Protocol for sampling and transport of water samples 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 - current	July 2020	• Update of legislative references • Updated contact details • Updated sample submission form

1. Introduction

This protocol describes the methods employed in the collection of water samples from classified shellfish production areas for the purpose of identification and enumeration of potentially toxin producing phytoplankton species, in fulfilment of Regulation (EU) 2019/627.

Please see the 'Guide to shellfish sample collection' DVD.

This protocol can also be used in conjunction with the UK National Reference Laboratories (NRL) phytoplankton collection Standard Operation Procedure (SOP).

2. Time of sampling

Official control water samples from shellfish production areas 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.

Water samples should be taken at high tide (+/- 1 hour) particularly at inshore sites to reduce the risk of samples containing large amounts of re-suspended residue or debris. Sampling at low tide is discouraged and should be avoided if at all possible.

3. Sampling method

The aim of the water collection method is to obtain samples which are representative of the algal community in the water body being sampled. The water sample should be taken at the location from where shellfish flesh samples are taken. The depth of water at shellfish productions areas, at the time of sampling, varies from site to site. A different sampling method is used if the depth of the water is greater or less than 3m (see table 1).

Table 1: Methods employed to collect water samples for analysis to determine the presence of potentially toxin producing plankton.

Water Depth	Sampling Method
< 3m	Bucket or Pole sampler
>3m	Tube sampler of appropriate length

4. Equipment

The following equipment is required for water 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. Bucket

b. Pole sampler
c. Tube sampler
d. Bucket (for mixing sample)
e. 500ml brown screw capped Nalgene sample bottles
f. Packaging/boxes
g. Sample submission form
h. Return address labels
i. Lugol's iodine
j. Graduated disposable pipettes if required
k. Insulating Tape
l. Gloves/antibacterial wipes
m. Device for identification of fixed sampling points (e.g. GPS)
n. Temperature equipment
o. Absorbent paper towel
p. Disinfectant (see section **)

Note: All equipment should be checked to ensure that it is clean prior to sampling. After use, all equipment should be washed in freshwater, dried and stored in a clean, dry place.

5. Sampling and sample preparation

Water depth <3m

At those sites where the water depth is less than 3m and the water column is well mixed, a bucket or a pole sampler should be used to collect the water sample.

1. If a bucket is used, take a near surface sample of sea water using the bucket from as far from the shoreline as practicable, but from the same location as the shellfish sample is obtained, or in the vicinity of the monitoring point.
2. If a pole sampler is used, this should be lowered below the surface before the sample is taken. It is recommended that sea water samples are taken from near surface, mid-water and near to, but not on, the bottom. The depths at which the samples are taken should be recorded. Avoid stirring up the sediment before sample collection.
3. Mix the contents of the bucket and immediately fill a 500ml Nalgene sample bottle to the neck by immersing the bottle into the bucket. Do not allow the contents of the bucket to settle before filling the bottle.
4. Check the Lugol's iodine provided is within the use-by date specified on the bottle before adding 2.0ml of the contents of the fixative bottle to the Nalgene sample bottle (back on land).
5. Close the Nalgene sample bottle lid tightly and gently invert the sample bottle three times to ensure complete mixing of the fixative and seawater. Seal the lid with insulating tape.
6. Label the Nalgene sample bottle with a waterproof label bearing the relevant sample collection information – e.g. site name, location, site identification reference (SIR), date and time of sampling and place in a second and sealed.

Water depth >3m

At those sites where the water depth is greater than 3m, a tube sampler should be used to collect the water sample. The tube sampler takes an integrated sample from the surface to a depth defined by the depth of water at the sampling site. The length of the tube sampler should be appropriate for the depth of water at the sampling site and should be marked at 1m intervals with insulating tape so the depth over which the tube sample is taken can be estimated.

1. Attach a line to the bottom of the tube sampler to allow it to be raised from its base and open the valve at the top of the tube.

2. Slowly lower the weighted end of the tube into the water until most of it is immersed or until the weight is approximately 1m from the seabed. The tube sampler must remain taut and vertical to take an even sample of the entire water column. If the weight touches the seabed, re-deploy the tube sampler as disturbed sediment will affect the quality of the water sample collected. Take note of the depth using the guide of 1m intervals on the tube.

3. Once the tube is hanging vertically in the water, close the valve at the top of the tube sampler and retrieve the bottom of the tube sampler using the attached line.

4. Empty **all** the contents of the tube sampler into a bucket by opening the top valve. If necessary, lift the valve end of the tube sampler up to allow the water to drain into the bucket. For example, if the tube sampler is lowered to a depth of 5m, then the depth sampled should be recorded as 0 – 5m.

5. Mix the contents of the bucket and immediately fill a 500ml Nalgene sample bottle to the neck by immersing bottle into the bucket. Do not allow the contents of the bucket to settle before filling the bottle.

6. Check the Lugol's iodine provided is within the use-by date specified on the bottle before adding 2.0ml of the contents of the fixative bottle to the Nalgene sample bottle (back on land)

7. Close the Nalgene sample bottle lid tightly and gently invert the sample bottle three times to ensure complete mixing of the fixative and seawater. Seal the lid with insulating tape.

8. Label the Nalgene sample bottle with a waterproof label bearing the relevant sample collection information – e.g. site name, location, site identification reference (SIR), date and time of sampling and place in a second and sealed.

6. Sample transport

Samples should be delivered to the relevant laboratory for analysis as soon as practicable after collection.

Where samples are to be transported to a laboratory by post or courier service, the sample collector should liaise with the receiving laboratory regarding delivery

arrangements.

7. Sample submission form

An individual sample submission form **must** accompany each sample to the laboratory. 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.

The condition of each sample is also assessed on arrival at the laboratory. Samples which have leaked, are not preserved properly, or are contaminated, or contain high amounts of sediment or are collected outside the sampling plan (duplicate samples, additional samples not agreed with FSA in NI) will be rejected as unsuitable for analysis.

8. 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 phytoplankton (water) results
Agri-Food & Biosciences Institute
New forge Lane
Belfast
BT9 5PX
Telephone 02890 255636
Email info@afbini.gov.uk

9. 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, the collection and handling of water samples from such areas and transporting of samples to the laboratory 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 the NI Fish Health inspectorate (see details below). As a minimum, UK authorities recommends the use of Virkon S or Virkon Aquatic S at 1% and with a minimum contact time of 15 min (or spray onto clean surface and leave to dry). Please see a list of other suitable disinfectants.

Disinfection regimes should include all sampling equipment however it is recognised that this is difficult to achieve for pole and tube samplers. As a minimum, these should be rinsed with freshwater.

Sampling officers should also be mindful of the health status of the sites that they visit and schedule their visits to 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.

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