LIFE Ilhas Barreira

Review of the Implementation of the Species Action Plan for Balearic shearwater

Lisbon, June 2025

Co-funding

Partners

Review of the Implementation of the Species Action Plan for Balearic shearwater

Lisbon, June, 2025

LIFE Ilhas Barreira is a partnership of SPEA with Aldeia-RIAS, Animaris, Instituto da Conservação da Natureza e das Florestas (ICNF), Centro de Ciências do Mar of University of Algarve (UALG-CCMAR), Centro de Investigação Marinha e Ambiental of University of Algarve (UALG-CIMA) and Centro de Ciências do Mar e do Ambiente of University of Coimbra (MARE-UC).

This report is part of Action E5, which focuses on the Networking and technical dissemination of project outcomes. While the action falls within the scope of the project, this report was co-led by SPEA and SEO/BirdLife, a key player in the international conservation of the Balearic shearwater (*Puffinus mauretanicus*).

SEO BirdLife

spea
Sociedade Portuguesa para o Estudo das Aves

SPEA – Portuguese Society for the Study of Birds is a non-profit scientific association that promotes the study and conservation of birds in Portugal. As a non-profit association, it depends on the support of partners and various entities to carry out their actions. SPEA was recognized as a public utility organization in 2012 and is a member of BirdLife International.

SEO/BirdLife – Sociedad Española de Ornitologia is a non-profit organization, declared of Public Utility in Spain, whose main objectives are to study and preserve birds and the wider environment, and to communicate these values to the society. Its main office is based in Madrid, but it has a strong territorial implementation, through a network of regional offices scattered across Spain. It is the Spanish BirdLife partner.

BirdLife International is a worldwide network which operates in 120 countries and aims to preserve biological diversity through the conservation of birds, their habitats and the promotion of sustainable use of natural resources.

Review of the Implementation of the Species Action Plan for Balearic shearwater

Sociedade Portuguesa para o Estudo das Aves & SEO/BirdLife - Sociedad Española de Ornitologia, 2025.

Compilers: Ana Almeida (SPEA) and José Manuel Arcos (SEO/BirdLife)

Citation: Almeida, A. & Arcos, J.M. 2025. Review of the Implementation of the Species Action Plan for Balearic shearwater. SPEA and SEO/BirdLife (unpublished report).

Acknowledgments: Our acknowledgments are directed to all contributors, namely Adrien Lambrechts (OFB, France), Alex Banks (NE, UK), Ana Sanz-Aguilar (IMEDEA-CSIC/UIB, Spain), Andrés De la Cruz Muñoz (UCA, Spain), António Teixeira (DGRM, Portugal), António Vulcano (BLECA), David García (IRBI, Spain), Elvira García-Bellido (MITECO, Spain), Helena Moreno (MITECO, Spain), Karen Bourgeois (OFB, France), Maite Louzao (AZTI, Spain), Manuela Nunes (ICNF, Portugal), Meritxell Genovart (CEAB-CSIC, Spain), Michel Ledard (MTE, France), Pierre Yésou (Expert associated to PNA, France), Rafel Mas (Balearic Government, Spain), Tomàs Bosch(Balearic Government, Spain), Thierry Micol (LPO, France), Tim Guilford (Univ. of Oxford, UK).

Photo credits: Rita Matos and Nuno Barros (SPEA).

Index

SUMMARY

This review aimed to assess the implementation of the Species Action Plan (SAP) for the Balearic shearwater for the period 2011–2024. Questionnaires were sent to experts from the four European countries where the species concentrates, namely Spain, Portugal, France and the United Kingdom. All countries provided information on the implementation of the SAP, but the number of experts per country varied between countries and, in some cases, experts provided feedback on the actions taken, but without scoring them. The implementation of the SAP did not differ much between the four countries, showing significant progress since 2011, but without reaching the established goals.

There has been significant progress in filling knowledge gaps, particularly through the promotion of research at sea and monitoring programmes in colonies. The main improvement in conservation has been the designation of several Marine Protected Areas (MPAs) for the species across its distribution range, mainly as Natura 2000 Special Protection Areas (SPAs). However, most of these sites are still awaiting management plans, and only a handful of sites already contemplate management measures for the Balearic shearwater, such as the implementation of bycatch mitigation measures. There is also worth mentioning the current development of bycatch mitigation plans at national level. Most of the SAP actions were implemented by the academia, NGOs and public entities/institutes. The threats identified in the 2011 SAP continue to be relevant, but new threats have been identified: Disturbance of colonies and rafts, avian influenza and climate change. On the other hand, marine wind exploitation is a raising activity that will require further attention in the following years.

RESUMO

Esta revisão teve como objetivo avaliar a implementação do Plano de Ação para a Espécie (SAP) da pardela-balear no período de 2011 a 2024. Foram enviados questionários a especialistas de quatro países europeus em que a espécie se concentra, nomeadamente Espanha, Portugal, França e Reino Unido. Todos os países forneceram informação sobre a implementação do SAP, mas o número de especialistas por país variou, e, em alguns casos, os especialistas deram feedback sobre as ações realizadas, mas sem as pontuar. A implementação do SAP não diferiu muito entre os quatro países, tendo sido registado um progresso significativo desde 2011, embora sem alcançar os objetivos estabelecidos.

Houve um progresso notável no preenchimento de lacunas de conhecimento, especialmente através da promoção de investigação no mar e de programas de monitorização nas colónias. O principal avanço em termos de conservação foi a designação de várias Áreas Marinhas Protegidas (AMP) para a espécie em toda a sua área de distribuição, principalmente como Zonas de Proteção Especial da rede Natura 2000 (ZPE). No entanto, a maioria destes locais ainda aguarda a elaboração de planos de gestão, e apenas um número reduzido já contempla medidas de gestão específicas para a pardela-balear, como a implementação de medidas de mitigação das capturas acidentais. É de destacar o atual desenvolvimento de planos de mitigação de capturas acidentais a nível nacional. A maioria das ações do SAP foi implementada por instituições académicas, ONG e entidades/institutos públicos. As ameaças identificadas no SAP de 2011 continuam a ser relevantes, mas foram identificadas novas ameaças: perturbação das colónias e de jangadas, gripe aviária e alterações climáticas. Por outro lado, a exploração da energia eólica no meio marinho é uma atividade em crescimento que exigirá maior atenção nos próximos anos.

RESUMEN

Esta revisión tuvo como objetivo evaluar la implementación del Plan de Acción para la Especie (SAP) de la pardela balear durante el período 2011–2024. Se enviaron cuestionarios a expertos de los cuatro países europeos en los que se concentra la especie: España, Portugal, Francia y el Reino Unido. Todos los países proporcionaron información sobre la implementación del SAP, aunque el número de expertos varió entre ellos y, en algunos casos, los especialistas ofrecieron comentarios sobre las acciones realizadas, pero sin calificarlas. La implementación del SAP no difirió mucho entre los cuatro países, mostrando un progreso significativo desde 2011, aunque sin alcanzar los objetivos establecidos.

Se ha registrado un avance importante en la reducción de lagunas de conocimiento, especialmente a través del fomento de la investigación en el mar y de programas de monitoreo en las colonias. El principal avance en conservación ha sido la designación de varias Áreas Marinas Protegidas (AMP) para la especie a lo largo de su área de distribución, principalmente como Zonas de Especial Protección para las Aves (ZEPA) de la red Natura 2000. No obstante, la mayoría de estos sitios aún carecen de planes de gestión, y solo unos pocos contemplan actualmente medidas específicas para la pardela balear, como la aplicación de medidas de mitigación de capturas accidentales. Cabe también destacar el desarrollo actual de planes de mitigación de capturas accidentales a nivel nacional. La mayoría de las acciones del SAP han sido implementadas por el ámbito académico, ONG y entidades/instituciones públicas. Las amenazas identificadas en el SAP de 2011 siguen siendo relevantes, pero se han detectado nuevas amenazas: la perturbación de colonias y balsas, la gripe aviar y el cambio climático. Por otro lado, la explotación eólica marina es una actividad emergente que requerirá una mayor atención en los próximos años.

RÉSUMÉ

Cette étude visait à évaluer la mise en œuvre du Plan d'action spécifique (PAS) en faveur du Puffin des Baléares pour la période 2011-2024. Des questionnaires ont été envoyés à des experts des quatre pays européens les plus concernés par l'espèce, à savoir l'Espagne, le Portugal, la France et le Royaume-Uni. Tous les pays ont fourni des informations sur la mise en œuvre du PAS, même si le nombre d'experts par pays est variable selon les pays. Dans certains cas, les experts ont donné leur avis sur les mesures mises en œuvre, sans toutefois leur donner un score sur la grille de notation. La mise en œuvre du PAS est similaire entre les quatre pays, montrant des progrès significatifs depuis 2011, mais sans atteindre les objectifs fixés.

Des progrès significatifs ont été réalisés pour combler les lacunes de connaissance, notamment grâce à la mise en œuvre de suivis protocolés en mer et de programmes de suivi des colonies. La principale amélioration en matière de conservation a été la désignation de plusieurs aires marines protégées (AMP) pour l'espèce dans toute son aire de répartition, principalement en tant que zones de protection spéciale (ZPS) Natura 2000. Cependant, la plupart de ces sites sont encore en attente de plans de gestion, et seuls quelques-uns envisagent déjà des mesures de gestion pour le puffin des Baléares, telles que la mise en œuvre de mesures de réduction des risques de capture accidentelle. Il convient également de mentionner l'élaboration actuelle de plans de réduction des risques de capture accidentelle au niveau national. La plupart des actions du PAS ont été mises en œuvre par la sphère académique, des ONG et des établissements/instituts publics.

Les menaces identifiées dans le PAS 2011 restent d'actualité, mais de nouvelles menaces ont été identifiées : perturbation des colonies et des radeaux, grippe aviaire et changement climatique. D'autre part, l'exploitation éolienne marine est une activité en plein essor qui nécessitera une attention particulière dans les années à venir.

1. BACKGROUND

1.1 Why this revision?

The first International Species Action Plan for the Balearic shearwater *Puffinus mauretanicus* (hereinafter referred as Species Action Plan - SAP) was adopted by the EU in 1999 (Aguilar, 1999), with a thorough revision published in 2011 (Arcos, 2011). This revision was commissioned by the European Commission and prepared by BirdLife International as subcontractor to the "N2K Group" in the frame of Service Contract N#070307/2007/488316/SER/B2 "Technical and scientific support in relation to the implementation of the 92/43 'Habitats' and 79/409 'Birds' Directives".

Following the recommendation that a Species Action Plan should be reviewed every 10 years, the current document evaluates the implementation of the SAP from 2011 to 2024. This revision is co-led by SEO/BirdLife and SPEA. Spain holds the global breeding population of the species, restricted to the Balearic Islands, but the regular distribution range of the Balearic shearwater (breeding and non-breeding season) includes other European states, namely Portugal and France, as well as United Kingdom, Morocco and Algeria outside the EU. At the national level, during the SAP implementation period (2011-2024) other important national instruments were developed such as the Strategy for the conservation of shearwaters in Spain (Ministerio para la Transición Ecológica y el Reto Demográfico, 2025) and the National Action Plan (Ministère de la Transition Écologique, 2021) in France.
The Balearic shearwater also occurs in other countries, but in a more irregular/scarce way (See Arcos 2011).

1.2 Balearic shearwater population trends and changes over time

The Balearic shearwater remains Europe's most threatened seabird, classified as Critically Endangered at global level by the IUCN (BirdLife International, 2020). Recent estimates in breeding colonies point to a breeding population slightly below the 3,000 breeding pairs, specifically 900 pairs in Mallorca, 692 in Formentera, 535 in Ibiza, 475 in Cabrera, and 305 pairs in Menorca (Arcos et al. 2017). Boat based censuses in the open sea, as well as coastal counts in the Strait of Gibraltar during the post-breeding migration suggest that the global population is around 25,000 individuals (Arcos et al. 2012, Arroyo et al. 2016). While these two estimates may be compatible, given the high proportion of non-breeding birds that typically occur in Procellariformes (Carneiro et al. 2020), it has been suggested that the breeding population might be larger than previously thought. In any case, demographic models point to a clear population decline, with an alarming annual decline rate of 14%, estimated in two different colonies in Mallorca and Ibiza (Genovart et al. 2016, Genovart et al. 2019, SEO/BirdLife 2021). This decline is mainly due to low adult survival (rate of 0.81), and available data indicate bycatch in fishing gear as the main factor causing this high adult mortality (Genovart et al. 2016, Cortés et al. 2017, Tarzia et al. 2017, Ramírez et al. 2024). Predation in breeding colonies by introduced mammals is another major threat (Arcos 2011), although it does not affect the two colonies where demographic studies were conducted. Based on population viability models and based on a hypothetical population of 7,200 breeding females (a conservative assumption that would double the current population estimate in the colonies), Genovart et al. (2016) estimated an average extinction time of 61 years, if current conditions continue.

Various studies point to a northward shift in the post-breeding range in the Atlantic, increasingly reaching the waters south of Great Britain (Wynn et al. 2007, Phillips et al. 2021, Lewin et al. 2024, De La Cruz 2025). Despite this increase in the north of the range, boat-based survey data suggests that the species has acutely decreased in the core non-breeding areas of the Atlantic (W Iberia and Brittany), as well as in the Mediterranean, and the overall pattern at sea would be of decline (De La Cruz et al. 2025).

1.3 Objectives, results and actions of reference

The current review was conducted by assessing the degree of implementation of actions proposed in the last version of the plan (Arcos 2011) and allowed to re-evaluate the priority of these actions (Table 1; see Annex A for a more detailed description). These actions responded to two main objectives, namely (1) *stop or reverse population decline, within 10 years, such that population growth rate is positive (λ≥1); and (2) keep or improve the good environmental status of the current breeding colonies and main marine hotspots, within 5 years. Moreover, actions were grouped in 5 blocs, according to the expected results:*

Result 1.1. Average adult survival rate is close to or over 90% (by addressing most significant threats).
Result 1.2. Breeding productivity is kept equal or over-known current levels.
Result 1.3. Knowledge gaps filled.
Result 2.1. Conservation of breeding habitat is ensured.
Result 2.2. Conservation of marine habitat is ensured.

#	Objective/Action
1.1.1	Reduce predation at colonies by carnivores
1.1.2	Promote bycatch Action Plan
1.1.3	Bycatch mitigation in MPA management plans
1.1.4	Market-based approaches to minimise bycatch
1.1.5	Assessment and response to oil spills
1.1.6	Policies and surveillance to minimise acute oil spills
1.1.7	Ensure surveillance to prevent upsurge of harvesting
1.2.1	Rodent eradication as part of island restoration
1.2.2	Regulation of human disturbance and best practice guidance
1.2.3	Promote light pollution mitigation
1.2.4	Promote ecosystem-based policies for fishing practices
1.3.1	Colony monitoring programmes
1.3.2	Population census
1.3.3	Assess the impact of bycatch
1.3.4	Promote research at sea
1.3.5	Asses little understood or potential threats
1.3.6	Promote the creation of working groups
2.1.1	Implement management plans in colony sites
2.1.2	Develop ecological restoration plan for seabird islands
2.2.1	Promote the designation of MPAs for the species
2.2.2	Promote conservation measures at sea (MPA and beyond)

Table 1 | Short description of SAP actions.

2. SCORING PROGRESS

The evaluation of progress against the Action Plan follows the methodology and scoring system developed by BirdLife International (Gallo-Orsi, 2001).

The priority of each objective/action in the SAP is expressed as a *Priority Score* (PS):

4 Essential or Critical
3 High
2 Medium
1 Low

Experts from each country evaluate an *Implementation Score* (IS), measuring progress towards the target:

4	Action fully implemented (except for continuation of ongoing work)
3	Significant progress (51-75%), but target not yet reached
2	Some action (11-50%), but no significant progress yet
1	Little or no action (0-10%)
0	Action not needed/not relevant

From these values, a *National Implementation Score* (NIS) was calculated.

2.1 National Implementation Score (NIS)

NIS expresses progress against all actions by a country. The range of scores is between 1 and 4, with 1 representing little or no implementation, and 4 representing full implementation.

National Implementation Score (NIS) =

Sum [Priority Score (PS) x Implementation Score (IS)] / Sum [Priority Score (PS)]

Zero scores are excluded from the calculations. The NIS values for each country can be seen in the final row of the table in Annex B.

2.2 Action Priority Index (API)

The *API* expresses the need for further action for a target. A high priority target (high *PS*) with a low level of implementation (low *IS*) will have a high value *API*, indicating a priority area for action. A low priority target (low *PS*) with a high level of implementation (high *IS*) will have a low value *API*, indicating a lower priority area for action. Targets with fully implemented actions have an *API* of 0, so no further work is required.

Action Priority Index (API) = Priority Score (PS) x [4 - Average Implementation Score (AIS)] / 3

The Average Implementation Score (AIS) represents the mean value of the Implementation Scores reported by the four countries. Zero scores are excluded from the calculations.
The *API* values for SAP actions can be seen in the final column of the table in Annex A.

3. GENERAL OVERVIEW

All countries that were contacted in this review provided feedback on the implementation of the Action Plan, by completing a questionnaire that includes the classification regarding the implementation of each of the plan's actions as well as information on the actions carried out in the country/region (See ANNEX D)
These countries included Spain, Portugal, France and the United Kingdom. The list of experts contacted was based on the previous assessment of the SAP (in 2011) and updated, using a cascade method to identify relevant experts that started working with the species in the last decade. The list included representatives of the relevant administrations, as well as researchers and conservation technicians. The number of experts per country was variable and, in some cases, experts provided feedback on the actions carried out but without scoring them.

Following the written consultation to the different countries, a Workshop was organized in France, under the *Séminaire du plan national d'actions en faveur du Puffin des Baléares*, between 24 and 26 June 2024, in Croisic, France, to present and discuss the results of the revision of implementation of the SAP.

Figure 1 | Séminaire du plan national d´actions en faveur du Puffin des Baléares, June 2024, France.

The NIS does not vary much between the four countries, presenting an Average NIS of 2.83, which reflects significant progress, but target not yet reached (See Figure 2). The UK is the only country with a NIS lower than 2.75. Nevertheless, most advances were related with improvements in knowledge gaps, as well as in formal protection of terrestrial and (particularly) marine areas.

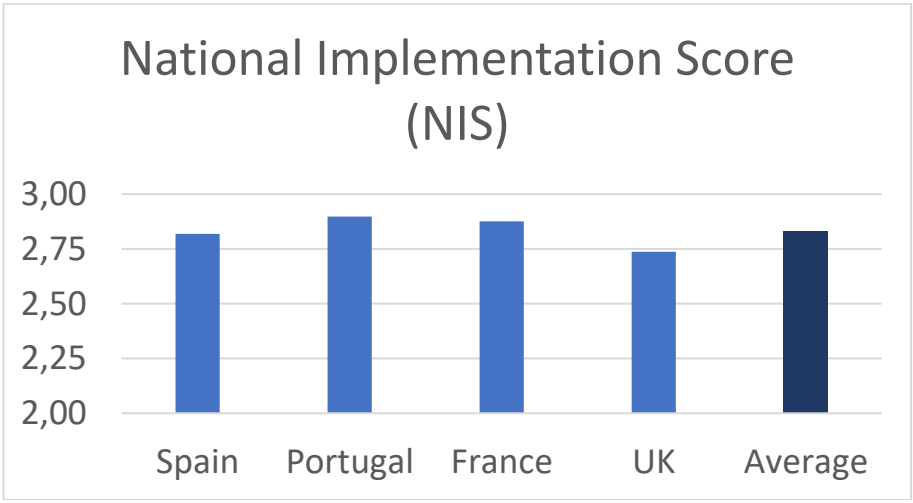

Figure 2 | National Implementation Score (NIS) for each country and the average score across all countries.

The Average Implementation Score (AIS) shows progress against each action (a higher value indicates more progress made; See Figure 3). AIS is presented separately according to the result to which they contributed (Figures 2-5).

Within the actions that contribute to maintain Balearic shearwater adult survival rate close to 90% (result 1.1, Figure 2), improving response to oil spills was the one where the countries reported most progress, followed by tackling bycatch. Regarding bycatch, it is important to stress that this issue had been largely overlooked and neglected prior to the revision of the plan in 2011, and most advances have been made on calling attention to the issue and improving knowledge, as well as developing action plans at EU (2012) and national level (recently

approved or in due progress). But there is still a lot of work ahead regarding data collection and, most important, implementation of mitigation measures wherever needed. Improvements in the response to oil spills are also largely related with the development of general response plans to this type of accidents. Measures to reduce carnivore predation at colonies were limited, highlighting a need for greater attention in the future, particularly as some colonies remain vulnerable to feral cats and other introduced predators. Little or no action was conducted to ensure surveillance in order to prevent upsurge of harvesting, but this was expected, as it does not seem to be a problem anymore, with no reports of any incident in the last decade.

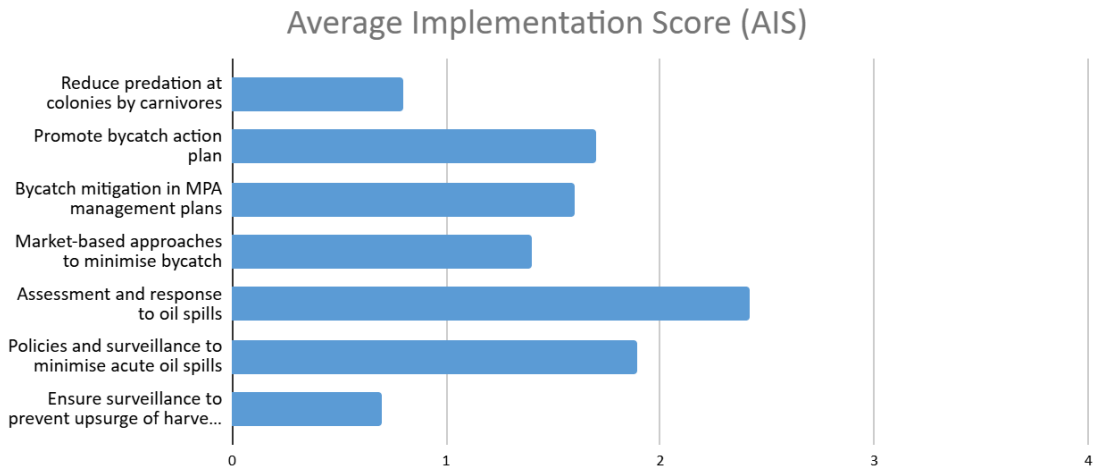

Figure 3 | Average Implementation Score (AIS) for each action within the SAP Result 1.1 *Average annual adult survival rate is close to or over 90%.*

Regarding the maintenance of the species breeding productivity (result 1.2; Figure 4), most progress was done in promoting ecosystem-based policies for fishing practises and through rodent eradication under island restoration projects in the Balearic Islands. Although light pollution did not receive much attention, campaigns to raise awareness have been conducted in recent years, showing relatively low impact of this threat.

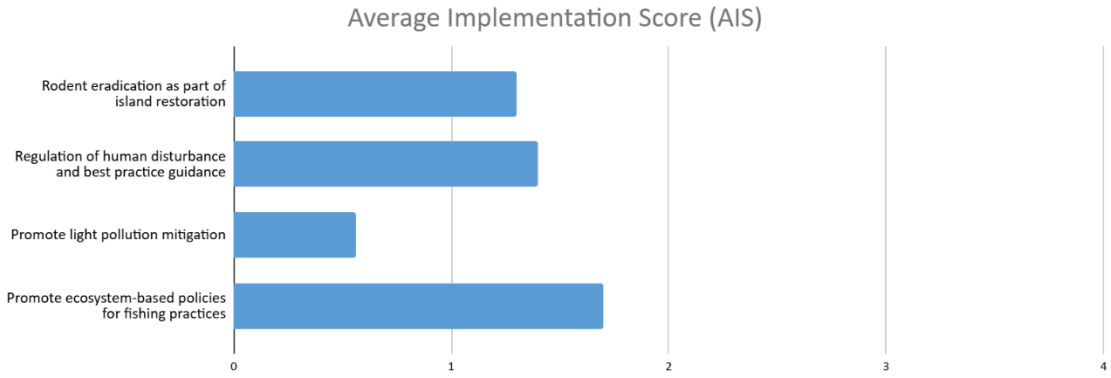

Figure 4 | Average Implementation Score (AIS) for each action within the SAP Result 1.2 *Breeding productivity is kept equal or greater than known current levels.*

The countries reported significant progress in filling knowledge gaps (result 1.3; Figure 5), both by conducting research at sea and (in the case of Spain) colony monitoring and promoting the creation of national Working groups. Knowledge regarding bycatch, arguably the most important threat for the species, has increased substantially over the last decade, but there is still a lot of work ahead to properly assess the impact of fishing, particularly small-scale fisheries.

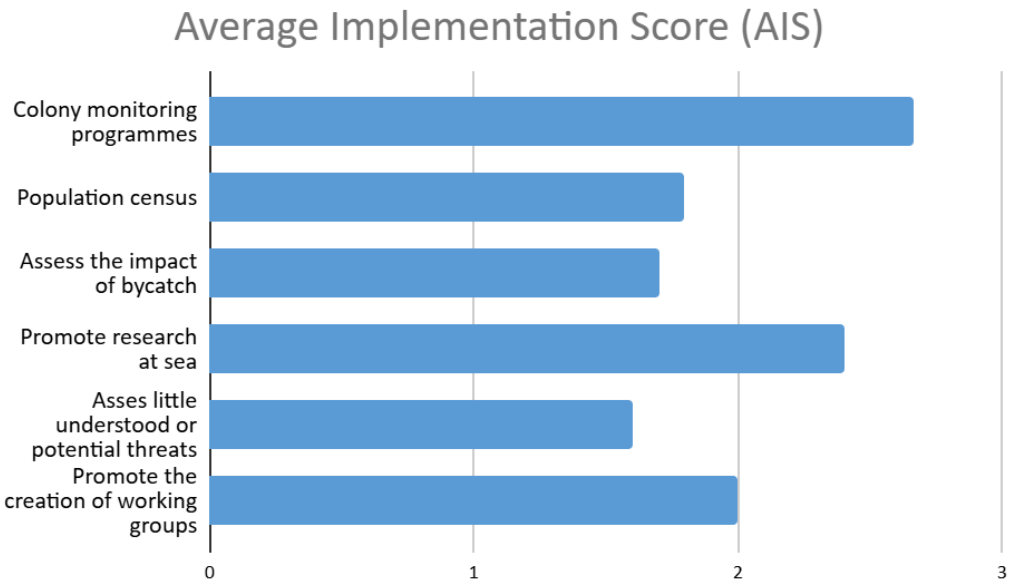

Figure 5 | Average Implementation Score (AIS) for each action within the SAP Result 1.3 *Knowledge gaps filled.*

Regarding the conservation of the species' habitat (results 2.1 and 2.3; Figure 6), the identification and designation of MPA stands out, but there has been less progress in the respective management plans.

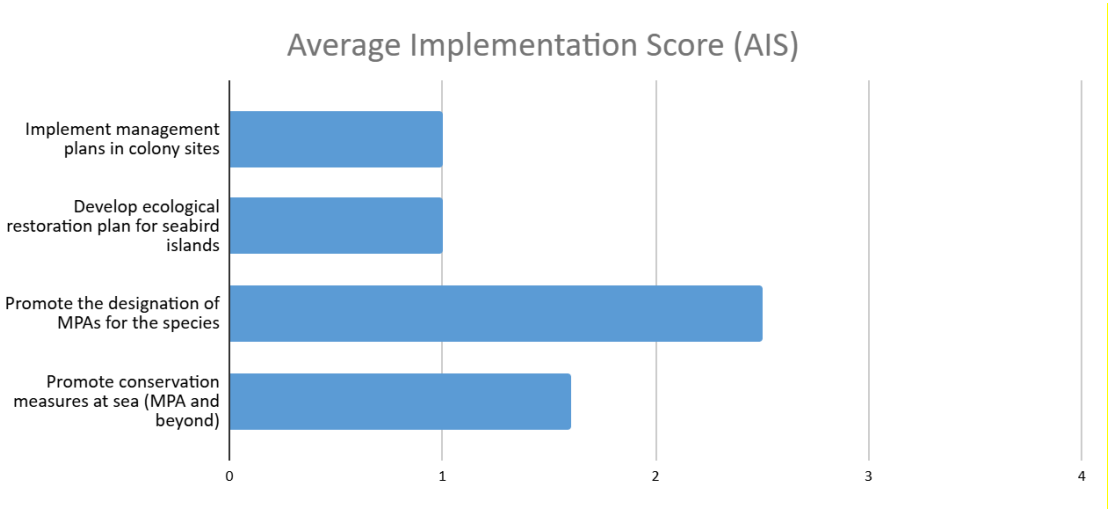

Figure 6 | Average Implementation Score (AIS) for each action within the SAP Results 2.1 *Conservation of breeding habitat* and 2.2 *Conservation of marine habitat.*

While the Action Priority Index (API) (See Figure 7) provides a useful combined measure of importance and progress, it is important to acknowledge its limitations and interpret the results with caution. The API highlights certain actions as top priorities, such as reducing predation at colony sites and advancing the bycatch action plans. However, this metric does not always reflect the complexity of national contexts. For instance, although the implementation of management plans at colony sites appears limited, many of these sites are already part of the Natura 2000 network and are legally protected, with restricted access that effectively reduces threats such as human disturbance and (to a lower extent) invasive predators. On the other hand, progress in addressing bycatch may be more advanced in terms of planning and policy development, but implementation of mitigation measures at sea remains limited, and bycatch continues to be a significant threat.

These discrepancies highlight the need for a more nuanced, context-specific assessment of priorities, which will be addressed in greater depth in the upcoming revision of the Species Action Plan.

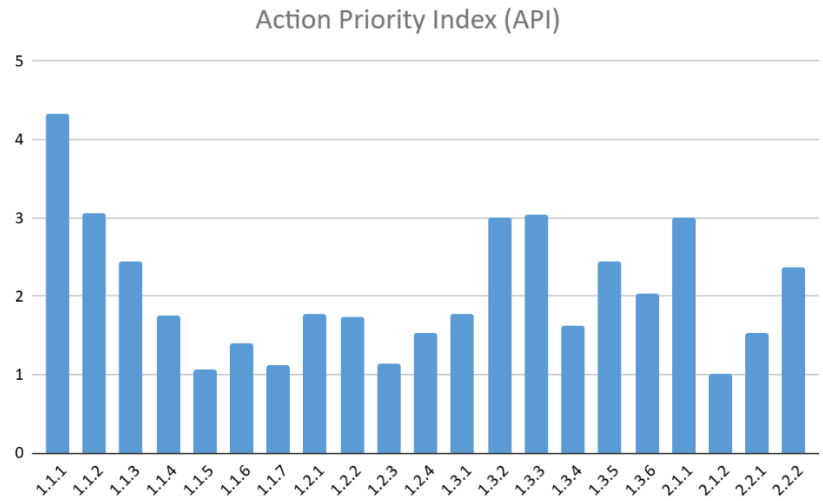

Figure 7 | Action Priority Index (API) for each action within the SAP, across the four countries.

4. THREATS

The threats included in the 2011 SAP were re-evaluated regarding their impact (See Table 2) being that the main threats to the conservation of the species remain the same, namely with bycatch and predation at colonies by carnivores as the most severe. Previously underestimated threats gained relevance, alongside the identification of new ones:

Disturbance at colonies

Breeding colonies of Balearic shearwaters are highly sensitive to human presence. Activities such as recreational boating, tourism, climbing and unregulated access to nesting areas can cause disturbance that leads to nest abandonment or reduced chick survival. Even low-frequency disturbance during critical breeding periods can have long-term consequences on population dynamics, especially for a species with low reproductive rates.

Disturbance of rafts

Balearic shearwaters often form floating groups or “rafts” at sea. These gatherings play a critical role in social cohesion and pre-breeding behavior. However, increased maritime traffic, including recreational boating, has led to more frequent disturbance. Disruption of these rafts can interfere with pair bonding, delay breeding activity, and increase energy expenditure, ultimately influencing reproductive success. Similar types of disturbance may also occur during multi-species feeding aggregations involving seabirds and large predators such as bluefin tuna. The recent recovery of bluefin tuna populations in the Bay of Biscay and the English Channel, together with the associated increase in recreational fishing activity that often targets these feeding events, may lead to repeated disturbance in specific areas, affecting seabird behavior and energetics.

Avian influenza

The emergence and spread of highly pathogenic avian influenza (HPAI) represent a significant new threat to seabird populations across Europe. Although Balearic shearwaters have not yet been widely affected, their

communal nesting behavior and interactions with other seabirds could facilitate transmission. An outbreak in a breeding colony could result in mass mortality events and severely impact conservation efforts.

Climate change

Climate change poses a multifaceted threat to the Balearic shearwater, affecting both marine and terrestrial habitats. Changes in sea surface temperature and prey availability may alter distribution patterns and foraging success, while more frequent extreme weather events can damage nesting habitats. Additionally, sea-level rise could threaten low-lying breeding sites. These pressures, combined, may reduce breeding success and survival rates over time.

Windfarms

The development of offshore wind energy was already identified as a potential threat in the revision of 2011 SAP, with unknown impact. At the time, it was a hypothetical threat as there were no windfarms within the distribution range of the Balearic shearwater. However, nowadays there are already some windfarms overlapping with important areas of the species in the Atlantic, and new ones are being planned for the Mediterranean. Under this scenario of increasing exploitation, it is essential to assess potential effects on the species, as well as to investigate on mitigation measures.

Predation

Although this is a long-identified threat, it is worth mentioning the increasing colonisation of several colonies by snakes, which pose a new threat for eggs and chicks.

THREAT	IMPACT (2011)	REVIEW (2024)
Predation at colonies	Critical	Critical
Bycatch	Critical	Critical
Acute pollution	(Potentially high)	(Potentially high)
Decreasing fish stocks	Medium	Medium
Degradation of breeding habitat	Medium	Low
Background pollution	Low (unknown)	Low (unknown)
Windfarms	Unknown	(Potentially high)
NEW THREATS		
Disturbance of rafts		
Disturbance at colonies		
Avian influenza		
Climate change		

Table 2 | Revision of impact of threats.

5. REFERENCES

Arcos, J.M. (compiler) 2011. International species action plan for the Balearic shearwater, *Puffinus mauretanicus.* SEO/BirdLife & BirdLife International.

Arcos, J. M., Arroyo, G., Bécares, J., Mateos-Rodríguez, M., Rodríguez, B., Muñoz, A., Ruiz, A., de la Cruz, A., Cuenca, D., & Onrubia, A. 2012. New estimates at sea suggest a larger global population of the Balearic Shearwater Puffinus mauretanicus. Proceedings of the 13th Medmaravis Pan-Mediterranean Symposium, 84–94.

Arcos, J. M., López, I., Alonso, J. & Mayol, J. (Comp.) 2017. Study, monitoring, and conservation of the Balearic shearwater in Spain: An update. Fourth Meeting of the Population and Conservation Status Working Group, Agreement on the Conservation of Albatrosses and Petrels (Wellington, New Zealand, 7–8 September 2017).

Aguilar, J.S. 1999. Species Action Plan for the Balearic Shearwater *Puffinus mauretanicus* in Europe. BirdLife International report to the European Commission, unpublished. (Document available at: http://ec.europa.eu/environment/nature/conservation/wildbirds/action_plans/docs/puffinus_puffinus_mauretanicus.pdf).

Arroyo, G. M., Mateos-Rodríguez, M., Munõz, A. R., de La Cruz, A., Cuenca, D., & Onrubia, A. 2016. New population estimates of a critically endangered species, the Balearic Shearwater Puffinus mauretanicus, based on coastal migration counts. Bird Conservation International 26 (1): 87–99.

Carneiro, A. P., Pearmain, E. J., Oppel, S., Clay, T. A., Phillips, R. A., Bonnet-Lebrun, A. S., ... & Dias, M. P. (2020). A framework for mapping the distribution of seabirds by integrating tracking, demography and phenology. Journal of Applied Ecology, 57(3), 514-525.

Cortés, V., Arcos, J. M., González-Solís, J., & Oro, D. 2017. Seabirds and demersal longliners in the northwestern Mediterranean: Factors driving their interactions and bycatch rates. *Marine Ecology Progress Series*, 565, 1–16.

De la Cruz, A., Pereira, J. M., Arroyo, G. M., Ramos, J. A., Alonso, H., Arcos, J. M., ... & Paiva, V. H. 2025. Global distribution, threats and population trends of the critically endangered Balearic shearwater *Puffinus mauretanicus*. Biological Conservation, 305, 111047.

Gallo-Orsi U. 2001. Saving Europe's most threatened birds: progress in implementing European Species Action Plans. Wageningen, The Netherlands.

Genovart, M., Arcos, J. M., Álvarez, D., McMinn, M., Meier, R., B. Wynn, R., Guilford, T., & Oro, D. 2016. Demography of the critically endangered Balearic shearwater: the impact of fisheries and time to extinction. Journal of Applied Ecology, 53(4), 1158–1168. https://doi.org/10.1111/1365 2664.12622.

Genovart, M, García, D., Louzao, M. y Arcos, J. M. (2020). First conservation diagnosis of the Balearic Shearwater Puffinus mauretanicus in Ibiza. Final report for ACAP. SEO/BirdLife, CSIC y IRBI.

Ministère de la Transition Écologique. 2021. National Action Plan 2021–2025 for the Balearic Shearwater – *Puffinus mauretanicus*. 258 p.

Ministerio para la Transición Ecológica y el Reto Demográfico. 2025. Strategy for the Conservation of Shearwaters in Spain. 68 p.

Ramírez, I., Mitchell, D., Vulcano, A., Rouxel, Y., Marchowski, D., Almeida, A., Arcos, J.M., Cortes, V., Lange, G., Morkūnas, J., Oliveira, N. & Paiva, V.H. 2024. Seabird bycatch in European waters. Animal Conservation. doi:10.1111/acv.12948

SEO/BirdLife (López-Jiménez, N. Ed). 2021. Libro Rojo de las aves de España. SEO/BirdLife.

Tarzia, M. (compiler), Arcos, J.M., Cama, A., Cortés, V., Crawford, R., Morkūnas, J., Oppel, S., Rau Donikas, L., Tobella, C. & Yates, O. 2017. Seabird Task Force: 2014-2017. Technical report. BirdLife International.

ANNEXES

A – Species Action Plan measures

#	Action
1.1.1	Reduce predation at colonies by carnivores, by implementing eradication campaigns, fencing (where appropriate, locally) and control of human refuse. Create a regulatory framework for predation control in islands. Work on raising awareness of the problem.
1.1.2	Promote the elaboration and implementation of a EU Seabird Action Plan to reduce bycatch (Seabird PoA). Ensure adequate evaluation of impact through the whole distribution range and considering different fishing gear (observer programmes, questionnaires, etc.; see also action 1.3.4). Promote the incorporation of the most appropriate mitigation measures, ensuring an ecosystem-based & multi-fisheries approach. Implement Seabird PoA at national level and raise awareness.
1.1.3	Promote the incorporation of bycatch mitigation measures in SPA/MPA management plans.
1.1.4	Study the viability of market-based approaches (e.g. eco-labelling) to help reducing seabird bycatch.
1.1.5	Carry out risk assessment of sensitive areas to acute pollution events, especially oil spills, and develop contingency plans (pay special attention to SPA/MPAs). Work on capacity building for local authorities and organisations for support actions in case of spills.
1.1.6	Promote strict policies and surveillance to minimise acute oil spills (e.g. increasing control, higher fins).
1.1.7	Ensure surveillance of breeding colonies to avoid an upsurge of illegal human harvesting.
1.2.1	Include the eradication of rodents as part of the wider approach of colony/island restoration initiatives.
1.2.2	Increase the regulation and control of human presence in or near colonies; promote code of conduct to approach rafts.
1.2.3	Promote mitigation measures to reduce the impact of lights near colonies, especially regarding public lighting.
1.2.4	Promote ecosystem-based, sustainable policies for fishing practices, to allow fish stocks to recover. Minimise the impact of the (supported) reduction of fishing discards on seabird communities in general, and on the Balearic shearwater in particular.
1.3.1	Design and implement a monitoring scheme that enables gathering of robust estimates of demographic parameters. This should be conducted on an annual basis, and should include a set of colonies considered representative of the entire breeding population. The design should be based on scientific assessment.
1.3.2	Design and conduct exhaustive and well-coordinated censuses of the breeding population, using the most accurate methods available. Look for potential new breeding sites. The cost of this initiative is expected to be high, and should count with the support and coordination of several institutions. The initiative should be repeated at intervals of 5 years.
1.3.3	Assess the impact of bycatch (where, when, which type of gear, how much) throughout distribution range (questionnaires to fishermen, observer programmes, etc.). Put emphasis on SPA/MPAs.
1.3.4	Promote the identification of marine hotspots for the species, and other studies to better document habitat use and understanding of its behaviour at sea, as well as to keep an alternative approach for population estimates. Keep current monitoring work based on boat surveys and coastal counts (the latter particularly at key vantage sites such as Gibraltar), and promote tracking studies.
1.3.5	Assess the impact of little understood or potential threats, such as the decline in food availability (overfishing and/or human induced environmental change), background chemical pollution and marine windfarms.

1.3.6	Promote the creation of national working groups, with coordination also at international level, including interdisciplinary sub-groups for issues of particular relevance, such as seabird-fishery interactions, predator control, etc. Promote information flow and the fast dissemination of results (e.g. regular publication of work at colonies).
2.1.1	Implementation of management plans in the SPAs covering the whole of the breeding colonies. Lobby to designate as SPA the unique colony, which is not yet, protected (Punta Prima).
2.1.2	Develop ecological restoration plan for seabird islands, from an ecosystem-based approach. This should integrate actions of eradication of (introduced) terrestrial predators.
2.2.1	Promote the designation of Marine Protected Areas (SPAs and others) for the species.
2.2.2	Design and implement management plans for the MPAs (SPAs and others), and promote appropriate conservation measures at a wider scale, regarding the Balearic shearwater.

B – Country Implementation Scores

						AIS	API
#	*PS*	ES	PT	FR	UK	Average	
1.1.1	4	1,5	0	0	0	1,5	3,3
1.1.2	4	1,7	1,7	2,50	4	2,5	2,1
1.1.3	3	1,5	1,0	1,75	6	2,6	1,4
1.1.4	2	1	1,3	1,13	4	1,9	1,4
1.1.5	2	2,5	2,0	2,75	0	2,4	1,1
1.1.6	2	1,25	1,7	2,75	0	1,9	1,4
1.1.7	1	1,3	0	0	0	1,3	0,9
1.2.1	2	2,7	0	0	0	2,7	0,9
1.2.2	2	1,25	1,0	1,38	4	1,9	1,4
1.2.3	1	1,0	0,0	0,25	1	0,6	1,2
1.2.4	2	1,25	2,3	1,25	4	2,2	1,2
1.3.1	4	2,7	0	0	0	2,7	1,8
1.3.2	4	2,25	2,0	1,75	4	2,5	2,0
1.3.3	4	2	2,0	1,88	4	2,5	2,0
1.3.4	3	2,5	2,0	3,00	6	3,4	0,6
1.3.5	3	1,5	1,5	1,25	6	2,6	1,4
1.3.6	3	1,5	2,0	3,38	3	2,5	1,5
2.1.1	3	1,0	0	0	0	1,0	3,0
2.1.2	1	1,0	0	0	0	1,0	1,0
2.2.1	3	2,5	3,7	2,75	3	3,0	1,0
2.2.2	3	2	2,0	1,50	3	2,1	1,9
NIS		2,82	2,9	2,88	2,74		

Priority score (PS)	Score
1 - low	4 - fully implemented
2 - medium	3 - significant progress
3 - high	2 - some action
4 - essential	1 - little or no action
	0 - not relevant

Abbreviations
PS - Priority Score
AIS - Average Implementation Score
API - Action Priority Index

C – Country codes

ES	Spain	España
FR	France	France
PT	Portugal	Portugal
UK	United Kingdom	United Kingdom

D – Questionnaire on the Evaluation of implementation of Balearic Shearwater SAP.

Balearic Shearwater (*Puffinus mauretanicus*) International Species Action Plan (SAP):

Evaluation of implementation and way forward

This questionnaire is addressed to scientists and technicians familiar with the study and conservation of the Balearic shearwater, and is intended to evaluate the degree of implementation of the species' action plan approved in 2011, as well as to get feedback for the elaboration of a revised version.

Personal information

Name and Surname:

Country/region represented:

Contact (e-mail):

ACTIONS IN THE 2011 PLAN: DETAIL ON IMPLEMENTATION

Please provide any relevant information regarding progress in the implementation of the different actions considered in the 2011 Action Plan, from your country/regional perspective. Write below each action. In case you're not providing information for a given action, please specify if there has been no progress, or simply you're not in position to provide any details.

#	Action
1.1.1.a	Reduce predation at colonies by carnivores by implementing eradication campaigns, fencing and control of human refuse
	***Actions in your country/region*:**
1.1.1.b	Create a regulatory framework for predation control in islands

	***Actions in your country/region*:**
1.1.1.c	Work on raising awareness of the problem (of predation by carnivores)
	***Actions in your country/region*:**
1.1.2.a	Promote the elaboration and implementation of a EU Seabird Action Plan to reduce bycatch
	***Actions in your country/region*:**
1.1.2.b	Ensure adequate evaluation of impact of bycatch through the whole distribution range
	***Actions in your country/region*:**
1.1.2.c	Promote the incorporation of the most appropriate mitigation measures, ensuring an ecosystem-based & multi-fisheries approach
	***Actions in your country/region*:**
1.1.2.d	Implement Seabird PoA at national level and raise awareness among fishermen and authorities
	***Actions in your country/region*:**
1.1.3	Promote the incorporation of bycatch mitigation measures in SPA/MPA management plans
	***Actions in your country/region*:**
1.1.4	Study the viability of market-based approaches (e.g. eco-labelling) to help reducing seabird bycatch
	***Actions in your country/region*:**
1.1.5.a	Carry out risk assessment of sensitive areas to acute pollution events, especially oil spills, and develop contingency plans

	***Actions in your country/region*:**
1.1.5.b	Work on capacity building for local authorities and organizations for support actions in case of spills
	***Actions in your country/region*:**
1.1.6	Promote strict policies and surveillance to minimise acute oil spills
	***Actions in your country/region*:**
1.1.7	Ensure surveillance of breeding colonies to avoid an upsurge of illegal human harvesting
	***Actions in your country/region*:**
1.2.1	Include the eradication of rodents as part of the wider approach of colony/island restoration initiatives
	***Actions in your country/region*:**
1.2.2.a	Increase the regulation and control of human presence in or near colonies
	***Actions in your country/region*:**
1.2.2.b	Promote code of conduct to approach rafts
	***Actions in your country/region*:**
1.2.3	Promote mitigation measures to reduce the impact of lights near colonies
	***Actions in your country/region*:**
1.2.4.a	Promote ecosystem-based, sustainable policies for fishing practices, to allow fish stocks to recover

	***Actions in your country/region*:**
1.2.4.b	Minimize the impact of the (supported) reduction of fishing discards on seabird communities
	***Actions in your country/region*:**
1.3.1	Design and implement a monitoring scheme that enables gathering of robust estimates of demographic parameters
	***Actions in your country/region*:**
1.3.2.a	Design and conduct exhaustive and well coordinated censuses of the breeding population, using the most accurate methods available
	***Actions in your country/region*:**
1.3.2.b	Look for potential new breeding sites
	***Actions in your country/region*:**
1.3.3	Assess the impact of bycatch, with emphasis on SPA/MPAs
	***Actions in your country/region*:**
1.3.4	Promote the identification of marine hotspots for the species, and other studies to better document habitat use and understanding of its behaviour at sea.
	***Actions in your country/region*:**
1.3.5	Assess the impact of little understood or potential threats (e.g. food depletion, background chemical pollution, marine windfarms)

	***Actions in your country/region*:**
1.3.6.a	Promote the creation of national working groups, with coordination also at international level, including sub-groups for issues of particular relevance (such as seabird-fishery interactions, predator control, etc.).
	***Actions in your country/region*:**
1.3.6.b	Promote information flow and the fast dissemination of results (e.g. regular publication of work at colonies).
	***Actions in your country/region*:**
2.1.1.a	Implementation of management plans in the SPAs covering the whole of the breeding colonies
	***Actions in your country/region*:**
2.1.1.b	Lobby to designate as SPA the unique colony which is not yet protected (Punta Prima).
	***Actions in your country/region*:**
2.1.2	Develop ecological restoration plan for seabird islands
	***Actions in your country/region*:**
2.2.1	Promote the designation of Marine Protected Areas (SPAs and others) for the species
	***Actions in your country/region*:**
2.2.2.a	Design and implement management plans for the MPAs
	***Actions in your country/region*:**

2.2.2.b	Promote appropriate conservation measures at a wider scale
	***Actions in your country/region*:**

#	Action/Result	*PS*	Implementation Score (your country/region)	Observations
1.1.1	Reduce predation at colonies by carnivores	4		
1.1.2	Promote bycatch action plan	4		
1.1.3	Bycatch mitigation in MPA management plans	3		
1.1.4	Market-based approaches to minimise bycatch	2		
1.1.5	Assessment and response to pil spills	2		
1.1.6	Policies and surveillance to minimise acute oil spills	2		

1.1.7	Ensure surveillance to prevent upsurge of harvesting	1		
1.2.1	Rodent eradication as part of island restoration	2		
1.2.2	Regulation of human disturbance and best practice guidance	2		
1.2.3	Promote light pollution mitigation	1		
1.2.4	Promote ecosystem-based policies for fishing practices	2		
1.3.1	Colony monitoring programmes	4		
1.3.2	Population census	4		
1.3.3	Assess the impact of bycatch	4		
1.3.4	Promote research at sea	3		
1.3.5	Asses little understood or	3		

	potential threats			
1.3.6	Promote the creation of working groups	3		
2.1.1	Implement management plans in colony sites	3		
2.1.2	Develop ecological restoration plan for seabird islands	1		
2.2.1	Promote the designation of MPAs for the species	3		
2.2.2	Promote conservation measures at sea (MPA and beyond)	3		

ADDITIONAL INFORMATION

Please provide any relevant additional information regarding the following points.

Available information regarding your countries and related with the SAP measures:

New information on the species:

Identify new threats or other threats that were not identified to occur in your country when preparing the SAP, but are present nowadays:

Identify/propose actions that were not considered in the previous SAP: