

FROM HABITAT TO HARVEST

Restoration that works
with fisheries



*A workshop report on fisheries, restoration and
implementation of the EU Nature Restoration
Regulation*



European
Environment
Agency



DickeyCollas
Marine



This report is an outcome of a workshop co-organised and convened by the European Bureau for Conservation and Development (EBCD), the European Environment Agency (EEA) and Dickey-Collas Marine, which took place from 23 to 24 April 2026 in Copenhagen, Denmark.

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Abbreviations

Nature Restoration Regulation, Regulation (EU) 2024/1991	NRR
EU Common Fisheries Policy, Regulation (EU) No 1380/2013	CFP
Convention on Biological Diversity	CBD
European Bureau for Conservation and Development	EBCD
European Environment Agency	EEA
Food and Agriculture Organization of the United Nations	FAO
Society for Ecological Restoration	SER
European Maritime, Fisheries, and Aquaculture Fund	EMFAF
General Data Protection Regulation	GDPR

Executive Summary

Marine restoration is now moving into an implementation phase. In fishing areas, it will not be delivered by restoration plans alone, it will depend on what is agreed with fishers and fisheries. This workshop showed that restoration can support ecological recovery and viable fisheries where measures are clear, place-based, monitored and recognised in the systems that make decisions. It also showed that restoration cannot be reduced to closures, and fisheries contributions cannot remain invisible if they are expected to support delivery. The workshop also identified where delivery is currently blocked: unclear policy routes between the NRR and CFP, short-term and uneven funding, slow approval processes for gear change and active restoration, data gaps in coastal fisheries, and restoration language that fishers cannot yet translate into decisions.

Key findings:

1. Restoration in fishing areas should start from the restoration target, the pressure being addressed and the ecological and fisheries context of the area.
2. Fisheries can contribute through pressure reduction, impact mitigation, passive recovery, active rebuilding, monitoring, gear innovation and stewardship.
3. Coexistence between restoration and fishing is possible in some places, but it must be designed, tested, supported and reviewed.
4. Trust depends on early involvement, fair burden-sharing, practical language and clear routes from discussion to action.
5. NRR implementation needs a recognition pathway so fisheries measures that support restoration are visible in national restoration plans, CFP processes and marine spatial planning.
6. Restoration measures should account for where fishing effort moves when access changes. Restoring European waters should not shift environmental costs to other fleets, areas or food systems.

1. Purpose of the workshop

Fisheries knowledge and management tools are essential for delivering marine restoration. This workshop positions fisheries as active contributors to habitat restoration and clarifies how fisheries management can support implementation of the NRR. Restoration is now an implementation task. Fishers are already part of delivery. The question is how to recognise, design and scale measures that restore habitats while maintaining viable fisheries and food production.

1.1 Rationale for the workshop

Marine restoration in Europe is no longer a future commitment. The EU Nature Restoration Regulation has created binding obligations, and Member States are now developing national restoration plans. These plans will need to address main pressures on the marine habitat outlined in the regulation, which includes fisheries. The goal of this workshop was to explore how fisheries measures can support NRR implementation.

A significant proportion of marine restoration will need to take place in areas already used for fishing, aquaculture, navigation, energy production and other human activities. What gear is used, where, when and at what intensity determines whether seabed habitats and ecosystem functions degrade further or begin to recover. In this sense, fisheries management is already contributing to restoration actions, whether or not it is formally recognised as a restoration measure.

Yet fisheries and nature restoration continue to be governed through largely separate processes, both within Member States and at the EU level. The CFP and the NRR operate on different timelines, through different institutions and with goals that are not yet aligned. Measures that already deliver restoration outcomes go unrecognised in national management plans. As a result, fishers contributing to recovery receive no formal credit and often no support.

The question is how to recognise, design and scale the measures that restore habitats while maintaining viable fisheries and food production. That is what this workshop set out to address.

The workshop had four objectives:

1. Show how fishers are positively engaged in marine restoration.
2. Provide a forum for fisheries to meet and discuss with NRR national managers.
3. Highlight that restoration is a key element of the blue economy by showing the synergies of food production and restoration.
4. Jointly frame measures that conserve/restore biodiversity and maintain nature's contributions (nurseries, seabed integrity) to support resilience and food security

The workshop was framed around one practical question: how can restoration be delivered in fishing areas without treating restoration as anti-fishing or fishers as an afterthought? Setting restoration as a way to rebuild grounds so they can support fish, fishing and coastal communities.

Four policy frames guided the discussion: the EU Nature Restoration Regulation, the EU Common Fisheries Policy, the CBD's Global Biodiversity Framework and the UN Decade on Restoration. The UN Decade framing is important because it recognises natural, productive and transformed ecosystems. This allows the workshop to treat fishing grounds as productive systems where restoration can improve ecological condition, not simply as areas to be returned to an unfished state.

The workshop also recognised from the start that European fisheries are diverse. They differ in practices, gears, impact on social cohesion, data quality, governance, ecosystem change, risk tolerance and reasons for fishing. This means restoration measures need to be place-based and fishery-specific.

1.2 How the workshop was organised

The workshop was co-organised by EBCD, the EEA and DickeyCollas Marine, with support from the Xunta de Galicia. It took place at EEA headquarters in Copenhagen on 23 and 24 April 2026. Participants included fisher organisations and producer groups, national NRR managers, scientists, European Commission representatives from DG Environment and DG Maritime Affairs and Fisheries, and international observers from FAO and the IUCN Fisheries Expert Group.

Day one established the conceptual ground: what restoration means in working seas, whether and when fishing and restoration can coexist, and what equity requires before trade-offs can be agreed. Day two moved to delivery: what actions can be taken, how fisheries measures can be incorporated in NRR national plans, what the CFP needs to provide and how structured dialogue between fishers and NRR planners should work.

Both days used facilitated breakout sessions, with questions developed in advance to focus discussion on practical, implementable outcomes rather than principles. Those questions, are set out in Annex 3.

This report presents a synthesis prepared by the workshop chairs on the basis of the presentations, discussions and breakout sessions held during the workshop. It is intended to capture the main themes, examples and issues raised. The report does not constitute an agreed record and should not be taken as representing the views of all participants, their organisations, or the institutions with which they are affiliated. AI was used to construct the report. Both ChatGPT and Claude were used to synthesise the daily notes from the breakout groups and to challenge the veracity of the text and the narrative flow of the report.

4 questions in breakout groups

1. Define **what counts** — what is restoration in working seas?
2. Define **process** — how are trade-offs, burdens & voice handled fairly?
3. Define **delivery** — what can be done first, with good chance of success?
4. Define **policy route** — how are workable measures recognised in CFP and NRR implementation?



2. The central message

The workshop started with a specific challenge. Restoration in fishing areas will not be delivered by plans alone. It will depend on what happens to gears, grounds, access, monitoring, funding and decisions. These are the everyday tools of fisheries management. If they are not connected to NRR planning, restoration measures will be harder to design, harder to explain and harder to implement.

The workshop did not settle a single definition of restoration in a fisheries context. In a fisheries context, restoration means bringing degraded fishing grounds back to healthy, productive use. In the NRR context, it means active or passive recovery of degraded ecosystems towards good condition. This report works across both perspectives. The distance between them is not a problem to resolve, it is a reality within which restoration and fisheries policy must operate – the terrain this report seeks to navigate.

Participants treated restoration as a continuum: pressure reduction, impact mitigation, passive recovery and active rebuilding. They stressed that measures should start from the restoration target, the pressure being addressed and the ecological and fisheries context of the area. They also highlighted that displacement is a risk, a measure that protects habitat but moves fishing effort into a more sensitive area has not solved the problem, it has relocated it.

The central insight from the discussions is that restoration will fail if it is treated only as a mapped environmental obligation, and fisheries will remain defensive if their contribution is treated only as restriction or compliance. Delivery depends on measures that reduce pressure, rebuild function, maintain food production where compatible, and are recognised in the systems that make decisions.

Successful restoration requires clear objectives, a defined pressure to address, protection or rebuilding of ecological function, a monitoring mechanism, and a route through the NRR, CFP or spatial planning system. A measure that is clear, monitored, fair and linked to the right policy systems can turn a local example into repeatable delivery. A measure that ignores displacement, funding, dialogue or fisher knowledge may look good in a plan but will not hold in practice.

3. What fishers contribute to restoration

Fishers can contribute to restoration in several practical ways. They bring knowledge of places, gears, seasons, habitats and fishing patterns. They can help define what is degraded, identify which pressures matter, and test whether proposed measures are workable. They can also take part in restoration actions directly, including deployment, monitoring, gear change, data collection and bottom-up management. The workshop highlighted that treating fishers only as actors to be restricted is counterproductive. They can be part of the restoration system itself.

This does not mean that all fishing is restoration, or that all fishing can continue unchanged. Some activities will not be compatible with some habitats, areas or recovery objectives. Business as usual will need to change. At the same time, restoration needs to avoid shifting impacts elsewhere, creating new damage, or placing costs on fishing communities without recognition or support.

The workshop participants gave examples that illustrated how fishers contribute knowledge, labour, vessels, data, monitoring, gear innovation and stewardship. But those contributions need to be recognised, funded where necessary, and built into NRR plans, CFP tools and marine spatial planning. Without that recognition, restoration delivered through fisheries risks remaining invisible.

3.1 Fishers help define the problem

Fishers know where they fish, when they fish, which grounds matter most, and how measures affect them. This knowledge is needed when planners define degraded areas, core fishing grounds, recovery potential and realistic measures. Scientific knowledge is needed, but science will benefit from local knowledge. A workable approach combines both alongside an honest account of the socio-economic context.

This is particularly important where data are weak. Coastal areas may lack VMS data, and it may be difficult to identify core fishing areas. Mobile species move between areas, and habitat recovery may not be visible at a single site. Fishers can help identify seasonal hotspots, nursery areas, gear interactions and changes that are not always captured in formal indicators. This can help planners move from broad targets to measures that fit the place.

3.2 Fishers help design measures that can work

Restoration measures need to be specific. It is not enough to say that an area or habitat should be protected. The question is which activity, which gear, which season, which habitat, and which objective. Fishers can help test whether a proposed measure is manageable, unacceptable, or likely to displace effort into another area.

Fishers can play a role in the design of measures: they can help identify where restoration and fishing may coexist, where some methods need to be restricted and can help avoid measures that move the pressure from one place to another. They can also help shape adaptive measures, including seasonal closures, gear restrictions, mixed-use zones, and measures based on spawning or nursery areas.

3.3 Fishers take part in active restoration

Fishers can contribute directly to restoration actions. There are examples of fishing vessels being used to deploy artificial reefs, distribute oyster larvae, move stones into no-take zones, and support recovery actions for corals and other bycatch. Fishers can also help with litter removal, discarded gear removal and practical work in restoration areas. These actions can reduce costs, use existing maritime capacity and build ownership.

Active restoration is not always easy to scale. It can be expensive, permit-dependent and more common in shallow or coastal areas. It can also have unintended effects if poorly designed. Successful active restoration involving fishers must start from the restoration target and the relevant pressure.

3.4 Fishers contribute through fisheries management measures

Some fisheries management measures can support restoration where they reduce pressure or protect ecological function. Size limits, gear restrictions, seasonal restrictions, area closures, mixed fisheries management, spawning-area mapping, low quotas and engine-power measures are possible contributions to restoration. Passive measures may be a practical starting point, especially where active restoration is costly or difficult.

These measures cannot be treated as restoration automatically. For example, a gear restriction may count where it protects seabed integrity, nursery function or sensitive species. A seasonal closure may count where it protects spawning or a mobile species hotspot. A no-take zone may count where it supports recovery and is monitored. The important point is recognition: fisheries measures that deliver restoration outcomes should not become invisible simply because they sit inside fisheries management.

3.5 Fishers support monitoring and adaptive management

Fishers can help collect data on pressures, impacts and recovery. They can contribute to monitoring no-take zones, restoration areas and sensitive species. They

can help identify where measures are working, where they are failing, and where they are creating unwanted effects. Sensitive species mapping and fisher data are possible practical contributions to NRR knowledge gaps and monitoring.

Monitoring is important because restoration outcomes vary. Some areas recover faster than others. Some species respond before others. Some measures create spillover, while others may move effort elsewhere. Fishers can help keep management adaptive by reporting what is happening in practice. This helps avoid fixed plans that do not respond to changing ecosystems, changing fisheries or new evidence.

3.6 Fishers can initiate bottom-up restoration and stewardship

Fishers can also start restoration processes. There are examples of no-take zones initiated by fishers who were concerned about hake, scampi and red mullet and fishing guilds helped select areas in the Mediterranean. Positive outcomes and spillover of fish production were reported, and fishers chose to leave the no-take zones in place.

In another example, fishers and authorities co-developed strictly protected areas in Skagerrak and around Bornholm through repeated meetings, shared goals and agreed boundaries.

This is stewardship in practical terms. Fishers as operational restoration actors, helping to define the problem, choosing workable measures, contributing knowledge, taking part in implementation, and staying involved in monitoring and adjustment.

3.7 Conditions for fisher contribution

Fishers' contribution depends on trust. Building that trust requires clear rules and timelines, stable working conditions and a operational explanation of what the NRR means in practice. They also need to know how their actions will be recognised in national restoration plans and management decisions. If fishers are asked to carry costs, numerous people at the workshop stressed that clear and fair compensation linked to action should be considered.

Stakeholder dialogue must start before measures are fixed. It should not be a late-stage consultation on decisions already made. Affected fishers should be asked what support is needed, what barriers exist, what measures are feasible, and what impacts are unacceptable. This can make restoration measures more likely to work and less likely to be seen as imposed.

4. Examples: restoration that works with fishers

The discussions at the workshop focused on participants experiences with evidence coming from examples of restoration and fisheries interacting. These examples show where restoration becomes practical, where it becomes difficult, and where the

policy system needs to develop further. Many examples of fishers working towards restoration were discussed in the workshop (Annex 4).

Five of these examples are especially useful for understanding the report. They cover active fisher participation, co-designed spatial measures, long-term restriction and displacement, and restoration linked to food production.

4.1 Catalan coral recovery: fishers as restoration partners

Fishers retrieve corals caught in nets, hold them temporarily in harbour aquaria, and support their redeployment after scientific assessment

The Catalan coral recovery example shows restoration as practical work, not only as a rule. Fishers retrieve corals caught in nets. The corals are held temporarily in harbour aquaria, assessed with scientific support, and then redeployed in no-take zones or recovery areas.

This changes the role of fishers to operational restoration actors. They are not being asked only to reduce pressure, they are contributing vessels, knowledge, handling skills, time and access to the sea. They see what is caught, where it occurs, and what might be recoverable.

The example also shows why recognition matters. If this work remains invisible, it becomes goodwill rather than part of restoration delivery. If it is recorded in restoration plans, monitoring systems and management decisions, it becomes a recognised contribution. And this builds further trust.

The case also raises practical questions. Who pays for time, fuel and harbour facilities? Who is responsible for survival monitoring? How is fisher knowledge recorded? How are no-take or recovery areas chosen? The answers to these questions will determine whether the action will remain a small project or become a repeatable restoration measure.

4.2 Skagerrak and Bornholm: co-design before boundaries harden

Repeated meetings between fishers, authorities and scientists were used to discuss goals, areas and rules before spatial measures were finalised. The Danish examples around Skagerrak and Bornholm show why process matters before lines are drawn on a map. Workshop participants provided evidence of repeated meetings between fishers, authorities and scientists. The meetings covered goals, areas and rules. Fishers reported that being heard mattered and played a large role in the acceptance of the outcome.

These examples showed that spatial protection can look simple from above, but complicated from on the ground. A small area on a map may be a core fishing ground. One discussion noted that a relatively small share of sea space can account for a large share of catch. This makes the location of measures central to fairness and feasibility.

The lesson is not that every area can be agreed by negotiation, some restrictions will still be needed. The lesson is that better process can improve the measure and increase the likelihood of acceptance. Fishers can identify core grounds, seasonal use, likely displacement and practical alternatives. Scientists and managers can explain the ecological objective and the evidence. Following such a process, the result is more likely to be understood even where it remains difficult.

Co-design is not a slogan. It means building a process with meetings early enough to affect outcomes, clear rules, shared evidence, and a process that can change the design.

4.3 UK scallop displacement: reducing impact in one place can move pressure elsewhere

There have been efforts to identify alternative ways of catching scallops with less impact on the seabed and illustrate practical constraints: scallop dredging is tied to grounds, so restricting access in one area may move dredging effort into another area rather than remove the pressure. The UK scallop example shows displacement as a practical management problem, not an abstract risk. The discussion mentioned efforts to explore other ways of catching scallops, but also the trade-off: dredging effort was moved elsewhere.

This is the core issue for restoration planning. A measure may reduce pressure on one habitat, ground or restoration area, but the fishing activity does not automatically disappear. It may move to another ground, affect another fleet, increase pressure in a less suitable area, or create new conflict with other users.

For relatively place-based fisheries, such as scallops, spatial change can have immediate consequences. A closure or gear restriction may look limited on a map, but it can alter where vessels operate, how far they travel, what grounds absorb effort, and who carries the cost.

Another example showing a similar issue was brought up: fisheries in Oresund, where the same situation occurred at a wider scale: long-term trawl exclusion was associated with recovery and spillover, but the discussion also noted that fishing pressure shifted towards Kattegat. Restoration planning therefore needs to track where effort moves, not only what improves inside the protected area.

The lesson from these examples is that restoration measures should include a displacement check before decisions are taken. Managers need to ask where effort will go, whether the receiving area can absorb it, whether alternative gears are viable, and what transition support is needed. Without this, restoration may solve one problem while creating another.

4.4 Oyster reef restoration in Brittany: when restoration and production align

The Quiberon Bay / Brittany oyster reef example shows how active restoration can connect habitat recovery, food production and local acceptance. The discussions highlighted a project using recycled stainless-steel reef structures, fishing vessels for deployment, and agreed restrictions in the restoration area. The cultural and economic value of oysters were stressed.

This example highlights issues around the blue economy. Restoration is not just a cost when it rebuilds habitat that also supports production, identity and local value. Fishers and shellfish actors can provide vessels, knowledge and legitimacy. The restoration target is tangible and the benefit easier to explain.

This case also shows the limits of active restoration. Reef work needs funding, permits, monitoring and maintenance. It may work best where the species has cultural and economic value, and it may not scale easily to large seabed areas or deeper habitats.

Active restoration can work where the target is clear, local actors see the point, and the measure has a route through funding, permissions, monitoring and management. Without those conditions, it remains a project rather than a delivery model.

4.5 Irish cod spawning closures: when a measure has mixed outcomes

The Irish cod spawning closure example shows why restoration and fisheries measures need to be judged by outcomes, not by intention alone. Participants described three ICES rectangles that have been closed seasonally, from mid-February to the end of April, since 1999. The purpose was to protect cod spawning.

The outcome thus far has been mixed. The closure has not appeared to rebuild the cod stock as intended. Fishers worked and continue to work around the edges. At the same time, the measure may have benefited spurdog. This illustrates that a measure can fail against its original objective but still affect other species, markets and management choices.

This example also shows that ecological and economic effects do not move at the same speed. Once a fishery collapses or a market is lost, it can be difficult to rebuild even if ecological conditions later improve.

The lesson for restoration planning is that a closure or seasonal measure should not be assumed to deliver the intended recovery. It needs a clear objective, monitoring of the target species and wider ecosystem effects, and review of the expected outcome. It also requires consideration of potential impacts on markets and coastal communities. Otherwise, a measure may remain in place for many years without resolving the problem it was designed to address.

5. Restoration, food production and the blue economy

The workshop treated fishing grounds as part of a wider seascape. Some areas may be close to natural ecosystems. Some are productive ecosystems, where food production and ecological function need to be managed together. Others are transformed systems, where recovery may first mean rehabilitation rather than full restoration.

This framing matters. Restoration should not be understood only as returning all areas to a natural state. Nor should it be reduced to making fishing grounds more productive. The task is to improve ecological condition and function in places where people also fish, farm, navigate, generate energy and depend on the sea for livelihoods.

In productive ecosystems, restoration can support food production where it rebuilds or protects the functions that fisheries depend on: nursery areas, seabed integrity, water quality, biomass recovery, shellfish reefs, seagrass, boulder reefs, mobile species and connected habitats. These are not separate from food production, they are part of the conditions that allow food production to continue.

The workshop discussion was clear that this should not be presented as a simple win-win. Some measures will affect access to fishing grounds. Some will require gear change. Some will create costs before benefits are visible. And some benefits may be unevenly distributed across fleets, areas and time.

5.1 Restoration as part of productive seas

Many fishers already understand that poor ecosystem condition is a risk to fisheries. Degraded habitats, weak recruitment, poor water quality and damaged nursery areas can reduce the basis for future catches. Restoration can help where it rebuilds the ecological functions that fisheries depend on.

When exploring productive ecosystems and restoration, the question is which activities, gears and areas are compatible with the restoration objective. Fishing may continue, and areas for food production might be set aside. Other activities may need to change, move, or stop for a period. Business as usual may not be compatible where a habitat or species is sensitive, degraded or recovering.

The examples discussed at the workshop show why design matters. The Oresund example was used to show long-term trawl exclusion, good condition and spillover. Other Danish examples showcased how protection can align with profit where biomass recovers. Fisher-initiated no-take zones in the Mediterranean were discussed as cases where fishers approached scientists because of concerns about hake, scampi and red mullet, and where closures later showed recovery and spillover benefits.

These examples should not be over-generalised. Benefits may take time and ecological and cultural parameters are crucial in replicating measures. Deeper areas

may recover more slowly than shallow areas. Some closures may not deliver the expected recovery if other pressures remain. Fishing effort may also move elsewhere. Restoration should therefore be judged by outcomes, not by the measure alone.

5.2 Synergies between restoration, fisheries and the wider blue economy

The workshop examples show several ways in which restoration and production can be linked, such as shellfish and reef restoration. Oyster reef restoration, mussel culture systems and blue lobster restoration were discussed as practical cases where habitat recovery, water quality and production can interact. Fishing vessels can help deploy reef structures or distribute oyster larvae. Oyster farmers and fishers can contribute infrastructure, knowledge and access. Mussel systems can support filtration and nutrient cycling, although they can also create local pressures if poorly managed.

Other examples point to the same logic: boulder reefs, seagrass, artificial reefs and coral recovery can rebuild habitat structure where the pressure and restoration objective are clear. Fishers can support this work by moving stones into no-take zones, releasing corals and bycatch into recovery areas, helping with monitoring, or using vessels for deployment. These actions make restoration tangible.

There are also possible links with other parts of the blue economy. Offshore wind, aquaculture and marine infrastructure can create pressures, but they may also create opportunities if designed with restoration in mind. These include exploring offshore wind foundations, passive gears around wind farms, aquaculture, mussels and nutrient reduction. Coexistence is possible, but it needs evidence, monitoring and clear rules.

5.3 Conditions for a credible blue economy approach

The blue economy argument is credible only if the trade-offs are visible. If fishing is reduced in one place, demand for seafood or protein does not disappear. Fishing may move to another area, another fleet, another country or a terrestrial food system. Restoring European waters should not mean shifting environmental damage elsewhere. This means that food security should be part of restoration design. Managers need to consider effort displacement, core fishing grounds, market demand, vessel viability and the risk of moving pressure into more sensitive or less monitored areas. The restoration continuum illustrated by the UN Decade on Restoration, with FAO and the SER support, shows that restoration of productive areas is crucial.

Recognition is also essential. Fisheries measures that support restoration should not disappear inside fisheries management. If a closure, gear change, monitoring system, fisher-led restoration action or low-impact practice contributes to restoration, it should be visible in national restoration plans and management decisions.

Funding and incentives also matter. Active restoration can be expensive: gear change is costly and monitoring needs continuity. Short projects may create useful examples but leave uncertainty when funding ends. Fishers may contribute vessels, time, knowledge, monitoring, gear trials and access to fishing grounds. These contributions have costs that should be recognised and addressed within restoration planning.

6. Coexistence and trade-offs

Restoration and fishing can coexist, but not everywhere, not with every gear, and not under all conditions. The workshop discussion was clear that coexistence is a design question. It depends on the habitat, the fishing activity, the pressure being addressed, the recovery objective, the scale of the area, and the people affected.

This means avoiding two simple positions. Restoration should not be treated as automatic exclusion of fishing. But fishing should not be treated as automatically compatible with restoration. Some activities may continue. Some may need to change. Some may need to move. Some may need to stop for a period, or permanently, where the activity and the restoration objective do not fit together. Many of these elements are already being realised and implemented within fisheries practices on the ground.

The practical question is not “fishing or restoration?”. It is: what can happen where, under what rules, with what evidence, with what support, and with what review?

Restoration and fishing can coexist where ecological need, fisher acceptance, monitoring capacity and policy fit are brought together. But coexistence cannot be assumed, it must be designed, tested, supported and reviewed.

6.1 Coexistence depends on place, gear and objective

Examples repeatedly show that the same measure will not work everywhere. A closure may support recovery in one place but have limited effect elsewhere. Gear change may reduce pressure in one fishery, but not solve the wider problem if pollution, nutrients, climate effects or other sectors remain the main drivers. Active restoration may work in shallow or coastal habitats but be expensive or difficult to scale.

Coexistence therefore needs a clear starting point. What is degraded? What pressure is causing the problem? Which fishery is involved? Which gear is creating pressure? What ecological function should recover? Is the aim to protect a nursery, rebuild seabed structure, reduce bycatch, support spawning, restore shellfish habitat, improve water quality, or reduce pressure on a sensitive species? Is the aim a combination of any of the above?

Without this clarity, trade-offs become abstract. With it, measures can be more precise. Some areas may allow pelagic fishing while restricting mobile bottom-

contact gear. Some areas may need seasonal restrictions around spawning or nursery periods. Some restored reefs may need protection from trawling but still allow other activities nearby. Some fishing grounds may be managed through gear change, monitoring, or agreed access rules rather than full closure.

6.2 Business as usual will need to change

A recurring message was that restoration is not simply a nature project placed on top of fisheries. It also requires asking whether current use is compatible with recovery. In some cases, normal fishing activity may continue. In others, business as usual will not be enough.

This is difficult but important. Some gear and habitat types do not coexist. Some pressures need to be reduced before recovery can begin. Some fisheries measures, such as seasonal closures, gear restrictions, no-take zones, low-impact gear, size limits or engine-power limits, may contribute to restoration where they reduce the relevant pressure. Active impact reduction should also be recognised where it delivers the objective and avoids displacement.

Fishers do help to find alternatives: changing to selective gear, gears lifted off the seabed, smaller cages to reduce coral damage, fisher-led monitoring, and no-take zones initiated by fishers concerned about declining stocks are all examples show that change does not have to be imposed only through exclusion. It can also be co-designed through practical measures, if fishers are involved early and the rules are clear and credible.

6.3 Trade-offs must be explicit

The workshop did not avoid trade-offs. It asked for these to be made visible. Restoration measures can affect access, income, crew wages, fuel costs, ports, processors, markets and community identity. The burden does not fall only on vessel owners. It can fall on crews, shore-based jobs and coastal communities.

Participants also stressed that trade-offs are not only between “nature” and “fishing”. There can be trade-offs between different ecosystem services, between short-term access and long-term recovery, between different fleet segments, between areas and between sectors. Offshore wind, aquaculture, pollution, nutrients and coastal development also shape the space in which fisheries and restoration are negotiated.

Core fishing areas were a recurring issue. In one discussion, Danish industry noted that a relatively small part of sea space can account for a very large share of catch. This makes the location of measures critical. A measure may look small on a map but have a large effect on a fleet if it falls on a core ground. For sedentary species, such as scallops or *Nephrops*, losing an area can mean losing a direct share of production. That needs to be recognised and addressed in the design of restoration measures.

Equity means more than being consulted. Fishers need to be involved before choices are made, understand what is being traded off, and see that costs and benefits are

distributed honestly. Where costs are imposed, there should be compensation considerations and where measures fail, there should be review.

6.4 Displacement is a restoration risk

Coexistence cannot be judged only inside the restoration area. If a closure moves fishing effort into a more sensitive area, the pressure has not disappeared. It has shifted. If restoration in one place increases environmental pressure elsewhere, the result may be weak or unfair. The Oresund example was discussed as a long-term trawl closure with good condition and spillover of fish production, but also with pressure shifting towards Kattegat. Other discussions asked whether no-fishing zones might drive vessels into more pristine areas. This is a practical risk and should be assessed before measures are agreed.

Food security adds another layer. If fishing is reduced in European waters, demand for seafood or protein may move elsewhere, potentially leading to imports of products from places with lower environmental or social standards. Restoration should not become a way to improve one area while exporting impact to another. This does not mean restoration should stop. It means the design should consider effort displacement, supply chains, alternative food sources, and the wider effects of reduced access.

6.5 Fair process makes hard choices possible

Hard choices are more likely to be accepted when the process is fair. Fishers need to be involved before measures are fixed. They need practical language, not only legal or technical terms. They need to understand what is being restored, why the place matters, what activity is affected, what support is available, and how success will be judged.

Managers also need information from fishers. They need to know where fishing happens, which grounds are essential, where effort may move, which gear changes are realistic, and which measures are likely to fail. This information should be treated as part of the evidence base, alongside scientific assessment and monitoring.

Examples from the workshop showed that bottom-up approaches can help. Fisher-initiated no-take zones in the Mediterranean were discussed as cases where fishers approached scientists because of stock concerns. These processes do not remove conflict, but they make trade-offs clearer and more manageable.

6.6 What this means for restoration planning

A useful test for any proposed measure when discussing with fishers is:

- What ecological function is the measure meant to restore?
- Which pressure is being reduced?
- Which fishing activity is affected?

- Is the measure spatial, seasonal, gear-based, active restoration, or a combination?
- What are the expected benefits and who receives them?
- What are the expected costs and who carries them?
- Will effort move elsewhere?
- What support, compensation or transition is needed?
- How will the measure be monitored and by who?
- When will it be reviewed?

This makes the trade-off visible. It also makes the measure more credible.

7. Equity, burden-sharing and recognition

Equity is not only about being invited into the room. It is about whether the process can still shape the decision. It is also about who carries the cost, who receives the benefit, and whether fisheries contributions are visible in plans and management decisions.

The workshop discussions showed that trust depends on process design. Fishers need to be involved before measures are fixed. Managers need to understand what is being asked of different fleets, communities and businesses. Restoration measures need clear objectives, clear rules, clear timelines and a route for review.

7.1 From consultation to shared process

A fair process starts before the measure is chosen. It should allow fishers, managers, scientists and restoration planners to define the problem together. This includes the restoration objective, the pressure to be reduced, the affected fisheries, the evidence available and the practical options.

Consultation after the main choices have already been made is weaker. It can confirm opposition, but it rarely builds ownership. The discussions in the workshop pointed out how crucial early, structured dialogue is. This does not mean that every interest will agree. It means that the reasons for decisions, and the costs of different options, are made visible.

The process should also make room for quieter voices. Not all fishers, fleet segments or coastal actors have the same capacity to attend meetings, produce evidence or influence decisions. Equity requires attention to who is present, who is missing and whose knowledge is being used.

7.2 Making burdens visible

Restoration measures can create different kinds of burden. Some are direct, such as loss of access, fuel costs, gear change or monitoring duties. Others are indirect, such as uncertainty, administrative effort, market effects or impacts on crew and shore-based jobs.

These burdens should be described before a measure is adopted. They should not be discovered only after implementation. The discussion should ask:

- which fishery, gear or community is affected;
- whether the effect is temporary, repeated or permanent;
- whether the burden falls on vessel owners, crew, processors or the wider community;
- whether benefits and costs occur in the same place and timeframe;
- what support, compensation or transition is needed.

This is especially important where a small spatial change has a large practical effect. Area alone is a poor measure of burden. Managers need to understand dependence, seasonality, gear, species and alternatives.

7.3 Compensation, support and transition

Where restoration creates costs, support could be considered as part of the measure, not as an afterthought. Compensation may be considered for lost access, additional fuel, monitoring work, gear change or participation in restoration actions.

Support should be linked to the action required. A fisher asked to trial new gear, provide data, support monitoring or take part in active restoration is contributing time, equipment and knowledge. These inputs have value. And should be recognised in funding design and implementation plans.

Short-term project funding is not enough where measures require long-term adjustment. The workshop repeatedly pointed to the need for continuity: in monitoring, gear innovation, fisher engagement and active restoration. Without continuity, good examples remain isolated.

7.4 Recognition in plans, space and decisions

Without recognition, fisheries contributions remain invisible to the systems that matter. With it, they become part of the record on which plans and decisions are made. If fisheries measures support restoration, they should be visible in national restoration plans, CFP processes and spatial planning. Otherwise, they risk being treated only as restrictions or compliance costs.

Recognition should cover different kinds of contribution. This includes measures that reduce pressure, active restoration by fishers, data collection, monitoring, gear innovation, local knowledge, and self-regulated or co-managed actions. It should also include measures that maintain ecological function while allowing compatible fishing to continue. That link, between contribution and plan, is what turns a fisheries measure into a recognised restoration action.

7.5 The message for implementation

Equity, burden-sharing and recognition are not separate from restoration delivery. They shape whether measures are trusted, implemented and maintained. A fair

approach involves fishers before measures are fixed, describes the burden honestly, provides support where costs are imposed, and records fisheries contributions where they can be seen. That is how restoration becomes workable without weakening its purpose.

8. Dialogue and process

Restoration stalls where the language does not translate. The NRR sets obligations that fisheries managers struggle to interpret and that fishers hear as exclusion. Most disagreements at the workshop were not about restoration itself. They were about what the words mean, who has the authority to act, and which system takes the measure forward.

Fishers, NRR planners, fisheries managers, scientists and funding bodies are often working on connected problems through separate systems with different timelines, different authority and different vocabulary. Dialogue is the mechanism that makes those systems meet. But it only works when it is organised around specific places, specific measures and specific decisions.

8.1 Translate the policy before asking for delivery

A repeated issue was that the NRR is difficult to translate into fisheries practice. Participants noted that even policy specialists find the Regulation complex. Fishers may hear restoration as “stop fishing”, unless the practical route is explained. Dialogue should therefore start with translation. This means setting out, in plain terms:

- what the NRR requires;
- what national restoration plans need to contain;
- which habitats, species or functions are being considered;
- which fisheries measures may be relevant;
- which decisions sit under the CFP;
- which decisions sit under national restoration planning or marine spatial planning;
- which parts remain open for discussion.

This should happen before measures are drafted. It avoids a situation where fishers are asked to respond to technical language, legal targets or mapped areas without knowing what choices are still available.

8.2 Bring DG ENV and DG MARE routes together

The EU system creates a practical challenge. The NRR sits mainly in the environmental system. Fisheries measures sit largely in the fisheries system. Marine spatial planning, funding (e.g. EMFAF: European Maritime, Fisheries and Aquaculture Fund) and data systems add further layers. Environment is a shared competence and relies heavily on Member States and fisheries is an exclusive EU competence through the CFP.

The workshop framing brought DG ENV and DG MARE into the same discussion. That is important. If restoration measures depend on fisheries tools, then environmental and fisheries authorities – both at EU and national level – need a shared route for implementation. Otherwise, national restoration plans may identify needs that fisheries processes are not ready to deliver, or fisheries measures may deliver ecological benefits that are not visible in restoration planning.

Article 11 of the CFP is one of the practical bridges between the CFP and the NRR. It allows fisheries measures to be developed where they are needed to meet EU environmental obligations. For restoration, this means that measures may need to be framed not only as fisheries management, but as recognised contributions to habitat and ecosystem recovery.

8.3 Work from cases, not only principles

General discussions about restoration and fisheries quickly becomes abstract. A case-based process allows participants to ask practical questions. Such an approach was incorporated into the workshop methodology: describe actions, list examples, define a measure or recommendation and ask whether participants recognise themselves in the report back. This helped avoid endless discussion without output.

Numerous examples brought in the workshop lead practical discussions: the Ifremer–fisher collaboration in France linked fishers, science and mapping; the Scottish camera work connected monitoring, compliance and scientific data linking fishers, science and mapping. More examples can be explored in Annex 4.

8.4 Use dialogue to identify the right policy route

Not every measure belongs in the same policy box. Some measures may be best handled through fisheries management. Some may sit in national restoration plans. Some may need marine spatial planning. Some may require funding decisions or permit changes before they can happen.

The process should therefore ask early: what is the route? A seasonal gear restriction may need a fisheries process. A reef restoration project may need seabed permission, funding and monitoring. A restoration area that affects core fishing grounds may need spatial planning and fisheries negotiation. A fisher-led monitoring scheme may need data protocols and agreement on how the information will be used.

This is where the EU system can either help or block progress. If routes are unclear, measures stall. If routes are clear, the same discussion can move from example to implementation.

8.5 Deal with data and mapping as process issues

Data gaps were a practical concern throughout the discussions at the workshop. Coastal fisheries may lack VMS data. Fishing areas may be mapped informally but not recognised in marine spatial planning. Fishers may be reluctant to share location data if they fear it will be used to close grounds. Scientific data may not capture local changes, seasonal patterns or practical fishing realities.

This is a technical problem and a process problem. Dialogue should agree how data will be handled. This includes aggregation, confidentiality, data ownership, GDPR concerns, and how fisher knowledge will be combined with scientific evidence. It should also be clear whether data are being collected to understand, to monitor, to regulate, or to support a funding case.

Mapping should be used carefully and sensitively. If mapping is seen only as a route to restriction, trust will fall. If it is used to identify core fishing areas, sensitive habitats, restoration opportunities and possible low-conflict measures, it can support better planning.

9. Barriers

The workshop identified five key barriers that could slow delivery.

9.1 The policy route is not always clear

The NRR sets restoration obligations, but fisheries measures sit mainly in the CFP. Marine spatial planning, national restoration plans, EMFAF funding and scientific advice all sit in different processes. This creates a practical problem. A measure may be useful, but it is not always clear which system should take it forward.

This matters for measures such as gear restrictions, seasonal closures, fisher-led monitoring, habitat restoration, spatial zoning and recognition of fisheries measures in national plans. Article 11 of the CFP may provide one route where fisheries measures are needed to meet environmental obligations. But participants also pointed to the need for clearer links between NRR planning, CFP regional processes and national implementation.

The barrier is not only legal. It is operational and linked to transparency as well. Who proposes the measure? Who assesses it? Who pays? Who implements? Who monitors? Who records the contribution?

9.2 Funding is uncertain, short term and uneven

Funding was repeatedly raised as a limiting factor. Active restoration can be expensive. Gear change can involve high capital costs. Monitoring needs continuity. Small-scale and family-scale businesses may not be able to carry transition costs while also reducing effort or access.

Funding exists through EU and national routes, including fisheries and research funds, but access is uneven. It is usually project funding. It can be slow, complex and dependent on Member State priorities. Project funding can start useful examples, but it does not always support long-term monitoring, maintenance or scaling. This is a major risk. Restoration measures may be piloted but then stop when project funding ends. Fishers may be asked to invest before benefits are clear. Good examples may remain local because there is no stable funding route to repeat them elsewhere.

9.3 Regulation and approval processes are too slow

Many fishers pointed to slow approval processes for gear changes, even where fishers are developing lower-impact options. This creates frustration and limits adaptive management. If it takes years to approve a modification, the system cannot respond quickly to ecological change, fisher innovation or lessons from trials.

Permits can also slow active restoration. Reef installation, seabed restoration, aquaculture-related restoration or habitat structures may need authorisation from several bodies. The UK Crown Estate example was noted as a governance constraint for artificial reef deployment.

There is also fear of sanctions. Fishers may avoid innovation if a gear modification, data trial or monitoring system creates a risk of additional control or regulation. This weakens trust and reduces practical innovation.

9.4 Data, mapping and confidentiality remain difficult

Restoration planning needs spatial information: where habitats are, where pressures occur, where core fishing grounds are and where restoration is likely to work. The workshop pointed to gaps, especially in coastal and inshore fisheries where data may be limited.

Fishing areas may be known locally but not mapped by authorities. Fishers may also be reluctant to share detailed location data if they fear it will lead to closures. GDPR, confidentiality and commercial sensitivity were raised as barriers.

This creates a planning gap. Without good mapping, restoration measures may miss the right places or create avoidable conflict. But without safeguards, fishers may not trust the mapping process. Aggregated data, protected data routes and clear rules on use are therefore needed.

9.5 Restoration language is not yet practical enough

Participants repeatedly noted that the language of restoration can be hard to translate into fisheries decisions. Terms such as good condition, degradation, restoration, mitigation, passive recovery and active restoration are not always understood in the same way. Even policy specialists can struggle to translate the NRR into clear choices for fishers.

This matters because unclear language creates suspicion. Fishers may hear restoration as “stop fishing”. Managers may talk about targets before explaining what measures are possible. Scientists may describe indicators without showing how they affect decisions.

The barrier is therefore a practical one. Restoration needs a shared vocabulary. Without it, the same ground gets covered repeatedly in a different language, and measures that all parties might accept remain out of reach.

10. Effective dialogue with fishers.

The workshop used several case examples (Annex 5) to describe how to construct effective dialogue with fishers.

Effective dialogue with fishers starts with presence, timing and respect. It is not enough to invite fisheries into a process designed elsewhere. The process has to reach the people with direct experience at a time and in a form that allows them to contribute.

Go to them. Understand the fishery before asking for agreement. Use people who are already trusted, and who can explain the issue in language that fits the fishery. Do not rely only on formal categories, broad typologies or distant representation. Fishers must be at the table, not placed below larger organisations or called in only when a decision requires their endorsement.

Dialogue also needs structure. Regular national meetings should bring fisher representatives, environment ministries, fisheries ministries and scientists into the same room. A dedicated forum can help policymakers, fishers and fisheries organisations work through measures before positions harden. Cross-ministry leadership is essential. Environment and fisheries authorities should not ask fishers to navigate separate tracks, unclear responsibilities or competing messages.

Government has a practical role here. It can shorten the line between ministries, keep the process balanced, and avoid capture by one interest group. A delivery route map would help: showing who needs to act, which route applies, when decisions are needed, and how input will be used.

Examples of poor practices included fishers being absent, or represented only indirectly, and meetings being held during fishing activity: at the end of the day, or during the fishing season. Importantly, participation costs must not be treated as incidental. It is also challenging when information is too technical, or legislation is presented without translation into practical choices. Often dialogue is expected to take place in another language to that of the fishers, which creates an immediate barrier. As does any top-down process with the main decisions already made.

There is also a time problem. Restoration benefits may be described over ten years or more. Fishers may be facing immediate effects on access, income or fishing

opportunity. A credible process must hold both timeframes together. Long-term recovery will not be convincing if short-term viability is ignored.

The test is: are the right fishers present, can they understand what is being proposed, can they still influence the decision and is there a clear route from discussion to action? If not, the dialogue is unlikely to work.

11. Next steps

11.1 Develop a shared measure template

A shared template for fisheries-related restoration measures would move discussion from general agreement to concrete description. It needs to record, at minimum, the objective, the pressure, the fishery affected, the policy route and the review point. This would help move discussion from general support or opening a dialogue to a clear description of what is being proposed.

11.2 Build an example inventory

The examples collected during the workshop could be turned into a short inventory. Each example should identify the measure, location, actors involved, funding route, evidence base, policy route and transferability limits.

This should include both successful cases and cautionary cases. The inventory should be honest about both what worked and what did not.

11.3 Identify a small number of test cases

Test cases should not all be the easiest ones. Selecting only cases where conditions already align produces good stories but weak policy levers. At least one case should be chosen where fisher trust, monitoring capacity or policy route is still missing — that is where the real implementation problems sit.

Cases should differ in type: a spatial measure, a gear-based measure, an active restoration action and a monitoring process would give a varied set of routes and challenges. Each case needs a named ecological objective, an identified pressure, an affected fishery and at least one institution prepared to take it forward. Without those four conditions, no case can move from discussion to implementation.

11.4 Clarify the policy route for each case

For each test case, the responsible route should be identified early. The policy route will differ by case. A spatial measure may need NRR national planning and fisheries negotiation. A gear trial may need CFP regional processes. An active restoration project may need permitting, EMFAF funding and scientific monitoring. This check of route should identify who needs to act, what decision is needed and the likely timetable.

11.5 Prepare guidance on dialogue with fishers

A short practical guide for NNR planners should be constructed on effective dialogue with fishers. It should cover timing, resources or support for participation, meeting format, language, trusted intermediaries, regular national forums and links between environment and fisheries authorities. The guide should also set out how to record unresolved issues, so that difficult points are not lost or repeatedly reopened without progress.

11.6 Create a “recognition pathway”

Agree how fisheries contributions can be recorded, publicised and acknowledged. This includes contributions through measures, monitoring, data, gear change, active restoration, mapping and co-management. The pathway could illustrate where recognition appears: in national restoration plans, CFP processes, marine spatial planning, funding decisions or monitoring reports. Without this, useful contributions may remain invisible, lead to fatigue or even increase distrust, even where fishers support restoration outcomes.

1.7 Align the EU institutional route

Article 11 of the CFP is a practical bridge between fisheries management and NRR obligations, but no step takes this forward. Without a working mechanism at EU level, the measure template, the recognition pathway and the test cases remain national workarounds to a problem that sits above Member State level. DG ENV and DG MARE need a clear shared route for translating NRR restoration obligations into fisheries measures. That route should be identified, tested against the cases in section 11.3, and reflected in guidance to Member States on how to connect national restoration plans with CFP regional processes.

12. Annexes

Annex 1. Workshop agenda



European
Environment
Agency



DickeyCollas
Marine

XUNTA
DE GALICIA



AGENDA 23 – 24 April 2026

EEA Headquarters , Kongens Nytorv 6, 1050 København K, Denmark

Fisheries knowledge and management tools are essential to delivering marine restoration. This workshop positions fisheries as active contributors to habitat restoration and clarifies how fisheries management can support implementation of the EU Nature Restoration Regulation (NRR).

23 April 2026 AM – Registration from 09:00, agenda start 09:30 – Coffee break at 11:00

Opening and welcome

Marta Villaverde Acuña, Xunta de Galicia

Lotte Worsøe Clausen, European Environment Agency

The Nature Restoration Regulation and the Common Fisheries Policy – joint presentation 40 mins

Maddalena Visser, DG ENV and Katarzyna Janiak DG MARE

Why have this workshop? – 15 mins

Mark Dickey-Collas, DickeyCollas Marine, Chair IUCN Fisheries Expert Group

Fisheries and good condition of habitats – short presentations/statement 10 mins each

Margot Angibaud, Europêche

John Lynch, Irish Fishermen's Organisation

David Lange, Danish Assoc. of Low-Impact Coastal Fishers' Producer Organisation

Panel of managers and fishers – submitted questions 30 mins

23 April 2026 PM start 14:00 – Coffee break at 15:15

Restoration in Working Seas: What Counts, Who Decides – Two sequential breakout 45 mins each

When we say “restoration” in fishing areas, what should actually count in practice?

What do we mean by ensuring equitable processes, and trade-offs?

Report back – 30 minutes

Close 17:00

24 April 2026 AM – Start 09:00 – Coffee break at 11:00

Making restoration tangible – short presentations/statement 15 mins each

Katherine Cronin, Dept of Climate Energy and Environment, Ireland

Engin Yilmaz, Yolda Initiative & AMNC, Türkiye

Lara Salvany, ICES

Natacha Carvalho and Eirini Glyki, European Environment Agency

María Mateo (AZTI) and Marta Rufino (IPMA)

Fisheries and habitat restoration – shout out of examples from across Europe 15 minutes

Fishers as stewards – Two sequential breakout 45 mins each

What restoration actions can we deliver, where can we start with a higher chance of success?

Which fisheries measures should be included in CFP to deliver restoration in NRR plans?

Report back – 30 minutes

24 April 2026 PM start 13:45 – Coffee break at 15:15

How best to organise dialogue with fishers –20 mins

Open floor critique and brainstorm

A global perspective for action –15 mins

Kim Friedman & Hana Matsubara, FAO

Question and answer session – 30 mins

Open floor for comments and responses and addressing 'parking lot' whiteboard notes

Next steps – invited responses <10 mins each

Feedback from DGENV and DGMARE representatives

Esben Sverdrup-Jensen, Danish Pelagic Producers Organisation

Upcoming events and timelines – 10 mins

Max Schwarz, EBCD

What have we achieved? – Workshop synthesis 15 mins

Mark Dickey-Collas, DickeyCollas Marine, Chair IUCN Fisheries Expert Group

Close 16:30

Support from Xunta de Galicia is gratefully acknowledged.

Annex 2. Participants and organisations represented

Participation type	Number of participants
In-person participants	34
Online participants	37

Representation type	Number of participants
Fisheries	10
Manager	13
NGO	7
Scientist	4

Annex 3. Breakout questions and summary of responses

Day 1 – Restoration in Working Seas: What Counts, Who Decides

Breakout Session 1: When we say "restoration" in fishing areas, what should actually count in practice?

- What concrete actions come to mind when we talk about restoration and fisheries?
- Can normal (business as usual) fishing activities and restoration coincide?
- How do fishers and nature restoration planners agree on an approach to determine what is degraded?

Breakout Session 2: What do we mean by ensuring equitable processes, and trade-offs?

- What trade-offs are acceptable if restoration is to happen?
- What kinds of measures feel manageable versus unacceptable?
- How can the voices of fishers contribute to marine restoration?
- How can we ensure the burdens and benefits of restoration measures are equitably spread?

Day 2 – Fishers as Stewards

Breakout Session 3: What restoration actions can we deliver, and where can we start with a higher chance of success?

- What kind of clarity do fishers need upfront on rules, timelines and stability?
- Do you have examples of projects that can be scaled up, and what challenges are there?
- What decision timetable do planners need, and what inputs do fishers need in return?

Breakout Session 4: Which fisheries measures should be included in CFP to deliver restoration in NRR plans?

- What can fishers do that counts as restoration, and how will that contribution be recognised in national plans and management decisions?
- Is investment available for innovative gears, what is planned, and what are the barriers to uptake?
- Are fishing areas mapped officially and included in marine spatial planning, and if not, what are the barriers?

Summary of preliminary findings from break out groups, created using ChatGPT in real time during the workshop.

Session



When we say “restoration” in fishing areas, what should count in practice?

Restoration in fishing areas is not closure. Don't define restoration as a nature project placed on top of fisheries.

Think of a new operating model for working seas.

Session



What do we mean by ensuring equitable processes, and trade-offs?

Equity is not only about being consulted. Consider loss & access, investment.

Will restoration policy recognise active impact reduction as a valid alternative to displacement?

Session



What restoration actions can we deliver, where can we start with a higher chance of success?

The near-term opportunities exist with low-conflict, high-learning measures: smart spatial planning, selective gear, targeted habitat restoration & fisher-led monitoring.

Find workable combination of ecological need, fisher acceptance, monitoring capacity & policy fit.

Session



Which fisheries measures should be included in CFP to deliver restoration in NRR plans?

Turn local restoration practice into recognised fisheries measures.

Practical bridge between CFP & NRR is recognisable category of restoration-delivering fisheries measures, monitored, repeated & scaled.

Annex 4. Full list of examples mentioned in the break out discussions. Note that this list has been compiled group work during the workshop. Some degree of quality assurance has taken place, but the table should be used as a first start, not definitive

Region / country	Example / project	Example type	What it shows for the report
Denmark	Boulder reef restoration	Active habitat restoration; spatial management	Government-funded active restoration creating a recovery area where bottom fishing is excluded and only low-impact gear is permitted. Shows the link between habitat rebuilding, fishing rules and monitoring.
Denmark	Selective gear development and camera programmes	Gear innovation; monitoring; knowledge gaps	EC and national fisheries funding used to support innovative gear and camera systems. Cameras were discussed as a way to map sensitive species and generate scientific data for NRR knowledge gaps.
Denmark	Strictly protected areas and MPA co-design in Skagerrak and around Bornholm	Co-design; spatial protection; trade-off management	Repeated meetings between fishers, authorities and scientists led to agreement on goals, areas and rules. The notes also record industry concern that core fishing areas of 10-15% of sea space account for around 90% of catch.
Denmark	Eelgrass and artificial reef restoration	Active restoration; habitat rebuilding	Named as part of Denmark's active restoration programme alongside boulder reefs. Provides an example of active measures beyond closures.
Sweden / Denmark	Oresund trawl closure	Long-term spatial restriction; spillover; cautionary displacement example	Closed to trawling since 1932 and described as in good ecological status. Spillover and increased profits were mentioned, but the notes also warn that pressure shifted to the Kattegat.
Denmark	Fjord closure with limited impact	Cautionary spatial measure	Long-term closure reportedly showed limited impact. Useful to show that closures are not automatically effective and must be ecosystem-specific and evidence-based.
Location not confirmed	Nephrops / Norwegian lobster bottom-trawl transition	Gear transition; impact reduction	A fishery described as damaging through bottom trawling was said to have switched to less impactful gears. This could illustrate impact-differentiated management.
France	Oyster reef restoration in Quiberon Bay, Brittany	Active shellfish reef restoration; fisher deployment	Horizon EU project using recycled stainless-steel domed reef structures, fishing vessels for deployment and agreed area closures. Cultural value of oysters was noted as helping acceptance.
France	Scallop zoning and no-take zone management	Adaptive spatial management; fisher input	A management tool designates no-take zones and areas with specific fisheries, including scallops. Fishers provide input and may be responsible for reopening areas when conditions are met.
France	Ifremer-fisher collaboration	Science-fisher partnership; mapping; knowledge integration	Collaboration supported by fisheries funding, mapping fisheries areas and integrating fisher knowledge into science and management.
France and Spain	Joint oyster reef restoration using recycled steel structures	Active restoration; cross-country example	Fishing vessels deployed restoration structures and fishers agreed to close areas. High success rate was attributed partly to the cultural and economic value of oysters.

Region / country	Example / project	Example type	What it shows for the report
Spain - Galicia	European blue lobster restoration, Vigo	Species restoration; aquaculture-linked habitat structure	Concrete reefs near mussel farming areas were used to support reintroduction of European blue lobster, turning degraded or low-quality areas into habitat.
Spain - Catalonia	Coral recovery from fisheries bycatch / harbour aquaria triage	Fisher-led active restoration; bycatch recovery	Fishers retrieve corals caught in nets, temporarily house them in harbour aquaria, scientific assessment follows, then corals are redeployed in no-take zones.
Spain - Catalan coast	LIFE ECOREST	Named restoration project	Named as a Catalan coast restoration example. It may overlap with the coral/bycatch recovery material.
Spain - Andalucia and Euskadi	Mar de Gorgonias	Named restoration project; gorgonian / soft coral restoration	Named as a restoration example involving gorgonians or soft corals.
Spain - Palamos, Catalonia	Red prawn co-management	Co-management; high-value commercial species	Named as an example of co-management around a commercially important species.
Spain - Blanes, Catalonia	Spanish CSIC Blanes Centre - soft corals	Research and restoration; soft corals	Named as research/restoration work on soft corals, potentially linked to fisher recovery of bycatch.
Spain - Ebro River estuary, Tarragona	Mussel and oyster mariculture as accidental passive restoration	Food production / restoration synergy; nutrient filtration	Mariculture at the end of the estuary was described as incidental or accidental passive restoration, providing nutrient filtration and habitat effects as a by-product of production.
Belgium	LIFE B4B - reef unit installation	Active reef restoration; fisheries-sector involvement	Belgian fisheries producers installed reef structures inside a protected area. The notes link this to coexistence between restoration and beam-trawl sectors.
Ireland	WKIRISH / Irish Sea ecosystem-based management work	Co-management / ecosystem-based management process	Mentioned as a collaborative Irish example using points-based spatial approaches and linking fisheries management, quotas and ecosystem-based management.
Ireland	Mobile gear restrictions for herring protection	Seasonal gear restriction; stock/habitat protection	Ban on mobile fishing vessels, particularly trawls, from October onward to protect herring stocks. The community response was reported as difficult.
Ireland	Cod spawning closures and possible spurdog benefit	Seasonal closure; mixed ecological outcome	Three ICES rectangles closed from mid-February to end-April since 1999 to protect cod spawning. Notes say cod benefit was limited, but spurdog may have benefited and markets were difficult to rebuild after collapse.
Ireland / EU	Use of OECMs to recognise fisheries measures	Recognition mechanism; governance	OECMs were identified as a possible way to recognise fisheries management measures contributing to biodiversity and restoration outcomes.
Scotland	Cameras on board vessels / REM	Monitoring, verification and data collection	Onboard cameras were discussed as a way to verify catches, support scientific data collection and potentially enable more flexible gear rules.

Region / country	Example / project	Example type	What it shows for the report
Scotland	Long-term monitoring restoration project	Named monitoring / restoration project	Named as a long-term restoration monitoring project, but no detail is provided in the notes.
United Kingdom - Essex	E.N.O.R.T. - Essex Native Oyster Restoration	Native oyster restoration; fisher involvement	Native European flat oyster restoration involving fishers and potentially vessel use for reef structure and larvae deployment.
United Kingdom - Lyme Bay	Lyme Bay: MPA plus potting for scallops	Coexistence between protection and low-impact fishing	MPA with low-impact fishing, cited as an example that protection and some fishing activity can coexist.
United Kingdom - Sussex	Sussex kelp restoration	Habitat restoration; kelp recovery	Named as a kelp restoration example. Potentially useful for habitat recovery and fisheries nursery functions.
United Kingdom - Cromer	Cromer crab adaptive management	Adaptive fisheries management	Named as an adaptive management example for a commercially important crab fishery.
United Kingdom	Crown Estate seabed permit context for artificial reefs	Governance constraint; permitting barrier	Artificial reef deployment can require seabed-owner permission, showing that active restoration may be limited by permitting and property regimes.
United Kingdom / Arctic scallop context	Alternative scallop gears and suction dredge for Arctic scallops	Gear innovation / impact reduction idea	The notes refer to alternative ways of catching scallops and a suction dredge for Arctic scallops. This could illustrate gear change as a route to lower impact.
Germany - Wismar	Sea Ranger e.V.	Stewardship / engagement / exchange model	Named example linked to stewardship and potentially to a European Solidarity Corps-style exchange model.
Croatia - Split	Common octopus restoration	Species restoration	Named as active restoration of common octopus.
Mediterranean / EU-wide	SEAfuture - Horizon EU / University of Alicante	Modelling; fisher-led Natura 2000 proposals	Uses mathematical modelling and scenario comparison to help fishers propose Natura 2000 areas. Provides a model for turning fishers into spatial-planning proposers.
Mediterranean	Fisher-initiated no-take zones for hake, scampi and red mullet	Bottom-up spatial protection; co-management	Fishers approached scientists over stock concerns. Fishing guilds helped select permanent polygons. Spillover and positive outcomes were reported, but benefits differed by depth and village.
Mediterranean / EU-wide	Mare Durabilis	Named project umbrella	Listed alongside oyster reef restoration in Quiberon Bay, European blue lobster restoration in Vigo and octopus restoration in Split.
EU-wide / multiple sites	FVON	Named project / network	Listed with examples including Palamos red prawn, CSIC Blanes soft corals, Sussex kelp, Sea Ranger Wismar, Cromer crab and Ebro estuary mariculture.
Global	Mangrove restoration with stakeholder and philanthropic foundation involvement	Global financing / community process example	A process involving all stakeholders, philanthropic foundations, social communities and incentives. Presented as a model potentially relevant to Europe.

Region / country	Example / project	Example type	What it shows for the report
Tenerife or Chile - location uncertain	Island co-management / TURF-like lobster example	Bottom-up co-management; no-take zone; quota increase	Fishers reportedly set rules on hooks, cages and fishing zones; fishing occurred close to the coast; a large surrounding no-take zone was established; lobster sales and increased quotas were mentioned.
France - Bay of Biscay / Gascony Gulf	One-month closure to reduce dolphin catches	Bycatch reduction; compensation; socio-economic trade-off	Temporary closure with major economic consequences. Government subsidies were used, and alternative income options such as tourism were considered but constrained.
Cross-sector / offshore wind areas	Offshore wind foundations, cable companies and reef restoration opportunities	Cross-sector synergy / funding opportunity	Offshore wind foundations may be designed to support life; passive gears may operate around wind farms; cable companies could include reef restoration in contracts.
Location not specified	Recovering stones from trawlers and placing them in no-take zones	Active restoration action using fishing activity by-products	Stones collected by trawlers could be moved to no-take zones to increase regenerative potential.
Location not specified	Former seagrass areas: nutrient reduction plus seagrass planting	Combined passive and active restoration package	Combining nutrient reduction with seagrass planting illustrates that pressure reduction and active rebuilding may both be needed.
Portugal / location not fully specified	Portuguese shrimp fishery where trawling was said to be needed for shrimp to arrive	Counter-intuitive fisheries-ecosystem interaction	Used to illustrate that some fisheries interactions may be complex and not always framed only as negative.
Location not specified	Fish pots as nursery grounds for cephalopods	Potential positive gear-habitat interaction	Mentioned as a possible example of fishing gear providing nursery function.
Location not specified	Fishers contributing to invasive species removal	Fisher-led ecological intervention	Fishers were mentioned as potential positive contributors to restoration through invasive species examples.
Coastal / global initiative not specified	F1 global initiative - data collection in sub-sea coastal areas	Data collection / knowledge gaps	Mentioned as a data collection initiative relevant to leveraging fisheries actors and building trust.
Location not specified	Fisher-initiated three-nautical-mile coastal ban and mesh-size initiatives	Bottom-up fisheries management; gear and spatial measures	Fishers reportedly initiated a 3 nautical mile coastal fishing ban and mesh-size changes to reduce bycatch. Notes also mention diamond versus square mesh and scientific/economic/technical advice processes.
Marine spatial planning context	Three-nautical-mile construction-free zone in MSP	MSP measure; designated fishing areas / access clarity	Fishers reportedly welcomed a 3 nautical mile construction-free zone, illustrating the value of clear access rules and designated fishing grounds.

Annex 5. List of examples provided for generating good practice for dialogue with fishers. Note that this list has been compiled from white boards during the workshop. Some degree of quality assurance has taken place, but the table should be used as a first start,

Example	Potential source on web	Why potentially useful
LIFE Ecorest, Catalan coast	EU LIFE project page	Official project record. Confirms restoration of benthic habitats on the Catalan continental margin affected by fishing activities.
LIFE Ecorest fisher coral/gorgonian recovery	LIFE Ecorest project news	Practical example of fishers rescuing organisms caught in nets and returning them after recovery in aquaria.
RESCAP / gorgonian recovery, Cap de Creus	ICM-CSIC news	Clear example of fishermen and scientists recovering gorgonians in Cap de Creus.
RESCAP project protocol	Fundación Biodiversidad	Best project-style source. Describes the protocol with fishermen's brotherhoods, aquaria and return of gorgonians to habitat.
Bratten, Sweden	Fisheries conservation measures proposal	Technical source on Bratten as a Natura 2000 site, OSPAR habitats and fisheries conservation measures.
FisherMap	Peer-reviewed paper	Best source for the fisher-knowledge mapping approach in English waters.
LIFE B4B / BELREEFs, Belgium	LIFE B4B project page	Official Belgian project source on oyster reef restoration in the Belgian North Sea.
Belgian oyster reef restoration results	Belgian Institute of Natural Sciences	Good practical source on juvenile flat oyster survival, monitoring and reef development.
Belgian oyster beds / Belreefs	Belgian FPS Public Health	Public authority source. Describes Belreefs as a large-scale pilot for flat oyster reef restoration in the Belgian North Sea.
ENORI, Essex Native Oyster Restoration Initiative	ENORI official site	Best direct source. Describes collaboration between oystermen, government, conservationists and academia.
ENORI project summary	Native Oyster Network	Useful restoration network source. Describes recovery of native oysters in Essex estuaries.
Lyme Bay Reserve	Lyme Bay Reserve history	Good site source on restrictions on scallop dredges and bottom trawls.

Example	Potential source on web	Why potentially useful
Lyme Bay co-management / multiple-use MPA	Blue Marine Foundation case study	Best governance source. Describes the Fisheries and Conservation Reserve Working Group and multiple-use MPA model.
Quiberon Bay / Brittany oyster restoration	CLIMAREST project news	Best link to Brittany flat oyster reef restoration, including Quiberon Bay and Rade de Brest.
CLIMAREST oyster reefs, Brittany	CLIMAREST demo site	Good project page for the two French oyster reef demonstration sites.
European blue lobster / Galicia / mussel aquaculture	CLIMAREST Demo 4	Partial match. Useful for Galicia and restoration of soft-bed ecosystems affected by aquaculture, but does not fully capture the board's blue lobster wording.
Common octopus, Split, Croatia	Eurofish article	Good accessible source on University of Split octopus restocking research.
Octopus release, Split waters	Institute of Oceanography and Fisheries, Split	Stronger local source. Describes release of octopus larvae into Split waters and planned evaluation.
Sussex kelp restoration	Sussex Kelp Recovery Project	Best direct project source. Links recovery to the Sussex Nearshore Trawling Byelaw.
Sussex kelp restoration overview	Sussex Wildlife Trust	Good public-facing source on restoration of almost 200 km ² of lost kelp forest.
Cromer crab / adaptive management	Eastern IFCA Cromer Shoal MCZ page	Best source. Describes adaptive risk management for crab and lobster potting in the MCZ.
Cromer Shoal monitoring	Natural England report page	Useful supporting source for visual monitoring in the Cromer Shoal Chalk Beds MCZ.
Sea Ranger e.V., Wismar / Baltic Sea Ranger	BaltCF project page	Best match to the board. Links fishers' local knowledge, Baltic ecosystem protection and additional income streams.
Sea Rangers, Germany	European Commission article	Good EU source. Describes fishers trained as Sea Rangers and new roles in research, monitoring and tourism.

Example	Potential source on web	Why potentially useful
Sea Ranger concept with Wismar fishery cooperative	SustainMare / SpaCeParti	Useful process source on adapting the occupational profile of fishers for research, conservation and environmental protection tasks.
CLLD / Local Action Groups / EMFAF	European Commission FAMENET	Best EU source for Community-Led Local Development and fisheries local action groups under EMFF/EMFAF.
MPA Adaptive Management Project, UK	JNCC resource	Good UK process example. Describes participatory management of fishing activity in offshore MPAs, funded by EMFF.
French CNPMEM / Pertuis-Gironde dialogue	Academic article on park consultation	Best available source for consultation and dialogue around the Gironde and Pertuis Marine Natural Park.
Pertuis-Gironde fisheries risk analysis	data.gouv.fr ARPEGI dataset	Useful technical source on locating fishing activities, species, habitats and interaction zones.