



FARNET Support Unit

TECHNICAL REPORT

*Case study on specific FLAG activities and support
to preserve biodiversity and restore marine and freshwater eco-systems*

February 2021



Copyright © European Union (2020)

Reproduction is authorised provided the source and authors are acknowledged.

EUROPEAN COMMISSION – Directorate-General for Maritime Affairs and Fisheries

Document Reference:

Authors: Jean-Pierre Vercruyse, Monica Veronesi, Janne Posti, Marta Edreira and Urszula Budzich-Tabor

Disclaimer: The information and views set out in this report are those of the author(s) and do not necessarily reflect the official opinion of the European Commission. The Commission does not guarantee the accuracy of the data included in this report. Neither the Commission nor any person acting on the Commission's behalf may be held responsible for the use which may be made of the information contained therein.

FARNET Support Unit

Chaussée Saint-Pierre

B 1040, Bruxelles

Tel: +32 2 613 26 50

info@farnet.eu

www.farnet.eu

Executive summary

This case study aims to increase our understanding of the contribution Fisheries Local Action Groups (FLAGs) are making to the [Biodiversity Strategy for 2030](#). Funded by the [EMFF](#), each FLAG implements its own local development strategy as part of a participative programme known as Community-Led Local Development (CLLD). This study looks at the way that certain FLAGs implement operations that contribute to the protection or restoration of biodiversity in their local area.

It explores the extent to which actions undertaken in this field are **effective when carried out locally in the framework of a multi-annual strategy and a partnership**. It also looks at the “business case for biodiversity”¹, showing that biodiversity protection and restoration can contribute to employment and economic development locally.

The study focuses on five FLAGs. For each FLAG it presents their local circumstances and looks more closely at some of the operations that they have undertaken to protect or restore biodiversity in their area. Twenty operations are briefly presented, as well as the key lessons that can be drawn from their difficulties and successes.

The [Calanques Islands FLAG](#) area in **France** includes two National Parks with a high level of nature protection. The FLAG has been able to foster cooperation between fishers and environmentalists through their common membership of the FLAG’s decision-making body. Cooperation with research took place through scientific studies which brought innovative approaches to the protection of local biodiversity but this will require further funding to be fully implemented.

In **Spain**, the [Murcia FLAG](#) covers an area of exceptional marine biodiversity, rich underwater meadows of Posidonia and the largest saltwater lagoon in Europe. The FLAG works on cooperation at all levels: involving fishers directly in the management of the marine reserve, involving the local community in educational action on the beaches, and involving an environmental NGO in monitoring of sensitive species and awareness-raising activities.

The [East Finland FLAG](#) area includes Lake Saimaa, the largest lake in Finland and the fourth largest natural freshwater lake in Europe. The FLAG aims to develop local fisheries by promoting the use of underexploited fish stocks, whilst improving environmental conditions and protecting endangered species. The FLAG is perceived as a neutral actor that can involve relevant stakeholders, including fishers, processors, researchers, environmentalists, and water owners.

In **Portugal**, the [Mondego Mar FLAG](#) covers the estuary of the Mondego river, which is important for its environmental value and for the economic activity it hosts. The FLAG benefits from funding from three different European funds but is more than just a funding window: active community outreach is a fundamental element of CLLD and has also mobilised researchers to help identify solutions to local issues.

The [Morenka FLAG](#) in **Poland** is an inland FLAG which includes in its area the Tuchola Forest, one of the largest pine forests in Poland and home to many unique animal and plant species. The Forest became a UNESCO Biosphere Reserve in 2010, which the FLAG uses as a common “brand”, bringing together tourism and environment-related activities. The FLAG managed to convince local

¹ See “The business case for biodiversity” here: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/actions-being-taken-eu/eu-biodiversity-strategy-2030_en#the-business-case-for-biodiversity

municipalities that there is a “business case for biodiversity”, leading to a potential extension of the local Biosphere reserve.

Key lessons can be drawn from the work done by these FLAGs for the protection and restoration of biodiversity:

- **Cooperation at all levels is key** to unlocking action on biodiversity as it helps overcome the perceived opposition between the interests of different stakeholders: cooperation between fishers and environmentalists to rebuild trust, cooperation with research to identify innovative solutions, cooperation with local NGOs active on the protection of biodiversity, and cooperation with the public sector which is often crucial for sustainability.
- **Innovation is often necessary** to identify new solutions to address threats to biodiversity. Innovations can be transferred from other areas or can be supported by cooperation with local research institutions.
- FLAGs support the “**business case for biodiversity**” by showing that biodiversity protection and restoration can be a local source of economic development and new jobs, a key for sustainability.
- **Scaling up local action will be necessary** to ensure maximum impact on the protection and restoration of biodiversity. Work on biodiversity is usually only one strand of a FLAG’s strategy and their limited resources are often used to prepare operations that require larger investments supported by other sources of funding.
- **Education and communication actions** on the urgency of safeguarding biodiversity is important as well as to demonstrate the results of local projects to secure the engagement of the local population.

This case-study shows that, alongside actions to foster local economic development and improve social wellbeing, certain FLAGs are already delivering on the specific commitments and actions included in the EU’s Biodiversity Strategy: increasing the areas under protected status; restoring degraded ecosystems; improving knowledge and better integrating biodiversity concerns to public and business decision-making.

As FLAGs start to think about the next programming period, this strand of work should be prioritised more heavily by all FLAGs for maximum impact on halting biodiversity loss and restoring marine ecosystems.

Contents

- Executive summary 3
- 1. Introduction: Why this case study?..... 6
- 2. How are FLAGs addressing the need to protect and restore biodiversity at the local level? 6
 - 2.1. France – The Calanques Islands FLAG (GALICA) 8
 - 2.2. Spain – The Murcia FLAG (GALPEMUR)..... 10
 - 2.3. Finland – The East Finland FLAG..... 12
 - 2.4. Portugal – The Mondego Mar FLAG 15
 - 2.5. Poland - The Morenka FLAG 17
- 3. Lessons from FLAG work on biodiversity 20
 - 3.1 Cooperation is key to unlocking action on biodiversity. 20
 - 3.2 Innovation is necessary 21
 - 3.3. Biodiversity can be a source of economic development. 21
 - 3.4. Scaling up is needed to impact biodiversity 22
 - 3.5. Education and communication are of key importance 22
- 4. Conclusions..... 22

1. Introduction: Why this case study?

In July 2020, FARNET undertook a survey of the way FLAGs contribute to the objectives set out in the [Green Deal](#) (GD). This [survey report](#) identified 1 167 operations in line with the priorities of the GD, including the protection and restoration of biodiversity at the local level.

This case study aims to increase our understanding of the contribution FLAGs can and are making to the [Biodiversity Strategy for 2030](#) by looking in more detail at the way certain FLAGs implement a series of operations that contribute to the protection or restoration of biodiversity in their local area. The Biodiversity Strategy was adopted by the Commission in May 2020 and contains specific commitments and [actions to be delivered by 2030](#), many of which are relevant for FLAGs. These include:

- ✓ Increasing the areas under protected status (at least 30% of the EU's seas).
- ✓ Restoring degraded ecosystems.
- ✓ Improving knowledge and better integrating biodiversity concerns to public and business decision-making.
- ✓ Acting globally to halt biodiversity loss.

The study explores the extent to which actions undertaken in this field are effective when **carried out locally in the framework of a multi-annual strategy and a partnership**. It also looks at the actions of FLAGs in this field in the context of the “business case for biodiversity”², in other words the role that the **economic dimension of many biodiversity projects** plays in making them sustainable and whether biodiversity protection and restoration can also create employment and economic development locally.

The Green Deal survey revealed that half of the responding FLAGs supported actions on biodiversity: 677 operations were reported by the 155 FLAGs that replied to the survey³, representing 59% of the total number of Green Deal-related operations reported.

2. How are FLAGs addressing the need to protect and restore biodiversity at the local level?

The study focuses on five FLAGs in order to identify some good practices, but also lessons to be drawn from their difficulties and successes. For each FLAG, we present their local circumstances and look more closely at some of the operations that they have undertaken to protect or restore biodiversity in their area.

The list below shows these operations according to the categories of biodiversity projects used in the FLAG survey on Green Deal-related actions. It shows that the 20 operations presented below cover a good range of biodiversity projects.

² See “The business case for biodiversity” here: https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/actions-being-taken-eu/eu-biodiversity-strategy-2030_en#the-business-case-for-biodiversity

³ This is 45% of the total number of 348 FLAGs selected in the 2014-2020 programming period. By extrapolation we can estimate that the 348 FLAGs supported 1 520 biodiversity-related operations.

Fisheries resources management

- MSC certification of trawl and seine fisheries (FI)
- Studying the impacts and logistics of fishing underexploited species (FI)
- Studying fish nurseries for sustainable fishing (FR)
- Aquaculture for sea urchins (PT)
- Hiring of a biologist to support fisheries management plans (ES)

Ecosystems restoration

- Pond restoration project (PL)
- Study on blue crab, an alien species and a predator (ES)

Marine litter

- Collection of cigarette butts on beaches (ES)

Improving water quality

- Algae to reduce eutrophication in aquaculture (PT)

Marine Protected Area (MPA) management

- Evaluation of non-fishing areas (FR)
- Helping fishers enforce protection measures against illegal fishing (ES)
- New MPA set-up thanks to the increased awareness (ES)

Lower impact fishing gear

- Seal-safe trap net (FI)
- More selective trawl fishing (FI)

Eco-tourism

- Management of tourist flow in Biosphere reserve (PL)

Education

- Communication on the results of the study on No-Take Zones (FR)
- Education centre linked to wetland preservation and crayfish (PL)
- Support for data collection on sensitive species and awareness. raising (ES)

Salt pans as a potential fish nursery

The Salsa project studied the potential of the Hyères salt pans as a nursery for fish of commercial interest. The aim is to gain a better understanding of this function of the salt pans to see whether an adaptation of the hydraulic management would not have a positive impact on the fish stocks in the bay of Hyères. A census of juvenile fish was undertaken in consultation with local fishers and the results used to fuel exchanges with stakeholders in the area. The study recommended an adaptation of the traditional hydraulic management of the salt pan that was focused on the production of salt. It should be updated, adapted both to the abundant bird life and the role of the salt pans as nurseries for juvenile fish of commercial interest. This should include the restoration of hydraulic exchanges between the salt pans and the sea.

Budget: €37 500 (FLAG grant: €30 000; Port Cros National Park: €7 500)

Lessons from France:

This FLAG has been able to foster cooperation between fishers and environmentalists through their common membership of the FLAG's decision-making body. Cooperation with research took place through scientific studies on themes of high relevance for the fishing sector and the marine environment. These studies brought innovative approaches to the protection of biodiversity but will require mainstream funding to be fully implemented.

2.2. Spain – The Murcia FLAG (GALPEMUR)

The Murcia FLAG (GALPEMUR) covers all coastal communities of the Mediterranean region of Murcia, southeast Spain. It is a region of exceptional marine biodiversity⁸, rich underwater meadows of Posidonia and the largest saltwater lagoon in Europe. The area enjoys a high level of protection of these environmental assets, including 12 Natura 2000 sites and two MPAs, set up to protect its fragile eco-systems, including specific fish species such as eels and transparent goby (*Aphia minuta*).

“Adding value to its natural and cultural assets” is one of four key objectives in the FLAG's strategy. Fisheries and tourism are important activities in the area, both of which are highly dependent on the quality of the marine ecosystem and biodiversity. The area harbours 168 fishing boats, (accounting for 515 jobs and of which 80% are artisanal) and 471 full-time equivalent (FTEs) working in aquaculture.

In the Mediterranean Sea part of the FLAG area, one of the main issues the FLAG aims to combat is illegal fishing, especially in summer months when tourism leads to high demand in restaurants for local fish and shellfish, putting heavy pressure on certain valuable species such as grouper, lobster and pollock. In the lagoon, known as the “Mar Menor”, the impact of intensive agriculture has led to eutrophication which, in 2019, was compounded by [historic levels of rainfall and flooding](#) that saw a massive influx of fresh water to the lagoon. The result was the death of over 3 tonnes of fish and crustaceans, washed up on the beaches, putting an end to fishing in the lagoon for around two months and seriously damaging the tourist industry. The environmental strand of the FLAG's strategy allowed it to react to this catastrophe, as well as putting in place long-term measures to protect biodiversity in the area.

⁸ It was voted in 2015 as the “best diving in Europe” by the Cousteau Foundation.

diminished. Among these migratory species, the lamprey (*Petromyzon marinus*), the allis shad (*Alosa alosa*) and the eel (*Anguilla Anguilla*) are of great importance to local fishers. This high concentration of activities requires a local strategy that supports their healthy coexistence and promotes the creation of new activities that guarantee optimal social and economic development whilst respecting the environment.

The Mondego Mar FLAG benefits from multi-funding and its local strategy must address the objectives of three European funds: EMFF, EFRD and ESF. The local development strategy includes four objectives, one of which focuses on promoting sustainable growth based on the sustainable use of local resources.

Using macro algae to reduce the environmental impact of aquaculture

Aquaculture is one of the most promising activities, with 19 active companies located in the estuary mouth. The protection of the natural habitat is therefore fundamental. The wastewater discharges from aquaculture can generate an excess of nutrients, having an impact on local species such as the seaweed *Zostera noltii*, and valuable commercial species, such as cockles (*Cerastoderma edule*), seabass (*Dicentrarchus labrax*), flounder (*Solea solea*) and European flounder (*Platichthys flesus*). All these are important catches for the local fishing community.

AlgaDepur is a pilot project carried out in a local fish farm located in the estuary, that studies the possibility of macro algae farming in aquaculture areas. This would support the sustainable diversification of the area, encouraging the creation of new businesses focused on growing and collecting these algae, whilst reducing the impact of aquaculture activities. Based on the concept of Integrated Multi-Trophic Aquaculture (IMTA), the project is showing the environmental and socio-economic advantages of implementing IMTA in small/medium coastal aquacultures. It will also allow the identification of the most suitable algae to improve the quality of effluent water from fish farms located in estuarine environments, taking the local climate into account. So far, the project has developed studies related to three local algae species: *Ulva sp.*, *Chondrus crispus* and *Codium sp.* although the analysis of results is not yet finalised.

The project is undertaken in cooperation with the Environmental and Marine Science Centre (a branch of University of Coimbra) which is a particularly active stakeholder in the FLAG and a source of knowledge towards the sustainability of marine activities.

Budget: €208 836 (€177 511: FLAG grant; €31 325: University of Coimbra)

Study on the production of sea urchins in captivity

Since the 16th century, the Mondego Mar area has been an important salt producing area, but this activity has decreased and many of these salt exploitations have been abandoned. The FLAG financed a research project to convert some of these unused spaces to produce an aquaculture product highly coveted by restaurateurs: the sea urchin, also known as “Portuguese caviar”.

Sea urchins became extremely popular some years ago in the national high cuisine and are mainly supplied by wild stocks. This caused increasing environmental pressure, leading to a drastic



© The Mondego Mar FLAG

decrease of some of the natural stocks. Researchers from the Environmental and Marine Science Centre from the University of Coimbra carried studied processing methods for the sea urchin. The OtimO project aims to understand how to support the growth of the sea urchin and ensure its reproductive capacity in captivity, despite the difficulty linked to the many variants influencing its development. A start-up was created to analyse the viability of the project in a business environment. The project focused on the use of multitrophic aquaculture systems integrated with water recirculation, since these allow the reuse and recycling of resources and minimise environmental impact. The research will study its viability in aquaculture tanks and in two local areas, previously used for salt production.

Budget: €202 942 (FLAG grant: €172 501, University of Coimbra: €30 441)

The FLAG as a channel for different funds

The FLAG is not just a source of funding. It can provide essential support for a number of projects financed by funds other than the EMFF, thanks to its knowledge of the area, its commitment to local development and its role as an intermediary with the local community.

An example of this is the activity of ECOSURF board, under the CAPITEN project¹⁰ of the Interreg Atlantic Area. ECOSURF has supported demonstration actions aimed at the design and production of ecological surfboards made from a local cactus – the agave – a material of excellent quality that can be exploited in a sustainable way. The cactus is collected locally, only from dead plants, and the surfboards are handmade. They are made from natural resources, unlike traditional surfboards made of elements derived from oil, which cannot be recycled. They are also much more resistant and do not generate waste when discarded.

Budget: €126 454 (ERDF: €94 842; FLAG grant: €31 613)

Lessons from Portugal:

The Mondego Mar FLAG is a multi-funded group, where transversality is essential: to secure the sustainability of coastal activities, it must ensure the creation of employment and new economic opportunities in the area, while protecting the natural resources they depend on. The coexistence of numerous different activities in a shared environment makes the involvement of all the stakeholders fundamental. Connecting with research has proved to be the FLAG's best ally to identify innovative solutions to local challenges.

2.5. Poland - The Morenka FLAG

Morenka is an inland FLAG situated in the southern part of the Pomeranian region, with much of the area covered by forests and over 300 lakes. Lake fishing and aquaculture (mainly trout, carp and sturgeon) have a long tradition and remain important for the area's economy, although they are a main source of income for only a small number of actors. Most fisheries and aquaculture businesses must look for additional income, from angling or tourism. Among the funding members of the FLAG there are several large fish farms (including Mylof, the biggest trout farm in Poland) and the very active

10 CAPITEN (Atlantic Cluster for Technological and Economic Innovation in the Nautical Sector) is a European collaborative project co-financed by the regional development program INTERREG Atlantic Area, that brings together 16 partners from Scotland, Ireland, France, Portugal, and Spain. See <https://capiten.eu/?lang=en>

LEADER LAG “Sandry Brdy” whose area partly overlaps with the FLAG’s. The LAG and the FLAG share the same president.

One of the most distinctive features of the area is the presence of the Tuchola Forest – one of the largest pine forests in Poland (over 400 000 hectares). With the strictly protected National Park, several smaller natural reserves (high degree of legal protection) and several Landscape Parks (lower degree of protection), the Tuchola Forest is home to many unique animal and plant species. One of two key objectives of the FLAG strategy is to develop a coherent tourism brand for the area while using the natural assets in a sustainable way. Most projects supported by the FLAG capitalise on the unspoiled nature of the Tuchola Forest, including fish producers who often highlight the clean environment in which the fish is produced as a key element of their promotional activities.

Activities linked to the Biosphere Reserve

A key factor that integrates all activities of the FLAG around biodiversity is the creation in 2010 of the UNESCO Biosphere Reserve, “Tuchola Forest”¹¹. The Biosphere Reserve has three objectives: to protect valuable ecosystems; to promote sustainable human activity; and to foster research and education. What is important is that a Biosphere reserve does not imply a new form of protection – it is based on legal forms of nature protection which already exist – but it provides international recognition and plays a key role in promotion and awareness raising. In the context of the FLAG strategy, the Tuchola Forest Biosphere Reserve acts as a common “brand” which brings together all the FLAG tourism and environment-related activities.



Cooperation between the Biosphere Reserve and the FLAG has positive impacts for both sides. On the one hand, the FLAG (and earlier the LEADER LAG “Sandry Brdy”) has played a key role in the creation of the reserve and in mobilising different stakeholders for its support, in cooperation with the Nicolaus Copernicus University in Torun and environmental NGOs. This was an essential factor in UNESCO endorsing the reserve, while previous initiatives for Biosphere reserves have often failed because they were only promoted by one group of stakeholders, such as researchers or environmentalists. On the other hand, the reserve gives the FLAG area a strong identity and helps to promote its fisheries products and its tourist attractions: for example, the Mylof company uses the logo of the Biosphere Reserve to promote its trout products. Cooperation on the Biosphere Reserve with the National Park authorities, forestry authorities and others, has also increased the recognition of the FLAG as an important player in the area’s development.

Activities carried out under the budget of the FLAG’s animation activities.

¹¹ The network of [Biosphere Reserves](#) is part of the UNESCO Programme “Man and Biosphere”, which focuses on the co-existence of human activity with valuable natural assets. There are over 700 Biosphere Reserves in the world, of which 10 are in Poland. [Tuchola Forest](#) is the largest and the most recently established Biosphere Reserve in Poland.

Linking biodiversity with tourism and education

The director of the Wdzydze Landscape Park, Mr Penk, is passionate about the environment and education. With FLAG support (from 2007-2013 period), he managed to safeguard a piece of valuable wetland previously under threat from urban sprawl, and started to breed Polish crayfish (*Astacus astacus*), which is extremely sensitive to pollution and is often used as an indicator of water quality. This species is currently under pressure from the invasive American crayfish. Mr Penk also invested in a small educational centre with information panels and two guest rooms, built in the local Kaszuby style. The centre offers educational visits and stays for school children and nature enthusiasts. The activities of the centre are integrated with the wider initiative of the FLAG to promote local culinary assets, for example the annual Festival of Whitefish and Polish Crayfish.

Budget: Wetland restoration project: €90 000 (100% FLAG funded); Tourism investments: €47 000 (FLAG grant: €40 000)

Local health services mobilised to protect biodiversity

Another business initiative which enhances biodiversity is the private health clinic in Krojanty, offering high quality services (mainly therapy of spine diseases) to both the local population and tourists from Poland and abroad. The clinic is a partner in the FLAG and its owners have taken part in training and awareness raising activities organised by the FLAG around the role of natural assets in the area's identity. As a result, they decided to enhance the attractiveness of the historical park surrounding the clinics while improving its biodiversity. They applied to the FLAG for funding to restore several small lakes/ponds in the park, thus protecting many valuable plant and animal species from extinction.

Budget: €110 000 (FLAG grant: €93 000; beneficiary contribution €17 000)

Organising tourist infrastructure to protect biodiversity

The FLAG has also supported numerous projects to help manage the flow of tourists in the Biosphere Reserve. Cycling or hiking paths, as well as kayaking trails, help steer tourists away from areas where their presence would disturb the fragile ecosystems, while allowing them to explore some of the most spectacular natural assets. For this purpose, the FLAG has supported public and private investors, including the authorities of the National Park and the Forestry Authorities, to set up viewing points, signposts and information boards, benches, resting places, toilets, pontoons, litter bins, etc. along the trails whose course is determined by scientists collaborating with the park authorities. Due to the high cost of such investments, only small parts could be financed by the FLAG. However, in the words of the FLAG president, "Funding is only a small element of the FLAG contribution – more important is the motivation and encouragement for a coherent set of activities around the touristic assets of the area."

Budget:

- Tuchola Forest National Park, investment in recreational infrastructure, total cost €12 000 (FLAG grant: €10 000)
- Karsin municipality: investments in recreational infrastructure for kayaking trails, total cost €225 000 (FLAG grant: €155 000)
- Brusy municipality: investment in bicycle path linking natural assets: total cost €300 000 (FLAG grant: €72 000)

Lessons from Poland:

The Morenka FLAG has made special efforts to integrate environmental and biodiversity aspects in each projects supported. It has also managed to convince local municipalities that there is a “business case for biodiversity”, leading to a potential extension of the local Biosphere reserve, which is a key asset of the territory.

3. Lessons from FLAG work on biodiversity

3.1 Cooperation is key to unlocking action on biodiversity.

In fisheries, many issues related to the protection or restoration of biodiversity arise from the perceived opposition between the interests of different stakeholders. Typically, the long-term management of fisheries resources is an important instrument for the protection of biodiversity, but it is often perceived by fishers as going against their interest. By involving fishers or their representatives in this management, they can be convinced of its long-term interest for them. No single group of stakeholders holds the solution and there is a need to establish dialogue to understand better the common challenges and to discuss possible solutions. This requires building trust between groups of stakeholders, which is an ongoing process for most FLAGs.

- **Cooperation between fishers and other stakeholders** has been fostered by the five FLAGs as shown in the project descriptions above. The French FLAG has involved fishers in the control of the non-catch zones, and the FLAG has become the place where local fishers and representatives of the two National Parks can have a dialogue. In Spain, the FLAG supported the local *cofradía* to pay a fisher to patrol the Marine Protected Area and prevent illegal fishing. By doing this, fishers have been empowered to protect their own resources and they have seen that the strategy pays off with improved fish stocks. These actions have taught us some lessons about working with fishers: FLAG meetings need to take into account their specific fishing schedules; fishers might need some financial compensation if the activities prevent them from fishing normally; recreational fishers could also be invited to cooperate where they are very active.
- **Cooperation with research** is present in all FLAGs interviewed and many of the projects presented above. Indeed, understanding the interrelation between different species and the impact of different aquatic activities is complex and requires careful study and data if adequate responses are to be developed. Moreover, new problems are triggered by evolutions (such as climate change or growing pressure from tourism) and require systematic research for solutions. A warmer climate can allow, for example, alien species to flourish at the expense of local species, as seen in the case of the invasive blue crab in the Mar Menor, Spain).
- **Cooperation with the local community** is a strength of all the FLAGs presented here. FLAGs are using their knowledge of the local area and of the key components of their community to foster the cooperation needed to identify new solutions. In Poland, one of the key factors of success was the ability of the FLAG to establish contacts and build trust with a number of key stakeholders from different sectors around the Biosphere Reserve and other activities linked with environment and biodiversity.

- **Cooperation with local NGOs** is also essential since these are often the most active stakeholders defending local biodiversity, raising awareness on issues that went unnoticed before. The Murcia FLAG in Spain supported the NGO, ANSE, to monitor the eel population in the Mar Menor and to raise awareness of the need to act to protect it.
- **Cooperation with the public sector** is important to access funding but also because of the areas of competence they cover. In Finland, the FLAG is collaborating closely with the Ministry of Environment and catch control authorities to improve fisheries management, while fishers in Spain are cooperating with the State contracted agency to combat illegal fishing. In Poland, work on the Biosphere reserve requires cooperation between the FLAG and national park authorities, forest authorities, municipalities etc.

In many cases, addressing broader issues will **require the cooperation of several or all of these stakeholders**. In Finland, the protection of the ringed seal could only progress with the support of researchers, fishers, and the public administration. Similarly, in Poland, the Biosphere reserve was established thanks to the cooperation of the FLAG (and the LEADER LAG) with the local university, NGOs, and public administration.

3.2 Innovation is necessary

Threats to biodiversity need to be identified and new solutions explored. FLAGs can support projects to develop and pilot such solutions, including eco-innovation¹², or identify and transfer existing solutions to a specific context or problem in their area. For example, the East Finland FLAG financed research on the development of seal-safe trap nets: this was based on existing experience undertaken in the Baltic Sea but adapted to the inland conditions of Lake Saimaa. A second stage of this project was financed by the LIFE Nature programme.

All the actions supported by the French FLAG are studies to assess the effectiveness of specific actions for the protection of biodiversity (such as the creation of non-catch zones) or to identify new actions that could support local biodiversity (for example, better understanding the way modifications to the management of former saltpans could enhance their role as local fish nurseries). In Portugal, the FLAG has funded a study on the possibility of macro algae farming in aquaculture areas, with the aim of supporting the development of new and sustainable economic activities.

3.3. Biodiversity can be a source of economic development.

Most of the projects presented above have an economic dimension, and FLAG actions in this field support the “business case for biodiversity” mentioned in the introduction. These projects have shown that biodiversity protection and restoration is often a way of creating employment and economic development locally. This economic dimension supports the sustainability of these actions which are there to stay as they provide jobs and income to local people.

For example, a pristine environment and/or specific nature resources are attracting clients for eco-tourism packages. In Poland, the Biosphere reserve logo is used to promote local products and attract visitors to the area. The East Finland FLAG considers tourism and recreational fisheries important sectors in the region, and environmental sustainability and the preservation of biodiversity are key to

¹² An eco-innovation is “any innovation that makes progress towards the goal of sustainable development by reducing impacts on the environment, increasing resilience to environmental pressures or using natural resources more efficiently and responsibly” – [Switch to Green](#).

their success. In France, the studies have shown that non-catch zones actually allow better fishing in their vicinity, providing local fishers with better income. In Portugal, the FLAG has financed research to identify how to build economic development based on the new market trend of consuming sea urchins, “the Portuguese caviar”.

3.4. Scaling up is needed to impact biodiversity

FLAGS’ actions tend to be small-scale and their resources are limited. Moreover, work on biodiversity is usually only one strand of the FLAG’s local development strategy. Larger investments (from other funding sources) are often needed to build on actions tested or launched by the FLAGS.

Through cooperation with stakeholders, FLAGS working on biodiversity create a space where conflicts can be addressed and possibly solved. This broadens the scale of work that the FLAGS undertake and could open access to other sources of funding. Many of the examples presented above show how FLAGS can support the development of projects that are implemented using larger funds. In East Finland, through its project to refocus market demand on underexploited species, the FLAG provided the seed fund necessary to trigger investments from the ERDF and other mainstream bodies. The five projects supported by the Calanques Islands FLAG in France were studies whose conclusions will require other funds to be put into practice. In Portugal, the project ECOSURF board is financed by the CAPITEN project of the Interreg Atlantic Area. FLAGS need to develop their knowledge of different funding strands to be able to direct and support project holders.

3.5. Education and communication are of key importance

Protection and restoration of biodiversity require the engagement of all local people. The recent survey undertaken by FARNET on the FLAGS’ contribution to the Green Deal identified 166 projects on education and communication, the second highest figure in that study. The Morenka FLAG in Poland organised training for the members of their selection committee and raised their awareness about the need to support projects with a positive impact on the environment and biodiversity. The Calanques Islands FLAG in France provided funding so that the results of the studies on no-catch zones are communicated to a broader public to raise their awareness of the issues linked to overfishing. In Spain, the collection of cigarettes butts on the beach might have just a small impact on the quantity of litter that ends up in the sea, but it has educational value both for those involved in the activity and for those who witness its results.

4. Conclusions

The Biodiversity Strategy contains specific commitments and actions to be delivered by 2030, and this study has shown that the FLAGS can, and in some cases are already, addressing these:

Specific commitments and actions to be delivered by 2030	How the FLAGS are delivering on these commitments and actions
1. Increasing the areas under protected status (at least 30% of the EU’s seas)	Many FLAGS have several protected areas in their territory: Natura 2000, Marine Protected Areas, Non-Catch Zones, etc.

	FLAGS can play a valuable role in supporting the creation, extension or management of these protected areas.
2. Restoring degraded ecosystems	Many FLAGS are involved in seeking new solutions to biodiversity issues in their local area. This can be achieved by working in partnership with fishers and their organisations (Prud'homies, <i>cofradías</i> , etc.), but also with businesses, researchers, local NGOs, public administrations, etc. In this way, they ensure that the solutions adopted are suitable for a range of stakeholders, which should improve their chances of long-term success in tackling biodiversity loss at local level.
3. Improving knowledge and better integrating biodiversity concerns to public and business decision-making	FLAGS have supported operations for acquiring knowledge on local biodiversity issues and how these can be addressed. Funding is allocated, often as seed-funding complemented by mainstream funds once the initial work has been started. Some FLAGS are active in contributing to data collection.
4. Acting globally to halt biodiversity loss	FLAGS are normally not involved in international cooperation, but they provide the local dimension which is indispensable to implement policies designed at a higher level.

This short case study has shown that working at the local level is truly relevant to address issues around biodiversity. It is relevant because it is locally that effects of biodiversity loss and damage to ecosystems are felt and where opportunities for concrete action appear.

FLAGS have an important role to play in keeping abreast of these evolutions, through what they do best: networking and engagement with all relevant stakeholders. This gives FLAGS access to knowledge of the local problems and potential solutions, including possible sourcing of funding. The fact that they have their own budget is extremely valuable for encouraging others to also contribute resources to the protection of biodiversity. Indeed, action at the local level must be complemented by cooperation with a broad range of stakeholders, including at regional, national, and European levels.

In the future, the concept of “biodiversity proofing” could be considered to ensure that biodiversity protection and/or restoration is considered in all FLAG-funded projects. Undertaken in a similar way to “environment proofing” or “gender proofing”, this approach has been promoted by the European Commission, which proposed that key European funding programmes should be subjected to this proofing process¹³.

Ultimately, FLAGS are partnerships that aim to foster the sustainable development of their local areas and their natural resources. This development work involves economic, social, and environmental elements. All three are interdependent and, if FLAG choose so, there is strong potential for work around biodiversity to play a bigger role to contributing to that development in the future.

¹³ See https://ec.europa.eu/environment/nature/biodiversity/financing_en.htm, where guidance for biodiversity proofing of the EU budget for the 2014-2020 period is available, including a specific guidance on the EMFF.

