

Instructions for taking and submitting Shellfish samples for the National Shellfish Monitoring Programme (Biotoxins)

Ref: Regulation (EC) 853/2004 Annex III Section VII.

Code of practice for the Irish Shellfish Monitoring Programme (Biotoxins) available at: <http://www.sfpa.ie/Seafood-Safety/Shellfish/Guidance-Documents>

Background:

Phytoplankton upon which the shellfish feed are occasionally blighted by blooms of species that produce toxins. These naturally occurring toxins do not harm the shellfish when the phytoplankton is consumed by the filter-feeding molluscs but they can cause human illness where intoxicated or contaminated shellfish are subsequently eaten.

Regulatory Requirements:

Regulation EC No 853/2004 (Annex III Section VII Chapt V) governs the total amount of marine biotoxins that may be present in shellfish for the protection of consumers. Statutory Instrument 432 of 2009 transposes EU Regulations on shellfish safety into Irish law

Ireland:

The Marine Institute is responsible for monitoring the presence of naturally biotoxins in Irish shellfish, and the analysis of seawater for the presence of toxin producing phytoplankton. The programme is designed to detect toxicity in shellfish growing areas before harvesting, thereby providing the necessary information to restrict the placement of toxic shellfish onto the market.

Harvesting:

Shellfish cannot be harvested from a production area unless it is on an open biotoxin status.

Ireland's Biotoxin monitoring programme has two aspects to it, a weekly water phytoplankton monitoring programme and a shellfish biotoxin monitoring programme. **Both are mandatory.**

Producers harvesting or intending to harvest must submit **weekly** phytoplankton samples* in addition to shellfish samples to remain on an open Biotoxin status.

Before harvesting can commence in a Shellfish Production Area, two shellfish samples must be submitted for testing to the Marine Institute Biotoxin Laboratory for analysis for the presence of Marine Biotoxins. The samples must be taken at least 48 hours apart and no more than one week apart. Thereafter, as long as harvesting operations continue, shellfish must be submitted in accordance with the current sampling frequency which is usually weekly.

A production area that misses sending in a biotoxin sample will revert to a 'closed pending' biotoxin status, as the required health standards of the shellfish, as outlined in Regulation 853/2004 annex III Section VII Chapter V cannot be established or determined.

A production area that falls outside the minimum requirement of 75% of the mandatory weekly phytoplankton samples will also revert to a 'closed pending' biotoxin status as certain harmful algae blooms occur at short notice and the required specific testing might not be conducted on shellfish samples without this early warning, and therefore, the required health standards of the shellfish, as outlined in Regulation 853/2004 annex III Section VII Chapter V cannot be established or determined.

Annex A

Sampling Protocols and Instructions:

All shellfish sites and off-shore sites have unique 6 letter sample point codes available on the Marine Institutes website at: [MI Biotoxin Maps and sample points](#)

Shellfish samples can be posted Monday to Thursday, or hand delivered on a Monday, however, Shellfish samples should normally be sent to arrive no later than Wednesday where the result is required that week.

Sample Size and Quality:

Sample size is defined by the number of individual shellfish for each species. Appendix 1 lists the number of individual shellfish per sample for each species sampled. Samples must be market sized and must be alive on arrival at the laboratory

Wrapping:

Every sample should be clean, chilled and placed in a clean plastic bag, which must be securely sealed in order to avoid spillage. Sample bags must be labelled with indelible ink with the following information:

'For Biotoxin Analysis:'

Sample species:

Date of Sample:

Sample point Code:

The sample should then be placed in a polystyrene box, supplied by the SFPA. The boxes should be securely sealed to avoid spillage using masking tape.

A sample label must be included with the sample as per the example at Fig 1. These labels are critically important for tracking and auditing purposes.

Posting and delivery of samples to the Marine Institute:

Samples should be sent via An Post postal service to:

**Marine Institute,
Box No. 430,
Galway Mail Centre,
Tuam Road,
Galway.**

A provision is made for hand deliveries of samples directly to the Marine Institute. However, these samples **require 24hours prior** notification with the Biotoxin department. Hand delivered samples should be delivered to Marine Institute, Biotoxin Unit, Rinville, Oranmore Co Galway H91R673.

Fig 1 Biotoxin label example.

<u>For Biotoxin Analysis:</u>	
Name of Area Sampled:	Ballinakill, Co Galway
Sample Point Code:	GY-BL-BL
Date of Sampling:	11 – Oct – 2017
Time of Sampling:	13: 15
Species:	Pacific Oysters
Sample taken by:	A. Sampler
	Ballinakill, Co. Galway

Results:

The Marine Institute publish all Biotoxin and phytoplankton results for all production areas on their shellfish safety data page on their website at: [Shellfish Safety Data](#)

In addition to the results of analysis for each shellfish sample, the Marine Institute will also publish the **Biotoxin status** for each production area sampled. There are three biotoxin statuses as follows:

- Open** The production area is open for harvesting for that species until the end of the production period, usually weekly, but may be monthly for certain species
- Closed** The production area is closed for the harvesting or lifting of shellfish.
- Closed pending** There is no previous valid sample. The production area is closed for harvesting for that shellfish species until a second result below the limit is obtained.

*Phytoplankton sampling kits including pre-addressed envelopes, sample bottles and iodine are supplied free of charge by the Marine Institute. Producers/samplers should contact the Marine Institute Phytoplankton Lab, Marine Institute, Rinville, Oranmore, Co.Galway Tel 091 387200, or contact their local Sea Fishery Protection Office.

Scallops:

For specific details on scallop monitoring and sampling, please see SFPA Notice to Trade on the harvesting of Scallops available at: [SFPA Notice to Trade on the Harvesting of Scallops](#)

Appendix 1 – Minimum Sample Sizes

Minimum sample Sizes for shellfish for Biotoxin Testing

Scientific name	Common name	No. of individual shellfish per sample
<i>Mytilus edulis</i>	Blue Mussel	50 – 150
<i>Magallana gigas</i> , (previously known as <i>Crassostrea gigas</i>)	Pacific Oyster	15 -30
<i>Ensis magnus</i> , (previously known as <i>Ensis arcuatus</i>	Arched Razor Shell	20 – 40
<i>Ensis ensis</i>	Pod Razor Shell	20 – 40
<i>Ensis siliqua</i>	Sword Razor Shell	15 – 20
<i>Pecten maximus</i>	King Scallop	12 – 15
<i>Ostrea edulis</i>	Flat/Native Oyster	20 – 40
<i>Ruditapes philippinarum</i> (previously known as <i>Tapes philipinarum</i>)	Manilla Clam (or Japanese carpet shell)	50 – 150
<i>Paracentrotus lividus</i>	Purple Sea Urchin	20 – 60
<i>Echinus esculentus</i>	(Edible Sea Urchin)	20 – 60
<i>Aequipecten opercularis</i>	Queen Scallop	20 – 40
<i>Cerastoderma edule</i>	Cockle	50 – 150
<i>Spisula solida</i>	Thick Trough Shell/Surf Clam	50 – 150
<i>Dosinia exoleta</i>	Rayed Artemis	50 – 150
<i>Glycymeris glycymeris</i>	Dog Cockle	50 – 150
<i>Haliotis discus hannai</i>	Japanese Green Abalone	10 - 30
<i>Venerupis corrugate</i> (previously known as <i>Venerupis senegalensis</i>)	Carpet Shell or Corrugated Venus	50 – 150
<i>Venus verrucosa</i>	Warty Venus	50 – 150
<i>Patella vulgata</i>	Common limpet	20 - 40
<i>Littorina littorea</i>	Periwinkle	20
<i>Buccinum undatum</i>	Whelk	10-15
<i>Lutraria lutraria</i>	Otter shell	15 - 20