



Here to give the UK seafood sector
the support it needs to thrive.



UK Gear Trial Review:

What can we learn from
past gear trial projects?

December 2020

Introduction

Increased consumer expectations on responsibly sourced seafood underpin the need for sustainable fishing practices. Where effective fishing gear selectivity, aimed at reducing the capture of non-target species, remains a key issue for both the UK fishing fleet and the wider seafood supply chain.

Seafish has a long and proud history of involvement in UK selective gear trials. The main aims in conducting this Review were to: 1) conduct a strategic evaluation of past UK gear trials projects; and 2) use the findings to help inform the relevant, effective and efficient delivery of future work in this area. The Review draws on knowledge gained and good practice developed through previous UK selective gear trials. Through a structured series of interviews (spring-summer 2020) with leading individuals in the field, collectively bringing decades of experience in UK-based selective fishing gear trials, Seafish was able to independently identify common issues arising and gaps in knowledge.

Seafish invited all Gear Innovation and Technology Advisory Group (GITAG) and Northern Ireland (NI) Gear Trials partners to contribute. Telephone interviews were conducted with Ben Collier (NI Gear Trials), Jim Drewery (Marine Scotland Science), Shaun Fraser (NAFC Marine Centre), Rob Kynoch (Marine Scotland Science), Mike Montgomerie (formerly Seafish; now Mike Montgomerie Limited) and David Warwick (Seafish.)

All GITAG and NI Gear Trials partners were also invited to provide feedback on the draft before the Review was finalised. At the time the interviews were conducted, it was not deemed appropriate to consult directly with industry, due to ongoing business pressures associated with the Covid-19 pandemic.

Edited by:

Ana Witteveen (Seafish)

Contributors:

Ben Collier (NI Gear Trials), Jim Drewery (Marine Scotland Science), Shaun Fraser (NAFC Marine Centre), Rob Kynoch (Marine Scotland Science), Mike Montgomerie (formerly Seafish; now Mike Montgomerie Limited) and David Warwick (Seafish)

Disclaimer:

The opinions expressed in this Review are not necessarily those of Seafish, Mike Montgomerie Limited, NI Gear Trials, NAFC Marine Centre, Marine Scotland Science or the organisations interviewed. Any errors of fact or interpretation are those of the contributors alone.

Contents

Summary of findings and recommendations	4
Summary of findings	4
Next steps	4
Section 1: Funding and project duration	5
Project costs and funding sources	5
Challenges with external funding sources	5
Section 2: Project coordination and management	7
Importance and challenges	7
Assigning roles and responsibilities	7
Collaboration and communication	7
Section 3: Trial ideas and development process	8
Securing ‘buy in’ from industry	8
Developing ideas for trials	8
Pre-trial assessments	9
Testing under full scientific charter	9
Section 4: Tendering for vessels	10
Tender criteria	10
Assessing applications	10
Section 5: Trial protocols and contracts	11
Recording data and writing protocols	11
Controlling variations	11
Allocating sufficient time and hauls	12
Section 6: Data collection	13
Assessing stock	13
Monitoring equipment	13
Personnel and communication	14
Section 7: Data analysis and industry reporting	15
Requirements for analysis and reporting	15
Content to include within reports	15
Sharing findings	15
Section 8: Next steps in detail	16
Convene an informal pan-UK group forum to exchange ideas	16
Produce a ‘gold standard’ guidance document	16

Summary of findings and recommendations

Summary of findings

Key findings and recommendations from the review are noted below, organised by the sections in the main body of the report.

Funding and project duration:

- Indirect funding sources (either national or EU) are well-suited to testing new selective gear initiatives. However, these funds have a number of weaknesses and are not best suited to support longer-term gear innovation or selectivity work.
- Direct funding (from the organisation running the trial) is preferred for long-term project development and delivery.

Project coordination and management:

- Roles and responsibilities for all parties involved should be clearly outlined, agreed and adhered to from the outset of a great trial project.
- Good communication between partners is also vital to project success.

Trial ideas and development process:

- Ideas should come from those working in the fishing industry, to encourage their sense of trial 'ownership'.
- It is best to initially 'think big' with trial ideas, which can later be refined.
- Selectivity ideas should be refined and well-tested before running a full-scientific trial.

Tendering for vessels:

- It is better to run fewer but more effective gear trials, as opposed to trying to run as many trials as possible and as cheaply as possible.
- Trial success is heavily dependent on vessel suitability and skipper commitment.
- Further work is required to define fair but effective procurement procedures.

Trial protocols and contracts:

- Trial protocols should be written and applied to limit variability between trial and control gears as far as practicable during a gear trial. This helps to ensure trial replicability and scientific rigor.

Data collection:

- Gear trials are fundamentally different from stock assessment work – both data collection and observer requirements for trials should reflect this.
- To ensure continuity across a trial, analysts should be involved early in data collection planning. Observers should also feed trial information through to analysts (where these are different parties) in the agreed format(s) during and after a trial.

Data analysis and industry reporting:

- To maintain industry interest and engagement, prompt and relevant reporting, in readily accessible format(s), should be the top reporting priority. Any further scientific reporting should be seen as a secondary priority.

Next steps

Based on this review's findings, the initial proposed next steps include:

1. To convene an informal pan-UK forum to exchange national good practice and share findings on selective gears; and
2. To produce a 'gold standard' guidance document covering all stages of conducting a successful selective gear trial.

Section 1: Funding and project duration

Project costs and funding sources

UK selective gear trial projects have ranged in length from a few weeks up to several years. They have typically been quite expensive to run, with projects costing in the region of £70,000 to £200,000. This makes it difficult to find fishing businesses or representative bodies with the necessary resources to fund a project.

Gear development programmes are funded in two ways:

- Some are funded directly by the organisation running the trial – by government or academic research bodies such as Marine Scotland Science (MSS) and the NAFC Marine Centre.
- Others are funded ‘indirectly’ through external national / EU sources – such as the European Maritime and Fisheries Fund (which was previously known as the European Fisheries Fund). The NI Gear Trials Project and the Gear Innovation and Technology Advisory Group are examples of this.

Those involved in projects funded directly reported that work was undertaken efficiently and relatively cheaply. Benefits including being able to carry out work in house and maintain close links between all parties involved in the trials.

In contrast, external funding sources such as the EMFF brought additional challenges. In many cases, these sources were found to be too inflexible. This prevented the full development of a new selective gear from concept through to potential implementation in a fishery.

Challenges with external funding sources

Financial risk

Projects relying on external funds are more complex and carry a higher degree of risk. The substantial finance required to run trials must be paid up front, by the body managing the funds and then claimed back from the external funding source. It can be difficult to find appropriate bodies that are willing or able to take on this financial risk.

In certain cases, the funding burden has been shared between two bodies. For example, for the NI Gear Trials Project, the Agri-Food and Biosciences Institute (AFBI) and Anglo-North Irish Fish Producers Organisation (ANIFPO) split and shared the funding responsibilities and risk. This approach mandates a higher degree of shared management and coordination for successful project implementation.

Specific use requirements

Another consideration for external funds is their ‘specific use’ requirements. These ‘strings attached’ can have a significant impact on how gear trials are run. Such requirements might result in approaches that are inefficient, or otherwise undesirable.

One such outcome, was pressure to only report positive trial results in order to demonstrate the success of a project and justify access to further funding. There are also challenges around selecting project partners. For example, on some occasions it might be useful to have the option to select a specific vessel to work with. This is not something that is currently permitted for EMFF funded trials as they require trials to be commissioned via an open invitation to tender.

Time constraints

A further challenge of relying on external funds is that these are typically awarded for relatively short time periods. This results in a high degree of uncertainty in terms of future funding and project longevity or continuity.

Uncertainty of future funding sources

The situation is further complicated by the uncertainty around funding available to replace the EMFF, now the UK has exited the EU, and who will be able to access funds in the future.

The Covid-19 pandemic has also put pressure on external funding sources, with some funds redirected to emergency industry support measures during the initial UK lockdown. The impact of Covid-19 on medium-term funding also requires clarification.

In summary:

- Large national and EU funds are useful, especially to test whether a new selective gear project or collaborative initiative has potential.
- Due to the associated restrictions and uncertainty around funding continuity, these indirect sources are not best suited to support consistent longer-term gear innovation and selectivity trial work.
- Project partners should be wary of these weaknesses when seeking to access external funds where they are the only available option.

In comparison, gear development programmes with direct funding seem to give more control and continuity and can often be run more efficiently.



Section 2: Project coordination and management

Importance and challenges

Good project management, including sound financial management, is essential to the success of all selective gear trial projects.

There must be clear and consistent management across the whole selective gear trials process, from the development stage through to the full trial(s) and reporting to industry stakeholders. This is needed to make sure that all necessary are completed to ensure the success of a project. For example, nets or selectivity devices must not be funded, manufactured and then never tested.

Historically, the bodies managing project funds have not had a consistent level of involvement with project delivery. Some have been heavily involved in the practicalities of trials, while others have engaged only in a high-level, project coordination capacity. Issues were noted where those tasked with managing project delivery were not responsible for managing project funds. The project management then became blurred between parties, resulting in disagreements or confusion about how trials should be run.

Assigning roles and responsibilities

Successful trials include those where responsibilities for all parties involved are clearly outlined and agreed from the outset. This involves making sure roles and objectives are clear for everyone involved in project delivery, including skippers and crew working on trials.

Ensuring everyone understands and is comfortable with their role can also have an added benefit of fostering good working relationships between the skipper or crew and the observers and gear technologists. Responsibilities should be specified through detailed, specific and unambiguous vessel contracts and trial protocols.

Project delivery responsibilities could be assigned as follows:

- Skipper: responsible for the vessel
- Crew: responsible for fishing operations
- Observer(s): responsible for collecting and recording catch samples
- Gear technologist: responsible for the gear
- Gear trial manager: responsible for providing support and advice to the skipper

Collaboration and communication

Gear projects benefit from strong collaborative partnerships. For example:

- Working with scientific bodies can bring data collection and analysis expertise to projects, as well as scientific credibility.
- Strong links with industry bodies and POs help to build local industry involvement.
- Input from government policy makers encourages coherence between selective gear types being trialled and legislation.

As with any project, timely and efficient communication on gear trials is a key element of successful project coordination and management. Where this was not present in trials significant time and resource was wasted. This often led to:

- Poor quality and/or significantly delayed outputs;
- Slow turnarounds between trial periods; and

- Loss of interest and industry engagement in current and future gear projects.

The ultimate risk here is that projects lose the goodwill of the industry and ideas for gear innovation dry up.

The importance of effective communication increases with the number of project partners. In these instances, it is crucial that everyone is kept up to speed on project developments and in agreement on associated delivery. While there have been great examples of gear projects facilitated by a wide collaboration - across industry, government, scientists and technicians - some have suffered from communication issues within their steering group. In particular, if all communications are to go through a single person as the conduit, it is critical that this person is quick to respond.

Section 3: Trial ideas and development process

Securing 'buy in' from industry

Industry 'buy in' is critical to the success of gear trial projects, both to foster innovation and encourage commercial uptake of selective gears.

Gear trial projects have benefitted from having the project manager (or other project partner) regularly engaging with industry throughout the project. This helped to ensure key industry issues and ideas are captured and addressed.

Trials have the best chance of success when they:

- Answer a specific industry-led question;
- Test an idea proposed by someone actively involved in fishing; and
- Involve a skipper that is directly interested in the work.

Industry is more likely to want to trial something that has been suggested by someone actively involved in fishing. There is also evidence that this approach has encouraged some vessel owners, skippers and gear makers to start innovating for themselves. This has helped to encourage industry to take ownership of selective gear devices.

Developing ideas for trials

In terms of ideas for future gear trials it is better to 'think big' with innovations and selectivity ideas.

Trials should test more 'radical' ideas and refine them, rather than limiting tests to incremental adjustments. Even if the changes are found to be too large and therefore uneconomic, it is valuable to have these examples available. Ideas can then be refined incrementally in practice. This provides a better chance of buy in from the wider fleet. The development of square mesh panels is a good example of how this has worked in practice.

Selectivity ideas have benefitted from tests in the (Hirtshals) flume tank where possible. Testing scale models in the flume tank can give unparalleled visual insights into the effects of modifications and the likely performance of a modified gear. Trials and training involving simulated computer modelling options may also be appropriate in light of the current Covid-19 restrictions.

Pre-trial assessments

Once an idea is ready to be tested, it is better to conduct a pre-trial assessment, or 'development' trial, before running a full scientific vessel charter. These trials are used to iron out issues with gear and make sure it is working properly.

This is also seen as the best time to employ underwater cameras. They can provide useful insights into gear performance almost immediately, informing further refinement of the gear before a full scientific charter is run.

Careful consideration should be given to the facilitation of pre-trials. This can support positive outcomes and retain interest and commitment from the vessel operator after the development work is complete. It is also important not to blur the lines between a development trial and a full scientific trial in terms of trial strategy and expected outcomes.

Pre-trial assessments can be carried out:

- On a commercial vessel through derogation (GITAG approach), or
- On a scientific vessel (MSS/NAFC approach).

Development trials can also be undertaken during commercial trips, where the crew are solely responsible for self-sampling and reporting. However, without an experienced gear technologist on board, to manage the development work and record all changes to the gear, development trials can have a limited use. There is also the very real risk of economic pressures impacting operation and results if development work is carried out during a commercial fishing trip.

Testing under full scientific charter

When a selective gear or device is ready to be tested under a full scientific charter, those conducting the trial should be in a position to ensure 'full control' of the trip.

Under full charter, all the catch would either:

- Belong to the charterer and be sold to cover the cost of the charter, or
- Be covered by scientific quota.

This is extremely important because it removes the risk of commercial considerations getting in the way of a successful scientific trial. It also allows the skipper and crew to relax 'free' of any commercial considerations and concentrate solely on their agreed trial responsibilities. Furthermore, if the skipper isn't then following the agreement as per the vessel contract and trial protocol, the trial can be terminated early.

While full charters are more expensive, costs are offset by the landings. These can be considerable for a fish-based project, though typically less so for Nephrops-based work. This is another important reason to run development trials, or other pre-trial assessments, to ensure the gear is working properly before paying for a full charter.

The following standard sequence is advised as the most effective in developing and testing a gear concept:

1. Gather selective gear ideas from those working on fishing vessels.
2. Work with skippers or vessel owners to develop and refine selective gear trial ideas – this may include computer simulation modelling or scale model tests in a flume tank.

3. Support skippers or vessel owners to conduct a development trial, or test experimental gear under a derogation.
 4. If gear shows promising results, carry out a full-scientific trial.
-

Section 4: Tendering for vessels

Tender criteria

In general, it's preferable to invest in fewer better resourced trials, rather than trying to run as many as possible cheaply.

Tendering for vessels is typically based on a value for money determination. However there are other crucial factors to evaluate including:

- Health and safety considerations;
- Historic relationships with the project partners; and
- Skipper's attitude.

As the skipper is ultimately in charge of the vessel, it is very important to select the right skipper who will be committed to the gear trial's aims. Past projects have suffered, for example, when skippers have participated for the wrong reasons (e.g. benefit of charter payment, extra quota etc.) and aren't interested in whether the gear works, or if the trial is successful.

It can be damaging to industry relationships and suppress innovation, if those that come forward with ideas do not get chosen to trial them, because someone else submits a cheaper tender. This can be an undesirable outcome of restrictions accompanying use of external funds.

Assessing applications

It may be difficult to determine objective scoring standards for use in the procurement process, but this approach is important to support successful trials. Essentially it's important to select the 'most suitable' rather than the 'best value for money' vessel.

The tender application vessel owners are requested to complete for a gear trial needs to be comprehensive enough to allow a suitable vessel and skipper to be identified. However, a balance is necessary between ensuring an application allows for sufficient distinction between applicants, while not being overly complex and putting skippers off from applying.

At a minimum the tender should require evidence of in-date documentation showing:

- Vessel certification;
- Skipper and crew experience; and
- Safety requirements (e.g. equipment 'in date').

Safety equipment should also be checked before a vessel is selected. A standard tender template should be used which allows for further information if something more bespoke is required.

Section 5: Trial protocols and contracts

Recording data and writing protocols

It should be possible to replicate any trial. This means that all data and information must be clearly, consistently and concisely documented as stipulated in the trial protocol. Similar to tender and vessel contract templates, a trial protocol template can provide a useful starting point. It should be adaptable for each trial to suit the vessel and gear being tested. As each trial and vessel is different in layout and operating practices, using old, generic protocols can be problematic.

Clear, unambiguous wording should be used for all trial protocols, to limit room for personal interpretation when it comes to gear deployment and data collection. This is particularly important for data analysis and reporting, to ensure that those involved onshore clearly understand factors impacting the trial at sea. Those on board during the trial (e.g. the gear trial manager or gear technologist in the first instance, or the observer[s] if needed) should provide feedback to analysts on operations and conditions during the trial that may have impacted results.

Controlling variations

It is important to limit and control possible variations between the trial and standard commercial (control) gears.

Start with new gear

It is good practice to start any trial with a new set of gear, rather than testing one new trial gear against an old control gear. Incorporating a new section or device into an old gear - which invariably change shape over time - could also negatively impact findings. Using a new set of gear ensures that a truer comparison can be made between the gears.

Match nets for twin-rig vessels

For trials onboard twin-rig vessels, in particular, it is vital to get prior confirmation that both nets are the same, in terms of design, construction and wear rate. This should be checked during the initial rigging day of the charter. There should also be evidence that these gears are currently fishing equally in a twin-rig situation.

Brief gear makers properly

Gear makers responsible for making and modifying gears must be properly briefed on the gear specifications required, as improper alterations could unintentionally materially alter the trial results (e.g. change the shape of the net, headline height, spread etc.) This has happened in the past, with issues picked-up via underwater cameras once the gear was deployed.

Limit variables for testing

It is important not to test too many variables in any single trial, as this makes it difficult to say anything definitive about the results. For example, a rule of thumb could be applied of a maximum of three test cases per 15-day charter.

Trial parameters (e.g. trial duration, minimum number of valid hauls, haul duration, intended fishing grounds and data collection) should be clearly defined and agreed in the vessel charter contract / trial protocol, before the trial commences. This includes ensuring that:

- Suitable fishing grounds with appropriate catch combinations for the trial are available or likely to be found; and
- A suitable trip duration is agreed.

Allocating sufficient time and hauls

Sufficient time should be planned for each trial period. If a trip is too short, it may not be possible to achieve a sufficient number of valid observations (hauls).

Additional time should be planned in case the skipper needs to change fishing grounds during the trip. This could happen if suitable grounds are not found from the outset, or if factors such as adverse sea conditions limit effective fishing time.

A minimum of six valid hauls per test should be conducted to limit variance between individual haul results. However, where the variability is higher, the number of hauls per test case would need to be higher.

In general, it is seen as good practice to aim for at least eight to ten valid hauls per test case for a full scientific charter. The number of hauls should be balanced against achieving a reasonable haul duration (which approaches commercial practice).

Scientifically, multiple shorter hauls have been found to give more accurate selectivity results and reduce variability compared to fewer, longer hauls. A haul duration of three hours is a useful compromise between number and duration of hauls achievable within a trial period. Considerations should also be made for the time of day of fishing (daylight hours vs night).

A full day should be planned at the beginning of the trial to load and rig the gear. Another day should be planned at the end of the charter to unload the gear. Both of these days should be included in the charter.



Section 6: Data collection

There is a fundamental difference between data collection for gear trials and data collection for stock assessments.

Assessing stock

Gear trial projects were seen to suffer when a stock assessment approach was taken to gear trial data collection. For gear trials it is most important to collect detailed data only on the main species of interest rather than on the full catch composition. Key species include:

- Main target (e.g. marketable) catch detailed by species; and
- Main bycatch species (e.g. those the gear modification aims to reduce, both marketable and non-marketable).

Everything else should be recorded, but only as discard, bulk or non-marketable catch. This is important to ensure that the catches themselves are manageable.

When a stock assessment approach to data collection is taken during gear trials, excess time to measure and record the whole catch in detail results in a compromise of fewer or shorter hauls. This makes the trips less commercially representative. The over allocation of resources to count and measure whole catches also results in a subsequent under-allocation, to appropriately monitor the gear.

Both data collection protocols and observer training should reflect the fundamental differences between gear trial and stock assessment work. It can be useful to use well trained scientific observers proficient at fish-ID, on-board sampling and with a good knowledge of fishing gear performance to provide impartial recording of catch data during gear trials.

Observers should receive tailored training to meet specific gear trial data collection requirements, rather than employing stock assessment recording and reporting methods during trials. To ensure a rigorous and consistent approach it is important for observers to:

- Understand the trial project objective, where it is appropriate to sub-sample; and
- Know how to do so in the correct manner for gear trials.

Monitoring equipment

Thorough checks should be made to ensure the gear is in full working order before, during and after each trip.

An effective gear trial requires all equipment to be monitored throughout. This ensures there are no unexpected changes to the gear's configuration and operation which could negatively impact results. Best practice is to have the gear monitored using acoustic sensors to capture any changes to the gear during the trials. If this is not possible, at a minimum, door spread should be checked using the warp divergence method. The gear itself should be accurately measured and documented for reporting purposes.

In cases where issues arise which require changes be made to the gear part way through a trial, these issues and changes must be carefully detailed in the haul logs. This is so that they are captured in the analysis and reporting conducted after the trial.

It is good practice to dedicate one person to checking the gear each time it is shot and hauled, to ensure there are no issues impacting the catch. This system splits responsibilities between:

- The observer(s) – who monitors and records catches; and
- The gear technologist – who monitors the gear.

In general, it is advantageous to use cameras if possible, even for one tow, to check that there aren't any obvious issues with the gear's operation. This is especially important before full scientific trials, otherwise useless data may result. If this is deemed to be necessary, it should be stipulated in the protocol when and how cameras will be deployed to minimise disturbance to the gear.

Personnel and communication

While individually tailored protocols provide an important plan for day-to-day procedures, unexpected issues will invariably arise.

It is good practice to have someone fully experienced on-board, to apply sound judgement when unforeseen circumstances occur. This person should be able to spot potential issues before they happen, ensuring any reoccurrence is either eliminated, or kept to a minimum. Quality control is vital to keep variance from operating norms during trials to a minimum – e.g. changes in fishing grounds, hauls during day/night, etc. Any variances should be documented throughout the trial for subsequent evaluation at the pre-reporting stage.

To ensure continuity across the trial process – from protocol to data collection, analysis and reporting – it is good practice to involve data analysts early in the planning stages. This will help to inform the design of data collection protocols etc., as well as ensuring that observers are feeding information back through to analysts during and after the trial (if this involves different parties).

It is expected that different people will be involved in different parts of a gear trial so good communication within the project group is essential. Some scrutiny over data collection is also required, to make sure that:

- Basic protocol standards are met; and
- Data requirements are understood for analysis and reporting purposes.

A lot of time can be wasted due to data handling issues, especially if data are handed over without sufficient explanation or further communication.

The most robust and representative results are realised when haul data are entered and assessed daily. This involves monitoring gear performance in real-time, and ensuring data are entered accurately. Where this is not possible, there should be a comprehensive handover procedure and ongoing communication between observers and analysts after the trial has been completed.

Section 7: Data analysis and industry reporting

Requirements for analysis and reporting

When collating information for reporting purposes, it is important that the underlying data and their analysis are scientifically robust.

The differences between the trial and control gears, as well as any limitations of the trial, should be clearly communicated when disseminating results. This is required to ensure results aren't inappropriately extrapolated.

In the past, gear trial results and project outputs have rarely been made widely available to those working in the fishing industry. Instead distribution has centred more on project partners and funding providers.

It is important that advances in gear selectivity identified during trials are put into commercial practice across the UK catching sector. As such, the timely dissemination of data, information and findings in a suitable format(s) to the fishing industry should be a key element of all gear trial projects. This will also help to maintain industry interest and engagement in future trials.

The [DiscardLess](#) A4 summary fact sheets are a good starting point for industry reporting. However, these fact sheets have not been widely shared with industry to date.

Content to include within reports

A good concise diagram of the modified gear design and rigging is a critical component of any gear trial output for skippers and vessel owners. It helps them decide whether and how they might be able to adapt the gears, fishing methods and business model. This also helps them ensure that the trial configuration can be accurately replicated during commercial operation.

Where trial results have been shared, fishermen found length / frequency charts for key target and bycatch species most valuable. Project steering group members without a scientific background also reported that this was a useful way to report results. These data provide a good indication of:

- The overall performance of an experimental gear against a control gear; and
- The commercial viability of the modification being trialled.

Negative results, or results of gear modifications performing poorly, are also important to report. This is because 'bad' results also provide important learning, to inform both future trials and changes to commercial fishing practices.

Sharing findings

In future, all trial results and reports should be directly accessible to industry and available through local POs and other industry bodies.

Industry liaison groups have also worked well in the past, as avenues both to gather industry's trial ideas and to share results with them. These groups have been found to get more fishermen involved (e.g. broaden the group beyond the same few industry faces.) The key to their success however, has been to set meetings at times that are acceptable to fishermen.

In recent years, social media has also become a useful dissemination tool. For example, the NI-Gear Trials project has had success sharing results on the project's Facebook page. Sharing information through local newspapers and trade press (e.g. Fishing Times, Find a Fishing Boat etc.) has also worked well.

It is also important to share results with the wider scientific and research community to lend credibility to earlier industry-focussed outputs. These should be seen as secondary or supplementary outputs as it typically takes longer to prepare the results for peer-reviewed scientific reporting which can have restricted access.

In addition, more detailed/scientific reports should be made available to researchers, industry representatives and others who request more detailed information.

Section 8: Next steps in detail

Based on the report findings, the following actions are proposed as initial next steps.

Convene an pan-UK group forum to exchange ideas

Currently a lot of gear-tech communication is through individual contacts, rather than their respective organisations. This can make it difficult to retain knowledge or expertise and maintain momentum when people leave or retire, because they take their contacts with them. Therefore, information and relationships aren't easily passed on.

A pan-UK forum would be a good way to remedy this issue, share good practice and help to engage with key interested industry and research stakeholders. This Forum will include representatives from:

- Marine Scotland Science
- NI Gear Trials
- NAFC Marine Centre
- Cefas
- Seafish
- Others who have expressed interest in the group

Seafish is prepared to help facilitate the establishment of such a Forum and provide the secretariat, including organising meetings and preparing agendas.. A note of each meeting would be produced and circulated, and could also be added to Seafish's website, to help raise the Forum's profile and keep other UK stakeholders abreast of selective gear trial developments.

Produce a 'gold standard' guidance document

A need has also been identified by contributors to this review, for succinct guidance on how to conduct a gear trial and made available to all UK gear trial partners.

This guidance would cover all key stages in conducting gear trials through to writing up/disseminating results. It could also include an annex containing templates including for trial protocols and vessel charters.

Seafish would be prepared to support Forum members to develop this guidance document.

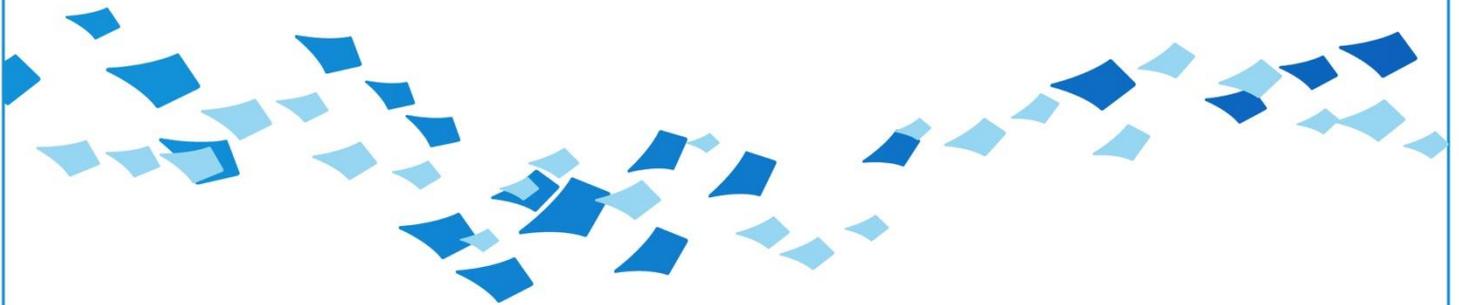
For more information please contact:

David Warwick
Fishing Gear Innovation Manager

T: 07876 035 721
E: david.warwick@seafish.co.uk

Seafish
18 Logie Mill
Logie Green Road
Edinburgh
EH7 4HS

www.seafish.org



Here to give the UK seafood sector
the support it needs to thrive.

**seafish**