



Barriers to, and opportunities for, improved engagement with Clean Catch

A Clean Catch report

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Clean Catch
Joint Action on Sensitive Species Bycatch

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Executive Summary

- Clean Catch champions collaborative working to help monitor and minimise the bycatch of sensitive marine species in UK fisheries, and to exchange knowledge globally.
- Clean Catch is funded by Defra and aims to support the UK Government in meeting its ambitions to minimise and – where possible – eliminate bycatch of sensitive marine species, as set out in the ecosystem objective of the [Fisheries Act](#) and elaborated in the [UK Marine Wildlife Bycatch Mitigation Initiative](#) (BMI). Sensitive species include cetaceans (whales, dolphins and porpoises), seabirds, seals and elasmobranchs (sharks, skates and rays).
- Prior Clean Catch initiatives and other bycatch mitigation trials in Cornwall have been adversely impacted by barriers to the effective and equitable participation of fishermen.
- Using the perspectives of Cornish fishermen with and without prior experience of Clean Catch, this research aimed to understand these barriers to participation and identify opportunities for improved engagement.
- The findings will inform the delivery of: 1) ongoing bycatch monitoring and mitigation trials in Cornwall; and 2) a new trial and fishery partnership as the scope of Clean Catch is expanded.
- Fishermen are (and can be further) motivated by their attachment to their environment and their desire to play a leading role in addressing sensitive species bycatch. They hold considerable local knowledge, skills and experiences, which they are willing to contribute to co-designed bycatch mitigation trials.
- However, they feel distanced from fishery management decisions and unsupported in their efforts to address sensitive species bycatch. This feeling of disenchantment comprises a barrier to engagement.
- Fishermen in Cornwall regularly participate in marine conservation or fisheries management trials, surveys, and projects. Many of these are unrelated to Clean Catch. Past trials that were physically or technologically impractical, failed to define a clear vision or role for fishermen, or poorly communicated with participants were held in poor regard. Trials matching these identified needs, particularly trials of an acoustic marine mammal deterrent (pinger), were regarded more positively.
- This report makes practical recommendations to inform Clean Catch’s continuing work in Cornwall alongside its expansion in scope. These include overcoming engagement barriers by co-designing an easy to manage bycatch management intervention with them, being clear about the meaning and usefulness of data collected by them, and by adaptively managing the trial based on their local knowledge or their concerns.

Background

Clean Catch supports the implementation of the UK Marine Wildlife Bycatch Mitigation Initiative (BMI) policy [1]. The BMI actions the UK Fisheries Act 2020's ecosystem objective to “minimise, and, where possible, eliminate” bycatch of sensitive marine species (cetaceans, pinnipeds, elasmobranchs, and seabirds) in UK fisheries [2]. Clean Catch is a collaborative programme championing inclusively co-designed sensitive species bycatch monitoring and mitigation strategies with local key actors. Its work includes bycatch mitigation and monitoring trials, scientific research, and knowledge exchange with local, national and international key actors.

Established in 2019, Clean Catch's first phase worked with fishermen^a in Cornwall to test the efficacy of acoustic deterrents for reducing cetacean bycatch in a pinger trial, co-designed and manufactured a passive acoustic reflector, explored the use of acoustic monitoring devices for cetaceans in areas of higher bycatch risk using an array of porpoise detection (POD) devices, and developed and/or tested tools for monitoring bycatches including remote electronic monitoring (REM), and a self-reporting smartphone app. The programme simultaneously built a knowledge exchange platform to share best practices in bycatch management nationally and internationally.

Stewarded by a new consortium, the expansion phase of Clean Catch runs from 2024 to 2026. To guide this new phase, Clean Catch held conversations, in-person workshops and issued an online survey to actor groups associated with the programme (fishermen and fisheries organisations, government departments and policy advisors, environmental NGOs, scientists and academics, and the private sector) [3]. In line with its collaborative vision, Clean Catch used these dialogues to refresh its governance framework and its approach to ongoing and future key actor engagement [4].

For its expansion phase, Clean Catch's objectives are to:

1. Work with fisheries in England to develop and trial ways to gather data on and mitigate the bycatch of sensitive marine species, focusing on their practicality for fishermen as well as their effectiveness.
2. Conduct interdisciplinary research on bycatch hotspots, risks, and monitoring and mitigation approaches.
3. Explore and seek to overcome barriers to broader engagement of the fishing industry and ensure equitable inclusion and representation of the people and groups who have a key role to play in bycatch monitoring and mitigation.
4. Share our results widely and foster collaboration and national and international knowledge exchange with similar initiatives across the UK and beyond.

Under the third objective, Clean Catch sought to identify barriers to, and opportunities for, improved engagement with Cornish fishermen. Outcomes from this research were used to determine how to continue engagement with fishermen in Cornwall. It will also be used to guide the programme's engagement with key actors in a second partner fishery – located outside southwest England – that will work with the programme to co-design a bycatch mitigation or monitoring.

^a Note: Cornish fishers refer to themselves as fishermen.

Aims

The site visit to Cornwall aimed to survey fishermen's views on barriers to, and opportunities for, improved engagement in addressing sensitive species bycatch. Consequently, core research questions for Clean Catch were:

1. For fishermen with prior experience engaging with Clean Catch, how could engagement be improved through the programme's expansion phase?
2. For fishermen new to Clean Catch, how have bycatch trials or engagement between key actors on wildlife bycatch succeeded or failed to make use of local knowledge or experiences? When has this become an equity issue?

Applying the results of this research should position Clean Catch to improve fishermen's satisfaction with the expansion phase, leading to ongoing engagement in future bycatch mitigation initiatives. Moreover, it will improve Clean Catch's understanding of what attitudinal, emotional, and contextual factors drive fishermen's decisions to take part in a bycatch trial. Research suggests these factors, which underlie fishermen's openness to change how they fish, are critical to the success of sensitive species bycatch mitigation initiatives [5]. Consequently, learning more about fishermen's outlooks should highlight opportunities for Clean Catch to progress its vision of working collaboratively with local key actors to co-design sensitive species bycatch management measures.

Methods

Data collection in Newlyn and Mevagissey (the harbour towns where Clean Catch runs its trials in Cornwall) was completed over five consecutive weekdays in September and October 2024. The research methodology was developed in accordance with ZSL's FAIRER (fair, accountable, inclusive, respectful, ethical, reflective) framework for inclusive conservation [6, 7]. The research obtained prior ethical approval from ZSL's Human Research Ethics Committee.

Semi-structured **interviews** were used to ask fishermen about the value of their local and experiential knowledge, past experiences with engagement on bycatch trials, and opinions on how engagement could be improved (e.g., through co-design). The conversational approach of a semi-structured interview allowed in-depth exploration of these topics. Transcripts of interviews were then evaluated to identify common themes in fishermen's responses.

Fishermen additionally completed questionnaires, which listed 29 statements that respondents scored on 1 (strongly disagree) to 5 (strongly agree) scale. The statements sought to record attitudinal, emotional, and motivational factors representing fishermen's readiness to change how they fished to manage sensitive species bycatch. The statements were grouped into shared themes reflecting respondents' views on sensitive species bycatch management (Table 1).

Findings from the thematic analysis and the average results of the questionnaire are presented in the 'Results' section. Practical applications of these findings to Clean Catch are presented in the 'Recommendations' section.¹

¹ A detailed account of the methods is provided in the [Report Appendix](#).

Results

A total of 18 Cornish fishermen were interviewed. Of these, 16 completed the questionnaire. Half (n=9) of the interviewees had prior experience with Clean Catch or associated trials, either through the pinger trial, a passive acoustic reflector robustness test,² use of the Clean Catch app, or were involved in the Spurdog Bycatch Avoidance Scheme (2017-2022) [8].

Interview thematic analysis

Four key themes emerged from review of the interview transcripts:

1. Sensitive species bycatch amidst other fishery-level concerns
2. Preferred features of a bycatch tool/trial
3. Inclusive trial design
4. Engagement and communication

These themes are discussed below and illustrated with direct quotes from interviews.³

Theme 1: Sensitive species bycatch amidst other fishery-level concerns

All interviewees believed that fishermen possess distinctive experiential or vocational knowledge of relevance to sensitive and commercial species bycatch management. 17 of the 18 fishermen interviewed believed that this knowledge was inadequately incorporated into bycatch trial design and execution, and that making better use of fishermen's knowledge would make them likelier to participate in a trial. Ideally, clarity on how fishermen can help use their knowledge to design or improve a trial's delivery would be provided by co-designing organisations as early as possible. This gives fishermen the ability to make informed decisions on the value of participating in an inclusively co-designed trial.

Interviewees' descriptions of their experiences managing sensitive species bycatch followed familiar patterns. External pressure from the public, press, and conservationists on sensitive species bycatch pushed them to engage more strongly with this issue. Most interviewees noted that their sensitive species bycatch rates were low or negligible, and that they have voluntarily taken measures to address commercial and sensitive species bycatch at the individual level. As fishermen new to Clean Catch have experience adjusting how they fish to manage unwanted commercial and sensitive species bycatch, this represents an opportunity for the programme to expand its knowledge-sharing efforts or recruit new triallists.

While fishermen accept that sensitive species bycatch is an issue for the fishery, contributing to these species' conservation is not always their leading priority. Higher priority topics cited by interviewees included: a perception of general fisheries decline, commercial species population mismanagement, uncertainty about future quota management decisions, and pessimism about the fishery's financial future. These contextual factors represent a barrier to improved engagement on sensitive species protection through bycatch mitigation or monitoring trials. After discussing

² The robustness test began as part of Clean Catch's expansion phase, and was in progress when this research was completed.

³ Further information can be found in the [Report Appendix](#).

sensitive species bycatch, interviewees often reasserted an interest in, or returned to discussing, commercial species bycatch management [9].⁴

When consulted on past commercial species bycatch management decisions, interviewees expressed dissatisfaction with a lack of engagement before and after decisions. Furthermore, fishermen felt that, when consulted, they could not account for how their input was used by fisheries managers. These experiences drive mistrust between fishermen and other key actors, worsen fishermen's engagement fatigue, and lower their interest in contributing their time to new scientific or conservation initiatives.

"I think we just we've all got the feeling that our government basically is just trying to get rid of us [smaller inshore vessels] all together."

"Amongst all these problems we have with communication between authorities and fishermen, we also have the problem of a lot of fishermen are set in their way. Older fishermen won't change. They will not embrace change of any description. They only see change as doom and gloom. They don't look at change positively. Therefore, when we were catching dolphins in the nets, some of us who did care about it took evasive measures."

"You could sit down in a room and give several lifetimes worth of experience and they would rather take the knowledge or the information someone's obtained from a few days at sea on a fishing boat. You know, like someone like yourself, a researcher."

"So the part of the pollock's been stopped, but actually there's not anywhere near enough science to prove there's viability for that."

"You won't have to worry about putting Clean Catch on any boats [because] there won't be any boats left."

Theme 2: Preferred features of a bycatch tool/trial

When asked whether they preferred trialling bycatch management (monitoring and/or mitigation) tools at an experimental stage, or tools with a well-established evidence base, interviewees did not express a clear preference for one over the other. Nonetheless, interviewees without prior experience collaborating with Clean Catch did express that they would value a bycatch management tool with a strong evidence base when considering using it on their vessel. In two instances, interviewees then acknowledged the value of experimental trials as well, suggesting that other implementation concerns, such as the impact of a bycatch management tool on fishing routines, the weight of a bird scarer being attached to the net, or the storage of further fishing gear on a small vessel, were more important to them. Interviewees' discussions of pingers gives this suggestion credence, as their ease of use and positive reviews from peers were the attributes that fishermen with an interest in using them cited as desirable.

⁴ Naeem et al. (2023) suggest that repetition in an interview indicates key actors' particular concern, fear or anxiety about an issue. This was often expressed explicitly by fishermen discussing the state of commercial species management, or the fishery generally.

Voluntary triallists were, generally, most interested in participating in trials that matched their practical needs. A preference for bycatch management tools that did not require substantial effort to use or maintain (i.e., non-invasive options) was emphasised by engaged key actors. Pingers were referenced regularly as a bycatch mitigation device that fishermen believe works, is easily installed, and would not alter their sense of control over how they fish. Word-of-mouth about pingers' effectiveness on offshore vessels led inshore vessel skippers to cite them specifically as a bycatch management tool of interest. Frustration with the pinger licensing rules, which, outside experimental trials, make pingers unavailable to inshore vessels, deepened key actors' sense of mistrust, alienation, and limited decision-making power.

The final quotation (see below) suggests that, to some fishermen, bycatch monitoring tools would be less welcome than mitigation solutions. This is likely due to a trust deficit (see theme 1). Concern about REM's impact on how fishermen work, a reluctance to trial it, and a simultaneous acceptance that it may become mandatory were expressed by several interviewees on a conversational basis (i.e., before or after the conclusion of the formal interview).

"If [the bycatch tool trialled] was something that was practical and worked with your every day-to-day job then I don't think it'd be a problem."

"Just because I could just carry on as normal and basically just put [pingers] on the gear [and] it's as simple as that, rather than having to carry extra equipment."

"If I was to try something, it would need to be something fairly safe and small. Something that would clip onto the net itself and not tangle."

"I'm not very supportive of having cameras on boats, because I worry that [the government], like legislation-wise, they may go down that route [of making them mandatory] and I'm not very keen on that."

Theme 3: Inclusive trial design (based on local knowledge/lived experience)

This theme reflects how fishermen would like their role in a trial clarified. It also encompasses how they would like to contribute to the design and delivery of a sensitive species bycatch monitoring or mitigation trial. As noted in Theme 1, fishermen strongly believe in the value of their experiential knowledge and in the worthiness of incorporating it into decisions about sensitive species conservation and management.

Alongside clarity on how their knowledge could help design or adaptively manage a trial (for example, whether they could change the placement of a camera to better gather data for a pinger trial), fishermen noted that they would appreciate recognition for the role they played as data gatherers and risk-takers in executing the trial. This included having insights into the decisions the trial would

help scientists and policymakers determine. To some fishermen, financial compensation was a more readily accepted form of recognition.⁵

"I don't really see how you can sit in an office and there's some figures in front of you and see what's actually happening. There's a bigger picture."

"I'm sure [fishermen] could [improve trial design], yeah. There's always going to be something that they'll bring to the table which hasn't been thought of."

"[Before I agree to participate in another bycatch trial] I want a better outlook on where the project is going, how we're going to work, and it probably comes down to, the crux of it, is if [the scientists designing the trial] are going to follow through with the advice I give them, if they need my advice or want my advice, or if they're going to say, can we put this on the boat, they'll have to listen to how I want it."

"You need to know, right [from the start of a trial], what are we actually trying to mitigate here? Or, not mitigate, eliminate."

"An organisation like that [Cornish Fish Producers' Organisation or Mevagissey Fishermen's Association], which sort of can communicate with their members and stuff to make some sort of information stream or record. But other than that, I suppose if you start creating other groups [to incept or progress bycatch trials], it just sort of creates more confusion and less interest because, you know, people don't want to get tangled up in loads of different sort of bits and pieces."

Theme 4: Engagement and communication

Whilst some emphasised the need for compensation as an incentive to participate, this was not their most important issue. More interviewees noted that communication was a critical driver of decisions to participate in trials (providing the trial met their practical needs/interests). Specifically, this related to clarity about how data collected by fishermen is used (including clarity on the value of data documenting low or no bycatch incidents), how trials will inform management decisions, and how teams managing trials respond to feedback.

Interestingly, interviewees noted a lack of understanding about their role in bycatch trials if they currently had limited bycatch. This indicates scientists have not always adequately communicated that zeroes (i.e. I didn't have any bycatch today) are still useful data.

Previous bycatch trials which failed to communicate were less well-reviewed. Examples of communication failures included:

- limited avenues for feedback from fishermen to adjust trial design (especially the useability of bycatch mitigation or monitoring equipment);

⁵ Note that the role of compensation in a non-monetary voluntary bycatch trial is perhaps beyond the scope of this report.

- a lack of recognition for the role fishermen play in trial success (gift cards and messages were cited as a bare minimum by some interviewees, financial compensation was cited by others).

Trials that failed to meet fishermen's expectations for ongoing engagement tended to worsen engagement fatigue and/or erode participant motivation. Interviewees noted that these engagement shortfalls sometimes drove them to contemplate withdrawal from ongoing trials.

"I just think if you're going to do a project like that, it'd be nice to see something come from it, at least. [The researchers and government officials running a prior bycatch trial] didn't even acknowledge what we fed back."

"We've been asked to do the trial, [but] because [sensitive species bycatch] is so rare here, I worry that the data probably isn't going to be quite representative [at the national scale]. If there's areas [where bycatch] happens more, that's where it should be happening."

Finally, several fishermen reported successes in managing their bycatch impacts on commercial and sensitive species on an individual basis (i.e., by changing how they fish without being on a bycatch management trial). They expressed frustration about a lack of opportunities to have these achievements recognised or publicised.

"Because we did realise the short lay times of nets actually didn't make a lot of difference to your catches, but it made a huge difference on [cetacean] bycatches."

"We've recently, the last few years, changed the gut size for the nets that we use to reduce the catch of the small crayfish."

Questionnaire results

Table 1 summarises the outcomes of the questionnaire. These results are discussed below.

Table 1: Summary of questionnaire responses (n=16), presented as the mean of scores for six components of change readiness determined by responses to 29 statements. Components are ordered by score (high to low).

Change Readiness Element	Change readiness component	Average score (mean) (1-5 Scale)
Affective Readiness to Change	Affection Emotion, mood and temperament with respect to the proposed change	4.40
	Opinions on the Suggested Change	
	Appropriateness Sense that proposed changes will improve the situation	4.24
	Discrepancy Sense that the status quo is inappropriate or lacking	3.94
Ability to Change	Efficacy Individual's perceived capability to implement the change	3.90
	Valence Perceived potential for improved outcomes or benefits	3.61
	Principal support Sense they will receive the necessary support to implement change	3.21

Fishermen are motivated (and can be further motivated) to address bycatch

The Affection/affective change readiness component scored highest. This is encouraging. It suggests that interviewees are strongly intrinsically motivated to take part in co-designed trials. Of these, the statements that scored highest (4.94) were about respondents' connection to the waters they fish in, suggesting that place connection is the most powerful lever for motivating prospective participants.

Fishermen's belief that bycatch reduction is morally important was the third-highest score of all the questionnaire statements (average = 4.81). However, responses regarding other motivations to monitor or mitigate sensitive species bycatch were marked by uncertainty. Of particular note is the result that on average, respondents somewhat disagreed (score = 2.81) that adjusting how they manage bycatch would result in more respect from other fishermen in the fishery. This suggests that personal motivational drivers related to valence (like an individual's moral understanding of a bycatch issue) could be substantially more fruitful drivers of trial adoption for Clean Catch than ones that focus on group-level effort.

Fishermen recognise a need to address bycatch

A strong appropriateness score suggests that fishers believe it is right to try to better monitor and mitigate bycatch. Fishers strongly believed they should be a part of knowledge-sharing process and trial design. However, the statement regarding whether fishermen should lead scored lowest in the

appropriateness section. This suggests that providing fishermen with opportunities to engage in a co-design process will lead to positive outcomes. To do so, Clean Catch should work with fishermen to prepare a clear mission statement and objective for the trial through face-to-face interactions.

The discrepancy score, which is about establishing the existence of a bycatch challenge and the need for change as required by the Fisheries Act, received a strong result. Few fishers disputed the nature of the problem, though some questioned whether more action was required as their bycatch rates were already low.

Fishermen feel they have (to some extent) the capability to address bycatch

Of the statements regarding fishermen's beliefs about their ability to change, the efficacy score being the highest suggests fishers have some belief in their ability to adjust how they fish and in their ability to share design ideas with decision-makers (note that, in a co-designed process, triallists hold some decision-making powers as well).

Fishermen do not feel adequately supported to address bycatch

The lowest score of the questionnaire belonged to principal support. This is both a worrying and affirming result for Clean Catch. It is worrying because it suggests that help is not available from institutions currently active in the surveyed fisheries to support fishermen with bycatch management. Conversely, this emphasises the need for Clean Catch to provide opportunities to fishers that do not believe in the availability or legitimacy of other options. This section of the questionnaire was defined by uncertainty: fishermen struggled to confirm whether support for their efforts to manage bycatch came from the public, government, other fishermen, or anyone at all. While this does not suggest a belief that support does not exist, it indicates that they form understandings about bycatch management on an individual basis. Trust may be an explanatory factor for this, as fishermen believe the public to be a source of reputational risk, the government as an (at-times) under-informed and distant decision-maker, and other fishermen as peers, but not partners.

Recommendations

Table 2 outlines a recommended approach for managing change, such as the implementation bycatch mitigation and/or monitoring trials as part of Clean Catch. It provides examples of how, by design and through actions taken to date, the Clean Catch programme has managed change and recommendations for continuing and future activities. It is informed by the literature review and the analysis of semi-structured interviews and questionnaires.⁶

⁶ Further information can be found in the [Report Appendix](#).

Table 2: Steps in managing change, such as is required to implement new bycatch monitoring and/or mitigation through a co-designed trial.

Step	Corresponding actions taken by Clean Catch to date	Further recommendations and next steps for Clean Catch
1.a) Establish a sense of urgency	<p>The aim and mission statement developed for the Clean Catch expansion phase draws directly from the Fisheries Act.</p> <p>People (actors) engaged with Clean Catch, including the fishing industry, fishermen, environmental NGOs, scientists, and policymakers have a clear sense that bycatch is an issue (i.e. affective change readiness).</p> <p>Clean Catch has developed a communications strategy which includes key message themes and topics tailored to key audiences (actors) to harness this sense of urgency and the potential benefits to people of collaborating with Clean Catch.</p>	<p>Continue to embed key message themes in Clean Catch programme activities.</p> <p>Adapt and refresh key message themes and topics based on learnings from engagement with people e.g. fisher interviews in the new Trial site; feedback from other actors.</p>
1b) Establish trust	<p>Clean Catch engaged a wide range of relevant actors in early 2024 (via interviews, online survey and Reflections workshops) to reflect on experiences of engaging with Clean Catch to date and co-create the building blocks for effective and equitable running of the programme going forwards.</p>	<p>It is possible that, where key actor fatigue is a credible risk to productive and inclusive engagement, establishing <i>trust</i> would be a more appropriate Step 1 than building a sense of urgency. Accordingly, Clean Catch should continue to build relationships and trust with fishermen. Through the interviews, fishermen have described actions that can develop a sense of trust and equal partnership.</p>
2) Form a powerful guiding coalition	<p>In consultation with a broad range of key actors, a refreshed governance framework was co-designed and established for Clean Catch, including the National Advisory Board and the continuation of the Cornwall Local Focus Group.</p>	<p>Regular, relevant and timely NAB and LFG meetings.</p> <p>Convene Expert Working Groups as required to provide specialist input and guidance.</p> <p>Co-design and implement advisory/guiding group(s) for Trial site 2</p>

		(e.g. Local Focus Group/Trial working group).
		Continue engaging motivated and diverse key actors (in addition to fishermen).
3) Create a vision	Expertise-sharing, co-design, and inclusive engagement are all elements included in Clean Catch’s vision. Clean Catch has also, through its engagement efforts such as workshops and quayside discussions about ongoing trials between fishermen and the programme’s Fishery Liaison Officer, identified and articulated clear benefits of participating in a trial to fishermen.	With fishermen and other actors, agree shared goals for the new bycatch trial. Be specific about how participation in a trial advances scientific and bycatch policy knowledge, with a specific description of the value of fishermen’s contributions to these efforts.
4) Communicate the vision	Clean Catch has an established communications strategy and plan, including a website, newsletters, and other communication channels. Team members including fisher liaison officers maintain regular contact with local fishermen and other key people.	This is a two-way process: Fishermen communicated their vision to Clean Catch during the Cornwall site visit. Communicate with fishers early and throughout the initiative, particularly through face-to-face interactions and videos.
5) Empower others to act on the vision		Through Clean Catch communication channel and recommendations in this report. Demonstrate positive key actor qualities (e.g., individual fishermen’s achievements in limiting bycatch outside a formal trial).
6) Plan for and create short-term wins	Local Focus Group meetings. Delivery of a refreshed grievance mechanism.	Regular updates for participants. Providing recognition and acknowledgement to triallists. Keeping triallists informed about the application of bycatch data was important to interviewees. Provide feedback to interviewees who contributed to this report. Explore co-

7) Consolidate improvements and produce additional change	<p>authorship of research (including this report) for submission to peer-reviewed journal.</p> <p>Future co-designed trials, expansion of Clean Catch to include a new fishery partner. Implement a monitoring and evaluation plan.</p> <p>Execute Clean Catch’s ongoing activities in Cornwall and with its new fishery partner in an appropriate and well-timed manner.</p> <p>Respond to concerns and grievances effectively. Adaptively manage trials based on key actor feedback.</p> <p>Ensure applications of an inclusive approach to conservation to guide continuing engagement with local key actors [8].</p>
8) Institutionalise new approaches	<p>This is beyond the scope of the current phase of Clean Catch, although successful trials should lay the groundwork.</p>

Next Steps in Cornwall

There are genuine opportunities to continue addressing bycatch in Cornwall by working with fishermen, some of whom demonstrated clear motivations. To maximise the impact of Clean Catch’s pinger trial, the Cornwall Local Focus Group and any subsequent activities in the region, the consortium should ensure that:

- Trial participants understand what the data they collect is used for, including the value of data demonstrating a low number of bycatch incidents.
- In the spirit of co-design, fishermen are presented with options, rather than decisions (e.g., when choosing where to place a camera on the vessel, or deciding what a trial’s next steps should be).
- The project addresses the fact that fishermen feel unsupported on both sensitive species bycatch mitigation and wider fishery management issues. The Clean Catch team can provide that support with respect to bycatch, whilst signposting to the appropriate people/resources for other issues.

- Changes should be designed to feel incremental ('evolutionary-core'), rather than revolutionary, building on solutions that fishers have some level of belief/interest in (e.g., pingers and PARs).⁷
- Trials should remain responsive to fishermen's knowledge, needs and experience, and can be managed adaptively based on their feedback.
- The project makes best use of fishermen's sense of connection to where they fish and desire to act as stewards of their waters, including through addressing bycatch.
- An appropriate grievance mechanism is delivered, which is tailored to key actors' stated preferences for communications and complaint responses, particularly through acknowledging complaints, providing a clear response timeline, and a clear suggested next step.
- Co-designed bycatch trials and fishermen continue to be linked with best practices elsewhere. This has the benefit of: 1) convincing fishermen that they are part of a best practice project; and 2) distinguishing Clean Catch from other local of domestic institutions and initiatives in which they have less faith. E.g. through cross-visits, inviting fisher to workshops.
- The project gives credit/attention to the efforts, contributions and successes of participating fishermen. This includes spotlighting fishermen making their own individual efforts to adjust practices to mitigate bycatch.

Initial engagement with the new fishery partner

The following recommendations are made for initial engagement with a new fishery partner, with whom a new co-designed trial of monitoring and mitigation will be delivered.

- To ensure the early implementation of well-defined steps structuring an inclusive conservation project, initial on-site engagement with local partners should be led by Cefas's marine scientists, Arribada's Fisher Liaison Officer and ZSL's Equity, Rights and Social Safeguards Officer.
- Provide advance notice of the site visit to maximise opportunities to interact with actors at their convenience.
- Identify key informant(s) with the capacity and relationships to make introductions to actors in the fishery.
- Use a combination of questionnaires, focus groups (if logistically feasible), and interviews/conversations to understand the bycatch issue, needs of different actors and their willingness/readiness to participate in a trial, including preferences with respect different monitoring and mitigation approaches.
- Provide participants for a clear, concise overview of the wider Clean Catch programme and the intentions for the new trial, with supporting document.

⁷ Further information on types of change and their application to this research can be found in the [Report Appendix](#).

- Draw on best practice case studies: Cornish fishermen were more interested in completing interviews or learning about the programme when links were made between collaborative co-designed bycatch management trials and fisheries in other Global North geographies. Future site visits could leverage these examples to have interviewees suggest steps they may be interested in taking to advance towards identified best practices [10].
- Determine actors' preferred means and frequency of communication throughout the trial. How do they want to contribute to co-design and be updated?
- Lay groundwork for a well-executed project with local partners by collaboratively building a mission statement clearly defining mutually-agreed objectives for a bycatch mitigation and/or monitoring trial.
- Provide information about how grievances and technical complaints regarding trial delivery will be handled from the initial engagement stage.
- Prioritise quick wins for the months following a site visit, demonstrating progress and building faith in the partnership. For example, fishermen participating in the trial should be able to assemble a mission statement for it, which captures their motivations and objectives.



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