



CLEAN CATCH UK

National Steering Group

Third Meeting - 17 May 2021

Meeting will begin at 10am



Department
for Environment
Food & Rural Affairs



Centre for Environment
Fisheries & Aquaculture
Science





WELCOME AND HOUSEKEEPING

Cat Bell
Defra



AGENDA

Time	Item
10:00-10:10	Welcome & housekeeping; actions arising from NSG02
10:05-11:35	Updates and plans; Q & A
11:35-11:50	Break
11:50-12:50	Meet the NSG members; Items for information and decision; any other business
12:50-13:00	Conclusions and close

[Link to full agenda in chat](#)



ACTIONS ARISING FROM NSG 02

Cat Bell
Defra

ACTIONS ARISING FROM NSG 02

 Draft TOR to be circulated for comment out of sessions: **Sent 9 April 21**

 NSG members send logos for website:
Received BDMLR, CSGRT, CWT, JNCC, MMO, NE, NFFO, Nord Uni, Seafish

 CCUK Priorities amended & circulated with the TOR: **Ongoing**

 NSG members to comment on the UK Bycatch Mitigation Hub: **Received**

 Secretariat to build the UK Bycatch Mitigation Hub in line with NSG comments: **Complete**





PROGRAMME UPDATES



PROGRESS IN 2020/ 2021

Stu Hetherington & Vicky Bendall
Cefas

**UK Bycatch
Focus Group
meeting
report**

**Electronic
Monitoring
analysis**

**Development
of the Bycatch
Mitigation Hub**

**Self-
reporting
bycatch app
for fishermen**

**Passive
Acoustic
Reflector
trials**

**Continuation
of the cetacean
bycatch
mitigation
study**

**Production
of two Clean
Catch films**

**Launch of the
Clean Catch
UK website**

**Expansion of
the skippers' self-
reporting wildlife
bycatch
monitoring
programme**

**Clean Catch
UK National
Steering Group
Meetings**

**Expansion of
the Spurdog
Bycatch
Management
Programme**

**Risk of wildlife
bycatch
review**



BACKGROUND

Clean Catch UK is a collaborative research programme, where scientists and fishermen work together to monitor and help reduce the accidental capture of wildlife by commercial fishing vessels.

The seas around the UK are complex underwater ecosystems. These waters provide essential habitats for a number of protected, endangered and threatened species of wildlife, such as marine mammals (whales, dolphins, porpoises and seals), seabirds and some species of elasmobranchs (sharks, skates and rays). Unfortunately, this wildlife can be hard for fishers to avoid and can become entangled in fishing gear, ending up as accidental catch – or 'bycatch'. Globally, bycatch is one of the greatest threats to many sensitive marine species. Reducing bycatch offers benefits to fishers as dealing with bycatch on vessels can be distressing, labour-intensive, time-consuming and costly.



Clean Catch is working to improve bycatch monitoring, and aspires to reduce bycatch of:

- **Cetaceans** - whales, dolphins and porpoises, such as harbour porpoise and common dolphin
- **Elasmobranchs** - sharks, skates and rays such as porbeagle, thresher, blue skate, spurdog and angelshark
- **Seabirds** - many species including gannets, fulmars, guillemots and cormorants
- **Pinnipeds** - seals, such as the grey seal and common seal

The UK Government has committed to minimise and, where possible, eliminate bycatch of sensitive marine species through:

- The Fisheries Act 2020
- Technical conservation measures
- The UK Marine Strategy
- Bycatch Plans of Action
- International collaboration

Clean Catch UK is developing solutions to better monitor and reduce the bycatch of wildlife in UK commercial fisheries. This work is in support of the UK Government's commitments to minimise and, where possible, eliminate sensitive species bycatch, through a stakeholder-led approach.

Hetherington, S.J., Bendall, V.A., Wild, M., Clare, T., Ryan, K., Ashton, J., Engelhard, G., Bell, C., Day, E., Kelman, E. (2021). Clean Catch UK: Joint Action to Reduce Wildlife Bycatch, Annual Report (April 2020 - March 2021). 7 pp.

Globally, bycatch is one of the greatest threats to many sensitive marine species.



One of the greatest challenges to conserving and managing sensitive marine species is that often relatively little is known about them. This makes it difficult to know the full impact that bycatch can have on wildlife populations. Clean Catch UK is collecting data that will help uncover how some species are distributed, how they behave, and their life histories, as well as recording the overlap in space and time of fisheries and wildlife, accidental capture and post-release survival rates.

The programme is initially focusing on the Celtic Sea (ICES Division 7e-j). The Celtic Sea coastal shelf waters utilised by South-west fisheries are considered an area of ecological importance for a wide diversity of marine wildlife and therefore the risk of bycatch within this region is of significant management and conservation concern. Clean Catch UK places fishermen at the heart of planning, developing and implementing new data collection and monitoring measures, allowing mitigation actions to be targeted to have the most beneficial impact, and achieve buy-in from the outset on how best to reduce bycatch.

IMPACT OF THE PANDEMIC

Inevitably, the coronavirus pandemic impacted the vision of Clean Catch UK in 2020-21. The pandemic brought hardship and uncertainty to the Cornish fishing communities with whom Clean Catch UK is engaged, which posed challenges to collaborative efforts. Additionally, for five months between April and September 2020, suspension of all fieldwork meant that Cefas staff were unable to travel and engage directly with fishers. Despite a brief respite, from November 2020 to March 2021 a further six months of travel, engagement, and fieldwork activities were extremely curtailed. Nevertheless, much has been achieved in the past year through new ways of working, remote data collection and preparing for fieldwork in 2021-22.



One of the greatest challenges to conserving and managing sensitive marine species is that often relatively little is known about them.

5. EXPANSION OF THE SKIPPERS' SELF-REPORTING WILDLIFE BYCATCH MONITORING PROGRAMME

As the pandemic took hold in the UK, six skippers from South Cornwall's inshore net fishery were actively engaged in the Clean Catch UK self-reporting cetacean bycatch monitoring programme. Despite the pandemic, the monitoring programme has successfully expanded both within and beyond this fishery, and across wildlife species. A further four fishermen from the inshore net fishery joined the programme, as well as two additional vessels from the ring net fishery, including the installation of an Electronic Monitoring (EM) system on one vessel. **By March 2021**, twelve skippers were using the Clean Catch UK app, self-reporting all accidental capture of wildlife species, verified by four EM systems.



HIGHLIGHTS

6. EXPANSION OF THE SPURDOG BYCATCH MANAGEMENT PROGRAMME

Since **November 2016**, this programme has been delivering the most complete understanding of spurdog bycatch and discard survival in the Celtic Sea. The programme is led by industry and involves near real-time self-reporting, and its outputs will inform future spatial management measures. **In March 2021**, the programme expanded from seven to thirteen vessels, increasing coverage and data collection.



7. CONTINUATION OF THE CETACEAN BYCATCH MITIGATION STUDY

Through the pandemic, the fishermen of Mevagissey collected data on whether pingers and/or lights are practical, robust and effective at reducing bycatch of common dolphin and harbour porpoise. Whilst fishing as usual, each vessel deployed 'paired' nets, featuring one net with a mitigation device and one as a control, testing each modification over one lunar cycle.

6

8. UK BYCATCH FOCUS GROUP MEETING REPORT

In July 2020 a technical meeting of the former UK Bycatch Focus Group (the precursor to the Clean Catch UK National Steering Group) was held to discuss the participatory approach of the cetacean bycatch mitigation study with stakeholders, as well as to address concerns raised around both the approach and experimental design. Feedback from these constructive discussions was used in finalising the report of the experimental design of the study, **submitted in August 2020**. A number of key outcomes were agreed to be considered by the Local Focus Group in future work to reduce bycatch in Cornish fisheries, captured in the report of the meeting, **submitted in November 2020**.



9. CLEAN CATCH UK NATIONAL STEERING GROUP MEETINGS

The inaugural meeting of the Clean Catch UK National Steering Group (NSG) was **in November 2020**. This meeting introduced members to the programme, and NSG members shared key monitoring and mitigation priorities for cetaceans, elasmobranchs and seabirds. The second meeting was held shortly after in **December 2020**, to refine the NSG's priorities and share knowledge about bycatch mitigation measures to help shape the Clean Catch UK Bycatch Mitigation Hub. Both meetings were attended by over 30 participants.

10. ELECTRONIC MONITORING ANALYSIS

By March 2021, the Cefas EM analysis team had reviewed the EM footage & data from 3 Cornish inshore (<10m) vessels, fishing static nets. For the period October 2019 to December 2020, 836 hauls from 293 fishing trips had been recorded. 100% of the footage was reviewed for cetacean bycatch for the whole period. For the period March to December 2020, other megafauna bycatch was included in the analysis, at a 100% sampling rate, with a 20% sampling rate for seabird bycatch.

11. RISK OF WILDLIFE BYCATCH REVIEW

In March 2021, the Clean Catch UK team reviewed the risk of bycatch to groups of protected, endangered and threatened species of marine wildlife, by fisheries operating in the South-west of the UK, in context of the economic importance of the fishery. **In the summer of 2021**, this review will be visualised in an infographic for stakeholders and used by the Clean Catch UK Regional Working Group to inform the delegation of priority species and fisheries in Bycatch Reduction Plans.

12. PASSIVE ACOUSTIC REFLECTOR TANK TRIALS

Co-designed with fishermen from the Local Focus Group, a prototype Passive Acoustic Reflector (a novel mitigation technology) underwent **successful tank trials in October 2020**. When an echolocating cetacean emits a 'click', the Passive Acoustic Reflector resonates and transmits back an echo, hopefully alerting the cetacean to the presence of the net. The Clean Catch UK Passive Acoustic Reflector prototype is significantly more 'reflective' than standard headline floats used on static nets.

HIGHLIGHTS

7




COMMUNICATIONS UPDATE

Katrina Ryan,
Jax Keenan and Tesni Clare
Mindfully Wired Communications

COMMUNICATIONS OBJECTIVES

 **Distilling & sharing information both internally & externally**

 **Highlighting the ongoing work of Clean Catch UK members via website, press and social media**

 **Building a transparent, effective channel for dialogue between members**





 **We welcome your input**





CLEAN CATCH APP

THE SELF-REPORTING APP

-  **Simple app allows fishermen to collect data on bycatch**
-  **Clean Catch UK YouTube account created**
-  **Two bespoke films produced to engage fishermen**
-  **Widespread media coverage & interest from fishermen, POs and processors across the UK**



Bycatch mitigation for:



SEABIRDS



CETACEANS



SHARKS & RAYS



SEALS



ALL SPECIES

GET RESULTS

BYCATCH MITIGATION HUB

UK BYCATCH MITIGATION HUB



Launching today!



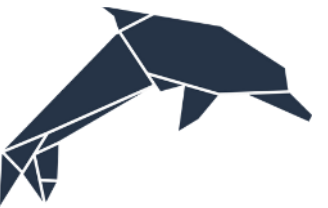
A common reference point for stakeholders working in sensitive species bycatch



Hosting high-level information on over 65 mitigation measures



A 'starting point' for further investigation



UK BYCATCH MITIGATION HUB

NSG REVIEW



Thank you for your feedback!



A number of updates made:



New mitigation measures added



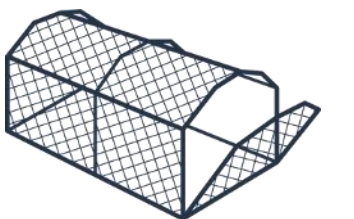
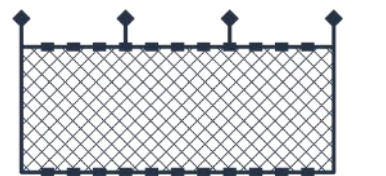
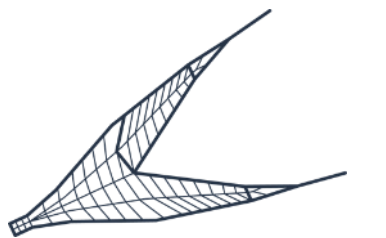
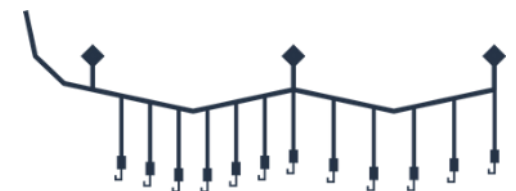
Expert detail added to existing measures



Seals included as a separate bycatch group



Clearer signposting to proven & best practice measures



UK BYCATCH MITIGATION HUB

FUTURE UPDATES



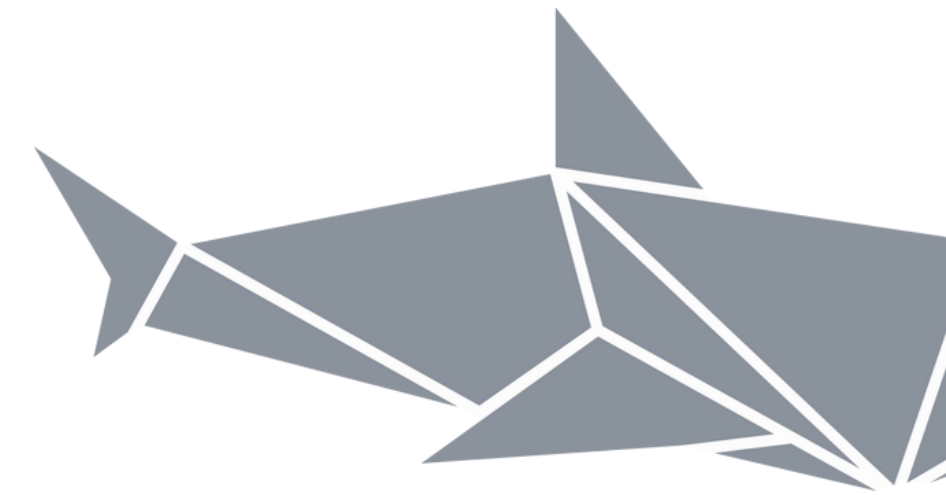
Indicator of proven/recommended and non-proven measures



Ensuring the Hub is useful for all stakeholders



The Hub is a 'living' platform – please continue to submit new ideas, research and technologies





DEFRA UPDATE

Bycatch Mitigation Initiative

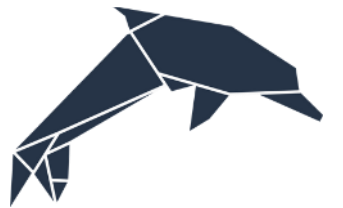
Cat Bell & Emma Day

Defra

BYCATCH OBJECTIVES: ALL ANIMAL GROUPS

OVERALL AIM

-  **To minimise and, where possible, eliminate bycatch and entanglement of sensitive marine species in UK fisheries**



BYCATCH OBJECTIVES: ALL ANIMAL GROUPS

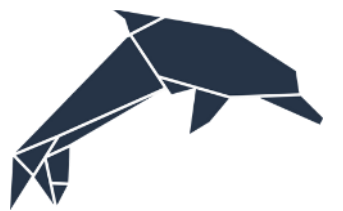
POLICY OBJECTIVES



Improve our understanding of bycatch and entanglement of sensitive marine species through scientific monitoring and research



Identify high-risk areas, gear types and/or fisheries for bycatch and entanglement in the UK, in order to prioritise monitoring and mitigation efforts



BYCATCH OBJECTIVES: ALL ANIMAL GROUPS

POLICY OBJECTIVES



Develop, adopt and promote effective mitigation measures to reduce the bycatch and entanglement of sensitive marine species



Identify and adopt effective incentives for fisheries to implement mitigation measures



Collaborate with the international community to share best practice and lessons learned to promote the reduction and elimination of bycatch and entanglement globally



BYCATCH OBJECTIVES: ALL ANIMAL GROUPS

STRUCTURE

Bycatch Mitigation Initiative:
2021

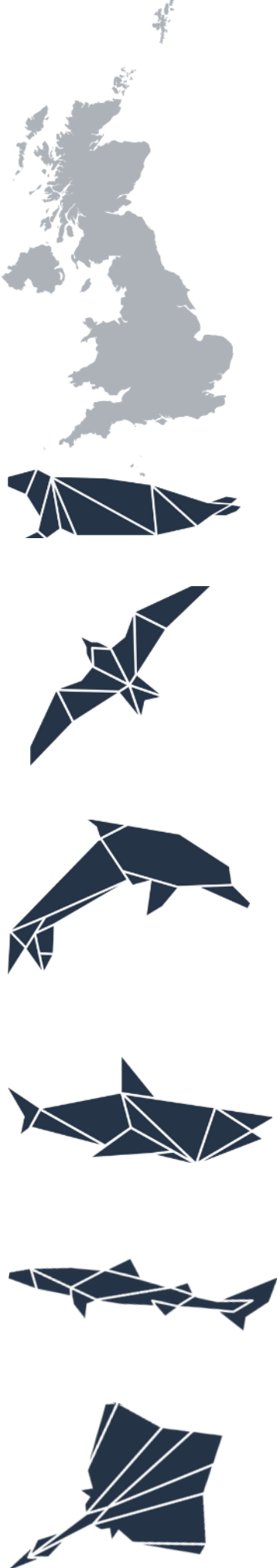
Describes the Government’s goal to reduce and eliminate bycatch across all taxa and overviews key actions (under five policy objectives/themes) that will enable us to achieve that.

Implementation:
End 2021

Describes the implementation of the BMI in more detail, i.e. how we plan to deliver against each of the actions, using what projects/initiatives, on what timeline.
Scope to have separate implementation plans for different taxa and acknowledge area-specific differences.
Implementation will be led by each Administration.

Reporting:
2023 mid-point review
2026 end of initiative

Report on what has been done to deliver actions and evaluate how successful we have been at meeting the policy objectives. The mid-point review in 2024 is an opportunity to re-assess whether the initiative is fit for purpose or needs updating.



UPDATE ON WIDER WORK

JOINT FISHERIES STATEMENT



Draft statement for consultation in winter 2021/22, ahead of parliamentary scrutiny then publication in autumn 2022.

FISHERIES MANAGEMENT PLANS



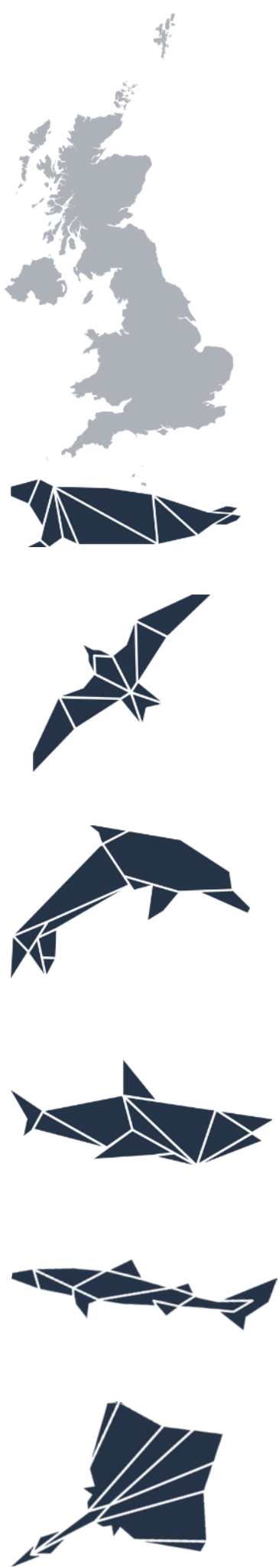
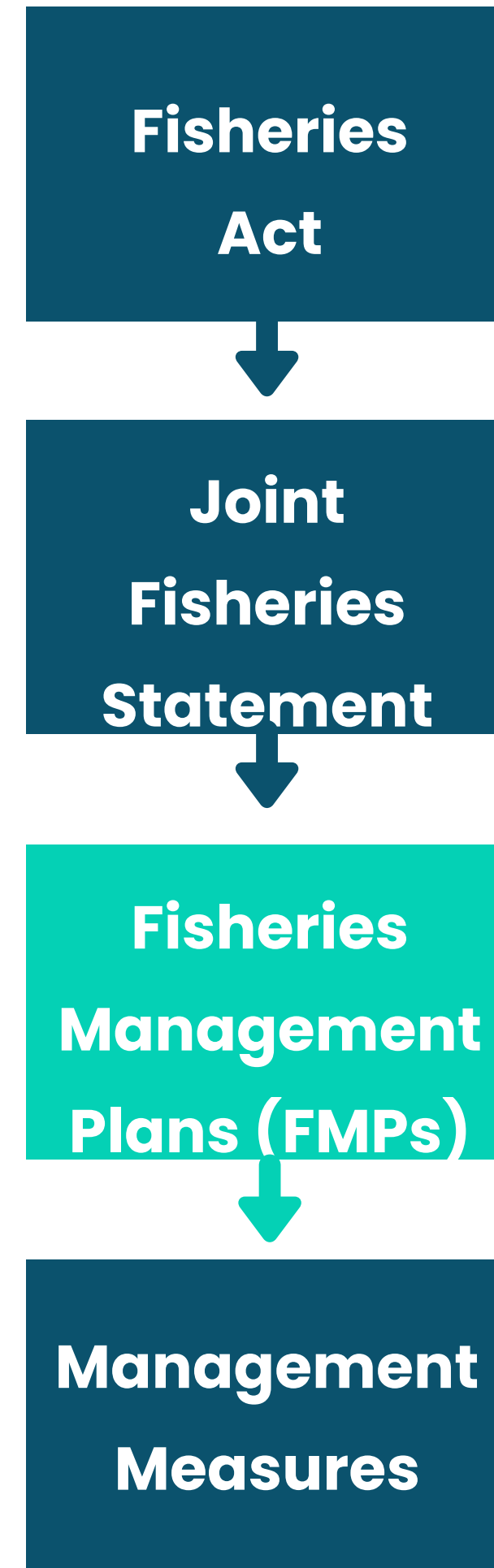
FMPs will set out policies and measures to manage fishing activity to help achieve objectives in the Fisheries Act.






FMPs will cover species/stocks, and/or locations, and/or types of fishing activities, presenting management interventions tailored appropriately.



Policy for implementing the FMPs will be set out in the JFS.



PRIORITIES UPDATE

-  **Discussed NSG priorities to be used to inform overarching workplan**
-  **Workplan to be drafted and then discussed in a focused one-off inter-sessional NSG meeting**
-  **Aim: approval during NSG meeting November 2021**





PLANS & ACTIVITIES



OVERVIEW OF ACTIVITIES FOR 2021/ 2022

Stu Hetherington & Vicky Bendall

Cefas

**Local Focus
Groups
meetings**

**Spurdog
Bycatch
Management**

**'Inside
Nature's
Giants' live
event**

**Next steps
for the cetacean
bycatch
mitigation study
Mevagissey**

**Launch of
the Bycatch
Mitigation Hub**

**Expansion of
the skippers'
self-reporting
bycatch
monitoring
programme**

**Build a "home"
for the app
and Electronic
Monitoring
data**

**Regional
Working Group
meeting**

**Bycatch
Mitigation Passive
Acoustic
Reflectors
study**

**Spatial-
temporal
mapping of
bycatch in the
South-west**

**Celtic Sea
Elasmobranch
survey**

**National
Steering Group
Meetings**





PASSIVE ACOUSTIC REFLECTOR

Alasdair Davies

Arribada Initiative

Passive Acoustic Reflector Research & Development

Alasdair Davies | Natalie Smith

Arribada Initiative C.I.C
<https://arribada.org>

ARRIBADA
 *initiative*



Who are Arribada?



- A UK conservation technology company focused on open-source hardware research and development.
- We work with conservation organizations globally to co-develop and integrate conservation technologies into their field programmes.



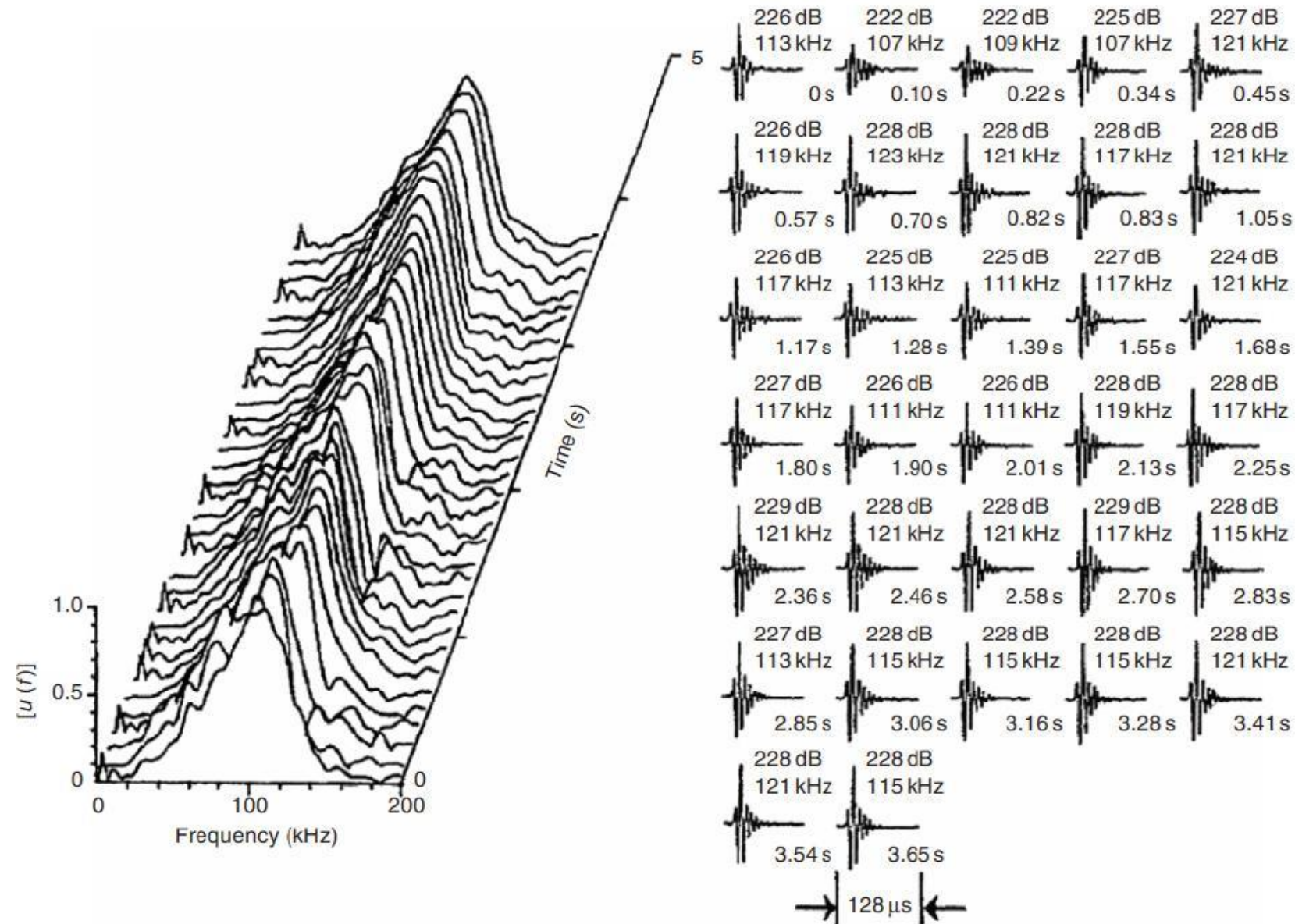
Objectives

- Identify and design a viable passive acoustic reflector to increase the visibility of fishing nets to cetaceans
- Co-design a viable passive acoustic reflector appropriate to the uses and needs of fishermen
- Identify and design a viable passive acoustic reflector that is affordable to manufacture



Developing a reflector

Target range
100 – 130kHz

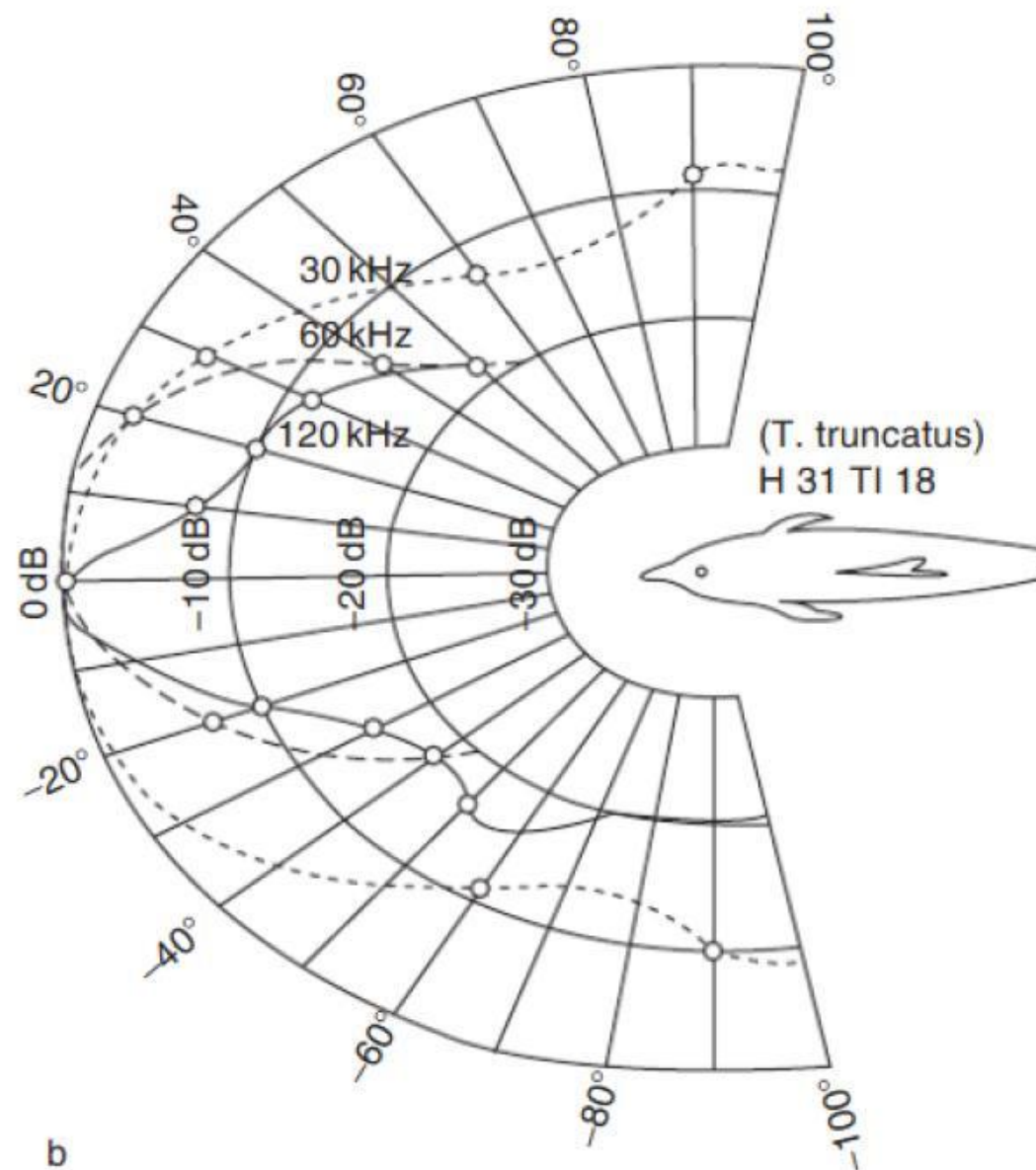


[Figure 11] An example of a dolphin pulse train with frequency vs time plotted on the left and individual pulses presented with peak frequencies and levels on the right. Between 100 - 130kHz would be our optimum target (resonating) frequency that our material should match.



Developing a reflector

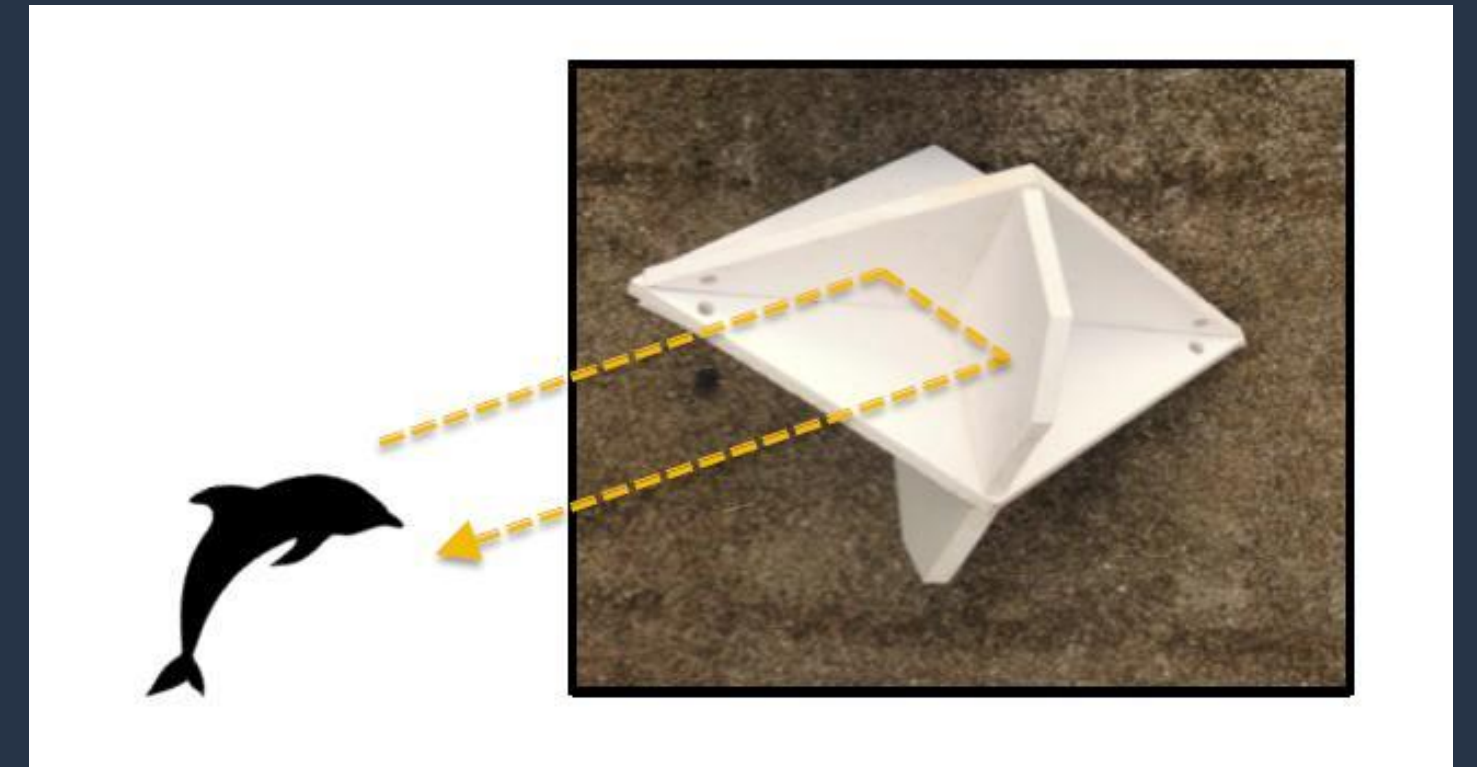
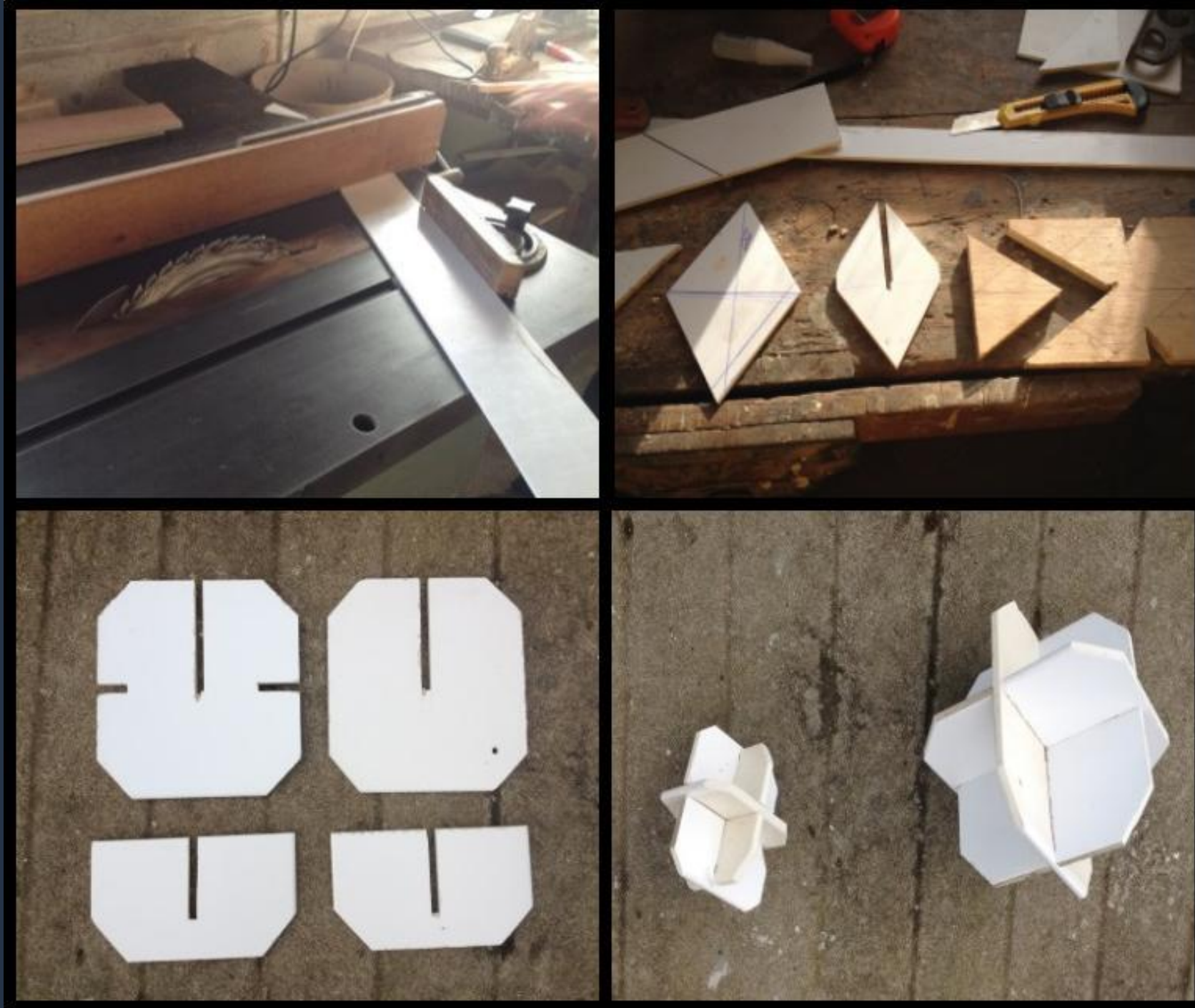
Specular vs
diffuse reflection



[Figure 2] Sound reception characteristics of bottlenose dolphins. Receiving (a) vertical beam patterns and (b) horizontal beam patterns for frequencies of 30, 60 and 120kHz are plotted. Our target of 100 - 130kHz shows that we need to reflect at 30 - 45 degrees and direct energy back to the approaching dolphin / echolocating species.



Investigating Past Research



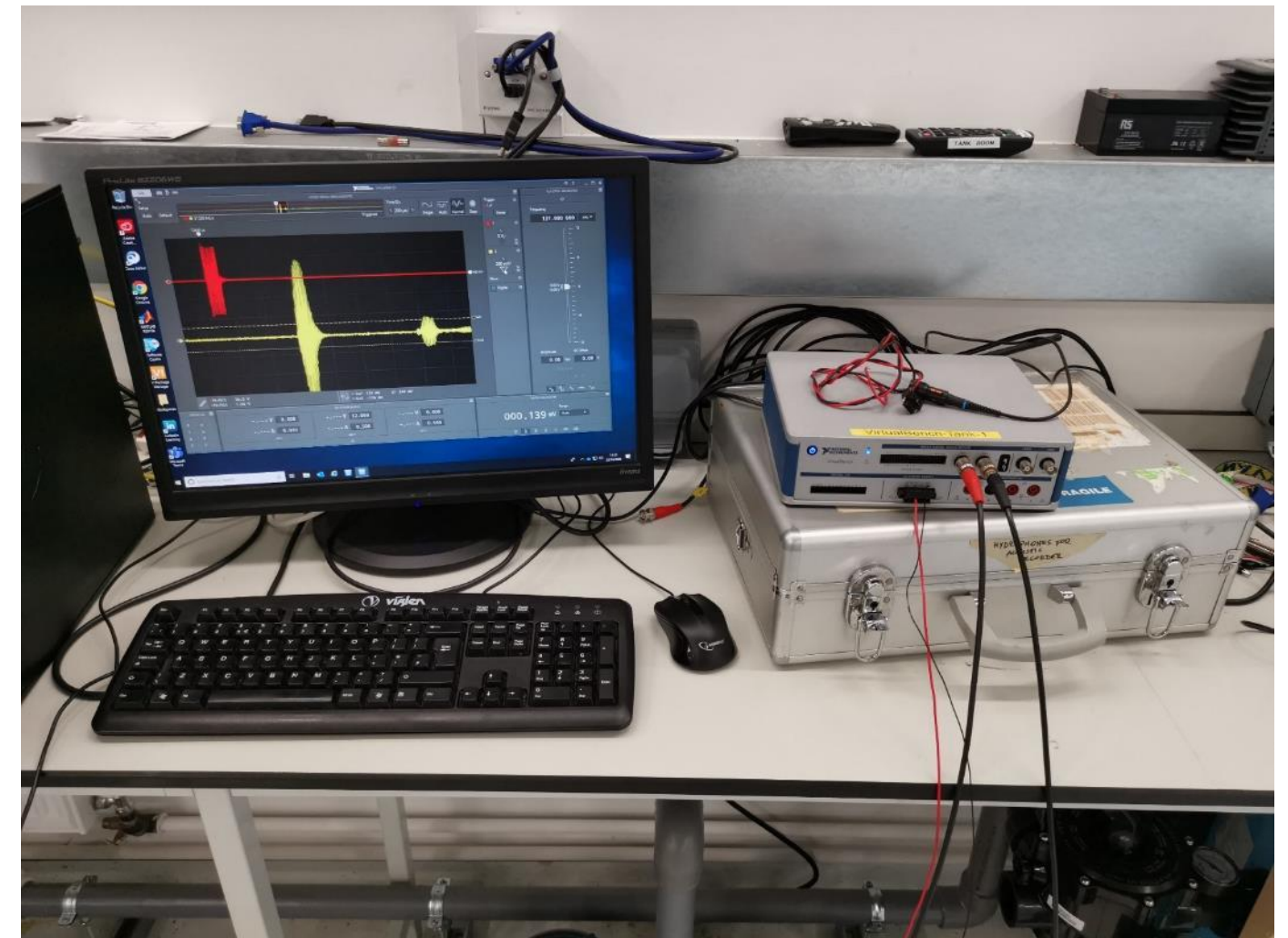
Initial feedback & co-design

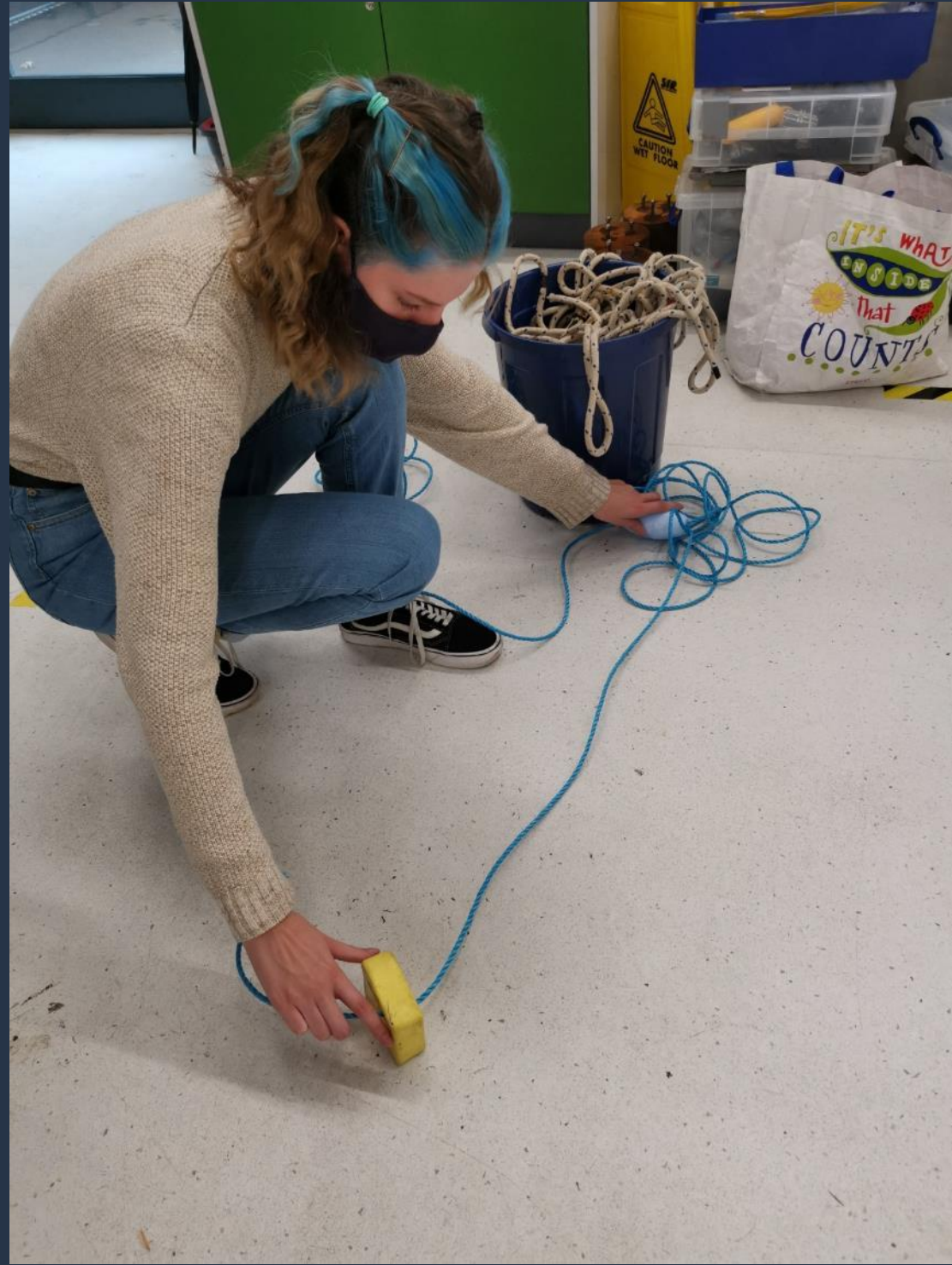
- Feedback suggested a headline float design would be best suited
- Strength and durability of the reflector would be crucial (needed to survive everyday use)
- Reflectors should be able to pass through flakers

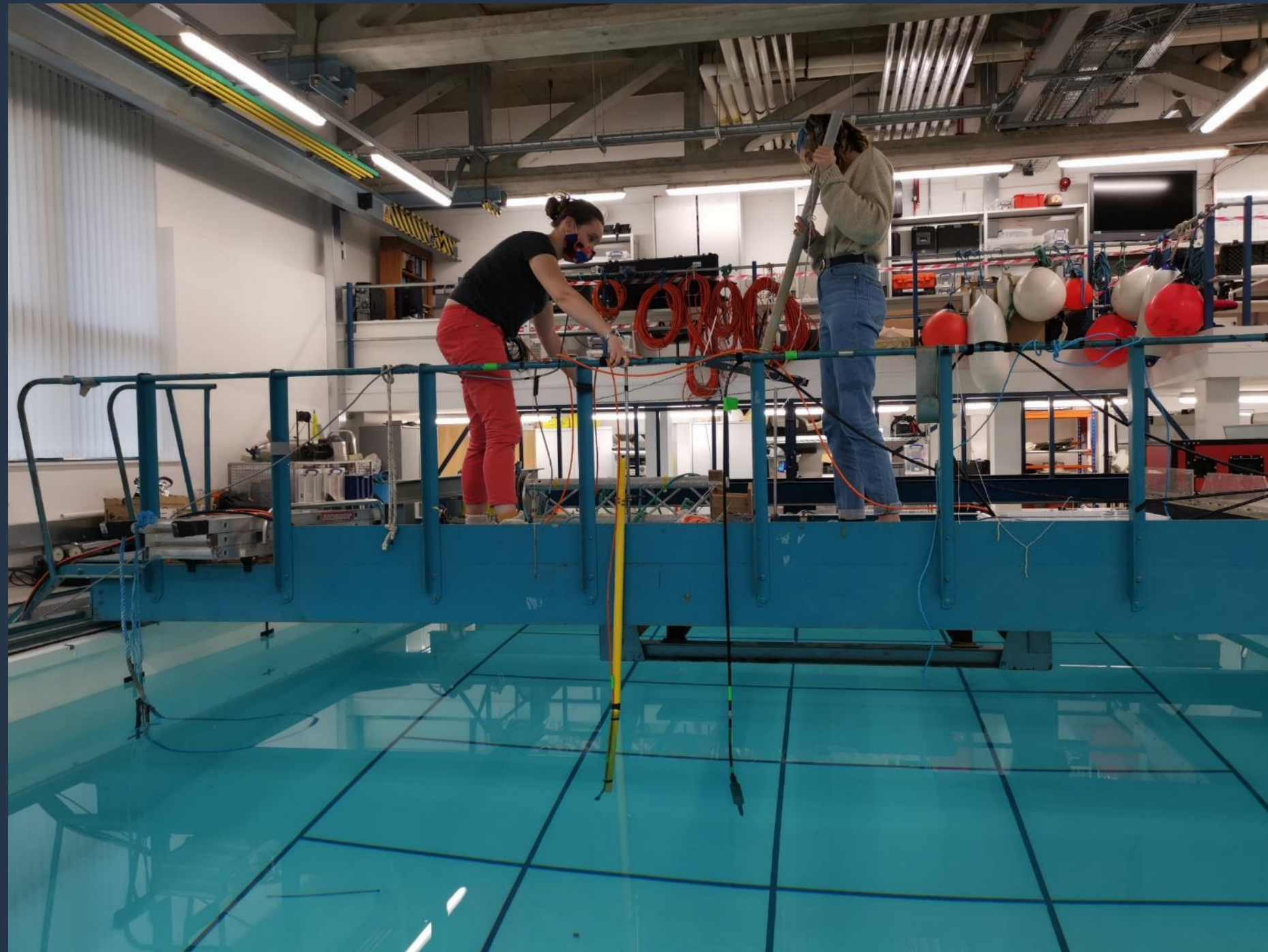


Continued research & development

Wolfson School of Mechanical, Electrical and
Manufacturing Engineering, Loughborough University







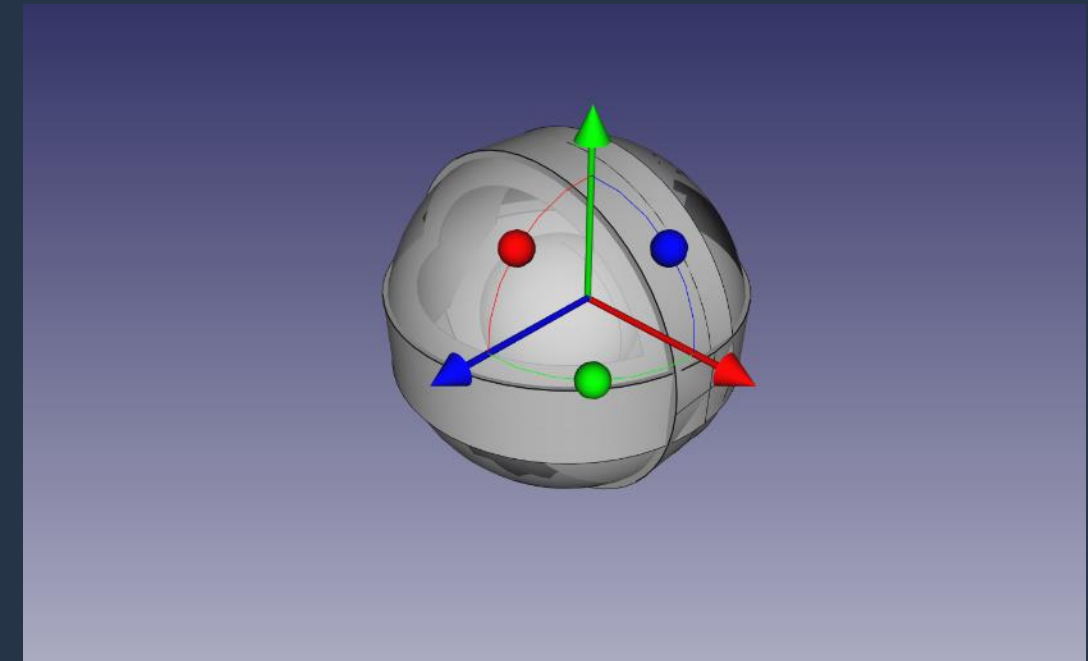
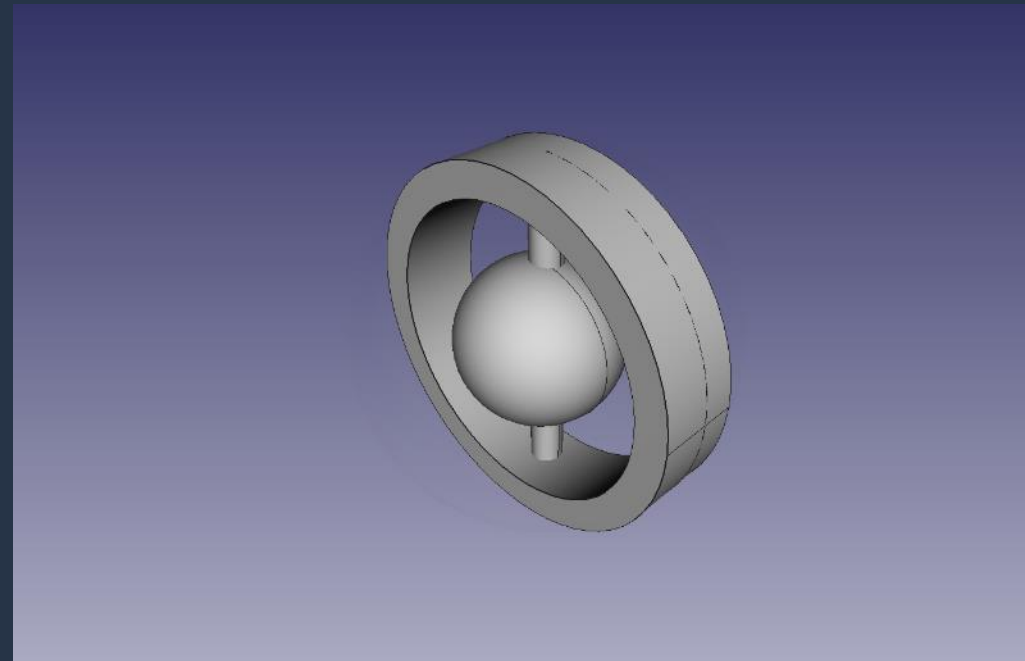
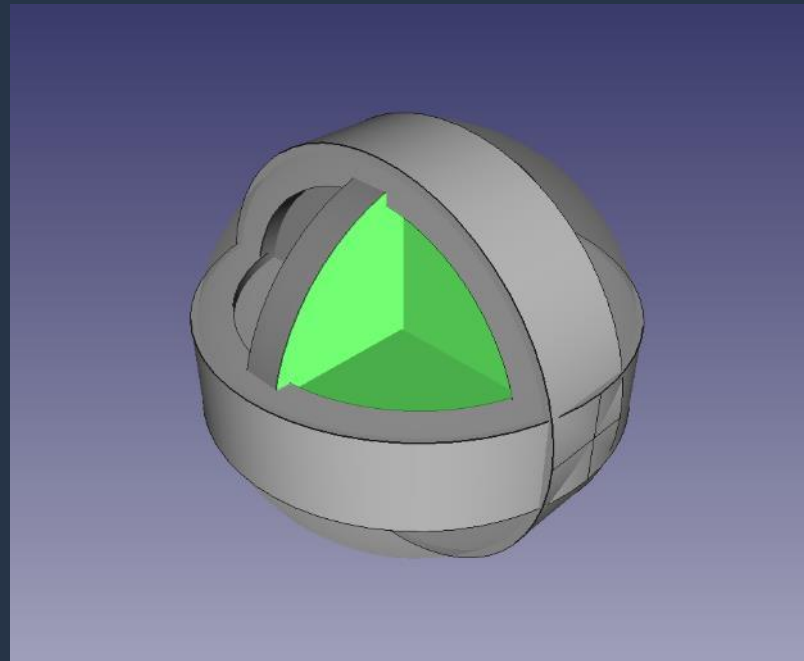
Tech specs

- Hydrophone was a Balanced Reson 4014 (15Hz – 480kHz)
- WAV recordings via a National Instruments USB 6363 16 bit +/- 10V



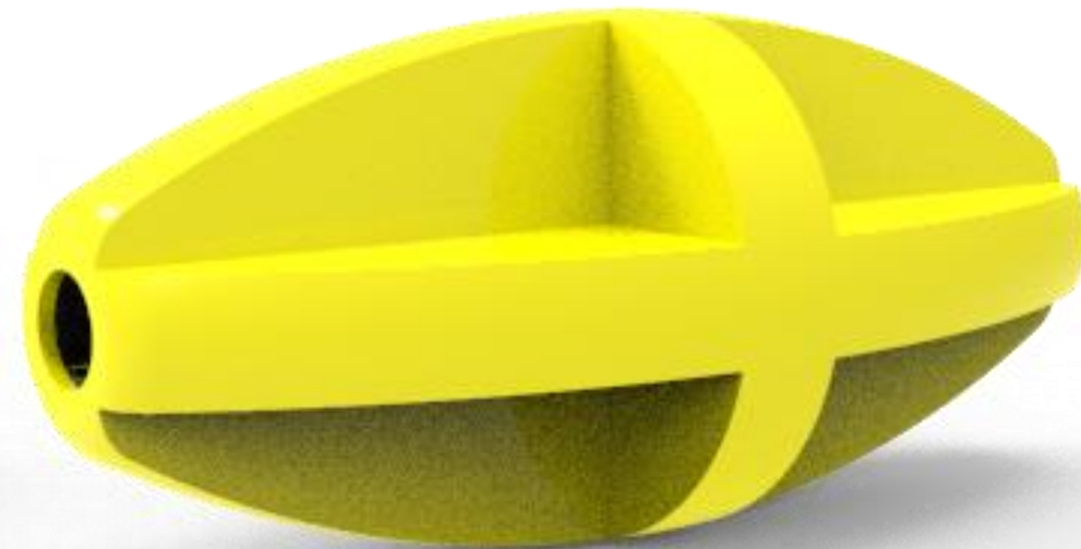
Initial Assessment

- Specular
- Diffuse
- Material composition



Continued Research

- What's the optimal size and material type?
- Mixing spectral and diffuse reflecting surfaces & materials together?
- Targeting a headline float shape and design



Next Steps

- Conduct additional tank tests to evaluate how shape, size and density affects the performance of each reflector.
- A second prototype will be constructed and presented to the next Cetacean Bycatch Regional Focus Group.
- Manufacture an initial batch of the best performing reflector for at-sea trials



Thank You



Chelonia Ltd | Nick Tregenza





'INSIDE NATURE'S GIANTS' EVENT

Vicky Bendall

Cefas



QUESTIONS, ANSWERS & COMMENTS

Stu Hetherington & Vicky Bendall – Cefas,
Cat Bell – Defra, Alasdair Davies – Arribada



TIME FOR A BREAK

STANDING ITEM

MEET THE NSG MEMBERS

Joanna Barker of ZSL and Gus Caslake of Seafish and the Cornish Sardines Management Association then presented to the NSG about an innovative new tool to monitor bycatch, being developed by a coalition of fishermen, scientists, engineers, conservationists and communicators – check the CCUK news page for updates.



The background features a dark blue-grey gradient. On the right side, there is a stylized graphic composed of several overlapping, angular shapes. The top part consists of three nested, light orange trapezoidal shapes with dark outlines. Below these, there are grey, jagged shapes that resemble a mountain range or a stylized animal head profile, also with dark outlines. A solid teal horizontal bar is positioned across the middle of the image, containing the text.

QUESTIONS, ANSWERS & COMMENTS

STANDING ITEM

ITEMS FOR DECISION AND INFORMATION

Cat Bell

Defra



ITEM 11.1

FOR INFORMATION

Amendments to the Seal Conservation Act (COSA) 1970 and compliance with US MMPA

Vicky Bendall
Cefas



ITEM 11.2

FOR INFORMATION

Trialling ropeless gear in the North East following humpback entanglement in the region

Rob Deaville
CSIP



ITEM 11.3

FOR INFORMATION

Soaring to Solutions Workshop
Report & Seabirds Bycatch Toolkit

Matt Parsons
JNCC



South Georgia Patagonian Toothfish

In the early 90s, the four mitigation methods outlined above were trialled in the Antarctic, where bycatch of seabirds – especially albatrosses – in the South Georgia Patagonian toothfish fishery was high. Engagement with fishers led to the introduction of adapted ways of fishing, and seabird fatalities from bycatch fell dramatically from 5,755 individuals in 1997 to 640 in 1998 (when the measures became a legal requirement), before steadily declining to zero fatalities in 2006. Despite this success in Antarctic waters, a lack of subsequent action to implement mitigation techniques on a wider scale meant that bycatch of species with large distributions, which span multiple fisheries and jurisdictions, was far from fully addressed. As a result, there was work left to be done on other parts of the High Seas and within the EEZs of countries where fisheries and albatrosses overlapped.

The Albatross Task Force

The Albatross Task Force (ATF), an RSPB and Birdlife International initiative established in 2006, took the key learnings of the South Georgia Patagonian toothfish example and applied them to tackle Albatross bycatch in South America and Southern Africa. Rory discussed the ATF's two step approach, which saw a clear progression from gear adaptations within fisheries, to the introduction of regulations developed collaboratively by fishers, observers, regulators, and conservation organisations.

In South Africa and Namibia, the ATF's approach has helped reduce seabird bycatch in hake fisheries by 95%, with aims to achieve reductions of 80% in all partner fisheries by 2022. The grassroots involvement of industry colleagues from the outset has led to the fishing industry developing a sense of ownership in the progress that they've made, and fishers wear their reduced bycatch levels as a badge of honour.

Rory attributed the ATF's success to the emphasis placed on multi-stakeholder collaboration. Engaging industry from the outset ensured that gear adaptations were feasible and effective, and cementing best-practice through collaboratively agreed legislation was fundamental in ensuring the widespread implementation and long term success of mitigation measures.

In conclusion, Rory stressed his confidence that there are effective and achievable ways for the UK, and the world, to reduce fishing pressure on seabirds without harming the livelihoods of fishers.

'It's not easy, but it's a conservation success story waiting to happen'.

Reducing seabird bycatch: the key ingredients

- **Trust:** it takes a leap of faith from industry and conservationists to work with each other.
- **Recognition:** the best progress is made when everyone agrees that there is a problem to be solved.
- **Collaborating on solutions:** it's essential not to focus solely on bycatch, but to ensure that target catch is protected, and even improved, by bycatch mitigation.
- **Resourcing from government and fishery managers:** no progress would be made without investment for innovation and risk protection for the industry.
- **Monitoring:** it is impossible to understand the issue, monitor the effectiveness of solutions, or increase faith in situations without being able to demonstrate the effectiveness of the plan of action.
- **Regulations:** universal and equitable regulations are essential to ensure that a level playing field is established, and that progress is not solely reliant on proactive individuals.

3. Workshop Presentations

3.2. Commissioned seabird research: evidence to support a UK Plan of Action on seabird bycatch

Matt Parsons

Senior Marine Ornithologist, JNCC

Defra commissioned research into key areas of seabird bycatch to support the future UK Seabird Bycatch Plan of Action. Matt Parsons presented the key points of this research, highlighting priorities for future investigation and recommendations for the next phase of the work.

Preliminary estimates of seabird bycatch by UK vessels in UK and adjacent waters.

Simon Northridge, Al Kingston and Alex Coram, October 2020

This study² combined estimated bycatch rate with total fishing effort over a monitoring period of 20 years. It revealed that 10 seabirds appeared in the samples of bycatch during this time, across the three gear types in the UK fleet that were studied: fixed nets, offshore longlines, and pelagic trawls.

2. Northridge, S., Kingston, A., Coram, A. (2020) Preliminary estimates of seabird bycatch by UK vessels in UK and adjacent waters. Report prepared for the Department for Environment Food and Rural Affairs (Project Code ME6024).



The four species identified as being most at risk from seabird bycatch are:



Fulmar

Of which **2,220-9,100** individuals are estimated to be caught annually, predominantly in northern offshore longlines.



Guillemot

Of which **1,800-3,300** individuals may be caught each year, mainly by inshore fixed nets.



Gannet

Which are most at risk of offshore longlines and may see between **10 and 700** mortalities per year.



Cormorant

Which are estimated to see **200-550** mortalities each year, mainly caused by inshore fixed nets.

ITEM 11.4

FOR DECISION

Clean Catch UK National
Steering Group Terms of
Reference:

Discussion & vote

Cat Bell

Defra





ITEM 11.4

VOTE

Does the Clean Catch UK National Steering Group accept and agree to the updated Terms of Reference?



ANY OTHER BUSINESS



Department
for Environment
Food & Rural Affairs



Centre for Environment
Fisheries & Aquaculture
Science



CONCLUSIONS

Cat Bell
Defra



Department
for Environment
Food & Rural Affairs



Centre for Environment
Fisheries & Aquaculture
Science



Next Meeting: November 2021

Invitation for 'Meet the NSG members'

Any Questions? Contact the Secretariat:
secretariat@cleancatchuk.com