Protocol for sampling and transport of shellfish for the purpose of Official Control Monitoring of classified shellfish production areas under Commission implementing Regulation (EU) 2019/627

Version Control

Version	Date	Amendments
Version 1	September 2015	
Version 2	July 2017	
Version 3	July 2020	Update of legislative references Updated contact details Updated links
Version 4	November 2021	Update to section 4 **sampling methods** and references to sampling distances from RMP

1. INTRODUCTION

Regulation (EU) 2019/627[1] requires the monitoring of classified shellfish production areas, as part of the competent authority's official controls, to check for microbiological contamination, marine biotoxins and chemical contamination.

Please see the 'Guide to shellfish sample collection' DVD, viewable at:
https://www.cefas.co.uk/services/programme-management/shellfish-partnership/guide-to-shellfish-sampling-protocols/

This protocol can also be used in conjunction with the UK National Reference Laboratories (NRL) marine biotoxins transport Standard Operation Procedure (SOP). This can be found at:
https://www.afbini.gov.uk/articles/nrl-marine-biotoxins-procedures-and-links

2. TIME OF SAMPLING

Official control shellfish samples should only be collected by authorised sampling officers, at the frequency specified by FSA in NI monitoring plans, unless sampling can be rescheduled by agreement or where circumstances are outside of the sampling officers' control.

Shellfish sampling should be undertaken, where practical, on as random a basis as possible with respect to likely influencing environmental factors e.g. tidal state, rainfall, wind etc so as to avoid introducing any bias to the results.

Samples collected for chemical contaminant analysis must be collected in **January – March** as this is prior to shellfish spawning.

3. EQUIPMENT

The following equipment is required for shellfish sampling. Please contact the laboratory if you require additional sampling equipment. For contact information please see the section at the end of the protocol:

- **a.** Food grade polythene bags
- **b.** Cable ties
- **c.** Cool box/Biotherm Box/Coleman Box
- **d.** Ice packs
- **e.** Insulating foam
- **f.** Spray water bottle/bucket
- **g.** Self-adhesive labels
- **h.** Absorbent paper towel
- **i.** Pocket wallet/ grip seal bag (for paperwork)
- **j.** Gloves or antibacterial wipes
- **k.** Device for identification of fixed sampling points (e.g. GPS)
- **l.** Temperature measuring equipment
- **m.** Scrubbing brush

[1] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019R0627&from=EN

n. Rulers/callipers
o. Colander or other draining vessel
p. Disinfectant (see section 11)

4. SAMPLING METHOD

Wherever possible, shellfish should be sampled by the method normally used for commercial harvesting as this can influence the degree of contamination.

The temperature of the surrounding seawater at the time of sampling should be recorded. This should be recorded on the sample submission form – see Annex 1.

Where intertidal shellfish are sampled dry, the temperature of the shellfish sample should be recorded immediately after collection. To do this the temperature probe should be placed in the centre of the bagged shellfish sample. This should be recorded on the sample submission form.

As the sampling procedure is carried out, the sample submission form must be completed**.** The sample submission form must accompany every sample on arrival at the laboratory**.** Samples arriving at the laboratory without completed sample submission forms cannot be tested.

The stated Representative Monitoring Point (RMP) location should be used as the starting point to identify the position from which samples should be taken.

Sampling officers must report the *actual* location of sampling to 10m accuracy. Sampling location coordinates should be recorded in Degrees and decimal minutes format i.e. 00° 00'.001N, 000° 00'.001W (or WGS 84 latitude/longitude format).

Advice relating to the sampling location is provided in the *Guide to Good Practice - Technical Application.* It states that *'e*ach representative sampling point should be at a fixed geographical location, identified by latitude/longitude or national grid reference to an accuracy of 10 metres. Samples should be taken within an identified distance of this location – for hand picked or raked samples, this should be within a maximum of **50 metres** of the identified point and for dredged samples this should be within a maximum of **250 metres.'**

5. SIZE OF INDIVIDUAL ANIMALS

Samples should only consist of animals that are within the normal commercial size range. Immature/juvenile animals may provide results that are unrepresentative of mature stock that will be harvested for commercial sale/human consumption. In circumstances where less mature stock is being commercially harvested for human consumption then samples of these smaller animals may be collected for analysis.

6. SAMPLE COMPOSITION

The following sample sizes (in terms of number of live animals by species or weight in shell) are recommended for analysis (following NRL guidance):

Species	**Micro**	**Toxin** **For 200g flesh**	**Chem Contam** **For 500g flesh**
King scallops (*Pecten maximus*)	12 – 15	15	50 – 70
Queen scallops (*Aequipecten opercularis*)	15 – 30	35	80 – 100
Oysters (*Crassostrea gigas and Ostrea edulis*)	12 – 18	35	80 – 100
Hard clams (*Mercenaria mercenaria*)	12 – 18	30	80 – 100
Manila clams (*Tapes philippinarum*)	12 – 18	30 – 50	80 – 125
Otter clams (*Lutraria lutraria*)	12 – 18	15	50 – 70
Palourdes (*Tapes decussatus*)	18 – 35	30 – 50	80 – 125
Surf clams (*Spisula solida*)	12 – 18	30 - 50 or 2kg shells	80 – 125
Razor clams (*Ensis* spp.)	12 – 18	15	50 – 70
Rope grown mussels (*Mytilus* spp.)	15 – 30	100 or 1kg shells	300 or 3kg shells
Shore mussels (*Mytilus* spp.)	N/A	1.5kg shells	400 or 4kg shells
Cockles (*Cerastoderma edule*)	35 – 55	200 or 1kg shells	500 or 3kg shells

Please note that: open, gaping or damaged shells **should not** be included in the sample. Unless the shellfish show an unusually low yield, there is no requirement to provide more shells/ animals than those recommended above.

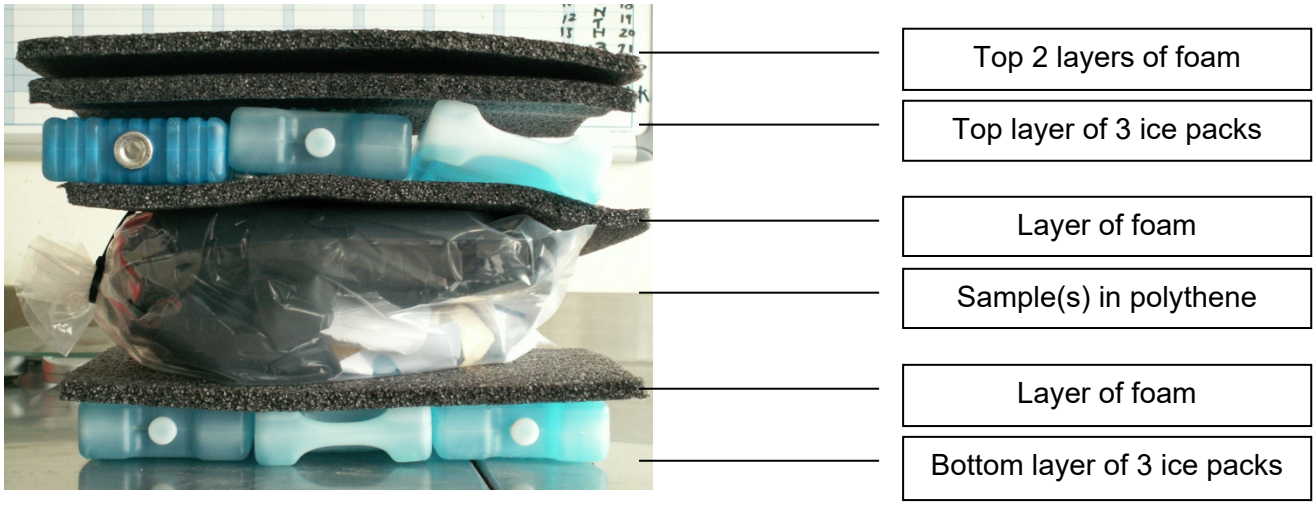
7. PREPARATION AND PACKAGING OF SAMPLES

It is imperative that mud and sediment adhering to the shellfish is removed. This is best achieved by rinsing/scrubbing the shellfish with fresh water of potable quality or seawater from the immediate area of sampling and allow to drain. Do **not** totally re-immerse the shellfish in water as this may cause them to open or introduce a source of contamination.

Shellfish must be placed inside a strong food grade plastic bag and the bag tied leaving some air space and labelled. A second bag may be used if required (in particular if the sample is likely to puncture the first bag). The sample submission form should be completed. The bagged sample and submission form should then be placed in a second/third bag and resealed, then placed in a cool box provided along with frozen cool packs and foam.

Care must be taken to correctly place the cool packs and foam spacers to ensure that the sample does not come into contact with the cool packs and freeze. **Frozen samples cannot be tested and will be rejected by the laboratory**.

Ice packs and foam packaging should be done in accordance with the sampling method on the DVD and diagram below:



Where sample transport times is less than four hours insulating foam **may** be replaced with alternative insulating methods (i.e. newspaper/bubble wrap). It is advised that you liaise directly with the laboratory to discuss and seek approval to use a different insulator.

Separate samples must be submitted for toxin, microbiological and chemical analyses.

Samples should then be transported in cool boxes at a temperature between 2°C – 10°C.

Shellfish samples properly packed in a cool box should be able to reach a temperature of less than 10°C within 4 hours. Samples transported to the laboratory in less than 4 hours may not reach 10°C or less but should be less than the temperature at the time of sampling.

The cool boxes used for shellfish transport should be validated using temperature probes to ensure that the recommended temperature is achieved and maintained.

Samples that do not comply with the packaging protocols may be rejected by the laboratory.

If submitting multiple samples, on any given day it may be possible to place two samples in the cool box (packaged as above) providing the box can be securely sealed. If two samples do not fit securely into the box, samples must be sent in separate boxes.

Please note: If packing more than one sample in one box, care must be taken to ensure that each bagged sample is correctly sealed and identified. **Incorrectly packaged or unidentified samples cannot be analysed by the laboratory.**

Short term storage of samples

Samples **should not** be frozen**.** If short term storage (overnight) is required, samples should be stored at 3±2ºC. Sampling officers will be required to record this and the temperature/duration of storage on the sample submission form.

8. SAMPLE TRANSPORT

Samples should be delivered to the relevant laboratory for analysis as soon as practicable (within 24 hours of collection). Samples should be transported in cool boxes at a temperature between 2°C – 10°C.

The cool boxes used for transport should be validated using temperature probes to ensure that the recommended temperature is achieved and maintained. To aid in regulation of temperature, cool boxes specified by the NRL e.g. Biotherm or Coleman boxes must be used where time from sampling to receipt at the laboratory exceeds 12 hours.

Where samples are to be transported to a laboratory by post or courier service, the sampling officer should liaise with the receiving laboratory regarding delivery arrangements.

9. SAMPLE SUBMISSION FORM

An individual sample submission form must accompany each sample to the laboratory. The form must be completed in full and accurately. Incomplete or inaccurate submission forms may lead to the rejection of samples.

In addition to the information requested, sampling officers are asked to report unusual observations (e.g. weather, boating activity, dredging, animals in water,

plankton bloom, etc.) which can help target investigations and possible remedial actions. Information on harvesting activity will also be useful.

The sample submission template can be found at:
https://www.food.gov.uk/business-guidance/biotoxin-and-phytoplankton-monitoring

10. CONTACT INFORMATION

Enquiries relating to the FSA in NI monitoring programmes (including monitoring points, frequency of sampling, actions in case of breach of pre-defined levels) should be referred to FSA in NI Executive Support Unit
Telephone 028 90 417700
Email Executive.Support@food.gov.uk

For specific enquiries related to sample collection/delivery, request for further equipment or other specific laboratory queries, please contact:

For Microbiological Results
Northern Ireland Public Health Laboratory
Belfast Health and Social Care Trust
Belfast City Hospital
Lisburn Road
Belfast
BT9 7AD
Telephone 028 90263588
Email DL-BLL-NIPHL@belfasttrust.hscni.net

For Toxin and Chemical Results
Agri-Food & Biosciences Institute
Marine Biotoxin Unit
Chemical & Immunodiagnostic Sciences Branch
Stormont
Belfast
BT4 3SD
Telephone 02890 525784
Email info@afbini.gov.uk

11. HEALTH, SAFETY AND BIOSECURITY ADVICE

Sampling officers are asked to comply with the Health and Safety policies of their respective organisation. This includes compliance with all safety measures prescribed in risk assessments relevant to their travelling to the agreed sampling locations and the collection and handling of shellfish samples from such areas for the purpose of the FSA in NI monitoring programmes. The drafting, implementation and review of all relevant H&S documentations are the responsibility of sampling officers.

When undertaking sampling, sampling officers must be mindful of the risks of introduction or transfer of aquatic pathogens and invasive species to the areas being visited, through their sampling activities. Officers are asked to comply with minimum

biosecurity measures such as cleaning and disinfection of instruments, equipment and shoes/boots between sites and not driving/parking onto beaches or in close proximity to shellfish beds. All disposable items should be treated as clinical waste.

Advice on suitable disinfectant and disinfection procedures are available from Department of Agriculture, Environment and Rural Affairs – Fish Health Inspectorate (details below). A list of suitable disinfectants are available at: https://www.gov.uk/guidance/aquaculture-disinfectant-listing-scheme-apply-or-view#listed-disinfectants

Sampling officers should also be mindful of the health status of the sites that they visit and ensure that the risk of transfer of pathogens and invasive species from site to site is minimised. Details of sites under specific designations and for which specific movement controls apply are available from the Fish Health Inspectorate website

https://www.daera-ni.gov.uk/topics/fisheries/fish-health/fish-movements

It is recommended that sampling officers familiarise themselves with biosecurity plans operated by the farmers in the harvesting areas and with rules that apply to site visitors.

Where new risks of transfer of specific fish or shellfish pathogens are identified, the requirement for implementation of additional biosecurity measures will be discussed between FSA in NI and the sampling officers as soon as reasonably practicable following notification by the relevant competent authorities for shellfish health.

For further advice on biosecurity measures, please contact:

Department of Agriculture, Environment and Rural Affairs
Fish Health Inspectorate
Telephone 02844 618106 8
Email Fish.Health@daera-ni.gov.uk