

Appendix 1. Negatively buoyant rope workshop discussions and outputs

This appendix describes stakeholder engagement undertaken to inform the co-design of potential implementation approaches for negatively buoyant rope. It summarises workshops, meetings, rope trials, and indicative views expressed by participating skippers.

First workshop series (early 2025)

The first set of workshops in early 2025 (funded by the Marine Fund Scotland) was focused on discussing the pilot rope trials which we ran in the Inner Sound (Calderan et al, 2025), talking about fishers' own experiences and concerns with negatively buoyant rope, giving them the option to trial negatively buoyant groundline, and gathering information about their fishing gear and practices to feed into the socio-economic analysis (see Appendix 2 for outcomes). A total of 51 skippers attended these workshops around the coast of Scotland (see Table 1).

Table 1. Locations and dates for first set of workshops.

Arbroath	08/01/2025
Craignure, Mull	14/01/2025
Lerwick, Shetland	21/01/2025
Kirkwall, Orkney	23/01/2025
Troon	06/02/2025
Benbecula	12/02/2025
Tarbert, Harris	13/02/2025
Ullapool	17/02/2025
Fraserburgh	20/02/2025

Rope delivery and engagement (spring 2025)

Subsequent to the workshops, we returned to all of these areas to deliver the trial rope which fishers had requested, which provided another opportunity for discussion and input. Trial rope was sourced from a few UK suppliers, in order to supply rope which Scottish fishers were likely to be able to source and buy themselves. Each vessel was supplied with sufficient rope to make up the groundline of one fleet. It was their choice what target species/area/depth they trialled it on. They agreed to keep SEA partners informed of how they were finding it.

Second workshop series (autumn 2025)

The second set of workshops (funded by NRF, taking place in autumn 2025), built on the engagement, workshops, meetings and negatively buoyant rope trials which we started in the preceding Marine Fund and NRF projects. The workshops discussed with fishers what their experiences of the negatively buoyant rope they were trialling were, and their views on how negatively buoyant rope might be implemented. These workshops were held in the same areas as the early spring ones.

Table 2. Locations and dates for second set of workshops

Arbroath	16/10/2025
Craignure, Mull	28/10/2025
Lerwick, Shetland	01/10/2025
Orkney – various meetings	23/09/2025 to 25/09/2025
Troon	20/10/2025
Benbecula	08/10/2025

Tarbert, Harris	07/10/2025
Castlebay, Barra	09/10/2025
Ullapool	14/10/2025
Fraserburgh	15/10/2025

Engagement outwith workshops

Workshops were our preferred method of interaction, but often fishers in remote areas with busy lives were unable to attend, so in these cases we went to visit them instead, mostly at harbours or in their homes. This resulted in a large number of one-to-one meetings, which were very valuable. Outwith the meetings and workshops, skippers have continued to contact us wishing to get involved in the project.

Engagement with fishes working in Sea of Hebrides MPA

In addition to the main workshops, we also held a number of in-person meetings and workshops focusing on the Sea of the Hebrides MPA in May and June 2025 in South Uist/Eriskay, Barra, Arisaig, Tiree, South Skye. These fishers were also offered the opportunity to trial rope.

Views on implementation

At workshops and meetings, fishers were asked about a range of aspects of implementation, and their views recorded through an informal 'show of hands' in favour of the various options where relevant/appropriate. Consistent with all SEA's work, the workshops and meetings aimed at working towards an implementation plan that came from the fishers themselves, built in a collaborative partnership between them and SEA partners. 51 fishers responded to questions on implementation either through workshops or one-to-one meetings.

Rope Trials and Uptake

To date there are 118 vessels (which represents 13% of the fleet) trialling approximately 170 fleets of rope between them (the original Inner Sound group of skippers all trialled more than one fleet of rope (between two and 12 fleets each)). See Figure 1 for locations of home ports. The rope trials were simply to assess how practical the rope was for fishers in a range of areas and fishing grounds to use, not to assess whether it reduced entanglement. We have visited most project areas at least three times over the last year, with regular liaison between fishers and SEA partners (mostly by phone or Whatsapp) about how they were finding the rope, and any other issues. In addition to the 118 vessels trialling rope, there were six skippers with whom we engaged who did not trial rope: five of them because they decided it was not for them, and one because he is already using it. Otherwise, everyone who attended a workshop or one-to-one meeting also chose to trial at least one fleet of negatively buoyant rope in their groundline.

Table 3 Number of vessels trialling rope

Original NRF Inner Sound project	15
Marine Fund	45
NRF MPA	11
NRF Autumn 2025	21
NRF winter 2026	26
Total	118

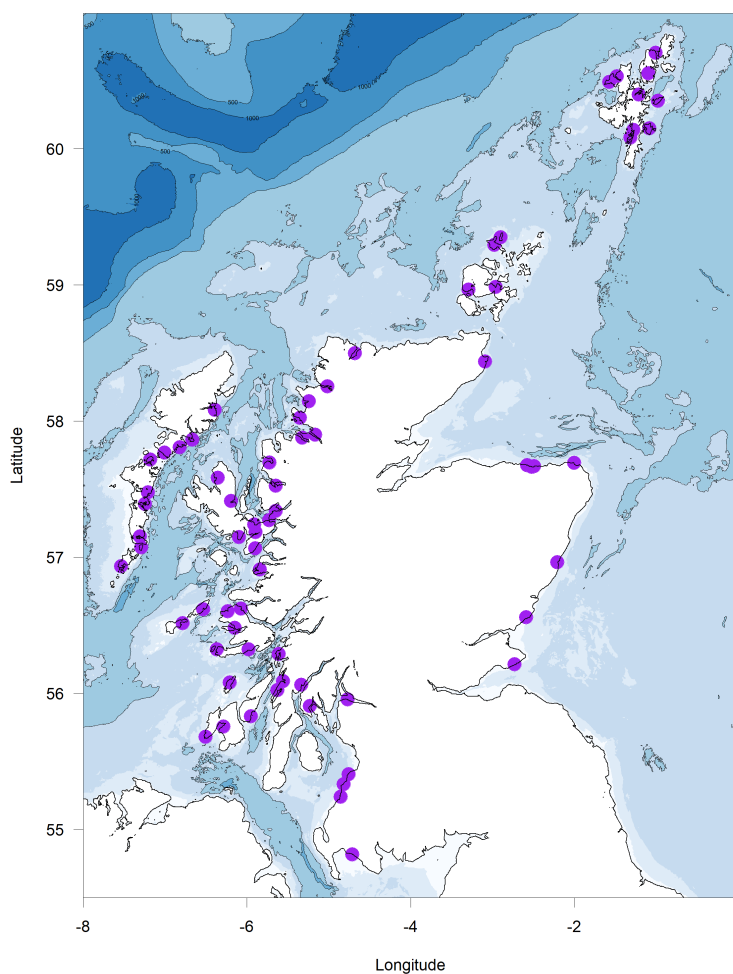


Figure 1. Home ports of fishers trialing negatively buoyant rope (as of March 2026)

Views on implementation

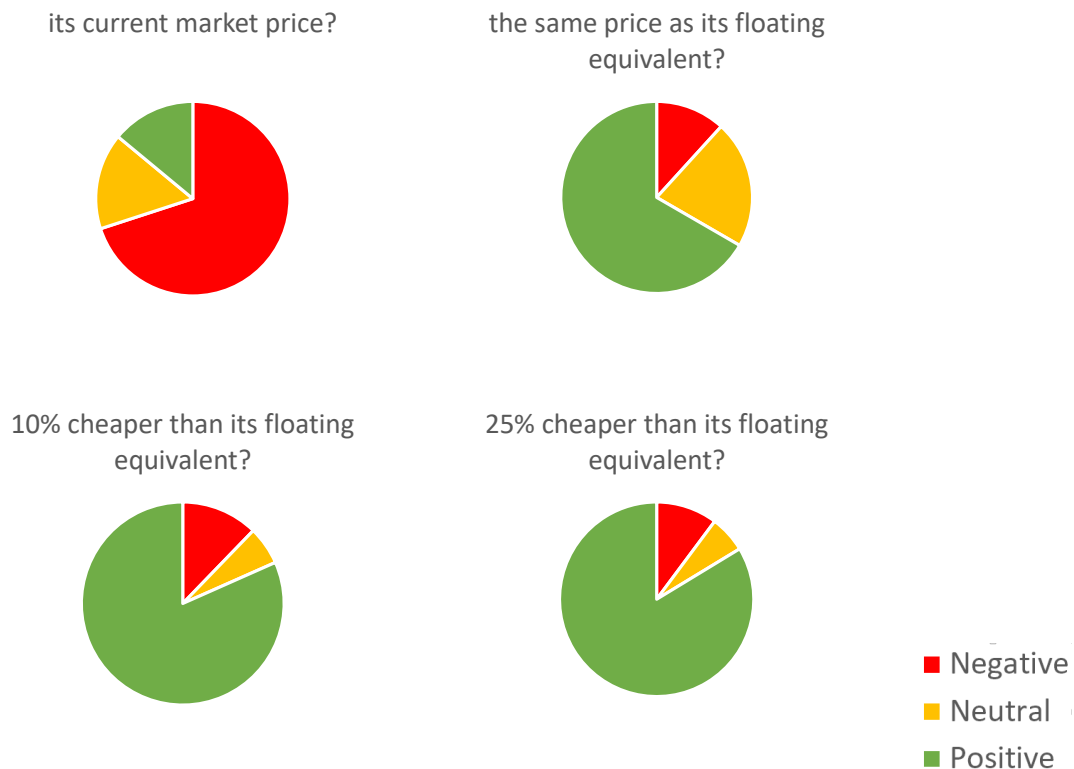
At the second set of meetings and workshops in the autumn of 2025, in addition to gathering feedback on skippers' experiences of negatively buoyant rope, we discussed their views on various aspects of any future implementation programme, and gauged support for these options (positive, negative, neutral) in order to build and implementation scheme. The outline of the workshops was as follows:

1. Introduction – recap on work so far, feedback on negatively buoyant rope
2. Discussion on likelihood of uptake relating to the following factors (fishers):
 - a) Price (current market price, same price as floating equivalent, various percentages cheaper than floating equivalent)
 - b) Importance of having flexibility in the choice of rope supplier/brand/specification
 - c) Whether it is important that scheme is targeted at specific regions or Scotland-wide
 - d) Importance of knowing other fishers who are participating
 - e) How long the initial government commitment to the subsidy scheme lasts for
3. Discussion on likelihood of uptake relating to administration and monitoring
4. Discussion on rope disposal - would you be more or less likely to participate if the scheme involved help with disposal of end-of-life rope?

- Discussion on future management incentives – could these be a way to move from financial subsidy in the future? For example, creel numbers, quota, preferential access.

Where we recorded the proportions of workshop participants in favour, against, or neutral about the aspects of implementation, these preferences are shown in the following pie charts and Table 4, with some explanatory text provided with examples of fishers in relevant situations to illustrate the points.

Would you consider switching to leaded backrope if it was:



In general skippers were either positive about the rope (preferring it as it lies on deck better, does not tangle so much and keeps the gear on the seabed), or neutral – they did not notice any difference between negatively buoyant and floating rope. Approximately 10% of fishers did not like it at all, mostly for reasons of snagging, coming fast and abrading. These fishers would not use the rope regardless of the subsidy because they did not think it would work in the conditions where they fish. These fishers mostly work on shallow, rocky ground close to shore, targeting lobster, velvet crab and some brown crab. However, the fisheries/areas of highest entanglement risk were also where the rope tended to be most suitable and there was most willingness to change if the price difference were addressed (Nephrops, deeper water brown crab).

The overwhelming view was that any transition to negatively buoyant rope should not be mandatory for a range of reasons. For example, some fishers may choose to use subsidised negatively buoyant rope in their Nephrops gear and in crab gear on mild ground, but continue to use floating rope on harder, shallower more jaggy crab or lobster ground. This would fulfil the aims of risk mitigation, as there would be negatively buoyant rope in the high-risk areas where it mattered, but requiring use for all gear would be strongly opposed.

The following quotes from skippers illustrate the range of feedback received from those trialling negatively buoyant rope:

"The leaded rope is working fine it's actually hard to tell the difference now apart from the weight and it lays better on the deck"

"I've tried it on the shallow/hard and it seems to wear well. Will be tempted to buy it next time I buy creels as I like the way it lies on the deck also"

"The leaded rope fleets work fine on our boat. Nearly lost one as both ends were rubbing on hardish bottom in bad weather. We don't put them on really hard ground, as we would lose them. That would cause a lot of trouble for all the bottom creatures and make it very difficult to get lost gear back"

"The rope is doing its job with no issues to report"

"I haven't had a single issue with it getting snagged anywhere. I actually find it better to work as it lies on the deck flat so a lot safer when shooting the creels back. 0 complaints from me so far!"

"We've had it fish off in the sand and hasn't had any problems"

"Rope seems to be working OK apart from rockier grounds as more fasteners but other than that it's workable"

"Been moving around trying different grounds been a bit of a pain on the rockier grounds with fasteners. I don't even bother hauling that leader in any tide due to this but not too bad on the softer grounds so far it's been not too bad apart from that"

"While the lead rope is fine on the clean ground it is not a success for us as we work hard ground with lots of tide"

"It'll be down to choice of rope in the end. Same with floaty rope there are huge differences in quality and it's all gone downhill in recent years. There barely 2 fishermen that'll agree on what's best to use"

"No problems at all with the lead rope, in fact we were talking the other day about putting good creels on the leaded as we will be taking the fleet in to put the creels to velvet and can replace one of the old prawn back ropes with it"

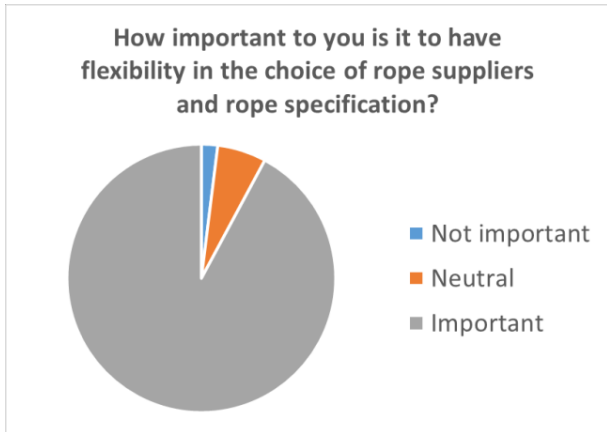
"Still hauling absolutely fine no difference from the floaty stuff. Seeing some slight wear but I'd expect that as it's on really hard ground"

"Can't really see why anyone would have a problem swapping over"

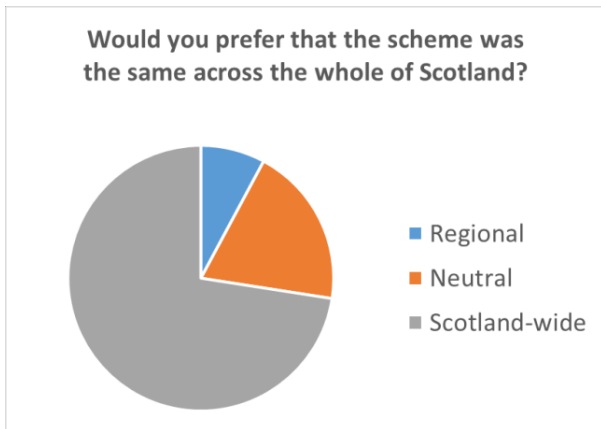
"Just touching base! We've started using your leaded rope. And the biggest problem is that there is no problem with it 😊 Well behaved on the deck and the prawn gear doesn't move in the tide. So far so good. This fleet is shot in 45 fathoms of water. Very pleased so far. If you have any more spare I'd like to try the deeper water down to 75 fathoms"

"I'm a big fan of it. I've had no complaints so far on it. It lays on deck good, it's never snagged and I've also bought 2 more fleets of it and got them fishing too and I'm impressed. Every time a rope is worn out I'm gonna replace it with lead"

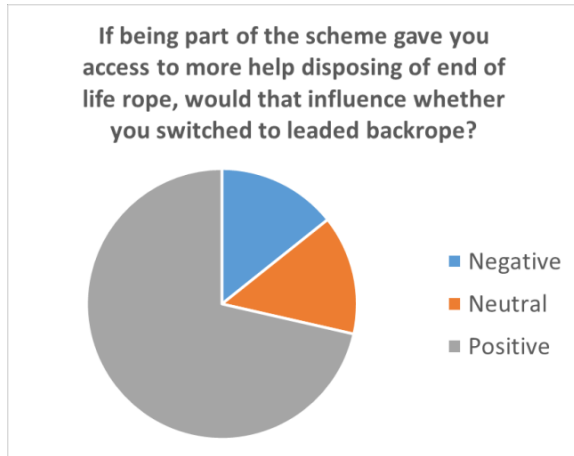
"If it's better for the living sea then we have a responsibility to try our best to keep improving our fishing methods and gear"



Flexibility of rope supplier was extremely important to fishers: different ropes have different characteristics, including the hardness of lay, but also other personal preferences. For example, some crab fishermen on an Argyll island found negatively buoyant rope worked well in principle, but would need a harder lay type than that which was supplied for the trial for working on hard ground.



There was strong support from fishers for a scheme that was Scotland-wide rather than anything regional or specific to a particular target species. A factor in this preference for a universal scheme was that many fishers target several species with different combinations of gear, some of them year-round and others switching between areas and target species on a seasonal basis. Any incentive scheme that was based on target species or fishery area would need to take these complex factors into account.



Rope disposal remains a difficult issue for fishers with many areas having no facilities for disposing of end-of-life rope. There was a consensus that any negatively buoyant rope implementation scheme should only involve replacing floating rope with negatively buoyant when it was due for replacement, in order to avoid extra waste rope and fishers having to make up new fleets before it would otherwise be necessary. There was also strong support for a scheme involving negatively buoyant rope which gave access to facilities for rope disposal.

Table 4. Numbers of fishers at workshops who provided opinions

Question		Negative	Neutral	Positive
Would you consider switching to leaded backrope if it was:	its current market price?	35	8	7
	the same price as its floating equivalent?	6	11	34
	10% cheaper than its floating equivalent?	6	3	40
	25% cheaper than its floating equivalent?	5	3	41
How important to you is it to have flexibility in the choice of rope suppliers and rope specification?		1	3	47
Do you think a scheme should be the same across the whole of Scotland?		4	10	37
If being part of the scheme gave you access to more help disposing of end of life rope, would that influence whether you switched to leaded backrope?		7	7	35

References

Calderan, S. Cisternino, B., De Noia, M., Leaper, R., MacLennan, E., Philp, B. (2025) Successful collaborative trials of simple gear modifications to reduce entanglement of whales and other megafauna in Scotland's static pot (creel) fisheries, *ICES Journal of Marine Science*, 82 (6) <https://doi.org/10.1093/icesjms/fsae157>