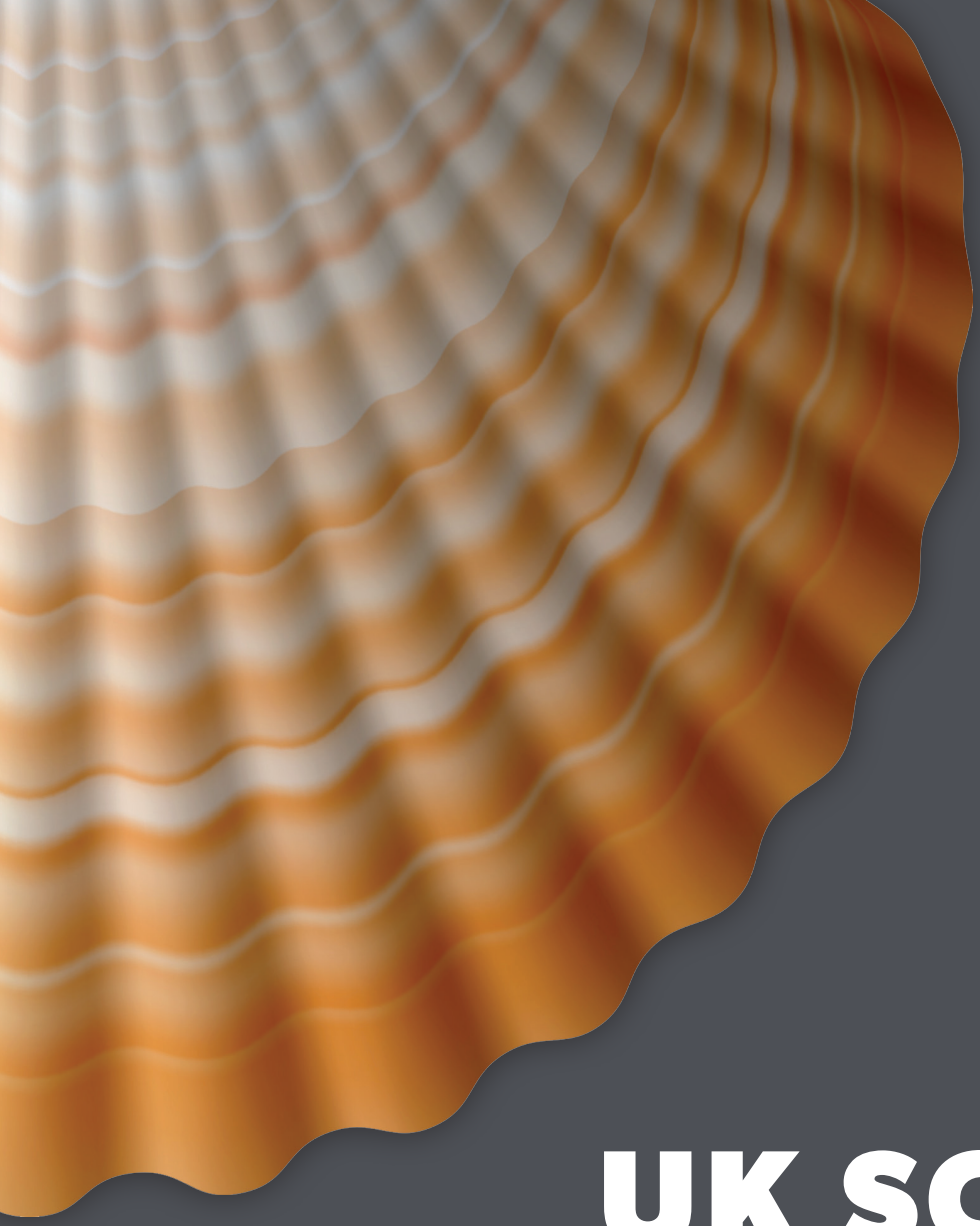

UK SCALLOP MANAGEMENT CONFERENCE 2019

INFORMING THE FUTURE OF SUSTAINABLE FISHERIES MANAGEMENT

CONFERENCE REPORT

4-5 February | Fishmongers' Hall, London

The Fishmongers' Company

MACDUFF™
Wild about Shellfish

scallop science partners
INVESTING IN SUSTAINABILITY

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SUMMARY

The first UK Scallop Management Conference, which took place on 4th and 5th February 2019, at the prestigious Fishmongers' Hall in London. The event was organised by The Fishmongers' Company in partnership with Macduff Shellfish (Scotland) Ltd, and supported by Seafish.

The Fishmongers' Company is one of the Twelve Great Livery Companies of the City of London, and among the most ancient of the City Guilds. For over 700 years they have upheld standards in the trading of fish and shellfish and supported the fisheries industry. Among their core activities they provide support for the Shellfish Association of Great Britain, which they helped to establish.

Macduff is the largest processor of shellfish in Europe, specialising in scallops, Nephrops, crabs and whelk. Whilst the company is based in Mintlaw, Scotland, this vertically-integrated company is invested in both the harvesting and processing of wild shellfish all around the UK coastline. It now also owns Europe's largest scalloping fleet. Macduff is committed to promoting and improving the management of shellfish stocks in and around UK waters and is currently involved in, and committed to, a number of initiatives working with government, scientists and external stakeholders to support the development of fisheries science and sustainable management strategies for the long-term health of fisheries resources.

Seafish is a Non-Departmental Public Body (NDPB) set up to support the UK seafood industry, through industry-wide partnership working with all parts of the seafood industry. Seafish funding comes from a levy on the first sale of seafood products in the UK and they work at arm's length from their joint sponsors, the four Fisheries Administrations.

Images courtesy of Seafish: www.seafish.co.uk, Macduff and Mindfully Wired Communications.

ACKNOWLEDGEMENTS

The event organisers would like to thank a number of individuals for their invaluable input into the conference and this production of this summary report. They would like to thank;

CONFERENCE EXTERNAL STEERING BOARD
Prof Michel Kaiser (Heriot-Watt University), Jim Portus (SWFPO), Mike Park (SWFPA), Dr Ewen Bell (Cefas), John Stott (Macduff), Aoife Martin (Seafish) and Juliette Hatchman (Macduff).

CONFERENCE SUPPORT STAFF
Viv Daly (DM Event Services), the events team at Fishmongers' Hall and Mindfully Wired Communications.

CONFERENCE SESSION CHAIRS
Rod Cappell (Poseidon), Claire Pescod (MSC), Christine Penney (Clearwater) and Prof Michel Kaiser (Heriot-Watt University).

CONFERENCE SPEAKERS
Hazel Curtis (Seafish), Jim Portus (SWFPO), Lynda Blackadder (ICES Scallop Working Group), Dr Beth Mouat (Shetland Shellfish Management Organisation Advisory Committee), Dr David Beard (IoM Producer Organisation), Alain d'Entremont (Full Bay Scallop Association), Servane le Calvez (Chargé de Mission Environnement, Côtes d'Armor (District of Saint-Brieuc)), Prof Oscar Iribarne (UNMDP-CONICET, Argentina), Prof Kevin Stokesbury (University of Massachusetts), Alan Reeves (DFO, Canada), Prof Mark Raymond (St Mary's University, Nova Scotia), Mark Edwards (NZ Rock Lobster Industry Council), Claire Pescod (Marine Stewardship Council), Andrew Brown (Macduff Shellfish).

And all delegates for their enthusiastic engagement with the conference.

Report authored by Katrina Ryan, Mindfully Wired Communications – www.mindfullywired.org

The UK scallop fishery is one of the highest value commercial fisheries in the country. Photo © Bryce Beukers-Stewart.

The UK scallop fishery is one of the highest value commercial fisheries in the country: with King scallops within the top-three species in terms of value to the UK economy and the highest value catch for English ports.

Despite this, the scallop fishery remains under-developed in terms of sustainable management and solid science, when compared to finfish fisheries of similar scale and value. Mackerel, the highest value UK fishery, is managed by a system of Total Allowable Catch (TAC) and quotas, and subject to ever-evolving scientific monitoring. Management of scallop fishing does not include any catch-limits, and only very specific, localized limits on fishing 'effort' applied to part of the fleet. At the present time, there is no comprehensive stock assessment available for the species at a national level.

Against this backdrop of high economic value but low information and management, a number of pressures are combining within the fishery to create a concerning picture for the future. There has been a significant increase in the number of vessels within the fishery, particularly in the 10-15m category that is not regulated by the Western Waters Effort Regime (covering vessels over 15m in length in ICES Areas VIa and VII). Landings per unit effort have been declining since a peak in 2012 – meaning fishing is becoming less efficient, and fishers are having to fish longer and harder to secure less catch. Whilst high scallop prices and low fuel prices have masked the economic impact of this, these trends indicate the risks to the long-term future of the fleet.

Livelihoods within the fishery, and the health of the environment, would be extremely vulnerable to a reduction in scallop prices, an increase in fuel prices, or a loss of markets.

In recent years, the scallop industry has begun to invest in measures to improve science and data collection. For example, the industry is actively involved in a highly collaborative project with government officials and scientists, developing a robust stock assessment in English waters. As part of this, the industry has funded dredge surveys since 2018. Fleet representatives and scallop fishermen have also started to engage in groups designed to drive fisheries improvements, such as the MSC-facilitated Project UK Fisheries Improvements (PUKFI) steering group, taking the lead on the development of a work stream on nationwide harvest strategies. Additionally, UK-wide sector representation exists in the form of the Scallop Industry Consultation Group (SICG). Originally established in 2012 to share responsibility for implementation of EU regulations in Western Waters with UK Fisheries Administrations, the Group is evolving over time and becoming a vehicle through which industry is exercising its interest in and responsibility for the long-term wellbeing of the resource on which it depends.

INTRODUCTION & SUMMARY

Now, with Brexit increasing visibility of fishing within public and political discourse, and offering a unique moment to reconsider how we steward resources within UK waters, it was determined that an industry-focused conference, bringing together scallop management experience and expertise from across the world, could build upon the foundations already being laid towards a new approach to scallop management.

The conference was built around the following objectives:

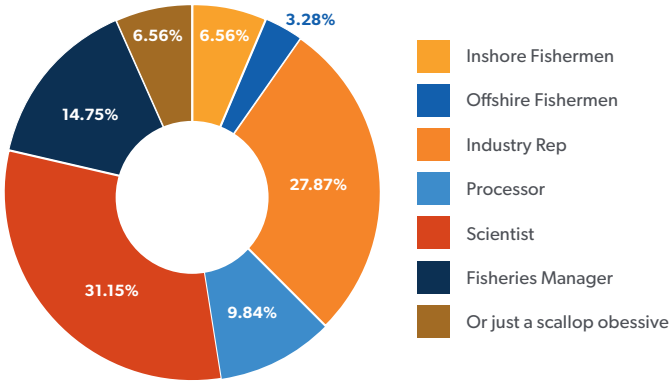
- To advance thinking and dialogue around the future management of scallop fisheries upon which UK fleets are dependent, and to better inform stakeholders about management tools and strategies that could be applied in a domestic context through exploring management case studies from across the world;
- To learn about the biological, environmental, social and economic consequences of different fisheries management models in order to inform the development of a sustainable harvesting strategy for scallops in the UK.

Across the two-day event, hosted by The Fishmongers' Company in partnership with Macduff Shellfish (Scotland) Ltd and supported by Seafish in London, participants from inshore and offshore scallop fleets, fishing industry representatives, processors, scientists and managers were presented with a background to UK scallop fishing, and a series of international case studies. Delegates took part in live-polling throughout the event – offering their gut reactions to management approaches presented and clearly defining their preferences for the way forwards.

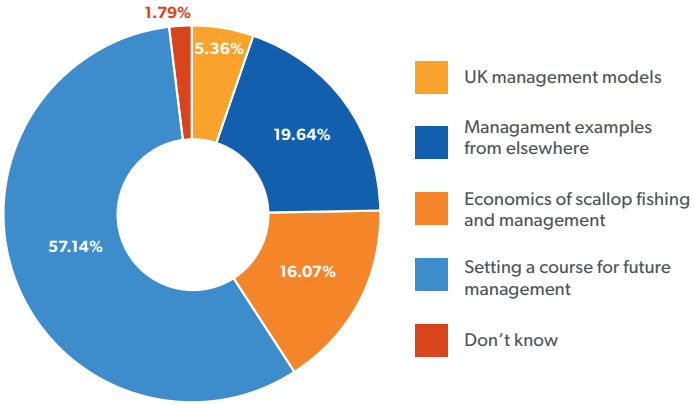
At the outset, participants indicated that their primary driver to engage with the conference was 'setting a course for the future of UK scallop management'.

They indicated that they were confident in their understanding of the current management in place domestically, but lacking in knowledge of alternative management arrangements used in other countries for scallop fisheries.

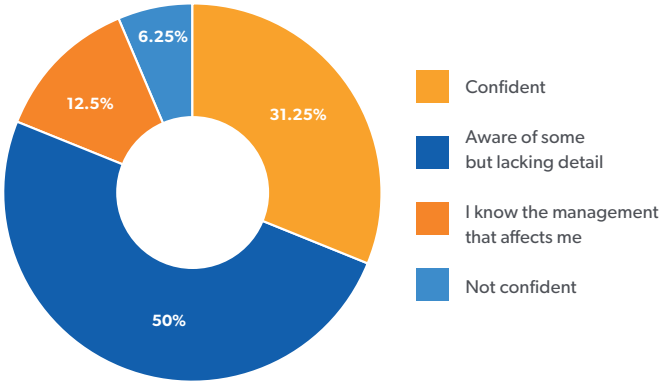
How would you classify yourself as an attendee at this event?



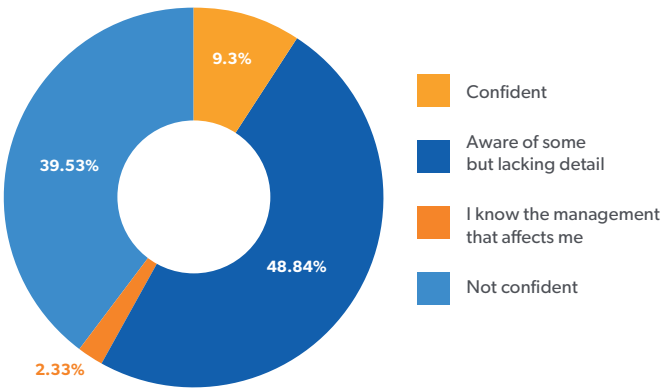
What are you most interested to learn during the course of the conference?



How familiar are you with the different scallop measurement regimes in the UK?



How familiar are you with the different scallop regimes elsewhere in the world?



INTRODUCTION & SUMMARY

Delegates took part in live-polling throughout the event.

There was near-unanimity in seeing an 'urgent' need to reform management for UK scallop fishing, for both the offshore and inshore fisheries, coupled with a clear indication that participants did not yet feel 'well-equipped enough with information on management options to make decisions about the future of [the UK] fishery'. Polling data taken from the end of the event shows that the consensus around this 'urgent' need strengthened across the two days.

90% of participants left feeling better-equipped to advance discussions around sustainable management options.

A range of concerns were highlighted through polling data. Delegates' concerns for the UK scallop fishery were closely spread between: access to markets; access to fishing grounds; profitability, and; displacement of effort due to other marine users. Ranked above all of these issues was an overriding concern about 'sustainability of the stock'.

Polling questions, following the case study presentations given, offered the following key insights for consideration and debate:

INSHORE

- There was no clear preference for an over-arching management system, with responses indicating participants wanted more information to inform their opinion, and otherwise a close split between effort and TAC-based management.
- Rotational harvest and capping of the fleet were highlighted as desirable management measures.
- The need for strong science was underlined, coupled with an indicated preference for cooperative and partnership working models.

OFFSHORE

- TAC-based management was the clear preference for an over-arching management regime, with 50% of respondents considering this the best fit for offshore scallop fishing.
- Beneath this, rotational harvest and mandatory closed areas were seen as effective tools to deliver improved sustainability.
- Again, partnership working between industry and regulators was seen as a highlight of case studies presented – and desirable in a UK context.

INTRODUCTION & SUMMARY

Whilst indicative of the conference's broad views when it came to the management approaches under discussion, the polling data (which was presented immediately, live to participants) was designed to spark in-depth conversations rather than complete a full picture of future management. Through plenary discussion and focused conversation in smaller, table groups – as well as through expert input from panels of presenters – a range of central themes and conclusions emerged as the conference progressed.

These are detailed in the panel discussion and concluding sections of this report, but in brief, participants came to focus on the following:

PROFILE

The industry has suffered from a negative public image, largely due to the use of dredge gear, which is seen to damage the seabed. Improving efficiency in the scallop fishery will reduce impacts on the environment, which is important for building consumer trust. Beyond this, scallop fishing overall was seen as not receiving sufficient political attention, despite its high value to the economy. Raising the profile of the sector with decision-makers was seen as highly important, particularly in the current political context. The sector being able to speak with one voice, and share a common vision for the future of scallop fishing, was considered a key component to garnering this much-needed political attention.

INDUSTRY PARTICIPATION

Co-management was seen to generate increased buy-in in management measures, drive better compliance and lead to industry-funded research and industry-supported evidence gathering. These benefits underpinned scallop fisheries in the presented case studies that were able to manage stocks above Maximum Sustainable Yield (MSY) and with highly profitable, efficient fishing activity. The vision for the future of UK scallop management should come from industry, bottom-up and be shaped by a wide range of stakeholders in a co-management process that benefits all parties. Government will need to be open to this approach and support its development in a UK context. An appropriate vehicle or body through which industry can advise government on the development of management will be required.

Co-management – with industry at the heart of management decision-making – was seen as a management exemplar, and desirable in a UK context.

SCIENCE

With many of the global case studies, for inshore and offshore, focusing on innovative multi-faceted systems of science and data collection, there was consensus in the room that the UK is far behind international counterparts in fully understanding its scallop stocks and resulting options for sustainable management. More, and better, science will be central to transforming the UK scallop fishery.

TAILORED MANAGEMENT

There was a desire to see spatially differentiated management for the inshore and offshore fleets. Beyond this, there was significant discussion and consensus around the idea of tailoring management to suit specific environmental, economic or social objectives. For example, rights-based management systems were widely discussed during the conference, but they were only considered to be a viable option if carefully tailored to ensure over-consolidation was not a risk. It was noted that the UK has a number of very different scallop fishing areas, and potentially many different stock units, and this will need to be taken into account in developing appropriate management measures.

The vision for the future of UK scallop management should come from industry.

THE FISHERY TODAY

HAZEL CURTIS, SEAFISH & JIM PORTUS, SICG

Hazel Curtis, Director for Corporate Relations at Seafish, and Jim Portus, Chair of the Scallop Industry Consultation Group (SICG) provided a picture of the UK scallop fishery as it is currently functioning, looking at the history of how the fishery has developed and exploring the state of play from an economic and environmental perspective.

Jim Portus called for ambitious new plans for future management, advocating that the industry must also address public concerns on the impacts of dredging on the marine environment. He pointed to the inefficiency of the gear in use, known as the 'Newhaven' dredge, leading to repeat tows; something the industry wanted to avoid in order to reduce impacts on the seabed and improve fuel efficiency.

Hazel Curtis underscored the absence of 'output limits' in the UK scallop fishery – regulations based around limiting total catch, in order to preserve the resource for future years, are not in place. There is also a lack of a common vision of 'what we want to achieve and how'. Instead, scallop fishing is managed through a series of rules and regulations that vary around the UK, creating a complex picture for those operating in more than one sea area. These rules are based around 'input limits'- limiting time fishing, number of boats, number of dredges used. There is no limit on landings amount, but 'minimum landing sizes' are used to prevent landings of under-size scallops.

The importance of 'output limits' to promote sustainability was a theme from the outset of the conference.

A well-functioning, sustainable scallop fishery was considered to have the following features:

- Healthy and stable stocks
- Viable catch rates per hour/per day (enough to pay crew, pay for fuel, and save up to pay for a new fishing boat in future)
- High levels of safety and wellbeing for crews
- Good access to markets, and good prices
- Certainty around future opportunities – to allow for business planning
- A stable number of (profitable) vessels

"Tradable fishing rights can lead to an investment in an appropriate number of fishing vessels... You can plan well enough to avoid over-concentration"

HAZEL CURTIS, SEAFISH

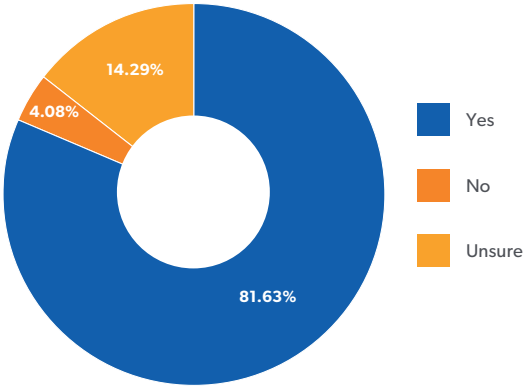
CURRENT STATE OF PLAY

CHAIR: ROD CAPPELL, POSEIDON

Jim Portus called for ambitious new plans for future management.

Landings data on UK scallops reveals worrying trends: catch rates have been falling since 2012. Safety and wellbeing is an important issue, with concerns around a number of recent incidents of vessels sinking. Furthermore, there may be a challenge forthcoming regarding access to markets and exports, linked to the UK's impending exit of the EU. However, there was good news on prices: which were strong at the end of 2018 and showing an increase over time.

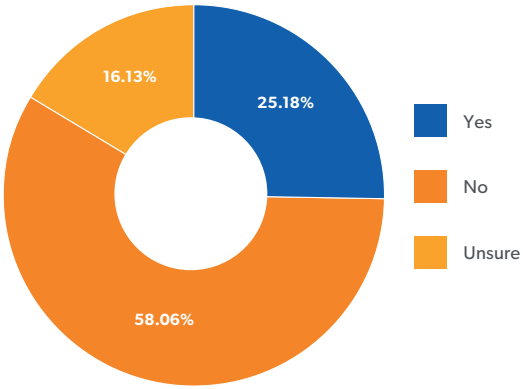
Do you see an urgent need to reform management of scallop fishing in the UK – for the inshore?



Despite this, it was shown that these strong prices were not delivering a 'stable number of profitable vessels'. The number of vessels participating in the scallop fisheries can fluctuate throughout and between years depending upon the presence, available quotas and relative prices of other fish and shellfish stocks. Thus high prices for scallops can result in vessels switching to scallops from other fisheries.

Whilst high prices mean the scallop fleet is still technically profitable, operating profit has in reality been going down despite revenues increasing. Jim Portus stated that the industry would be in an 'economic crisis' if it wasn't for the dual factors of low fuel prices and high scallop prices.

Do you feel well-equipped enough with information about management options to make decisions about the future of your fishery?



Due to the lack of an over-arching management framework, certainty in the fishery is low. This makes it difficult to come to long-term decisions about what will be sustainable or profitable in years to come, impacting fishers' ability to make investments and plan for the future.

Any strong, future management system would also need to consider and support conflict resolution between vessels or fisheries, whilst protecting the economic and social sustainability of the fleet.

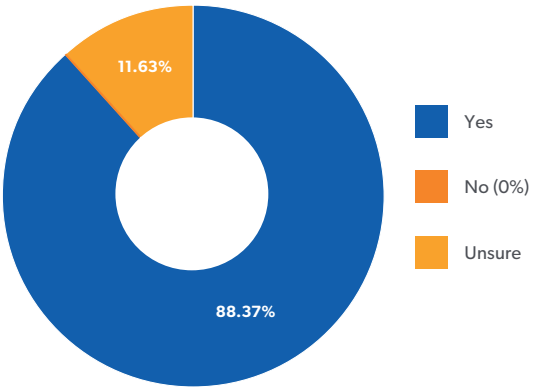
"I'm firmly of the belief that the best management regimes come from the industry – the people working in fishing"

HAZEL CURTIS, SEAFISH

Co-management of the fishery could be vital to securing a workable, sustainable regime, putting the industry at the heart of decision-making.

The reality of scallop fishing in the UK at this time did not match the delineated vision of a 'working system'. Crucial elements to focus on in discussions around the future were stated as a detailed stock assessment, the introduction of output controls, exploring rights-based options to manage fishing and tailoring these to allay concerns around over-consolidation, and looking at monitoring and enforcement.

Do you see an urgent need to reform management of scallop fishing in the UK – for offshore fishing?



THE STATE OF SCALLOP SCIENCE

LYNDA BLACKADDER, ICES SCALLOP WORKING GROUP

Lynda Blackadder provided an update on the work of the ICES working group on scallops. She spoke of the importance of science and improved knowledge in leading to 'sustainable and economically viable fisheries for the UK'.

Many efforts are underway in the UK to assess and map both the scallop stock and fishing activity. Vessels are being fitted with onboard electronic monitoring systems, and cameras for surveying stocks and the seabed. Previous assessments and historical data are helping to provide a picture of the 'ups and downs' of the stock, but these historical assessments are based on different types of data: biological information about the species, technical information about the fishery, catch rates, landings or value.

One big challenge for a robust scallop stock assessment is defining the 'area' or 'unit' of assessment. Some mapping of likely areas of high-aggregation had been undertaken: this had identified 31 scallop hot-spots in the North-East Atlantic, 27 of which were located around the UK coast. It is understood that these aggregations will be inter-connected in some way – by genetics or through larval dispersal, for example, although significant research is required in this area and resources are limited – but in attempting to define units of assessment, scientists must be cognizant that stocks and larvae don't respect defined boundaries, and neither does the fishery: a large portion of the fleet is nomadic, and target scallops in a number of areas around the UK.

Other challenges included access to data sources: Blackadder commented that age compositions of commercial landings provided important information, but this required access to scallop processing facilities and scientists had been turned away from some sites in the past. However, the English scallop stock assessment project underway since 2016 clearly demonstrates a new desire from the industry to be involved in evidence-gathering initiatives.

CURRENT STATE OF PLAY

CHAIR: ROD CAPPELL, POSEIDON

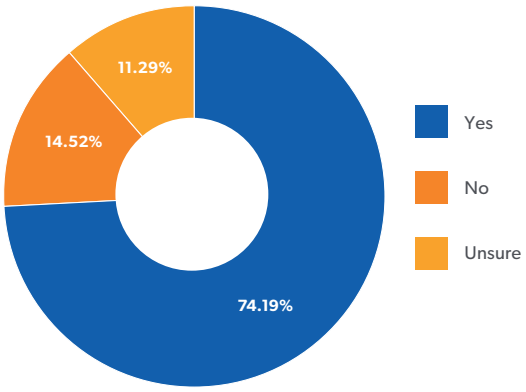
"Science and improved knowledge feeding into a robust management system will lead to sustainable and economically viable fisheries for the UK"

LYNDA BLACKADDER, ICES SCALLOP WG

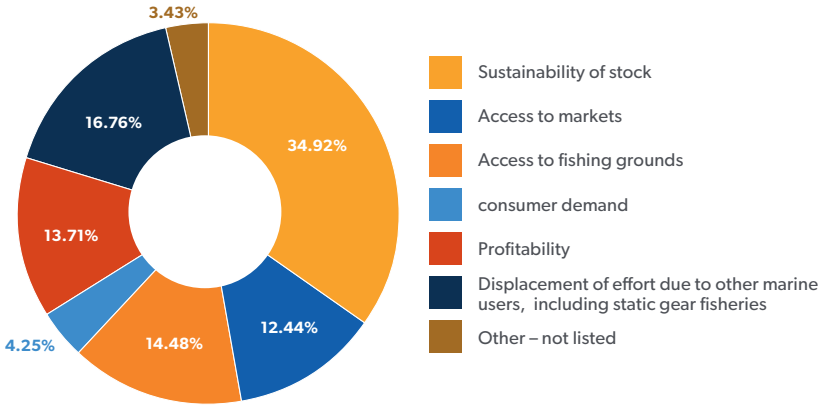
The ICES Scallop Working Group, formed informally in 2012 and then formalized within ICES in 2013, is working to create reference points for scallop stocks: a crucial element needed to deliver fishing advice in line with Maximum Sustainable Yield (MSY) principles. The group is compiling and collating all available data on UK scallop fisheries, most notably the North East Irish Sea fishery, for which the group plan to attempt a full stock assessment. Scientists within the group continue to share knowledge, expertise and technical advances with this aim in mind. The forward work plan for the WG also includes evaluating assessment methodologies, improving knowledge and mapping of UK scallop stocks, and working on quality control procedures for data sets. Lynda Blackadder said strong science should be at the heart of any management system, and characterised the present moment as an uncertain, but exciting' time for UK scallop fishing.

Age compositions of commercial landings provides important information for accessing scallop stocks.

Do you see a need for spatially differentiated management in UK scallop fishing – ie. dividing management measures by 'inshore' and 'offshore'?



What are your concerns for the future? Ranking their top three.



PANEL & PARTICIPANT DISCUSSION

Polling responses from all participants indicated that there was consensus in the room around the urgency of the need to reform management for both offshore and inshore fishing. Responding to concerns from the audience, panel discussion focused on the possibility of ensuring a management shift doesn't lead directly to perceived 'winners and losers'. This was considered vital in ensuring broad buy-in to the urgently needed management reforms. The possibility of a carefully planned and managed transition was discussed: including the option of allocating future fishing rights based on a previous fishing track record. For those with a limited historical track record in the fishery, an option could be to sell or lease the limited corresponding rights they would receive in such an allocation to those intending to stay in the fishery. This could create value in the act of leaving the fishery, and reduce capacity pressures. At the same time, this would increase the certainty for success of remaining actors in the fishery, providing a more secure basis on which to invest for the future, or seek investment to finance the lease or purchase new rights. Some concerns were raised regarding the risk of 'over-consolidation' within such rights-based systems. Several panelists agreed this had been seen in other fisheries, but that it wasn't inevitable:

Well-tailored management, based on any system, should be able to prevent unwanted consequences such as over-consolidation if this is planned for from the outset.

Speakers, with Chair Rod Cappell, discussed the current state of the UK scallop fishery.

The panel commented on a lack of funding for the basic science required to ensure sustainability . Even within the ICES Scallop Working Group, there was no certainty over funding streams, meaning many of the scientists spent significant time focusing and working on other species. A science-industry partnership, covering all English scallop fisheries (excluding the Irish Sea), is underway between the Centre for Environment, Fisheries and Aquaculture Science (Cefas), Defra and scallop fishers. This initiative is showing real promise and was commended for being 'proactive and pragmatic'. In this project, industry is directly funding dredge surveys to support an English scallop stock assessment. The assessment is heavily dependent on fishing crew and shore-based staff in processing facilities facilitating a biological sampling programme associated with the project. With limited resources available for scientific research, Lynda Blackadder emphasized the importance of collaborative initiatives for sampling, data-gathering and sharing knowledge.

Timescale – the talk of a need for five years of data to build an accurate assessment – was a concern and seen as a potentially limiting factor in the development of a new management system. Jim Portus said that it was 'lamentable' that there was a lack of government resources dedicated to securing the required data. Despite the lack of a complete assessment, it was considered that there were enough indicators about the state of the stock and the fishery that 'something should be done [without] waiting'. The urgent need to address the sustainability of the fishery was also seen as linked to consumer trust: scallop dredge fishing has been seen in a negative light due to impacts on the seabed, and a collapse of the stock could permanently damage the image of the industry.

A positive, public-facing narrative around scallop fishing is needed, built around measures designed to support a sustainable and productive fishery.

In developing a management plan, the importance of considering wider uses of the marine environment was also highlighted. Scallop fishermen are displaced from historic scallop beds by static fishing gear as well as by renewable energy developments and marine protected areas (MPAs). The panel agreed that any robust management plan would need to take in the full picture in terms of marine uses.

INSHORE FISHERIES MANAGEMENT MODELS

CHAIR: CLAIRE PESCOD, MARINE STEWARDSHIP COUNCIL

Case studies for sustainable inshore scallop fishing were presented from across the world.

CASE STUDY	MSC CERTIFIED?	MANAGEMENT FRAMEWORK	KEY CHARACTERISTICS	SCIENCE	GENERAL COMMENTS
Shetland Shellfish Management Organisation (SSMO) Established to implement a local Regulating Order. **Dr Beth Mouat, Chair, SSMO Advisory Committee.**	CERTIFIED SUSTAINABLE SEAFOOD MSC www.msc.org	A Regulating Order created a license-limited access to the fishery, with mandatory logsheets a licensing requirement. Management measures approved by Marine Scotland. An active Management Plan supported by policy documents, including a Code of Conduct, a Spatial Management Plan, and Harvest Control Rules.	Co-management with industry from the outset of the creation of the SSMO. Gear limitations: 5 dredges per side, and max bar length of 8.80m. Curfew: fishing only permitted between 6am and 9pm. Spatial management: protecting vulnerable seabed habitats.	Data collection carried out through observers, market sampling, and logbooks. VMS pings at 10 second intervals on the most active vessels providing high-resolution data. This is used for mapping activity, spatial planning, stock assessment, detecting breaches of regulations, informing MPA management and MSC re-certification. SSMO and industry in a 'data sharing agreement' - full transparency on use of industry data.	Value of the data recognised by both industry and managers. Compulsory VMS for scallop vessels in this fishery has just been approved by the SSMO Board. Co-management has led to high levels of industry buy-in from the outset. Being one of the first scallop fisheries to be MSC certified has led to criticism of the fishery from those who are against dredge fishing receiving certification in any circumstance.
Isle of Man Inshore King Scallop Fishery Ramsey Bay Marine National Reserve and the 0-3 mile zone. **Dr David Beard, Chief Executive, Isle of Man Producer Organisation.**	NO	Four main fishing areas in 0-3 mile limit, and a system of Marine Nature Reserves (MNRs) which occupy more than 50% of the inshore area. Ramsey MNR zoned for multiple use, including fishing. Effort is limited and matched to the available resource through real-time monitoring and management.	Ramsey Bay closed to mobile fishing at request of industry in 2009 due to low stock levels. The deisgnated an MNR in 2011, and divided into zones. Following scientific assessment, Fishery Management Zones were allocated. As stocks have increased, these have allowed for rotational harvest. Spatial management protects key seabed features. 7 month fishery with focus on a 2 week period just before Christmas when prices are high to maximise profits. Entry to the fishery limited by license and fishing works on a profit-share system, with some members fishing the TAC on behalf of the whole group of stakeholders.	Fisheries Management Zones (FMZs) are divided into gridb boxes for regular sampling. Initially, this was carried out by the IOM government and Bangor University, but subsequent sampling has been carried out by industry. Biomass is calculated and a harvest strategy determined by looking at differences in densities between years. A typical harvest rate is 8-12% of overall biomass. Real-time monitoring is carried out via fishermen using a smartphone app, NestForms. Share fishery allows for Manx PO to fund surveys / survey equipment	Real-time data used to optimise catch rates and tow durations: allowing for real-time management. This is a small, profitable, low-impact fishery, maintaining a high brood stock biomass. Possible benefits of having closed areas within the 0-3 mile zone includes an overflow of stock to surrounding areas. Computer simulation also shows larvae from the broodstock may settle as far afield as Scotland, as well as north, west & east coastal waters of the IOM The IOM is currently looking at if this model can be applied across the 0-3mile area or even the 3-12mile.
Canadian Case Study: Full Bay Scallop Association **Alain d'Entremont, President, Full Bay Scallop Association.**	CERTIFIED SUSTAINABLE SEAFOOD MSC www.msc.org	Industry-proposed ITQ system in place since 1997, based on historical catch levels.	Access to fishery limited by licenses and catch limited by a TAC in scallop meats. There is no limit on temporary quota transfers within the ITQ system, but limits on permanent transfers. All vessels a required to participate in a dockside monitoring programme, VMS and a range of seasonal and area closures. A minimum landing size is used, varied by area, and gear restrictions dictate both size of permissable gear and which dredges can be used in inshore areas. Vessels must be below 65 feet in length. Meat count-per-weight restrictions apply. Results in less animals for the TAC, and better prices for bigger product.	100% industry-funded dockside monitoring (compulsory- no option to opt out), combined with logbook data. 100% VMS, with hourly or 15-minute pings. A Full Bay vessel chartered annually to conduct two scallop surveys - main area funded by the government department, and a separate survey funded by industry. Multi-beam acoustic mapping of the seafloor plus drop-camera work currently being used to develop 'state-space habitat-based poplation modelling' trial, developing a map of habitat suitability for scallops on the seabed.	The ITQ allows for flexibility and balancing the harvesting capacity with available resource - fishermen have been able to identify when prices are higher and fish to the market. Fishermen can also avoid fishing in bad conditions. Strong science helps set upper and lower reference points along with informing appropriate exploitation rates, which the Association converts into digestible metrics for fishermen: catch amounts and CPUE. ITQ system helps with full industry involvement in funding approaches, as fishermen see the value in understanding and protecting their secure 'asset' - their share of quota.
French Case Study: Bay of Saint-Brieuc **Servane le Calvez, Charge de Mission Environnment, Cotes d'Armor.**	NO	TACs and quotas set, with catch againt quota monitored in real-time to allow responsive management.	Access to fishery limited by licenses and catch limited by a TAC and a maximum weight of catch per vessel. Rotational harvest is used, and fishermen can only fish for 45 minutes, two day per week. A minimum landing size is used, and gear restrictions dictate both size of permissable gear and which dredges can be used in inshore areas. Vessels must be below 43 feet (13m) in length.	Annual survey carried out since 1973, determined TAC for the fishery. Trends in catch volume against scientific advice show this is generally closely adhered to. Fishermen carry out an annual spawning survey through spat collection. Compulsory weighing of catches supports real-time management.	Beyond control through the dockside monitoring and limitations to fishing activity, a plane is chartered to monitor fishing activity from the sky. The cost of chartering the plane is adding to fishing licenses.

PANEL & PARTICIPANT DISCUSSION

"With an ITQ system, in order to establish what you can protect and gain, you need a clear picture – full trust"

ALAIN, D'ENTREMONT, FULL BAY SCALLOP ASSOCIATION

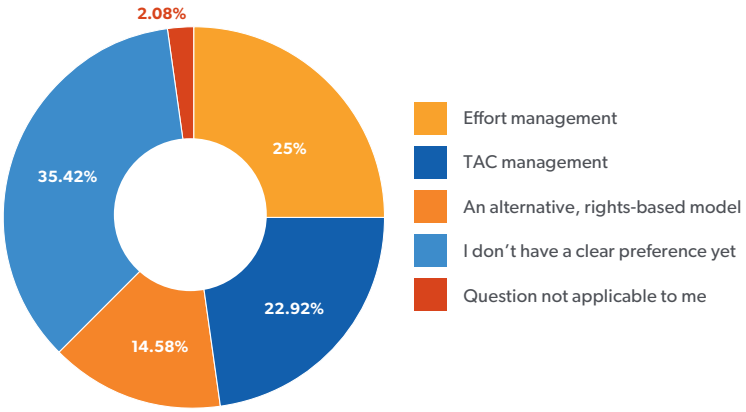
Discussion following the inshore fishing case studies focused in on the importance of strong, industry-led science to sustainable management, and the option to provide greater security to fishing communities through a system of rights-based management, as seen in the Full Bay Association case study. Several participants were keen to understand how the industry in the Full Bay fishery paid for camera surveys and acoustic mapping of the seafloor. Alain d'Entremont explained that the fleet was charged proportional to their quota holding in the scallop fishery, and the data provided by these scientific activities was considered vital by the industry to the security of the quota 'asset' they hold, under the Individual Transferable Quota (ITQ) system: fishermen want a clear picture of what they have rights to. He commented that the fleet had bought into the importance of science fully, and they would help scientists working on their vessels 'any way' they could.

"Due to ITQs most vessels are targeting and high-grading their catch...we're able to maximize our return on quota"

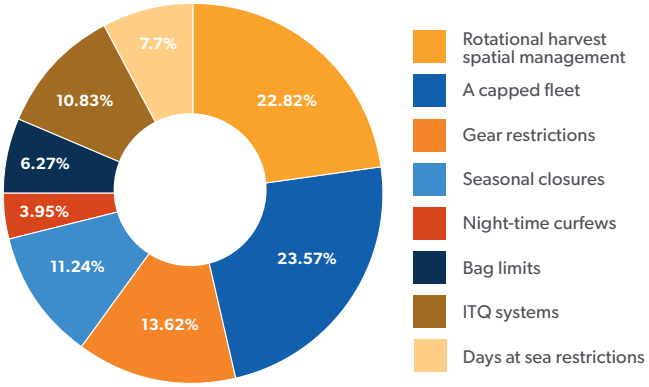
ALAIN D'ENTREMONT, FULL BAY SCALLOP ASSOCIATION

Strong, industry-led science is a key feature of management in the Full Bay fishery.

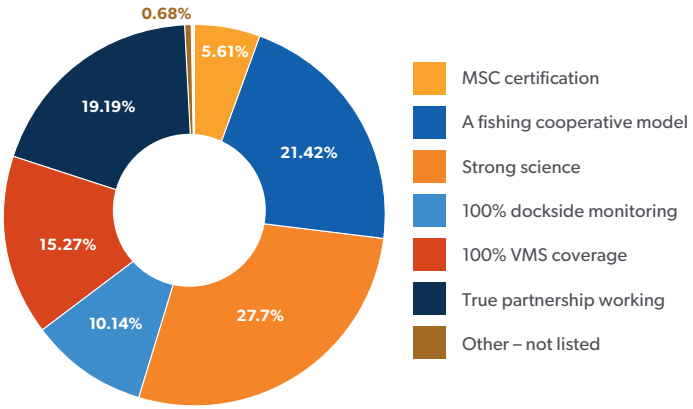
From what you have just heard, which over-arching management model appears the most attractive given your experience of UK inshore scallop fishing?



What specific measures work best for inshore scallop fishing, in your view? Please rank your top three.



What were the most appealing aspects of the case studies presented on inshore fishing, in your view? Please rank your top three.



INSHORE FISHERIES MANAGEMENT MODELS

CHAIR: CLAIRE PESCOD, MARINE STEWARDSHIP COUNCIL

Seabed mapping had also been a pre-condition of gaining access to fish in a specific area, which had previously been prohibited due to concerns about benthic activity in productive lobster grounds. The lobster and scallop fisheries have existed in similar areas for decades, and while gear conflict is still an occasional problem there has been some evidence that the lobster stock is not being negatively impacted by the scallop fishery in the areas they directly overlap. The industry theory is that lobsters are generally able to avoid the dredge gear and that dredging activity disturbs the bottom in a manner that exposes food sources. When forced to work together, the scallop and lobster trap fleets generally seem to be able to reach agreements on where and how both can coexist.

Fishers within the Full Bay case study do not hold legal title of their share of quota, under the ITQ system. This is still held by the Government department. Whilst it was accepted that this did mean, in theory, that the Government could 'top-slice' quota (or remove a portion of the value of the quota to their own gain) or redistribute these rights to others, Alain d'Entremont noted that in reality this had not been a problem for the fleet. Fishermen in the Full Bay Association are able to use their quota share as an asset and raise capital against that asset, despite not legally 'owning' it.

The importance of strong monitoring and science was reiterated by Servane le Calvez. In the Bay of Saint-Brieuc, real-time catch monitoring (through a system of weighing) allows scientists to track quota use against the Total Allowable Catch and adjust the fishing season as necessary. Annual surveys to establish a TAC across the whole fishery as well as spat surveys help support the opening and closing of areas to scallop fishing, dependent on indications from the yearly data.

It was acknowledged that scallop fishing often comes under significant pressure from environmental groups, and the panel agreed this was a universal experience. In Canada, the attainment of MSC certification had 'taken the target off' the fishery and was seen as key in gaining consumer trust. Beth Mouat commented that the opposite effect had been seen in Shetland, as the first European King scallop fishery certified it had drawn attention from environmental groups that do not support certification of dredge fishing. However, she added that the data gathered for the assessment, and re-certification, had helped to quash criticisms of the fishery as unsustainable: showing the footprint of the fishery was much smaller than many believed.

The Shetland scallop fishery is the first European scallop fishery with MSC certification.

Table discussions again re-emphasised the need for more, better science in UK scallop fishing. Industry delegates noted that they felt the case studies presented were far more advanced than the current situation for science and monitoring in the UK, and this was a real concern.

Several industry participants agreed that fishermen would be willing to pay a levy to support scientific studies, if the proceeds were ring-fenced for relevant, appropriate research.

A number of groups commented on the importance of tailoring management to the UK's specific circumstances and scale: the fisheries presented had strong solutions but were either significantly larger, or smaller, than equivalent UK fisheries. Localised management, driving benefits that could be seen further afield through strong monitoring and assessment, was a common theme in table discussions, as was the importance of community ownership over the resource: something which was seen to go hand-in-hand with better science and increased transparency in the presentations. Finally, several groups spoke about an immediate need to curb access to the fishery, and the possibility of freezing licenses to reduce capacity issues driving up competition for a diminishing resource.

In-depth group discussions delved into the detail of the management case studies presented.

OFFSHORE FISHERIES MANAGEMENT MODELS

CHAIR: CHRISTINE PENNEY, CLEARWATER

Case studies for sustainable offshore scallop fishing were presented from across the world.

CASE STUDY	MSC CERTIFIED?	MANAGEMENT FRAMEWORK	KEY CHARACTERISTICS	SCIENCE	GENERAL COMMENTS
Patagonian Case Study **Professor Oscar Iribarne, Senior Scientist, UNMDP-CONICET, Argentina**		TAC and quota managed. Harvest control rules based on whether biomasss is increasing overall, or decreasing.	A closed fishery with two companies operating within it - each holding 50% of the TAC. Four factory fishing vessels of 40-50m in length. The fishery is divided into 'management units'. High-density reproductive reserves of 5-10% of the area is protected within each unit. Fishing is allowed within a unit if the abudance of commercial-sized scallops is more than 10 tonnes per square kilometre. Recruitment in the fishery is unpredictable, so the TAC is set at a very low percentage of the total biomass available.	Compulsory VMS and observer coverage. To a large extent, the driver behind data collection and science was a desire to attain MSC certification. Scientific activity carried out by the government and research institutes, and partially funded by industry.	All catch is exported. Automated on-board processing returns by-caught species to the sea immediately and with low mortality.
US Case Study: Georges Bank **Professor Kevin Stokesbury, US Georges Bank Sea Scallop Fishery, University of Massachusetts**		A number of management strategies employed, including Days at Sea and TACs. The fleet is currently effectively limited by what they can process by hand at sea, rather than what they can catch, as catches are so high and all scallops must be landed as meats.	Rotational harvest and gear restrictions. All scallops must be hand-processed and landed as meats. Management and science working closely together.	Industry-funded drop-camera survey counts number of individual scallops on the seabed, rather than weight of scallops. Drop-camera approach gives an absolute measure of density that can be used to inform management immediately, unlike a time-series where 7-8 years of data is required. Dredge surveying and 'habcam' (towed camera) surveys.	Industry initially approached the Marine Fisheries Field Research Group to develop and fund a new survey when prevented from accessing three large areas where they had historically fished. This kick-started the drop-camera approach which has been used since. Biomass in some areas of the fishery has been shown to be 'huge' but management must account for extreme and sporadic recruitment events, which have been so large they are affecting growth for the species.
US Case Study: Georges Bank **Alan Reeves, Fishery Manager, Georges Bank Sea Scallop Fishery**		Managed via an overarching TAC and enterprise allocation ITQs. Reference points and harvest control rules based on stock and ecosystem indicators. Regulated harvestable size in the form of maximum meat count.	Precautionary management based around stock-status 'zones'. Harvest control rules applied based on three zones: healthy, cautious or critical. Industry initiated, voluntary (medium term) closures protect important areas of juvenile recruitment until they reach commercial size. Area and seasonal closures protect spawning finfish.	100% of catch is dockside monitored, including sampling of scallop meats landed. Every 6 hours the catch, location and effort of the fleet is recorded. Annual science dredge survey, funded by the industry, provides biomass estimates which are used to establish the TAC.	Data shows the fleet sticks rigorously to the TAC. Future ambitions for science within the fishery focus around more detailed mapping of the seabed/benthic habitat - and developing the ability to integrate habitat information into assessment models. Annual surveys, combined with real-time fishery evaluation, allows for atregted exploitation which maximizes yield. Consistent science and access stability leads to greater security and profitability for the industry, resulting in greater stewardship.

OFFSHORE FISHERIES MANAGEMENT MODELS

CHAIR: CHRISTINE PENNEY, CLEARWATER

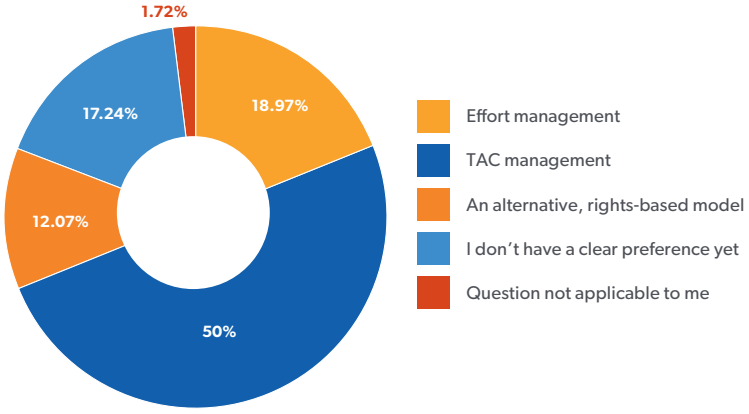
Delegates were struck by the huge densities of scallops shown in the offshore presentations. The panel discussed how these areas of dense scallop population were growing in magnitude, and often surprising both industry and science with their scale – Kevin Stokesbury, University of Massachusetts Dartmouth, commented that the US Georges Bank case study was showing such significant densities that new measures were being trialed to move, or thin-out, scallop populations. Alan Reeves, DFO (Fisheries & Oceans), Canada, added that the densities seen on the Canadian side of the Georges Bank fishery were not affecting the size of scallop meats to the extent that might be expected, and that regulations linked to meat-counts within the fishery could be tailored based on survey data that provides a seasonal picture for individual yields across areas of differing density. This would allow for management to be appropriately altered in the circumstance that high densities negatively affect the size of scallop meats. Fishing in Georges Bank is also targeted based on spatial data, which shows the areas that can and cannot support a fishery on a seasonal basis, allowing vessels to target high densities at the right moment.

"An important part of this fishery is the peer pressure aspect within the fleet to try and improve the yield and the value of the resource"

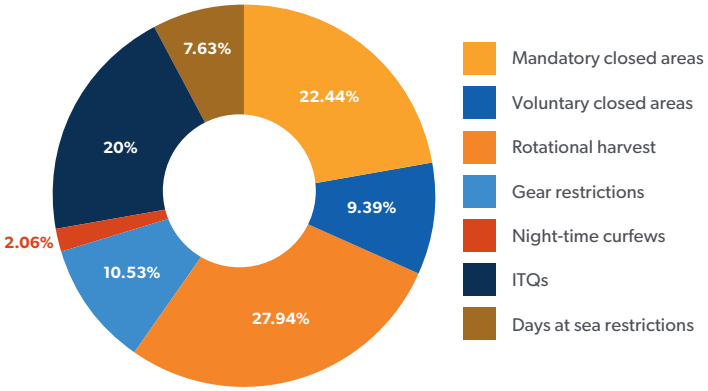
ALAN REEVES, DFO, CANADA

Densities of scallops in some case studies presented were so high, fishermen were simply limited by what they can physically shuck at sea.

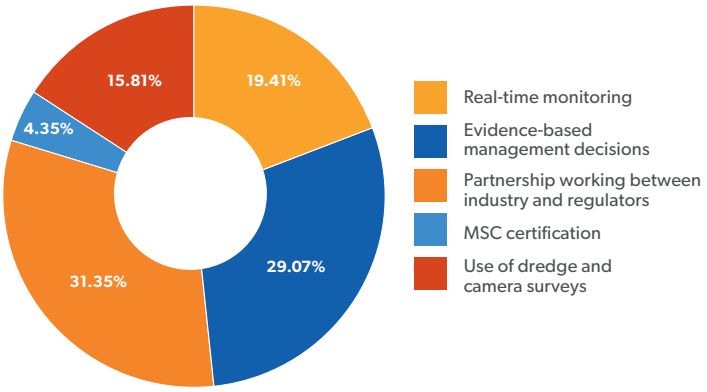
From what you've just heard, which over-arching management model appears the most attractive given your experience of UK offshore scallop fishing?



What specific measures work best for offshore scallop fishing, in your view? Please rank your top three.



What were the most appealing aspects of the case studies presented on offshore fishing, in your view? Please rank your top three.



OFFSHORE FISHERIES MANAGEMENT MODELS

CHAIR: CHRISTINE PENNEY, CLEARWATER

Alan Reeves, DFO, spoke of the high level of peer pressure amongst scallop fishers to protect the resource.

The panel discussed the road to compliance. Alan Reeves spoke of the high level of 'peer pressure' amongst scallop fishers to protect and grow the resource in both size and value. Although there is a high enforcement presence in the Canadian fishery, this aspect of fishers policing their peers was considered as significant as formal law enforcement as a deterrent to exceeding the TAC. Kevin Stokesbury highlighted severe enforcement penalites in the US Georges Bank fishery – with fishers liable to lose their license and/or vessel if they contravene rules. Control surveillance in this fishery is carried out via VMS, with the state able to prosecute based on VMS data, and via random inspection.

All three presenters noted the importance of real-time monitoring to the future of their fisheries in the face of climate change, and admitted a current lack of forecasting with regards to climate impacts on scallop stocks. The approach of monitoring closely, and adapting management in real-time was, however, considered a good way to remain resilient in the face of a changing climate.

Again, there was an interest from delegates in how the industry had bought into the importance of science, and of funding science. In the US example, the industry had approached fisheries scientists to develop a survey for their fishery, due to economic pressure from area closures driving them to seek improved information on stocks, to better understand which areas could still be sustainably exploited. Fishers and science had worked together to develop and implement a new survey. When the industry-supported survey showed high abundance in closed areas, leading to a court decision to allow scallop vessels to fish those grounds, they saw the value of increased and improved science, and committed to financially supporting on-going work with a percentage of the value of the TAC. In the Patagonian case study, a drive towards MSC certification had led to industry-funded science: in order to meet the scientific requirements of the certification, improved monitoring and assessment was needed, and government was unwilling to pay. In Canada, Alan Reeves, commented that the co-management between industry and government had evolved over a long period of time, and was to some extent sparked by periods of low resource and low productivity. Under those circumstances, the industry saw 'an economic benefit in understanding the resource better over time', and close cooperation had developed from that point.

"[Co-management] is not an easy process, there's a lot of discussions. But at times of low resource and low productivity, industry saw an economic benefit in understanding the resource better over time...looking to one side or another for leadership is not the answer: approach it in a cooperative way."

ALAN REEVES, DFO, CANADA

The consensus amongst participants was that the UK should position itself to develop a leading role in scallop fisheries science, and that this should be done transparently, supported by, and with clear benefits to, the industry. Industry delegates commented that 'cameras and spatial planning are accepted parts of the road to sustainability, and industry is willing to collaborate with managers to make this work'.

OFFSHORE FISHERIES MANAGEMENT MODELS

CHAIR: CHRISTINE PENNEY, CLEARWATER

The development of effective co-management for UK scallop fishing was seen as essential to this, and many delegates commented on the need for strong communication between stakeholders as a foundational aspect to this proposed co-management. Several commented that there are clear signs that the UK industry are ready and willing to step-up to a new type of management and be more involved (including the evolution of the SICG and the development of an action plan and working groups to take certain elements forward, including the work on the English stock assessment project, and involvement in MSC-PUKFI), but that the government also needs to be ready to participate in co-management, and this willingness is not yet evident.

Table discussions further highlighted the link between a 'secure stake' in a fishery and the incentive to invest in science, and comply with management measures.

A number of groups pointed out the complexity of spatially differentiated management for scallop fishing in the UK – suggesting the distinction between 'inshore' and 'offshore' activity and stocks is less clearly defined than in the case studies presented – and the need to take this into account when developing new management regimes.

It was noted that catch limitations had been the starting point for all fisheries presented, and these limitations were in place before fleets became profitable, which suggested to delegates present that a carefully planned 'transition period' would be needed for UK scallop fishers: management needs to reflect the 'end destination' but also the 'journey'.

Finally, there was hope that from the long histories of the case studies presented, the UK industry and managers could pick out successful examples and learn from challenges, to develop and apply a new management system in a more compressed timescale.

Co-management in Canada has evolved over a long period of time. Photo © *Clearwater Macduff*

"The good news is we're dealing with things we've dealt with before, perhaps not here, but elsewhere. For the industry, that's good news".

PROF. MARK RAYMOND, SAINT MARY'S UNIVERSITY

ECONOMICS OF FISHING

Professor Mark Raymond, Saint Mary's University, Halifax, presented 'The Economics of Fishery Management'.

KEY POINTS:

- Take in the big picture: address the fundamentals of economics as linked to fishing activity – catching fish as efficiently as possible means minimizing effort put in, and maximizing profit derived from the catch.
- Beyond catch versus effort, management must account for: the intrinsic growth rate of the stocks; the capacity of the fishing grounds to support stocks; the 'catchability' of the species; the technology available to increase efficiency.
- Business considerations: it's important to take into account the role that demand plays in the success of the fishery. Supply and demand are market fundamentals, and looking at fishing as a business means examining prices, revenues, costs and profits.
- Consider incentives: different management regimes create different incentives for different actors. These might be linked to how profit is distributed within the fishery, or to do with crew safety and welfare. With each management tool applied, consider the associated incentives and how they drive behaviour.
- Situations in each fishery are unique and different: successful case studies provide a range of options to select from, to build tailored management – the UK fishery is not working with 'unknowns' and that should be taken seriously.
- For catch limited fisheries, sustainability and maximizing profits go hand-in-hand: the more efficiently a fishery operates, the less time on the water is needed to secure a valuable catch, meaning lower costs for fishers and less impact on the environment. However, increased efficiency in effort based fisheries will lead to increased catch levels per unit of effort, leading to increased fishing pressure.

CROSS-CUTTING ISSUES & DISCUSSION OF NEXT STEPS

"The more efficiently a fishery operates, the less time on the water is needed to secure a valuable catch: when we're talking about maximizing profits – let's talk about increasing margins. Sustainability and maximizing profits go hand-in-hand".

PROF. MARK RAYMOND, SAINT MARY'S UNIVERSITY, HALIFAX

INDUSTRY'S ROLE IN MANAGEMENT

Mark Edwards, CEO of the New Zealand Rock Lobster Industry Council presented on 'Industry's Role in Management'. Key points:

KEY POINTS:

- New Zealand rock lobster industry benefits from 'perpetual rights' to fishing opportunities. Following a period of stock decline, increasing effort, over-captialisation and diminishing returns in the fishery, the introduction of rights-based management created a 'direct economic interest' and a custodial perspective in sustaining the fishery.
- The Rock Lobster Industry Council was created, funded by a 1% levy on the landed value of the resource paid by industry. This levy funds all monitoring and stock assessment and the operation of the industry organisations. The Council works with nine industry 'CRAMACS' or rock lobster management area councils to generate bottom-up advice from quota owners and fishermen.
- Government policy was an enabling factor for industry-supported science: the Government started putting out fishery stock assessment and research contracts to tender at the same time as charging industry for assessment and monitoring of the fishery. Industry saw the opportunity to bid for the science contract for the fishery, and hired international experts to carry out monitoring and research.
- Industry can direct research where they see it's needed, and the results carry greater legitimacy because of the fishery dependent data. There is oversight by government through working groups to address any concerns about integrity of the science process, and all data is transparent.
- Industry provides or resources stock monitoring components, including: catch effort data, logbook data, catch sampling, tagging data and puerulus collection.
- A full, model-based stock assessment is carried out every five years with management procedures used to select harvest control rules (HCRS) that are used in intervening years.
- The Rock Lobster Industry Council feeds this research into a National Rock Lobster Management Group, which brings together industry, science, NGOs and managers to co-manage the fishery.
- Fishery CPUE data drives the operation of the annual HCRs. The HCRs selected by industry provide fishers with a high catch stability, even in light of naturally fluctuating stocks. This reflects the industry's preference to sacrifice some potential catch for greater business security. The HCRS also bring significant advantages in responsiveness and certainty about how stock monitoring information will be used to inform management decisions.
- With these measures in place, the stocks are generally managed well above the legislated MSY target, CPUE has increased by an average factor of 2.5 and commercial operations are profitable.

"PUKFI is a 'pre-competitive partnership' – everyone working together for the benefit of the industry as a whole".

CLAIRE PRESCOD, MARINE STEWARDSHIP COUNCIL

CERTIFICATION

Claire Pescod, Marine Stewardship Council, presented on 'Project UK Fisheries Improvements'.

KEY POINTS:

- There are 362 MSC certified fisheries in 36 countries. Roughly 16% of the global wild-caught seafood supply is engaged with the MSC program.
- The MSC's environmental standard examines three core principles in a fishery: the sustainability of the stock, the ecosystem impact of fishing and the effectiveness of the management in place. The standard is designed as an 'engine for change' to drive fisheries towards greater sustainability. Ultimately, fisheries undergo an assessment in order to become 'MSC certified'. This assessment is checked each year, and full re-certification is required every five years.
- Project UK Fisheries Improvements (PUKFI) is an MSC-facilitated collaboration, supported by a range of funding partners who wanted to see more MSC certified products available in the UK supply chain. PUKFI is using MSC fishery improvement tools to drive change on the water in a range of UK fisheries, including in two scallop fisheries (a 'Stage 1' Fishery Improvement Project (FIP) in the Channel and 'Stage 2' covering all other main UK scallop fisheries).
- PUKFI steering groups for each fishery within the project bring together a 'very' wide range of stakeholders from within the supply chain, including industry and NGOs.
- A pre-assessment of the fisheries involved helps to develop 'action plans' to address data and knowledge gaps in the fisheries, and identify actions to improve sustainability. This 'roadmap' breaks down achievable goals year by year and is agreed by the relevant steering group.
- For the Stage 1 scallops FIP in the Channel, actions centre on accumulation of knowledge around the stock and the fishery, due to an overall lack of data. The Stage 2 scallop FIP pre-assessment shows similar issues.
- On the Channel FIP, there has been interest from French stakeholders to develop a collaborative approach: Terms of Reference are being drafted for a French pre-assessment and for an Anglo-French FIP steering group.

PANEL & PARTICIPANT DISCUSSION

CHAIR: MIKE KAISER, HERIOT-WATT UNIVERSITY

Participants overwhelmingly agreed that close collaboration between industry and science could boost the industry's credibility on sustainability issues. Polling also showed that this is considered to lead to better management of fisheries. MSC certification was seen as a positive option for the future in UK scallop fisheries – with the majority of the conference delegates seeing merit in pursuing certification.

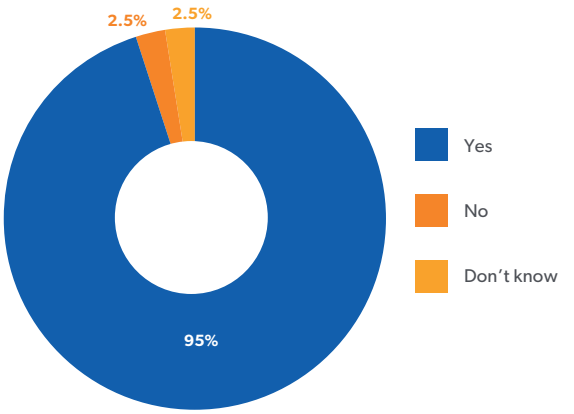
Responding to the presentations, delegates described the level of industry participation in science and management within the New Zealand case study as 'unbelievable'. Mark Edwards said that the industry 'wanted control over their own destiny' and saw an opportunity for 'efficiency, refinement and innovation' in taking over the delivery of science contracts, although the cost burden to the industry had been 'contentious' in the first instance. He added that the 'security of title' (ie. secure ownership of quota rights within the fishery) was very important to this stewardship of the resource: creating an incentive to drive sustainable change, and providing an asset against which to attract investment. He noted that financial institutions had, however, required a government-guaranteed register of quota holdings in order to lend against quota as an asset.

"Nothing supplants the ownership element [in rights-based fisheries] – it's like rental versus ownership of a car. When you have a sense of ownership, you care for the resource"

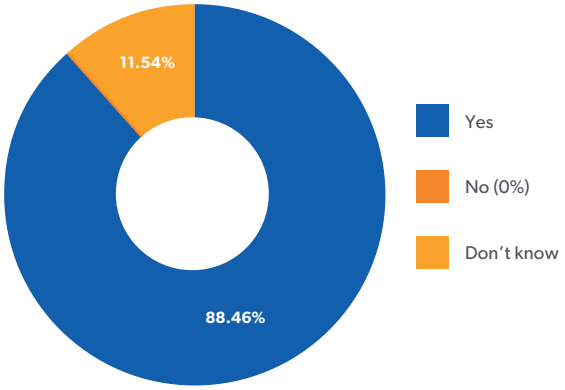
PROFESSOR MARK RAYMOND
SAINT MARY'S UNIVERSITY, HALIFAX

A final panel session focused on economics, rights-based management and certification.

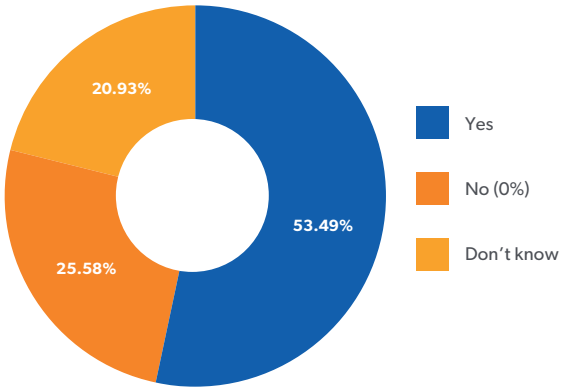
Do you think models with a close, collaborative approach between industry and science boost the credibility of the industry on sustainability issues?



Does it appear that these models lead to better management, in your view?



Do you see merit in pursuing MSC certification for UK scallops (either inshore or offshore)?



PANEL & PARTICIPANT DISCUSSION

CHAIR: MIKE KAISER, HERIOT-WATT UNIVERSITY

Mark Raymond added that 'nothing supplants ownership' in seeing long-term sustainable development of a resource. However, there were continuing concerns amongst participants that fisheries using rights-based systems may be at risk from 'hyper-consolidation'.

The panel stated that there were a range of methods, already in place in fisheries across the world, that can be used to prevent this through careful management design. This could include limits of transferability, and grouping quota within a region of a pool of vessels. Again, the importance of a predictable and transparent timeline for any management transition was underscored: providing this certainty, even around change, can help businesses plan.

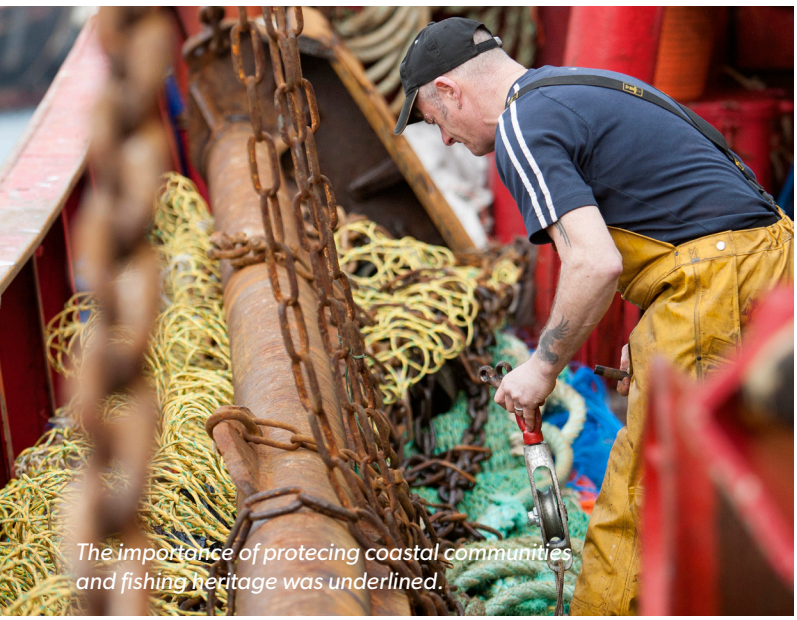
Participants discussed the importance of strong communication and a 'fulsome discussion' around complex management decisions, with panelists asserting that there would be some 'pain' in order to transition UK scallop fishing from the current picture to a more sustainable model. Areas for further, in-depth discussion were highlighted, including identifying a palatable mechanism for how the existing fleet would be 'pared' down (eg. through 'attrition', through buying each other out) and for how to account for other marine activities and displacement of fishing activity in any future management model. Despite these challenges, which Mark Raymond noted would require 'discussions around welfare [and] a lot of dialogue', Mark Edwards encouraged the conference to 'watch out for the dangers of the status quo…we know where that ends'.

"Watch out for the status quo… we know where that ends"

PROF. MARK RAYMOND, UNI. SAINT MARY'S, HALIFAX

Whilst there was still general concern around the risks of ITQs damaging coastal livelihoods through consolidation, it was acknowledged that these systems are often implemented after a 'crash' in stocks, and that the UK is in a 'unique position' to deliver on a new management system before this happens. This would mean that measures to address the risk of consolidation could be built into the management plan to alleviate these concerns.

Reflecting on the cross-cutting themes of the final presentations, table discussions focused on the need for clear objectives for management, set against a defined time-scale. Industry and managers should be asking where UK scallop fishing should be in five years' time, and in ten years' time. Within this, table groups emphasized the need to tailor-make management measures to suit individual fisheries, and to ensure management considered different 'pathways to success' for the inshore versus the offshore fishery. Groups emphasized the importance of protecting coastal communities and local fishing heritage, and suggested that social objectives for management would also differ significantly for inshore and offshore.



The importance of protecing coastal communities and fishing heritage was underlined.

PANEL & PARTICIPANT DISCUSSION

CHAIR: MIKE KAISER, HERIOT-WATT UNIVERSITY

On MSC certification, there was a mixed response, with some groups considering the cost of certification to be overly burdensome, and that there is an on-going risk that environmental groups will challenge a certification once attained. Others felt this would be a vital element in gaining consumer trust in scallop fishing, and part of a wider drive to market UK scallops as a desirable, luxury sustainable seafood product.

Serious, detailed transition planning, backed up by strong science and economics, was a key theme. Participants wanted to see ambitious overall targets, underpinned by a clear roadmap of actions, including consideration of de-commissioning, license freezing, and moving to an increasingly seasonal fishery – which may help prevent gear conflict issues in some areas. Some felt spatial management would work better for the inshore, with different measures required for the more nomadic, offshore fleet.

Setting TACs for scallop fishing was broadly supported. Whilst it was understood that there is not yet sufficient data available to base this upon a robust stock assessment, it was suggested that this should not necessarily hold back a shift to a TAC-based approach. As increased data flows into the system over time, TACs can be set with increasing accuracy and confidence.

One group commented 'industry should decide about their future prosperity' – returning to the theme of co-management. In that vein,

Participants called for more frequent multi-stakeholder discussions around the future of scallop fishing.

Summarising, Mike Kaiser stated that clear objective-setting for management was very important, any transition period would also need to be clearly defined and based on a realistic time-scale – a long time-frame for this would be appropriate. This transition would need to take into account economic and societal considerations, and working towards a system of tailored, spatially differentiated management would be desirable.

The conference called for more frequent, mutli-stakholder discussions around the future of scallop management.

CONCLUDING REMARKS

ANDREW BROWN, DIRECTOR OF SUSTAINABILITY & PUBLIC AFFAIRS, MACDUFF

"There is a need for change: both real and perceived".

ANDREW BROWN, MACDUFF

Macduff's Andrew Brown summarised the conference discussions.

Andrew Brown, Director for Sustainability & Public Affairs at Macduff, offered some concluding remarks to the conference. He underscored the consensus around the need for change in how the UK approaches scallop management. There was broad recognition that output controls need to be introduced into the management system to ensure sustainable harvesting levels, and contribute to the shared vision for a well-managed, functioning fishery that had been detailed to the conference at the outset of the two days. He said the 'tour du monde' of scallop management had proved inspiring, and offered a huge menu of management approaches and measures to consider, and that the UK was at a real moment of 'opportunity' for the scallop industry.

Andrew Brown detailed actions already underway: the ICES WG on scallops reviewing stock assessment methods, and hoping to produce reference points for Scottish scallop production within the year; a comprehensive report on UK scallop fisheries commissioned by the SICG, and; PUKFI action plans due to be published shortly, setting out actions for fisheries improvements in most UK scallop fisheries. In addition, he noted that the SICG has recently developed an industry action plan and as part of this has established a number of small working groups to take forward various workstream – one being a public relations group and another being a fishery management working group. He stressed how important it is that UK scallop fisheries 'get the attention they deserve' as the UK Fisheries Bill progresses through both Houses of Parliament. In Scotland, Government will be producing a discussion document on future management of fisheries, including scallop fisheries. Andrew Brown emphasized the importance of Government involvement in the drive towards new approaches to scallop management: their responsibility to consult widely and the need for Government to be able to monitor and enforce any new measures implemented.

Underling the need for a coordinated approach, Andrew Brown detailed a framework for a way forwards: aiming for 'sustainable fisheries in the broadest sense' with the additional, 'possible end point of accreditation of scallops', based on co-management and long-term management plans. He pointed to a need for greater alignment between PUKFI and the SICG in generating policy ideas, sustainable management measures and overall fisheries improvements.

He encouraged delegates to look at the over-arching process – for example the five-year timeline to the conclusion of the PUKFI process – but also the 'points within that timeline where we can have the most impact on decision-makers'.

SPEAKERS & SESSION CHAIRS POST-CONFERENCE REFLECTIONS

PROFILE

Scallops & Politics

Scallops need to be higher up the political and policy agenda in the UK, as a highly economically valuable fishery that does not receive attention proportionate to its worth. Resulting from the UK's exit of the EU, the new UK Fisheries Bill is currently going through the Houses of Parliament, and as an 'enabling Bill' will provide Ministers with new powers to act on fisheries issues. These powers will be subject to a period of discussion and consultation between Ministers and stakeholders. During this process, it is important that scallop fisheries receive the attention they deserve. The Scottish government will shortly be producing a discussion document on the future management of Scottish fisheries, including scallop fisheries. Responding to these opportunities to raise scallops up the political agenda will require coordination and a common message from the industry and other stakeholders, as well as strategic thinking on the points within political processes around Brexit whereby the scallop sector can have the most impact on decision-makers.

Speakers and session chairs gathered to reflect on the conference.

Environmental Considerations & Perception of the Fishery

Environmental narratives around the future of the fishery should go hand in hand with economic and social benefits: making the fishery profitable again will make the fishery sustainable again, and vice-versa. This will also protect jobs and cultural heritage in coastal communities. Building consensus around this vision, and presenting the concepts of environmental and economic sustainability as intrinsically linked to Ministers and officials, is an important method to generate political buy-in. This will also form part of the picture of re-building consumer trust and general public buy-in to UK scallop fishing – providing a platform for consumer-focused campaigns and marketing in future.

INDUSTRY PARTICIPATION, SCIENCE & TAILORED MANAGEMENT

Motivation to Change & Implementing Change

Whilst a common theme of the conference was the need for more data on scallop fishing, it is clear that the fishery is at sufficient risk that a change in management approach is urgently needed, and this was endorsed by delegates through discussion and by live-polling data. Instituting this change before a 'crisis' in the fishery will be based on successfully conveying the potential benefits - increased consumer trust, higher profitability, more efficient fishing leading to better safety and welfare, as well as lower operating costs - and realistically conveying the challenges. It was agreed that finding key areas of consensus with industry and all other stakeholders, such as broad, overarching ambitions, and building out from those consensus points, would be a good approach.

It was suggested that motivation to change could also be generated through developing compelling 'proof points' through smaller, ring-fenced pilot studies. By introducing a new management regime successfully to a small area of the fishery, and showcasing the benefits to be gained, a roll-out to the rest of scallop fishing could then be expedited. This had been seen in the Isle of Man model. An alternative to the 'pilot' option was a clearly defined, gradual time-line – generating certainty for fishing businesses and allowing fishers flexibility to adapt to a new regime.

The Vehicle to Drive Change

Developing a common vision in an inclusive way, and identifying these crucial areas of common ground and consensus, is a key challenge. The conference strongly supported a vision of co-managed scallop fisheries, with governance built around industry-supported science. Discussions centred-in on the Scallop Industry Consultation Group (SICG) as the best current vehicle for convening conversations around these topics, with a view to developing a common vision for science and management that could be presented to government. Whilst this was not the initial intention of the SICG when it was set up, it could be re-purposed and 'formalised' to create a forum for co-management and a vehicle for the development of governance proposals – it has already evolved a great deal since its inception in 2012. The SICG could be mandated by government to advise UK Ministers on issues of scallop science and management, and become a single point of access on these issues. With this in mind, time and planning should be dedicated to ensuring there is an appropriate level of industry engagement within the group from all areas and sectors.

Closer working between the SICG and PUKFI was also seen as beneficial, as MSC-facilitated FIPs continue to evolve, gather evidence, and consider sustainable management approaches. Linkages between the two steering groups should be explored further.

Management Objectives

Participants consistently reiterated the need for spatially differentiated management for scallop fishing. There was also clear agreement that scallop fisheries should move away from an effort-based model, and look to develop output limits – such as TACs and quotas. Furthermore, there was significant interest in the possibility of the UK developing greater, more systematic industry-supported science within scallop fisheries, in line with many of the case studies presented.

Initial broad management suggestions included a focus on spatial management measures for the inshore fleet, and the creation of a TAC for the offshore fleet. However, a 'UK-wide offshore TAC' was seen as unworkable – the TAC would need to be divided by areas, and matched closely to the local resource.

Scallop divers should not be overlooked in management discussions. Whilst accounting for 1% of total UK catches, they are a vocal constituent in the fishery and their activity is not always considered to be wholly sustainable and would therefore need to come under any management umbrella.

There was common consensus that a first action to prevent further degradation of the fishery, and underpin future management, would be to limit or freeze access to the fishery. Concerns were voiced around 'pain' in any management transition, but a level of consolidation was broadly accepted by all delegates as inevitable at this point.

Information & Common Language

A foundational action to equip the industry and other stakeholders to engage with a co-management process for scallop fishing is to develop a common understanding of management options available and a common language to discuss those options. Deeper, shared knowledge of the way in which different management systems can be tailored to meet the industry's needs was considered vital to moving forwards. It was suggested that specific industry-focused workshops could be held (possibly differentiated for inshore and offshore) that would drill down into management systems, explore further case study examples, and boost management 'literacy' within the scallop sector. This would lead to more informed, productive discussions as any co-management process evolves.

In addition to this, utilising existing networks or industry groupings within ports or associated with scientific projects was seen as an important way to both spread and gather information. Identifying the 'right messengers' or 'champions' for this was seen as a further foundational action to building co-management capacity. The under-15 metre scallop fleet (inshore fishers) are widely distributed and difficult to convene in one central location. Reaching out via networks that connect to inshore communities will be a cornerstone to engaging this portion of the fleet.

Whilst a common theme of the conference was the need for more data on scallop fishing, it is clear that the fishery is at sufficient risk that a chance in management approach is urgently needed.

SPEAKERS & SESSION CHAIRS POST-CONFERENCE REFLECTIONS

A NOTE FROM THE CONFERENCE ORGANISERS

Event organisers were thrilled with how the event turned out and the positive feedback received so far. They felt the conference achieved clear consensus from delegates and experts from a wide range of stakeholders on the need for change and significantly advanced the discussion on potential management approaches, including inshore and offshore management, freezing latent capacity, and the exploration of TAC and rights-based systems.

There is clearly a lot of work ahead for the UK industry, but the desire for co-management and collaborative evidence-gathering is encouraging.

There clearly is a lot of work ahead for the UK industry, but they are encouraged by the desire for co-management of these valuable fisheries and collaborative evidence gathering initiatives. It is important that progress is made now and industry should be looking to advance these discussions with government, and build momentum and alignment amongst stakeholders through the Scallop Industry Consultation Group and other industry forums over the course of the year.

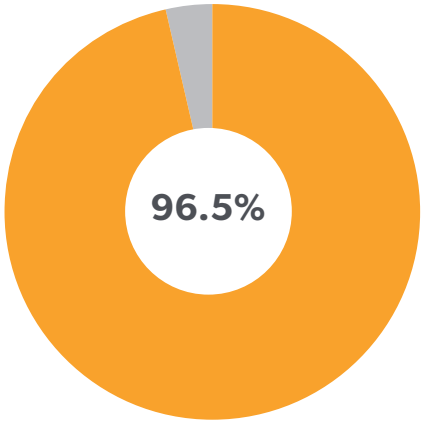
Feedback received from delegates at the event has been very positive and many expressed their hope that the conference would create impetus for further actions. This was the first time so many scallop fisheries stakeholders had been in the same room with space to discuss the key issues facing the industry. Delegates included members of the UK and Devolved Governments as well as representatives of PUKFI and SICG groups.

A consensus for action pervaded the conference and it is the responsibility of both industry groups and government departments to use this as a driver of improved management.

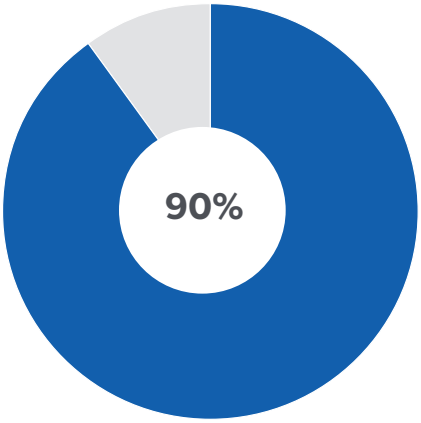
KEY CONCLUSIONS FROM POLLING DATA

As the conference concluded, participants were asked a final time to contribute their headline views on scallop management for the UK. The level of consensus around the need for action was striking, as was the clear value of the joint discussions around management options – with nearly 97% of delegates leaving having learnt something new.

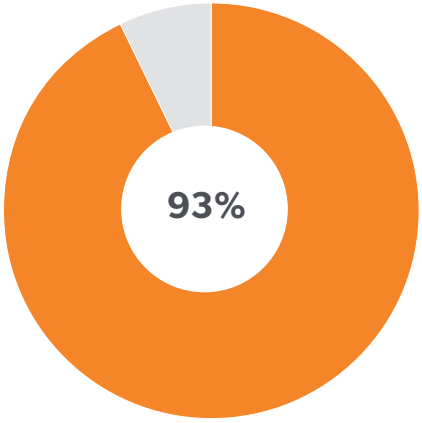
96.5% felt they learned something new



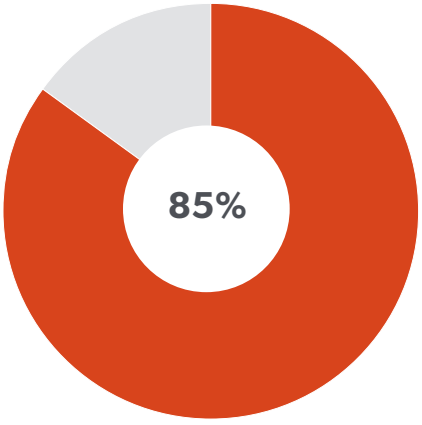
90% felt better equipped to have discussions around the future of UK scallop management



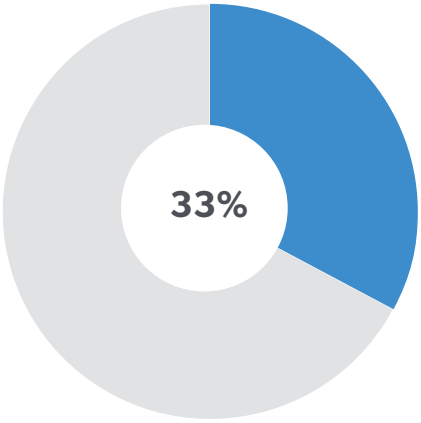
93% saw an urgent need to reform offshore scallop management (an increase of 4.3% from the morning of the first day)

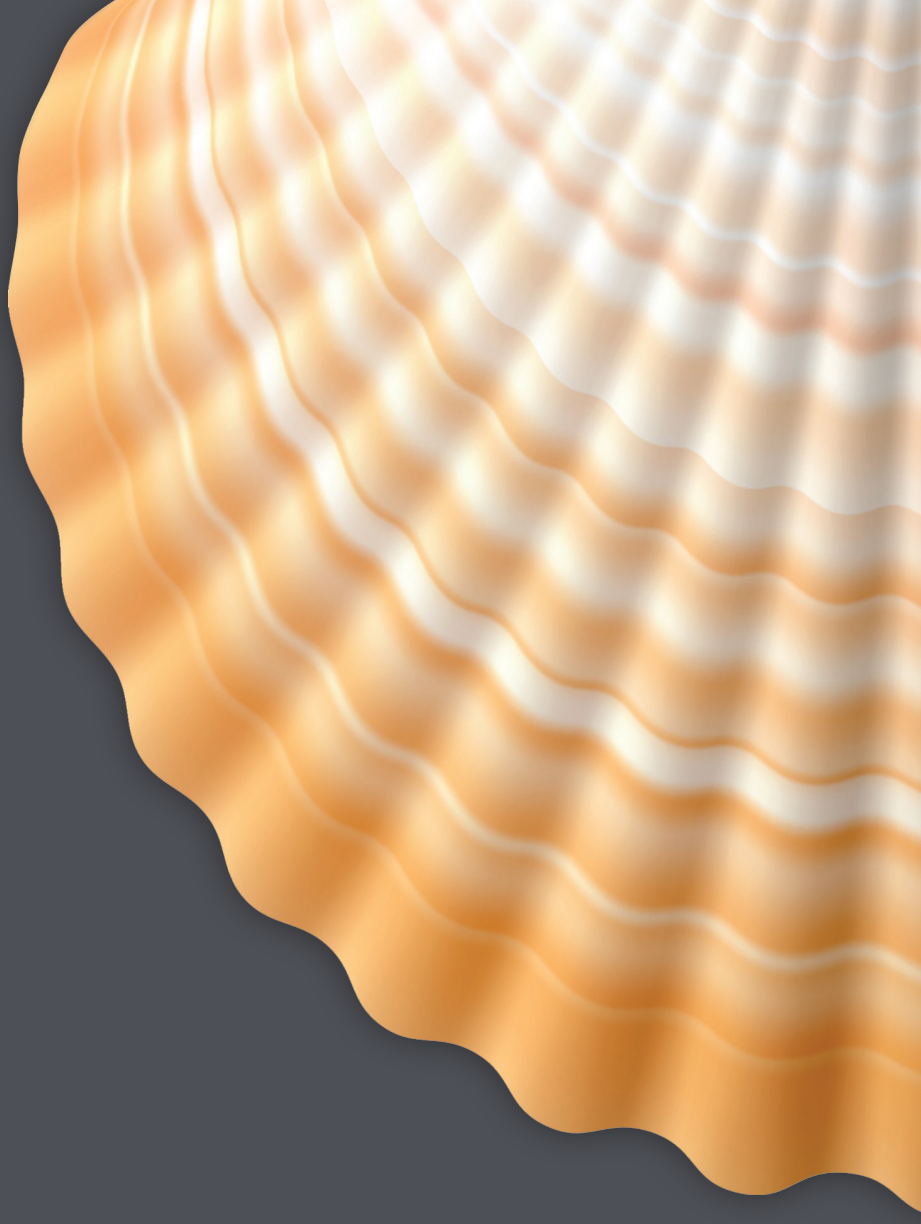


85% saw an urgent need to reform inshore scallop management (an increase of 4.4% from the morning of the first day)



33% wanted to see scallop fisheries move to TAC-based management, and 36% wanted to see an alternative, rights-based model. 26.6% wanted to maintain an effort regime.





UK SCALLOP MANAGEMENT CONFERENCE 2019

INFORMING THE FUTURE OF SUSTAINABLE FISHERIES MANAGEMENT