Summary report on evaluation of socio-economic impacts of Life

LIFE SeaBiL (Action C3)

Saving SeaBirds from marine Litter

LIFE20 GIE/FR/000114



Coordinator

Beneficiaries

Financial partners

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1. Summary

In order to assess the project's socio-economic impact, the report used data from compiled surveys for the main stakeholders -including questionnaires and interviews-, assessed relevant literature and performed a desktop study. The provider analysed the potential impact on ecosystem services through survey questions and secondary data. He included relevant questions in the surveys and conducted a literature review on potentially affected ecosystem services by marine litter. The evaluation of the results consists of both qualitative and quantitative analysis. The report was structured according to the methodological tools, but the results were analysed based on the impact on ecosystem services and socio-economic effects.

The project had beneficial impacts on its stakeholders, as they gained knowledge, capacity, new skills, and new connections due to the project. The tools implemented by the project were seen as extremely useful, and using the beach cleanup guide also increased some of the partners' knowledge and gained more awareness.

The stranded network protocol also contributed to an effective process for collecting stranded birds. It could also contribute to having more and better data on marine pollution. Collecting data on marine pollution, identifying its source and monitoring seabird mortality could improve scientific knowledge on marine litter problems. Sharing this knowledge, involving citizens in beach cleanup and monitoring actions and organising awareness-raising actions could lead to behaviour change. Increased knowledge and more aware behaviour could also have a potential indirect effect on ecosystem services.

This aligns with research by Hartley et al. showing that personal experience with litter, such as beach clean-ups, leads to higher awareness and willingness to act. Through these efforts, the project supports longterm socioeconomic and ecological benefits by addressing the root causes and public perceptions of marine litter.

2. Report

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Socio-economic and ecosystem services impact assessment of the LIFE SeaBil (LIFE20 GIE/FR/000114) project

2024

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1. Introduction

Marine debris is a significant global threat to marine and coastal ecosystems, impacting marine biodiversity for over four decades. Beyond ecological damage, marine debris poses socioeconomic risks, endangering health and safety and affecting commercially important resources (e.g., fishing, tourism). Most marine debris consist of plastic, which persists for extremely long in the environment, often containing or accumulating toxic chemicals from seawater (Budziak et al., 2016). As plastics fragment, they produce vast amounts of microplastic particles readily ingested by many marine organisms. Since the 1950s, plastic production has grown exponentially and is projected to accelerate further in the coming years. The number of affected species by marine litter is increasing (CBD, 2016).

Approximately 150 million tonnes of plastics have accumulated in the world's oceans. In one of the project's pilot areas -in Ebro Delta National Park in Spain- 16 tonnes of waste is collected every year. This type of pollution causes the death of more than 1 million seabirds per year. Plastic waste affects their habitats, their reproduction and threatens their survival.

The LIFE SeaBiL project aimed to reduce the impact of marine litter on seabirds by:

○ monitoring the stranded seabirds via a mobile application (ICAO app) involving citizens

○ the establishment of five local monitoring networks for stranded birds (one on each pilot site) to collect data about the impact of plastic pollution on seabirds

○ organising "low footprint" beach cleaning actions and preparing a guidebook including good practices and a risk map

○ analysing plastic samples and identifying sources of litter

○ organising awareness-raising actions.

The project covered five pilot sites in France, Portugal and Spain. Several stakeholders were involved in the project. Wildlife care centres and beach cleanup associations played a significant role in the project's activities. Volunteers also contributed considerably to the success of the project. In addition, awareness and sensitisation actions were implemented.

2. Socio-economic aspects and ecosystem services

Activities of the project were expected to impact not just the seabirds and coastal habitats but also the stakeholders involved in the project and society as a whole. It was assumed that the project has several beneficial impacts both in terms of socio-economic aspects as well as ecosystem services aspects. Beach cleanup activities by volunteers -using the "Low footprint guide" developed by the project- could affect the coastal habitats by mitigating the harmful impact of litter on the areas and lowering the cost of beach clean-up activities (e.g., by public authorities). Using the developed guide and protocol for stranded seabird collection potentially optimises processes and makes them more efficient. The experience with these protocols and gained data through stranded seabird collection and sample analysis could improve the knowledge of not just the affected stakeholders but the broader scientific community as well. In order to underpin these assumptions this assessment was carried out. Without primary data on ecosystem services, we did not choose specific indicators and services but assessed the project's potential impact on the ecosystems mainly.

3. Methodology

In order to assess the project's socio-economic impact, we compiled surveys for the main stakeholders -including questionnaires and interviews-, assessed relevant literature and performed a desktop study. We analysed the potential impact on ecosystem services through survey questions and secondary data. We included relevant questions in the surveys and conducted a literature review on potentially affected ecosystem services by marine litter. The evaluation of the results consists of both qualitative and quantitative analysis. The present chapter was structured according to the methodological tools, but the results were analysed based on the impact on ecosystem services and socio-economic effects.

3.1. Literature review

While there is various literature about plastic pollution and its impact on the environment in general, we focused our research on marine litter-related literature to understand the potential impact of the LIFE SeaBil project on ecosystem services delivered by coastal and marine habitats. Therefore, we conducted a literature review on what kind of ecosystem services may be affected by marine litter and how their removal could impact these services. In addition to the effects on ecosystem services, we also assessed the possible socio-economic impacts caused by marine litter.

3.2. Desktop study

This assessment also contains a desktop study focusing on the number of published articles related to the project. We aimed to reveal the educational potential -as a cultural ecosystem service- of the project. Using Google, we searched for the project's name and filtered the results for the years 2022, 2023, and 2024. We counted articles discussing the project or addressing the topics of stranded birds and marine pollution. Articles published on the beneficiaries' websites were excluded, as our objective was to determine the number of "external" articles generated by the project. Social media appearances were also excluded; only published articles were considered, as we wanted to determine the mentioned educational potential.

3.3. Questionnaires

We developed questionnaires for stakeholders to evaluate the project's impacts from a societal perspective. We prepared three questionnaires for the identified main three stakeholder groups: 1) partners who were involved in the project (e.g., beach cleanup associations, stranded network associations, animal care centres), 2) volunteers who participated in either beach cleanup actions or who were part of the stranded network, and in addition in Portugal, volunteers who monitored colonies, 3) the general public. The questionnaires were developed in English and after the approval by the project team, all three questionnaires were translated into the country's language (French, Spanish and Portuguese). The questionnaires for partners and volunteers contained specific questions regarding the "Low footprint guide", the ICAO app and the stranded network, which were only available for relevant stakeholders (e.g., guide-related questions were only visible for the beach clean-up organisations and those who volunteered in beach clean-up actions, the app and network related questions were available for stranded network associations, care centres and those who volunteered in these actions). The questionnaires were coded into the SurveyMonkey platform and distributed online via social media and email[1]. The questionnaires were available for approximately five months, from June until mid-November 2024, in order to ensure enough data collection. In the 'Results' section, we present the average results of answers, and we mention the differences between the countries where relevant and where significant differences were found.

Questionnaire for partners

With this questionnaire, we aimed to find out how the attitude and knowledge of the affected partners involved in the project (e.g., Natura 2000 site managers, beach cleanup organisations, wildlife care centres, and public authorities) changed due to the project. We also wanted to reveal whether the implemented protocols for collecting and analysing stranded seabirds and on-beach cleanup actions resulted in any changes in the relevant partners' costs or revenues and their opinions about marine litter and the project's impacts. We included questions regarding their operating area's marine and coastal pollution and its effect on seabirds, whether the project contributed to decreasing these effects, and what other impacts they experienced. We also wanted to find out how the project activities and tools affected the partners' work in terms of gained knowledge, enhanced capacity, extended network, and whether they benefited in any other way.

The questionnaire mostly contained closed questions since we also conducted interviews to gain deeper insight through a few stakeholders. Closed questions -including single and multiple choice and Likert scale questions- also allowed us to compare the results from the project countries and also the results from the volunteer and general public surveys. The questionnaire is included in Annex 1.

Questionnaire for volunteers

This questionnaire aimed to determine how the project impacted the volunteers participating in beach cleanup, stranded networks, and monitoring actions, as well as what other impacts the project had from the volunteers' perspective. We wanted to find out whether they gained knowledge or new skills due to the project and what impacts it might have on different ecosystem services. We included questions regarding the marine and coastal pollution in the area where they volunteered and its effect on seabirds, whether the project contributed to

[1] All three questionnaires were distributed by the project team, but the general public questionnaire was also distributed by GreenFormation.

decreasing these effects, and their opinion on the "Low footprint guide", the ICAO app and the stranded network. The questionnaire mostly contained closed questions, including single, multiple choice, and Likert scale questions. The questionnaire can be found in Annex 2.

Questionnaire for the general public

One of the objectives of this questionnaire was to assess the attitude and opinion of the general public towards marine litter and its impact on marine and coastal ecosystems and their services. With this survey, we also wanted to reveal whether the respondents visited (one of the) project site(s) and experienced any changes regarding marine litter that could be attributed to the project activities. We included questions to determine the importance of seabirds and their conservation from the respondents' perspective.

In order to have the responses comparable by countries as well and to make the filling easier, the questionnaire contained closed questions, including Likert scale questions and single- and multiple-choice questions. We analysed the results using quantitative methods (descriptive statistics, comparative analysis). We analysed the answers by the three counties together as well as separately by each country. We only analysed the completely filled-out questionnaires. The questionnaire is included in Annex 3.

3.4. Interviews

In order to complement the questionnaire for partners and volunteers, we conducted interviews in each project country to reveal deeper the project's impact on the stakeholders. The aim was to conduct five interviews with stakeholders including one beneficiary in each project country. GreenFormation interviewed those who spoke English via an online Teams or Zoom interview, and the project team interviewed those who preferred to have the interview in their mother tongue. The interviews were conducted between June and the end of October 2024.

With the interviews, we wanted to reveal further impacts of the SeaBil project on the stakeholders' work and in general. We asked similar questions to the questionnaires'; however, all questions were open-ended, allowing the interviewees to give deeper insights. We asked about the effectiveness of the actions carried out in the project and the key success of the project. We also revealed the interviewees' opinions about marine litter and its impact on ecosystems, society and economy and whether the project contributed to decreasing these effects. We asked their opinion about the beach cleanup guide and the stranded network. We included questions about whether the project contributed to raising awareness as well as about the project's sustainability and replicability. We analysed the questions using qualitative methods (content analysis). The interview questions can be found in Annex 4 and 5.

3.5. Limitations of the methodology

Analysing relevant literature on the potential effects of marine debris on ecosystems and on their services provides valuable insight into the problem. However, it does not necessarily undermine that all these potential effects occur at the project sites. Based on the literature review and the project activities, we could only draw a conclusion on how the project could have contributed to decreasing these potential effects. Without having primary data on ecosystem services per project site, we included relevant questions to the questionnaires to reveal what specific impacts the project might have had on ecosystem services delivered by project sites.

In the case of the general public questionnaire, we didn't receive enough answers from those who visited the project sites; therefore, we couldn't analyse the project site-related questions properly or detect any project-related changes. A significant limitation of the general public survey is the potential for higher fill-out rate by individuals who already had interest in nature conservation or seabirds, which could bias the results. As a result, the findings may not accurately reflect the views of the broader population in the affected areas.

Additionally, respondents may provide higher ratings for the importance of habitats, biodiversity, and species due to social or personal norms, which influence their answers. In the case of the partner questionnaire, a very limited number of stakeholders from Spain and Portugal filled out the questionnaire; therefore, we could only properly analyse the results from France. However, we conducted six interviews (one by the project team) with Portuguese stakeholders, where we gained answers to similar questions. We could also conduct the five aimed interviews (one by the project team) with French stakeholders. Unfortunately, we faced challenges engaging Spanish stakeholders, managing to conduct only one interview with a stakeholder and one with a member of the Spanish project team. During the interviews, we experienced that not all interviewees could answer all the questions, and some only had limited information about the project. Interviewing the project team members could shed light on missing pieces; however, we need to mention that people closely involved in the project may be biased. Another shortcoming of the interviews was that although eight stakeholders accepted the English language interviews, some provided limited answers, which could be attributed to the language barrier.

4. Results

4.1. Ecosystem services impact assessment

Literature review on marine litter

Marine debris, particularly plastics, poses widespread ecological threats, especially in vulnerable marine habitats like coral reefs, sandy shores, and subtidal areas (CBD, 2016). The most direct effect of marine litter on ecosystems is the harm caused to marine wildlife by **entanglement or ingestion** (Mouat et al., 2010; Werner et al., 2016; Woods et al., 2021). Since 2012, the number of species impacted by marine debris has increased by 21%. Over 500 marine and coastal species are impacted by ingesting or becoming entangled in marine debris, including the harmful effects of ghost fishing[2]. Sub-lethal impacts from ingestion and entanglement can disrupt marine animals' essential functions, such as feeding, digestion, movement, predator evasion, migration, and reproduction (CBD, 2016). High ingestion rates

[2] Derelict, abandoned fishing gear catching marine animals

may also lead to population-level effects, particularly among endangered species under multiple stressors. Entanglement leads to further harm, including physical injuries, infections, impaired mobility, reduced fitness, and even suffocation or drowning (Mouat et al., 2010). Annually, entanglement causes over 100,000 marine mammal deaths in the North Pacific, with data indicating an increase in these incidents (Moore, 2008; Mouat et al., 2010). The long-term effects of ghost fishing on marine communities remain unclear, though it is known that abandoned gear can cause significant fish and invertebrate mortality over extended periods (CBD, 2016).

Microplastics are recognised as a substantial threat to the marine environment, though their full impact is still unclear. Originating from the breakdown of larger debris or directly entering oceans through commercial activities, microplastics have increased in abundance over the past 40 years and are expected to continue accumulating due to their persistence. These particles are particularly concerning because they are extremely difficult to eliminate and can be ingested by a wide range of marine organisms (Mouat et al., 2010; UNEP, 2021).

In addition to the physical effects, marine debris has **a toxic impact** on marine wildlife. Plastics pose chemical risks to wildlife, either through their inherent toxicity or by absorbing other harmful pollutants (Budziak et al., 2016). In aquatic habitats, plastic debris is considered multiple stressors due to the variety of chemical contaminants it carries and absorbs (CBD, 2016). Exposure to these toxins can result in reproductive disorders, heightened disease susceptibility, hormone imbalances, and potentially death (Mouat et al., 2010).

Marine litter can support the **spread of invasive species** (Woods et al., 2021). The invasions of non-indigenous species pose a high threat to biodiversity. While natural ocean debris has long facilitated the movement of non-native species, the spread of plastic marine litter has significantly increased opportunities for invasive species dispersal. Marine litter travels slowly, allowing non-native species more time to adapt to new conditions and making it an even more effective vector than ship hulls and ballast water. These invasive species can disrupt ecosystems by outcompeting native species, altering habitats consequently posing a severe threat to biodiversity (s (Derraik 2002; Potts and Hastings, 2011).

Marine litter accumulated on the seafloor severely threatens benthic organisms and habitats by disrupting gas exchange, reducing sediment oxygen levels, and causing physical damage through abrasion, smothering, and entanglement (Mouat et al., 2010).

In sum, marine debris has a significant impact on marine and coastal habitats too and the ecosystem level as well. **Ecosystem deterioration** may arise from a combination of factors, including habitat damage (e.g., from physical harm and fishing gear), population declines (due to toxin bioaccumulation, invasive species competition, and increased mortality), and overall biodiversity loss. Marine litter pressures already vulnerable species, posing risks to their survival. Injuries and fatalities resulting from entanglement and ingestion can severely impact endangered species, yet research on the population-level effects of marine litter remains limited. As mentioned, marine litter can serve as a pathway for invasive alien species, leading to potentially devastating impacts on biodiversity within host habitats. (Mouat et al., 2010).

The long-term effects of marine litter on ecosystem deterioration—through entanglement, ingestion, benthic habitat damage, and biodiversity loss—remain relatively uncertain. Although research on the impact of marine litter on ecosystem services is limited, it is highly probable that litter weakens ecosystem resilience, thereby diminishing the quality of services they offer (Beaumont et al., 2019; Potts and Hastings, 2011). Marine pollution harms almost all ecosystem services and fisheries as provisioning and tourism, recreation and heritage-related cultural ecosystem services may be most impacted by marine pollution (Woods et al., 2021; Beaumont et al., 2019). Beaumont calculated a 1-5% decrease in marine ecosystem services due to marine plastic. However, the effects of marine plastic, combined with other environmental stressors like pollution, ocean warming, acidification, and overexploitation of marine resources, can amplify their harmful effects and may significantly increase the damage (Beaumont et al., 2019).

Desktop study

We found 21 articles mentioning the project altogether, six from 2022, four from 2023 and 11 from 2024. The articles were mainly about the stranded seabirds, how marine litter pollutes their habitat, or about activities carried out within the framework of the project. Some articles were written based on an interview with the project coordinator. We found one scientific article acknowledging the SeaBil project, and other articles were mainly from online newspapers or websites dedicated to environmental issues.

Questionnaires

In the ***general public questionnaire***, we asked the respondents' opinions on the impacts litter has on several ecosystem services on a scale of 1 to 10, where 1- No impact at all and 10- Highly negative impact. All listed ecosystem services have received high values. According to the respondents, on average, coastal and marine **habitats** are the most affected (9,7), while pest and disease control and recreational value are the least affected, however, with a high value of 8,9. In France, cultural heritage received the lowest value (7,4). The following figure summarises the result of this question (Figure 1).

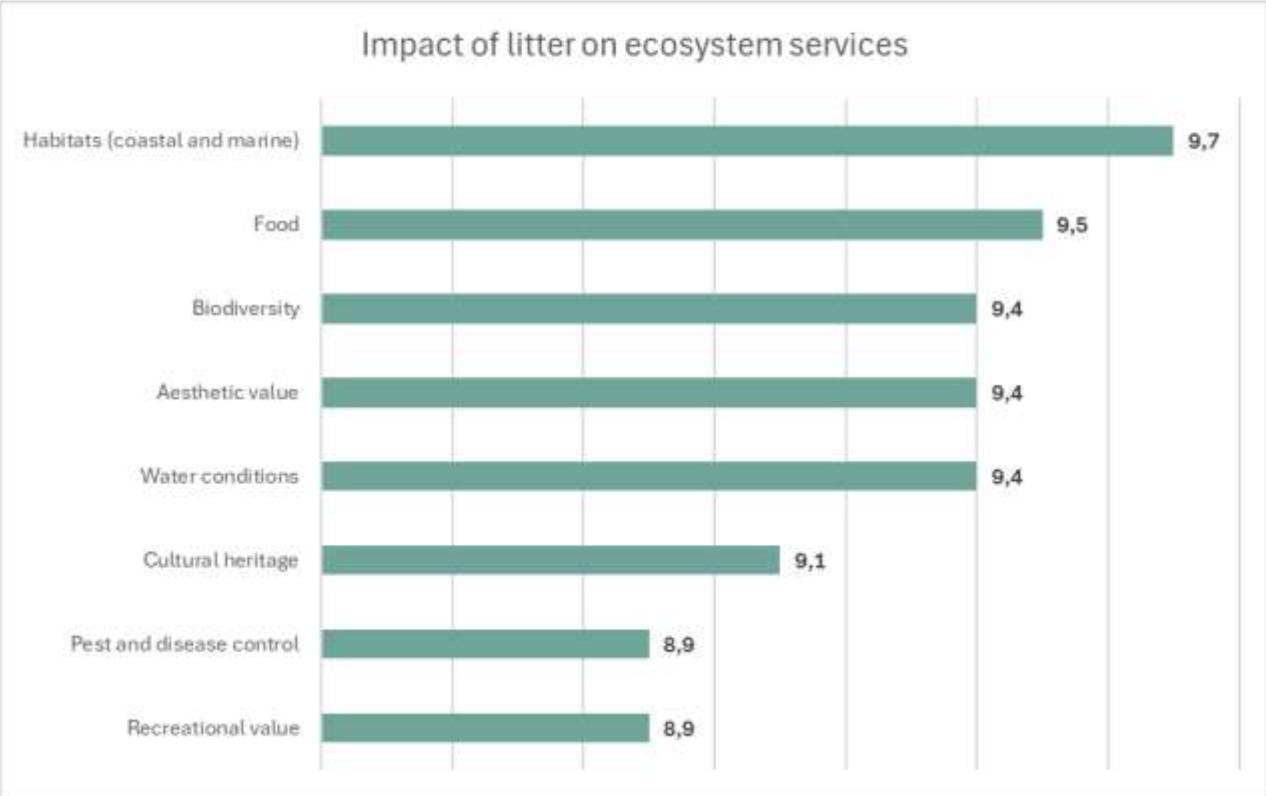

Figure 1. Impacts of litter on ecosystem services on average, according to the general public questionnaire respondents

We asked the same question in the *partner and volunteer questionnaire* as well. The ***partners*** - on average- agree with the general public that the **habitats** suffer the most by marine litter (9,2). They do not think that litter can have as high an impact on food supply as the general public thinks (8,3), and on average, stakeholders gave slightly less value to each ecosystem service, meaning that the impact of litter is somewhat less, according to the partners. The chart below summarises the results of this question (Figure 2).

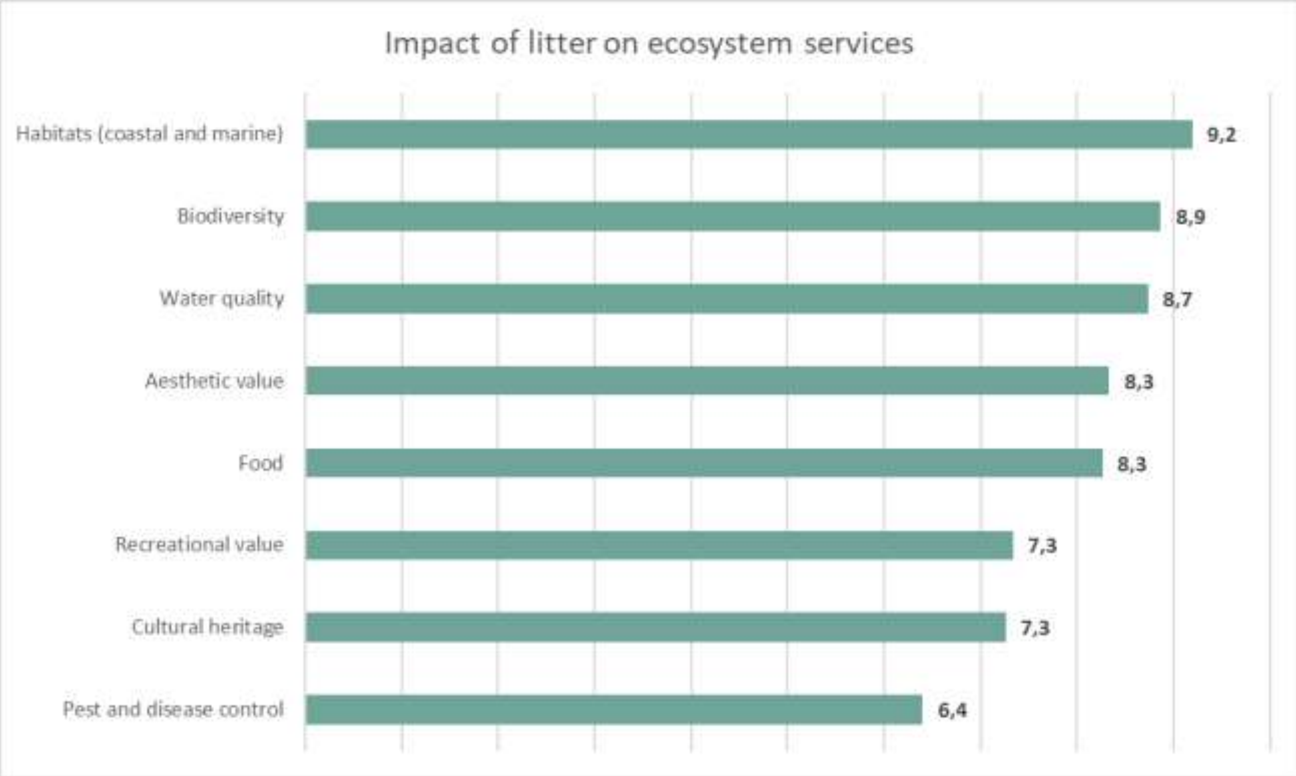

Figure 2: Impacts of litter on ecosystem services on average, according to the partner questionnaire respondents

The two Spanish partners gave less value to each question, on average, by 1,2 points. The biggest value differences were between the French and Spanish stakeholders in regards to water quality (3,1 points) and biodiversity (2,1 points).

Volunteer respondents think marine litter has the most negative impact on biodiversity with an average value of 9 (on a scale of 1-10, where 1- No impact at all, 10- Highly negative impact). On average, they also valued highly the **aesthetic value, habitats** and **food** (all 8,9). French respondents ranked recreational value, food and water condition to the highest (9,3). Portuguese respondents valued recreational and aesthetic value the highest (9) and Spanish volunteers gave habitat and food the highest value (9,3). Figure 3. summarises the average responses of volunteers.

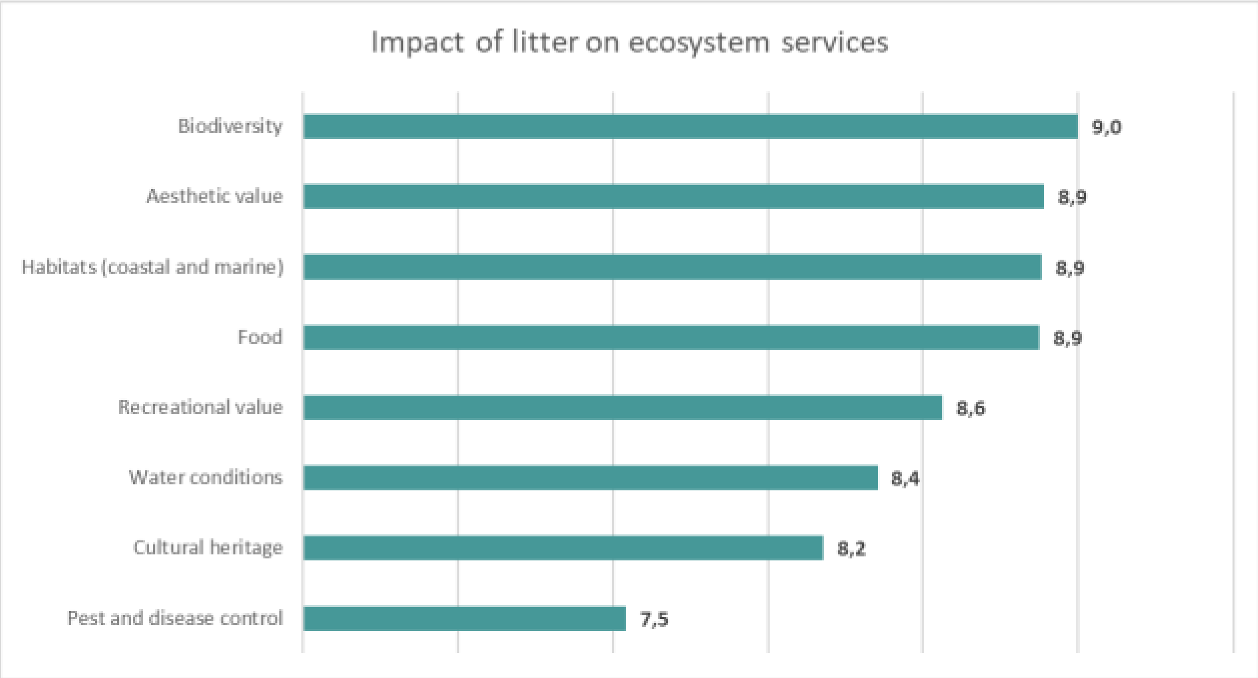

Figure 3: Impacts of litter on ecosystem services on average, according to the volunteer questionnaire respondents

Combining the average results of the three questionnaires, marine and coastal **habitats** suffer the most from marine litter, followed by **biodiversity**.

We also asked the partners and the volunteers how the project impacted the mentioned ecosystem services (on a scale of 1-10, where 1-No impact at all, 10-Very positive impact). According to the ***partners***, on average, the biggest impact the project had was on **biodiversity** (6,7) and **habitats** (6,6). The two Spanish stakeholders gave significantly higher values to aesthetic value (8,5) and recreational value (8) than the average. The chart below summarises the average results of this question (Figure 4).

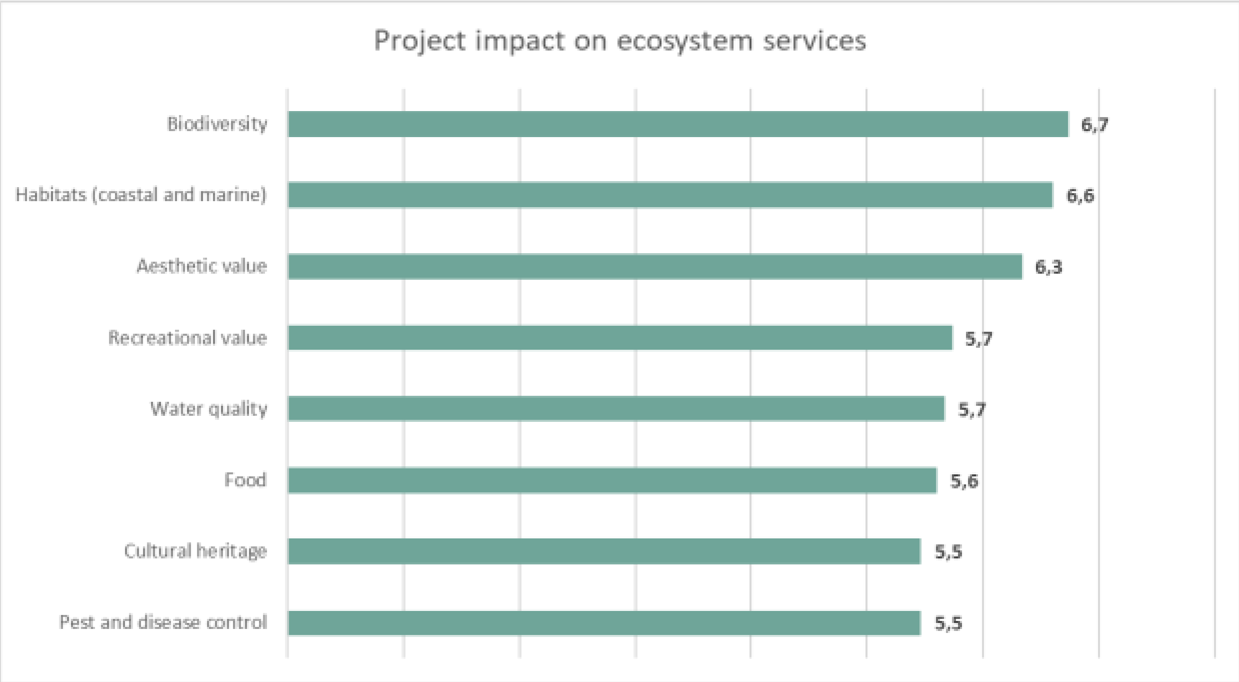

Figure 4: Project's impacts on different ecosystem services on average, according to the partner questionnaire respondents

According to the ***volunteer*** respondents, the project had the most positive impact on aesthetic and recreational value (7,9 and 7,6, respectively, on a scale of 1-10, where 1—No impact at all, 10—Very positive impact). The figure below (Figure 5) summarises the results from the volunteer questionnaire.

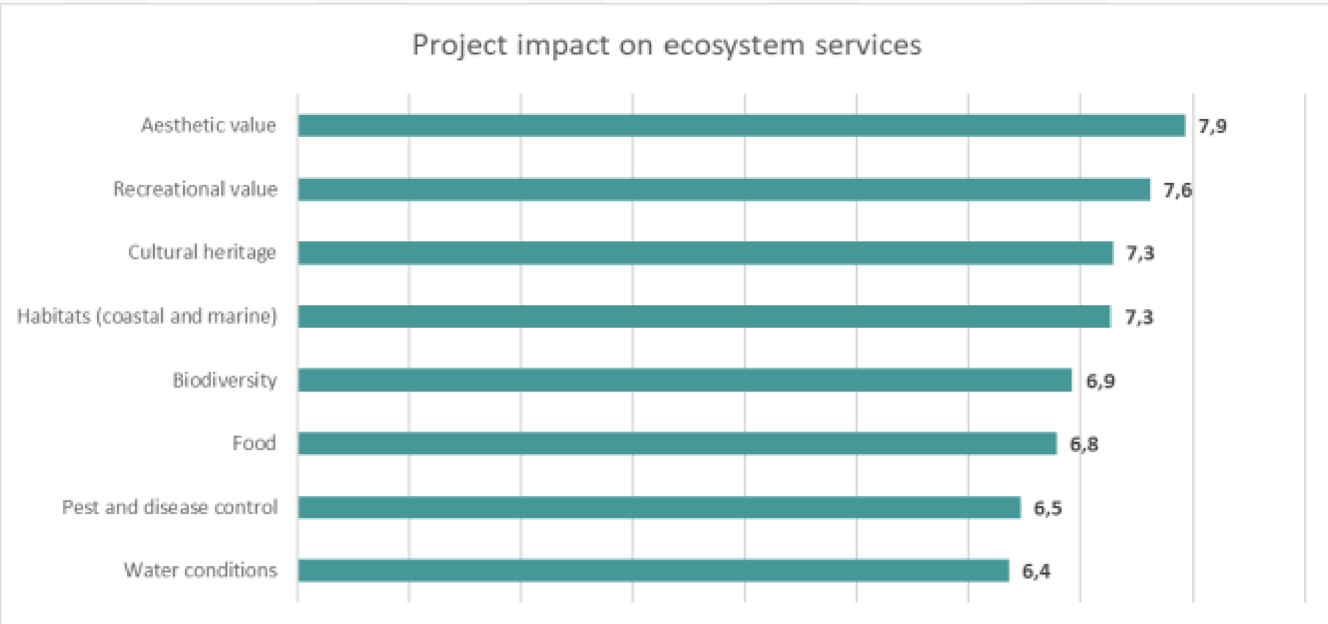

Figure 5: Project's impacts on different ecosystem services on average, according to the volunteer questionnaire respondents

Volunteers had the possibility to mark "I don't know" at each ecosystem service, (meaning they do not know the impact of the project on each ecosystem service) and French respondents mainly chose this option.

Combining the answers from the two questionnaires (partners and volunteers), the project had the most positive impact on the **aesthetic value** and **habitats**.

From the partners we asked a few more questions in regard to the impact of marine litter. In the past, the partners did not notice any changes in the number of **tourists or visitors** in the project areas due to marine litter. **Fisheries** may have suffered revenue losses due to marine debris, as five partners gave yes to this question, while five of them marked no and five did not know. They mostly do not know whether the amount of **invasive species** has increased along with the increase of marine litter, as nine of them said that they do not know, three think there is a connection, and three did not experience this.

4.2. Socio-economic impact assessment

Literature review

In connection with the degradation of ecosystem services, the socioeconomic impact of marine pollution is also high. Marine debris poses extensive social and economic challenges and harms industries like commercial **fishing, shipping, tourism, and recreation** (CBD, 2016). Mouat et al. highlighted several specific economic impacts of marine debris, including **cleaning expenses**; losses in tourism, fisheries, and aquaculture; costs to the shipping industry; expenses for controlling and eradicating **invasive species**; impacts on **coastal agriculture** and **power stations**; and the broader costs associated with **environmental damage** and **ecosystem degradation** (Mouat et al., 2010). A 1–5% decline in marine ecosystem services translates to an annual loss of $500–$2,500 billion in the value of benefits these ecosystems provide (Beaumont et al., 2019).

Globally, the natural capital cost of marine pollution by plastics is estimated at $13 billion annually, impacting ecosystems and tourism by degrading habitats and threatening marine species. Efforts to prevent and manage debris are costly, with beach clean-ups and litter management costing hundreds of millions of dollars in places like the U.S. West Coast and in Scotland, in the latter debris control is projected to cost £17 million per year. Addressing marine debris effectively remains complex and expensive, underscoring the worldwide need for targeted waste reduction strategies (CBD, 2016).

The social impacts of marine debris include **health hazards, diminished recreational opportunities,** and **reduced aesthetic value** (CBD, 2016). However, more research is needed to understand the extent and thresholds at which these social impacts become significant. Marine litter degrades the visual appeal and, therefore, the aesthetic value of natural landscapes, impacting both **recreational use** and the **inspirational qualities** of marine environments celebrated in arts and media. Littered beaches and coastlines discourage recreational activities like swimming, diving, and fishing (Mouat et al., 2010).

Litter threatens **non-use values**, such as the intrinsic worth of an unspoiled environment and the desire to preserve it for future generations (Mouat et al., 2010).

Marine litter poses numerous **health and safety risks**, including navigational hazards, injuries to users, and potential exposure to toxic chemicals and many more (Thompson et al., 2009b).

A study by Hartley et al. explores public perceptions and social drivers related to marine litter, finding that people not only recognise it as a serious issue but also have a high level of concern. People generally understand the problem but have mixed perceptions about sources, pathways, and the roles of different stakeholders. The study reveals that people who frequently see litter on coasts report higher concern and willingness to act. While marine litter is seen as primarily harmful to marine environments, less attention is given to its impact on human health, tourism, and fisheries. Taking part in activities like beach clean-ups leads to more concern for the environment and a stronger desire to protect it, highlighting the importance of direct engagement (Hartley et al., 2018).

Questionnaires

In total, we received 177 completely filled-out questionnaires to the ***general public questionnaire***. Most of the answers came from Portugal, with 132 responses, while we received 36 and 9 responses from Spain and France, respectively. As mentioned in the methodology section, we combined the answers from each country and analysed them together as well as separately by each country.

Most respondents did not hear about the project (61%), while 27% of them heard about it (out of these, 8% were familiar with the activities), and 12% were unsure. In Spain, half of the respondents heard about the project. Those who heard about the project mainly indicated social media as their information source. According to the respondents' opinion, marine litter negatively affects seabirds as, on average, they choose 9,8 on a Likert scale (where 1- Not affected at all and 10- Negatively affected). They also think that marine and coastal pollution is a severe problem with an average value of 9,9 (where 1 was "Not a problem at all" and 10 was "Severe problem"). In Portugal, 43% of the respondents have visited the project site (36% before 2023, when the project activities started; 6% have visited before and after the project activities and only 1% since 2023).

In Spain, most respondents have visited at least one of the sites; 42% have visited before and after 2023, 25% only before and 17% only after. In France, out of the nine respondents, one indicated that visited the site (before 2023). Of those who visited the site in Portugal before and after 2023 (when the project activities started), 63% experienced a **nicer landscape** compared to previous visits. In Spain, 33% of the respondents who visited (one of) the site(s) experienced **less litter**. However, because of the limited number of respondents who visited the site(s) before and after 2023, we can not properly analyse the differences between before the project activities and after.

The respondents think the seabirds have high ecological and cultural importance; on average, they gave a 9,8 and 9,1 value on a Likert scale (where 1- No important at all and 10- Very important), respectively. The following figure summarises the results of these questions (Figure 6).

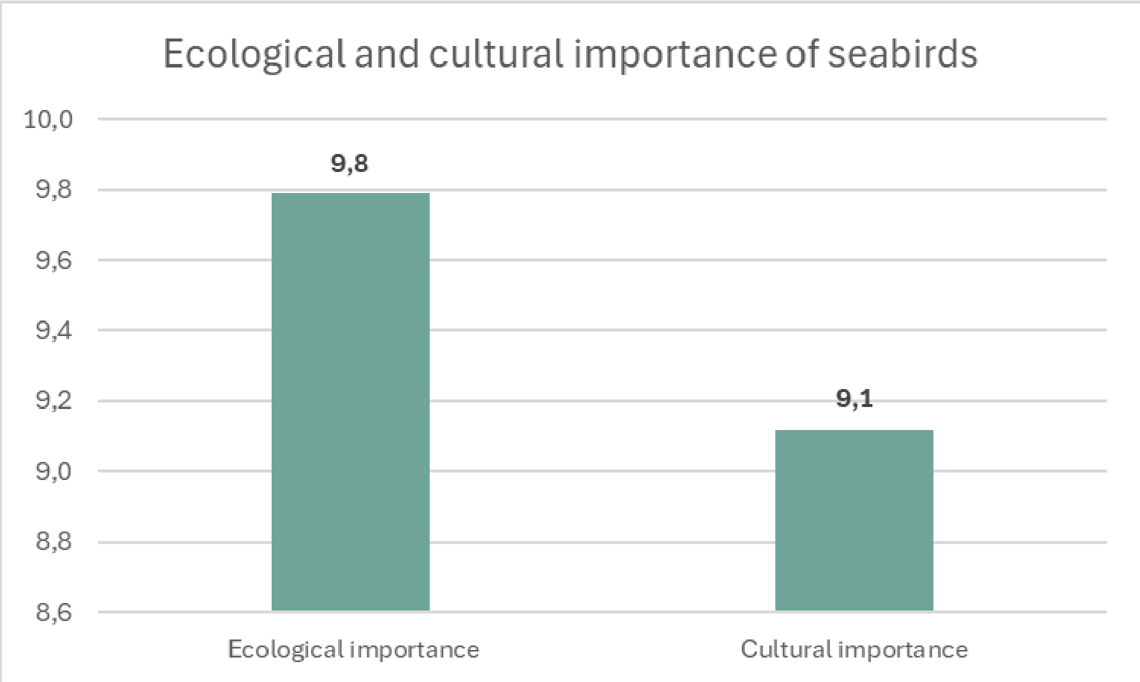

Figure 6: Ecological and cultural importance of seabirds according to the respondents of the general public questionnaire

In the following questions, we asked respondents how important they consider the protection and conservation of marine and coastal habitats, saving and conserving seabirds and reducing marine litter in marine and coastal habitats. Respondents gave a very high value to all three aspects on a Likert scale (where 1- No important at all and 10- Very important); only the French respondents chose a bit less value (on average: 9,1). Figure 7 summarises the results of the three questions.

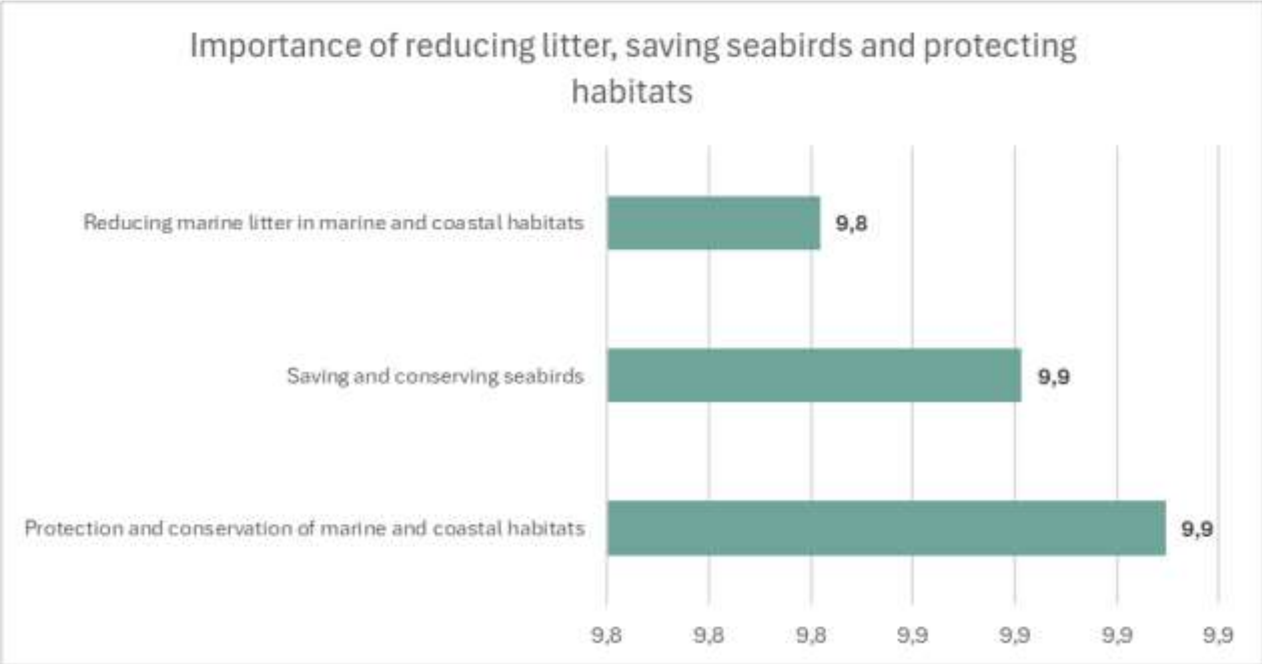

Figure 7: Importance of reducing litter, saving seabirds and protecting habitats according to the general public questionnaire respondents

With the following questions, we aimed to find out the respondents' behaviour regarding litter and their opinions about projects that help conserve seabirds and their natural habitats. We asked to what extent they agreed with the statements: "*I try to reduce the amount of litter in my home*", "*I never throw away litter in marine and coastal habitats*", and "*I find it important to have projects that help conserve seabirds and their natural habitats*" (on a scale of 1-10, where 1-Fully disagree and 10-Fully agree). All of the statements received high values; on average, respondents gave a value of 9 for reducing litter at home (France-9,9, Portugal-8,9 and Spain-9,3); they mostly never throw away litter in marine and coastal habitats (with an average value of 9,6, where France and Spain-10, Portugal-9,5), and almost all of them **strongly agree (9,9) to have projects that help conserve seabirds and their natural habitats**. We compared the answers of those who heard about the project and were familiar with its activities with those who did not hear about the project, but we did not find significant differences.

In France, most of the respondents belonged to the age group of 55-64, while in Spain and Portugal, the majority of the respondents (58% and 43%, respectively) were in the age group of 35-54. On average, more than two-thirds of the respondents were female (56% in France). Most of them indicated that they have a higher degree, on average, 80%, while in France, 56% had a higher degree, 22% had a secondary degree, and 22% did not want to indicate it.

From France, 12 respondents filled out the ***questionnaire for partners***; from Spain, two and from Portugal, we received only one filled-out questionnaire. In total, five NGOs, two-two stakeholders from a stranded network, public authority and conservation organisation, one wildlife care centre, one volunteer association, one other organisation (Nature Awareness

Association) and one unknown person filled out the questionnaire. To the first open-ended question, what was the partner's primary reason for participating in the LIFE SeaBiL project? We received answers mainly about seabird protection and conservation and understanding and gaining **knowledge about marine pollution**.

The partners indicated that seabirds are negatively affected by marine litter; on average, they gave an 8,1 value on a Likert scale (where 1-Not affected at all, 10-Negatively affected). In Spain, the two partners think the problem is not severe; on average, they gave a 5,5 value. They feel similarly about the problem of marine and coastal pollution; on average, they value 8,3 on a scale (where 1-Not a problem at all, 10-Severe problem). The Spanish partners chose a lower value, on average, 6,5.

To the question of how successful the partners consider the LIFE SeaBiL project in reducing litter impacts on seabirds at the project site(s), the French respondents gave an average 4,3 value (on a scale of 1-10, where 1-Not successful at all, 10-Very successful), the Spanish partners gave an average 7,5, and the one Portuguese respondent gave 8.

According to the stakeholders, **habitat diversity and the aesthetic landscape slightly increased due to the project** (on a scale of 1-10, where 1-Significantly decreased, 10-Significantly increased) with an average value of 5,8 and 5,9, respectively. The amount of litter, the number of stranded birds or other animals, clean water, and the number of visitors (tourists/local inhabitants) stayed approximately the same.

In the next question, we wanted to find out what impacts the project had on the stakeholders and listed several benefits (see Table 1), and the partners could rate them on a scale of 1-10 (where 1- No change at all, 10-Significantly increased). They gave the highest rate to **capacity-building** and **gained knowledge** and also think that the beach cleanup action method has been enhanced. Table 1. Summarises the result of this question.

Benefit	France	Portugal	Spain	Average
Capacity of stakeholders who participated in the project	6,5	7,0	9,0	**6,9**
Knowledge of marine litter	6,1	9,0	9,5	**6,7**
Enhanced and sustainable methods in beach cleanup actions	6,3	5,0	8,0	**6,5**
New skills gained by stakeholders in mitigating marine litter-related challenges	5,7	9,0	9,5	**6,4**
Awareness of the general public of marine litter and impacted seabirds	5,8	9,0	8,5	**6,3**
Networking	6,1	5,0	7,5	**6,2**
Cooperation with other sectors	5,8	5,0	5,0	**5,7**
Attitude and behaviour change of the general public towards litter and its connection to seabirds as well as habitat conservation	4,6	8,0	8,0	**5,3**
Costs (e.g., regarding beach cleanup activities)	4,9	5,0	4,0	**4,8**

Table 1: List of benefits and their average values (where 1- No change at all, 10-Significantly increased) by county.

The next four questions regarding the ICAO app and the stranded network were only relevant to wildlife care centres and stranded network associations. We received three answers to these questions from France. The partners moderately agree with the statement, "*I find the ICAO app very useful for monitoring stranded seabirds*", with an average value of 6,7 (on a scale of 1-10, where 1-Fully disagree, 10-Fully agree) and on average they chose 5,3 value regarding the statement "*The ICAO application has allowed us to improve our knowledge of marine waste*". They chose the same values (6,7 and 5,3) to the statements "*The information gained from "Stranded Network" helped to determine indicator species for plastic pollution monitoring*" and "*The information gained from "Stranded Network" helped to improve our knowledge of marine litter*", respectively.

In the next group of questions (relevant to all partners), we asked the respondents to mark to what extent they agree with the below statements on a scale of 1-10, where 1-Fully disagree, 10-Fully agree:

- Our knowledge of marine litter and impacted seabirds increased thanks to the project.
- In our work, we continue to use the knowledge and skills we gained during the project.
- The enhanced capacities we gained during the project facilitate our work.
- The cooperation with other stakeholders we secured during the project benefited our work.
- Due to the project, we extended our network and increased our cooperation with other stakeholders.
- We gained more visibility from the general public or other stakeholders due to the project.
- We will continue (some of) the work after the project ends.
- I feel more motivated and empowered because of the project.
- I would participate in similar projects in the future.

On average, the partners mostly agreed that they will participate in similar projects in the future (8,2), while on average, the Spanish partners benefitted the most with the **improved knowledge of marine litter and its impact on seabirds**. Figure 8. summarises the average results of these questions.

Figure 8: Average agreement with the statements by the partners on a scale of 1-10, where 1- Fully disagree, 10- Fully agree

In the next open-ended question, we asked the stakeholders to indicate any other impact the SeaBil project might have had on their organisation. Not all stakeholders listed an impact; those who gave answers mentioned i**mproved beach cleaning process, awareness raising,** and **networking**. Out of the 15 partners, 12 stated they have direct costs related to marine litter or seabirds; they mainly mentioned equipment costs (e.g., garbage bags). They mostly did not experience any changes in their costs due to the project; 11 mentioned no change, 2 mentioned a slight increase, one mentioned a significant increase, and one mentioned a significant decrease.

In our last question to the stakeholders, we asked them to rate their overall satisfaction with the SeaBil project. On average, they gave a 7,1 value (on a scale of 1-10, where 1- Not satisfied at all, 10- Fully satisfied). The two Spanish partners gave a higher value (9).

We received 19 completely filled-out ***questionnaires from volunteers*** who participated in the project: 10 from Spain, five from France and four from Portugal. The first, open-ended question aimed to determine their primary reason for participating in the project. The respondents mainly indicated environmental, habitat, and species conservation reasons, and some of them mentioned that it was part of their internship. They primarily heard about the opportunity from an acquaintance (9) or through the organisation where they already volunteered before the project (5).

Approximately half of them (9) had already participated in similar actions before and mentioned different projects or actions where they gained previous experience. Most of the volunteers participated in beach clean-up actions (12); five of them were part of the stranded network, and in Portugal, two of the respondents participated in colony monitoring. French respondents volunteered in one project site in France: Gironde Estuary and Pertuis Sea Marine Natural Park; Spanish respondents at Cabo de Gata-Nijar Natural Park and Portuguese volunteered at Berlengas Natural Reserve, Ebro Delta Natural Park and Baleal, Peniche.

They were somewhat familiar with the project and its activities; they gave an average value of 6,4 (on a scale of 1-10, where 1-I have no knowledge about the project, 10-I am familiar with all its activities and goals). Portugues volunteers had more knowledge, with an average value of 7, while French and Spanish volunteers chose a bit less value on the scale, 5,6 and 6,6, respectively.

On average, the volunteers think that the **project activities are important**, as they rated this question 8,7 (on a scale of 1-10, where 1- Not important at all, 10- Very important). On average, the French respondents gave a 9,8 value, and the Portuguese volunteers gave a 9. Some Spanish volunteers gave low values, but they were less familiar with the project and its activities.

In the next questions, we asked the respondents what they think about marine and coastal pollution and to what extent the seabirds are affected by litter at the site they volunteered. We combined the results with the project site they volunteered and found that -according to the respondents' answers- the Santoña Marshes Natural Park has the most severe pollution problem with an average value of 9,4 (on a scale of 1-10, where 1- Not a problem at all, 10- Severe problem) and the Ebro Delta Natural Park received the lowest value (5). According to the respondents, in Cabo de Gata-Nijar Natural Park and in Baleal, Peniche, the seabirds are most affected by marine litter, as these sites received 9 and 10 values (on a scale of 1-10, where 1- Not affected at all, 10- Negatively affected). However, we only received one response from Peniche. The seabirds are least affected by marine litter in Berlengas Natural Reserve (6,5). The table below summarises the results of these two questions (Table 2.).

Project site	Marine and coastal pollution	Seabirds are affected by litter
Baleal, Peniche.	8	10
Berlengas Natural Reserve	5,5	6,5
Cabo de Gata-Nijar Natural Park	9	9
Ebro Delta Natural Park	5	6
Gironde Estuary and Pertuis Sea Marine Natural Park	8,2	7,8
Santoña Marshes Natural Park	9,4	8,6
Total average	8,3	8,2

Table 2: Severity of marine and coastal pollution and seabirds impact by marine litter by project sites, according to the volunteers

According to the respondents, the project activities on reducing marine litter impact were most successful at Cabo de Gata-Nijar Natural Park (with an average value of 8,4 on a scale of 1-10, where 1- Not successful at all, 10- Very successful) (and Baleal, Peniche, with only one answer with a value of 9) and were least successful in France (3). On average, the project has mainly contributed to increasing the **number of visitors** (7,3) and the **aesthetic landscape** (7,1) (on a scale of 1-10, where 1- Significantly decreased, 10- Significantly increased).

In the next section, we asked the volunteers to what extent they agreed with some statements on a scale of 1-0, where 1- Fully disagree, 10- Fully agree. The "Low footprint guide, the ICAO app and the stranded network-related questions were only visible to relevant volunteers; therefore, to these questions, we received fewer answers than the total number of respondents.

The volunteers find the **beach cleanup guide and the ICAO app very useful** (on average 8,4 and 9,4, respectively). They think the guide **contributed to biodiversity and coastal and marine habitat preservation** (average 8,3), and the application **improved their knowledge of marine waste** (average 7). They also think that **information gained from stranded networks helped to determine indicator species for plastic pollution monitoring** (average 8,2) and somewhat improved their knowledge of marine waste (average 6,6).

They would recommend this volunteering opportunity (or similar) to others (average 9,4) and will continue volunteering in similar actions after the project ends (average 9,2). They also feel that their knowledge of marine litter and impacted seabirds increased thanks to the project and they are more motivated and empowered to support conservation actions because of the project (average 8,4). Spanish volunteers gave somewhat higher values to each statement than the average. The chart below summarises the results of the statements (Figure 9).

Figure 9: Average agreement with the statements by the volunteers on a scale of 1-10, where 1- Fully disagree, 10- Fully agree

Overall, the volunteers were satisfied with the project, as they chose 9 (on a scale of 1-10, where 1- Not satisfied at all, 10- Fully satisfied). The chart below shows the results by project country (Figure 10).

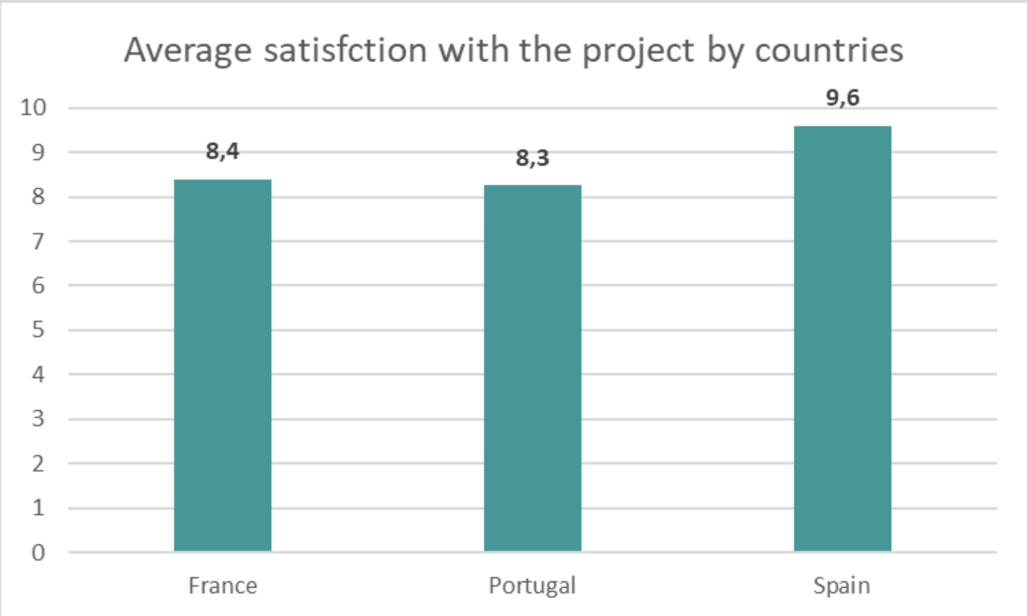

Figure 10: Average satisfaction with the project by countries on a scale of 1-10, where 1- Not satisfied at all, 10- Fully satisfied

Almost half of the volunteers were in the age group 35-54 (47%), 53% were male, most had higher degrees (89%), and 53% were employees.

Interviews

Altogether, with the help of the project team members, 13 interviews were conducted: six Portuguese, two Spanish, and five French. Out of these 13 interviewees, 11 were partners (three from a stranded network association, two from a wildlife care centre, three from beach cleanup associations and three from project beneficiaries), and two were volunteers (one from a beach cleanup and one from a stranded network association, both of them were Portuguese).

We asked the interviewees about their opinions on the effectiveness and success of the project activities. French respondents felt that the activities had a positive impact, mainly on those who were directly involved in the project. They highlighted the **effectiveness of sensibilisation and awareness-raising efforts** but noted that the results and activities could have been disseminated on a larger scale. They suggested that the results and activities could be disseminated on a larger scale, also increased awareness-raising and communication activities would be beneficial. Additionally, one respondent mentioned the need for more data and the importance of continuing data collection.

Portuguese interviewees found the **guide and protocol useful and easy to follow**. One of them highlighted how the protocol provided a **structured approach** to systematic data collection. They noted that the actions were helpful for data collection but also suggested that a structured process is needed about what should be done after finding a bird. A beach cleanup volunteer described the activities as both useful and memorable, contributing significantly to **raised awareness**.

Spanish respondents thought the project **positively impacted marine birds, pollution levels, and habitats**. They highlighted the **importance of beach cleanup actions** and **international cooperation**. They mentioned sensitisation and awareness-raising actions as the project's key successes. Portuguese and Spanish respondents also mentioned the **ICAO app as a very useful tool** in identifying stranded birds. The **connections established through the project**, both locally and internationally were also mentioned as key success by one of the Spanish partners.

The respondents listed many harmful effects of marine litter on ecosystems, from physical impacts such as entanglement, injuries and indigestion to chemical and non-visible effects like toxins and microplastics causing health problems. Regarding society, they mainly mentioned health issues caused by contaminated seafood, microplastics, and littered landscapes, which could also deter tourism and hurt local economies. The most cited economic issue was the high cost of cleanup efforts.

We asked the interviewees how the project contributed to mitigating the mentioned effects. French respondents mentioned that cleanup actions have a direct impact but contribute only on a small scale and in the short term, while awareness-raising and sensitisation efforts were seen as potentially indirectly impactful in the long term. Action plans for municipalities to reduce marine litter at their source and share the beach cleanup guide with public bodies could have a more significant impact. Spanish respondents shared similar views, stating that beach cleanup actions and rescuing birds can have direct effects, while data collection and monitoring could contribute to increased information and knowledge. Building on the knowledge and disseminating the gained information could have long-term benefits. According to the Portuguese respondents, the project might not directly mitigate the effects of marine litter but they highlighted the importance of projects addressing these issues. They believed that collecting and sharing data and information, along with spreading awareness to the scientific community and the general public, could inspire behavioural changes.

All respondents who were familiar with the beach cleanup guide found it useful, easy to read, and informative. They think it is also a useful tool for raising awareness about marine litter and suggested that it should be disseminated on a broader scale (e.g., to public bodies). We received similar feedback regarding the stranded network protocol. Respondents described it as well-written, easy to follow, and also mentioned its potential for increasing knowledge.

One respondent noted its importance for collecting data and taking informed actions, potentially improving ecosystem quality with associated social and economic benefits. However, one respondent mentioned challenges in sending birds to care centres therefore this part of the stranded network could improve.

According to the interviewees, the project mainly raised awareness among students, youth, and volunteers who participated in the activities or used the beach cleanup guide. It influenced behavioural changes, particularly among volunteers involved in beach cleanups, and fostered greater awareness among participating organisations about the issues caused by marine litter. The project also increased knowledge, improved awareness and changed some processes or protocols in the partners' work. Some respondents also mentioned that they gained new connections and cooperation. They all described the partnership between stakeholders as good and beneficial. Respondents believed that the project results, particularly the beach cleanup guide and protocol, are sustainable and transferable, with some planning to disseminate these outputs at different future events.

5. Discussion

Marine litter poses significant threats to marine ecosystems via various effects such as ingestion, entanglement, releasing chemical toxins and spreading invasive species. These could lead to habitat damage, harming ecosystem functioning and potentially impacting biodiversity. These impacts can reduce or worsen the condition of key ***ecosystem services***, including provisioning (fisheries), regulating (biodiversity maintenance), and cultural services (tourism and recreation), underpinned by studies estimating a 1–5% decline in overall marine ecosystem services due to plastic pollution.

Both the general public and the partner organisation involved in the project thought that marine litter poses the most significant threat to marine and coastal habitats. They also gave high value to the threat marine litter poses to biodiversity. Volunteers think similarly; they gave the highest value to biodiversity and the second to habitats (along with food and aesthetic value). Based on the results of the three questionnaires, **marine and coastal habitats are the most threatened by marine litter, followed by biodiversity**. In regards to how the project impacted the listed ecosystem services, on average, volunteers gave slightly higher values than project partners, meaning that they thought the project contributed more to the better condition of the ecosystem service than the partners thought. According to the answers both from the partners and volunteers who were involved in the project, LIFE SeaBil had the **most positive impact on the aesthetic value and habitats**.

While we only detected one scientific article mentioning the project, this could be attributed to the fact that the results of the data collection haven't been published yet or need time to be referenced by other articles. This scientific paper could contribute to the **educational**

potential as **cultural ecosystem service**. Other articles we found about the project -mainly in online newspapers- can have an awareness-raising impact on the general public.

In addition to the potential harm caused to ecosystems, marine litter also has significant ***socioeconomic impacts.*** It affects industries like f**ishing, tourism, shipping,** and **recreation** while posing **health and safety risks** to coastal communities. **Cleaning efforts and litter management** incur high costs globally. Additionally, marine debris degrades ecosystem services, with an estimated $500–$2,500 billion annual loss in value due to a 1–5% decline in these services. Furthermore, marine and coastal litter can cause human health issues and reduce the aesthetic value of a natural landscape, reducing opportunities for recreation activities. Most of the interview partners listed the mentioned impacts of marine litter on ecosystems, society, and the economy, and some of them also experienced these effects, like indigestion, entanglement, abandoned fishing gear, and the cost of beach cleanup.

Respondents of the general public questionnaire seem to be sensitive about marine litter and care about its impact on seabirds and marine and coastal habitats. They find it important to reduce the amount of litter in marine and coastal habitats and protect and conserve seabirds and their habitats. Respondents try to pay attention to reducing household waste, they are avoiding littering in marine habitats and supporting conservation projects for seabirds and their habitats. However, these results could be attributed to the fact that most of the respondents who filled out the questionnaire were probably already interested in the project beneficiaries' work and animal and habitat conservation.

The project potentially contributed to **nicer landscapes** in the Portuguese sites and **less litter** in Spain; however, these results are not significant since only a few respondents of the general public visited the project areas, and even fewer visited them before and after 2023 (when the project activities have started).

Marine and coastal pollution and its effect on seabirds are a significant problem on the project sites, according to the partners and volunteers who filled out the questionnaires. While Spanish partners do not think the problem is severe, volunteers from Spain found it more serious. Partners and volunteers from Spain and Portugal think that the **project highly contributed to reducing litter impacts on seabirds on the project sites**; however, we need to mention that only two partners from Spain and one from Portugal filled out the questionnaire. Partners and volunteers from France do not think that the SeaBil project could significantly decrease the problem of marine litter and its impact on seabirds; however, they think the **project contributed to more diverse habitats and aesthetic landscapes**, respectively.

According to the results of the questionnaires, ***partners*** gained benefits during the project. Their **capacity and knowledge of marine litter increased due to the project,** and the **cooperation with stakeholders benefited their work**. While the ICAO app and the stranded network did not improve knowledge of marine waste -according to the relevant partners- they are useful for monitoring stranded seabirds (ICAO app) and determining indicator species for monitoring plastic pollution (stranded network)**.**

Volunteers would recommend this opportunity to others and would participate in similar actions, which cannot certainly be attributed to this specific project, -as they were already interested in the cause-however, they mentioned that they **gained knowledge and new skills** due to the project. Overall they were **very satisfied** with the project and its activities in each country.

The beach cleanup guide, the ICAO app, and the stranded network protocol are very useful**,** and easy to follow, according to the stakeholders. In addition, these tools were also useful for raising awareness and supporting data collection efforts.

According to the results of the interviews, **sensitisation** and **awareness-raising** activities were the project's key successes in Spain and France. These activities were seen as significant tools for mitigating marine litter's impacts. In contrast, the tangible outputs of the project, such as the **beach cleanup guide, the protocol,** and **the collected data,** were emphasised by the Portuguese interviewees. They **enhance knowledge** and, when disseminated effectively, could have substantial long-term benefits and help reduce the harmful effects over time. Portuguese respondents also acknowledged the benefits of awareness-raising and the increased knowledge these efforts brought. Additionally, the ICAO app was highlighted as a notable achievement across respondents.

The project's activities mainly raised awareness among ***students, youth, and volunteers***, fostering behavioural changes, enhancing knowledge, and creating new partnerships. Respondents agreed that the project's outputs were sustainable and transferable, meaning that mainly the guide and stranded network protocol could be used after the end of the project and in other marine and coastal habitats.

Respondents suggested that its results and outputs should be disseminated on a broader scale. They also emphasised the importance of awareness-raising initiatives and enhanced communication activities.

6. Conclusion

Marine litter poses a significant threat to almost all ecosystem services, from provisioning services like fisheries to habitat maintenance. According to the results of our assessment, marine litter mainly threatens marine and coastal habitats, biodiversity and the aesthetic landscape as cultural services. While there are differences between the project sites in regard to the problem severity, beach cleanup actions could potentially contribute to mitigating the effects of marine litter. Affecting the aesthetic value of a landscape could have a potential impact on society as well, leading to decreased tourism and impacting the economy.

Even though we did not detect a direct impact of the project on the general public based on the questionnaire, this could be attributed to the fact that the project's target audience was mainly volunteers, students and the younger generation. However, the project activities could indirectly influence perceptions and behaviours over time by enhancing ecological knowledge and providing visible improvements in coastal and marine environments. According to our assessment, more and more people are interested in activities like beach cleanup and are even more aware of the problem of plastic pollution. Both project partners and volunteers mentioned the effectiveness of the awareness-raising actions, and with more communication, the impact on the general public could be more detectable.

The project had beneficial impacts on its stakeholders, as they gained knowledge, capacity, new skills, and new connections due to the project. The tools implemented by the project were seen as extremely useful, and using the beach cleanup guide also increased some of the partners' knowledge and gained more awareness. The stranded network protocol also contributed to an effective process for collecting stranded birds. It could also contribute to having more and better data on marine pollution.

Collecting data on marine pollution, identifying its source and monitoring seabird mortality could improve scientific knowledge on marine litter problems. Sharing this knowledge, involving citizens in beach cleanup and monitoring actions and organising awareness-raising actions could lead to behaviour change. Increased knowledge and more aware behaviour could also have a potential indirect effect on ecosystem services. This aligns with research by Hartley et al. showing that personal experience with litter, such as beach clean-ups, leads to higher awareness and willingness to act. Through these efforts, the project supports long-term socioeconomic and ecological benefits by addressing the root causes and public perceptions of marine litter.

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8. Annexes

ANNEX 1

Questionnaire for stakeholders participating in the LIFE SeaBiL project

2024

The LIFE SeaBiL project aims to reduce the direct and indirect impact of marine litter on seabirds depending on the coastline and offshore environment. With this questionnaire, we would like to assess the socio-economic effects of the SeaBiL project, as well as how it induces changes in ecosystem services of seabirds' habitats.

This ca. 15-minute-survey of your time will help us to better understand the challenges of marine litter and affected bird species!

Please, fill out the form by 26th May 2024!

Thank you for your help and contribution!

Data policy: The collected data will only be used for research purposes within the LIFE SeaBiL project. For using this data, we will ask for your consent at the end of the survey. The data will not be used for any purpose other than the impact assessment. We store data under the provisions of the relevant EU legislation (General Data Protection Regulation (EU) 2016/679 (GDPR)). Should you have any questions about the research and data collection, please contact us here.

1. Please briefly summarise, what your primary reason was for participating in the LIFE SeaBiL project:

   ……………………………………………………
2. Please specify, which field you are working in.
   - A public authority (e.g. municipality)
   - NGO
   - Beach clean-up association
   - Volunteer association
   - Conservation organisation (e.g., Natura 2000 site manager)
   - Wildlife care center
   - Associations of stranded network
   - Research facility
   - Other
3. In your opinion, to what extent are seabirds affected by litter in your area?

   1 2 3 4 5 6 7 8 9 10

   Not affected at all — Highly negatively affected

4. What do you think about marine and coastal pollution in your area?

   1 2 3 4 5 6 7 8 9 10

   Not a problem at all — Severe problem

5. How successful do you consider the LIFE SeaBiL project in reducing litter

impacts on seabirds at the project site(s)?

1 2 3 4 5 6 7 8 9 10

Not successful at all Very successful

6. In your opinion, how did the project impact the following on the project site(s) on a scale of 1 to 10 where 1- Significantly decreased, 10- Significantly increased?

1 2 3 4 5 6 7 8 9 10

- Amount of litter
- Number of stranded birds or other animals
- Diverse habitats
- Clean water
- Aesthetic landscape
- Number of visitors (tourists/local inhabitants)

7. In your opinion what other impacts did the project have on a scale of 1 to 10 where 1- No change at all, 10- Significantly increased?

1 2 3 4 5 6 7 8 9 10

- Knowledge of marine litter
- New skills gained by stakeholders on mitigating marine litter-related challenges
- Awareness of the general public of marine litter and impacted seabirds
- Attitude and behaviour change of the general public towards litter and its connection to seabirds as well as habitat conservation
- Capacity of stakeholders who participated in the project
- Enhanced and sustainable methods in beach cleanup actions
- Costs (e.g., regarding beach cleanup activities)
- Cooperation with other sectors
- Networking

Please, mark to what extent you agree with the below statements (the numbers at the end of each scale are described below the value). Please note that “we” or “us” refers to your organisation.

8. I find the "Low footprint guide" and the risk map very useful:
   1 2 3 4 5 6 7 8 9 10
   Fully disagree Fully agree

9. The "Low footprint guide" and the risk map contribute to biodiversity and coastal and marine habitat preservation:
   1 2 3 4 5 6 7 8 9 10
   Fully disagree Fully agree

10. I find the ICAO app very useful for monitoring stranded seabirds:
    1 2 3 4 5 6 7 8 9 10
    Fully disagree Fully agree
11. The ICAO app helped to improve our knowledge of marine litter:
    1 2 3 4 5 6 7 8 9 10
    Fully disagree Fully agree

12. The information gained from "Stranding Network" helped to determine indicator species for plastic pollution monitoring:
    1 2 3 4 5 6 7 8 9 10
    Fully disagree Fully agree

13. The information gained from"Stranding Network" helped to improve our knowledge of marine litter:
    1 2 3 4 5 6 7 8 9 10
    Fully disagree Fully agree

14. Our knowledge of marine litter and impacted seabirds increased thanks to the project.
    1 2 3 4 5 6 7 8 9 10
    Fully disagree Fully agree

15. In our work, we continue to use the knowledge and skills we gained during the

project.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

16. The enhanced capacities we gained during the project facilitate our work.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

17. The cooperation with other stakeholders we secured during the project benefited our work.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

18. Due to the project, we extended our network and increased our cooperation with other stakeholders.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

19. We gained more visibility from the general public or other stakeholders due to the project.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

20. We will continue (some of) the work after the project ends.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

21. I feel more motivated and empowered because of the project.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

22. I would participate in similar projects in the future.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

23. Please, list any other impact the LIFE SeaBiL project might have on your organisation:

    ………………………………………………

24. Did your organisation have any costs related to marine litter or stranded seabirds? If yes, please list these costs valid for the overall period of the project.
    - No
    - Yes: …………………

25. How did your organisation's costs change regarding marine litter or stranded seabirds due to the project?
    - Significantly reduced
    - Somewhat reduced
    - Not changed
    - Somewhat increased
    - Significantly increased

26. In your opinion, what impact does litter have on the following ecosystem services on a scale of 1 to 10 where 1- No impact at all 10- Highly negative impact?

    1 2 3 4 5 6 7 8 9 10
    - Habitats (coastal and marine)
    - Water conditions
    - Pest and disease control
    - Biodiversity
    - Food
    - Aesthetic value
    - Recreational value
    - Cultural heritage

27. In your opinion, what impact did the project have on the conditions of the

GREEN FORMATION

following ecosystem services on a scale of 1 to 10 where 1- No impact at all 10- Very positive impact?

	1	2	3	4	5	6	7	8	9	10
○ Habitats (coastal and marine)										
○ Water conditions										
○ Pest and disease control										
○ Biodiversity										
○ Food										
○ Aesthetic value										
○ Recreational value										
○ Cultural heritage										

28. In the past did you experience fewer tourists or visitors on the project site due to marine litter?
    - ○ Yes
    - ○ No
    - ○ I don't know

29. Do you think fisheries in your area experienced loss of income due to marine litter?
    - ○ Yes
    - ○ No
    - ○ I don't know

30. Do you experience more invasive species on the project site when the amount of marine litter increases?
    - ○ Yes
    - ○ No
    - ○ I don't know

31. Please, rate overall how satisfied you are with the project impacts.

1	2	3	4	5	6	7	8	9	10
Not satisfied at all									Fully satisfied

Consent

The information derived from this survey is purely used for the impact assessment of the project. The data will only be available in a cumulative format, however, in some cases, information per country/organisation will be demonstrated, in which case you/your organisation responses may be identifiable. In case you do not consent, data however will not be displayed in the assessment in this format. Identifiable data will be safely stored in password-protected storage/devices until it is purged at the end of the project. If you would like to withdraw your survey responses (you can do so before 30 June 2024) or have any questions or concerns about using the data or displaying it, please contact us here.

Please check the boxes of the below statements if you agree with them.

I understand the purpose of the survey and its data usage (solely for the project's impact assessment purpose).

- *Yes*

If you provided your field of work- I understand that by filling out the organisation information, I or the organisation may be identifiable (if understood, please tick the box below).

- *Yes*

ANNEX 2

Questionnaire for volunteers participating in the LIFE SeaBiL project

2024

The LIFE SeaBiL project aims to reduce the direct and indirect impact of marine litter on seabirds depending on the coastline and offshore environment. With this questionnaire, we would like to assess the socio-economic effects of the SeaBiL project, as well as how it induces changes in ecosystem services of seabirds' habitats.

This ca. 15-minute-survey of your time will help us to better understand the challenges of marine litter and affected bird species!

Please, fill out the form by 26th May 2024!

Thank you for your help and contribution!

Data policy: The collected data will only be used for research purposes within the LIFE SeaBiL project. For using this data, we will ask for your consent at the end of the survey. The data will not be used for any purpose other than the impact assessment. We store data under the provisions of the relevant EU legislation (General Data Protection Regulation (EU) 2016/679 (GDPR)). Should you have any questions about the research and data collection, please contact us here.

1. Please, briefly summarise what your primary reason was for participating in the LIFE SeaBiL project

   ....

2. Where did you hear about this volunteering opportunity?
   - From an acquaintance
   - Through the organization, where I already volunteered before the project
   - From online media
   - From other media
   - Other, please specify:........

3. Have you participated in similar actions before?
   - ○ No
   - ○ Yes. Please specify under which initiatives or projects:........................

4. Please specify, in which field you volunteered in the project.
   - ○ In beach clean-up actions
   - ○ In stranded seabirds network

5. Which project site have you worked in?
   - ○ Urdaibai Biosphere Reserve
   - ○ Santoña Marshes Natural Park
   - ○ The Ebro Delta Natural Park
   - ○ Cabo de Gata Natural Park

6. How familiar are you with the LIFE SeaBiL project and its activities?

   1 2 3 4 5 6 7 8 9 10

I have no knowledge about the project — I am familiar with all of its activities and goals

7. If you are familiar with the project's goals and activities, what do you think of them?

   1 2 3 4 5 6 7 8 9 10

   Not important at all — Very important

8. *What do you think about marine and coastal pollution at the site you volunteered?

   1 2 3 4 5 6 7 8 9 10

   It is not a problem at all — Severe problem

9. *In your opinion, to what extent are seabirds affected by litter at the site you volunteered?

   1 2 3 4 5 6 7 8 9 10

   Not affected at all — Highly negatively affected

10. In your opinion, what impact does litter have on the following ecosystem services on a scale of 1 to 10 where 1- No impact at all and 10- A highly negative impact?

    1 2 3 4 5 6 7 8 9 10 I do not know

    - Habitats (coastal and marine)
    - Water conditions
    - Pest and disease control
    - Biodiversity
    - Food
    - Aesthetic value
    - Recreational value
    - Cultural heritage

11. *How successful do you consider the LIFE SeaBiL project in reducing litter impacts on seabirds at the project site where you volunteered?

    1 2 3 4 5 6 7 8 9 10

Not successful at all Very successful

12. *In your opinion, how did the project impact the following on the project site where you volunteered on a scale of 1 to 10 where 1- Significantly decreased, 10- Significantly increased?

	1	2	3	4	5	6	7	8	9	10	I do not know
Amount of litter											
Number of stranded birds or other animals											
Diverse habitats											
Clean water											
Aesthetic landscape											
Number of visitors (tourists/local inhabitants)											

13. In your opinion, what impact did the project have on the conditions of the following ecosystem services on a scale of 1 to 10 where 1- No impact at all 10- A very positive impact?

	1	2	3	4	5	6	7	8	9	10	I do not know
Habitats (coastal and marine)											
Water conditions											
Pest and disease control											
Biodiversity											
Food											
Aesthetic value											
Recreational value											
Cultural heritage											

Please, mark to what extent you agree with the below statements (the numbers at both ends of each scale are described below the value).

14. I find the "Low footprint guide" and the risk map very useful:

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

15. The "Low footprint guide" and the risk map contribute to biodiversity and coastal and marine habitat preservation:

1 2 3 4 5 6 7 8 9 10
Fully disagree Fully agree

16. I find the ICAO app very useful for monitoring stranded seabirds:
1 2 3 4 5 6 7 8 9 10
Fully disagree Fully agree
17. The ICAO app helped to improve our knowledge of marine litter:
1 2 3 4 5 6 7 8 9 10
Fully disagree Fully agree

18. The information gained from "Stranding Network" helped to determine indicator species for plastic pollution monitoring:
1 2 3 4 5 6 7 8 9 10
Fully disagree Fully agree

19. The information gained from"Stranding Network" helped to improve our knowledge of marine litter:
1 2 3 4 5 6 7 8 9 10
Fully disagree Fully agree

20. The project contributed to raising awareness of nature conservation among the general public.
1 2 3 4 5 6 7 8 9 10
Fully disagree Fully agree

21. My knowledge of marine litter and impacted seabirds increased thanks to the project.
1 2 3 4 5 6 7 8 9 10
Fully disagree Fully agree

22. The project helped to improve the effectiveness of the actions I have volunteered.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

23. I gained new skills thanks to the project.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

24. I feel more motivated and empowered to support conservation actions because of the project.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

25. I would recommend this volunteering opportunity (or similar) to others.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

26. I will continue to volunteer in similar actions after the project ends.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

27. Please, rate overall how satisfied you are with the project activities you participated in.

1 2 3 4 5 6 7 8 9 10

Not satisfied at all Fully satisfied

28. Age
- 14-18 (I confirm that this survey was consulted with and approved by my legal guardian)
- 19-34
- 35-54
- 55-64
- 65+

- I wouldn't like to answer

29. Gender
    - Male
    - Female
    - Other
    - I wouldn't like to answer

30. Education
    - Primary degree
    - Secondary degree
    - Higher degree (college/university)
    - I wouldn't like to answer

31. What is your professional situation?
    - Student
    - Employed
    - Without employment
    - Retired
    - I wouldn't like to answer

ANNEX 3

Saving seabirds from marine litter- Questionnaire about marine pollution

2024

The LIFE SeaBiL project aims to reduce the direct and indirect impact of marine litter on seabirds depending on the coastline and offshore environment. With this questionnaire, we would like to assess the socio-economic effects of the SeaBiL project, as well as how it induces changes in ecosystem services of seabirds' habitats.

This 10-minute survey of your time will help us to better understand the challenges of marine litter and affected bird species in your area.

Please, fill out the form by 26th May 2024!

Thank you for your help and contribution!

Data policy: The collected data will only be used for research purposes within the LIFE Seabil project. You will remain anonymous and will not be able to be identified in any way. The data will not be used for any purpose other than the impact assessment. We store data under the provisions of the relevant EU legislation (General Data Protection Regulation (EU) 2016/679 (GDPR)). Should you have any questions about the research and data collection, please contact us here.

1. Have you heard about the LIFE SeaBiL (Saving SeaBirds from Marine Litter) project before?
    - Yes, and I am familiar with the project activities
    - Yes, but I am not sure about its exact goals and activities
    - Unsure
    - No, never heard of it before

2. If yes, where did you hear about the project from (you can mark more than one answer)?
    - Social Media, website
    - Online article
    - News (Radio, TV, etc.)
    - Printed journal, magazine
    - Acquaintance
    - Information board
    - I have downloaded the ICAO application
    - Other, then please specify: ....
    - I haven't heard about the project

3. In your opinion, to what extent the seabirds are affected by litter?

    1 2 3 4 5 6 7 8 9 10

Not affected at all Negatively affected

4. What do you think about marine and coastal pollution?

1 2 3 4 5 6 7 8 9 10

Not a problem at all Severe problem

5. Have you visited (one of) the following area(s)?

France: Pertuis Sea Marine Natural Park

Spain: Urdaibai Biosphere Reserve/Santoña Marshes Natural Park/The Ebro Delta Natural Park/Cabo de Gata Natural Park

Portugal: Berlengas Natural Reserve

- Yes, since 2023 - survey will go to question 6.
- Yes, before 2023
- Yes, before and since 2023 as well -survey will go to question 7.
- No - survey will skip question 6+7.

6. During your visit(s), did you experience any of the following (please mark it if you experienced it)?
    - Little litter
    - Much litter
    - Few stranded birds or other animals
    - Many stranded birds or other animals
    - Few diverse habitats
    - Many diverse habitats
    - Clean water
    - Dirty water
    - Nice landscape
    - Unpleasant landscape
    - I did not experience any of the above
    - Other, please specify: ......

7. If you visited (one of) the site(s) more than once (before and since 2023), did you experience any of the following at your last visit (please mark it if you have experienced it)?

- Less litter
- Less stranded birds or other animals
- More diverse habitats
- Cleaner water
- Nicer landscape
- I did not experience any of the above
- Other, please specify: ......

8. *In your opinion, what impact does litter have on the following on a scale of 1 to 10 where 1- No impact at all and 10- Highly negative impact?

	1	2	3	4	5	6	7	8	9	10
○ Habitats (coastal and marine)										
○ Water conditions										
○ Pest and disease control										
○ Biodiversity										
○ Food										
○ Aesthetic value										
○ Recreational value										
○ Cultural heritage										

9. What do you think about the ecological importance of seabirds on a scale of 1 to 10, where 1- Not important at all, 10- Very important?

   1 2 3 4 5 6 7 8 9 10

   Not important at all Very important

10. What do you think about the cultural importance of seabirds on a scale of 1 to 10, where 1- Not important at all, 10- Very important?

    1 2 3 4 5 6 7 8 9 10

    Not important at all Very important

11. How important do you consider the protection and conservation of the marine and coastal habitats on a scale of 1 to 10, where 1- Not important at all, 10- Very important?

    1 2 3 4 5 6 7 8 9 10

Not important at all Very important

12. How important do you consider saving and conserving seabirds on a scale of 1 to 10, where 1- Not important at all, 10- Very important?

1 2 3 4 5 6 7 8 9 10

Not important at all Very important

13. How important do you consider reducing marine litter on coastal habitats on a scale of 1 to 10, where 1- Not important at all, 10- Very important?

1 2 3 4 5 6 7 8 9 10

Not important at all Very important

Please, mark to what extent you agree with the below statements (the numbers at the end of each scale are described below the value).

14. I try to reduce the amount of litter in my household.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

15. I never throw away litter in marine and coastal habitats.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

16. I find it important to have projects that help conserve seabirds and their natural habitats.

1 2 3 4 5 6 7 8 9 10

Fully disagree Fully agree

17. Age
    - 14-18 (I confirm that this survey was consulted with and approved by my legal guardian)
    - 19-34

- 35-54
- 55-64
- 65+
- I wouldn't like to answer

18. Gender
    - Male
    - Female
    - Other
    - I wouldn't like to answer

19. Education
    - Primary degree
    - Secondary degree
    - Higher degree (college/university)
    - I wouldn't like to answer

Thank you for your help and contribution!

ANNEX 4

Interview questions for stakeholders participating in the LIFE SeaBiL project

2024

GreenFormation conducts the socio-economic impact assessment of the "Saving SeaBirds from marine Litter" ("LIFE SeaBiL") (LIFE20 GIE/FR/000114) project. For this, we carry out interviews (between the 2nd of April and the 26th of May, 2024) with stakeholders who participated in the project in order to better understand the project's wider socio-economic impacts and its effects on ecosystem services. The interview should take around one hour. If you wish we will provide you with the transcribed interview so you can add or amend the text.

We would like to ask you to read the informed consent form and choose the below consent form's relevant checkbox(es).

In case you would like to provide your name to be featured in the report and use it for quotes and in the acknowledgement section, please let me know. If you prefer not to, we will anonymise and pseudonymise the interview data and purge all relevant data you may be identifiable with along with treating and storing any of your personal data (e.g., your name and email) according to the General Data Protection Regulation (GDPR). In case you agree that I record this conversation, after the transcription of the interview, the audio file will be purged. In case the interview will be carried out by a third party relevant data will be handled according to the GDPR and the research ethics of the project detailed below. If you request anonymity, the party carrying out the interview will only provide us with the transcribed, anonymised version. Data storage and accessibility will be processed according to the GDPR. Please, find further information in the Participant Information Sheet and the Informed Consent Form below. Should you have any questions at any stage, please contact me at tamara.kovacs@greenformation.net.

Thank you for your time and contribution!

Participant Information Sheet

Before you agree to be interviewed within the frame of the SeaBilL's project socio-economic and ecosystem services impact assessment, please take time to read this information. If you have any questions, please contact Tamara Kovacs, GreenFormation at tamara.kovacs@greenformation.net.

General information on the project and its impact assessment

"Saving SeaBirds from marine Litter" ("LIFE SeaBiL") (hereinafter referred to as project) is funded by the LIFE financial instrument of the European Union; LIFE20 GIE/FR/000114. GreenFormation was contracted to conduct the impact assessment of the "Saving SeaBirds from marine Litter" ("LIFE SeaBiL") (LIFE20 GIE/FR/000114) project. The impact assessment's purpose is to find out the project's overall socio-economic impacts and its effect on ecosystem services. The assessment's synthesis report will be provided to the project management team, and the European Commission as part of the project report. This assessment's synthesis report will not reflect the opinions of the European Commission.

Interview

The SeaBiL project's socio-economic and ecosystem services impact assessment will include an interview with you upon your approval. You were recommended to be interviewed due to your valuable knowledge and experience, which would help us identify the project's overall impacts. If you consent, the interview will be recorded to allow analysis of the data provided.

Data storage

Data will be securely stored and handled on password-protected servers as well as will be anonymised and pseudonymised if requested. Unless permitted, personal and sensitive data will be purged as soon as the data are transcribed into the form that is used for the assessment. All data management, processing, and storage procedures will be conducted under the General Data Protection Regulation (GDPR) 2024. The interview might potentially touch on sensitive issues and personal data, which in that case shall be processed fairly and lawfully according to the GDPR. Personal data shall not be specifically obtained, however in case it occurs, it shall not be further processed and will be purged and removed from any relevant forms. If, for any reason, you feel uncomfortable, please immediately let me know, in which case related questions will be removed and you will not need to answer or participate. During the interview, you can withdraw at any time without the need to provide any explanation.

You can withdraw your interview and relevant data within 30 days of the interview by contacting the interviewer, upon which the relevant data will be purged without delay. You can also practise other relevant GDPR rights. Should a data breach occur, you will be immediately notified. For further information please see the relevant EU regulation at https://eur-lex.europa.eu/eli/reg/2016/679/oj.

In case you consent that your name and organisation in the impact assessment's synthesis report can be indicated, please tick the relevant box in the consent form below. In case you don't consent to this, your identity will not be revealed. However, direct anonymous quotes from the interviews may be used in the assessment if you agree to that.

Informed Consent Form

Please check the boxes if you agree with the statement situated on the right side of the box.

- I confirm that I have read and understood the Participant Information Sheet for the above assessment and have had the opportunity to ask questions.
- I agree to take part in the impact assessment research and provide an interview.

- I understand that my participation is voluntary and that I am free to withdraw during the interview at any time without giving a reason.
- I understand that I also have the right to change my mind about participating in the assessment within 30 days of the interview.
- I confirm that my name and organisation can be used for the LIFE SeaBiL project's socio-economic and ecosystem services impact assessment funded by the LIFE financial instrument of the European Union and carried out by GreenFormation as well as my name and organisation can be displayed in the synthesis report (e.g., acknowledgement, quotes).
- I consent that anonymous quotes/quotes with my name indicated (please underline) can be used in the report.
- I understand that all the information I provide will be treated in confidence (unless otherwise permitted for usage by the interviewee).

Name of interviewee:

Organisation of interviewee:

Signature of interviewee:

Date:

Do you have any questions about the purpose of the interview?

Do you have any questions about data processing, data safety, and storage?

Do you consent that I record the interview?

Questions

1. Please, briefly summarise what your organisation's primary reason was for participating in the LIFE SeaBiL project:

   ....

2. What do you think about the effectiveness/success of the actions carried out by the project?

   ....

3. Could you tell us what you consider the key success of the project?

   ....

4. What do you think, what kind of effect does marine litter have on ecosystems, society, and economies?

   Ecosystems: ....

   Society:: ....

   Economies:: ....

5. Do you think the project contributed to decreasing the mentioned effects?

   ....

6. What do you think about the "Low footprint guide"?

   Advantages:...........................

   Disadvantages: ....

   Effect on biodiversity, seabirds, habitats:.............

7. What do you think about the "Stranding Network"?

   Advantages:...........................

   Disadvantages: ....

   Effect on biodiversity, seabirds, habitats:.............

8. In your view, how has the project contributed to raising awareness?

   ....

9. Did you experience any behaviour change towards nature conservation by the general public or any of the stakeholders? If yes, could you name these changes?

   ....

10. Did you change the way you work or your behaviour due to the project?

    ....

11. What other impacts did the LIFE SeaBiL project have on your organisation and your work?

    ....

12. How would you describe the partnership between you/your organisation and other stakeholders during the project?

    ....

13. Do you plan on continuing communication and disseminating the project results after the LIFE funding?

    ....

14. Do you think the results of the project are sustainable?

    ....

15. Do you think the results can be transferred to other areas (other regions or countries) affected by marine litter?

    ....

16. Do you have any questions/further comments regarding the socio-economic and ecosystem services impact assessment or any other aspects of the project?

    ....

ANNEX 5

Interview questions for volunteers participating in the LIFE SeaBiL project

2024

GreenFormation conducts the socio-economic impact assessment of the "Saving SeaBirds from marine Litter" ("LIFE SeaBiL") (LIFE20 GIE/FR/000114) project. For this, we carry out interviews (between the 2nd of April and the 26th of May, 2024) with stakeholders who participated in the project in order to better understand the project's wider socio-economic impacts and its effects on ecosystem services. The interview should take around one hour. If you wish we will provide yWe would like to ask you to read the informed consent form and choose the below consent foou with the transcribed interview so you can add or amend the text.

rm's relevant checkbox(es).

In case you would like to provide your name to be featured in the report and use it for quotes and in the acknowledgement section, please let me know. If you prefer not to, we will anonymise and pseudonymise the interview data and purge all relevant data you may be identifiable with along with treating and storing any of your personal data (e.g., your name and email) according to the General Data Protection Regulation (GDPR). In case you agree that I record this conversation, after the transcription of the interview, the audio file will be purged. In case the interview will be carried out by a third party relevant data will be handled according to the GDPR and the research ethics of the project detailed below. If you request anonymity, the party carrying out the interview will only provide us with the transcribed, anonymised version. Data storage and accessibility will be processed according to the GDPR. Please, find further information in the Participant Information Sheet and the Informed Consent Form below. Should you have any questions at any stage, please contact me at tamara.kovacs@greenformation.net.

Thank you for your time and contribution!

Participant Information Sheet

Before you agree to be interviewed within the frame of SeaBilL's project socio-economic and ecosystem services impact assessment, please take time to read this information. If you have any questions, please contact Tamara Kovacs, GreenFormation at tamara.kovacs@greenformation.net.

General information on the project and its impact assessment

"Saving SeaBirds from marine Litter" ("LIFE SeaBiL") (hereinafter referred to as project) is funded by the LIFE financial instrument of the European Union; LIFE20 GIE/FR/000114. GreenFormation was contracted to conduct the impact assessment of the "Saving SeaBirds from marine Litter" ("LIFE SeaBiL") (LIFE20 GIE/FR/000114) project. The impact assessment's purpose is to find out the project's overall socio-economic impacts and its effect on ecosystem services. The assessment's synthesis report will be provided to the project management team, and the European Commission as part of the project report. This assessment's synthesis report will not reflect the opinions of the European Commission.

Interview

The SeaBiL project's socio-economic and ecosystem services impact assessment will include an interview with you upon your approval. You were recommended to be interviewed due to your valuable knowledge and experience, which would help us identify the project's overall impacts. If you consent, the interview will be recorded to allow analysis of the data provided.

Data storage

Data will be securely stored and handled on password-protected servers as well as will be anonymised and pseudonymised if requested. Unless permitted, personal and sensitive data will be purged as soon as the data are transcribed into the form that is used for the assessment. All data management, processing, and storage procedures will be conducted under the General Data Protection Regulation (GDPR) 2024. The interview might potentially touch on sensitive issues and personal data, which in that case shall be processed fairly and lawfully according to the GDPR. Personal data shall not be specifically obtained, however in case it occurs, it shall not be further processed and will be purged and removed from any relevant forms. If, for any reason, you feel uncomfortable, please immediately let me know, in which case related questions will be removed and you will not need to answer or participate. During the interview, you can withdraw at any time without the need to provide any explanation.

You can withdraw your interview and relevant data within 30 days of the interview by contacting the interviewer, upon which the relevant data will be purged without delay. You can also practise other relevant GDPR rights. Should a data breach occur, you will be immediately notified. For further information please see the relevant EU regulation at https://eur-lex.europa.eu/eli/reg/2016/679/oj.

In case you consent meaning that your name in the impact assessment's synthesis report can be indicated, please tick the relevant box in the consent form below. In case you don't consent, your identity will not be revealed. However, direct anonymous quotes from the interviews may be used in the assessment if you agree to that.

Informed Consent Form

Please check the boxes if you agree with the statement situated on the right side of the box.

- I confirm that I have read and understood the Participant Information Sheet for the above assessment and have had the opportunity to ask questions.
- I agree to take part in the impact assessment research and provide an interview.

- I understand that my participation is voluntary and that I am free to withdraw during the interview at any time without giving a reason.
- I understand that I also have the right to change my mind about participating in the assessment within 30 days of the interview.
- I confirm that my name can be used for the LIFE SeaBiL project's socio-economic and ecosystem services impact assessment funded by the LIFE financial instrument of the European Union and carried out by GreenFormation as well as my name can be displayed in the synthesis report.
- I consent that anonymous quotes/quotes with my name indicated (please underline) can be used in the report.
- I understand that all the information I provide will be treated in confidence (unless otherwise permitted for usage by the interviewee).

Name of interviewee:

Signature of interviewee:

Date:

Do you have any questions about the purpose of the interview?

Do you have any questions about data processing, data safety, and storage?

Do you consent that I record the interview?

Questions

1. Please, briefly summarise what your primary reason was for participating in the LIFE SeaBiL project:

   ....

2. What kind of activities did you do in the project?

....

3. *What do you think about the effectiveness/success of the actions you participated in?

    ....

4. Could you tell us what you consider the key success of the project?

    ....

5. What do you think, what kind of effect does marine litter have on ecosystems, society, and economies?

    Ecosystems: ....

    Society: ....

    Economies: ....

6. Do you think the project contributed to decreasing the mentioned effects?

    ....

7. What do you think about the "Low footprint guide"?

    Advantages:...........................

    Disadvantages: ....

    Effect on biodiversity, seabirds, habitats:.............

8. What do you think about the "Stranding Network"?

    Advantages:...........................

    Disadvantages: ....

    Effect on biodiversity, seabirds, habitats:.............

9. In your view, how has the project contributed to raising awareness?

    ....

10. Have you talked about the project or your work on the project to others?

    ....

11. Did you gain any knowledge and/or skills and if yes, what kind?

……………………………………………….

12. If you gained any knowledge or skills, do you think you can use them in your future work or other aspects of your life, and if yes, how?

    ……………………………………………….

13. Did the LIFE SeaBiL project have any (other) impact on your personal or professional life?

    ……………………………………………….

14. Have you experienced any change in your behavior towards nature conservation during the project?

    ……………………………………………….

15. Do you have any questions/further comments regarding the socio-economic and ecosystem services impact assessment or any other aspects of the project?

    ……………………………………………….