



**Food Standards Scotland protocol for the collection
by Industry of shellfish and water samples
for the purpose of Official Control Monitoring of
classified shellfish production areas in Scotland**

**Version 3 FINAL
For implementation from 31 August 2020**

18 pages

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1. INTRODUCTION

Current laws require that classified shellfish production areas are monitored for microbiological contamination, marine biotoxins, harmful algae and chemical contamination. This forms part of an official control monitoring programme. In Scotland, Food Standards Scotland is the Competent Authority with responsibility for the implementation and delivery of the shellfish official control monitoring programme. Cefas is the laboratory contracted by FSS to co-ordinate this programme, arrange the collection of samples and deliver the required testing. Under current arrangements, the HMMH (Scotland) Ltd is responsible for sample collection and the transport of the samples to the laboratory is arranged by the laboratories responsible for testing. The only exception to this is Shetland where samples for *E.coli* monitoring are hand delivered to the laboratory by HMMH.

The laboratories currently responsible for testing are:

- **Cefas** – all toxin testing,
- **Cefas** - *E.coli* testing (Scotland other than Shetland and Orkney)
- **SSQC** – *E.coli* testing (Shetland & Orkney)
- **Fera** – all chemical contaminants testing
- **SAMS** – all water monitoring for harmful phytoplankton

Official control shellfish and water samples must be collected by authorised sampling officers. This defines a **'verified' sample**. The only exception to this rule will be for specific sites in Scotland where the collection of samples by a harvester on behalf of the authorised sampling officer has been agreed between FSS, HMMH and Cefas and complies with the conditions further specified in section 2.

This protocol is intended for use by Industry when collecting shellfish or water samples for the purpose of the FSS Shellfish official control monitoring programme. Samples collected by Industry may fall in two categories:

1. A **'verified from shore' sample** is defined as a sample collected by a harvester but where collection from the agreed monitoring point is observed by an authorised sampling officer from the shore. Note that from the date of implementation of this protocol, HMMH will record the location of the point of verification from shore.
2. An **'unverified' sample** is defined as a sample collected by a harvester from the monitoring point but when the authorised sampling officer cannot observe this happening. In most cases, this will be because of the remoteness of the monitoring point or distance from any vantage point.

The definitions of verified, unverified and verified from shore used in this protocol are those prescribed by FSS as the Competent Authority, for the purpose of the Scottish official control shellfish monitoring programme.

All samples covered within the scope described in section 2 below must be collected in accordance with this protocol and from the monitoring points designated by FSS. **Samples which fail to meet the requirements of this protocol will not be accepted.**

This version of the protocol (and version 4 of the Industry sample submission form) is for implementation for samples collected by Industry from Monday 31 August 2020. Given that a number of changes have been made to the protocol and submission form, a short transition period will be implemented to ensure that all familiarise themselves with these changes. Full compliance with the protocol and use of the new submission form only is expected from Monday 28 September 2020.

2. SCOPE OF THIS DOCUMENT

Table 1: Scope of this document

Monitoring programme	Scotland
<i>E.coli</i> (microbiological monitoring)	Yes
Toxins	Yes
Chemical contaminants	Yes
Phytoplankton	Yes

Exceptional situations where sampling by Industry may be authorised for official control purposes:

FSS recognises that there are situations where Industry sampling may have to be considered for the purpose of the Scottish shellfish official control monitoring. To allow this, the appointed sampling officer must be of the clear view that they cannot undertake sampling for reasons of either practicality or health and safety.

Practicality reasons could be:

- extreme difficulties in the timing of sampling (for example: short notice through necessity of specific weather, environmental conditions that mean fitting in with sampling officer work schedules is impractical, harvest times which authorised sampling officers cannot reasonably be expected to meet) or
- extremely long sampling runs. This will most likely occur in sites conforming to the following definition of 'Remote area':

An area where no human or animal sources had been shown to impact on the fishery in the sanitary survey and where no potential changes to sources have been identified during the annual review process. An offshore bivalve shellfishery (≥5 km from shore) not impacted by long sea outfalls is an example of a remote area.

The use of specialist equipment such as dredges (for example: oyster dredges), mechanical winches (for example: as used in rope mussel fisheries) is not in itself grounds for Industry lone sampling as it may be quite possible for the appointed officer to supervise or observe the Industry operating such equipment to take the sample. Similarly, it may also be possible for the appointed sampling officer to accompany an operator on a boat where diver-gathered sampling may be necessary. Each of these scenarios have been employed under the programme in Scotland and have worked

successfully.

Health and safety reasons could be:

- From 09th July 2018, Cefas and FSS request that sampling officers only board vessels that show a valid small vessel certificate issued by the Maritime and Coastguard Agency (MCA) (or another authorised certifying authority) (“coded vessel”), as per the requirements of MCA Code of Practice for the safety of small workboats or pilot boats (workboat code) or MGN280 (M), and are maintained to this MCA standard by the operator and are suitably insured. These codes are applicable to vessels of up to 24m load line length which are engaged at sea in commercial activities; where larger vessels are used for sample collection, compliance with the MCA code of practice(s) relevant to these vessels will be required.
- From this date, sampling officers will request from the Industry evidence of coding or dispensation from the MCA and compliance with the MCA code for each vessel made available to sampling officers. You are asked to comply with this request and provide sampling officers with the evidence that they seek. Sampling officers will keep a record of this evidence.
- Where it has been established that the vessel is suitably coded or dispensed from coding, sampling officers will undertake a succinct check of the vessel safety before boarding. For this, they will follow HMMH’s vessel safety checklist (see example in Appendix 1), with support from the operator. The check will be a quick confirmation of vessel safety. Where all checks are satisfactory, the sampling officer will be authorised to board the vessel and undertake verified sampling. Sampling officers will not be allowed to board the vessels if the safety check cannot be completed or if they reveal that the vessel does not meet minimum safety requirements in accordance with the checklist.
- Working with Industry, sampling officers have established a list of sites from which verified sample collection should be the norm or alternatively, where onshore verification can be organised. Unverified samples collected by Industry and handed over to sampling officers will be accepted only if no suitable coded vessel is available and no onshore verification by sampling officer can be implemented for the site.
- For the following, *E.coli* samples, investigation samples collected following possible human illness and toxin samples collected in order to achieve a second negative result prior to reopening of an area, the expectation remains that these will be verified samples collected by sampling officers (from suitably coded vessels) or collected by harvesters with collection verified from the shore by sampling officers. It is noted that this will be subject to suitably coded vessels being available.

In summary, if the taking of samples by the appointed sampling officer is not possible, then the next consideration should be officer supervision of Industry taking the sample. Only in the exceptional situations outlined above, could Industry take the OC samples unsupervised. Ultimately the decision rests with FSS as the Competent Authority, within the framework described above.

Unless exceptional circumstances, unverified samples will only be collected at the point of landing. Sampling officers will be requested to provide a justification for collections

other than at point of landing (to be recorded on the sample submission form).

Specific consideration for the collection of razor clams:

Following adoption of the Razor Clams (Prohibition on Fishing and landing (Scotland) order 2017 ((Scottish Statutory Instrument 2017/49) (https://www.legislation.gov.uk/ssi/2017/419/pdfs/ssi_20170419_en.pdf), sampling officers must ensure that for the duration of the Scottish electrofishing on razor clams trial, sample of razor clams are only collected using vessels that have been issued a formal derogation to participate in the trial by Marine Scotland Science and only at times when the trial is live and fishing is permitted by Marine Scotland Science. A list of approved vessels has been provided to HMMH and is updated when required.

3. TIME OF SAMPLING

All samples must be collected as per the sampling plans drawn up by HMMH. HMMH sampling officers will liaise with Industry to agree a suitable time when sampling can take place and to draw up their sampling plans which set out the weekly sampling requirements to meet the testing frequency specified by FSS monitoring plans and policies. These plans are finalised and forwarded by HMMH to the testing laboratories by 15:00 each Friday.

Sampling plans will be defined following discussion with Industry to ensure that arrangements are in place to allow the planned collection of these samples, in time for dispatch and timely analysis at the laboratories.

Please note that the laboratories have a specific window of sample submission which they must work within to ensure that samples arrive in conditions which are suitable for analysis and that sample turnaround meets FSS reporting requirements. This means that laboratories are not able to accept samples every day of the week and this will therefore impact on when samples can be collected. Your sampling officer will be aware of the conditions applying to each programme and laboratory and you must consult with them to ensure samples are collected at a time which is suitable. We advise against collecting samples at weekend, late evenings or at night as this may result in delay with shipment to the laboratory and samples arriving at the laboratory in unsuitable conditions for testing. Such timing will also make the onshore verification of sampling difficult for sampling officers.

Rescheduling of samples will not be accepted, unless agreed in advance with HMMH. It is noted that unforeseen events (adverse weather, boat breakdown, staff illness) may force a change to the agreed weekly schedule and may result in last minute cancellation of sampling. Where rescheduling is required, we ask that you provide your sampling officer with as much notice as possible of any change request (ideally 24h notice). Where changes to the weekly plan can be agreed, these will be confirmed by HMMH who will also notify the laboratories of the changes to the sampling schedule before sampling is due.

Please note that whilst sampling officers and laboratories will endeavour to accept changes to the weekly schedule, there may be times when staff/lab

availability is restricted. This may lead to delays in either sample collection or sample processing. Where laboratory capacities are exceeded, samples will be stored and processed the next working day (subject to sample conditions being acceptable) so a delay in results is possible.

For contact details of local sampling officers, please contact the HMMH sampling coordinators – see details in section 6.

4. EQUIPMENT

Some equipment will be required for shellfish sampling by Industry. HMMH and the laboratories will provide some but you will also be expected to provide your own.

The equipment provided by HMMH is listed here:

1. **For shellfish sampling:** Food grade polythene bags, cable ties and Industry sample submission form (please note that a blank template of this form is available on the [Cefas website](#))
2. **For water sampling:** Brown 500mL bottle for water sampling and labels

Please contact your local sampling officer if you are running low on this equipment. Cefas or SAMS will provide a tube sampler, if required.

You must provide and have access to the following additional equipment:

- a. A device for identification of fixed sampling points (for example: GPS/Nautical charts)
- b. Thermometer
- c. A scrubbing brush
- d. Rulers or calipers
- e. A colander or other draining vessel
- f. Absorbent towels
- g. A permanent marker pen
- h. A stapler or cable ties
- i. A cool box or bag and ice packs
- j. Insulating material (for example newspaper)
- k. Disinfectant (see section 7)
- l. Safety equipment as per collector's employer risk and cosh assessments

5. SAMPLING METHOD – SHELLFISH AND WATER

Wherever possible, you should collect a shellfish sample using the method normally used for commercial harvesting as this can influence the degree of microbial contamination.

5.1 Sampling location:

You must use the stated Representative Monitoring Point (RMP) or Representative Monitoring Zones (RMZ) location as the starting point to identifying the position from which samples should be taken. For a list of the current RMP and RMZ locations and tolerances/boundaries, please contact your local sampling officer or consult the [FSS website](#).

If sampling at a monitoring point listed by FSS is no longer possible (for example due to no harvesting activity, lack of stock, access issue), you must inform HMMH who will discuss this with Cefas. Discussions will take place with FSS so that monitoring arrangements can be amended and the RMP and RMZ list updated.

If you wish to suspend harvesting in an area (>3 weeks), you should contact FSS direct to agree monitoring arrangements.

For sampling for microbiological monitoring, you must collect the sample from the *E.coli* RMP or within the tolerance set around this RMP as shown on the FSS classification listing. If sufficient shellfish of the required size are not available within the area prescribed by the tolerance, you must advise your sampling officers who will contact Cefas so that a revised tolerance or alternative sampling location can be considered.

Where a Representative Monitoring Zone (RMZ) is given in the sampling plan, you must collect the sample within the boundaries of the zone.

In many cases, the *E.coli* RMP will also be the RMP for toxin and chemical contaminants monitoring but not always. Please refer to the FSS classification list for details of the RMPs for these programmes. For consistency across the programmes, you must use the same tolerances around the agreed RMPs of the toxin, chemical contaminant or phytoplankton monitoring programmes. Where this is not possible, you may collect from another point but this must be within the boundaries of the production area for the purpose of the toxin, harmful algae and chemical contaminants programmes.

You must record the **actual location of sampling** on the Industry sample submission form (Grid reference or Lat/Long, production area name, site name and site identification number).

You must confirm that you have sampled within the RMP tolerance (*Ecoli* sample) or within the production area boundaries (toxin, chemical contaminants, harmful algae). Where this has not been possible, you must provide an explanation. This will allow Cefas/FSS to identify these samples and follow up with conversations around the issues observed at the site to prevent sampling from the RMP/RMZ.

Use the following to determine the actual location of the sampling point:

- Where a Representative Monitoring Zone (RMZ) is given in the sampling plan, the actual location of sampling, or the centre of the dredge run, should be recorded as the sampling location.
- Where a GPS device is available, location should be to a 10m accuracy in Ordnance Survey national grid reference (NGR) format i.e. AB 1234 5678 (8

figure format). To achieve the maximum level of accuracy the WAAS/EGNOS option must be enabled.

- When no GPS is available, a plotter or an Admiralty Chart (or similar) should be used to determine the position of the monitoring point and the location of monitoring recorded in degrees and decimal minutes format i.e. 00°00.001'N, 00°00.001'W or in degrees, minutes and seconds format i.e. 00°00'01"N, 00°00'01"W. It is important to record the format of the latitude and longitude position accurately, with the correct units and to the level of accuracy shown in the below example.

For example:

- a location in degrees and decimal minutes is: 54°59.062'N, 5°2.132'W
- the same location recorded in degrees, min, sec is: 54°59'3.73"N, 5°2'7.9"W
- and the same location recorded in decimal degrees is: 54.98437, -5.03553

Please note that co-ordinates provided without sufficient details or no units may lead to incorrect conversation and rejection of the samples at the laboratories or by FSS. We have amended the sample submission form to provide greater clarity on the format of the data required by the laboratories/FSS.

5.2. Sampling and preparation of shellfish

5.2.1. Size of Individual Animals

The shellfish you collect for the sample must be 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 or 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.

5.2.2. Sample Composition

We need you to collect a minimum sample size (in terms of number of live animals by species or weight in shell) for analysis. This is summarised in Table 2 below.

You must not use open, gaping or damaged shells in your sample. Also note that the laboratories will need a minimum of ten non moribund or dead animals to accept a sample as suitable for analysis. If this criterion cannot be met, the sample will be rejected on receipt at the laboratory. Where the shellfish show an unusually low yield or where morbidity may be an issue, please consider providing more shells or animals than those recommended below to ensure sufficient animals remain available for analysis.

Table 2: Minimum sample size (in terms of number of live animals by species or weight in shell) recommended for submission for each type of analysis

Shellfish species	<u>E.coli</u>	<u>Toxin</u> - to provide 50g flesh ¹	<u>Chemical Contaminants</u> - to provide 500g flesh ²	<u>Chemical Contaminants</u> - to provide 100g flesh ³
King scallops (<i>Pecten maximus</i>)	12 to 15	12 to 15	50 to 70	12 to 15
Queen scallops (<i>Aequipecten opercularis</i>)	15 to 30	15 to 30	80 to 100	20
Oysters (<i>Crassostrea gigas</i> and <i>Ostrea edulis</i>)	12 to 18	12 to 18	80 to 100	20
Hard clams (<i>Mercenaria mercenaria</i>)	12 to 18	12 to 18	80 to 100	20
Manila clams (<i>Tapes philippinarum</i>)	18 to 35	18 to 35	80 to 125	16 to 25
Otter clams (<i>Lutraria lutraria</i>)	12 to 18	12 to 15	50 to 70	12 to 15
Palourdes (<i>Tapes decussatus</i>)	18 to 35	18 to 35	80 to 125	16 to 25
Surf clams (<i>Spisula solida</i>)	30 to 50	30 to 50	80 to 125	16 to 25 or 1 kg shells
Sand Gapers (<i>Mya arenaria</i>)	12 to 18	N/A	50 to 70	10 to 15
Razor clams (<i>Ensis</i> spp.)	12 to 18	12 to 15	50 to 70	10 to 15
Rope grown mussels (<i>Mytilus</i> spp.)	15 to 30	15 to 30	300 or 3kg shells	60 or 600g shells
Shore mussels (<i>Mytilus</i> spp.)	N/A	25 to 40	400 or 4kg shells	80 or 800g shells
Cockles (<i>Cerastoderma edule</i>)	35 to 55	35 to 55 ⁴	500 or 3 kg shells	100 or 600g shells

Notes:

1. Min. 50g of flesh is required for all samples submitted for toxin analyses, regardless of the type of analysis required.
2. Min. 500g of flesh will be required for a full suite of chemical contaminants testing (heavy metals, PAHs and PCBs or dioxins) or PCBs and dioxins testing alone.
3. Min. 100g of flesh will be required for heavy metals and/or PAHs testing.
4. Where minimum landing sizes have been reduced, more individuals may be required.

Other species:

Abalone (<i>Haliotis</i> spp.)	E.coli 12-18
Purple sea urchins (<i>Paracentrotus lividus</i> , up to 7cm diameter)	50-60
Common sea-urchins (<i>Echinus esculentus</i> , up to 20 cm diameter)	12-15
Green sea-urchins (<i>Psammechinus miliaris</i> , up to 11 cm diameter)	35-55

5.2.3 Preparation of Shellfish Samples

You must follow this guidance to prepare your shellfish sample:

1. Collect enough suitable shellfish to satisfy the requirement for one or more samples to be collected from the site.
2. Remove the mud and sediment adhering to the shellfish. To do this, rinse or scrub the shellfish with seawater from the immediate area of sampling.
3. Allow to drain.
4. Ensure that if samples are required for more than one analysis, you prepare, bag and label separate samples for toxin, microbiological and

- chemical analyses. To do this, place the shellfish inside a strong food grade plastic bag and tie the bag leaving some air space. Place the first bag in a second bag if the sample is likely to puncture the first plastic bag.
5. Using a permanent marker pen, label each bag with the origin of the sample (site name) and fill in the Industry sample submission form, specifying:
 - the shellfish species
 - the origin of the sample (actual location of sample collection (as grid reference or Lat/Long in the format specified in this protocol), production area name, site name & site identification number (SIN)),
 - the date and time of sample collection
 - the location of landing
 - confirmation that the sample was collected from the RMP/RMZ (as relevant) & if not, reason why
 - the method of collection (please note that samples should be collected in a way that is as representative as possible of normal harvesting conditions. The sampling method may impact on the level of contamination of the bivalves and information on sampling practice should be considered during analysis of historical monitoring results in subsequent surveys or reviews. Please note that the option “hand-picked” should be ticked when samples are collected from a sampling box or when shellfish are manually removed from a shellfish line)
 - the temperature of the surrounding seawater at the time of sampling.
 - the test for which the sample is collected
 6. Sign, date and add your name to the form.
 7. Securely attach the form to the correct sample bag. Samples which are not correctly labelled will be rejected by sampling officers.
 8. Place the labelled bagged sample in a temporary storage container to promote the cooling of the sample. This temporary container may be a ruck sack, bag or box with cool packs where necessary (for example in summer).
 9. Use insulating material (for example newspaper) to ensure that samples do not come into direct contact with the coolpacks and freeze. Frozen samples will be rejected by sampling officers.
 10. Hand your samples to an HMMH sampling officers as quickly as possible after collection. This is to ensure that samples can be prepared, paperwork completed and samples packed in validated coolboxes in time for dispatch to the laboratories on that day.
 11. It is the responsibility of sampling officers to pack the samples in accordance with Cefas sampling and transport protocol and to send these samples to the testing laboratories. Please note that sampling officers will measure the temperature of the shellfish sample when handed over to them and record this on their sample submission form. This is to provide the laboratory with additional information on the conditions of the sample prior to shipping.

Please be aware:

- **Once collected from the monitoring point, you must not re-immerses the shellfish in water (even for short-term storage after collection) as**

this may cause them to open or introduce a source of microbial contamination.

- Follow the instruction re. disinfection of sampling equipment shown in section 7.
- Forms that are not completed in full or not signed will not be accepted and the samples will not be collected by HMMH. HMMH sampling officers will ask you to complete the form if some details are missing.
- Forms must show the correct details for the sample, including the actual location of the sample and not pre-printed locations. Forms will not be corrected by HMMH.
- You must personally hand the samples to an HMMH sampling officer and make sure that you make yourself available in person to answer any query the sampling officer may have re. the samples/forms you are handing over. Samples left unattended will not be collected by HMMH.
- Razor/surf clam collections by Industry: it is noted that fishing may take place at weekends or at night and Industry may return to harbour at times when sampling officers are not available for collection. In this case, the temporary storage of shellfish samples by Industry is allowed as long as the samples are contained and bagged as per the above (to prevent any cross contamination), are kept in cold storage (at a temperature between 2 and 10°C to prevent sample degradation) and in a secured/locked environment (to prevent any tampering of samples).

5.3. Water sampling

We will only allow you to collect water samples where suitable equipment is available and discussions have taken place between you, Cefas (and SAMS), HMMH and FSS to agree the conditions under which water sampling can take place. Water collection by Industry will only be in cases where access to the monitoring site by sampling officers is not possible and will only be for sites where tube sampling is used (water depth >2m). Tube samplers will normally be supplied by Cefas/SAMS. The use of Industry tube samplers may be acceptable but will require separate discussion and agreement with Cefas/FSS.

No water samples will be accepted unless collection by Industry has been agreed.

The aim of the tube sampling method is to collect samples of phytoplankton that are representative of the phytoplankton community in the water body being sampled. The water sample should be taken as close to the shellfish bed as possible and at the location from where shellfish samples for flesh testing are taken. The tube sampler takes an integrated sample from the surface to a depth defined by the depth of water at the site. The tube sampler has been marked at 1m intervals with insulating tape, so that the depth over which the sample has been taken can be estimated. Water samples should ideally be taken at high tide (+/- 1 hour) particularly at inshore sites. Sampling at low tide should be avoided.

To take a water sample using a tube sampler:

1. Attach a line/rope to the bottom of the tube sampler to allow it to be raised from its base.
2. Open the valve at the top of the tube.
3. 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 in order to take an even sample of the whole water column. If the weight touches the bottom, redeploy the tube sampler as disturbed sediment will affect the quality of the water sample collected.
4. Take note of the depth using the guide of 1m intervals on the tube.
5. Close the valve at the top of the tube sampler and retrieve the bottom of the tube sampler using the attached line/rope.
6. 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.
7. Mix the contents of the bucket and immediately fill a 500 ml Nalgene sample bottle to the neck by immersing the bottle in the bucket. Do not allow the contents of the bucket to settle before filling the bottle.
8. Close the Nalgene sample bottle lid tightly.
9. Label the bottle with the following details:
 - i. Site Name:
 - ii. SIN (Site Identification Number for classified shellfish growing areas)
 - iii. Collection Date:
 - iv. Collection Time:
 - v. OS grid reference (8 digits = 10m accuracy) or Lat/Long
 - vi. Name of person collecting sample
 - vii. Mode of collection (specify sampling tube)
 - viii. Sample depth (in metres)
 - ix. Tidal state (ideally within +/- 1h of high water)
10. Please fill in an Industry sample submission form for each water sample collected.
11. Hand the sample and form to the sampling officer who will add the fixative and finish packing the sample before dispatching it to SAMS for analysis. The sampling officer will also indicate on the label if the sample was unverified (UNV) or verified from shore (VFS), initial and date the label.

Please be aware:

- **Follow the instruction re. disinfection of sampling equipment shown in section 7.**
- **Labels/forms that are not completed in full or not signed will not be accepted and the samples will not be collected by HMMH. HMMH sampling officers will ask you to complete the labels/forms if some details are missing.**
- **Forms must show the correct details for the sample, including the actual location of the sample and not pre-printed locations. Forms will not be corrected by HMMH.**

- You must personally hand the samples to an HMMH sampling officer and make sure that you make yourself available in person to answer any query the sampling officer may have re. the samples/forms you are handing over. Samples left unattended will not be collected by HMMH.

6. CONTACT INFORMATION

Please refer all enquiries relating to the collection of samples for the purpose of the FSS monitoring programmes (including monitoring points, frequency of sampling) to HMMH sampling officers. If your local sampling officers is unavailable, you can contact the HMMH sampling managers listed in Table 3.

Table 3: Contact details of HMMH sampling managers

Julie Duncan Shellfish Collection Manager	07709036660	sampling@hallmarkscotland.com
Christopher Murdoch Deputy Shellfish Collection Manager	07384756315	sampling@hallmarkscotland.com

Note that it is important for sampling officers to have your up-to-date contact details to facilitate communications of sampling arrangements. It is your responsibility to notify HMMH sampling officers of any changes to contact details. HMMH will hold your details for the purpose of delivery of the FSS monitoring programme and may share these with the laboratories and FSS for the same purpose.

7. HEALTH, SAFETY & BIOSECURITY ADVICE

You must comply with the Health and Safety policies and procedures of your company. This includes compliance with all safety measures prescribed in risk assessments relevant to your travelling to the agreed sampling locations and the collection and handling of shellfish samples from such areas for the purpose of the FSS monitoring programmes. The drafting, implementation and review of all relevant H&S documentations are the responsibility of your employer.

You must comply with Government advice and restrictions on COVID19. HMMH sampling officers have been asked to do the same.

Please note that the use of tube sampler on board vessel constitutes an additional trip hazard which must be considered in your risk assessments.

When undertaking sampling duties and if travelling from one area to another, you must think about the risks of introduction or transfer of aquatic pathogens and invasive species to the areas you visit. You must comply with your company's standard biosecurity measures.

You can get advice on suitable disinfectant and disinfection procedures from Marine Scotland Science. As a minimum, Marine Scotland Science recommends removing all organic matter (for example: mud) from equipment surfaces, followed by the application of Virkon S or Virkon Aquatic S at 2% and with a minimum contact time of 10 min (or spray onto clean surface and leave to dry). A list of other suitable disinfectants is available at: <http://www.defra.gov.uk/aahm/guidance/disinfectant/list/>.

Please follow these safety precautions if using Virkon as a 2% solution (full safety measures must be included in your Coshh assessments):

- Virkon is a broad-spectrum disinfectant. Care should be taken when using Virkon 2% solution to disinfect equipment, as it can cause irritation to eyes, skin and respiratory system.
- The solution should be used only outdoors or in a well-ventilated area. Gloves must be worn during the handling process.
- If the product is splashed in the eyes, rinse immediately with plenty of water and seek medical advice.
- In case of skin contact, rinse any product off the skin immediately with water.
- If ingested allow patient to drink water (1 or 2 glasses) if conscious, but do NOT induce vomiting. Seek medical advice.

Recommended procedure for disinfection of the tube sampler (this is required between boat runs (a boat sampling several RMPs in one run will not need to disinfect between sites however please note that runs should not include sites of different biosecurity levels (see below)):

- 1.1 Prepare 1 Litre of Virkon disinfectant solution at a concentration of 2%.
- 1.2 Lay the tube sampler out and pour the disinfectant into the tube, ensuring the whole of the inner surface is coated.
- 1.3 Empty the disinfectant from the tube sampler into the bucket, covering the whole surface of the bucket. Dispose of the bucket contents.
- 1.4 Virkon solution may be disposed of via normal liquid waste systems – it should **NOT** be disposed of via storm water drains or other unprotected water systems (for example: septic tank systems).
- 1.5 Scrub the outside of the tube sampler to remove debris, spray tube sampler including rope with 2% Virkon solution and leave to air dry. The inner surface of the tube may be allowed to dry naturally.

You should be mindful of the health status of the sites that you visit and schedule your 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 do apply are available from Marine Scotland Science and up to date lists and maps of designated areas are published on the following links: [notifiable diseases page on the Scottish Government website](#).

You must not transfer shellfish between sites for the purpose of the FSS official monitoring programmes without prior written approval by the Fish Health Inspectorate office. This will be done through HMMH.

You must report any observation of unusually high shellfish or fish mortalities to the Fish Health Inspectorate (see contact in Table 4 below).

You can find information on non-invasive aquatic species and how to prevent their introduction and spread on the GB non native species Secretariat [webpage](#). This website includes access to [identification sheets](#) for all UK invasive species.

Table 4: Contact details of Scottish Fish Health Inspectorate

Fish Health Inspectorate, Marine Scotland Science PO Box 101 375, Victoria Street Aberdeen AB11 9DB Tel: 0131 244 3498 Email: MS.FishHealth@gov.scot
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Change record

Version	Date released	Change
1	6 July 2018	New protocol drawn up – circulated to LAs and ASSG & Scottish Shellfish
2	21 Dec 2018	Water sampling for phytoplankton analyses added plus review of all sections Appendices 1 and 2 added
3	07 August 2020	Document updated throughout to comply with UK Accessibility Laws & list of abbreviations added Document title amended Review of all sections Removed references to specific regulations Update to conditions of Marine Scotland Razor trial Update to links throughout the document Introduction of min notice requirement for change to weekly sampling schedule Addition of reference to insurance being required for vessels boarded by sampling officers Amendment to information required on submission form & explanation added re. requirement for notification of method of collection Clarification of requirement re. record for actual location of sampling & format of coordinates Clarification on the use of RMP tolerance/boundaries for sample collection Clarification of requirement re. accuracy of details on submission form Clarification re. samples left unattended will not be collected Clarification re. temporary storage of razor/surf clams Addition of reference to FSS website for details of current RMP/RMZ Addition of requirement for compliance with Government advice and restrictions re. COVID19 Update to HMMH email address Appendix 1 (and reference to this appendix) removed as document no longer current Protocol to be implemented from 31/08/20

List of abbreviations used in this document:

Cefas:	Centre for Environment Fisheries and Aquaculture Science
Fera:	Fera Science Limited, formerly the Food and Environment Research Agency
FSS:	Food Standards Scotland
GPS:	Global positioning system
HMMH:	Hallmark Scotland Ltd
Lat/Long:	Latitude and Longitude coordinates
MCA:	Maritime Coastguard Agency
Min.:	Minimum
NRL:	National reference laboratory for bacteriological contaminants of shellfish

OC: Official control
PAHs: polycyclic aromatic hydrocarbons
PCBs: polychlorinated biphenyls
RMP: Representative monitoring point
RMZ: Representative monitoring zone
SAMS: Scottish Association for Marine Science (SAMS)
SIN: Site identification number
SSQC: SSQC Ltd

Appendix 1: Example of vessel safety checklist (July 18 version)



Version 2 - HMS
Form 05.1.2.8 Confir