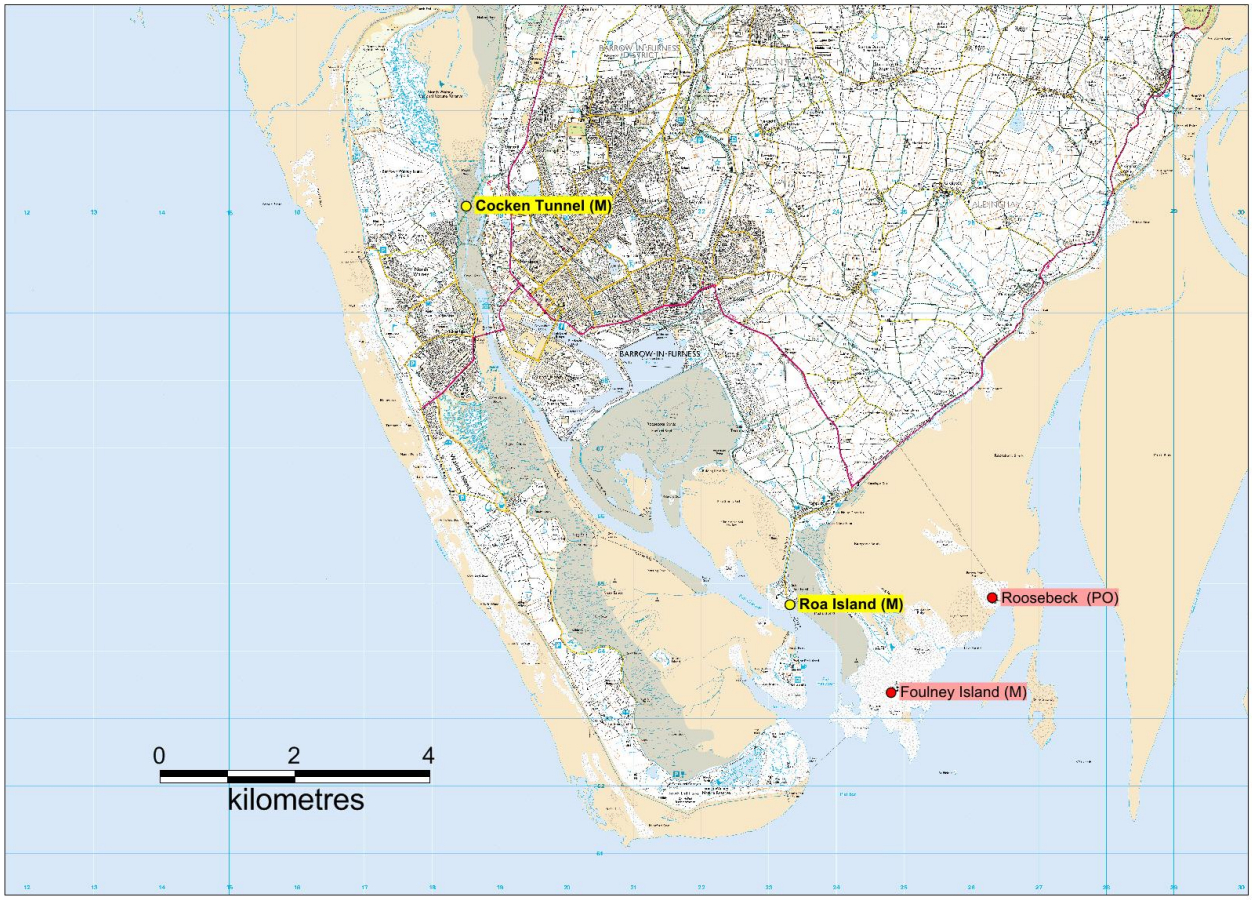
No. of samples tested for ASP	**9**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**9**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**9**
No. of sample PSP detected (>MPL)	**0 (0)**

Comments

LA unable to collect water samples due to access issues (agreed with the competent authority)

4.2 Barrow-in-Furness BC

Morecambe Bay – Barrow



Sample Details

	Flesh	Water
Biotoxin monitoring point	Cocken Tunnel (B077B) - Mussels Roa Island (B077D) - Mussels	Roa Island (B077D)
Classification points only	Foulney Island (M), Roosebeck (PO)	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12 per site	18
No. of samples received	Cocken Tunnel – 12 Roa Island - 14	18
No. of insufficient/ unsuitable samples	0	0

Morecambe Bay – Barrow (cont.)

Flesh Results

	Cocken Tunnel	Roa Island
No. of samples tested for ASP	**12**	**12**
No. of samples ASP detected (>MPL)	**1 (0)**	**0 (0)**
No. of samples tested for LTs	**12**	**14**
No. of samples OA/DTX/PTXs detected (>MPL)	**2 (0)**	**6 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples tested for PSP	**12**	**12**
No. of sample PSP detected (>MPL)	**0 (0)**	**0 (0)**

Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**14 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**1 (1)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

Roa Island is used to represent the Foulney Twist mussel bed & Roosebeck Pacific oyster bed in the Morecambe Bay – Roosebeck production area.
One sample of mussels was submitted from Foulney Island – this result is included in the Roa Island results

Duddon

Sample Details

	Flesh	Water
Biotoxin monitoring point	Duddon Channel (B052D) - Mussels	Duddon Channel (B052D)
Classification points only	As above	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	Yes	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	14	14
No. of samples received	12	13
No. of insufficient/ unsuitable samples	0	2

Duddon (cont.)

Flesh Results

No. of samples tested for ASP	**8**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**10**
No. of samples OA/DTX/PTXs detected (>MPL)	**4 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**12**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**11 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**4 (4)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

4.3 Boston BC

The Wash

Sample Details

	Flesh	Water
Biotoxin monitoring point	Toft (B003V) - Mussels	Toft (B003V)
Classification points only	North Lays (Co), Black Buoy (Co), Welland Wall (M), Nene Mouth (Co), Ouse Mouth (Co) Hunstanton – Holmeside (M)	
Alternate point used	Yes (see comments)	Yes (see comments)
Fortnightly monitoring (April to Sept)	No	No

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	Wrangle – 6 Maretail – 6 Toft – 6	Wrangle – 6 Maretail – 6 Toft – 6
No. of samples received	Wrangle – 6 Maretail – 6 Toft – 6	Maretail - 6 Toft - 6 Wrangle - 6
No. of insufficient/ unsuitable samples	0	0

The Wash (cont.)

Flesh Results

	Wrangle	Maretail	Toft
No. of samples tested for ASP	**6**	**6**	**6**
No. of samples ASP detected (>MPL)	**0 (0)**	**0 (0)**	**1 (0)**
No. of samples tested for LTs	**6**	**6**	**6**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples tested for PSP	**6**	**6**	**6**
No. of sample PSP detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**

Water Results

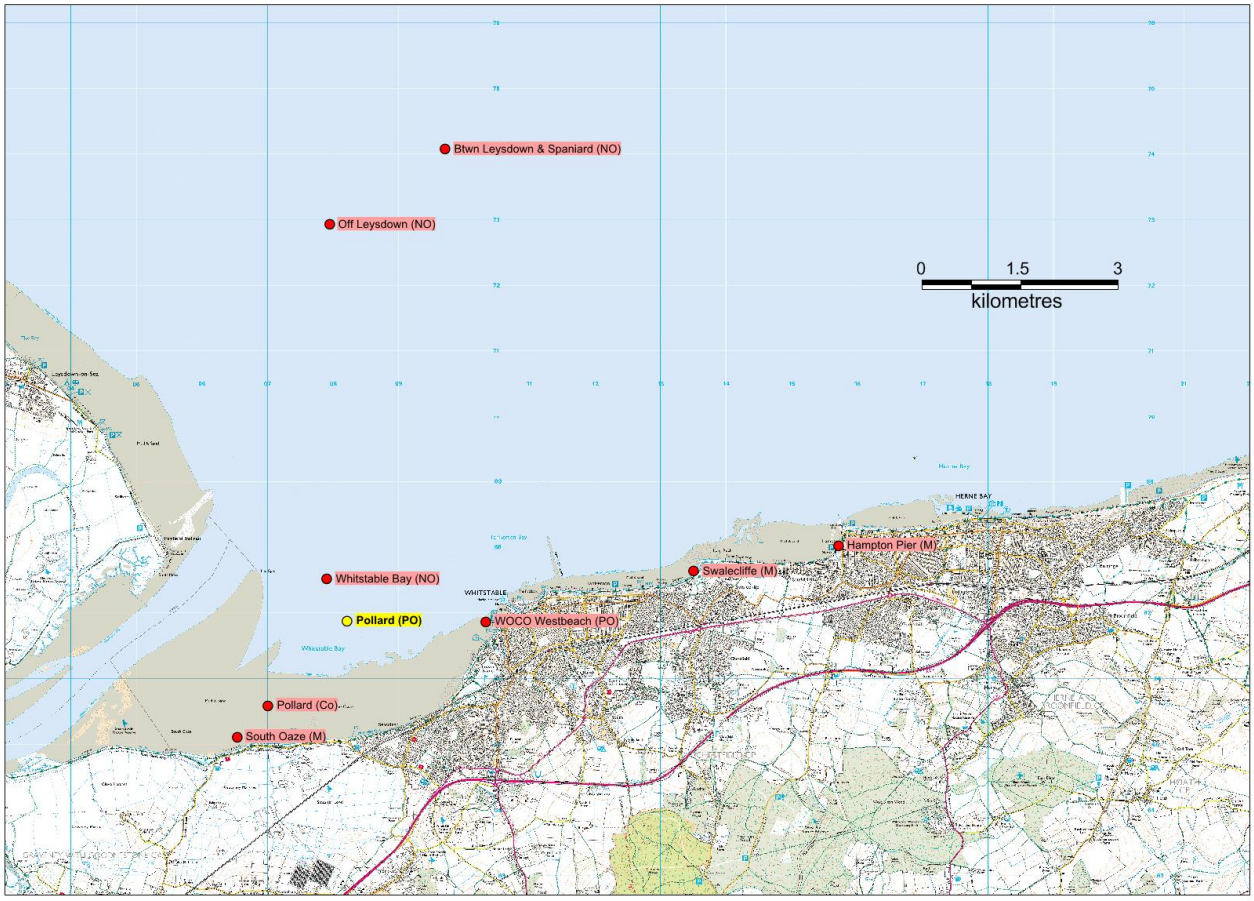
	Wrangle	Maretail	Toft
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**2 (0)**	**1 (0)**	**3 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**	**0 (0)**	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**	**0 (0)**	**0 (0)**

Comments

This production area underwent a sanitary survey in 2013/2014. The recommended alternative sampling points were incorporated from July 2014. The previous monitoring points are shown as not current in the map above.
For biotoxin results from Stubborn Sand, Heacham South and Breast Sand please see Kings Lynn and West Norfolk BC

4.4 Canterbury CC

North Kent Coast



Sample Details

	Flesh	Water
Biotoxin monitoring point	Pollard (B17AM) – Pacific Oysters	Whitstable Harbour
Classification points only	Between Leysdown and Spaniard (NO), Off Leysdown (NO), Whitstable Bay (NO), Pollard (Co), South Oaze (M), WOCO Westbeach (PO), Swalecliffe (M), Hampton Pier (M)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	12	17
No. of insufficient/ unsuitable samples	0	9

North Kent Coast (cont.)

Flesh Results

No. of samples tested for ASP	**12**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**12**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**12**
No. of sample PSP detected (>MPL)	**0 (0)**

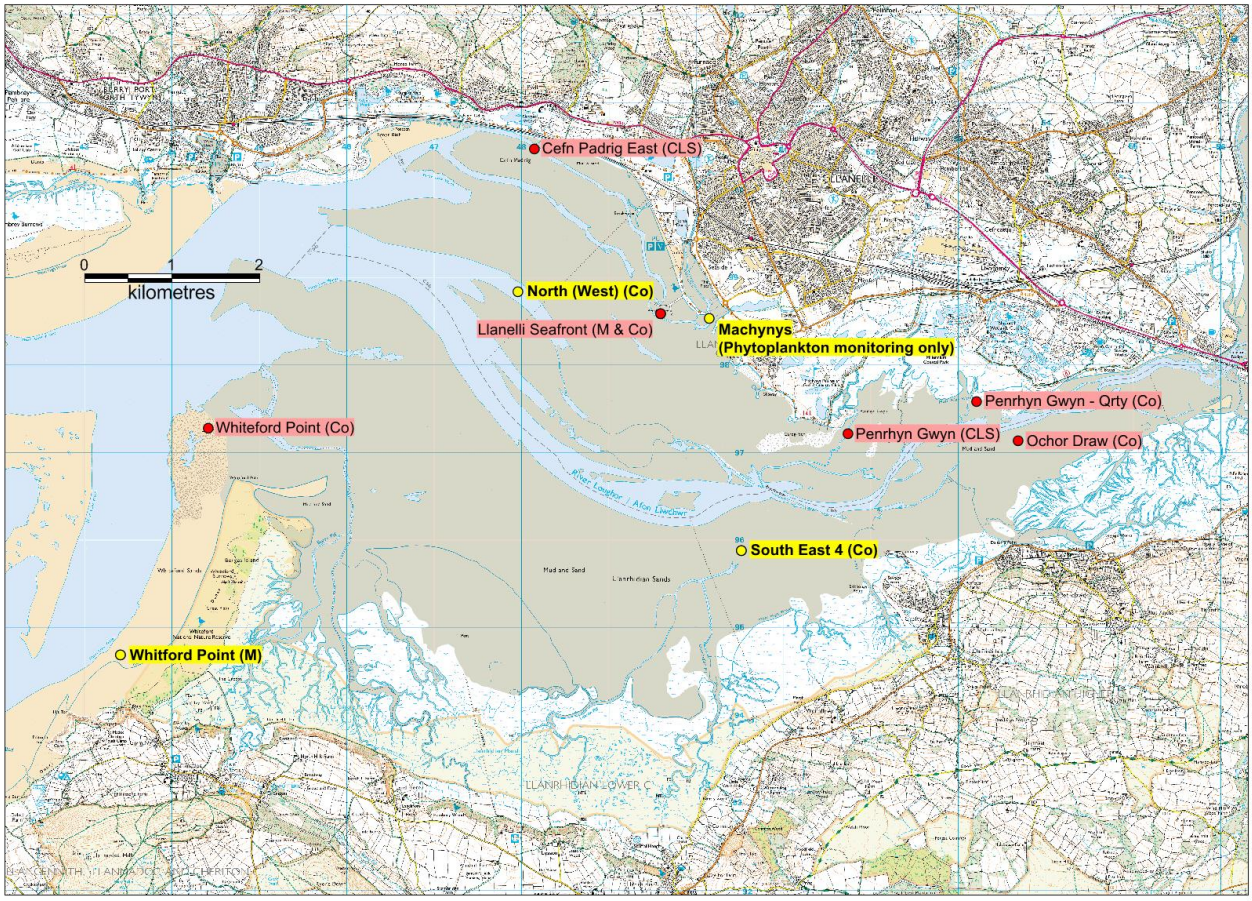
Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**1 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

4.5 Carmarthenshire CC

Burry Inlet



Sample Details

	Flesh	Water
Biotoxin monitoring point	North (West) (B038B) - Cockles	Machynys (B038D)
Classification points only	Whitford Point (Co), Cefn Padrig East (CLS), Llanelli Seafront (M & Co), Penrhyn Gwyn (CLS), Penrhyn Gwyn (Co) - Qrty, Ochor Draw (Co)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	11	19
No. of insufficient/ unsuitable samples	0	4

Burry Inlet (cont.)

Flesh Results

No. of samples tested for ASP	**11**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**11**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**11**
No. of sample PSP detected (>MPL)	**0 (0)**

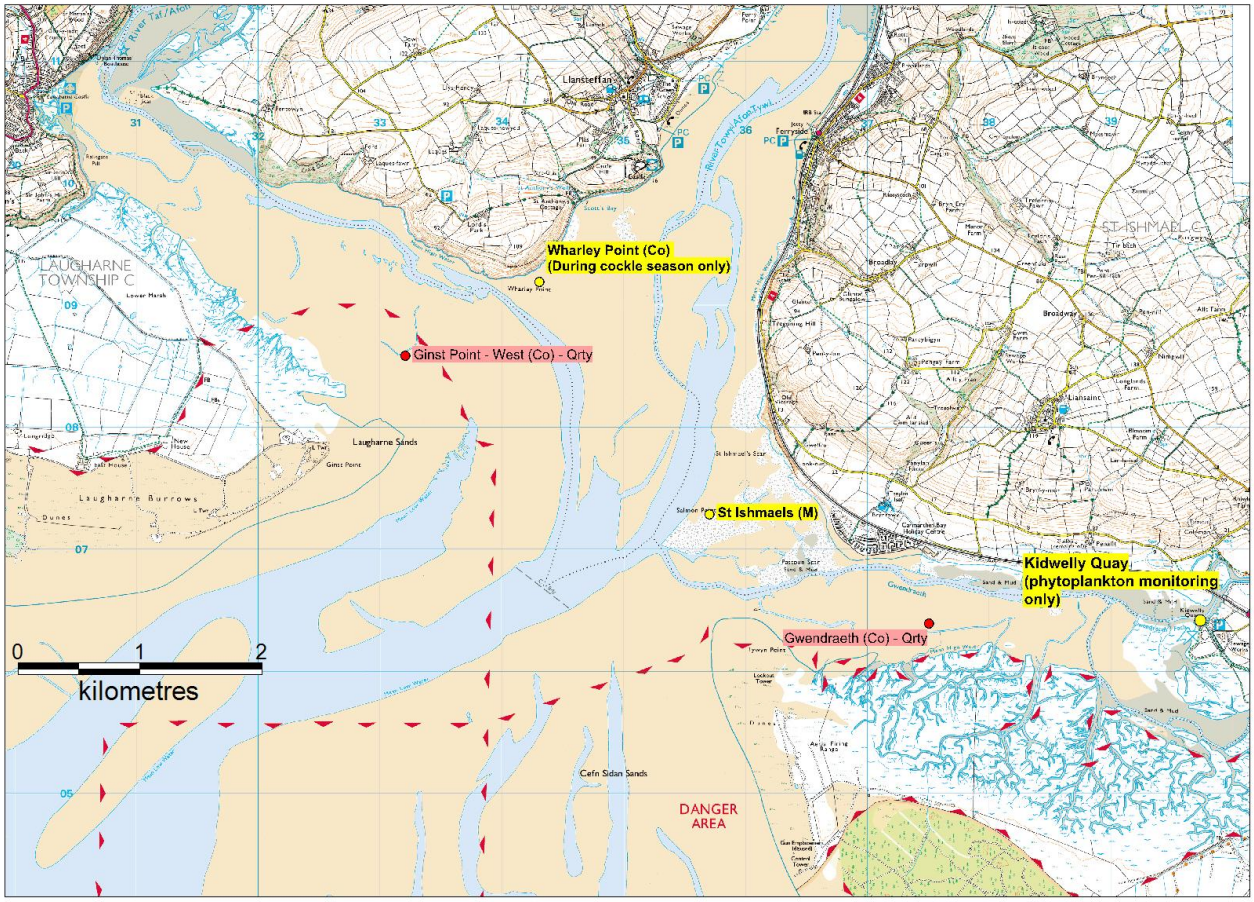
Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**10 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

For results from Whitford Point (M) and South East 4 please see the City and Council of Swansea.
Water samples are collected from an old site B038D Machynys as the LA are unable to access near the sampling point at high tide

Three Rivers



Sample Details

	Flesh	Water
Biotoxin monitoring point	St. Ishmaels (B071E) - Mussels Wharley Point (B071B) – Cockles (Dormant)	Kidwelly Quay
Classification points only	Ginst Point – West (Co) - Qrty, Gwendraeth (Co) - Qrty	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31s August 2014	
No. of samples expected	7	17
No. of samples received	8	16
No. of insufficient/ unsuitable samples	0	3

Three Rivers (cont.)

Flesh Results

	St. Ishmaels	Wharley Point
No. of samples tested for ASP	**7**	**1**
No. of samples ASP detected (>MPL)	**0 (0)**	**1 (0)**
No. of samples tested for LTs	**7**	**1**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples tested for PSP	**7**	**1**
No. of sample PSP detected (>MPL)	**0 (0)**	**0 (0)**

Water Results

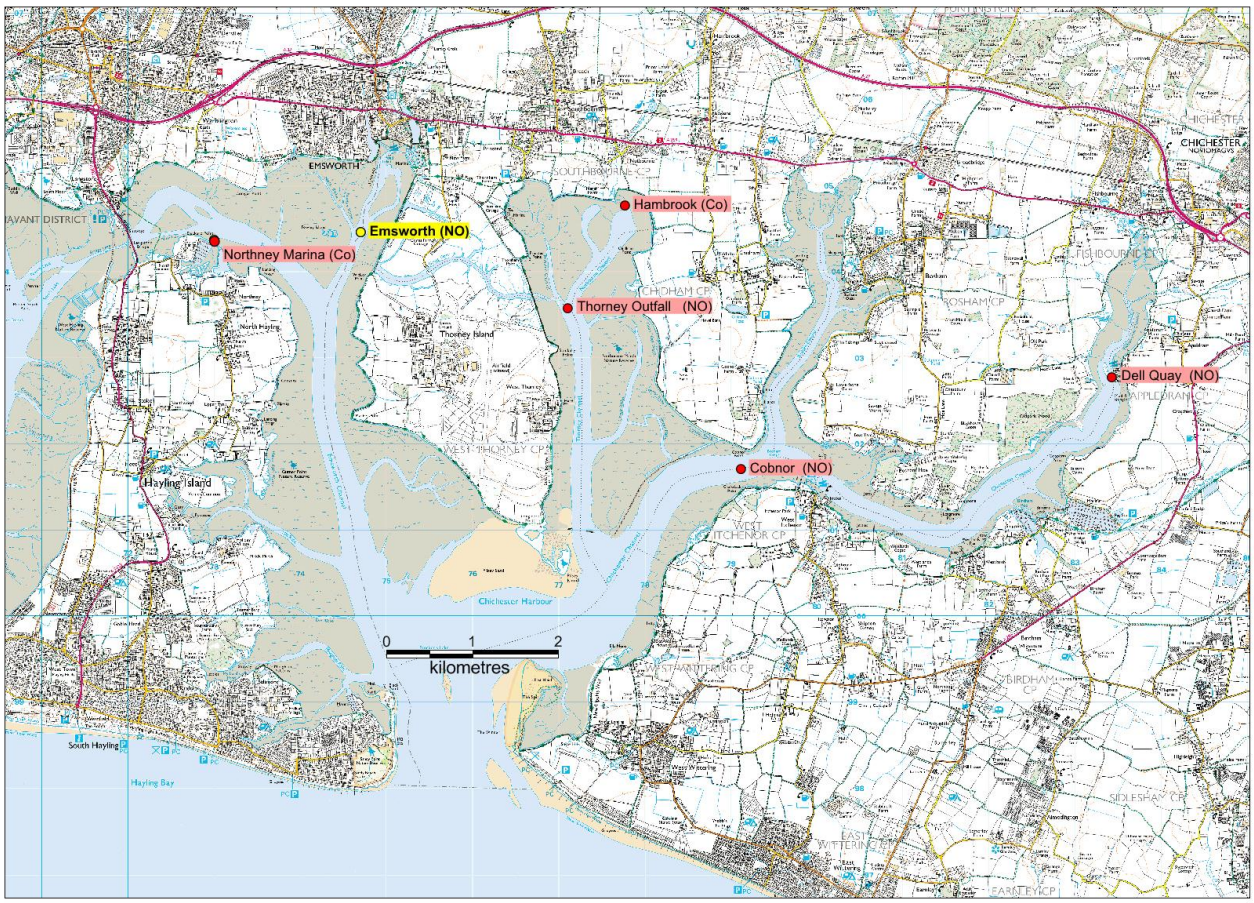
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**4 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**1 (1)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**1 (1)**

Comments

One sample of cockles was collected from Wharley Point in June 2014 in anticipation of the cockle season which subsequently did not open. Monitoring of this production area ceased in August 2014 due to lack of commercial activity

4.6 Chichester DC

Chichester Harbour



Sample Details

	Flesh	Water
Biotoxin monitoring point	Emsworth (B018M) – Native Oysters	Emsworth (B018M)
Classification points only	Northney Marina (Co), Hambrook (Co), Thorney Outfall (NO), Cobnor (NO) Dell Quay (NO)	
Alternate point used	Yes (see comments)	Yes (see comments)
Fortnightly monitoring (April to Sept)	No	No

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	8	8
No. of samples received	7	8
No. of insufficient/ unsuitable samples	0	0

Chichester Harbour (cont.)

Flesh Results

No. of samples tested for ASP	**7**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**7**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**7**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

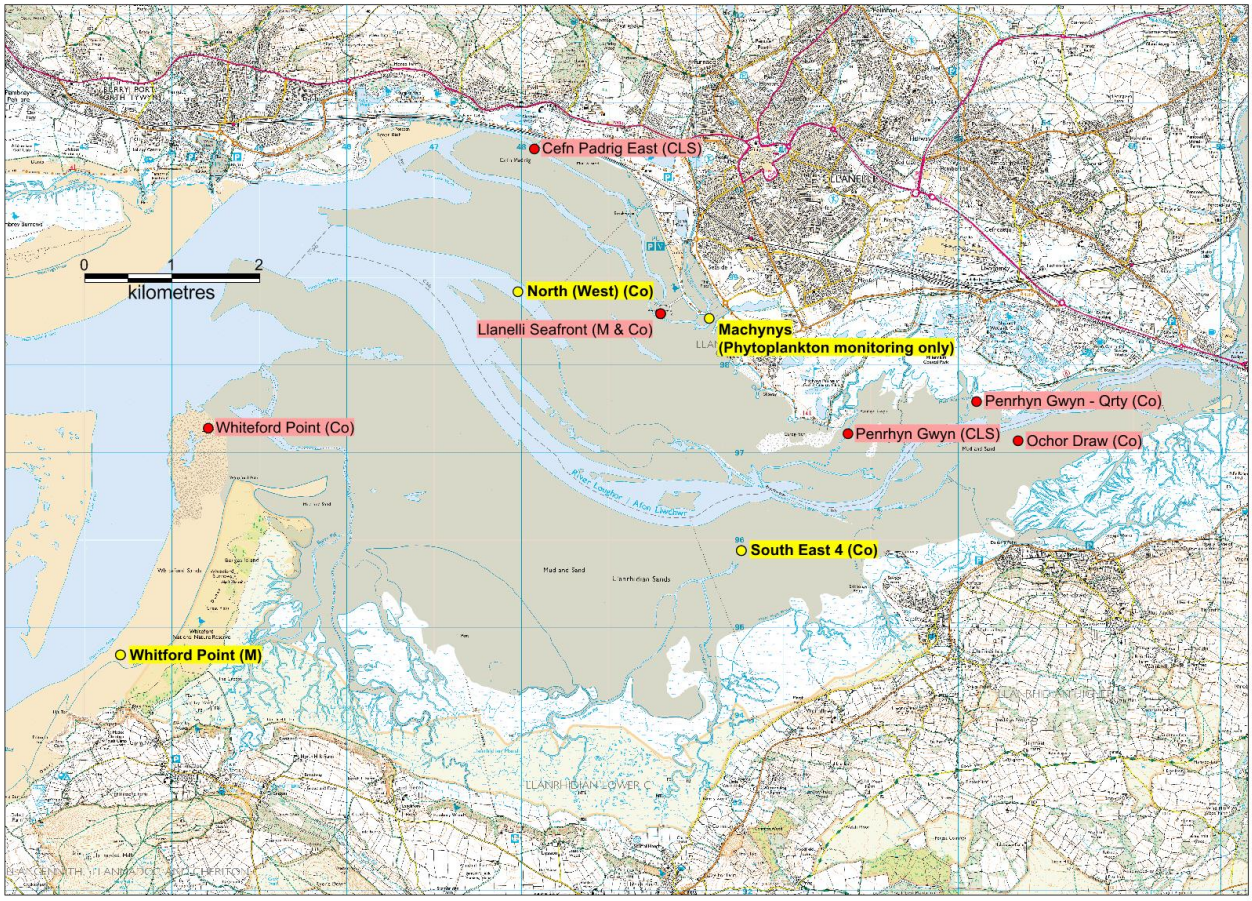
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**0 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

This production area is subject to the Sussex IFCA Native oyster emergency byelaw which has closed large sections of the production area. Southern IFCA also have jurisdiction over part of Emsworth Channel.
Two samples of cockles were analysed in anticipation of classification at Northney Marina. The classification of this area is currently delayed due to a poor E. coli result

4.7 City and Council of Swansea

Burry Inlet



Sample Details

	Flesh	Water
Biotoxin monitoring point	Whitford Point (B038L) - Mussels South East 4 (B038L) - Cockles	Whitford Point (B038T) South East 4 (B038L)
Classification points only	Whitford Point (Co), Cefn Padrig East (CLS), Llanelli Seafront (M & Co), Penrhyn Gwyn (CLS), Penrhyn Gwyn (Co) – Qrty, Ochor Draw (Co)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	Whitford Point (Mussels) - 12 South East 4 (Cockles) – 12	Whitford Point - 12 South East 4 - 12
No. of samples received	Whitford Point (Mussels) - 14 South East 4 (Cockles) – 12	Whitford Point - 14 South East 4 - 12
No. of insufficient/ unsuitable samples	0	South East 4 - 1

Burry Inlet (cont.)

Flesh Results

	Whitford Point (Mussels)	South East 4
No. of samples tested for ASP	**12**	**12**
No. of samples ASP detected (>MPL)	**1 (0)**	**0 (0)**
No. of samples tested for LTs	**13**	**12**
No. of samples OA/DTX/PTXs detected (>MPL)	**6 (0)**	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples tested for PSP	**13**	**12**
No. of sample PSP detected (>MPL)	**0 (0)**	**0 (0)**

Water Results

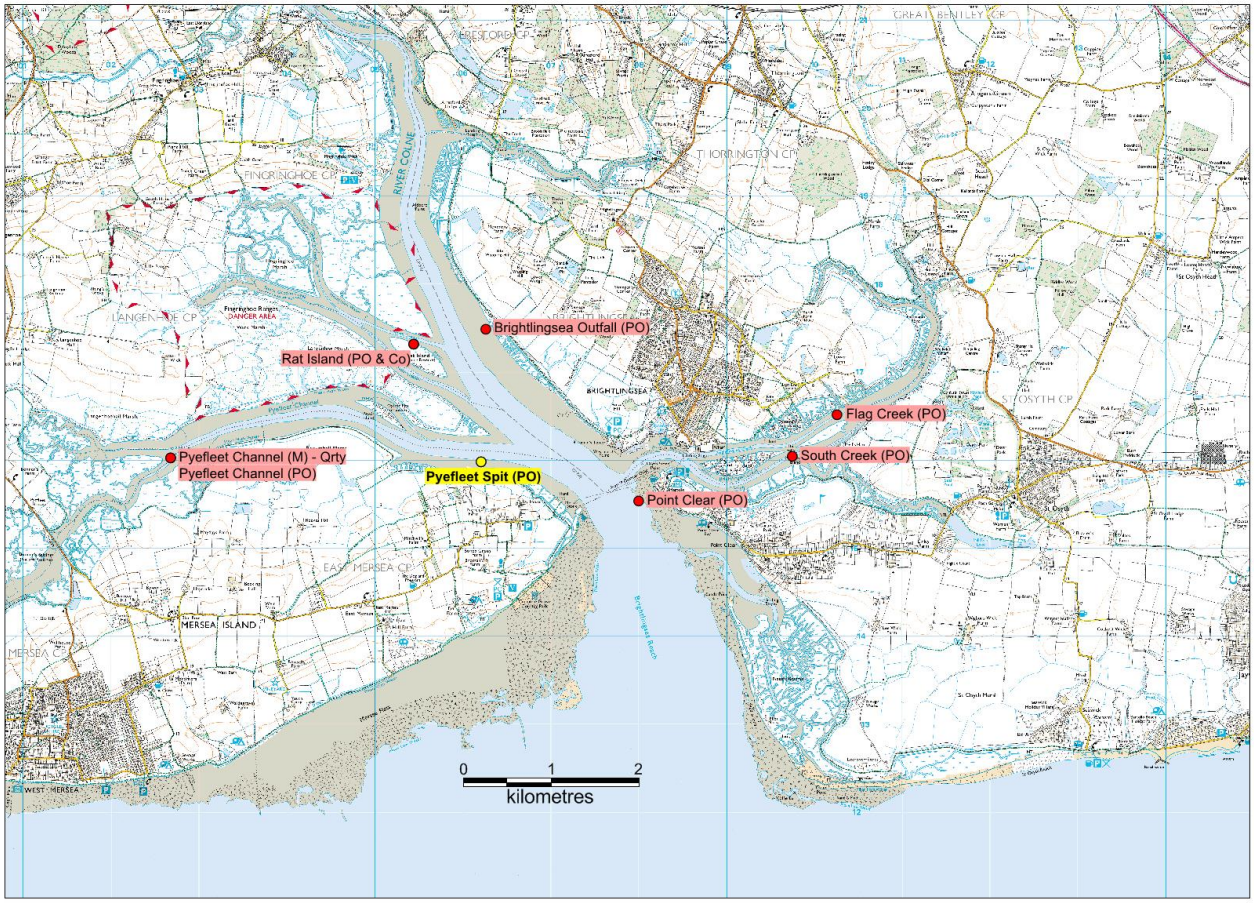
	Whitford Point	South East 4
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**7 (0)**	**2 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**1 (1)**	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**1 (1)**	**0 (0)**

Comments

For results from North (West) & Machynys please see Carmarthenshire CC

4.8 Colchester BC

Colne



Sample Details

	Flesh	Water
Biotoxin monitoring point	Pyefleet Spit (B012F) – Pacific Oysters	Pyefleet Spit (B012F)
Classification points only	Pyefleet Channel (M) – Qrty, Pyefleet Channel (PO), Rat Island (PO & Co), Brightlingsea Outfall (PO), Point Clear (PO), South Creek (PO), Flag Creek (PO)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	10	20
No. of insufficient/ unsuitable samples	0	7

Colne (cont.)

Flesh Results

No. of samples tested for ASP	**9**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**9**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**9**
No. of sample PSP detected (>MPL)	**0 (0)**

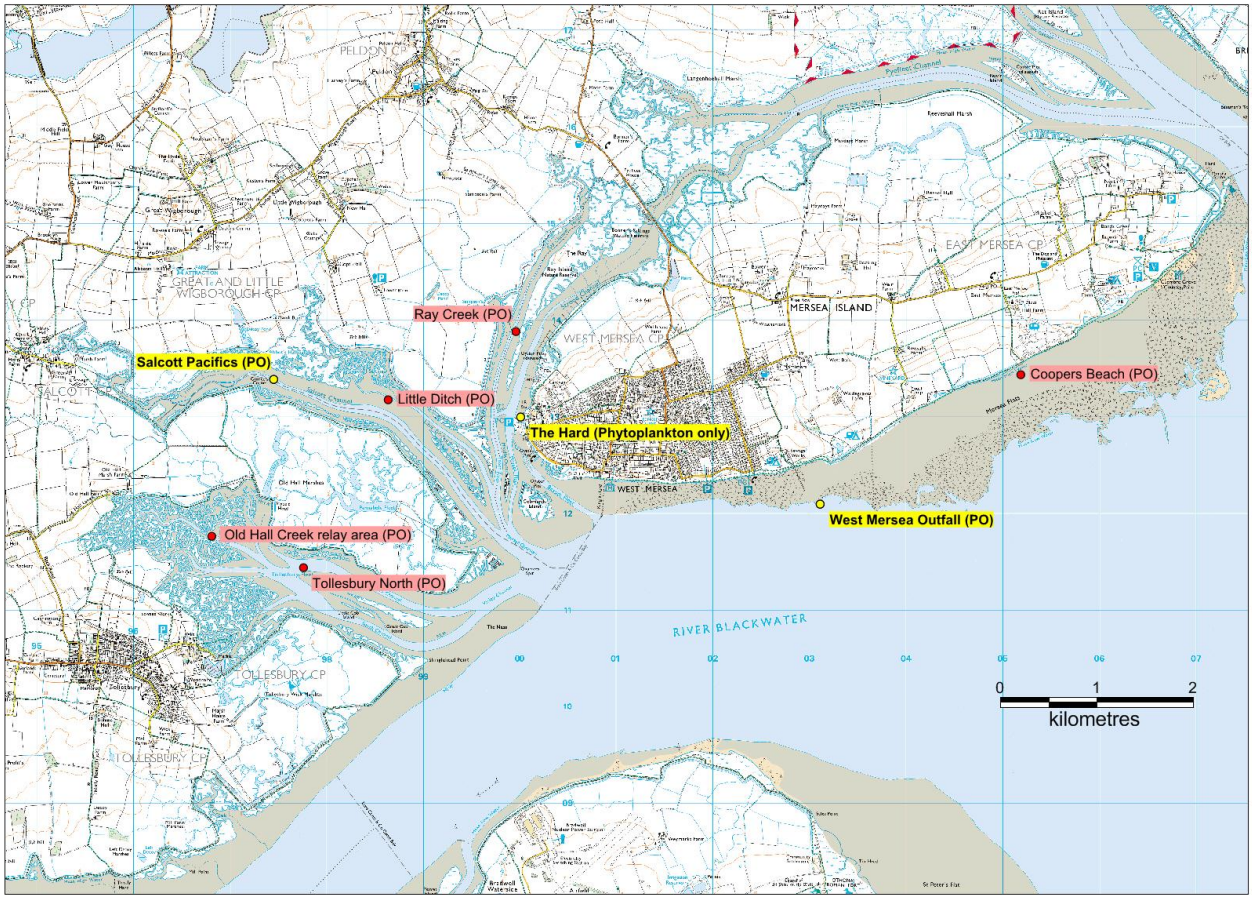
Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**5 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

Water monitoring was suspended (with FSA agreement) in this production area in October 2014 following several unsuitable samples.

West Mersea



Sample Details

	Flesh	Water
Biotoxin monitoring point	Salcott Pacifics (B13AG) – Pacific oysters West Mersea Outfall (B13AA) – Pacific oysters	The Hard (B013Z)
Classification points only	Tollesbury North (PO), Old Hall Creek relay area (PO), Little Ditch (PO), Ray Creek (PO), Coopers Beach (PO)	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	Salcott Pacifics/Upper – 12 West Mersea Outfall - 12	18
No. of samples received	Salcott Pacifics/Upper – 12 West Mersea Outfall – 13	18
No. of insufficient/ unsuitable samples	0	0

West Mersea (cont.)

Flesh Results

	Salcott Pacifics (incl Salcott Upper)	West Mersea Outfall
No. of samples tested for ASP	**12**	**13**
No. of samples ASP detected (>MPL)	**0 (0)**	**2 (0)**
No. of samples tested for LTs	**12**	**13**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples tested for PSP	**12**	**13**
No. of sample PSP detected (>MPL)	**0 (0)**	**0 (0)**

Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**3 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

In August 2014 the Salcott Upper monitoring point was moved upstream 500m and renamed as Salcott Pacifics

4.9 Conwy CBC

Colwyn Bay

Sample Details

	Flesh	Water
Biotoxin monitoring point	Rhos-on-Sea (B069A) - Mussels	Rhos-on-Sea (B069A)
Classification points	As above	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st May 2014	
No. of samples expected	5	7
No. of samples received	5	7
No. of insufficient/ unsuitable samples	0	2

Colwyn Bay (cont.)

Flesh Results

No. of samples tested for ASP	**5**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**5**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**5**
No. of sample PSP detected (>MPL)	**0 (0)**

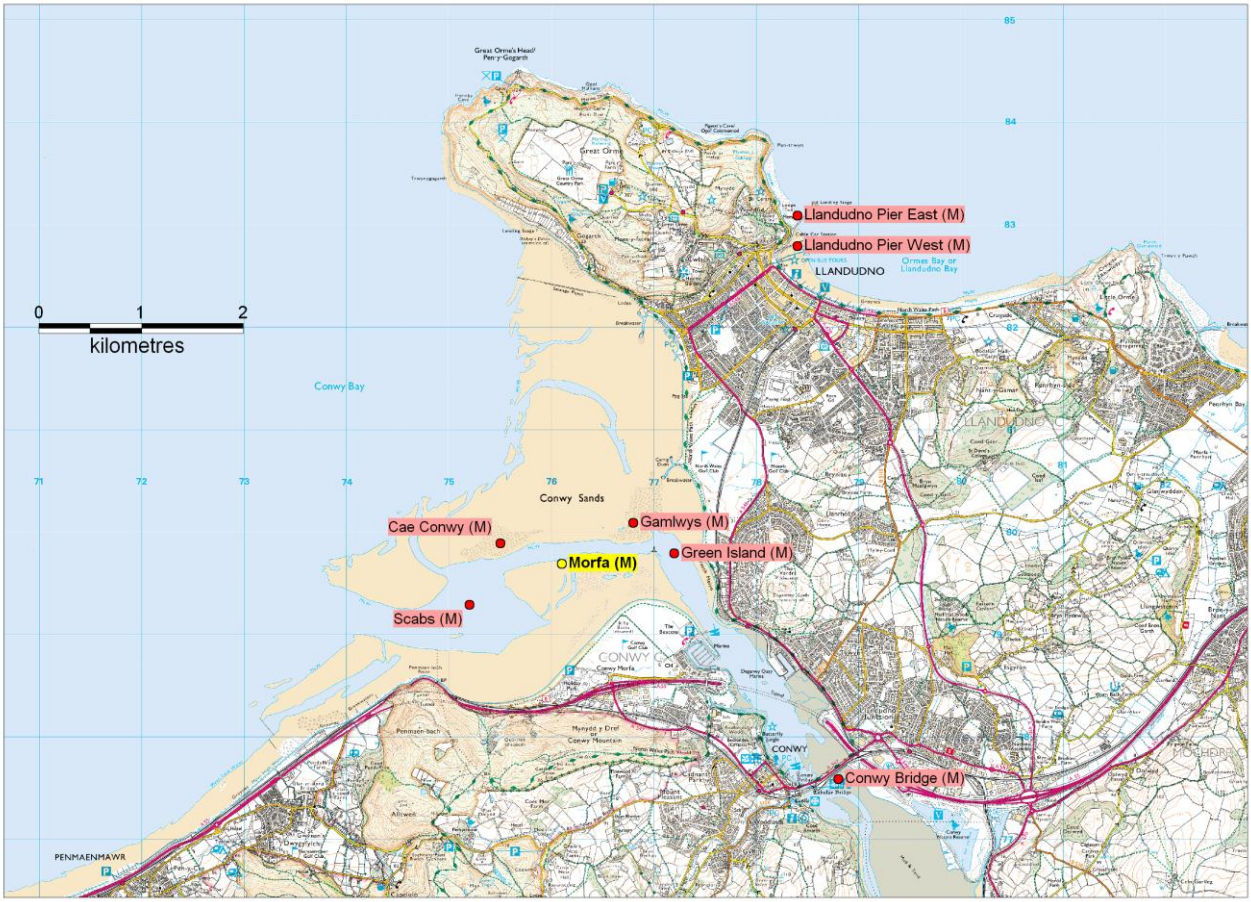
Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**4 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

Monitoring of this site ceased in May 2014 due to a lack of commercial interest

Conwy



Sample Details

	Flesh	Water
Biotoxin monitoring point	Morfa (B044H) - Mussels	Morfa (B044H)
Classification points only	Scabs (M), Cae Conwy (M), Gamlwys (M), Green Island (M) Conwy Bridge (M), Llandudno Pier East (M), Llandudno Pier West (M)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	9	12
No. of samples received	14	10
No. of insufficient/ unsuitable samples	0	3

Conwy (cont.)

Flesh Results

No. of samples tested for ASP	**10**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**11**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**10**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

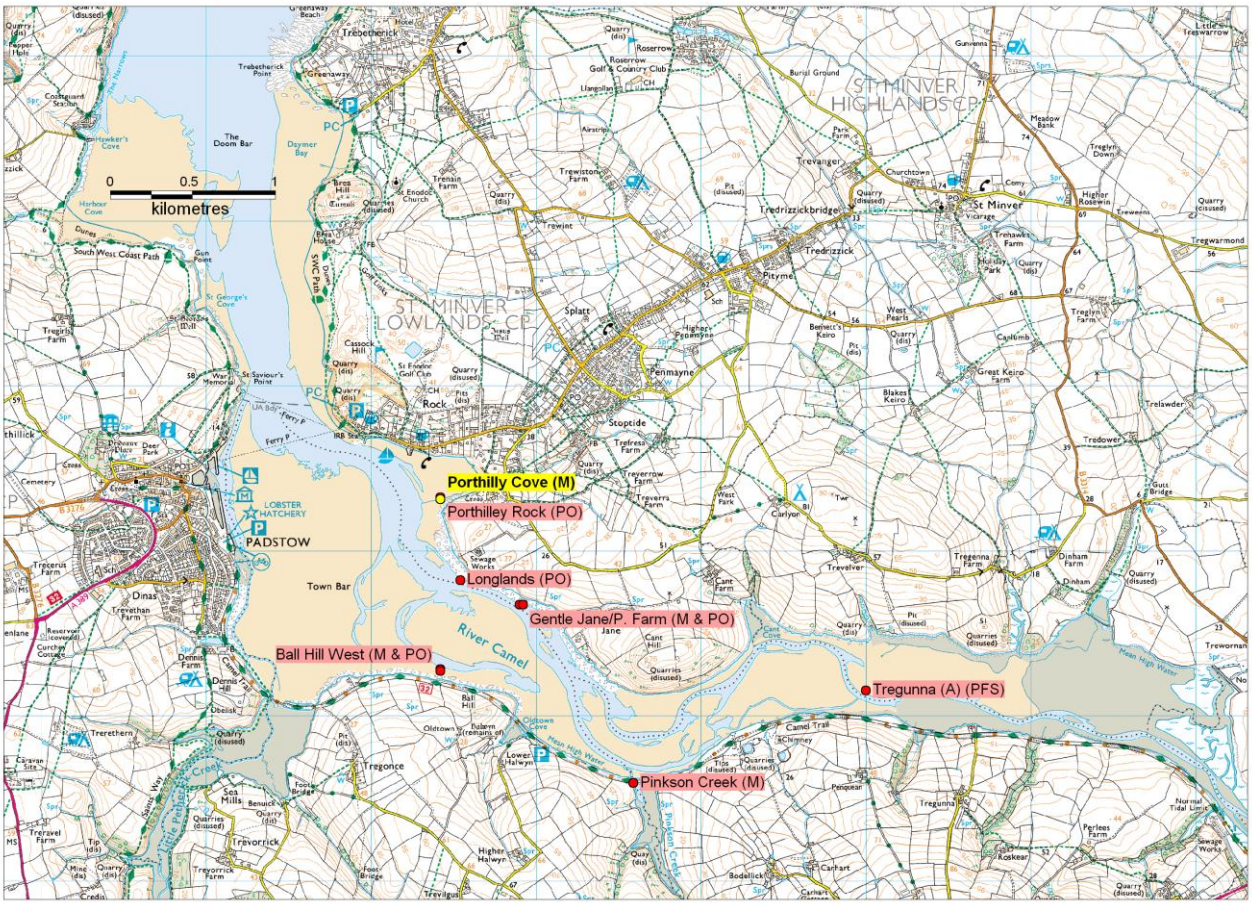
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**6 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**1 (1)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

Monitoring of this production area was suspended between April and August 2014 due to a local seasonal closure

4.10 Cornwall CC

Camel



Sample Details

	Flesh	Water
Biotoxin monitoring point	Porthilley Cove (B035X) - Mussels	Porthilley Cove (B035X)
Classification points only	Porthilley Rock (PO), Longlands (PO), Gentle Jane/ P.Cove (M & PO), Ball Hill (M & PO), Pinkson Creek (M), Tregunna A (PFS)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	15	20
No. of insufficient/ unsuitable samples	0	1

Camel (Cont.)

Flesh Results

No. of samples tested for ASP	**11**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**13**
No. of samples OA/DTX/PTXs detected (>MPL)	**5 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**11**
No. of sample PSP detected (>MPL)	**0 (0)**

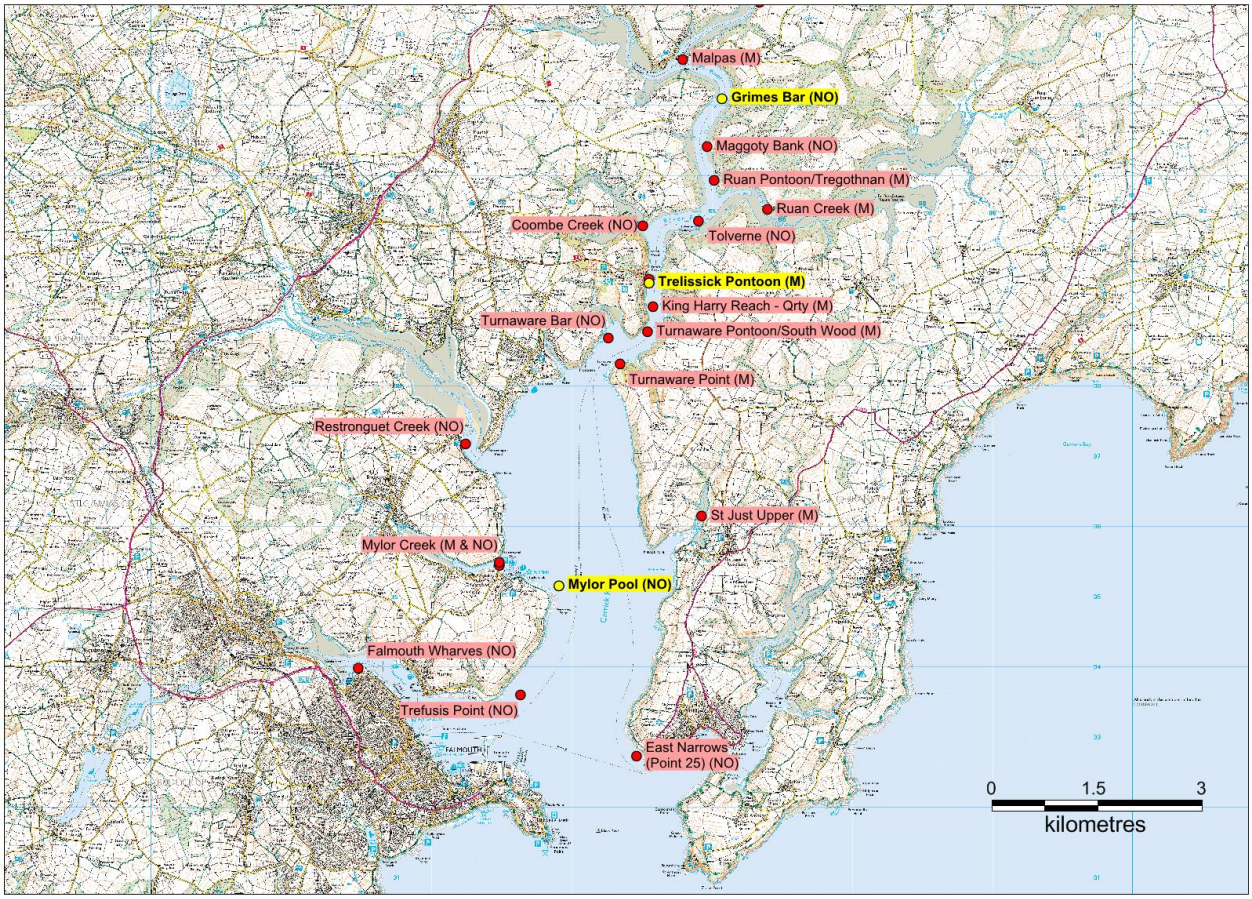
Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**14 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**2 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

4.11 Cornwall PHA

Fal



Sample Details

	Flesh	Water
Biotoxin monitoring point	Mylor Pool (B33BG) – Native Oysters Trelissick Pontoon (B33BD) - Mussels Grimes Bar (B033E) – Native oysters	Mylor Pool (B33BG) Trelissick Pontoon (B33BD) Grimes Bar (B033E)
Classification points only	Malpas (M), Maggoty Bank (NO), R Pontoon/Tregothnan (M), Ruan Creek (M), Tolverne (NO), Coombe Creek (NO), Trelissick Pontoon (M), King Harry Reach (M) – Qrty, Turnaware Bar (NO), Restronguet Creek (NO), Mylor Creek (NO) Falmouth Wharves (NO) Trefusis Point (NO), East Narrows (NO), Percuil (NO)	
Alternate point used	Yes	No
Fortnightly monitoring (April to Sept)	Yes	Yes

Fal (cont.)

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	Mylor Pool/ Mylor Creek – 16 Trelissick Pontoon/ Turnaware Pontoon – 13 Grimes Bar/ Ruan Pontoon Tregothnan - 13	Mylor Pool/Mylor Creek – 16 Trelissick/Turnaware Pontoon – 13 Grimes Bar/ Ruan Pontoon Tregothnan - 13
No. of samples received	Mylor Pool/ Mylor Creek – 17 Trelissick Pontoon/ Turnaware Pontoon – 15 Grimes Bar/ Ruan Pontoon Tregothnan - 13	Mylor Pool / Mylor Creek - 20 Trelissick Pontoon / Tunaware Pontoon - 14 Grimes Bar / Ruan Pontoon / Tregothnan - 13
No. of insufficient/ unsuitable samples	0	0

Flesh Results

	Mylor Pool & Mylor Creek	Turnaware Pontoon & Trelissick Pontoon	Ruan Pontoon/ Tregothnan & Grimes Bar
No. of samples tested for ASP	**12**	**11**	**11**
No. of samples ASP detected (>MPL)	**2 (0)**	**0 (0)**	**0 (0)**
No. of samples tested for LTs	**14**	**11**	**11**
No. of samples OA/DTX/PTXs detected (>MPL)	**6 (0)**	**0 (0)**	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples tested for PSP	**16**	**15**	**13**
No. of sample PSP detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**

Water Results

	Mylor Pool & Mylor Creek	Turnaware Pontoon & Trelissick Pontoon	Ruan Pontoon/ Tregothnan & Grimes Bar
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**17 (0)**	**7 (0)**	**9 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**6 (4)**	**0 (0)**	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**3 (3)**	**3 (3)**	**1 (1)**

Comments

Monitoring of Mylor Pool ceased between May and July 2014, it was temporarily replaced by Mylor Creek (M) between July and September 2014.
Following downgrades in several mussel beds in the upper Fal, monitoring of Turnaware Pontoon (M) and Ruan Pontoon/Tregothnan (M) ceased in June 2014. Monitoring at Grimes Bar (NO) & Turnaware Pontoon (NO) commenced from September 2014 for the Fal native oyster season.
Following an upgrade at King Harry Reach mussel lines, monitoring of Turnaware Pontoon (NO) was moved to Trelissick Pontoon from the end of September 2014.

Helford

Sample Details

	Flesh	Water
Biotoxin monitoring point	Porth Navas Quay (B034W) – Pacific oysters	Porth Navas Quay (B034W)
Classification points only	Porth Navas Quay (M), East of Groyne Point (M & PO), Calamansack East (M), Helford Point (M), South of Porth Navas Bar (M & PO), Bosahan (PO)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	Yes	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	18	18
No. of samples received	23	26
No. of insufficient/ unsuitable samples	0	3

Helford (cont.)

Flesh Results

No. of samples tested for ASP	**13**
No. of samples ASP detected (>MPL)	**1 (0)**
No. of samples tested for LTs	**14**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**23**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**13 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**2 (2)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**7 (7)**

Comments

Fowey

Sample Details

	Flesh	Water
Biotoxin monitoring point	Wisemans (B070Z) - Mussels Pont Pill (B70AB) - Mussels	Wisemans (B070Z) Pont Pill (B70AB)
Classification points only	Wisemans (PO), Pont Pill (PO)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	Yes	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	Pont Pill – 18 Wisemans – 14	Pont Pill – 18 Wisemans – 14
No. of samples received	Pont Pill – 23 Wisemans – 14	Pont Pill - 24 Wisemans - 14
No. of insufficient/ unsuitable samples	0	0

Fowey (cont.)

Flesh Results

	Pont Pill	Wisemans
No. of samples tested for ASP	11	8
No. of samples ASP detected (>MPL)	0 (0)	0 (0)
No. of samples tested for LTs	19	12
No. of samples OA/DTX/PTXs detected (>MPL)	11 (5)	3 (0)
No. of samples AZAs detected (>MPL)	0 (0)	0 (0)
No. of samples YTXs detected (>MPL)	0 (0)	0 (0)
No. of samples tested for PSP	14	11
No. of sample PSP detected (>MPL)	0 (0)	0 (0)

Water Results

	Pont Pill	Wisemans
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	21 (1)	12 (0)
No. of samples *Dinophysiaceae* detected (above trigger Level)	10 (8)	3 (3)
No of samples *Prorocentrum lima* detected (above trigger Level)	0 (0)	0 (0)
No. of samples *Alexandrium spp* detected (above trigger Level)	1 (1)	0 (0)

Comments

Percuil

Sample Details

	Flesh	Water
Biotoxin monitoring point	Percuil (B033R) – Native oysters	Percuil (B033R)
Classification points only	As above	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	Yes	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st September to 31st December 2014	
No. of samples expected	5	5
No. of samples received	5	5
No. of insufficient/ unsuitable samples	0	0

Percuil (cont.)

Flesh Results

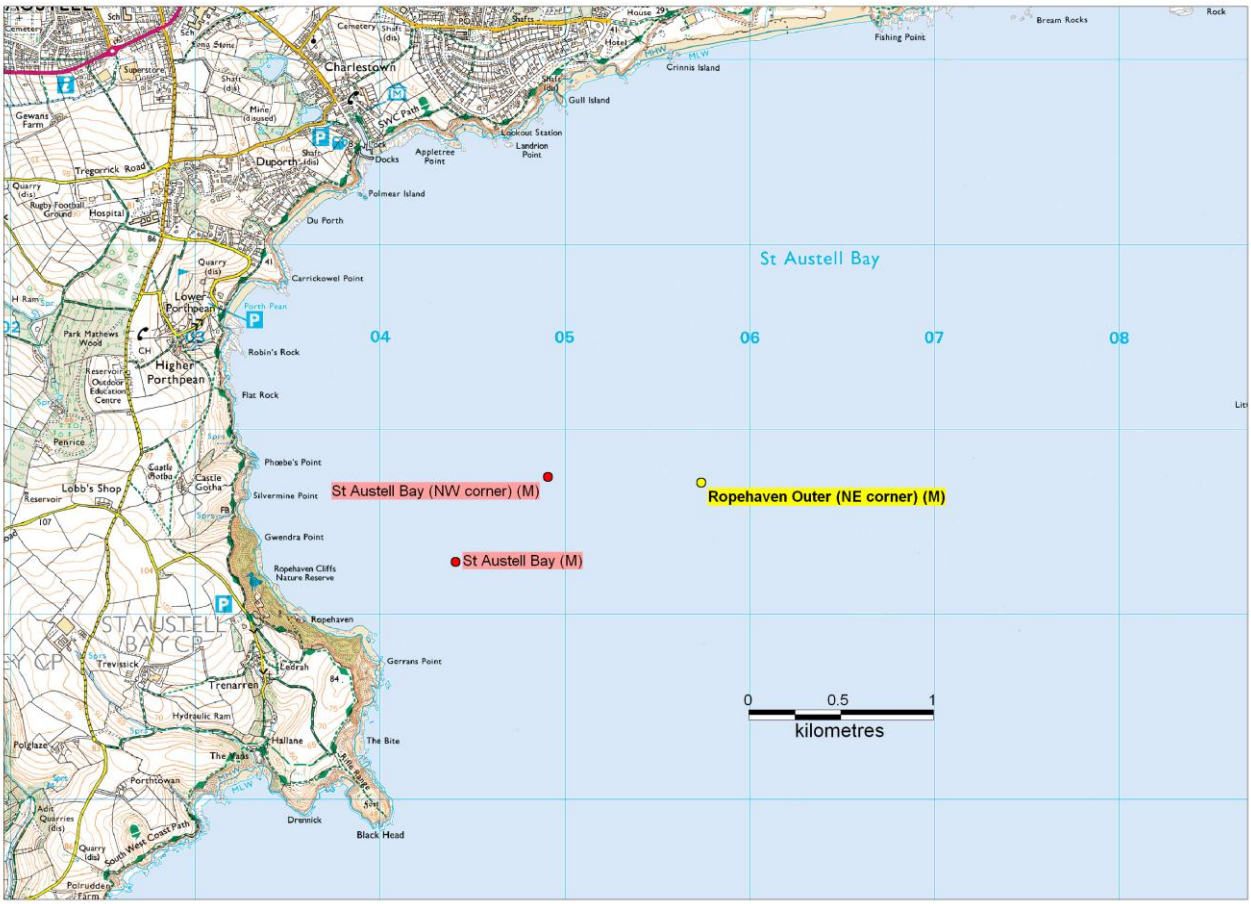
No. of samples tested for ASP	**5**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**5**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**5**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**3 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**2 (2)**

Comments

St. Austell Bay



Sample Details

	Flesh	Water
Biotoxin monitoring point	Ropehaven Outer (B70AE) - Mussels	Ropehaven Outer (B70AE)
Classification points only	St. Austell Bay (NW Corner) (M), St. Austell Bay (M)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	30	32
No. of insufficient/ unsuitable samples	0	2

St. Austell Bay (cont.)

Flesh Results

No. of samples tested for ASP	**11**
No. of samples ASP detected (>MPL)	**2 (0)**
No. of samples tested for LTs	**26**
No. of samples OA/DTX/PTXs detected (>MPL)	**20 (13)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**11**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

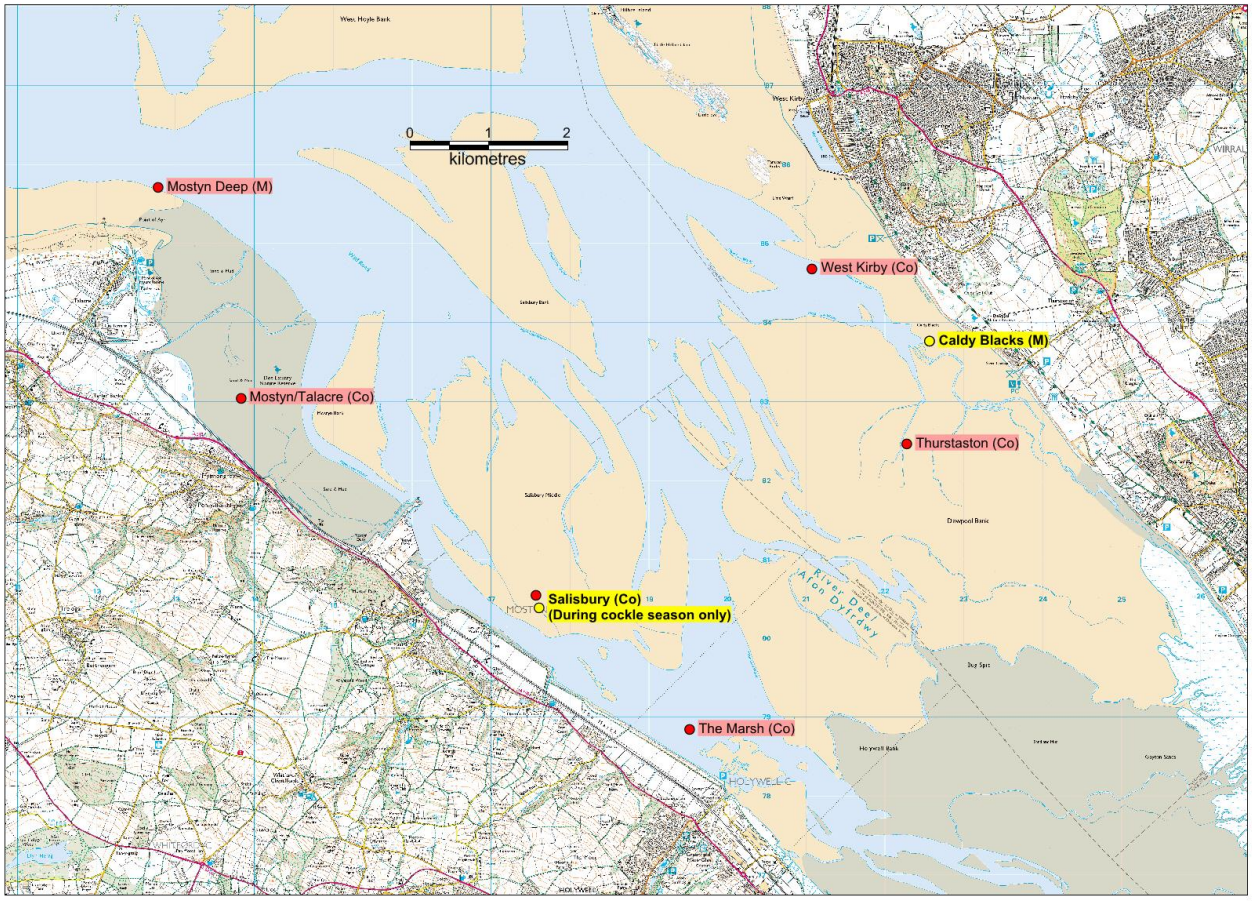
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**28 (1)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**16 (13)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**1 (1)**

Comments

Two samples were not tested (48 hr resamples which were not required)

4.12 Flintshire CC

Dee



Sample Details

	Flesh	Water
Biotoxin monitoring point	Salisbury (B45AB) - Cockles	Salisbury (B45AB)
Classification points only	West Kirby (Co), Caldy Blacks (M), Thurstaston (Co), Mostyn/Talacre (Co), The Marshes (Co), Mostyn Deep (M)	
Alternate point used	Yes (see comments)	Yes (see comments)
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st June to 31st December 2014	
No. of samples expected	7	10
No. of samples received	9	15
No. of insufficient/ unsuitable samples	0	3

Dee (cont.)

Flesh Results

No. of samples tested for ASP	**7**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**9**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**7**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

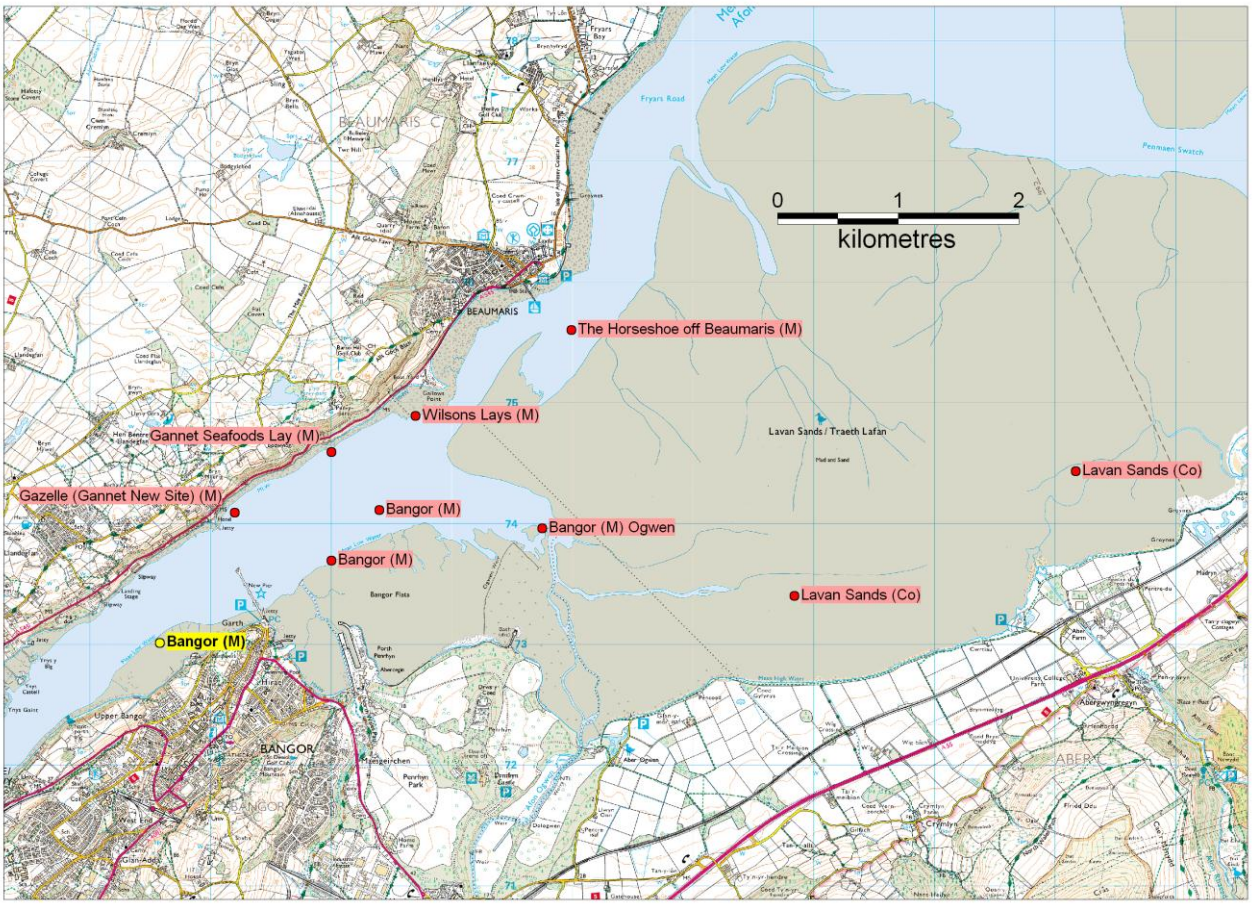
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**11 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**3 (3)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

Regulating order prevents cockle harvesting within the Dee estuary from January to June in any given year. For results from West Kirby please see Wirral BC

4.13 Gwynedd CC

Menai Strait – East



Sample Details

	Flesh	Water
Biotoxin monitoring point	Bangor (B055N) - Mussels	Bangor (B055N)
Classification points	Gazelle (Gannet New Site) (M), Gannet Seafoods Lay (M), Wilsons Lays (M), The Horseshoe off Beaumaris (M), Bangor (M), Bangor (M), Bangor Ogwen (M), Lavan Sands (Co), Lavan Sands (Co)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	Yes	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	18	18
No. of samples received	12	16
No. of insufficient/ unsuitable samples	0 (see comments)	3

Menai Strait – East (cont.)

Flesh Results

No. of samples tested for ASP	**7**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**7**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**11**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**5 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

1 mussel sample was not tested as it arrived after the Easter closing deadline

Menai Strait – West

Sample Details

	Flesh	Water
Biotoxin monitoring point	Llanfairisgaer (B042F) - Mussels	Llanfairisgaer (B042F)
Classification points only	Area 11 – Salt Water Aquaculture (PO), Barras 1 (M), Traeth Melynog (Co), Fort Belan (Blue Water Shellfish) (M)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	9	17
No. of insufficient/ unsuitable samples	0 (see comments)	4

Menai Strait – West (cont.)

Flesh Results

No. of samples tested for ASP	**8**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**8**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**8**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

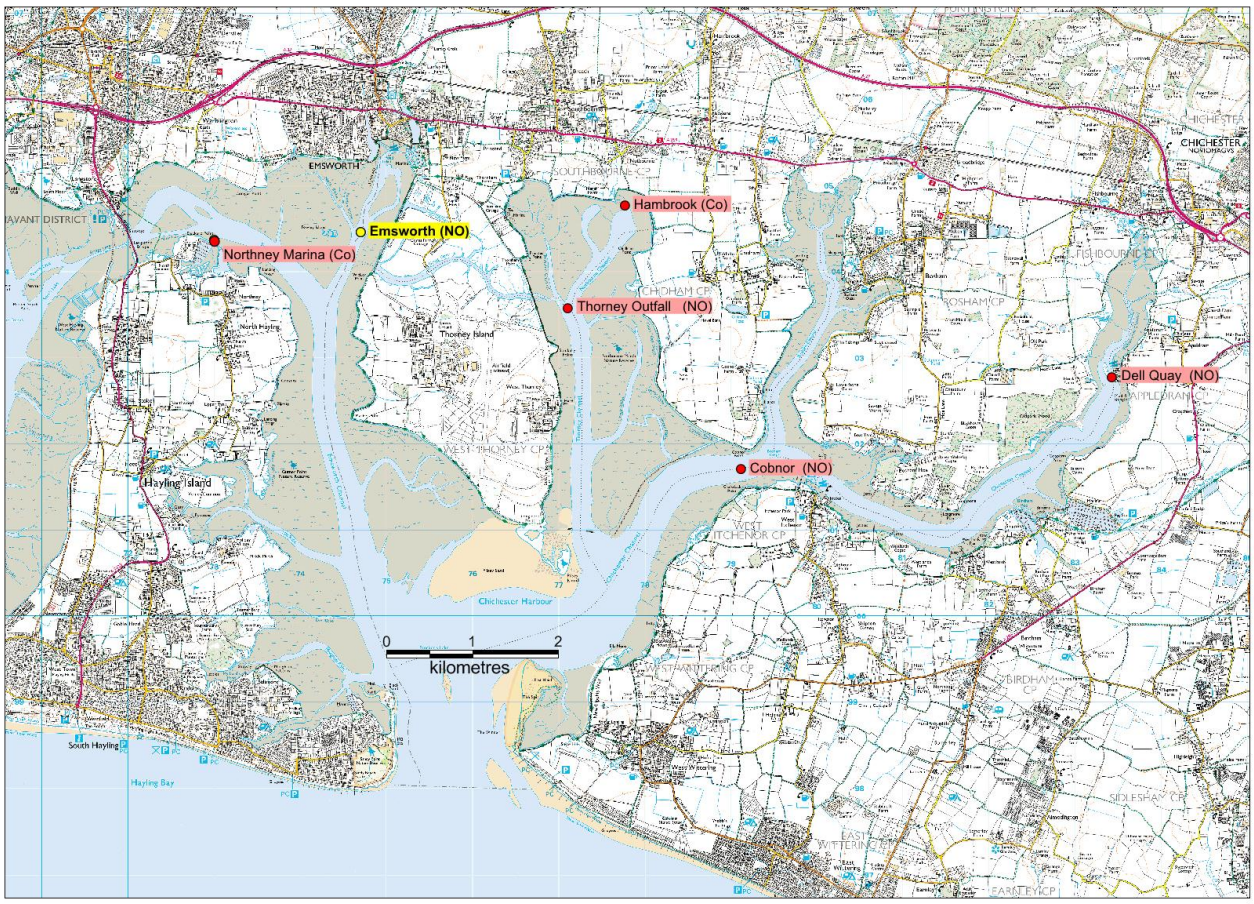
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**9 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**1 (1)**

Comments

1 mussel sample was not tested as it arrived after the Easter closing deadline

4.14 Havant BC

Chichester Harbour



Sample Details

	Flesh	Water
Biotoxin monitoring point	Northney Marina (B018N) - cockles	Northney Marina (B018N)
Classification points only	Northney Marina (Co), Hambrook (Co), Thorney Outfall (NO), Cobnor (NO) Dell Quay (NO)	
Alternate point used	Yes (see comments)	Yes (see comments)
Fortnightly monitoring (April to Sept)	No	No

Sample Logistics

	Flesh	Water
Sampling period	1st August to 30th September 2014	
No. of samples expected	2	4
No. of samples received	2	4
No. of insufficient/ unsuitable samples	0	0

Chichester Harbour (cont.)

Flesh Results

No. of samples tested for ASP	**2**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**2**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**2**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

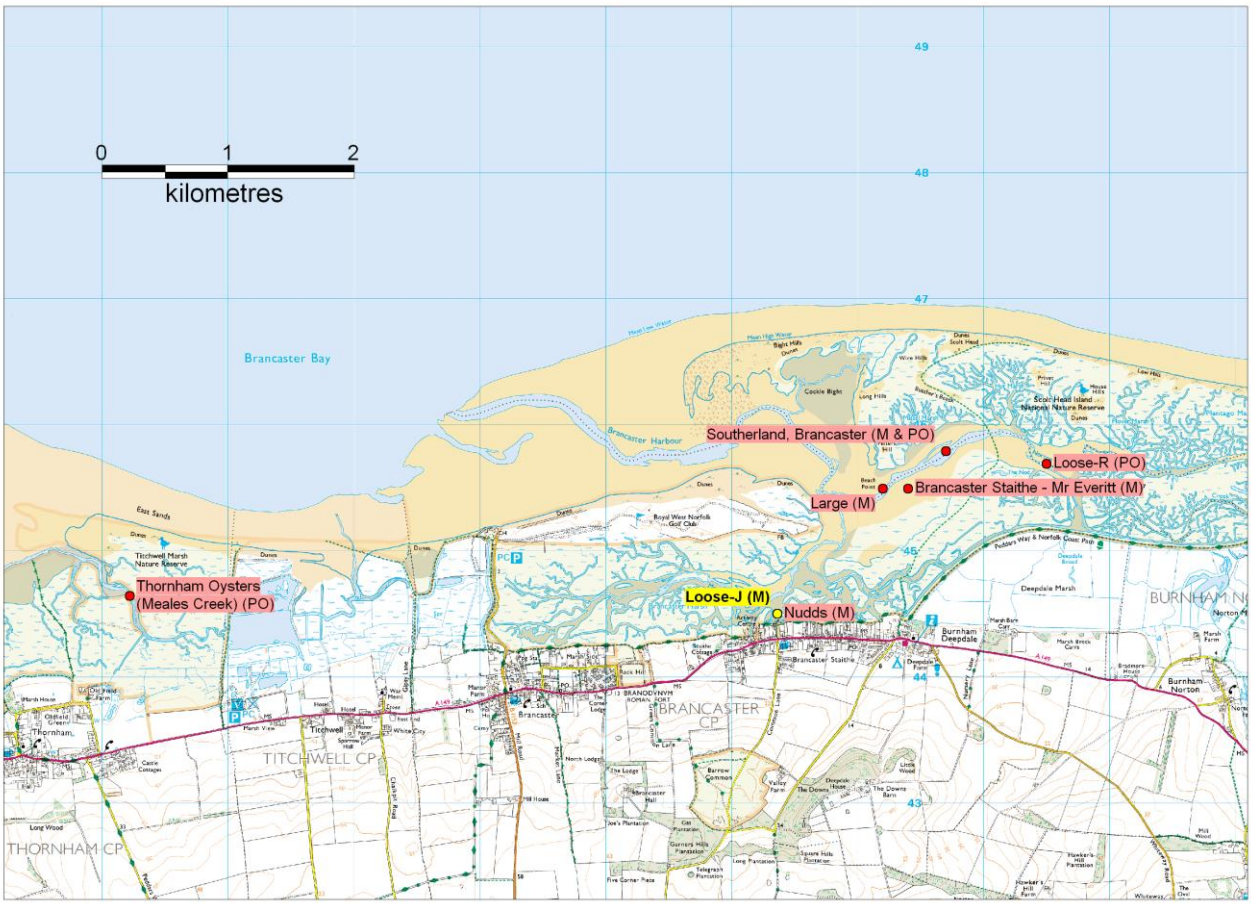
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**2 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

This production area is subject to the Sussex IFCA Native oyster emergency byelaw which has closed large sections of the production area. Southern IFCA also have jurisdiction over part of Emsworth Channel.
Two samples of cockles were analysed in anticipation of classification at Northney Marina, this is currently delayed due to a poor E. coli result

4.15 Kings Lynn and West Norfolk BC

Brancaster



Sample Details

	Flesh	Water
Biotoxin monitoring point	Loose – J (B005F) Mussels	Loose – J (B005F)
Classification points only	Brancaster Staithe – Mr. Everitt (M), Large (M), Loose R (PO), Southerland, Brancaster (M & PO), Thornham Oysters (Meales Creek) (PO)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	12	19
No. of insufficient/ unsuitable samples	0	1

Brancaster (cont.)

Flesh Results

No. of samples tested for ASP	**12**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**12**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**12**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**7 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

The Wash – Kings Lynn

Sample Details

	Flesh	Water
Biotoxin monitoring point	Stubborn Sand (B04AP) - Cockles	Stubborn Sand (B04AP)
Classification points only	North Lays (Co), Black Buoy (Co), Welland Wall (M), Nene Mouth (Co), Ouse Mouth (Co) Hunstanton – Holmeside (M)	
Alternate point used	Yes (see comments)	Yes (see comments)
Fortnightly monitoring (April to Sept)	No	No

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	Stubborn Sand – 6 Heacham South – 6 Breast Sand - 6	Stubborn Sand – 6 Heacham South – 6 Breast Sand - 6
No. of samples received	Stubborn Sand – 7 Heacham South – 5 Breast Sand - 6	Breast Sand - 6 Heacham South - 8 Stubborn Sand - 5
No. of insufficient/ unsuitable samples	0	Heacham South - 1 Stubborn Sand - 1

The Wash - Kings Lynn (cont.)

Flesh Results

	Stubborn Sand	Breast Sand	Heacham South
No. of samples tested for ASP	**7**	**6**	**5**
No. of samples ASP detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples tested for LTs	**7**	**6**	**5**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples tested for PSP	**7**	**6**	**5**
No. of sample PSP detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**

Water Results

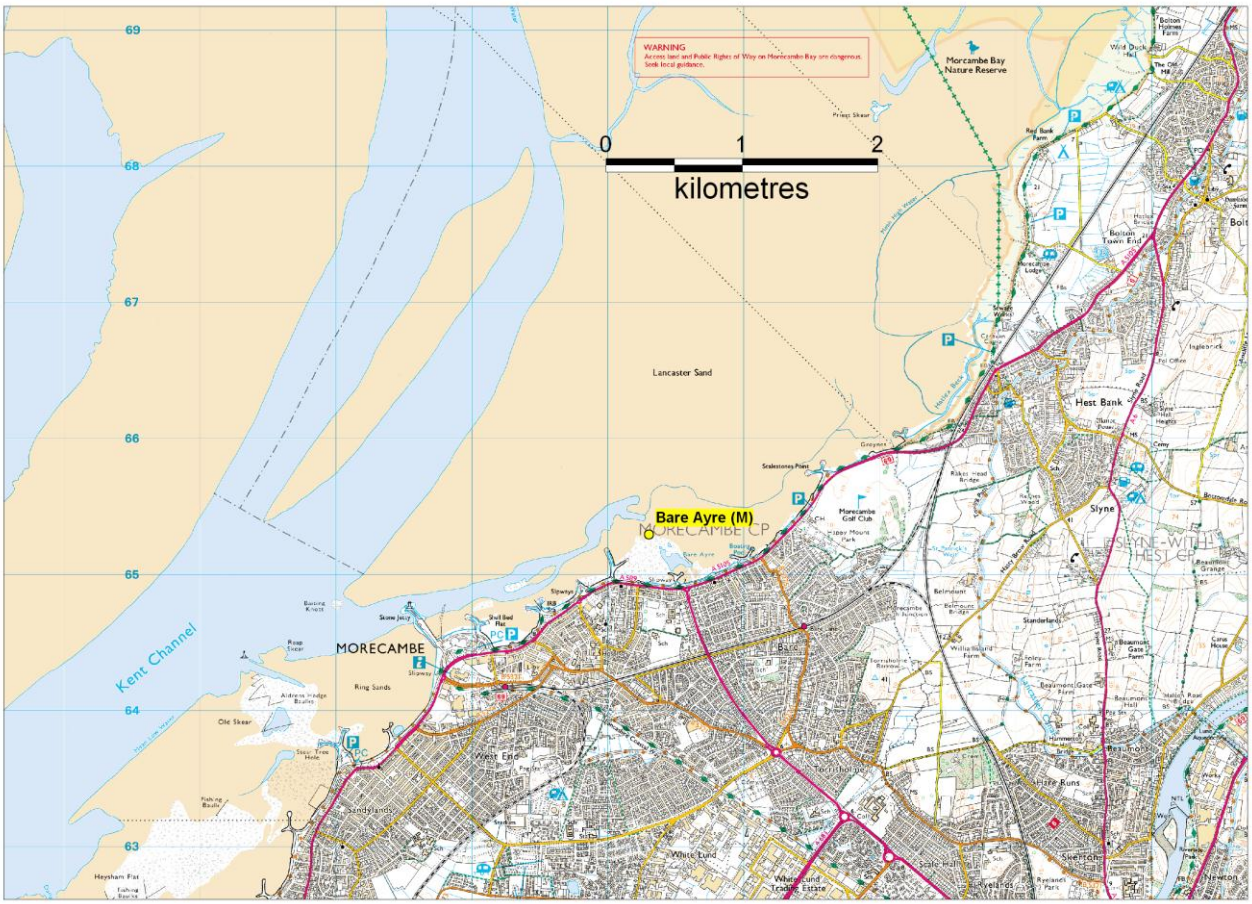
	Stubborn Sand	Breast Sand	Heacham South
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**3 (0)**	**1 (0)**	**2 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**	**0 (0)**	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**	**0 (0)**	**0 (0)**

Comments

Following a sanitary survey in 2013/14, new monitoring points recommended. New point (Stubborn Sand) incorporated from July 2014, Breast Sand and Heacham South removed at that time (location marked as “Not Current” on map above). For biotoxin results from Toft, Wrangle and Maretail see Boston BC

4.16 Lancaster CC

Morecambe Bay - East



Sample Details

	Flesh	Water
Biotoxin monitoring point	Bare Ayre (B047A) - Mussels	Bare Ayre (B047A)
Classification points only	As above	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	12	18
No. of insufficient/ unsuitable samples	0	0

Morecambe Bay – East (cont.)

Flesh Results

No. of samples tested for ASP	**12**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**12**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**12**
No. of sample PSP detected (>MPL)	**0 (0)**

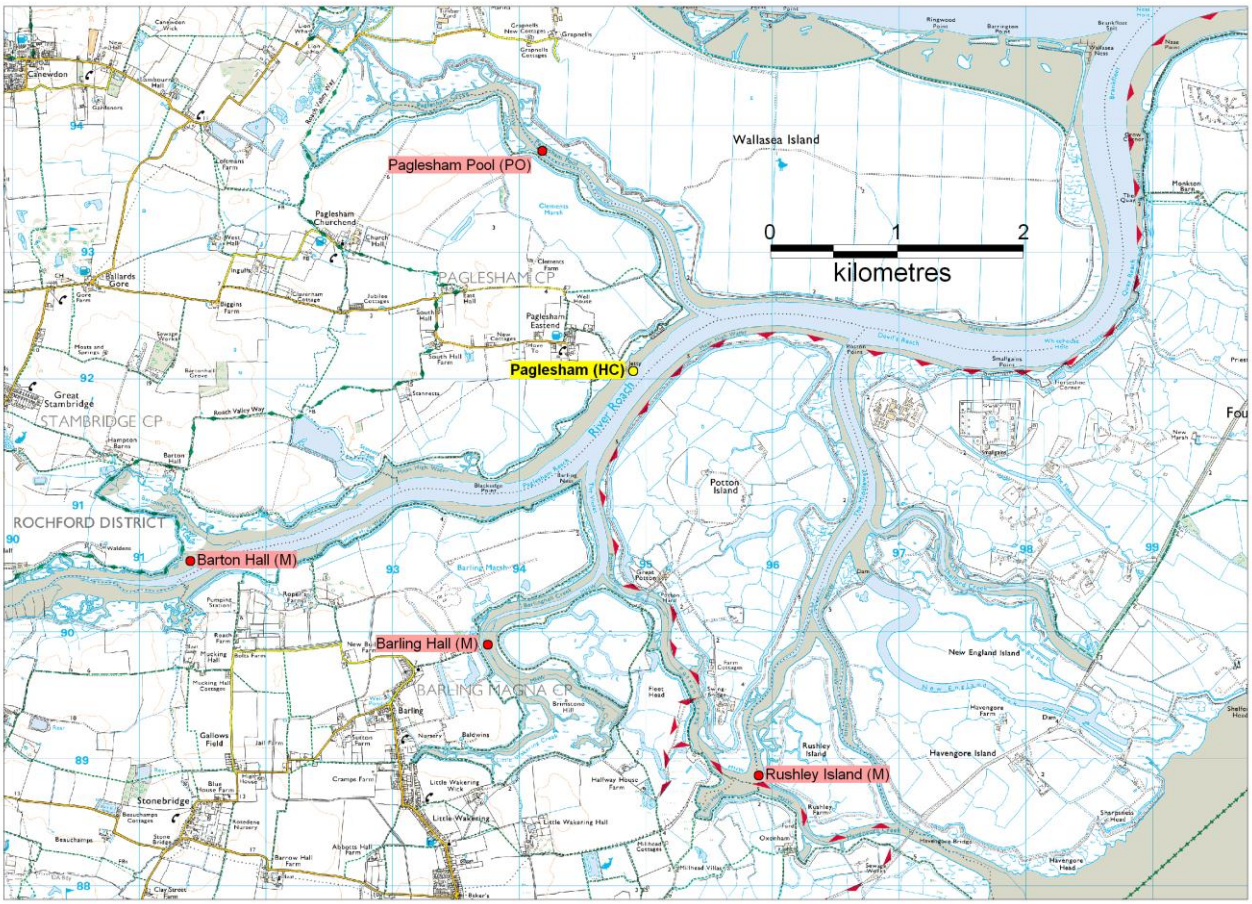
Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**13 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**1 (1)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**1 (1)**

Comments

4.17 London PHA

Roach



Sample Details

	Flesh	Water
Biotoxin monitoring point	Paglesham (B73AF) – Hard clams	Paglesham (B73AF)
Classification points only	Paglesham Pool (PO), Barton Hall (M), Barling Hall (M), Rushey Island (M)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	12	17
No. of insufficient/ unsuitable samples	0	1

Roach (cont.)

Flesh Results

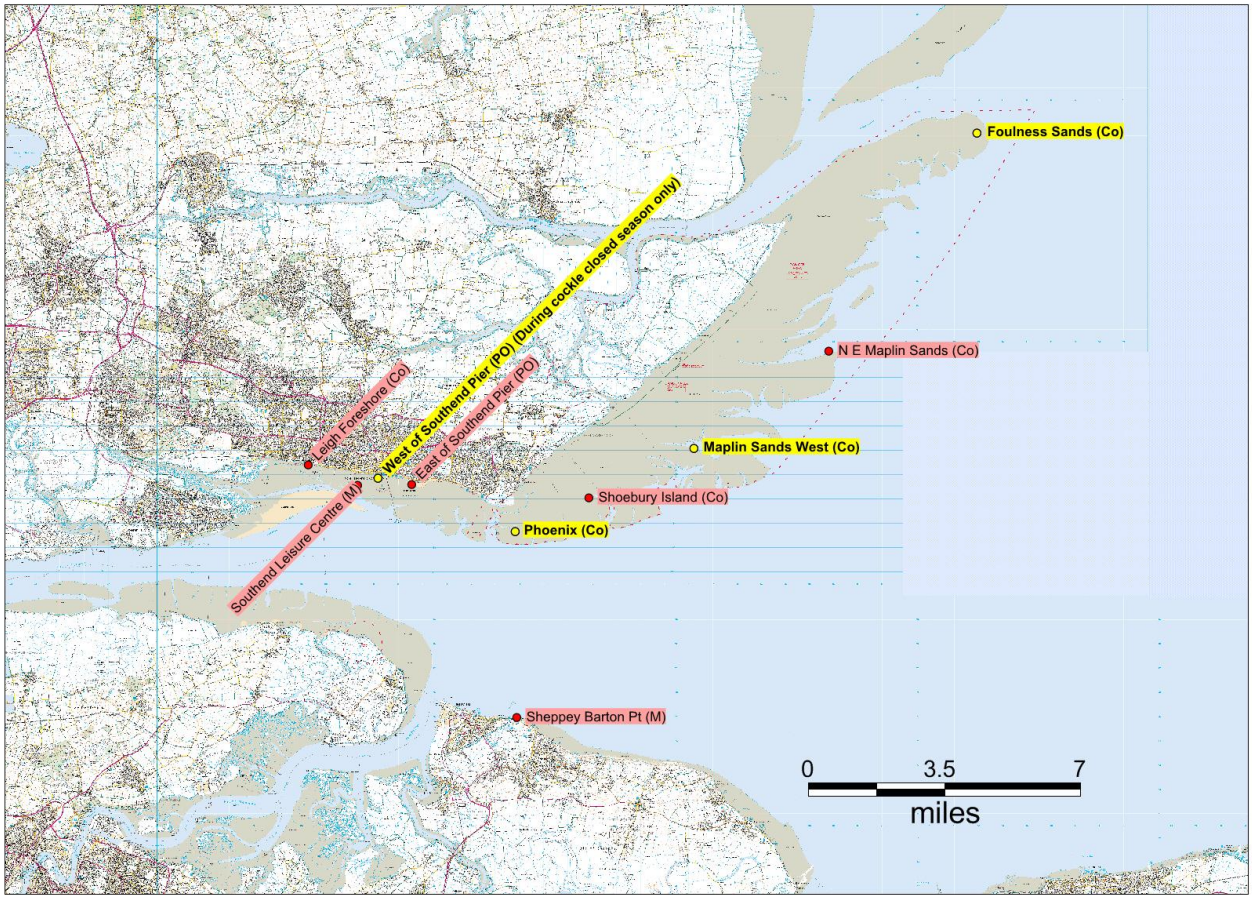
No. of samples tested for ASP	**12**
No. of samples ASP detected (>MPL)	**1 (0)**
No. of samples tested for LTs	**12**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**12**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**4 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

The Thames



Sample Details

	Flesh	Water
Biotoxin monitoring point	Foulness Sands (B16AF) - Cockles Maplin Sands West (B16AK) - Cockles Phoenix (B16BR) – Cockles West of Southend Pier (B16BS) – Pacific oysters	Foulness Sands (B16AF) Maplin Sands West (B16AK) Phoenix (B16BR) West of Southend Pier (B16BS)
Classification points only	Leigh Foreshore (Co), Southend Leisure Centre (M), East of Southend Pier (PO), Shoebury Island (Co), NE Maplin Sands (Co), Sheppey Barton Pt (M)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st May to 31st October 2014	
No. of samples expected	Foulness Sands - 4 Maplin Sands West – 4 Phoenix – 4 West of Southend Pier - 6	Foulness Sands - 10 Maplin Sands West – 10 Phoenix – 10 West of Southend Pier - 6
No. of samples received	Foulness Sands - 4 Maplin Sands West – 5 Phoenix – 4 West of Southend Pier - 6	Foulness Sands - 10 Maplin Sands West - 8 Phoenix - 9 West of Southend Pier - 4
No. of insufficient/ unsuitable samples	0	Foulness Sands - 1

The Thames (cont.)

Flesh Results

	Foulness Sands	Maplin Sands West	Phoenix	West of Southend Pier
No. of samples tested for ASP	**4**	**4**	**4**	**6**
No. of samples ASP detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples tested for LTs	**4**	**5**	**4**	**6**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples tested for PSP	**4**	**4**	**4**	**6**
No. of sample PSP detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**	**0 (0)**

Water Results

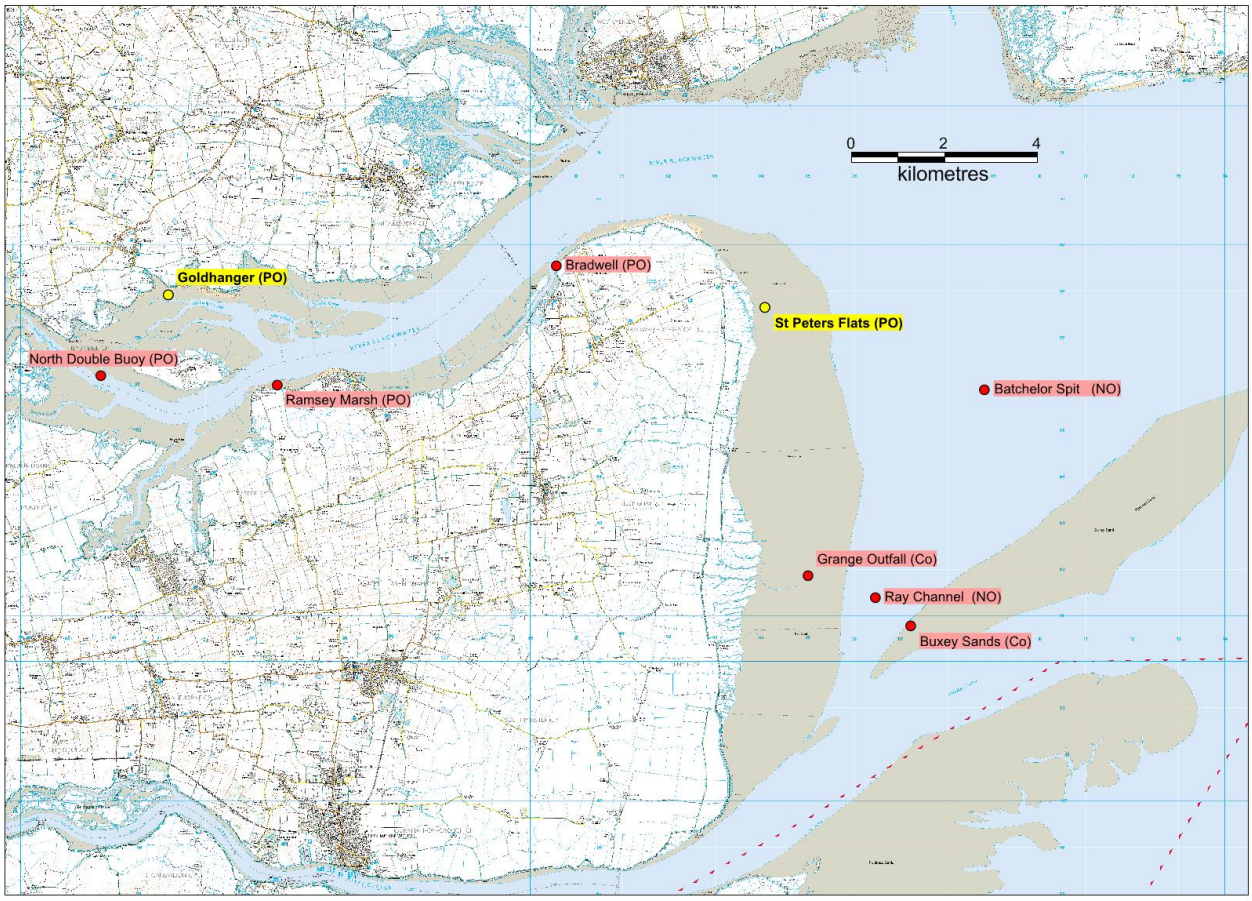
	Foulness Sands	Maplin Sands West	Phoenix	West of Southend Pier
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**6 (0)**	**3 (0)**	**3 (0)**	**1 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**1 (0)**	**1 (1)**	**2 (1)**	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**2 (2)**	**0 (0)**	**2 (2)**	**0 (0)**

Comments

The Thames Regulating order prevents cockle harvesting between November and May. During the cockle closed season monitoring of West of Southend Pier commenced monitoring in May 2014

4.18 Maldon DC

Blackwater



Sample Details

	Flesh	Water
Biotoxin monitoring point	Goldhanger (B014V) – Pacific oysters St. Peters Flats (B14AD) – Pacific oysters	Goldhanger (B014V) St. Peters Flats (B14AD)
Classification points only	North Double Buoy (PO), Ramsey Marsh (PO), Bradwell (PO), Batchelor Spit (NO) Ray Channel (NO), Buxey Sands (Co), Grange Outfall (Co)	
Alternate point used	Yes (see comments)	Yes (see comments)
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	Goldhanger – 12 St. Peters Flats - 10	Goldhanger – 18 St. Peters Flats – 16
No. of samples received	Goldhanger – 11 St. Peters Flats - 10	Goldhanger - 16 St. Peters Flats - 13
No. of insufficient/ unsuitable samples	0	Goldhanger - 1 St. Peters Flats - 5

Blackwater (cont.)

Flesh Results

	Goldhanger	St. Peters Flats
No. of samples tested for ASP	**11**	**10**
No. of samples ASP detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples tested for LTs	**11**	**10**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples tested for PSP	**11**	**10**
No. of sample PSP detected (>MPL)	**0 (0)**	**0 (0)**

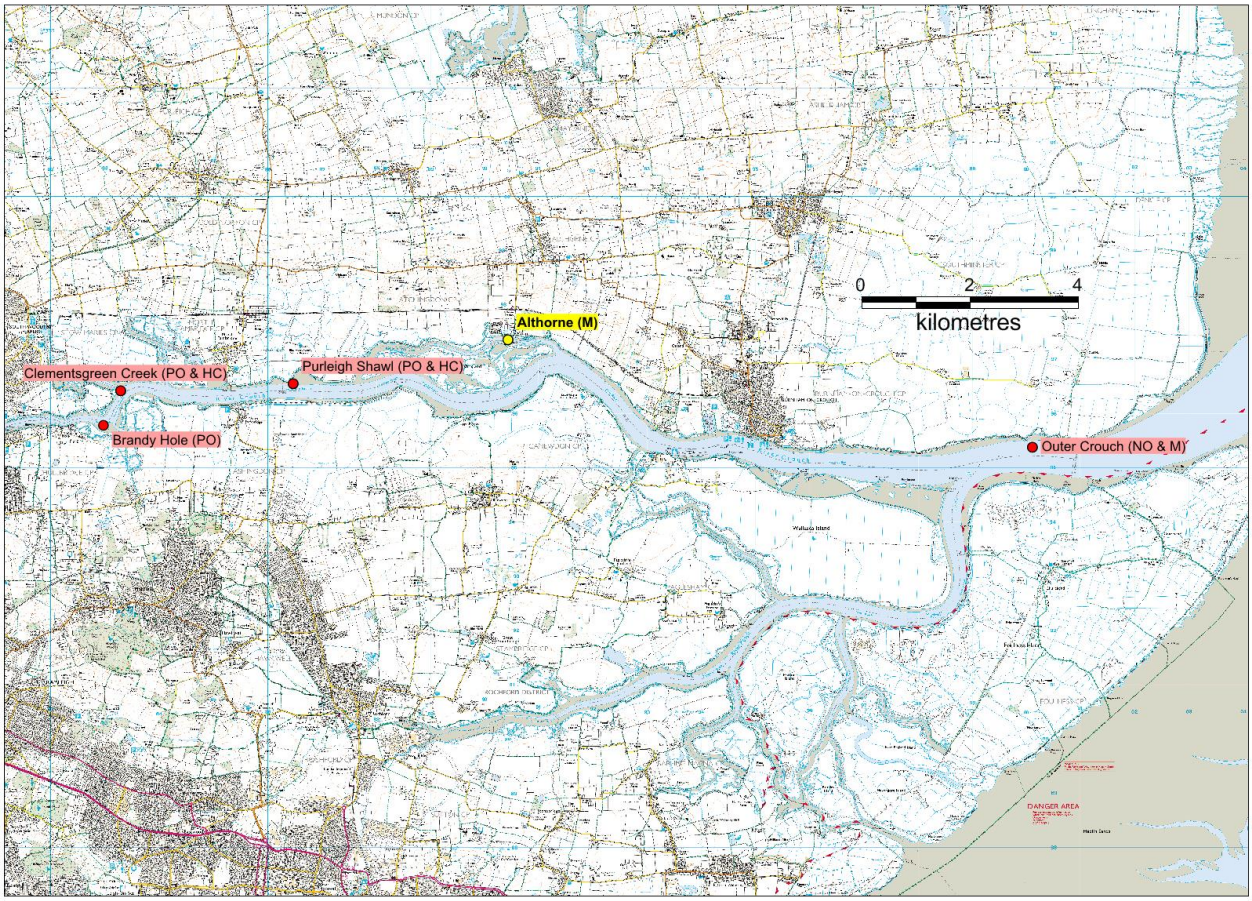
Water Results

	Goldhanger	St. Peters Flats
No. of samples *Pseudo-nitzschia spp* detected (above Trigger Level)	**1 (0)**	**4 (0)**
No. of samples *Dinophysiaceae* detected (above Trigger Level)	**0 (0)**	**0 (0)**
No of samples *Prorocentrum lima* detected (above Trigger Level)	**0 (0)**	**0 (0)**
No. of samples *Alexandrium spp* detected (above Trigger Level)	**0 (0)**	**0 (0)**

Comments

St. Peters Flats added from March 2014 following the classification Pacific oysters in the outer estuary
Two cockle classification samples (1 from Grange Outfall & 1 from Ray Channel) were submitted to the biotoxin laboratory in error, these were not tested. One water sample was also submitted from Grange Outfall, this was not tested.

Crouch



Sample Details

	Flesh	Water
Biotoxin monitoring point	Althorne (B015Y) – Mussels	Althorne (B015Y) – Mussels
Classification points only	Clementsgreen Creek (PO & HC), Brandy Hole (PO), Purleigh Shawl (PO & HC), Outer Crouch (NO & M)	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	Purleigh Shawl – 8 Althorne - 4	Purleigh Shawl – 12 Althorne - 6
No. of samples received	Purleigh Shawl – 8 Althorne - 4	Purleigh Shawl – 10 Althorne - 5
No. of insufficient/ unsuitable samples	0	0

Crouch (cont.)

Flesh Results

	Althorne	Purleigh Shawl
No. of samples tested for ASP	**4**	**8**
No. of samples ASP detected (>MPL)	**0 (0)**	**1 (0)**
No. of samples tested for LTs	**4**	**8**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples tested for PSP	**4**	**8**
No. of sample PSP detected (>MPL)	**0 (0)**	**0 (0)**

Water Results

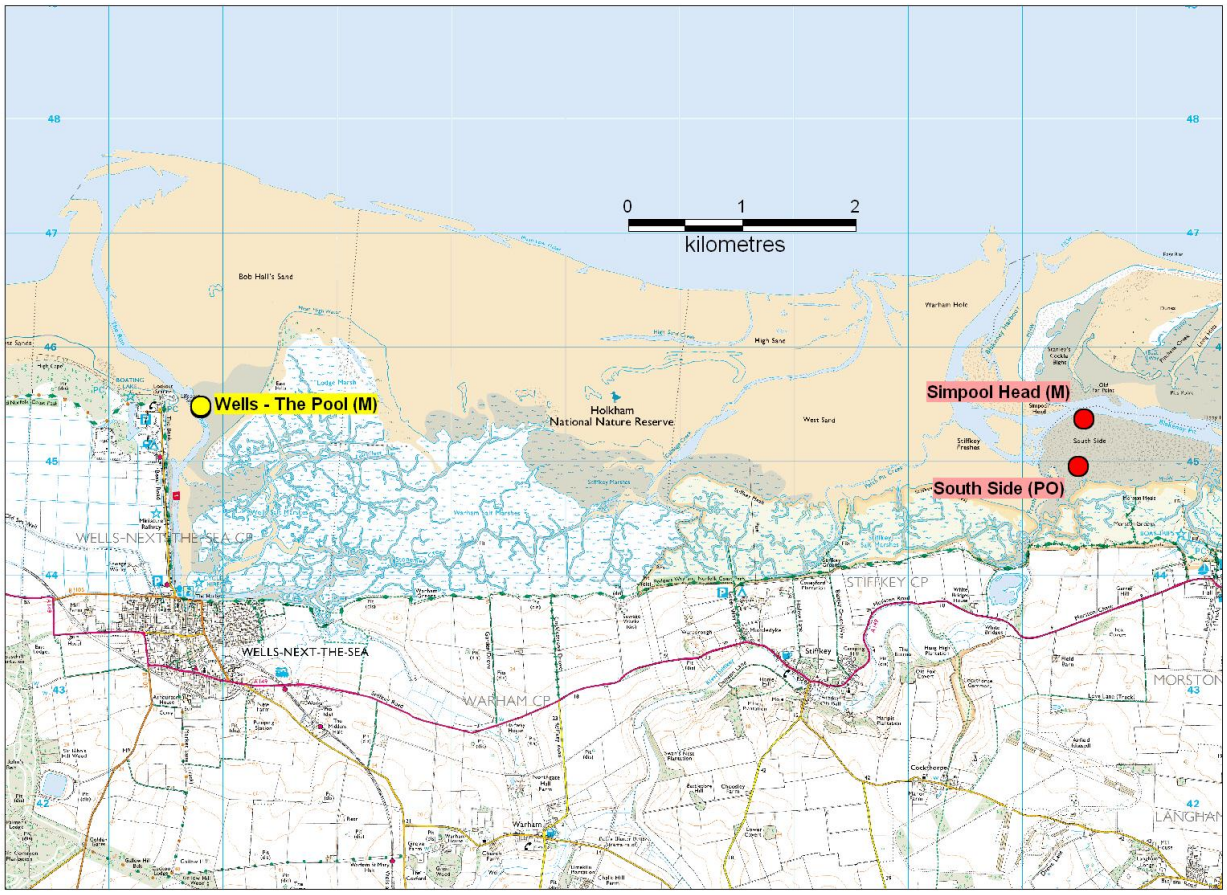
	Althorne	Purleigh Shawl
No. of samples *Pseudo-nitzschia spp* detected (above Trigger Level)	**0 (0)**	**1 (0)**
No. of samples *Dinophysiaceae* detected (above Trigger Level)	**0 (0)**	**0 (0)**
No of samples *Prorocentrum lima* detected (above Trigger Level)	**0 (0)**	**0 (0)**
No. of samples *Alexandrium spp* detected (above Trigger Level)	**0 (0)**	**0 (0)**

Comments

Monitoring moved from Purleigh Shawl to Althorne in August 2014, following renewed interest in Mussel harvesting

4.19 North Norfolk DC

Blakeney



Sample Details

	Flesh	Water
Biotoxin monitoring point	Wells - The Pool (B006R) - Mussels	Wells - The Pool (B006R)
Classification points only	Simpool Head (M), South Side (PO)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	11	15
No. of samples received	11	16
No. of insufficient/ unsuitable samples	0	0

Blakeney (cont.)

Flesh Results

No. of samples tested for ASP	**11**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**11**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**11**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**10 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**3 (2)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

Biotoxin monitoring ceased in July and August due to seasonal closure of the fishery.

4.20 Northumberland CC

Holy Island – Ross Links

Sample Details

	Flesh	Water
Biotoxin monitoring point	Ross Link (B001M) – Pacific oysters	Ross Link (B001M)
Classification points only	As above	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	Yes	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	18	18
No. of samples received	23	22
No. of insufficient/ unsuitable samples	0 (see comments)	3

Holy Island – Ross Links (cont.)

Flesh Results

No. of samples tested for ASP	**13**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**17**
No. of samples OA/DTX/PTXs detected (>MPL)	**7 (0)**
No. of samples AZAs detected (>MPL)	**1 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**19**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

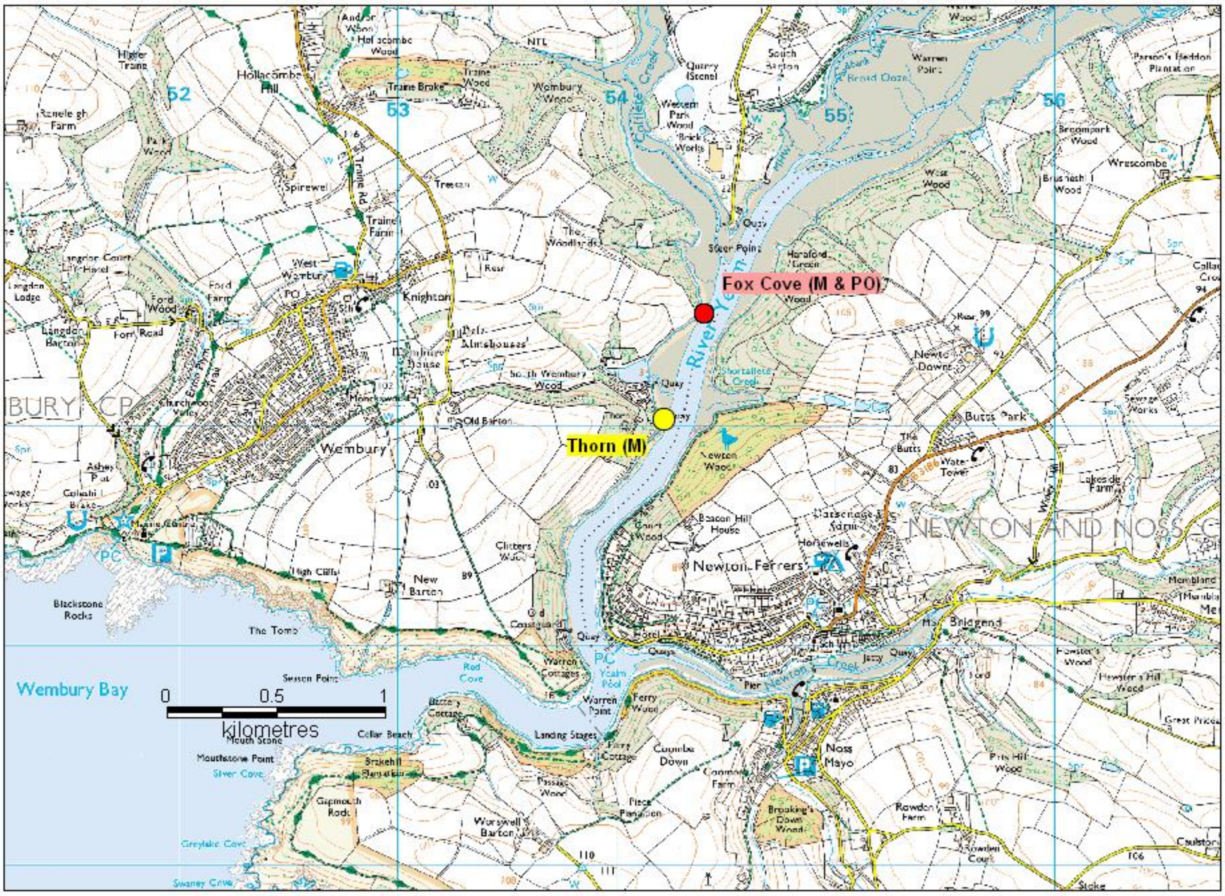
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**8 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**1 (1)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**1 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

One set of flesh and water samples was submitted outside the routine testing frequency, it was not analysed

4.21 Plymouth PHA

Yealm



Sample Details

	Flesh	Water
Biotoxin monitoring point	Thorn (B031L) – Mussels	Thorn (B031L)
Classification points only	Thorn (PO), Fox Cove (M & PO)	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	18	18
No. of samples received	18	19
No. of insufficient/ unsuitable samples	0	2

Yealm (cont.)

Flesh Results

No. of samples tested for ASP	**12**
No. of samples ASP detected (>MPL)	**2 (0)**
No. of samples tested for LTs	**12**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**18**
No. of sample PSP detected (>MPL)	**1 (0)**

Water Results

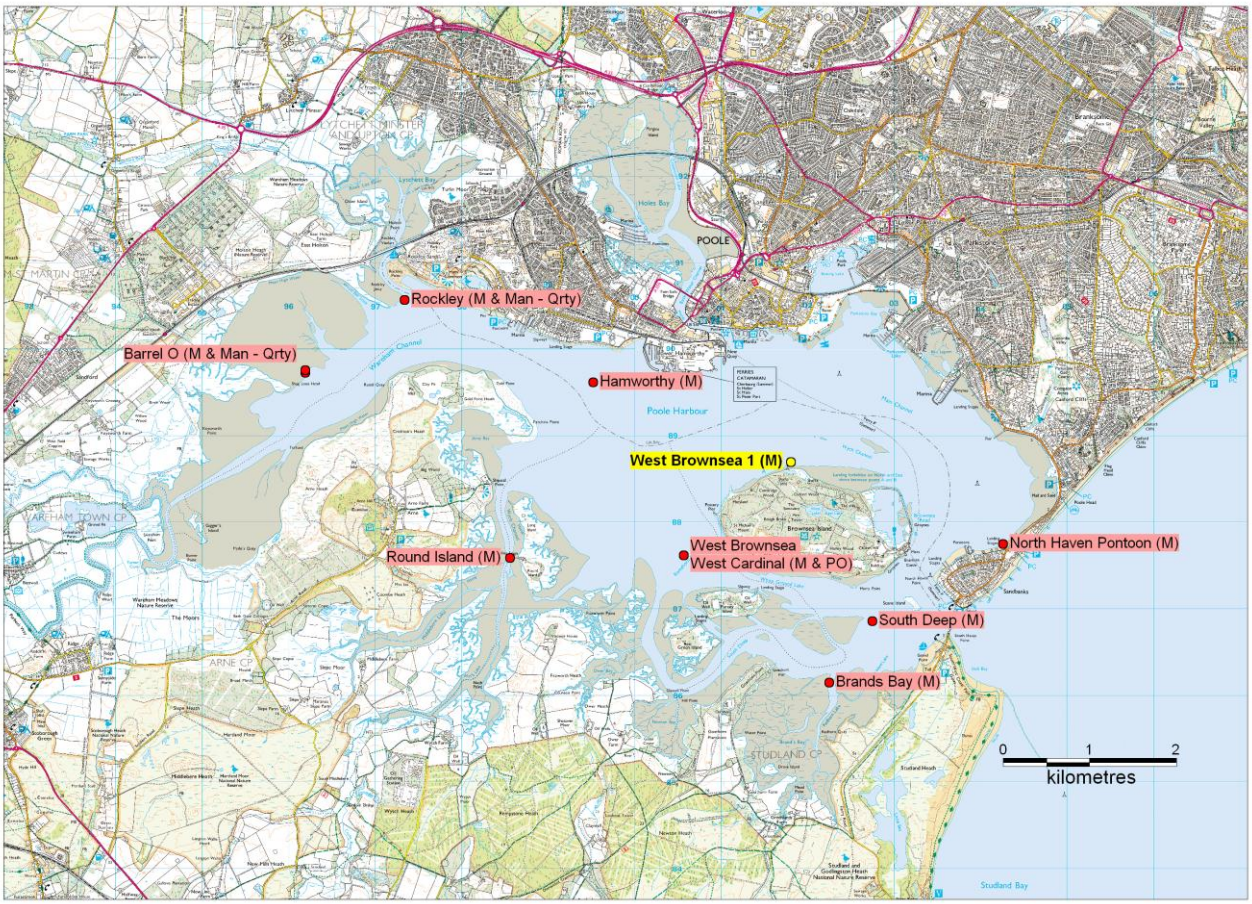
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**10 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**1 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**6 (6)**

Comments

In November and December mussels were unavailable so Pacific oysters were submitted in these instances (no toxins were detected in either Pacific oyster sample)

4.22 Poole BC

Poole



Sample Details

	Flesh	Water
Biotoxin monitoring point	West of Brownsea 1 (B54CL) - Mussels	West of Brownsea 1 (B54CL)
Classification points only	Rockley (M), Rockley (Man) – Qrty, Barrell 'O' (M), Barrell 'O' (Man) - Qrty, Hamworthy (M), Round Island (M), West Brownsea West Cardinal (M & PO), South Deep (M), West Brownsea 1 (PO), Brands Bay (M), North Haven Pontoon (M)	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	Yes	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	18	18
No. of samples received	21	21
No. of insufficient/ unsuitable samples	0 (see comments)	1

Poole (cont.)

Flesh Results

No. of samples tested for ASP	**13**
No. of samples ASP detected (>MPL)	**1 (0)**
No. of samples tested for LTs	**12**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**20**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

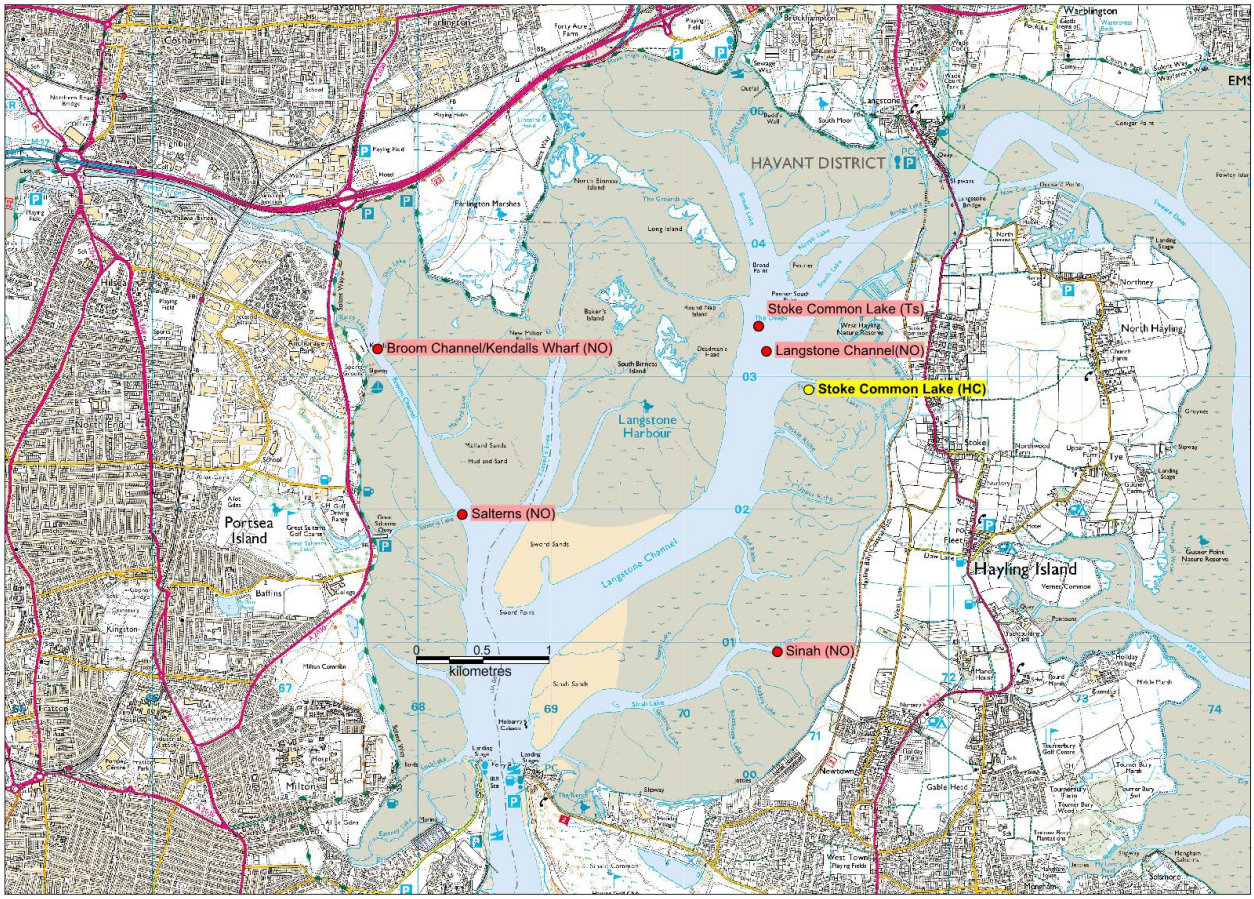
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**11 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**1 (1)**

Comments

On 3 occasions Pacific oysters were submitted due to mussels being unavailable (no toxins were detected in any of the Pacific oyster samples)
On 1 occasion, both mussels and Pacific oysters were submitted together as the LA were concerned about the condition of the mussels. Mussels were subsequently usable and the Pacific oyster sample was not tested.

4.23 Portsmouth PHA

Langstone Harbour



Sample Details

	Flesh	Water
Biotoxin monitoring point	Stoke Lake Common (B019I) – Hard clams	Stoke Lake Common (B019I)
Classification points only	Broom Channel/Kendalls Wharf (NO), Stoke Common Lake (Ts), Langstone Channel (NO), Salterns (NO), Sinah (NO)	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	No	No

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	12	15
No. of insufficient/ unsuitable samples	0	1

Langstone Harbour (cont.)

Flesh Results

No. of samples tested for ASP	**11**
No. of samples ASP detected (>MPL)	**1 (0)**
No. of samples tested for LTs	**11**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**12**
No. of sample PSP detected (>MPL)	**0 (0)**

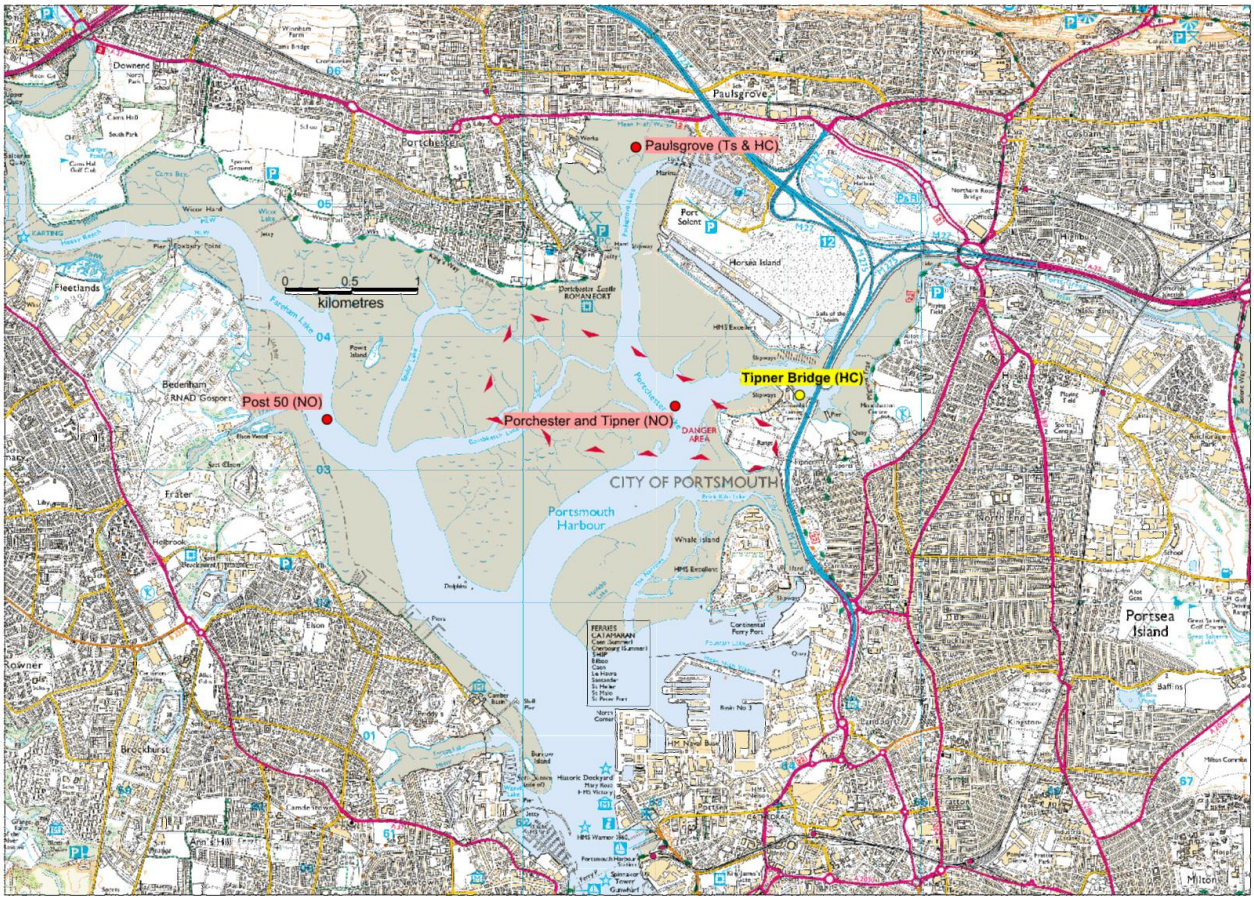
Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**6 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**1 (1)**

Comments

Due to poor weather conditions, one sample of native oysters and a water sample was collected from Langstone Channel in October 2014 (no toxins were detected in this sample)

Portsmouth Harbour



Sample Details

	Flesh	Water
Biotoxin monitoring point	Tipner Bridge (B020I) – Hard clams	Tipner Bridge (B020I)
Classification points only	Post 50 (NO), Portchester and Tipner (NO), Paulsgrove (Ts & HC)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	No

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	14	16
No. of insufficient/ unsuitable samples	1 (see comments)	0

Portsmouth Harbour (cont.)

Flesh Results

No. of samples tested for ASP	**12**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**12**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**12**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

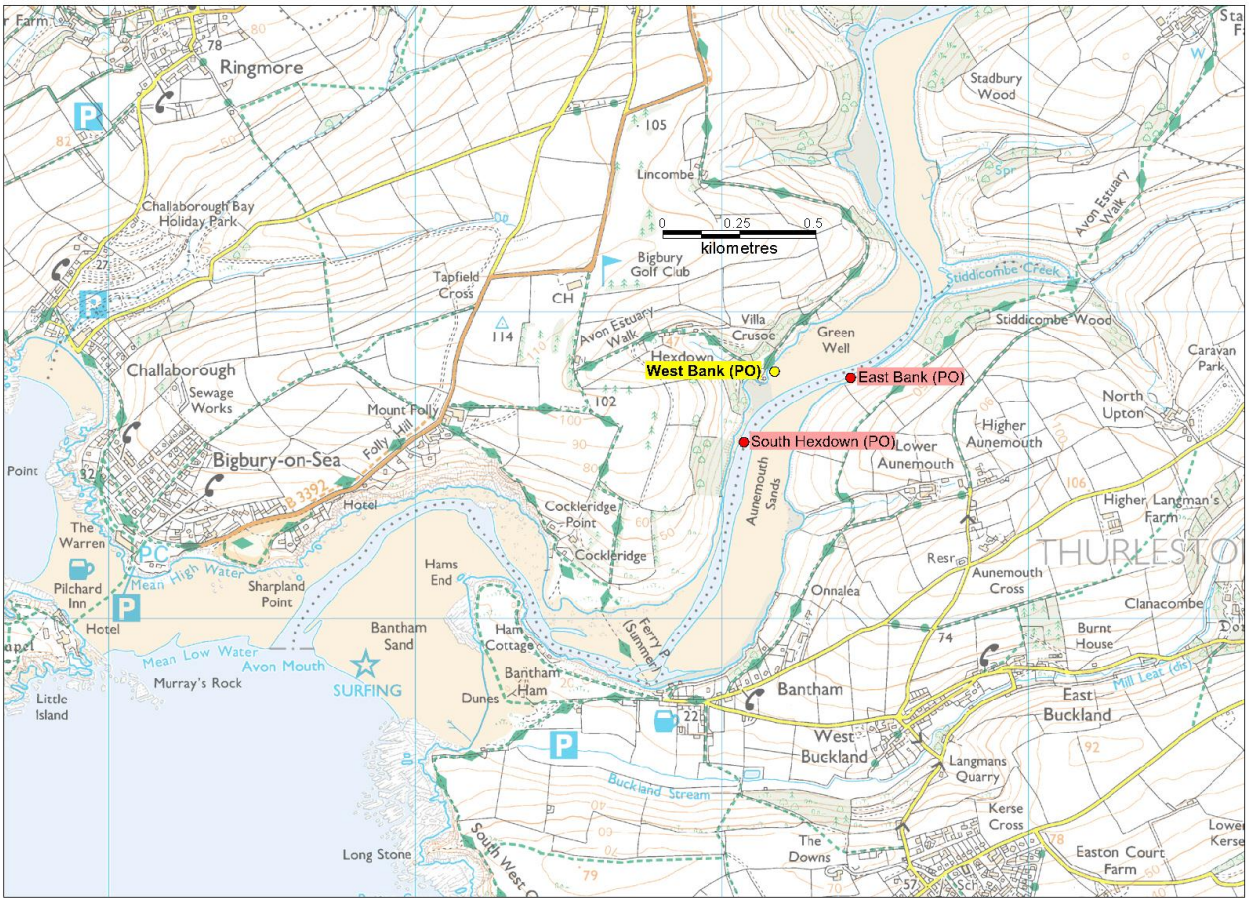
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**9 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

One sample of Manila clams was submitted for testing. This species being not classified, the sample was not tested.

4.24 South Hams DC

Bigbury and Avon



Sample Details

	Flesh	Water
Biotoxin monitoring point	West Bank (B030B) - Pacific Oysters	West Bank (B030B)
Classification points only	East Bank (PO), South Hexdown (PO)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st April 2014	
No. of samples expected	4	4
No. of samples received	4	5
No. of insufficient/ unsuitable samples	0	0

Bigbury and Avon (cont.)

Flesh Results

No. of samples tested for ASP	**4**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**4**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**4**
No. of sample PSP detected (>MPL)	**0 (0)**

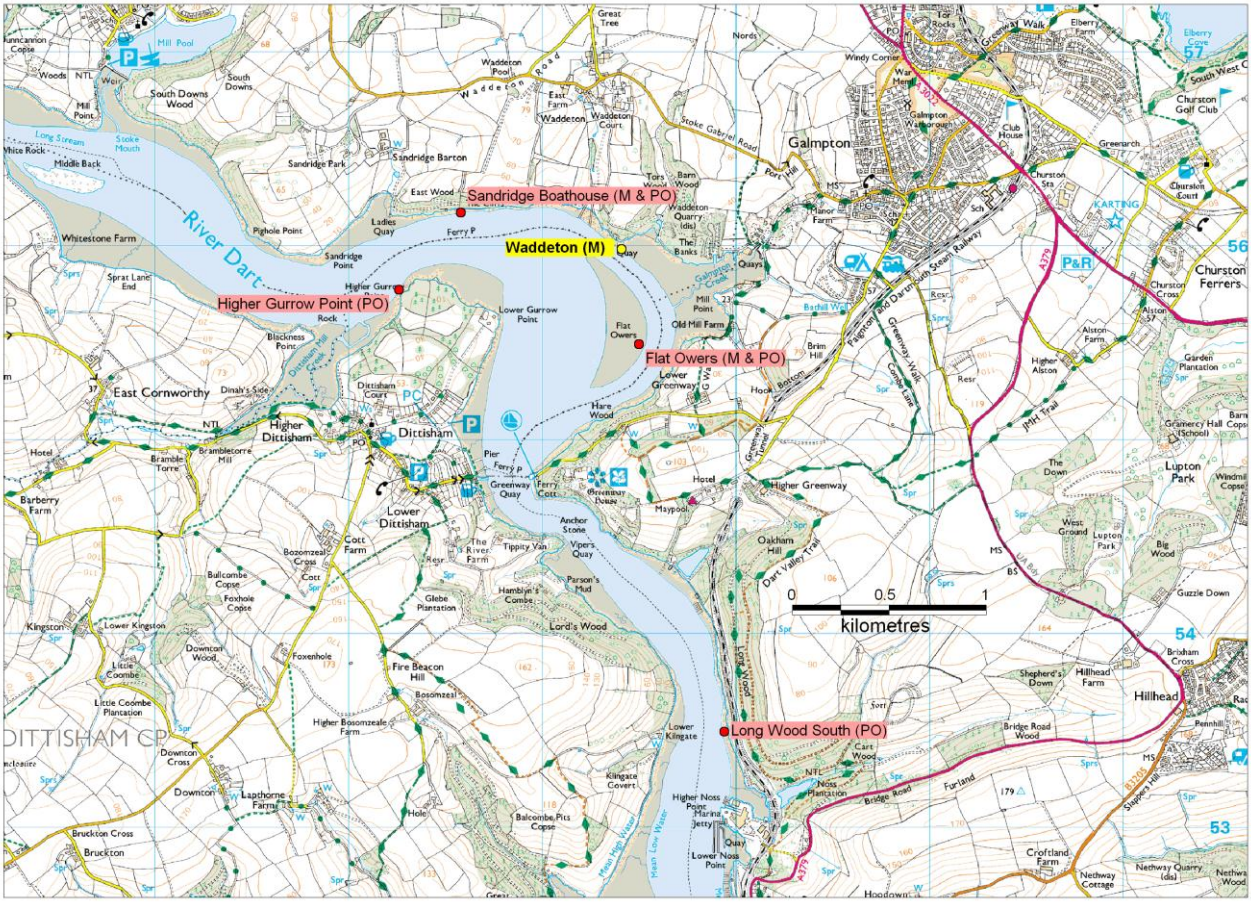
Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**3 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

Monitoring of this production area ceased in April 2014 due to lack of commercial interest

Dart



Sample Details

	Flesh	Water
Biotoxin monitoring point	Waddeton (B028B) – Pacific oysters	Waddeton (B028B)
Classification points only	Sandridge Boathouse (M & PO), Higher Gurrow Point (PO), Waddeton (M), Flat Owers (M & PO), Long Wood South (PO)	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	16	19
No. of insufficient/ unsuitable samples	0 (see comments)	4

Dart (cont.)

Flesh Results

No. of samples tested for ASP	**12**
No. of samples ASP detected (>MPL)	**1 (0)**
No. of samples tested for LTs	**15**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**12**
No. of sample PSP detected (>MPL)	**0 (0)**

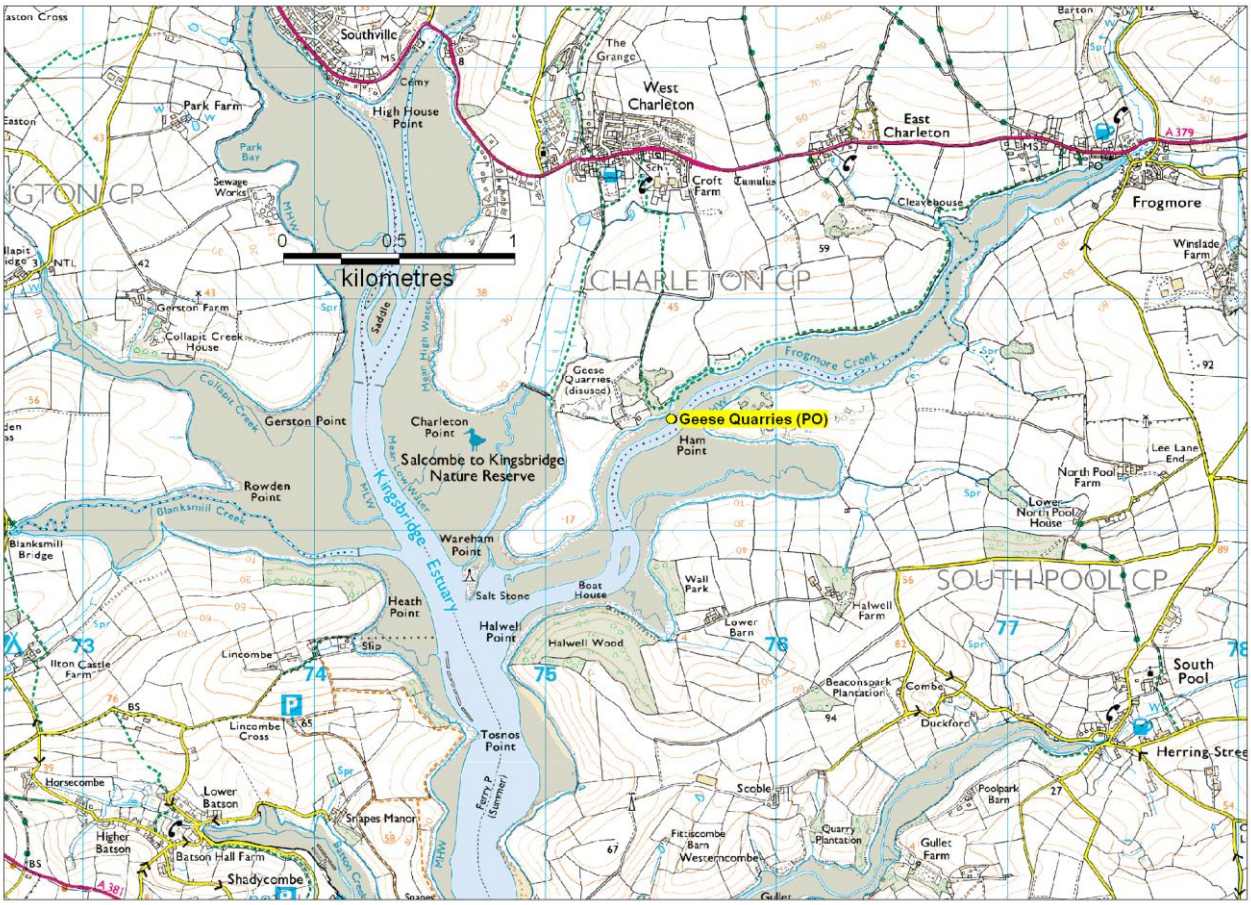
Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**11 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**4 (4)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

In June monitoring changed from monitoring mussels to Pacific oysters following changes in the local harvesting patterns. In May, one sample was submitted outside the routine testing frequency and was not tested

Salcombe



Sample Details

	Flesh	Water
Biotoxin monitoring point	Salcombe (B029D)	Salcombe (B029D)
Classification points only	As above	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	Yes	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 30th April 2014	
No. of samples expected	6	6
No. of samples received	6	5
No. of insufficient/ unsuitable samples	0	2

Salcombe (cont.)

Flesh Results

No. of samples tested for ASP	**6**
No. of samples ASP detected (>MPL)	**1 (0)**
No. of samples tested for LTs	**6**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**6**
No. of sample PSP detected (>MPL)	**0 (0)**

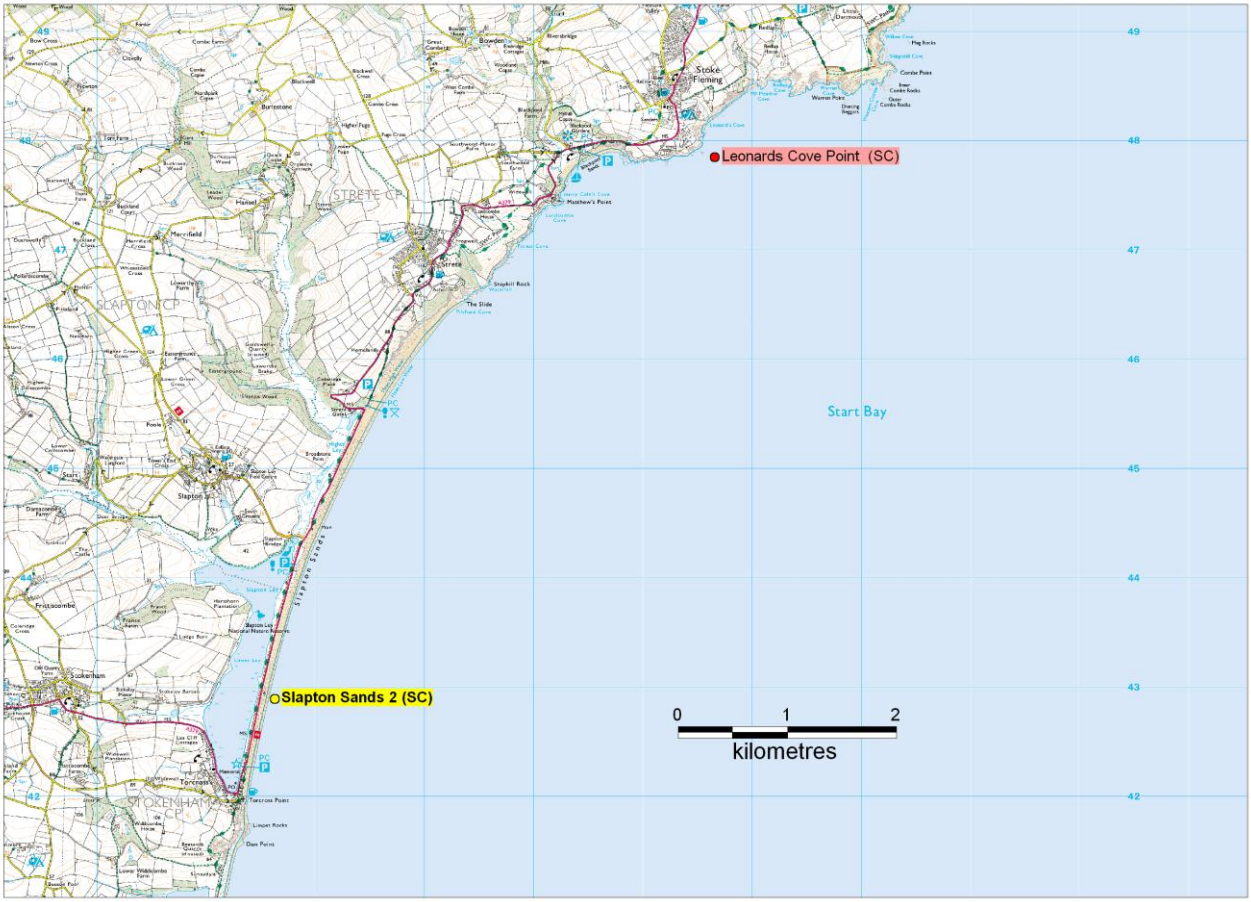
Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**1 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

Monitoring of this site ceased between May and December 2014 due to a lack of commercial interest

Start Bay



Sample Details

	Flesh	Water
Biotoxin monitoring point	Slapton Sands 2 (B087C) – Surf Clams	Slapton Sands 2 (B087C)
Classification points only	Leonards Cove Point (SC)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	No

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	12
No. of samples received	12	13
No. of insufficient/ unsuitable samples	0 (see comments)	0

Start Bay (cont.)

Flesh Results

No. of samples tested for ASP	**13**
No. of samples ASP detected (>MPL)	**2 (0)**
No. of samples tested for LTs	**11**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**11**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

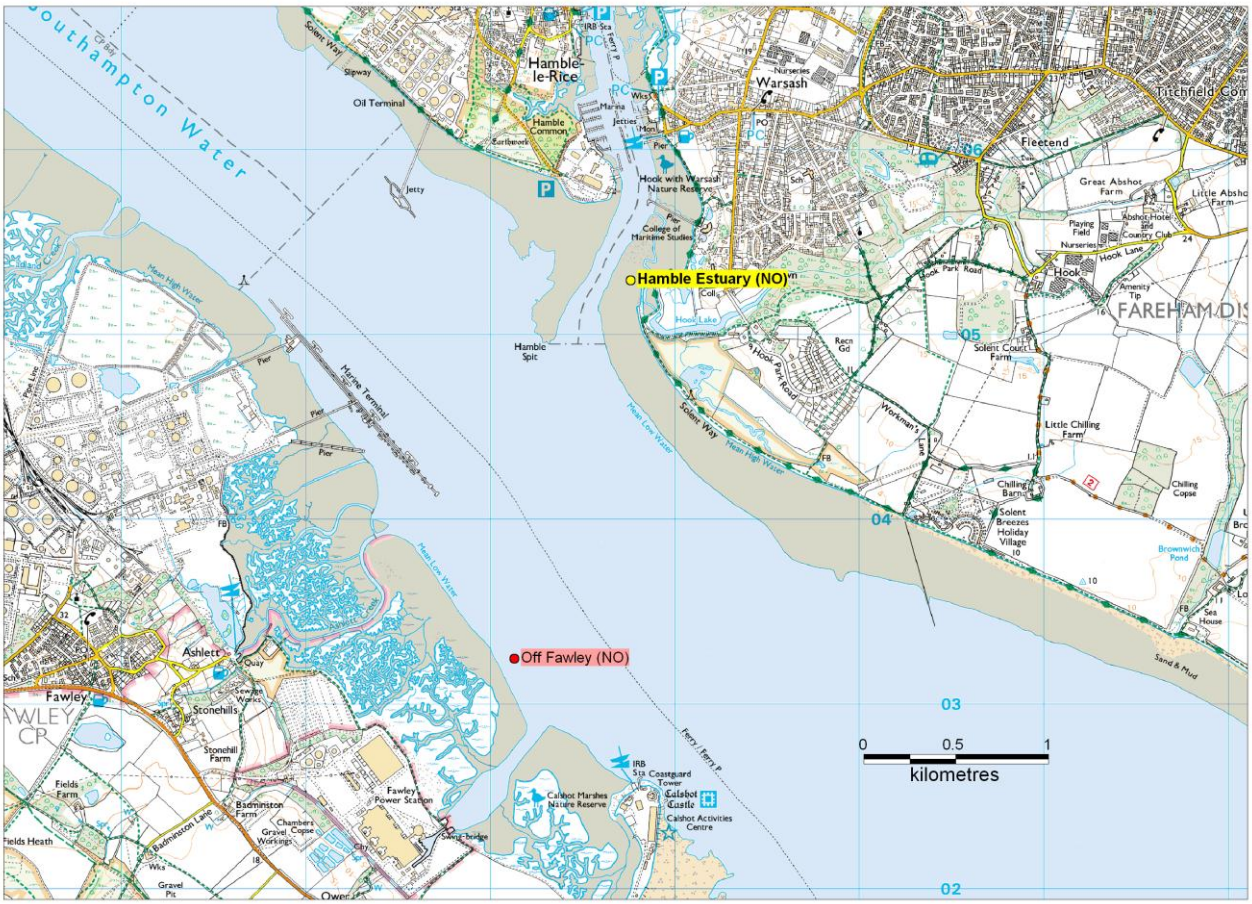
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**12 (1)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**3 (2)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

One classification sample from Leonards Cove was accidentally sent to the biotoxin laboratory. It was rejected on arrival.

4.25 Southampton PHA

Southampton Water



Sample Details

	Flesh	Water
Biotoxin monitoring point	Hamble Estuary (B021Y) – native oysters	Hamble Estuary (B021Y)
Classification points only	Off Fawley (NO)	
Alternate point used	Yes (see comments)	Yes (see comments)
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	13	18
No. of insufficient/ unsuitable samples	0 (see comments)	1

Southampton Water (cont.)

Flesh Results

No. of samples tested for ASP	**11**
No. of samples ASP detected (>MPL)	**1 (0)**
No. of samples tested for LTs	**11**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**11**
No. of sample PSP detected (>MPL)	**0 (0)**

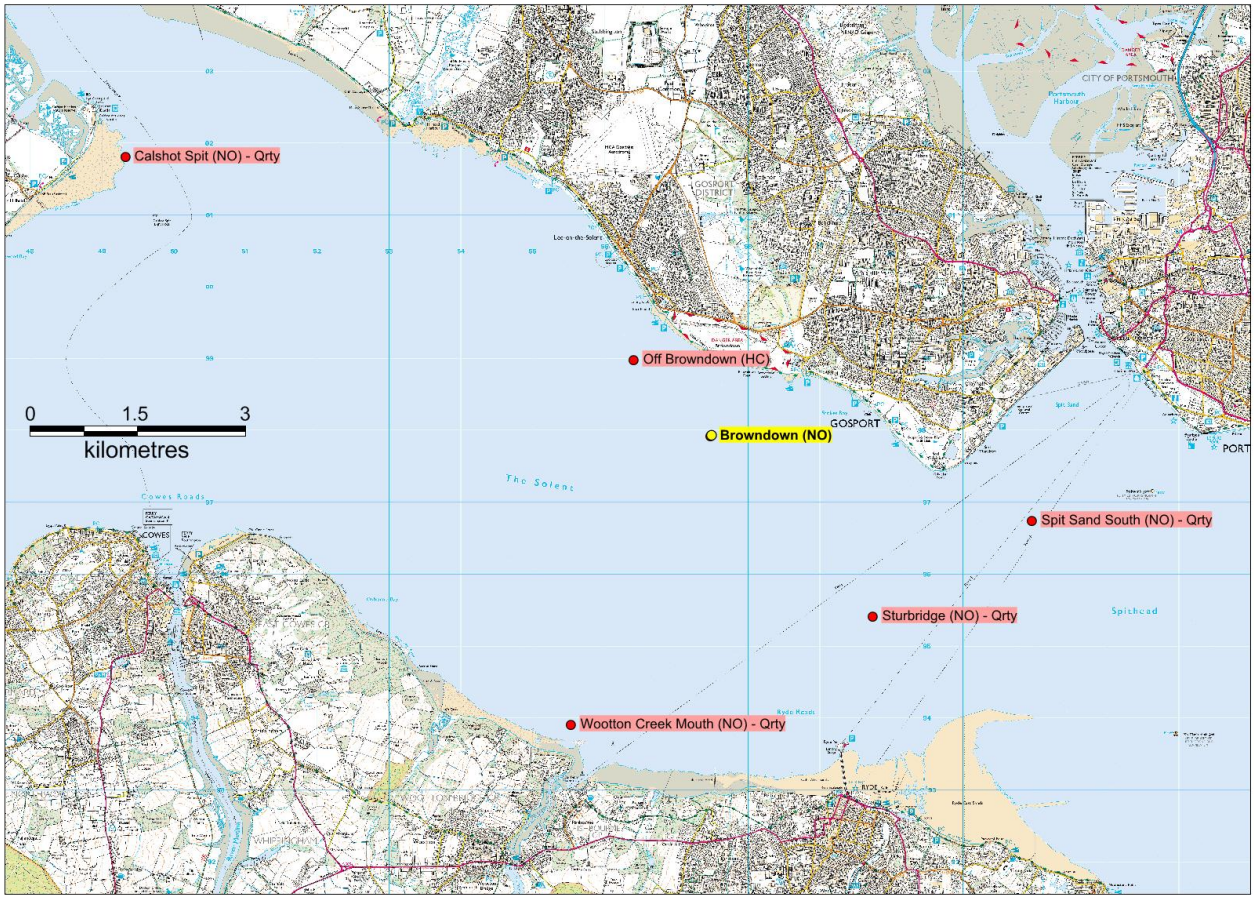
Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**5 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**1 (1)**

Comments

One sample of Tapes species was submitted in February 2014. This was not analysed. We were unable to analyse one sample in September due to a laboratory error.

The Solent (East)



Sample Details

	Flesh	Water
Biotoxin monitoring point	Browndown (B24BK) – Native oysters	Browndown (B24BK)
Classification points only	Calshott Spit (NO) – Qrty, Off Browndown (HC), Wooton Creek Mouth (NO) – Qrty, Sturbridge (NO) – Qrty, Spit Sand South (NO) - Qrty	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	12	19
No. ofInsufficient/ unsuitable samples	0	3

The Solent (East) (cont.)

Flesh Results

No. of samples tested for ASP	**11**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**12**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**11**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**8 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**1 (1)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**1 (1)**

Comments

One set of flesh and water samples was taken from B024T Off Browndown. This site was replaced in February with B24BK Browndown following a sanitary survey.

4.26 Suffolk Coastal DC

Butley

Sample Details

	Flesh	Water
Biotoxin monitoring point	Butley Creek (B009A) – Pacific Oysters	Butley Creek (B009A)
Classification points	As above	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	14	21
No. of insufficient/ unsuitable samples	0	1

Butley (cont.)

Flesh Results

No. of samples tested for ASP	**13**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**13**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**14**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**3 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**1 (1)**

Comments

Deben

Sample Details

	Flesh	Water
Biotoxin monitoring point	Stonner Point (B010O) - Mussels	Stonner Point (B010O)
Classification points	Spinny Marsh (PO)	
Alternate point used	No	Yes (see comments)
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	13	19
No. of insufficient/ unsuitable samples	0	0

Deben (cont.)

Flesh Results

No. of samples tested for ASP	**13**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**13**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**13**
No. of sample PSP detected (>MPL)	**0 (0)**

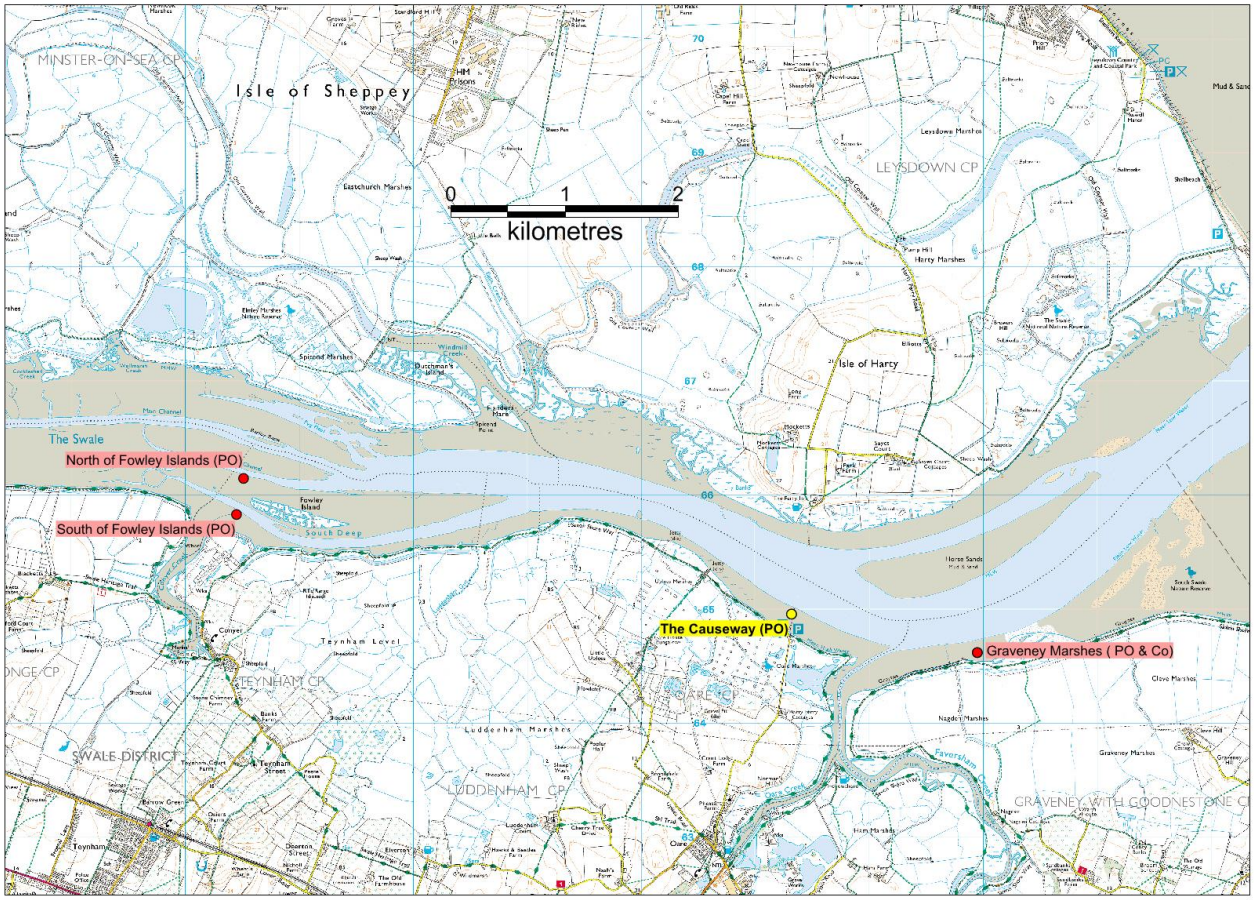
Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**2 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

4.27 Swale BC

Swale



Sample Details

	Flesh	Water
Biotoxin monitoring point	The Causeway (B076P) – Pacific oysters	The Causeway (B076P)
Classification points only	North of Fowley Island (PO), South of Fowley Islands (PO), Graveney Marshes (PO & Co)	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	Swale BC 1 – 4 North of Fowley Island – 4 The Causeway - 4	Swale BC 1 – 4 North of Fowley Island – 4 The Causeway - 4
No. of samples received	Swale BC 1 – 2 North of Fowley Island – 4 The Causeway - 3	Swale Bed 1 – 2 North of Fowley Island - 4 The Causeway - 3
No. of insufficient/ unsuitable samples	0	0

Swale (cont.)

Flesh Results

	Swale BC 1	North of Fowley Island	The Causeway
No. of samples tested for ASP	**2**	**4**	**3**
No. of samples ASP detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples tested for LTs	**2**	**4**	**3**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples tested for PSP	**2**	**4**	**3**
No. of sample PSP detected (>MPL)	**0 (0)**	**0 (0)**	**0 (0)**

Water Results

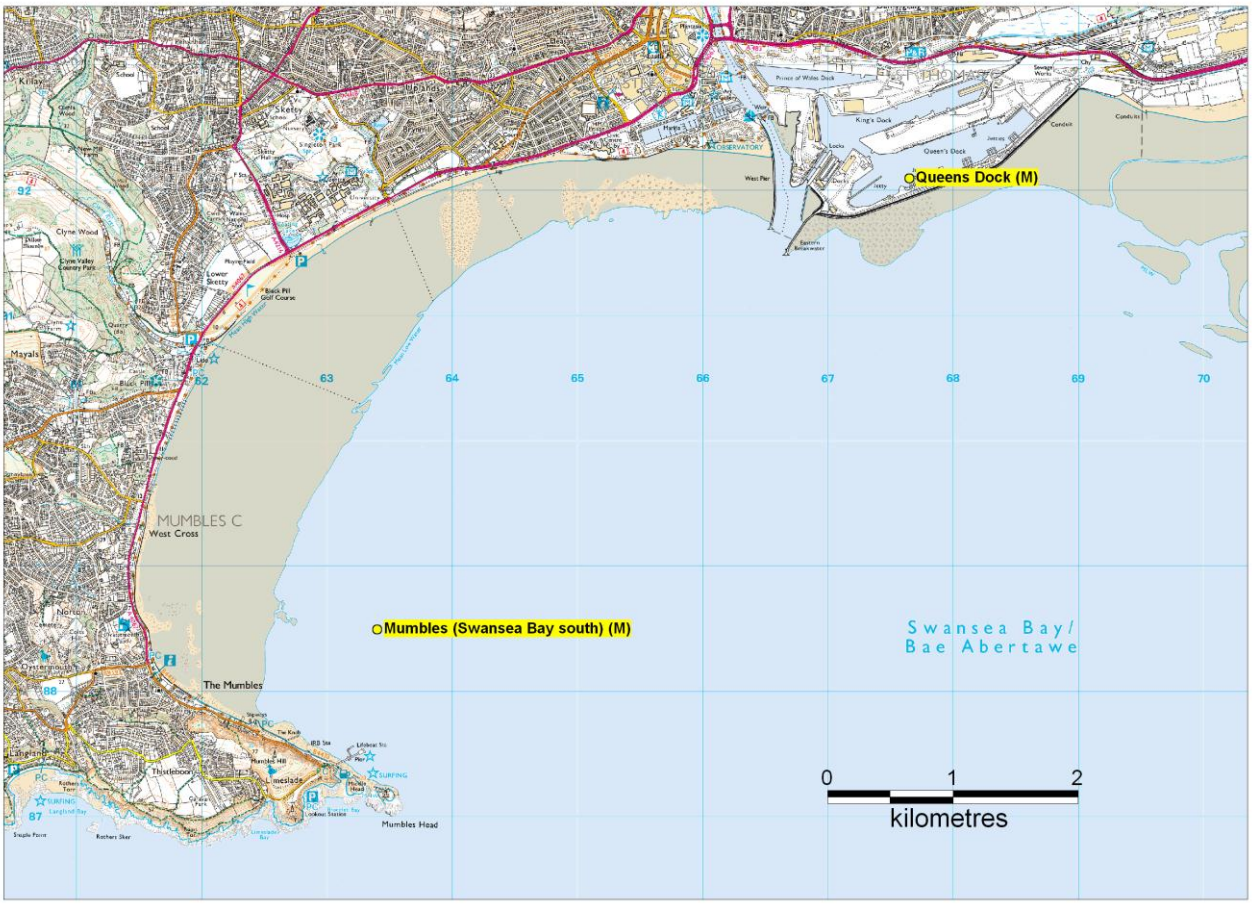
	Swale BC 1	North of Fowley Island	The Causeway
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**2 (0)**	**0 (0)**	**0 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**	**0 (0)**	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**	**0 (0)**	**0 (0)**

Comments

Following a sanitary survey new monitoring points were adopted in May 2014, monitoring moved from Swale BC/1 to North of Fowley Islands. Then in September 2014 it was moved again to The Causeway following information from the LA.

4.28 Swansea PHA

Swansea Bay



Sample Details

	Flesh	Water
Biotoxin monitoring point	Queens Dock (B037U) – Mussels Mumbles (Swansea Bay South) (B037G) - Mussels	Queens Dock (B037U) Mumbles (Swansea Bay South) (B037G)
Classification points only	As above	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	Queens Dock - 12 Mumbles - 12	Queens Dock - 18 Mumbles - 18
No. of samples received	Queens Dock – 15 Mumbles – 13	Queens Dock - 21 Mumbles - 20
No. of insufficient/ unsuitable samples	0	Mumbles - 3

Swansea Bay (cont.)

Flesh Results

	Queens Docks	Mumbles
No. of samples tested for ASP	13	12
No. of samples ASP detected (>MPL)	0 (0)	0 (0)
No. of samples tested for LTs	14	13
No. of samples OA/DTX/PTXs detected (>MPL)	0 (0)	2 (0)
No. of samples AZAs detected (>MPL)	0 (0)	0 (0)
No. of samples YTXs detected (>MPL)	0 (0)	0 (0)
No. of samples tested for PSP	14	12
No. of sample PSP detected (>MPL)	0 (0)	0 (0)

Water Results

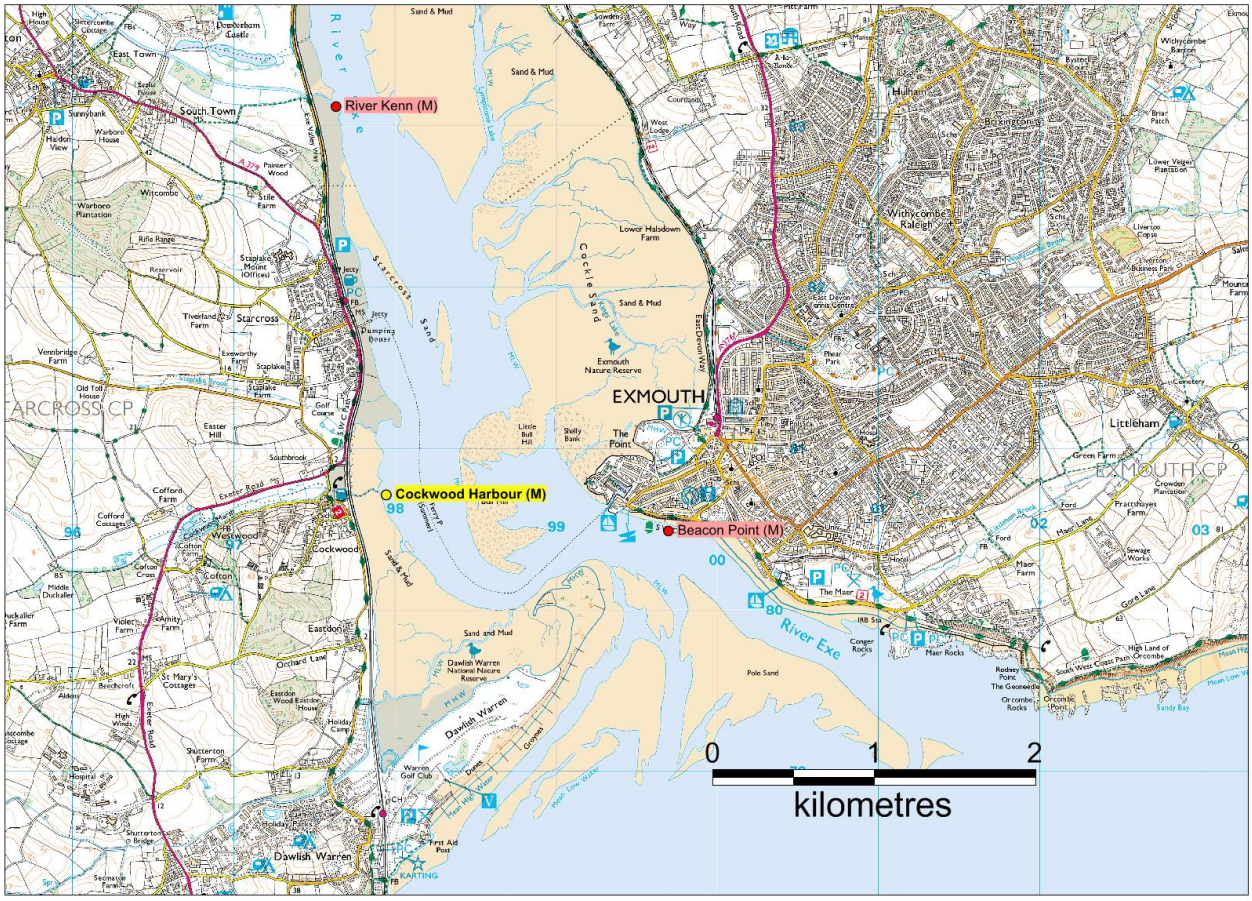
	Queens Dock	Mumbles
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	12 (0)	6 (0)
No. of samples *Dinophysiaceae* detected (above trigger Level)	2 (1)	1 (1)
No of samples *Prorocentrum lima* detected (above trigger Level)	0 (0)	0 (0)
No. of samples *Alexandrium spp* detected (above trigger Level)	1 (1)	0 (0)

Water Results

Comments

4.29 Teignbridge DC

Exe



Sample Details

	Flesh	Water
Biotoxin monitoring point	Cockwood Harbour (B26BH) - Mussels	Cockwood Harbour (B26BH)
Classification points	River Kenn (M), Beacon Point (M)	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	Pool – 3 Cockwood Harbour - 10	Pool – 3 Cockwood Harbour - 15
No. of samples received	Pool – 3 Cockwood Harbour - 11	Pool - 3 Cockwood Harbour - 18
No. of insufficient/ unsuitable samples	0	Cockwood Harbour - 1

Exe (cont.)

Flesh Results

	Pool	Cockwood Harbour
No. of samples tested for ASP	**3**	**10**
No. of samples ASP detected (>MPL)	**0 (0)**	**1 (0)**
No. of samples tested for LTs	**3**	**10**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples tested for PSP	**3**	**9**
No. of sample PSP detected (>MPL)	**0 (0)**	**0 (0)**

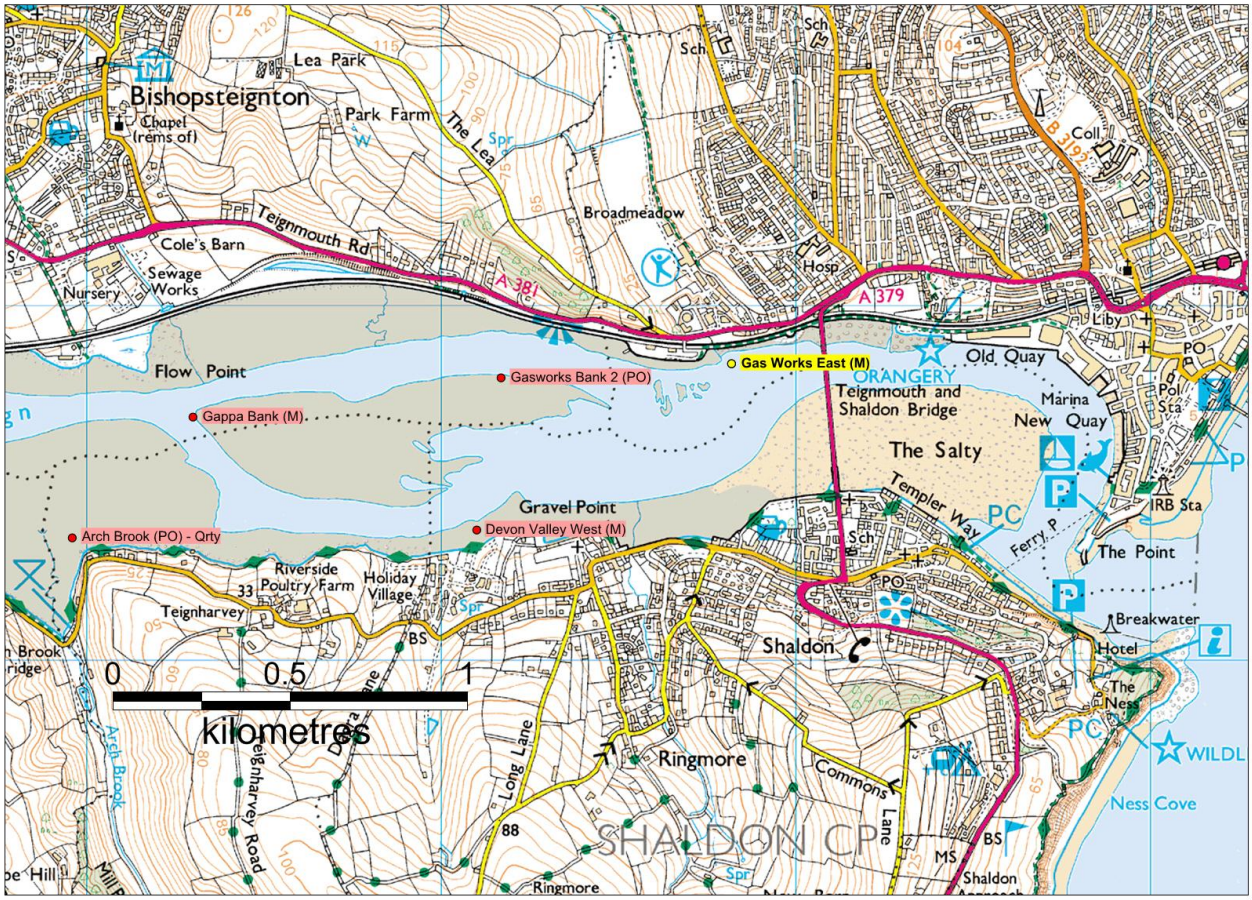
Water Results

	Pool	Cockwood Harbour
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**1 (0)**	**15 (2)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**	**1 (1)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**	**0 (0)**

Comments

Following a sanitary survey, monitoring moved from Pool (not shown) to Cockwood Harbour in April 2014

Teign



Sample Details

	Flesh	Water
Biotoxin monitoring point	Gas Works East (B27AC) – Mussels	Gas Works East (B27AC)
Classification points only	Arch Brook (PO) - Qrty, Gappa Bank (M), Devon Valley West (M), Gasworks Bank 2(PO)	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	Gas Works East – 6 Devon Valley West - 6	Gas Works East – 7 Devon Valley West - 11
No. of samples received	Gas Works East – 6 Devon Valley West - 8	Devon Valley West - 10 Gasworks East -10
No. of insufficient/ unsuitable samples	0	Gasworks East - 1

Teign (cont.)

Flesh Results

	Gas Works East	Devon Valley West
No. of samples tested for ASP	**6**	**7**
No. of samples ASP detected (>MPL)	**0 (0)**	**1 (0)**
No. of samples tested for LTs	**6**	**7**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**	**0 (0)**
No. of samples tested for PSP	**6**	**6**
No. of sample PSP detected (>MPL)	**0 (0)**	**0 (0)**

Water Results

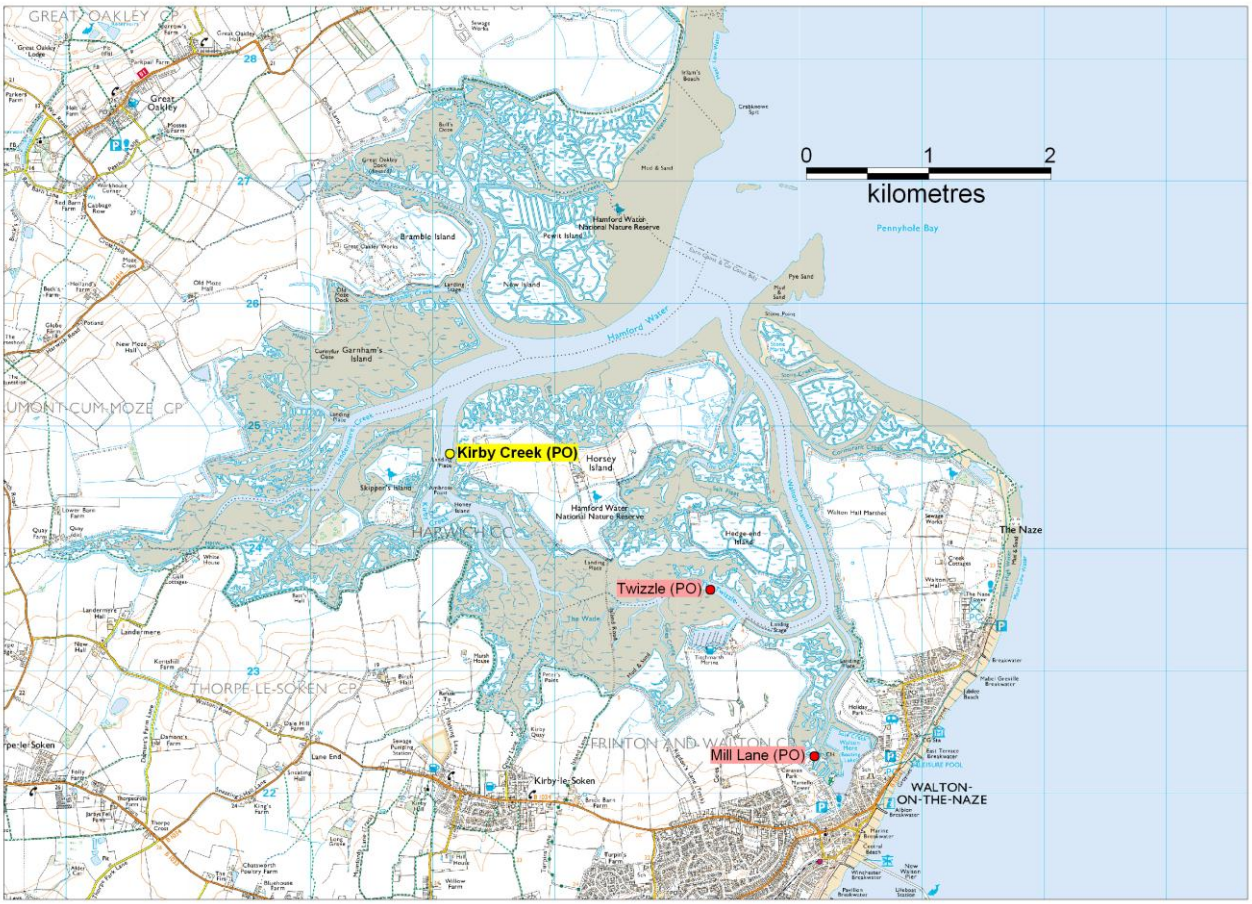
	Gas Works East	Devon Valley West
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**10 (1)**	**5 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**1 (1)**	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**	**0 (0)**

Comments

Following a sanitary survey and changes in classification level, monitoring was moved between Gas Works East (January to April & November to December) and Devon Valley West (May to October).

4.30 Tendring

Walton Backwaters



Sample Details

	Flesh	Water
Biotoxin monitoring point	Kirby Creek (B011R) – Pacific Oysters	Kirby Creek (B011G)
Classification points	Twizzle (PO), Mill Lane (PO)	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	7	7
No. of samples received	7	7
No. of insufficient/ unsuitable samples	0	0

Walton Backwaters (cont.)

Flesh Results

No. of samples tested for ASP	**7**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**7**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**7**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**0 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

Local shellfish season closed from April to October 2014. The season then closed in November. No monitoring took place during the closed seasons.

4.31 Torbay BC

Brixham

Sample Details

	Flesh	Water
Biotoxin monitoring point	Fishcombe Cove (B082A) Mussels	Fishcombe Cove (B082A)
Classification points only	As above	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	20	24
No. of insufficient/ unsuitable samples	0	0

Brixham (cont.)

Flesh Results

No. of samples tested for ASP	**18**
No. of samples ASP detected (>MPL)	**5 (0)**
No. of samples tested for LTs	**16**
No. of samples OA/DTX/PTXs detected (>MPL)	**5 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**1 (0)**
No. of samples tested for PSP	**12**
No. of sample PSP detected (>MPL)	**0 (0)**

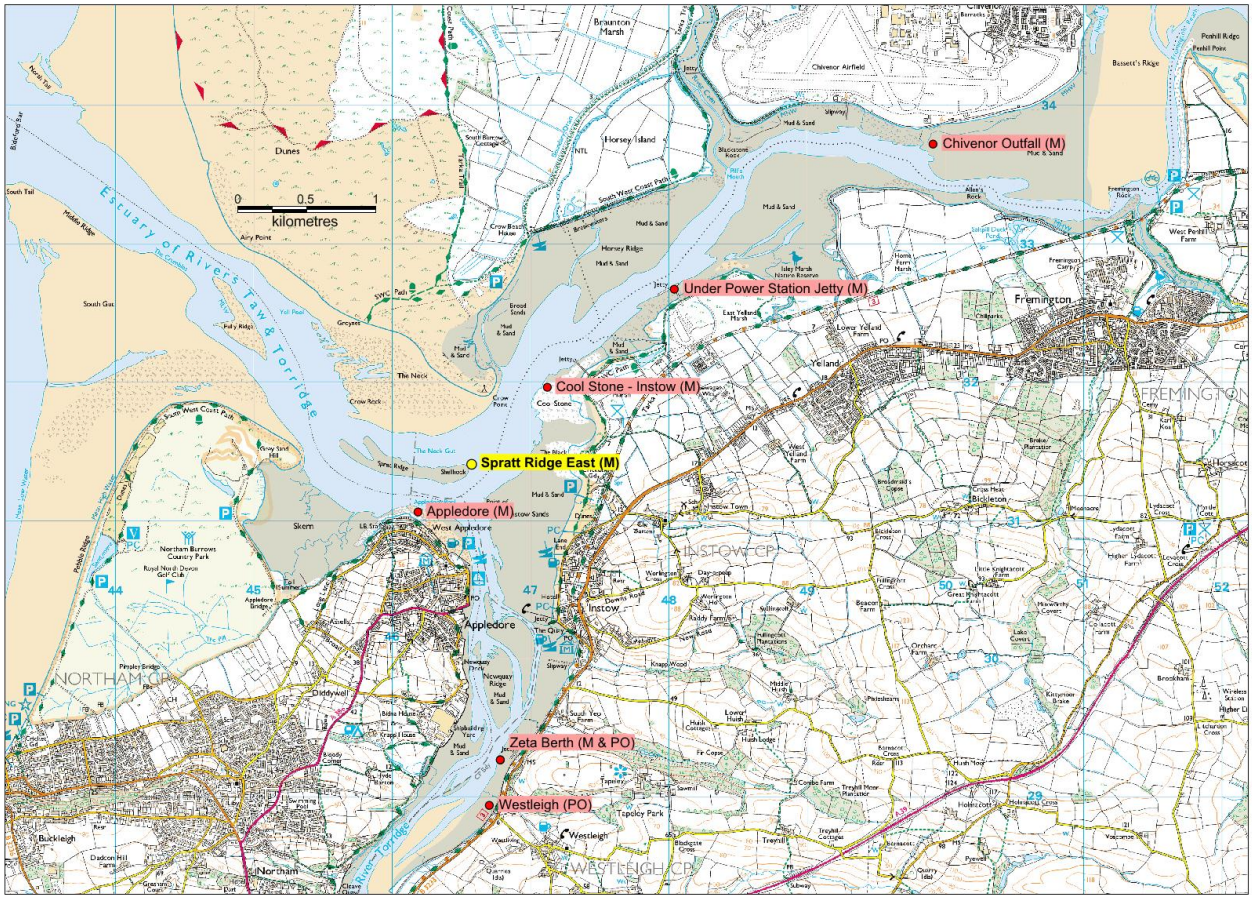
Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**23 (7)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**7 (7)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

4.32 Torridge DC

Taw / Torridge



Sample Details

	Flesh	Water
Biotoxin monitoring point	Spratt Ridge East (B36AB) - Mussels	Spratt Ridge East (B36AB)
Classification points only	Chivenor Outfall (M), Under Power Station Jetty (M), Cool Stone – Instow (M), Appledore (M), Zeta Berth (M & PO), Westleigh (PO)	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	22	26
No. of insufficient/ unsuitable samples	0 (see comments)	3

Taw / Torridge (cont.)

Flesh Results

No. of samples tested for ASP	**11**
No. of samples ASP detected (>MPL)	**1 (0)**
No. of samples tested for LTs	**20**
No. of samples OA/DTX/PTXs detected (>MPL)	**13 (6)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**13**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

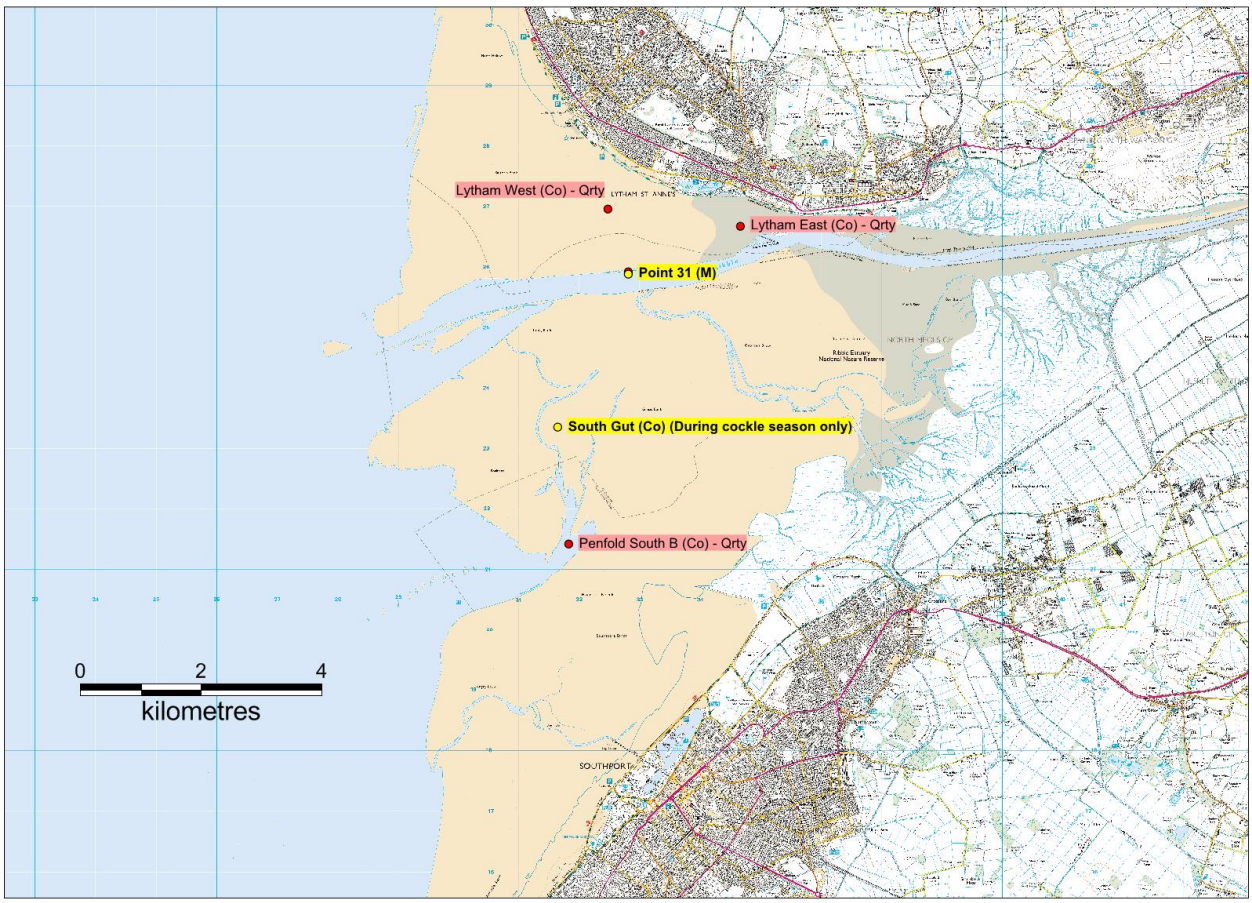
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**20 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**5 (4)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**2 (0)**

Comments

One sample was collected from Appledore in February 2014 as the LA couldn't access the RMP. This sample was analysed. One sample was not analysed (48 hr resample which was not required).

4.33 West Lancashire DC

Ribble



Sample Details

	Flesh	Water
Biotoxin monitoring point	Point 31 (B046C) – Mussels	Not sampled
Classification points only	Lytham West (Co) – Qrty, Lytham East (Co) – Qrty, Penfold South B (Co) - Qrty	
Alternate point used	No	N/A
Fortnightly monitoring (April to Sept)	No	N/A

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	Point 31 – 12 South Gut - 0	N/A
No. of samples received	Point 31 - 12	N/A
No. of insufficient/ unsuitable samples	0	N/A

Ribble (cont.)

Flesh Results

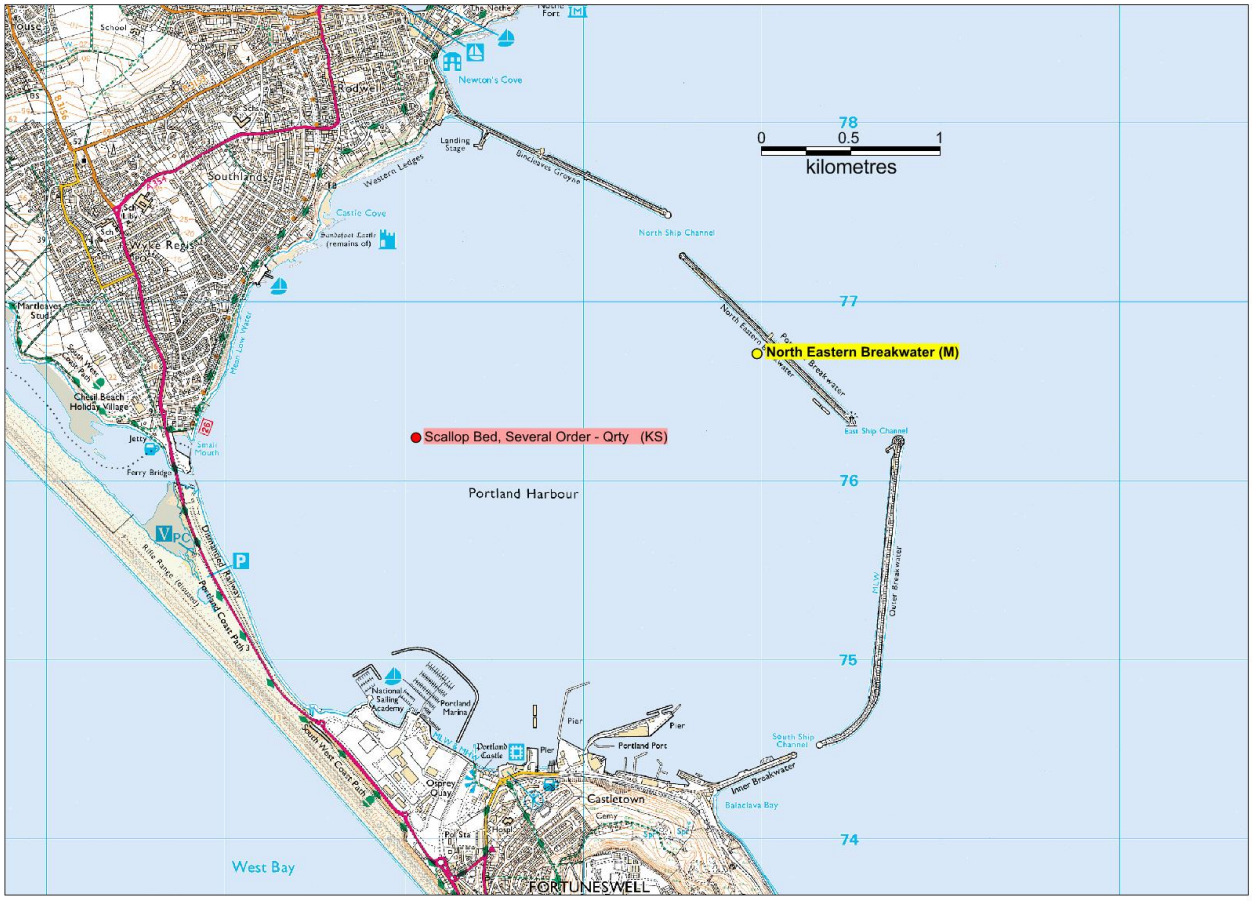
	Point 31
No. of samples tested for ASP	**12**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**12**
No. of samples OA/DTX/PTXs detected (>MPL)	**2 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**12**
No. of sample PSP detected (>MPL)	**0 (0)**

Comments

Due to low stocks the cockle season did not open in 2014.

4.34 Weymouth PHA

Portland



Sample Details

	Flesh	Water
Biotoxin monitoring point	North Eastern Breakwater (B25AE) - Mussels	North Eastern Breakwater (B25AE)
Classification points	North Eastern Breakwater (PO), Scallop Bed, Several Order (Sc) - Qrty	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	16	20
No. of insufficient/ unsuitable samples	0 (see comments)	0

Portland (cont.)

Flesh Results

No. of samples tested for ASP	**14**
No. of samples ASP detected (>MPL)	**3 (1)**
No. of samples tested for LTs	**11**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**10**
No. of sample PSP detected (>MPL)	**0 (0)**

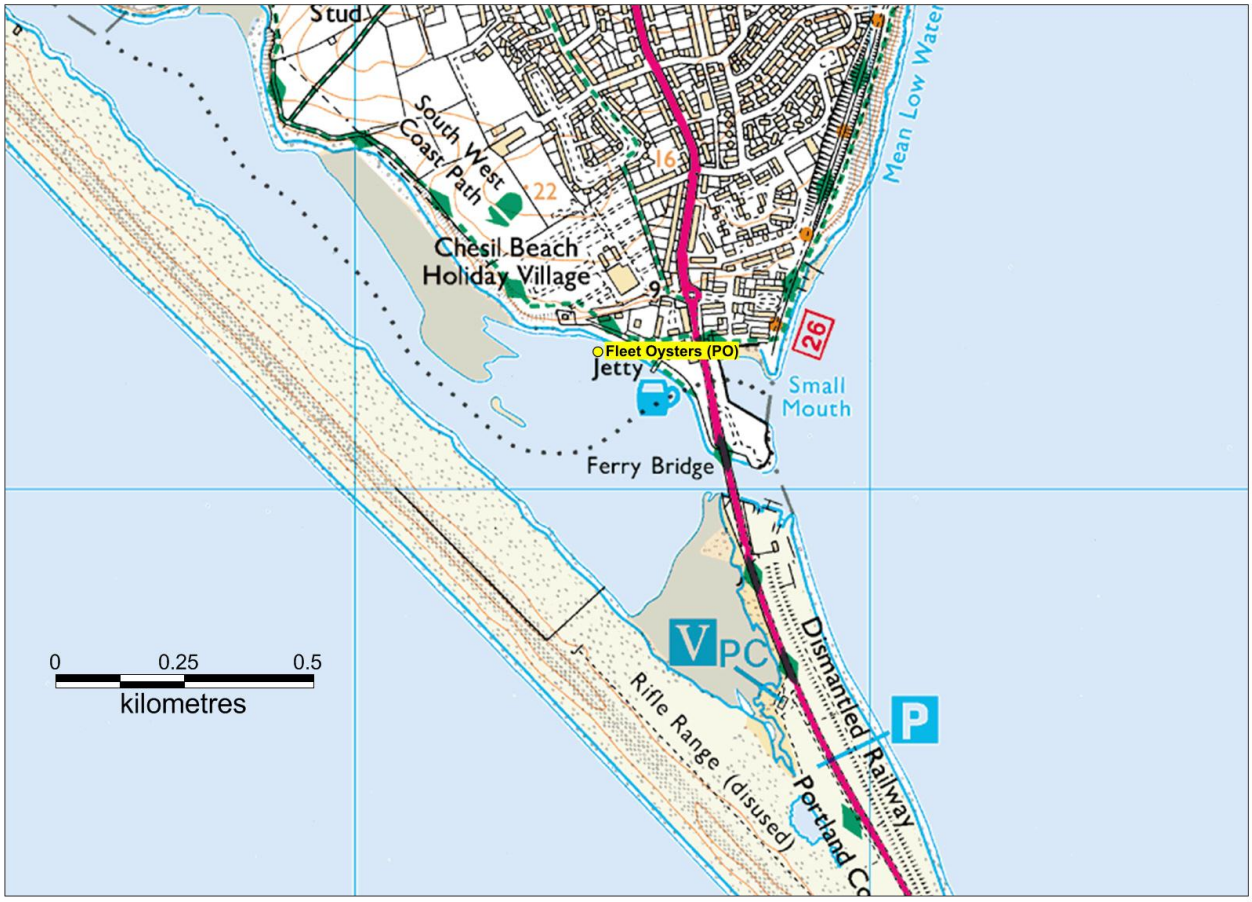
Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**17 (4)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**4 (1)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

One classification sample was accidentally submitted to the biotoxin testing laboratory. It was rejected on arrival.

The Fleet



Sample Details

	Flesh	Water
Biotoxin monitoring point	Fleet Oyster Farm (B25AI) – Pacific Oysters	Fleet Oyster Farm (B25AI)
Classification points	As above	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st December 2014	
No. of samples expected	12	18
No. of samples received	17	23
No. of insufficient/ unsuitable samples	0	1

The Fleet (cont.)

Flesh Results

No. of samples tested for ASP	**16**
No. of samples ASP detected (>MPL)	**4 (0)**
No. of samples tested for LTs	**14**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**12**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

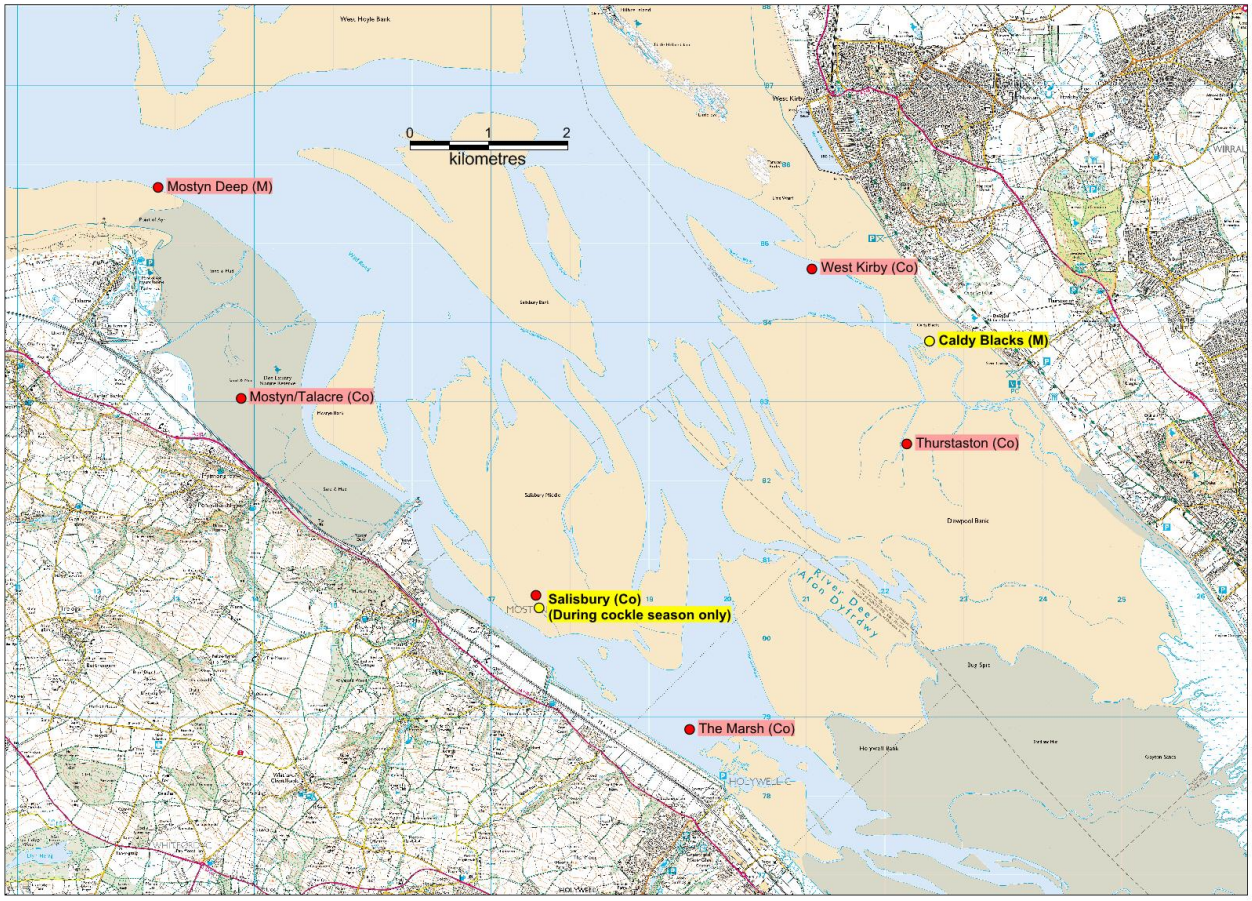
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**15 (2)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**1 (1)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**2 (1)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**1 (1)**

Comments

Following a sanitary survey, the monitoring point location was amended and The Fleet was subsequently listed as a separate production area to Portland.

4. 35 Wirral BC

Dee



Sample Details

	Flesh	Water
Biotoxin monitoring point	Caldy Blacks (B045O) - Mussels	None collected (see comments)
Classification points only	West Kirby (Co), Thurstaston (Co), Mostyn Deep (M), Mostyn/Talacre (Co), The Marshes (Co)	
Alternate point used	Yes (see comments)	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 30th June 2014	
No. of samples expected	5	N/A
No. of samples received	5	N/A
No. of insufficient/ unsuitable samples	0	N/A

Dee (cont.)

Flesh Results

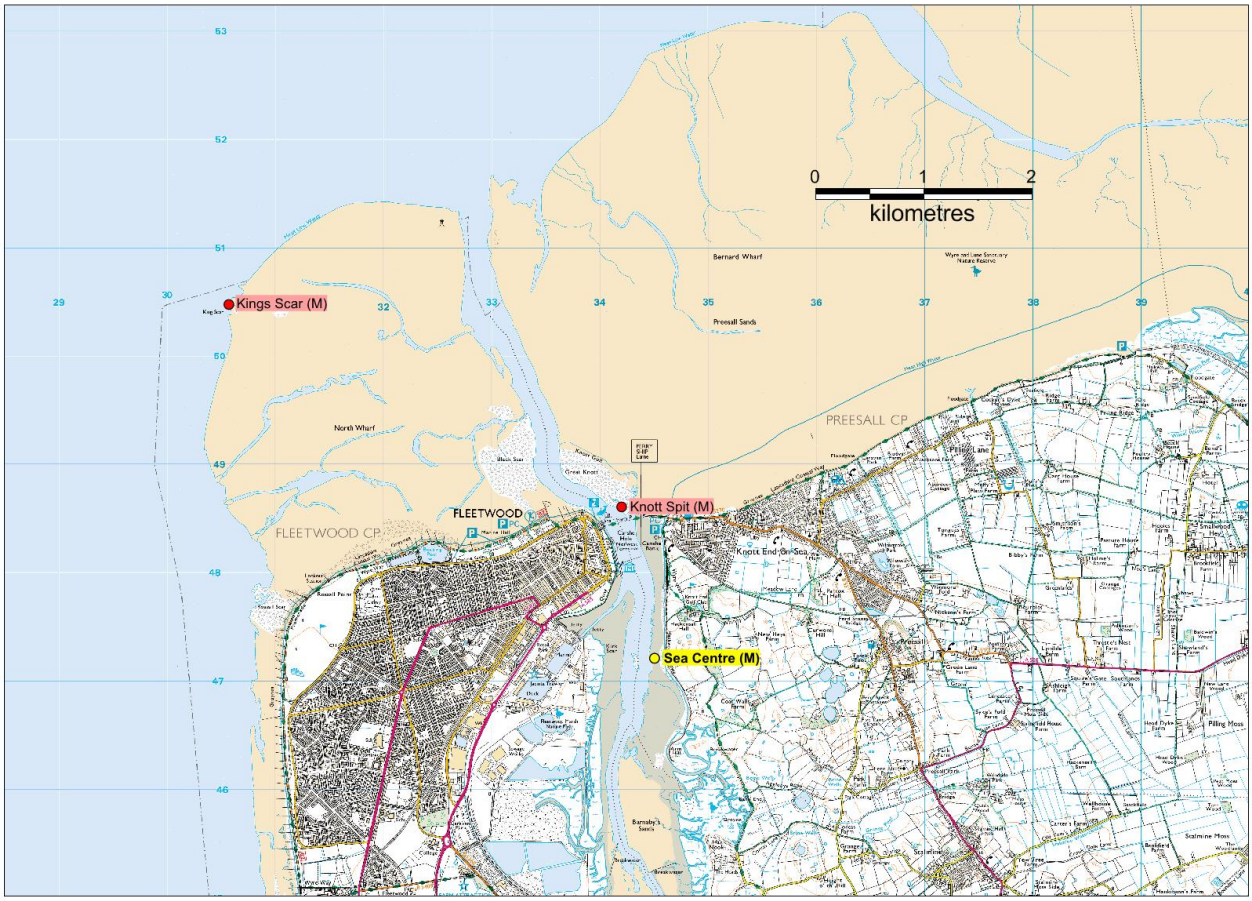
No. of samples tested for ASP	**5**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**5**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**5**
No. of sample PSP detected (>MPL)	**0 (0)**

Comments

Cockles are monitored during the open season (June to December), mussels are monitored at all other times whilst harvesting continues.
Monitoring moved from West Kirby to Caldy Blacks due to storm damage to the West Kirby mussel bed in January. Only one sample was collected from West Kirby (no toxins detected). These results are incorporated with Caldy Blacks.
Wirral BC also reported that conditions were not suitable for water sampling on most occasions and therefore no water samples were collected.
For results from Salisbury Bank please see Flintshire CC

4.36 Wyre BC

Lune



Sample Details

	Flesh	Water
Biotoxin monitoring point	Sea Centre (B066L) Mussels	Sea Centre (B066L)
Classification points only	Kings Scar (M), Knott Spit (M)	
Alternate point used	Yes (see comments)	Yes (see comments)
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 1st April 2014	
No. of samples expected	3	3
No. of samples received	Knott Spit – 1 Sea Centre - 2	Knott Spit - 3 Sea Centre - 3 Sea Centre South - 2
No. of insufficient/ unsuitable samples	0	Knott Spit - 2 Sea Centre - 2 Sea Centre South - 2

Lune (cont.)

Flesh Results

No. of samples tested for ASP	**3**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**3**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**3**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

	Knott Spit	**Sea Centre**	**Sea Centre South**
No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**1 (0)**	**0 (0)**	**0 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**0 (0)**	**0 (0)**	**0 (0)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**	**0 (0)**	**0 (0)**
No. of samples *Alexandrium spp* detected (trigger level is greater than zero)	**0 (0)**	**0 (0)**	**0 (0)**

Comments

One flesh sample was collected from Knott Spit due to access issue at Sea Centre. This sample was analysed. Water samples were collected from both Knott Spit and Sea Centre due to issues with sediment in the samples

4.37 Ynys Mon CC

Anglesey - Red Wharf Bay

Sample Details

	Flesh	Water
Biotoxin monitoring point	Traeth Coch (B057A) - Cockles	Traeth Coch (B057A)
Classification points only	As above	
Alternate point used	No	No
Fortnightly monitoring (April to Sept)	No	Yes

Sample Logistics

	Flesh	Water
Sampling period	1st January to 31st August 2014	
No. of samples expected	8	13
No. of samples received	8	14
No. of insufficient/ unsuitable samples	0	0

Anglesey – Red Wharf Bay (cont.)

Flesh Results

No. of samples tested for ASP	**8**
No. of samples ASP detected (>MPL)	**0 (0)**
No. of samples tested for LTs	**8**
No. of samples OA/DTX/PTXs detected (>MPL)	**0 (0)**
No. of samples AZAs detected (>MPL)	**0 (0)**
No. of samples YTXs detected (>MPL)	**0 (0)**
No. of samples tested for PSP	**8**
No. of sample PSP detected (>MPL)	**0 (0)**

Water Results

No. of samples *Pseudo-nitzschia spp* detected (above trigger Level)	**12 (0)**
No. of samples *Dinophysiaceae* detected (above trigger Level)	**1 (1)**
No of samples *Prorocentrum lima* detected (above trigger Level)	**0 (0)**
No. of samples *Alexandrium spp* detected (above trigger Level)	**0 (0)**

Comments

5. Results of the verification monitoring programme for wild pectenidae

Samples of wild pectenidae (king scallops) were collected by 13 local authorities from auction houses, processing plants and/or dispatch centres. Samples were collected and submitted as either whole scallops or shucked products. (Please note in the table below unless otherwise stated, shucked products refers to samples consisting of adductor muscle and roe). Insufficient geographical data was available to plot the origin of each sample.

Table 3. Summary of results of wild pectenidae (king scallops) sampling

Local Authority	Sample composition	No of samples submitted	No of unsuitable samples	PSP detected (>MPL)	OA/DTX/PTX group detected (> MPL)	AZA group detected (>MPL)	YTX group detected (>MPL)	ASP detected (>MPL)
Cornwall CC	Shucked	1	0	0	0	0	0	0
Cornwall PHA	Whole	3	1	0	0	0	0	2 (2)
	Shucked	4	4	0	0	0	0	4 (0)
East Devon DC	Whole	8	3	N/A	N/A	N/A	N/A	5 (5)
North Devon DC	Whole	1	0	0	0	0	0	0
	Shucked	1	0	N/A	N/A	N/A	N/A	0
North Tyneside Council	Whole	1	0	0	0	0	0	0
	Shucked	2	0	0	0	0	0	0
Pembrokeshire CC	Whole	1	0	0	0	0	0	1 (0)
Plymouth PHA	Whole	6	2	0	1 (0)	0	0	4 (3)
	Shucked	3	0	0	0	0	0	1 (0)
Poole BC*	Whole	8	0	N/A	N/A	N/A	N/A	8 (8)
	Shucked	3	0	N/A	N/A	N/A	N/A	1 (0)
	Shucked (adductor only)	2	0	N/A	N/A	N/A	N/A	0
Purbeck DC	Whole	4	0	N/A	N/A	N/A	N/A	4 (4)
	Shucked	4	0	N/A	N/A	N/A	N/A	4 (0)
South Hams DC	Whole	3	1	0	0	0	0	2 (2
	Shucked	2	1	N/A	N/A	N/A	N/A	1 (0)
Torbay BC	Whole	13	2	0	4 (0)	0	0	10 (10)
	Shucked	2	0	0	0	0	0	0
West Dorset DC	Whole	7	0	N/A	N/A	N/A	N/A	7 (7)
	Shucked	7	0	N/A	N/A	N/A	N/A	2 (0)
Weymouth PHA	Whole	21	0	0	1 (0)	0	0	20 (20)
	Shucked	16	0	0	0	0	0	10 (0)

***One sample submitted consisted of roe only. It was not tested as it is outside the Cefas accreditation schedule**

6. References:

AOAC International. (2005). AOAC Official method 2005.06 Quantitative determination of Paralytic Shellfish Poisoning Toxins in shellfish using pre-chromatographic oxidation and liquid chromatography with fluorescence detection. Gaithersburg, MD, USA: AOAC International.

European Communities (2004). Regulation (EC) 854/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption.

European Communities (2005). Regulation (EC) 2074/2005 of the European Parliament and of the Council of 5th December 2005 which lays down the implementing measures for certain products under Regulation (EC) 853/2004 and for the organisation of official controls under Regulation (EC) 854/2004 and 882/2004, derogating from Regulation (EC) No 852/2004 and amending Regulations (EC) Nos 853/2004 and 854/2004.

European Communities (2004). Regulation (EC) 882/2004 of the European Parliament and of the Council of 29th April 2004, which prescribes requirements for Official Controls performed to ensure the verification of compliance with feed and food law.

European Communities (2004). Regulation (EC) 853/2004 of the European Parliament and of the Council of 29th April 2004 laying down the specific hygiene rules for the hygiene of foodstuffs.

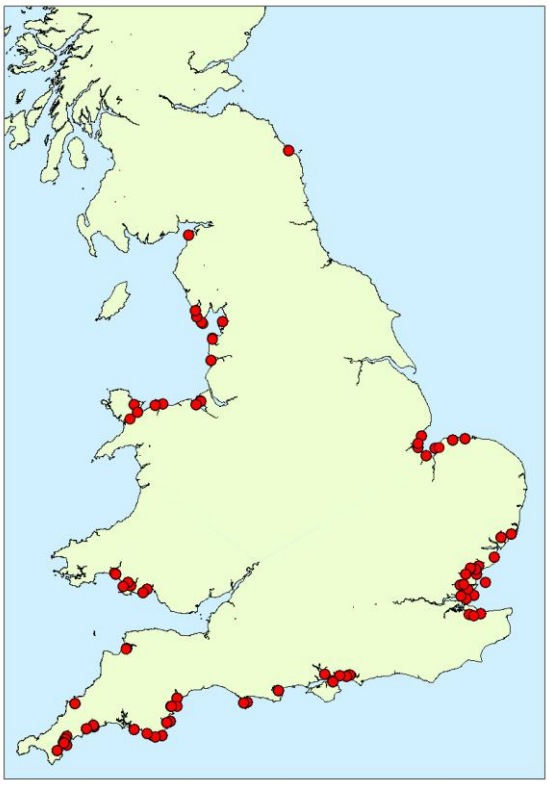
Turner, A.D., Stubbs, B., Coates, L., Dhanji-Rapkova, M., Hatfield, R.G., Lewis, A.M., Rowland-Pilgrim, S., O'Neil, A., Stubbs, P., Ross, S., Baker, C. and Algoet, M. (2014) Variability of paralytic shellfish toxin occurrence and profiles in bivalve molluscs from Great Britain from official control monitoring as determined by pre-column oxidation liquid chromatography and implications for applying immunochemical tests. *Harmful Algae.* **31,** 87-99

van Egmond, H.P., Aune, T., Lassus, P., Speijers, G.J.A. and Waldock, M., (1993). Paralytic and Diarrhoeic Shellfish Poisons, Occurrence in Europe, Toxicity, Analysis and Regulation. *Journal of Natural Toxins*, Vol. 2, No. 1, pp 41-83.

Appendix 1 – Methodology for official control monitoring of toxins in shellfish

A. *Shellfish collection and transport*

In 2014, 37 local authorities (LAs) contributed to the sampling of shellfish from 94 inshore locations (Appended figure 1).



Appended figure 1: English and Welsh flesh sampling locations - Biotoxin monitoring programme 1st January to 31st December 2014

In total, 844 shellfish samples from classified production and relaying areas along with 126 samples of wild scallops collected from auction houses, dispatch centres and/or processing plants. Samples were submitted for amnesic shellfish poisoning toxins (ASP), paralytic shellfish poisoning toxins (PSP) and/or lipophilic toxins (LTs) testing. Environmental Health Officers (EHOs) from Local Authorities (LAs) collected or supervised the collection of shellfish samples from designated monitoring points within classified shellfish production or relaying areas. The samples received from classified production and relaying areas comprised mainly of mussels (*Mytilus* spp.), native oysters (*O. edulis)*, common cockles (*C. edule)* and Pacific oysters (*C. gigas)* (Appended table 1). The remainder of the samples consisted of surf clams (*Spisula solida*), razor clams (*Ensis* spp*)*, manila clams (*Tapes philipinarum)* and hard clams (*Mercenaria mercenaria*). Samples received through the wild pectinidae verification programme were all king scallops which were either whole or shucked prior to arrival at the testing laboratory.

Shellfish samples reached Cefas between 1 and 72 hours post collection, with 93% of samples reaching the lab within 1 working day and over 99% reaching the lab within 2 working days.

Shellfish samples were transported to the testing laboratory using a validated chilled transport system (Coleman 16 Qrt coolboxes). Over 93% of the samples transported in these boxes arrived at the laboratory within the recommended temperature range (2-10°C). Of the 58 samples which fell outside the recommended temperature range, 3 samples recorded temperature between -0.5 and 1.9°C and 55 samples recorded temperatures between 10.1 and 18.5°C.

A further 92 samples were submitted for analyses by Weymouth PHA/West Dorset DC (33 from classified areas and 51 wild pectinidae samples) or Purbeck DC (8 wild pectenidae samples). As the samples generally take less than two hours from collection to arrival at the lab, these samples were hand delivered in alternative coolboxes with coolpacks (in accordance with the recommendations of the UK National Reference Laboratory (UKNRL) for the transportation of samples).

B. Shellfish sample assessment

Unsuitable samples

On arrival at the laboratory, samples were assigned a unique laboratory number and their temperature recorded before being assessed for their suitability for analysis in accordance with UKNRL Standard Operating Procedures (SOPs). Shellfish which failed to respond to a percussion test and/or did not exhibit organoleptic characteristics associated with freshness were excluded from testing and reported as unsuitable for analysis (except in the case of wild Pectenidae samples which have been shucked prior to arrival and were processed according in accordance with UKNRL SOPs). One sample collected from a classified production area was rejected as the sample contained an insufficient number of shellfish. Eight samples of wild pectenidae (whole shellfish) were rejected as the shellfish had perished on arrival at the laboratory; two further samples contained an insufficient number of individual shells and one sample was rejected as it consisted of king scallop roe only (which does not currently form part of the Cefas accreditation schedule).

Samples were also assessed on the frequency and origin of the sample. Samples which arrived too close to the previous sample or from non-active sites were queried with the LA. If no suitable reason was provided then the sample was rejected. Sixteen samples were rejected on the following grounds:

- 4 were submitted outside the routine testing frequency;
- 3 samples were 48 hour resamples which were not ultimately required;
- 5 samples were classification samples accidentally sent to the Weymouth laboratory;
- 2 samples were not tested as the incorrect species was submitted;
- 2 samples arrived after the Easter submission deadline.

Two additional samples were not analysed due to an error at the laboratory.

Insufficient samples

Samples which were assessed as suitable for analysis were then prepared for ASP, PSP and/or lipophilic toxins analyses as required. In accordance with agreed procedures, should the amount of shellfish available provide insufficient material for all required tests, prioritisation of analyses is based on the historic prevalence of toxin group or lack of previous monitoring results for any toxin group at each site. Where no information is available or prioritisation cannot be ascertained on the above criteria, PSP toxin analysis are prioritised over LT and ASP analyses. No samples were found to be insufficient for the required tests in 2014.

Appended table 1. Summary of samples received and found insufficient/unsuitable for ASP, PSP or lipophilic toxins analyses, by species, in 2014.

Species	Total no. of samples submitted for analysis	No. of samples found insufficient for any of the required tests	No. of samples found unsuitable due to poor quality	No. of samples found unsuitable due to location or frequency	Percentage of samples found insufficient/unsuitable for the required tests (%)
Mussels	452	0	0	8	1.8
Pacific oysters	195	0	0	4*	2.0
Native oysters	56	0	0	2*	3.6
Common cockles	81	0	0	1	1.2
Surf clams	14	0	0	1	7.1
Manila clams	2	0	0	2	100
Hard clams	44	0	1	0	2.3
King scallops (whole)	76	0	9	0	11.9
King scallops (adductor and roe)	47	0	1	0	2.1
King scallops (adductor only)	2	0	0	0	0
King scallops (roe only)	1	0	0	1	100
TOTAL	*970*	0	11	19	3.1

*1 native oyster & one Pacific oyster sample were not tested due to a lab error

C. Methodology of shellfish analysis

The methods used for routine toxin analysis were those specified by FSA and involved the application of a range of analytical methods. These included liquid chromatography (LC) with Ultra-violet (UV) or fluorescence (FLD) detection or LC with tandem mass spectrometry (MS/MS) for either qualitative screening of samples (screen), semi-quantitation or full toxin quantitation. The methods used for toxin testing were as follows:

ASP testing

- Shellfish species received in the reporting period were tested by LC-UV analysis following extraction with 50% methanol and filtration of the crude extracts. The quantitative method was applied to all shellfish species and is based on the method of Quilliam et al., 1995.

PSP testing

- Shellfish species received in the reporting period have all been validated at Cefas for the use of a refined LC-FLD method based on OMA AOAC 2005.06. Samples were all extracted with acetic acid and forwarded for qualitative screening by LC-FLD. Any samples returning a positive LC screen result were then forwarded for quantitation by LC-FLD.
- A semiquantitative LC-FLD method was assessed for the determination of Paralytic Shellfish Toxin levels in bivalve molluscs from Great Britain. The qualitative screening step employed at Cefas since 2007 for determining positive samples prior to quantitation, was modified to enable the estimation of total sample toxicity from the periodate-oxidised sample extracts. To validate the method, the approach was applied to data obtained over 5 years, enabling a comparison between quantitative and semiquantitative PST data in over 15,000 shellfish samples. The assessment showed the semiquantitative approach to over-estimate the quantitative sample toxicity, on average by a factor of 2. Following validation, the method was implemented into the official control monitoring programmes in May 2014, using a threshold of 400 µg STX eq/kg. Samples containing PST with a total sample toxicity above this threshold were forwarded to full quantitation, whilst those under this limit were reported as <400 µg STX eq/kg. Since implementation, this approach has significantly increased the number of sample results reported within 1 day of sample receipt and increased the ability of the laboratory to deal with large numbers of positive samples during periods of high PST toxicity.

Lipophilic toxins testing

- All shellfish species were analysed by LC-MS/MS for the quantitation of all EU regulated lipophilic toxins. The method used was validated at Cefas based on the conditions stipulated by the EU Reference Laboratory (EURL) for Marine Biotoxins.

Appended table 2 summarises the methods of analysis used throughout this reporting period together with a summary of the current UKAS accreditation status of each method to ISO 17025:2005 standard.

Appended table 2: List of analytical methods used, by species, 2014

Toxin group	Methods employed	Species tested	Dates	Accreditation status (as of 31st December 2014) to ISO 17025:2005 standard
ASP	LC-UV	All species	1st January to 31st December 2014	Accredited
PSP	LC-FLD (screen, semi-quantitative screen & full quantitation)	All species	1st January to 31st December 2014	Accredited
Lipophilic toxins	LC-MS/MS	All species (except Hard clams)	1st January to 31st December 2014	Accredited
Lipophilic toxins	LC-MS/MS	Hard clams	1st January to 31st December 2014	Not accredited*

* The performance of the LC-MS/MS method was validated on one of the Cefas LC-MS/MS systems and found to be acceptable. However, due to the unavailability of hard clam samples at the time of original method validation, the matrix variability of the method could not be assessed. However, during 2014, more hard clam samples became available, facilitating the completion of the validation exercises during 2014. The method was accredited by UKAS in January 2015, but the accreditation does not extend to samples run during 2014. The measurement uncertainty for hard clams during this reporting period was taken as the worst-case scenario from the data generated in all other clam species.

Test outcome

Samples were considered as positive if they were found to breach the maximum permitted limits (MPL) for marine toxins specified in EC regulation 853/2004 (Appended table 3).

Appended table 3: Maximum Permitted Limits of toxins in shellfish flesh

Toxin group	Maximum Permitted Limits
ASP	20 mg Domoic/epi-domoic acid/kg
LTs	Diarrhetic shellfish poisoning (DSP) toxins and pectenotoxins (PTXs) together, 160µg okadaic acid eq./kg or Yessotoxins, 3.75mg yessotoxin eq./kg orAzaspiracids, 160µg azaspiracid eq./kg.
PSP	800µg saxitoxin eq./kg

Where these levels were exceeded, recommendations were for temporary harvesting restrictions to be put in place on the affected area until two consecutive negative or below action level (action level equals MPL) results were achieved for the toxin which was the cause of the closure, and at least one further negative or below action level result for the toxin groups which had not exceeded the MPL.

Requests were made for weekly shellfish monitoring to be instigated when set trigger levels, indicative of heightened toxicity risk were breached. The trigger levels used in the 2014 reporting period are summarised in Appended table 4:

Appended table 4: Flesh trigger levels

Toxin group	Levels of toxin or cell concentrations triggering additional monitoring if breached
ASP	≥10mg domoic/epi-domoic acid/kg shellfish flesh
LTs	OA/DTX/PTX group: ≥80 µg OAeq./kg shellfish flesh AZA group: ≥80 µg AZA1eq./kg shellfish flesh YTX group: ≥1.8mg/kg shellfish flesh
PSP	≥400µg STX eq./kg shellfish flesh

D. Reporting of results

Upon completion of the required analyses, the results were collated and quality control checked prior to submission to FSA. Results were reported on a daily basis. A summary of results turnaround times, from day of receipt to completion of each analysis for 2014 is given in Appended tables 5 and 6.

For reference, the turnaround times agreed with the FSA and required from Cefas during the reporting period are given in Appended table 7.

Appended table 5: Turnaround times, by test carried out, for samples received from classified production and relay areas in 2014

Territory	No. of tests performed	No. of completed results reported within one working day of receipt of sample	No. of completed results reported two working days post receipt of sample	No. of completed results reported three working days post receipt of sample
ASP by HPLC	703	682 (97%)	21 (3%)	0
Lipophilic toxins by LC-MS	753	726 (96%)	27 (4%)	0
PSP by HPLC (screen)	744	726 (98%)	18 (2%)	0
PSP by HPLC (quantitation)	3	0	3 (100%)	0
Totals	**2203**	**2134 (97%)**	**69 (3%)**	**0**

Appended table 6: Turnaround times, by test carried out, for samples of wild pectenidae collected from auction houses, dispatch centres and/or processing plants in 2014

Territory	No. of tests performed	No. of completed results reported within one working day of receipt of sample	No. of completed results reported two working days post receipt of sample	No. of completed results reported three working days post receipt of sample
ASP by HPLC	115	109 (95%)	6 (5%)	0
Lipophilic toxins by LC-MS	35	33 (94%)	2 (6%)	0
PSP by HPLC (screen)	35	34 (97%)	1 (3%)	0
PSP by HPLC (quantitation)	3	0	3 (100%)	0
Totals	**188**	**176 (94%)**	**12 (6%)**	**0**

Appended table 7: Sample turnaround times (from sample receipt) specified by FSA

Toxin and analysis method	FSA specified targets
ASP by HPLC	80% within 1 working day 100% within 3 working days
Lipophilic toxins by LC-MS	70% within 1 working day 100% within 3 working days
PSP by HPLC (screen)	80% within 1 working day 100% within 3 working days
PSP by HPLC (quantitation)	80% within 2 working days 100% within 4 working days

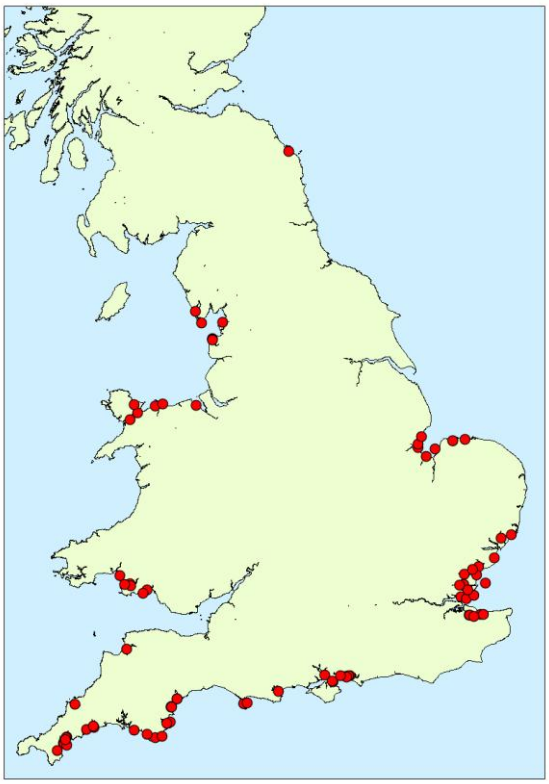
Required turnaround times were therefore all met and for all analyses, delivery by the laboratory exceeded the targets agreed with FSA.

In addition to the daily reporting schedule, all results from samples received between Monday and Friday the previous week were collated and reported in a weekly results sheet to FSA, released by the following Monday.

Appendix 2 – Methodology for official control monitoring of toxic phytoplankton in classified shellfish production areas

A. *Water samples collection and transport*

998 phytoplankton samples were collected by environmental health officers from 51 classified production or relaying areas around the coast of England and Wales (Appended figure 1).



Appended figure 1. English and Welsh water sampling locations – 2014 Biotoxin monitoring programme

Sample collectors were requested to take depth integrated water samples from above the harvesting areas, at high water, whenever possible. Tube samplers were provided to local authority staff who had access to boats, or where piers and jetties were sufficiently close to the flesh sampling points to allow a depth integrated sample to be taken. However, it was recognised that their use was not always practical in shallow, coastal areas and a pole sampler was recommended as a preferential alternative to sampling surface water with a bucket.

A 500mL bottle was filled with water from each sample collection which was then preserved with the addition of 2mL of Lugol's Iodine. Once preserved, the samples were sent in pre-paid special delivery bags, together with a sample label (containing details of the sample collection), to the Cefas plankton laboratory for analysis.

B. Assessment of sample suitability

On arrival at the laboratory, samples were assigned a unique laboratory number. Sub-samples were then set up in 25mL Utermöhl chambers and allowed to settle. After three hours each sample was given a preliminary examination. If the viewing area contained too much sediment then an additional sub-sample was set up in a 10mL or 5mL Utermöhl chamber. All samples were allowed to settle for a minimum of 12 hours before the final suitability assessment was made. If after 12 hours the viewing area was still obscured by sediment then these samples were reported as "unable to analyse" in the weekly results sheet.

A total of 91 samples (9.1%) were unsuitable for analysis, the majority of these (n=79, 7.9%) were due to high sediment concentrations in the water. This is an increase on last years figures in which 6.7% (n=58) were rejected due to high sediment concentrations. Twelve other samples were rejected; three arrived after the Easter sampling deadline, three were submitted from closed areas, two did not have lugols iodine added and arrived over 24 hours from collection, three were 48 hour resamples which were subsequently not required and one was submitted outside of the routine testing frequency.

C. Water sample analysis

Water analyses followed the standard operating procedures drawn up by the UK national reference laboratory for marine biotoxins. Phytoplankton analyses are accredited to ISO17025:2005 standard.

Test outcome

The use of 'Trigger' levels[4] remained at the same cell concentrations as used in previous years (Appended table 1). When these levels were breached, the FSA was immediately contacted and requests were made for additional water and shellfish samples to be collected and submitted for analysis the following week.

Appended table 1: Trigger levels for toxin producing algae

Toxin	Toxin producing algae (trigger Level)
ASP	*Pseudo-nitzschia spp* (150,000 cells/L)
LTs	*Dinophysiaceae* (100 cells/L) *Prorocentrum lima* (100 cells/L)
PSP	*Alexandrium spp* (Presence)

D. Reporting of results

Upon completion of analyses, results were collated and quality control checked prior to submission to the FSAS. During 2014, Cefas was able to report all results within three working days of sample receipt. This turnaround time is in full compliance with the targets specified by the FSA.

[4] From January 2011 algal thresholds are referred to as trigger levels (formerly action levels)

In addition to the daily reporting schedule, all results from samples received the previous week were collated and reported in a weekly results sheet to FSA, released by the following Monday.

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