Natura 2000 Seminar for the Macaronesian Region

8 – 10 November 2023

Angra do Heroísmo, Portugal

Background Document 2nd Macaronesian Biogeographical seminar

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Event: For more information on this seminar, see the Natura 2000 Communication Wiki:

Macaronesian region (biogeoprocess.net)

Contents

1. Introduction to the Natura 2000 biogeographical process and the Natura 2000 seminars

The Natura 2000 biogeographical process was launched in 2011 by the European Commission. The objective of the process is to promote knowledge exchange, networking, and cooperation on Natura 2000-related issues at biogeographical region level. At the heart of the process lie the Natura 2000 seminars, coupled with a networking programme consisting of workshops, events, or meetings relevant to the objective of the process as well as by other related actions.

On the assumption that Member States in a given biogeographical region are facing similar challenges in the management of Natura 2000 sites, habitats and species, the Natura 2000 seminars are intended to stimulate transnational exchanges and promote coherent management of Natura 2000 at the region level.

As the responsibility for implementing Natura 2000 lies with the Member States, the seminars create an opportunity for the competent authorities to exchange information and coordinate conservation actions as well as discuss and involve other key stakeholders and expert networks, including NGOs.

1.1. Biodiversity Strategy 2030

The strategic orientation of the process is evolving over time. On 20 May 2020 the European Commission adopted the EU Biodiversity Strategy for 2030 "Bringing nature back into our lives" [1]. It is a comprehensive, ambitious and long-term plan for protecting nature and reversing the degradation of the ecosystems services it provides. Among the high number of the Strategy targets to be achieved by 2030, the two most relevant for the biogeographical process are:

- **Protected areas**: protecting 30% of EU land and 30% of EU marine areas, designating part of them as 'strictly protected', and having clear conservation objectives and measures in place for all protected areas
- **Conservation status**: taking measures for halting any further deterioration of protected species and habitats, and for improving the status of at least 30% of all species and habitats not currently in favourable condition.

These targets are not legally binding and do not replace the legal obligations on Member States under the Birds[2] and Habitats[3] Directives. Rather, they represent a political agreement for action to drive their delivery through a new and over-arching context for the Natura 2000 process.

1.2. Pledge and review

As part of the initiative to meet the objectives set out within the Biodiversity Strategy 2030, the European Commission has requested that Member States make pledges to show how they will meet

[1] https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1590574123338&uri=CELEX:52020DC0380

[2] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32009L0147

[3] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A01992L0043-20130701

the protected area and conservation status targets. These should follow the format and contents agreed[4,5] with the Commission and the European Environment Agency (EEA), using the Excel file template developed by the EEA and the European Topic Centre for Biodiversity (ETC-BD) for pledge submission to the EEA's Reportnet platform[6,7]. Commission Guidance documents have been produced that provide further clarifications for each of the targets[8,9]. Pledges will be peer reviewed by the Commission, the EEA, and the other Member States. A short summary of the pledges received so far is included in chapter 2. The Natura 2000 seminar programme is expected to be a central element of the review process for the pledges (see below).

1.3. Biogeographical Process and Natura 2000 seminars

To provide additional support to Member States for the pledge and review process, the scope of the Natura 2000 biogeographical process has been expanded. In addition to helping Member States to implement their legal obligations under the EU Birds and Habitats Directives, the process will also help them to implement the targets under the EU Biodiversity Strategy for 2030.

Natura 2000 seminars will therefore support key players in:

- achieving a common understanding on processes and objectives of the targets under the Biodiversity Strategy,
- presenting and discussing national pledges related to these targets for a peer review by the Commission, the EEA and the other Member States,
- achieving a common understanding on relevant topics, particularly in relation to Natura 2000, to improve and standardise what is done at national level in terms of implementation and management, financing, and monitoring and reporting, to ensure coherence and effectiveness of implementation at supranational levels,
- sharing good practices in regulation, supervision, conservation, restoration with a view to promoting and upscaling them, and
- facilitating setting up joint projects to support delivery of these objectives, including on management/restoration.

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[4] Format for the protected areas target: https://circabc.europa.eu/ui/group/6f30d1d2-d6f2-4c6e-a4dc-1feb66201929/library/55ebe353-e369-49ab-92b1-4ddab67424b0/details
Format for the status improvement target: https://circabc.europa.eu/ui/group/6f30d1d2-d6f2-4c6e-a4dc-1feb66201929/library/395c7cde-e2c4-40b0-9afc-638a214d6b39/details

[5] The reference page on the Central Data Repository which includes all supporting documents and guidelines https://cdr.eionet.europa.eu/help/pledge

[6] https://reportnet.europa.eu/public/dataflow/705

[7] https://reportnet.europa.eu/public/dataflow/703

[8] Commission guidance on the protected areas targets: https://ec.europa.eu/environment/publications/criteria-and-guidance-protected-areas-designations-staff-working-document_en

[9] Commission guidance on the status improvement targets: https://circabc.europa.eu/ui/group/6f30d1d2-d6f2-4c6e-a4dc-1feb66201929/library/bd8a2cd4-f774-4574-bd88-0b1fa012b725/details

1.4. Biogeographical process in the marine regions

The EU Biodiversity Strategy applies equally to the terrestrial and marine environments. A separate contract has been put in place to provide better, more focused, support to Member States working in marine regions[10]. The two biogeographical processes are complementary but coordinate with each other, which is essential as the 30% conservation status improvement target does not distinguish between habitats and species in marine and terrestrial regions. There is a strong level of liaison between the two projects, including a joint communications platform and shared wiki[11].

2. The Macaronesian region

The terrestrial Macaronesian region (figure 1, lighter yellow) makes up only 0,3 % of the EU territory and only includes territories of two Member States: Portugal and Spain. It consists of the Azores and Madeira in Portugal and the Canary Islands in Spain. Nevertheless, the Macaronesian region hosts no less than 19 % of the habitat types in Annex I of the Habitats Directive and 28 % of the plants in Annex II. The surrounding seas are also abundant in wildlife. Many marine animals, from whales to seabirds, seek shelter and food in the deep inshore waters and nutrient rich upwellings from the sea floor.

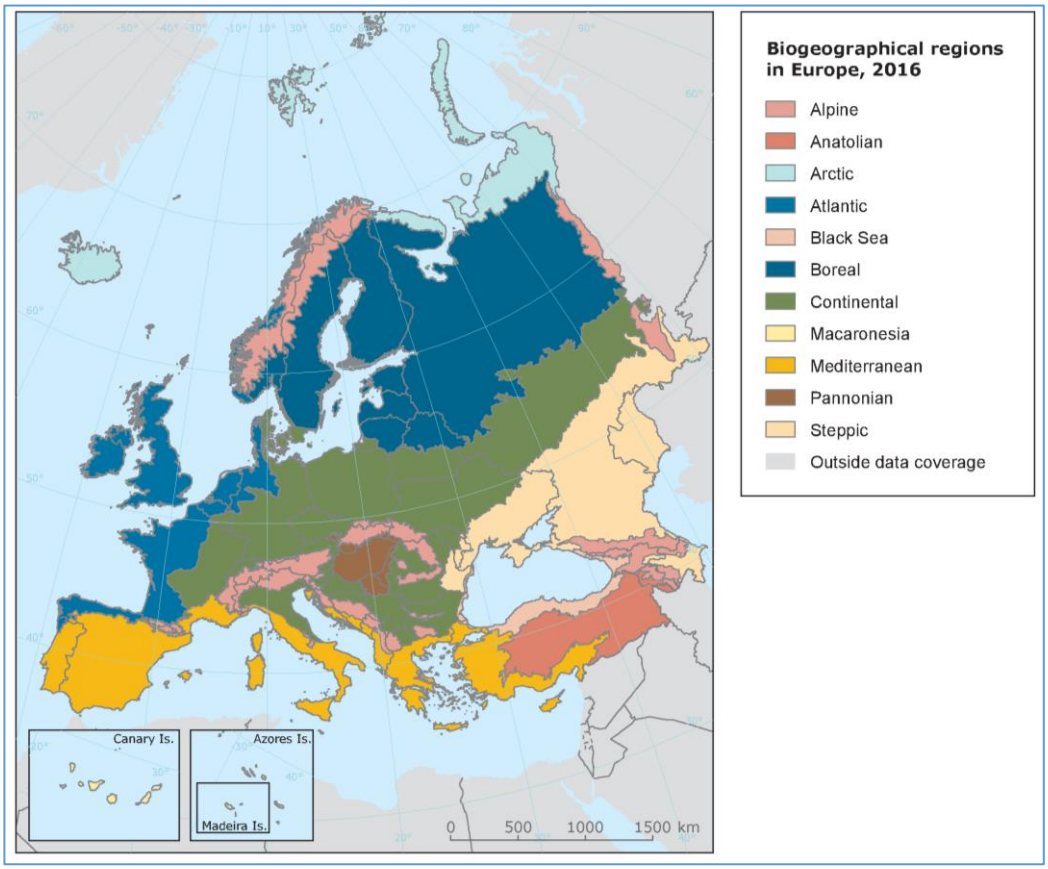

Figure 1 - Biogeographical regions in Europe (source: EEA[12], last modified October 2017)

[10] Support for the Natura 2000 Biogeographical Process in the Marine Regions ENV/2022/OP/0006

[11] https://biogeoprocess.net/

[12] https://www.eea.europa.eu/data-and-maps/figures/biogeographical-regions-in-europe-2

2.1. The biogeographical process in the Macaronesian region

The first Natura 2000 seminar for the Macaronesian region was held in Funchal, Madeira, Portugal, in September 2018. Discussions in this seminar were structured around two major topics:

- Favourable conservation status of species and habitats
- Ecological coherence of the Natura 2000 Protected Areas Network

For the first topic, the main goals were: (1) To establish a harmonized classification of Annex I Habitat Types (AIHT) across the whole Macaronesian Region, including ecological and dynamic variables which can be used in the evaluation of their conservation status; (2) To establish a harmonized definition and classification of Favorable Conservation Status for species and AIHT, and of its assessment procedures; (3) Coordinated maintenance and follow-up of Favorable Conservation Status for species and AIHT.

For the second topic, the main objectives were: (4) To define criteria and procedures to assess whether the current structure of the Natura 2000 Network ensures a Favorable Conservation Status for species and AIHT; (5) To improve ecological coherence within the Natura 2000 Network; (6) To establish site-specific objectives and conservation measures and tools for Natura 2000 sites; (7) To define methodologies for assessing impacts on Natura 2000, locally and at site level; (8) To establish indicators and criteria to assess the functionality of the Natura 2000 Network.

These two topics resulted in two working groups, with the aim of further developing these topics: Maintenance of the Natura 2000 Network Ecological Coherence in the Macaronesian Region (MAC Working Group #1) and Development of a Pilot Action Plan for a Habitat Type of Community Interest in the Macaronesian Region (MAC Working Group #2) (See Annex 1.).

2.2. Current conservation status

An overview of the conservation status of habitats and species in the Atlantic region is provided by Member States reporting under Article 17 of the Habitats Directive, for the period 2013-18. This provides a baseline against which progress towards the conservation status targets can be assessed.

2.2.1. Habitats

Figure 2 shows the combined results of habitat assessments for Member State reporting in the Macaronesian region 2013-18[13]. Each habitat is assessed as favourable (FV), inadequate (U1), bad (U2) or unknown (XX). In addition, a trend value is reported for each assessment, declining (D), increasing (I), stable (S), or unknown (Unk).

[13] Article17_2020_habitatsEUassessment https://www.eea.europa.eu/data-and-maps/data/article-17-database-habitats-directive-92-43-eec-2/article-17-2020-dataset/article-17-2020-data-csv-format/at_download/file (accessed 25-08-2023)

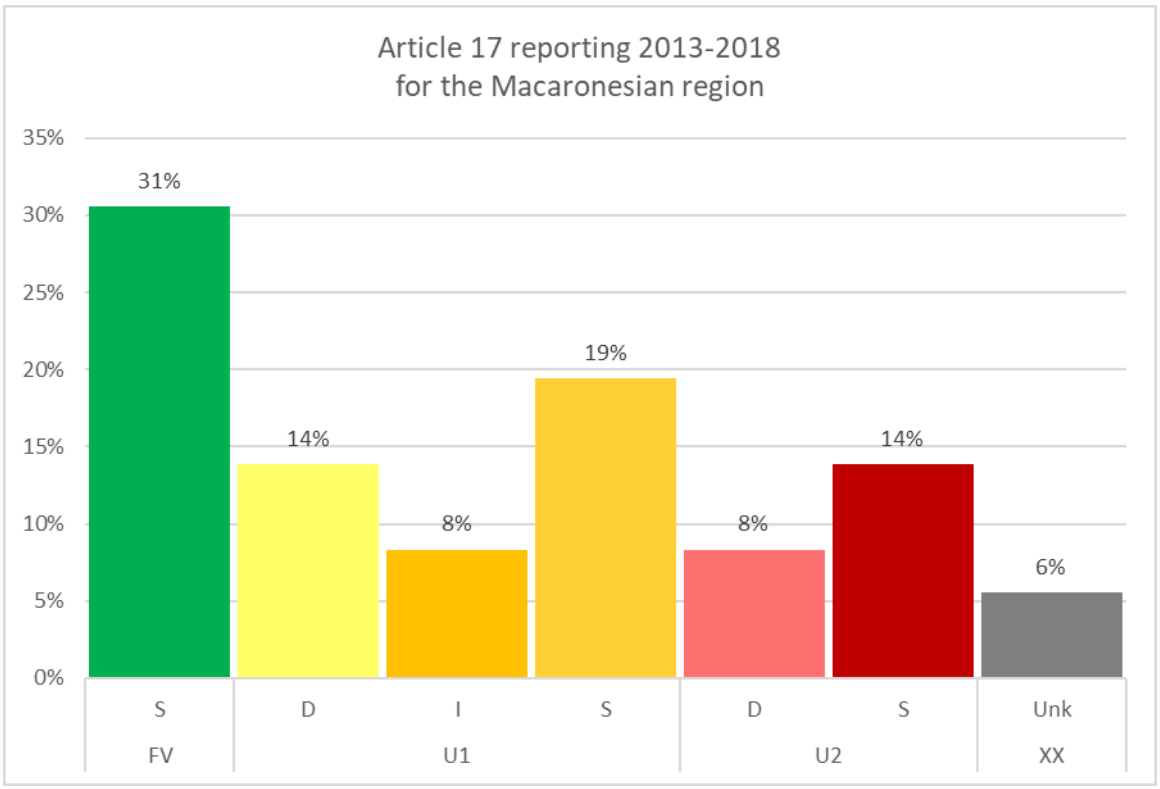

Figure 2 - Article 17 reporting for the Macaronesian region: terrestrial habitat assessments

2.2.2. Species

Figure 3 presents the combined results of species assessments for Member State reporting in the Macaronesian region for the period 2013-18[14]. Each habitat is assessed as favourable (FV), inadequate (U1), bad (U2) or unknown (XX). In addition, a trend value is reported for each assessment, declining (D), increasing (I), stable (S), or unknown (Unk).

For the reporting on birds under Article 12 of the Birds Directive, both Spain and Portugal provided data on population size and trends of bird populations for their Macaronesian island parts. However, there is no population status assessment for birds at the entire Biogeographical region level of Macaronesia.

[14] Article17_2020_speciesEUassessment https://www.eea.europa.eu/data-and-maps/data/article-17-database-habitats-directive-92-43-eec-2/article-17-2020-dataset/article-17-2020-data-csv-format/at_download/file (accessed 25-08-2023)

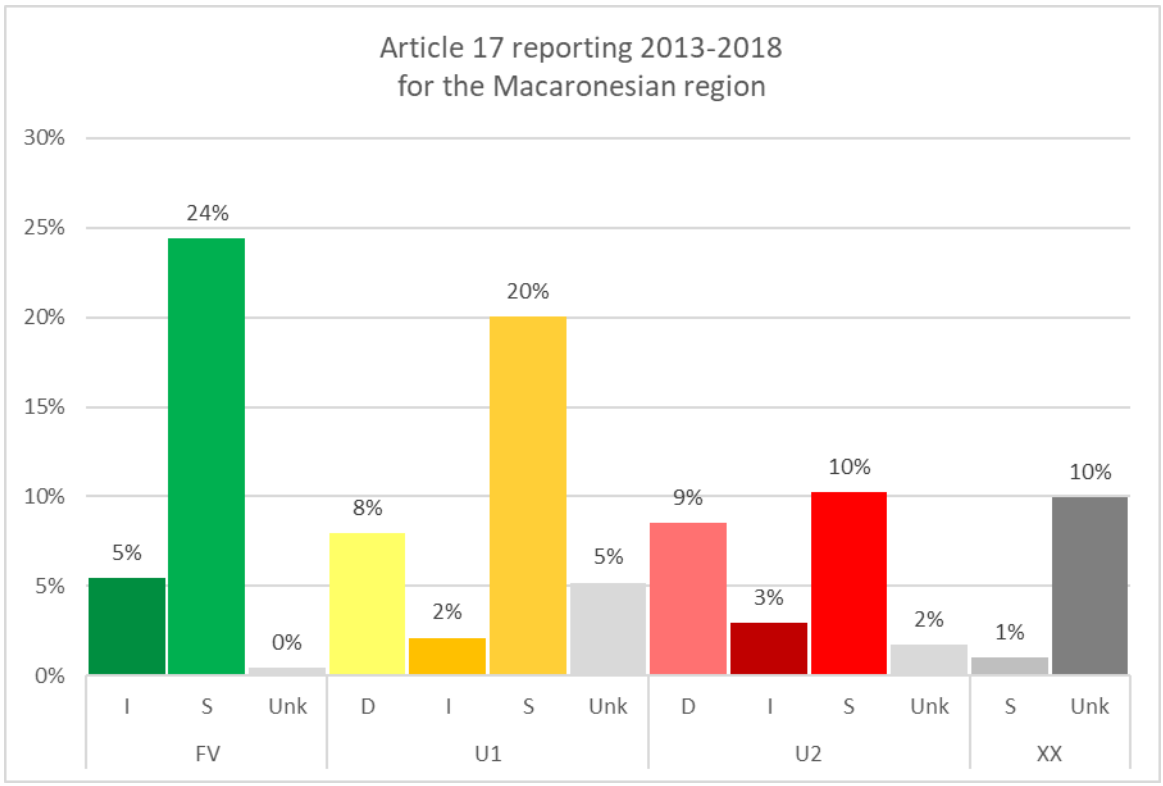

Figure 3 - Article 17 reporting for the Macaronesian region: terrestrial species assessments

2.3. Current Protected Area coverage

The most recent analysis of terrestrial protected area coverage at biogeographical regions level was conducted by the European Environment Agency based on the data reported by the end of 2020 for Natura 2000 sites and in 2021 for nationally designated areas (figure 4) [15]. It combines data for Natura 2000 sites with those for nationally designated areas reported by Member States and therefore provides an overview of the total area that is designated as protected, accounting for overlaps between different designations. Figure 4 shows both the absolute area in square kilometres and the percentage of the total area of each biogeographical region covered by protected areas, which can be compared against the 30 % protected areas target of the EU Biodiversity Strategy.

[15] https://tableau-public.discomap.eea.europa.eu/views/PAperbiogeographicalregion/Story1?%3Adisplay_count=n&%3Aembed=y&%3AisGuestRedirectFromVizportal=y&%3Aorigin=viz_share_link&%3AshowAppBanner=false&%3AshowVizHome=n (accessed 11-07-2023)

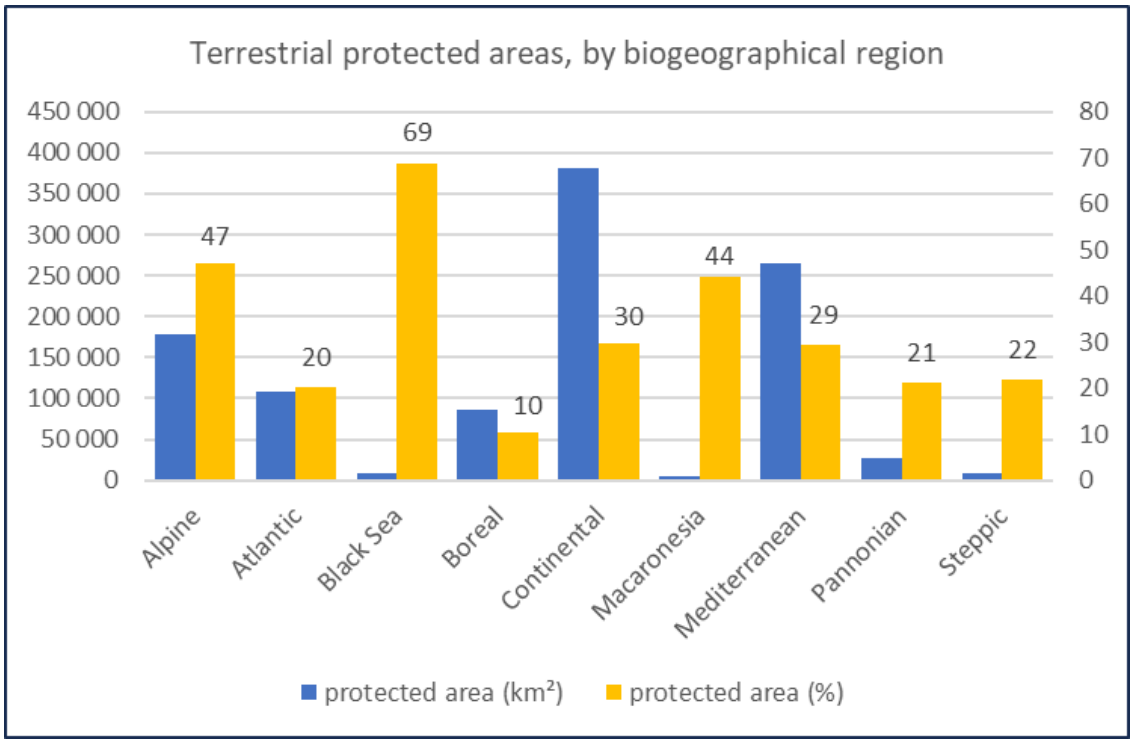

Figure 4 - Terrestrial protected areas summarised by biogeographical region

The EEA statistics also show the total area under some protection regime in each Member State, accounting for the overlaps between different designations (figures 5 and 6)[16]. However, it should be noted that these statistics were prepared before the submission of protected area pledges by Member States and, therefore, further consideration will be required to reflect the approaches taken by Member States with regards to confirming that all nationally designated areas should be counted towards the 30 % target.

[16] Article17_2020_speciesEUassessment https://www.eea.europa.eu/data-and-maps/data/article-17-database-habitats-directive-92-43-eec-2/article-17-2020-dataset/article-17-2020-data-csv-format/at_download/file (accessed 25-08-2023)

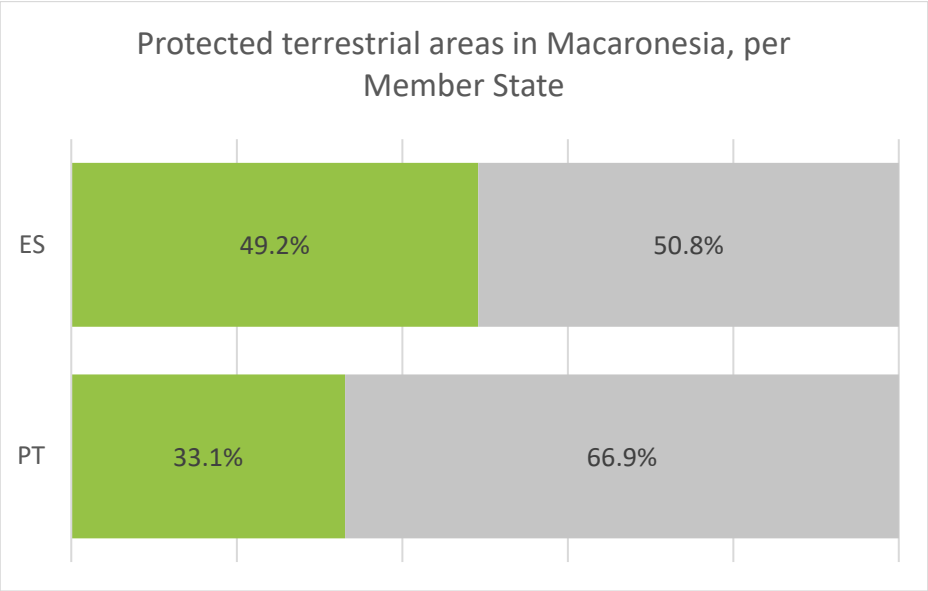

Figure 5 - Total terrestrial protected areas coverage in the Macaronesian region by Member State

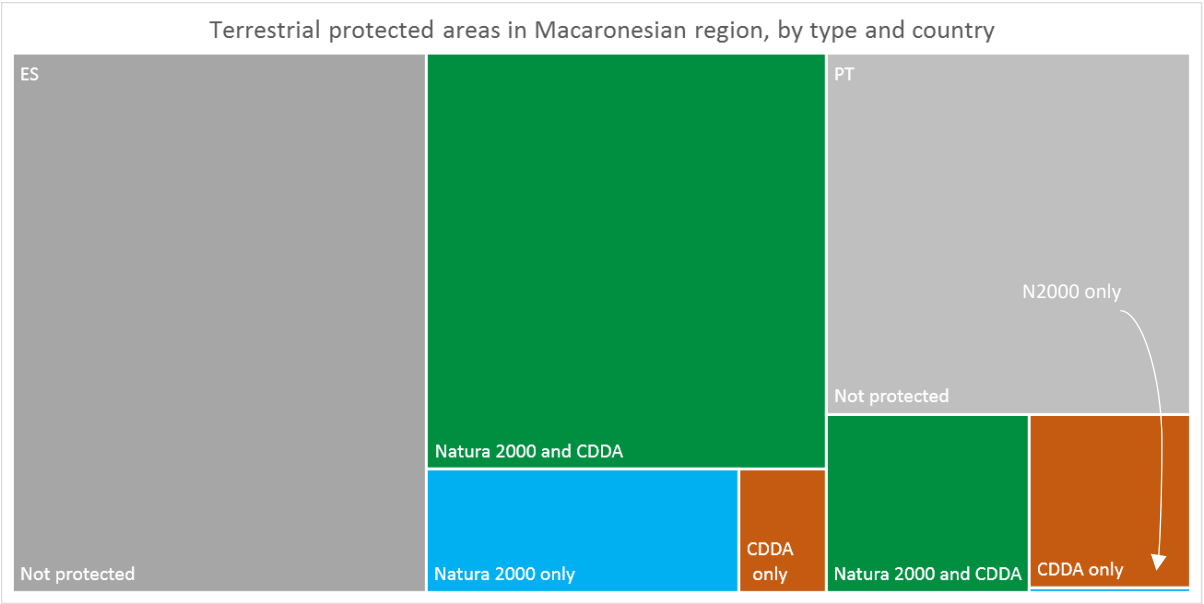

Figure 6 - Terrestrial protected areas in the Macaronesian region, per Member State and per type

Additionally, it is also possible to see the contribution of each Member State towards the protected areas network in the region (figure 7).

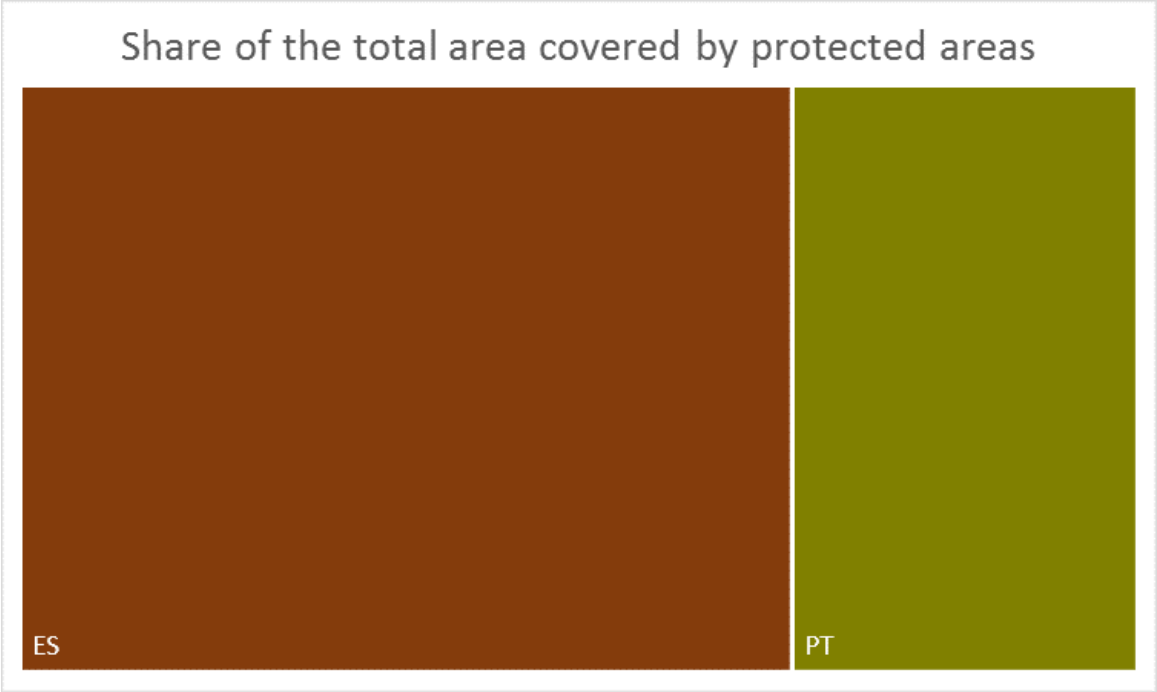

Figure 7 - Share of the total area covered by protected areas in the Macaronesian region

2.4. Status of pledges in the Macaronesian region

For the Macaronesian region, only Spain (ES) submitted pledges so far. The country submitted both protected area pledges and status improvement pledges, although only the latter document is publicly available.[17]. Portugal has not yet submitted any pledges.

Spain has pledged a large number of species and habitats in comparison to most other Member States that have submitted their pledges. The EEA is still verifying some of the submissions on technical errors or duplications. During the seminar the preliminary results of the analysis of the pledges will be presented.

2.4.1. Preliminary analysis of the protected area pledge

In terms of protected areas pledges, a preliminary analysis was undertaken to look at the question of the current baseline. This was done by reviewing the responses of the countries regarding nationally designated areas which should be counted towards the 30% target. This will be further discussed during the seminar and it is hoped that this will help understand better the approaches taken by the countries in this regard.

Furthermore, a preliminary analysis of the responses regarding future protected areas was undertaken. While it was possible to see some trends, a comprehensive analysis was not possible as this can only be done for a given biogeographical region once the pledges from all countries in that region have been received. Preliminary results will be presented at the seminar.

2.4.2. Preliminary analysis of the conservation status improvements pledge

The following reviews were undertaken. More detailed information will be presented during the seminar.

For the Member State level:

- For each Member State the overall pledge is analysed on its completeness e.g. whether all Habitats Directive species and habitats in unfavourable status or birds species in non-secure status are included in one of the categories of the pledge (non-deterioration or improvement).
- whether the 30 % target for improvement has been reached at the Member State level

Macaronesian region part of the Member State:

- which species and habitats groups have been pledged?
- what is the division between habitats and species in the improvement pledge?
- What is the conservation status of species and habitats under the Habitats Directive pledged, based on the latest Article 17 reporting?

[17] https://reportnet.europa.eu/public/dataflow/703 and https://reportnet.europa.eu/public/dataflow/705

3. Themes selected for the fourth Natura 2000 seminar for the Macaronesian region

In addition to discussion of the progress with the pledge and review process, the second Natura 2000 seminar for the Macaronesian region will have two other programme elements: one focused on the work done by the two working groups established during previous seminars (e.g. Macaronesian seminar and Mediterranean seminar), allowing for all participants to find out about the work carried out since then, and to further contribute to it; a second one focusing on four themes that are of common concern across the Macaronesian region and currently relevant for attaining the targets set within the Biodiversity Strategy 2030.

The working groups are:

- Maintaining ecological coherence of the Natura 2000 network in the Macaronesian region
- Pilot action plan for a habitat type of community interest (Laurel forest type H9360)

(see Annex 1 for description of history of the working groups and actions taken)

Four seminar themes were selected following discussion between the seminar steering group and the European Commission:

- Theme 1: Ecological restoration of degraded areas
- Theme 2: Favourable Reference Values for habitat types
- Theme 3: Invasive species control
- Theme 4: Conservation measures for fauna species: lessons from the past and ideas for the future

The following sections provide background information on each theme, along with an overview of the objectives for seminar discussions.

3.1. Theme 1: Ecological restoration of degraded areas

3.1.1. Context

According to the EU Biodiversity Strategy for 2030, Member States are asked to make pledges showing how they will meet the protected area and conservation status targets of that strategy.

Moreover, the recently proposed EU Nature Restoration Law (June 2022) requests action to restore at least 20% of degraded ecosystems by 2030. If adopted, the law will have legally binding implications for all EU Member States and conservation organisations. One important task for all Member States, to be done within two years following the adoption of the law, would be to prepare nature restoration plans.

The discussions of the Commission proposal in the European Parliament and in the Council have led to several adjustments and amendments of the original text. A formal trialogue is going on between the Parliament, the Council and the Commission with a view to achieving a compromise text. It is anticipated that the revised legal text could still be adopted under the Spanish presidency in the second half of 2023. Once the law enters into force, implementing it will no doubt require significant additional

resources for strategic planning and on-the-ground implementation of restoration and management measures, both in financial and human resource terms.

Ecological restoration of degraded areas is needed so that Member States can meet the protected area and conservation status targets set out in the Biodiversity Strategy 2030. Restoration is also a pivotal component of other key targets: maintaining and improving the conservation status of habitats and species within the Natura 2000 network; promoting the interconnectivity among natural and semi-natural areas; and for re-establishing long-lost connecting corridors between natural areas. Furthermore, restoration efforts contribute to improving native habitats and enabling the recovery of endangered species, thereby enhancing the resilience of ecosystems to environmental changes.

Macaronesia hosts a wealth of endemic animal and plant species which face increasing threats from habitat degradation, invasive species, and climate change. As islands are particularly vulnerable to global environmental changes, ecological restoration efforts are crucial for ensuring the long-term survival of Macaronesia's unique flora and fauna, and the sustainability of these unique and fragile island ecosystems in the face of current climate change projections and events such as the wild fires that recently occurred on Tenerife.

3.1.2. Objectives of the thematic session

Considering the above, the objectives of this thematic session are to discuss and reach a common understanding on the following questions:

- How to address large-scale restoration when most of the land has a fragmented ownership with many small-scale private properties?
- Are there any specificities in the way that restoration and management is being organised that can trigger a more effective and more successful planning process and implementation measures on the ground?
- What is needed to scale-up restoration and management efforts? How could we promote any identified best-practices in terms of planning and implementation, to help achieve the ambitious Biodiversity Strategy targets for protected areas and status improvement?

3.1.3. Common issues, approaches and challenges

Cross-sector cooperation and scale issues

On the European, national and regional levels different sectoral policies are being developed and implemented. Horizontal and cross-sector integration of these sectoral policies is needed. So is vertical integration, understood as a translation from sectoral policies into integrated management plans at regional or site level (e.g. the management plan of a Natura 2000 site). For example, Sundseth[18] describes several case studies on creating synergies between the Water Framework Directive, the

[18] Sundseth, K. (2015) Working towards creating synergies between the WFD, MSFD and the Habitats and Birds Directives: selected case studies. Ecosystems LTD /N2K GROUP – October 2015.

Marine Strategy Framework Directive and the Habitats and Birds Directives, demonstrating how various elements of the Directives have been coordinated in practice, either at the level of River Basins or across the different authorities responsible for their respective implementation. Every country operates in a different way depending on their administrative set-ups, and their geographical, environmental and socio-economic contexts. Clearly one therefore cannot simply replicate what was done in one country and expect it to work in another.[16]

The recent proposal for a Nature Restoration Law, although largely in line with existing legislation, may also allow for further integration of measures to improve the conservation status of species and habitats.

Conflicting interests and legal obstacles

There can be conflicting interests between the current land use and restoration efforts. In such contexts, developing stakeholder engagement may help identify and prevent or solve conflicts. Alternatively, consolidating areas can benefit more species and habitats. At the same time, expanding areas through a buffer zone contributes to the Protected Area targets, provided that the additional buffer zone has a legal status (not necessarily as Natura 2000) and has aims for conservation. Larger areas with more system dynamics are more robust and allow for co-existence of species and habitats that would be excluded in smaller areas. However, an approach is also needed here that allows stakeholders to take on a new role, e.g. farmers that become active in conservation and find a viable business model in combining production and conservation functions.

Upscaling of measures, increased learning

The clear ambition to improve the conservation status requires an upscaling and learning process based on past experiences. Much information, but also expertise and knowledge, can be found in specific LIFE projects. The current LIFE-IP Projects also bring together the experts and authorities, thus bridging the gap between policy and practice.

3.1.4. Cases and best practices – additional references

Several LIFE projects of which the objectives were restoration and management of certain habitats, have been carried out in the Macaronesian region. Some of these projects aimed directly at restoring specific areas or habitat types. These included laurisilva in Gran Canaria (LIFE93 NAT/E/011300) and in La Gomera (LIFE13 NAT/ES/000240) and dune ecosystems (LIFE19 CCA/PT/001178) as well as others that encompassed restoring the habitat of plant species (e.g. the Azorean endemics *Azorina vidalii* and *Lotus azoricus* in LIFE17 NAT/PT/000510) or animal species (e.g. the endemic Azorean ironclad beetle *Tarphius floresensis*, Laurocho *Pseudanchomenus aptinoides* and ground beetle *Trechus terrabravensis* in LIFE18 NAT/PT/000864). In some projects, e.g. LIFE17 IPE/PT/000010, restoration of degraded areas was part of a wider effort for effective management of Natura 2000 sites, thus contributing for the conservation of the species and habitats protected by the Habitats and Bird Directives that underlie their designation.

Table 1: Examples of LIFE projects relevant for ecological restoration in the Macaronesian region

Project Title	Reference
Madeira Nature Park	LIFE92 NAT/P/014200
Recovery of the laurisilva in Gran Canaria	LIFE93 NAT/E/011300
Project of physical and ecological recovery of "Playa del Matorral"	LIFE97 NAT/E/004157
Restoration of Juniperus spp. forests on Tenerife	LIFE04 NAT/ES/000064
Ecological Restoration and Conservation of Praia da Vitória Coastal Wet Green Infrastructure	LIFE12 BIO/PT/000110
Ecological restoration Garajonay National Park and its surroundings, after the great fire of 2012	LIFE13 NAT/ES/000240
Restore desertified areas with an innovative tree growing method across the Mediterranean border to increase resilience.	LIFE15 CCA/ES/000125
Active protection and integrated management of Natura 2000 Network in Azores	LIFE17 IPE/PT/000010
LIFE VIDALIA Valorization and Innovation for *Azorina* and *Lotus* in the Azorean Islands	LIFE17 NAT/PT/000510
LIFE BEETLES Bringing Environmental and Ecological Threats Lower to Endangered Species	LIFE18 NAT/PT/000864
Reforestation & Climate Change Mitigation: tests, evaluation and transfer of innovative methods based on fog collection	LIFE19 CCM/ES/001199
LIFE DUNAS	LIFE19 CCA/PT/001178
Integrated strategy for sustainable management of insular habitats in Natura 2000 islands of the Atlantic Ocean	LIFE20 NAT/ES/001007

Useful websites and links:

https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-law_en

https://www.cbd.int/restoration/

3.2. Theme 2: Setting Favourable Reference Values for habitat types

3.2.1. Context

Favourable Reference Values (FRVs) are quantifiable indicators established for establishing what is the favourable conservation status of species and habitats. They provide a baseline for defining conservation goals and allow tracking of whether and how quickly habitats are moving towards this desired status. As such they also inform decisions about conservation priorities, resource allocation, and adaptive management strategies.

Defining a set of FRV for Macaronesian Natura 2000 habitat types is paramount to ensure that conservation efforts across the region—the Canary Islands, Madeira and the Azores—are harmonised and aligned with the specific needs of Macaronesian ecosystems. FRV should be applied to habitats occurring in more than one archipelago so as to ensure a coherent evaluation across islands and Member States within the Macaronesian region, as well as to endemic habitats that occur in just one archipelago or even on a single island.

This theme will consider the establishment of FRV, the methods used to develop these values, including case study examples, and their use in setting conservation objectives.

Conservation status is a key concept in European nature conservation laws and policy because the aim of the Habitats Directive is to restore or maintain a favourable conservation status (FCS) for all species and habitats included in its Annexes. FRV are not directly mentioned in the legal text of the Habitats Directive but they are a tool to deal with the consideration of long-term viability of a species or habitat in their natural range including ecological variations. FRV are one element among others in assessing the conservation status of a habitat or species and help to determine the distance to favourable conservation status.

However, reporting under Article 17 has shown that FRV are still poorly developed and often inconsistently applied across Member States. For example, a study of how Member States set FRV [19] showed that:

- Methodologies to determine FRVs are often undocumented.
- FRV were sometimes not explicitly defined.
- Expert opinion was frequently applied in considering and weighting FRV factors.
- The use of operators (>, >>, ≈) was not harmonised.
- Feasibility considerations (technical, social and financial aspects) had often not been used in setting FRV.

This situation could lead to very different interpretations as to the overall goal to be achieved under the nature directives. Until now, the FRV used in the Article 17 reporting was a concept applied at the level of a biogeographical region within a Member State. However, for some species, it may be more appropriate to set reference values only at the geographical scale of a biogeographical region or even larger scale. In the new biogeographical process (Natura 2000 seminars), Member State authorities have raised the need for streamlining the concept since many of them consider the setting of FRVs to be a priority issue for transnational cooperation. Considerable effort has been undertaken by Spain to further clarify the FRV through the organisation of targeted workshops in the frame of the Mediterranean Biogeographical Process.

[19] R. J. Bijlsma, E. Agrillo, F. Attorre, L. Boitani, A. Brunner, P. Evans, et al. (2016). *Defining and applying the concept of Favourable Reference Values.* Draft report.

An ad-hoc group under the Commission's Expert Group on Reporting under the Nature Directives was formed with the aim to improve the guidance related to the setting and reporting of favourable reference values for nature reporting, and contribute to further harmonise approaches between Member States.

Moreover, the EC recently commissioned a study on "Defining and applying the concept of favourable reference values for species and habitats under the EU Birds and Habitats Directives" carried out by a broad consortium led by Wageningen Environmental Research.[20] The report presents a common stepwise methodology for setting favourable reference values in line with the Explanatory Notes and Guidelines for reporting under Article 17 of the Habitats Directive for the period 2013–2018.[21]

3.2.2. Objectives of the thematic session

The general goal of this thematic session is to understand how the existing methods for setting FRVs for Macaronesian habitats could be adjusted to reflect the peculiarities of an island context, and its specific objectives are to discuss and reach conclusions on the following questions:

- How can favourable reference values be adapted to encompass the habitat differences specific to each of the three Macaronesian archipelagos?
- How can site constraints to ecological succession be taken into account when setting FRVs and methodologies for their use?

[20] https://edepot.wur.nl/469035

[21] http://cdr.eionet.europa.eu/help/habitats_art17

3.2.3. Setting of favourable reference values

This section briefly presents some of the material from the report mentioned above without exploring the methodologies or complexities in detail. A stepwise approach for setting FRV is recommended and starts by selecting an appropriate spatial scale and historical perspective for the species or habitat type (Figure 8). This is necessary to understand how historical processes and major impacts shaped current ranges, areas and numbers and, based on this, what can be considered as ecologically and technically feasible. Feasibility considerations should include irreversibility of large scale developments e.g. major infrastructure and urban development. Socio-economic considerations such as availability of funding should be left out, but are relevant when planning for operational conservation targets and milestones.

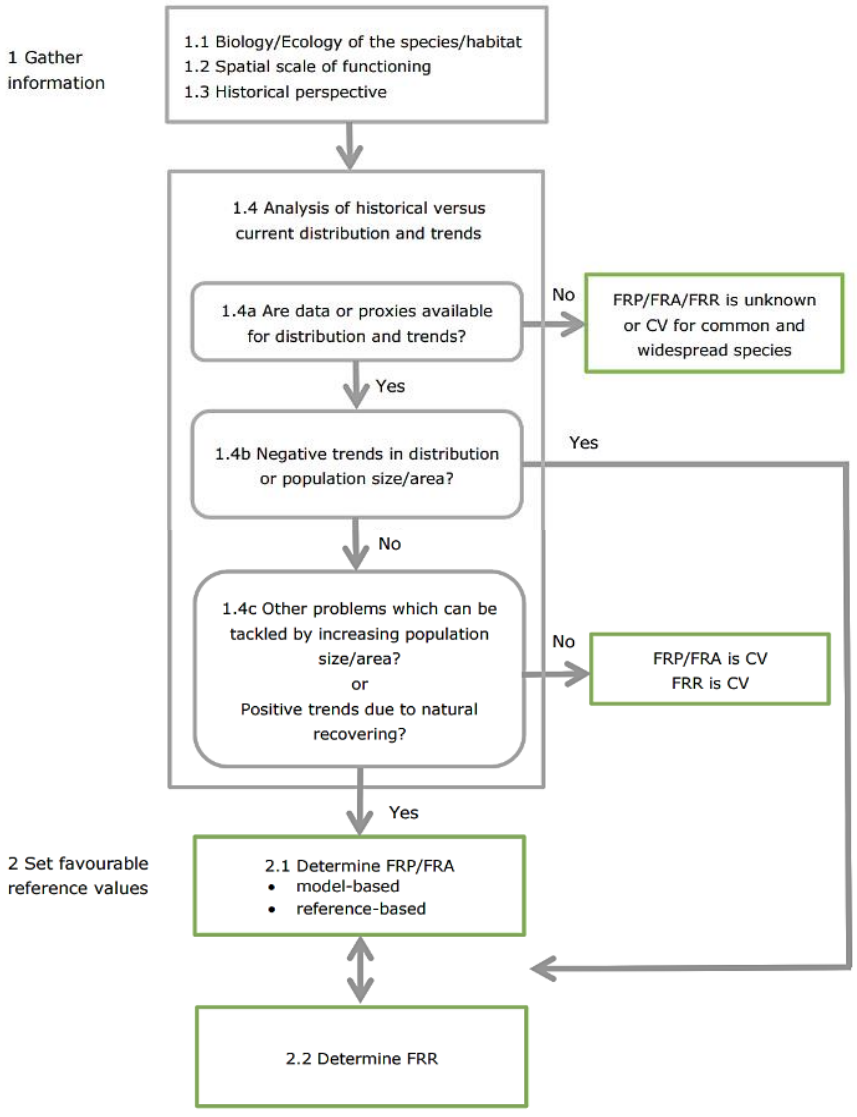

Figure 8: Flowchart for the stepwise process of setting FRVs for species and habitat types (*Bijlsma, et al. 2016. Defining and applying the concept of Favourable Reference Values).*

After that, two basic methods (or combinations of them) are applied to set FRV, namely reference-based and model-based. The reference-based approach considers the historical distribution or area of a habitat type or the historical distribution or population size of a species in a period when the habitat type or species was supposed to be in a (stable) favourable condition. Empirical numbers, areas or densities corresponding to a particular historical baseline are used to set FRV. Applying the reference-based approach to setting FRV for non-reproductive 'populations' such as passage or wintering bird populations and migratory fish needs special care.

The selection of a reference period generally depends on occurrences of major impacts on distribution and population size or area of the particular species or habitat (see above). Since such impacts might often be irreversible from a technical or ecological point of view, conditions before these impacts will not be ecologically feasible as reference values. In the absence of clear breaking points in the occurrence and function of populations or habitat types, it is proposed to examine the recent past, i.e. up to about 50 years before the relevant Directive came into force.

Using the reference-based approach, the Favourable Reference Area (for habitats only, FRA), Favourable Reference Population (for species only, FRP) or Favourable Reference Range (for habitats and species, FRR) is derived from a historical baseline, and it is suggested that FRA for all habitat types should be set at the national level only. The issue then is to determine how much of the baseline needs to be restored to represent a favourable area or population size. Setting the FRR is inherently reference-based because it demands consideration of all significant ecological variations within the range.

Model-based approaches (such as population viability analysis or spatial habitat modelling) use species-specific information on required viable population size or species-specific or habitat type-specific features, such as habitat suitability or required area for proper functioning.

It is becoming increasingly clear that setting FRV on a regional or whole biogeographical level is crucial for many species with large home ranges or are highly mobile, and requires deeper transboundary cooperation among Member States.

Useful websites and links:

https://circabc.europa.eu/sd/a/d3721f6a-a790-4789-92d0-a3d3897e7264/3.ii_Draft_Section%20on%20FRVs%20for%20Art17%20guidelines.pdf

https://www.sciencedirect.com/science/article/pii/S1470160X21010219

https://link.springer.com/article/10.1007/s10531-016-1238-z

3.3. Theme 3: Invasive species control

3.3.1. Context

Invasive species were recognised by Edward O. Wilson in his 1992 book, *The Diversity of Life*, as the second largest threat to biodiversity, surpassed only by habitat destruction. Invasive species disrupt native ecosystems by outcompeting indigenous flora and fauna, resulting in a loss of biodiversity and contributing to habitat degradation. Effective control measures directed at the most aggressive invasive species are necessary to create the conditions conducive to successful habitat restoration efforts. Therefore, invasive species control plays a pivotal role in realising the conservation targets set out in the EU Biodiversity Strategy.

Island ecosystems are highly susceptible to invasive species due to a convergence of factors. Their isolation from mainland ecosystems often leaves native flora and fauna with limited natural defences against unfamiliar invaders. Moreover, islands frequently lack native species with the ability to compete with invaders for space and for resources, resulting in an advantageous environment for invasive organisms. Human activities, such as agriculture, deforestation, tourism, trade and gardening, contribute to the introduction of invasive species, which may not face natural predators or herbivores, allowing them to proliferate unchecked. Altered fire regimes and climate suitability further facilitate the establishment and spread of invasive species on islands. Consequently, these factors collectively render island ecosystems, including those of the Macaronesian archipelagos, especially vulnerable to the disruptive impacts of invasive species, posing a significant threat to native biodiversity. The consequences can be devastating, leading to the decline or extinction of native species, and disruption of ecosystem dynamics. Some invasive species can even change fire regimes or the risk of landslides, posing an increased risk to human lives.

The threat posed by invasive species to island ecosystems can only be addressed through robust control measures and conservation efforts, specifically designed to protect these biodiversity hotspots. Given the similar challenges and limited resources available when dealing with invasive species control, pooling efforts across the Macaronesian archipelagos can lead to more effective and efficient control measures, in terms of research, monitoring, and management strategies.

3.3.2. Objectives of the thematic session

Considering the above, the objectives of this thematic session are to discuss and reach a common understanding on the following questions:

- How can we avoid new invasions? What measures may be successful?
- Can we expect invasive species to recede if the factors which promote their spread (e.g. fire) are removed?
- How can hunters play a role in the management of invasive fauna species?

3.3.3. Common issues, approaches and challenges

Eradication of invasive species

As islands, European Macaronesian territories are areas where eradication of invasive species is feasible, particularly if carried out in the early stages of invasion, because of the limited size of these islands. However, for eradication actions to be successful, careful planning, adequate techniques and continuous long-term control efforts are paramount.

The most successful eradications have been against mammals, such as rats, rabbits and feral goats, which are often amongst the most damaging alien species.[22] Other groups of invasive species, such as plants, reptiles and insects, can be just as damaging but are much more challenging to eradicate.

Moreover, eradication and long-term control may involve the sustained use of herbicides and other toxins and, in the case of animal species, trapping or shooting. In islands inhabited by humans and domestic animals, as are most of Macaronesian islands, the use of these techniques imposes new challenges, as support from local communities must be assured. Therefore, detailed analyses of the social, cultural, and economic costs and benefits of eradication actions are required to secure such support. Since the transport of goods and of people to islands has been increasing in recent decades, so does the probability of inadvertent reintroduction of further invasive species. The establishment of permanent quarantine measures and tight surveillance is also required to minimize the probability of unwanted recolonization after eradication. [23]

A successful eradication program requires careful planning and should ideally aim at a complete eradication of the targeted species, which must be removed faster than it can reproduce, and must include actions to prevent re-invasion. To guarantee support from local communities, the benefits of eradication must be clearly communicated and demonstrated.

All actions should be planned taking into account various dimensions and ecological consequences. For example, the increased risk of landslides after vegetation cover removal in steep areas must be considered, as well as the decrease in horizontal precipitation, crucial in islands with no other natural sources of drinking water.

Eradication of invasive species may not be enough to facilitate the reestablishment of the original ecosystem: additional proactive measures such as replanting native vegetation and reintroducing fauna may often be required for a complete restoration of a damaged area. Once an area is successfully restored, preventing the reappearance of invasive species becomes the top priority to safeguard the island's ecosystem.

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[22] E.g.: Micol, Thierry & Jouventin, Pierre. (2002). Eradication of rats and rabbits from Saint-Paul Island, French Southern Territories. Pp. 199-205. In Veitch CR, Clout MN (eds.): Turning the tide: the eradication of invasive species. IUCN SSC Invasive Species Specialist Group, Gland, Switzerland and Cambridge, UK; Campbell, K., & Donlan, C. J. (2005). Feral Goat Eradications on Islands. Conservation Biology, 19(5), 1362–1374.

[23] Oppel, S., Beaven, B. M., Bolton, M., Vickery, J., & Bodey, T. W. (2011). Eradication of Invasive Mammals on Islands Inhabited by Humans and Domestic Animals. Conservation Biology, 25(2), 232–240.

At the mid- to long-term periods, local and regional authorities can play an important role by establishing brigades with the technical knowledge and the means necessary to rapidly detect and eliminate new outbreaks of biological invasion.

Prevention of new invasive species

Prevention of introductions is the most effective method against invasive alien species. Local authorities conduct customs checks and inspect shipments, setting quarantine periods whenever necessary to try to limit the entry of invasive species. Commerce, including the international trade of goods, can also be a significant source of biological invasion. In the global marketplace, products, and commodities are transported across borders, and these shipments can inadvertently carry invasive species. Invasive species can hide in or on items such as wooden pallets, packaging materials, agricultural products, and live plants. Therefore, effective biosecurity measures, such as inspection and treatment protocols, are crucial for minimising the risk of biological invasion through commerce.

However, many of the pathways that lead to harmful invasions escape inspection and new invasive species are constantly recorded. Many of the activities that traditionally posed no threat can now lead to harmful invasions. Tourism is one such example, because of the high number of people traveling rapidly from distant regions and unknowingly transporting seeds, eggs, spores, diseases, etc. in their luggage, on clothing, or even in their shoes. To mitigate the risks associated with tourism-related invasive species introductions, many countries and regions have implemented measures such as education campaigns, inspections of luggage and cargo, regulations on the importation of plants and animals, and guidelines for responsible outdoor activities. Furthermore, individuals can play a crucial role by being informed about invasive species and taking steps to prevent their unintentional spread during travel.

Gardens can also be a potential source of biological invasion due to the intentional introduction and cultivation of non-native plant species. Nurseries and gardeners often select exotic ornamental plants and these non-native species can escape into the surrounding ecosystem. Some garden plants are well-suited to local conditions and can become invasive, outcompeting native species and disrupting the balance of local ecosystems. Moreover, garden soils or compost can contain seeds or propagules of invasive species, which can be spread to new areas when used for landscaping or gardening. Without proper awareness and management, home gardens can contribute to the introduction and establishment of invasive species in nearby natural environments. It is therefore important that the general public is educated to make informed decisions about how to limit introductions and their spread.

3.3.4. Cases and best practices – additional references

Invasive species control measures are often an important part of LIFE projects focusing on a variety of subjects, from enhancing habitat conditions of endangered and protected species to the global management of Natura 2000. Examples of such projects implemented in the Macaronesian region are presented in table 2.

Table 2: Some examples of LIFE projects focusing on invasive species control in the Macaronesian region

Project Title	Reference
Increase in the size population of *Columba bollii* y *Columba junoniae*	LIFE96 NAT/E/003095
Restoration of the islets and the cliffs of Famara (Lanzarote Island)	LIFE99 NAT/E/006392
Measures for the Management and Conservation of the Laurisilva Forest of Madeira (code 45.62*)	LIFE97 NAT/P/004082
Recovery plan for the giant lizard of La Gomera	LIFE02 NAT/E/008614
Control of the invasive species *Lampropeltis getula californiae* on the island of Gran Canaria (BIODIV)	LIFE10 NAT/ES/000565
Conservation of Macaronesian Sparrowhawk and Laurisilva habitat in Madeira Island	LIFE12 NAT/PT/000402
Active protection and integrated management of Natura 2000 Network in Azores	LIFE17 IPE/PT/000010

Useful websites:

https://circabc.europa.eu/ui/group/3f466d71-92a7-49eb-9c63-6cb0fadf29dc/library/dc8502c3-6028-45f9-b2bf-6600cb267d61/details

http://www.hear.org/articles/turningthetide/turningthetide.pdf

https://www.daera-ni.gov.uk/articles/eu-invasive-alien-species

https://invasoras.pt/

3.4. Theme 4: Conservation measures for fauna species: lessons from the past and ideas for the future

3.4.1. Context

At the European scale, the Macaronesian region is a biodiversity hotspot, hosting a very high number of endemic species. A total of 44 animal taxa (excluding birds) occurring in Macaronesia are listed in the Habitats Directive Annexes II and IV, of which 24 were assessed as being in unfavourable conservation status (including 17 in bad and 7 in inadequate status, see figure 9). As for birds, 34 species occurring in Macaronesia are listed in the Birds Directive Annex I, of which 6 were assessed as still having declining populations (see figure 10).

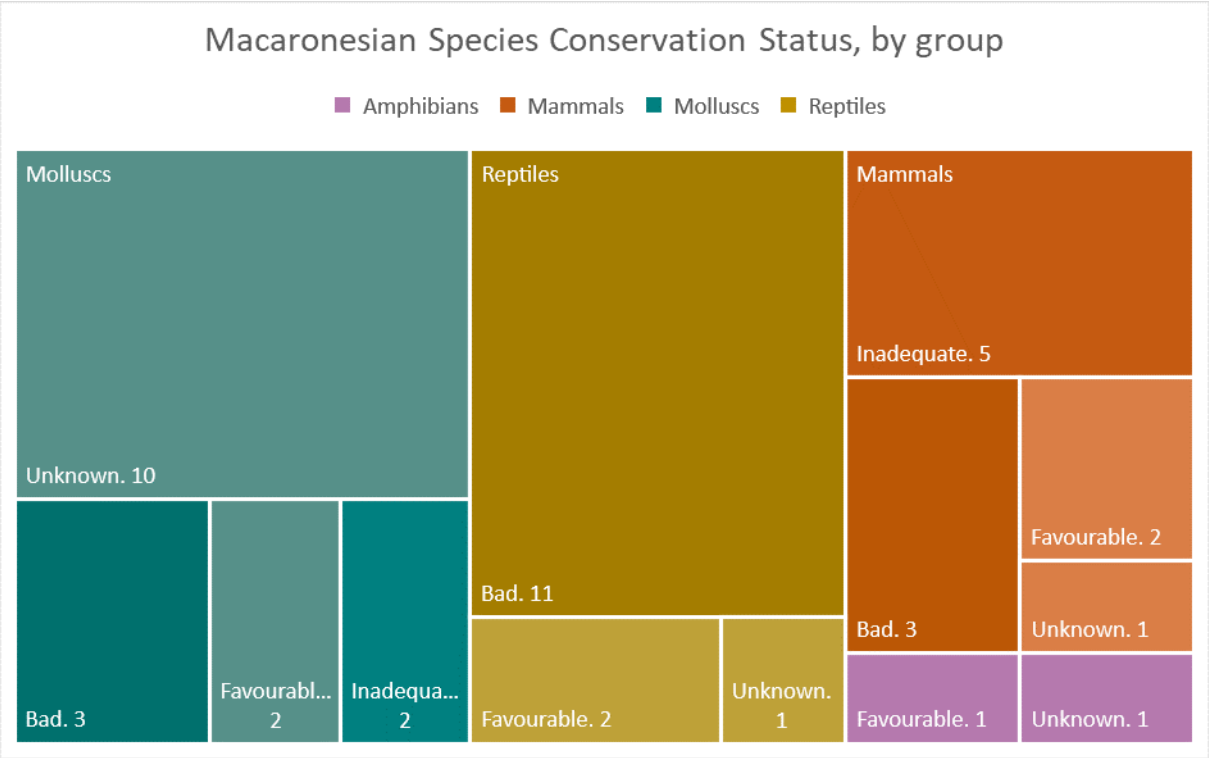


Figure 9 - Article 17 reporting for the Macaronesian region: terrestrial fauna species assessment.

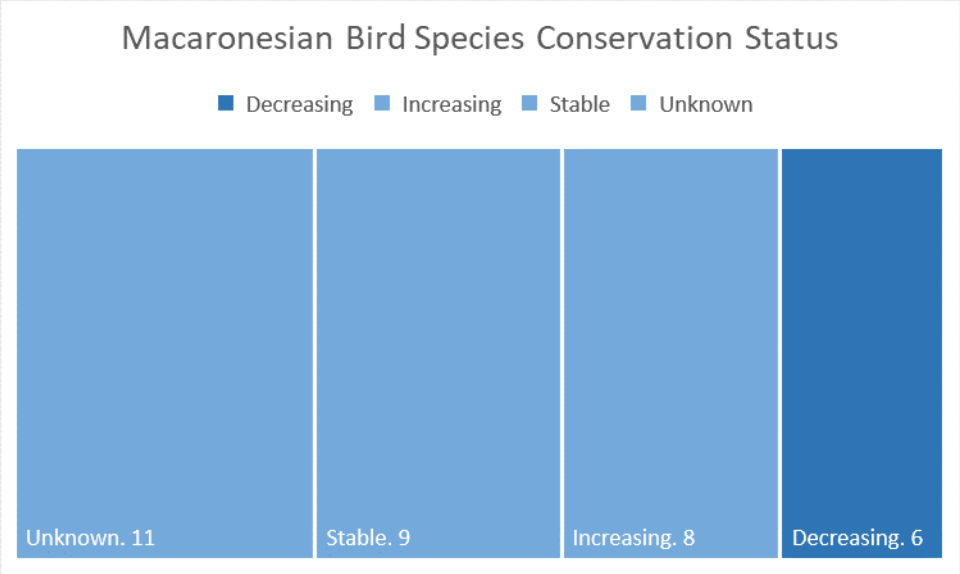


Figure 10 - Article 17 reporting for the Macaronesian region: assessment for endemic bird species.

Conservation measures specifically directed at some of the Macaronesian endangered fauna species are vital for safeguarding them. Habitat restoration often plays a central role in the species recovery efforts, focusing on reversing habitat degradation and encompassing activities such as reforestation, peatland restoration, and the removal of invasive species. Nevertheless, additional actions are sometimes needed to complement habitat restoration, such as supplementary feeding, activities to combat illegal hunting or stop the use of poison, and protection of nesting sites. Society-focused measures can also be valuable, engaging local key stakeholders to undertake specific conservation tasks, and raising public awareness about specific conservation issues.

Numerous LIFE, Interreg and Horizon 2020 projects have been implemented in the Macaronesian region, often with very good results. The LIFE programme has supported nature and biodiversity projects for 30 years. The programme played a crucial part in establishing Natura 2000, and implemented many successful conservation measures for species listed by the nature directives. For example, the Azores bullfinch (*Pyrrhula murina*) has been rescued from the brink of extinction thanks to LIFE+ Lands of Priolo (LIFE12 NAT/PT/000527). During these 30 years, a considerable wealth of experience and information has been acquired and many lessons were learnt, through both failures and successes.

3.4.2. Objectives of the thematic session

Considering the above, the objectives of this thematic session are to discuss the work that has been done in Macaronesian territories for enhancing the conservation of fauna species, and to reach a common understanding on the following questions:

- What are the practices which yielded the best results, and therefore should be replicated in future conservation projects?
- What can be learned from past failures to ensure future successes?
- How can we ensure that ongoing conservation measures for fauna species will be continued in the future?

3.4.3. Cases and best practices – common issues, approaches and challenges

Several LIFE projects were run under the LIFE-Nature sub-programme, and from 2014 onwards the first projects were also funded and implemented under the LIFE-Climate sub-programme. Some of the LIFE Integrated projects implemented in Macaronesia or including Macaronesian territories specifically tackle the protection of fauna species:

LIFE+ Lands of Priolo (LIFE12 NAT/PT/000527) was aimed at improving the quality of the Azores bullfinch habitat to ensure food resources all year; ensuring the stability of the Azores bullfinch population; raising awareness among local entities and population; and promoting a sustainable visitation of the site project area that guaranteed its conservation in the long term.

LIFE Egyptian Vulture (LIFE16 NAT/IT/000659) aimed to improve the conservation of the Egyptian vulture in Italy and in the Canary Islands (Fuerteventura and Lanzarote) by implementing measures to mitigate the impact of the negative factors affecting the species, as well as direct actions to promote its population recovery and expansion.

LIFE Beetles (LIFE18 NAT/PT/000864) aims at improving the population size, distribution area and conservation status of three endemic Azorean beetle species: ironclad beetle (*Tarphius floresensis*) on Flores island, Laurocho (*Pseudanchomenus aptinoides*) on Pico Island and ground beetle (*Trechus terrabravensis*) on Terceira Island. Specific actions undertaken included conversion of exotic forests to the pre-existing native habitats; re-naturalising publicly owned pastureland; improvement of habitat quality by increasing density of trees and shrubs for promotion of shadowing, humidity, and ferns and bryophytes soil cover; as well as raising public awareness and engagement with conservation.

LIFE Snails (LIFE20 NAT/PT/001377) was designed for the conservation of three snail species endemic to Santa Maria Island, Azores: *Plutonia angulosa, Oxychilus agostinhoi* (Critically Endangered) and *Leptaxis minor* (Endangered). Its main aim was to promote long term habitat restoration, reduce its fragmentation and increase its quality, by the promotion of a mosaic of high quality habitat patches interconnected by ecological corridors.

LIFE Natura@night (LIFE20 NAT/PT/001098) spanned all three Macaronesian archipelagos and focused on studying the impact of light pollution on seabirds, bats and moths. Its specific goals were to map the light pollution in the Natura 2000 sites of Macaronesia; to reduce light pollution in two municipalities and develop guidelines for public lights in the remaining municipalities; to develop pilot solutions for lights in fishing boats; and to develop public awareness in the three archipelagos.

LIFE Pterodromas4future (LIFE20 NAT/PT/001277) was designed with the goal of improving the conservation status of the two *Pterodroma* species endemic to the Madeira archipelago (*Pterodroma madeira* and *Pterodroma deserta*) in their nesting areas. The main objectives of the project were to increase the resilience of the Petrel's nesting habitat to climate change and to reduce adult and juvenile mortality during the breeding season, through actions such as placing artificial nests in the intervention areas; creation of a firebreak barrier around the Madeira Petrel nesting areas, with the eradication and control of invasive plants; modernisation of predator control and monitoring in the intervention areas; and minimising light pollution in the flight corridors between the sea and the nesting areas.

3.4.4. Cases and best practices – additional references

Several other LIFE projects that focused specifically on fauna species or groups of species are presented in table 3.

Table 3: Some examples of LIFE projects focusing on fauna species in the Macaronesian region

Project Title	Reference
Action Programme for the conservation of doves in laurisilva, Tenerife	LIFE94 NAT/E/001154
Actions for the conservation of the blue chaffinch in Gran Canaria	LIFE94 NAT/E/001159
Restoration of the area of Lajares for the conservation of the Houbara bustard	LIFE93 NAT/E/010900
Actions for the conservation of the Great Spotted Woodpecker on Tenerife	LIFE96 NAT/E/003090
Conservation of the blue chaffinch of Gran Canaria	LIFE98 NAT/E/005354
Conservation of chiropters and invertebrates in volcanic cavities	LIFE98 NAT/E/005306
Project to support the conservation of *Caretta caretta* and *Tursiops truncatus* in the Canary Islands	LIFE97 NAT/E/004151
Feasibility action for the stabilization of the Atlantic population of Monk Seal	LIFE94 NAT/E/001191
Reintroduction of el Hierro Giant Lizard in its former natural habitat	LIFE97 NAT/E/004190

Conservation of houbara bustard *Chlamydotis undulata fuertaventurae* in the SPAs of the Canary Islands	LIFE03 NAT/E/000046
The conservation of guirre in SPAs of the Fuerteventura island	LIFE04 NAT/ES/000067
Conservation of *Tursiops* and *Caretta* in La Gomera	LIFE03 NAT/E/000062
Program for the recovery of *Gallotia bravoana* and its distribution area	LIFE06 NAT/E/000199
Action to fight illegal poison use in the natural environment in Spain	LIFE08 NAT/E/000062
Reintroduction of endemic pigeon *Columba junoniae*, white-tailed laurel pigeon, on the island of Gran Canaria	LIFE12 NAT/ES/000354
Conservation measures to assist the adaptation of *Falco eleonorae** to climate change	LIFE13 NAT/GR/000909
Project of range expansion, and population size of the priority species *Fringilla teydea polatzeki*	LIFE14 NAT/ES/000077
Establishing a European Red List of Bryophytes, Pteridophytes, Saproxylic Beetles, Terrestrial Molluscs and Vascular Plants	LIFE14 PRE/BE/000001

ANNEXES

Annex 1 – Working groups

MAC Working Group #1

MAINTENANCE OF THE ECOLOGICAL COHERENCE OF THE NATURA 2000 NETWORK IN THE MACARONESIAN REGION

INFORMATIVE NOTE

1. INTRODUCTION

The Habitats Directive defines the Natura 2000 network as a "coherent European ecological network of special areas of conservation" and calls on Member States to improve their ecological coherence.

Within the context of the Natura 2000 Network, ecological coherence is a systemic property that emerges upon considering the Special Areas of Conservation as a functional network. Individually, Natura 2000 sites must contain habitat types and species of community interest, be large enough to support viable populations, be adequately managed, and must reduce external pressures and threats. Organised as a network, coherence entails the full range of habitat types and species of community interest being represented, dispersal, gene flow and migration between sites is allowed, and habitat types and species in Annexes I and II of the Directive are protected.

In September 2018, the *initial seminar of the Macaronesian Biogeographical Region of the Natura 2000 Network* was held in Funchal (Madeira, Portugal). The seminar's work was divided into two groups. One of them specifically focused on the conceptual and operational definition of the ecological coherence of the Network. It was arranged into five themes:

- Spatial configuration of the Natura 2000 Network.
- Functional connectivity between Natura 2000 sites.
- Objectives and conservation measures for Natura 2000 sites.
- Assessment of the effect on the integrity of the spaces and the coherence of the Network.
- Criteria and indicators for assessing the functionality of the Natura 2000 Network.

From this group's work, it became clear that there was a need to work together to develop a pilot action plan for a habitat types of community interest in the Macaronesian region. It was proposed that a Macaronesian Region Working Group be set up for this purpose.

The purpose of this note is to present an overview of this Group's objectives and working approach, and to provide a preview of the work programme.

2. OBJECTIVES OF THE WORKING GROUP

The main objective is to create a conceptual and methodological model to assess the coherence of the Natura 2000 Network in the Macaronesian region, and to develop planned management system to facilitate its maintenance.

The specific objectives are:

1. To agree on an operational definition of coherence that (i) can be practically implemented based on its explicit components, (ii) can be applied in the Macaronesian region, and (iii) is in line with EU conservation policies.
2. To identify appropriate information and tools to enable a harmonised assessment to be made of the components of coherence in the Macaronesian region. The information will be based on data products managed by institutional bodies to ensure long-term monitoring. The tools will be based on open licences to encourage the adoption of the approach by relevant public authorities.
3. To assess the previous two objectives by conducting demonstrations with selected habitat types[24]. These will represent extreme cases of the coherence components, and step-by-step directions will ensure they are reproducible in later successive applications.
4. To develop a planned management system, based on a conceptual index, which will help the authorities responsible for the Natura 2000 Network to maintain the coherence of the Network. This system will be based, at least, on the differential nature of each site and on setting out conservation objectives at Network level.

3. ORGANISATIONAL AND METHODOLOGICAL ASPECTS

The work will be done through a Group in which experts and representatives of the public authorities of the two States of the Macaronesian region and of the three archipelagos (Canary Islands, Madeira and Azores), as well as participants from the European Commission and other EU institutions and organisations, are expected to participate.

The Spanish Ministry for Ecological Transition and the Demographic Challenge will provide technical and logistical support to drive the Working Group.

3.1. Tasks

The work plan will include the following tasks:

1. Identifying and setting out the components that constitute and conform the ecological coherence of the Natura 2000 Network.

[24] The selected habitat type(s) should be represented in both countries in the Macaronesian region, and, if possible, in all three archipelagos.

2. Putting in place methodologies for assessing each component of the ecological coherence of the Natura 2000 network in the Macaronesian region.
3. Designing a pilot exercise using the methodologies set out in the previous point to assess ecological coherence in at least a subset of Natura 2000 sites in the Macaronesian region.
4. Applying the pilot exercise designed in the previous point to one or two selected habitat types of community interest.
5. Preparing a guide and a protocol to set out multilevel conservation objectives in the Natura 2000 Network based on the basis of the experience gained.

3.2. Schedule

The Working Group will be set up in the second half of 2022.

The work will be done through regular online meetings and an information exchange platform.

The Group will complete its work in February 2024.

3.3. Working languages

Spanish and Portuguese

WORKING GROUP TERMS OF REFERENCE

1. INTRODUCTION AND OBJECTIVES

The Ministry for the Ecological Transition and Demographic Challenge of Spain organized in 2018 in Funchal, Madeira, the Initial Seminar for the Macaronesian biogeographic region of the Natura 2000 Network. The work carried out in the Seminar was structured in two working groups, one of them focused on the maintenance of the ecological coherence of the Natura 2000 network.

The goal of this initiative is to create a working group to, taking the seminar´s conclusions as a baseline, create a conceptual and methodological model that allow to evaluate the Natura 2000 coherence in the Macaronesian region.

In addition to that, it is intended to develop a management system that facilitates the maintenance of the coherence of the Natura 2000 network in the three archipelagos of the Macaronesian region in a harmonized way.

2. DUTIES

Members of the working group will discuss and engage in the creation of the conceptual and methodological model and/or in the development of the management system according to their experience.

In particular, it is expected that they conduct the following tasks or activities:

- Discuss and agree on an operative coherence definition that will allow to lay the foundations of the rest of the work.
- Take part in the identification of the information and the appropriate tools that will allow to conduct a harmonized evaluation of the coherence components in the Macaronesian region.
- Conduct demonstrations in the chosen habitat types to evaluate the identified evaluation tools.
- Take part in the development of a planned management system, from a conceptual index.

3. WORKING GROUP STRUCTURE

The working group will be comprised of:

- Scientific coordinator: Gabriel del Barrio (Estación Experimental de Zonas Áridas (CSIC)).
- Technical coordinator: Ricardo García Moral (Biosfera XXI).
- Group management and technical support team: Tragsatec.
- 3 – 6 scientific experts, designated by the Natura 2000 focal points and, when possible, from the three involved archipelagos.
- 3-6 representatives of the public administrations, from the technical/management sector, designated by the Natura 2000 focal points, and with experience in Natura 2000 spaces management.

Moreover, to advise in specific topics, the following could be invited to participate in meetings ad hoc:

- Specific topics experts.
- Experts that take part in other working groups within this initiative.

4. WORK PROGRESS

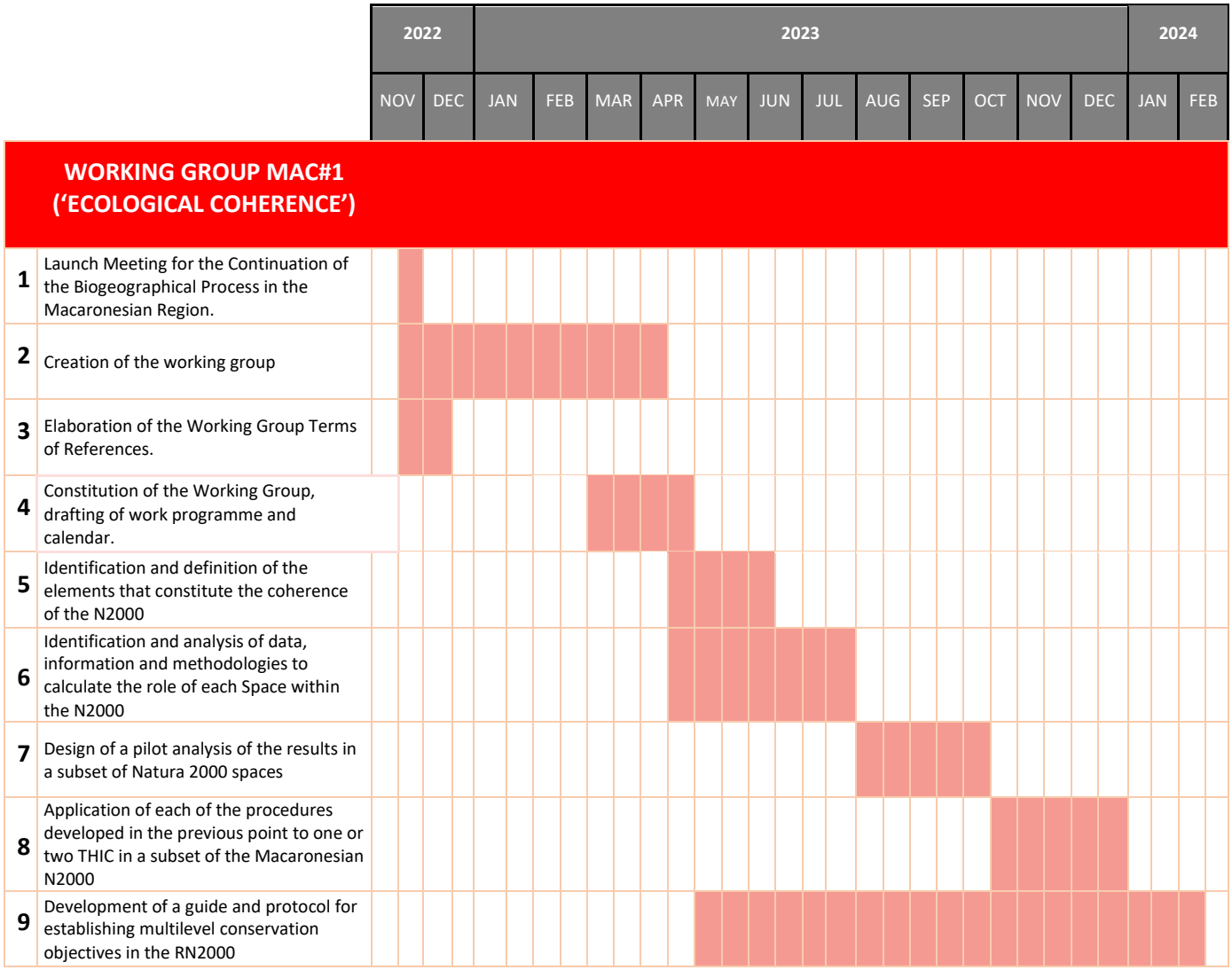
4.1. Way of working

- Online, through an information platform that will allow to share and review documents.
- Through questionnaires sent by the coordinators to the participants to compile information of each state member.
- In periodic meetings and workshops to discuss the contents and relevant aspects during the elaboration of the plan.

4.2. Language of working

Spanish and Portuguese.

4.3. Schedule



DEVELOPMENT OF A **PILOT ACTION PLAN FOR A HABITAT TYPE OF COMMUNITY INTEREST** IN THE MACARONESIAN REGION.

INFORMATIVE NOTE

1. INTRODUCTION

The Action Plans are an indispensable tool to guide the measures required to maintain and restore habitat types to a favourable conservation status throughout their range in the EU.

Within the framework of the Biogeographical Process Natura 2000 and following the conclusions of the *2nd Mediterranean Biogeographical Seminar*, held in November 2017 in Limassol (Cyprus), five workshops to standardise procedures for monitoring, assessing and conserving habitat types of

community interest in the Mediterranean region (hereafter referred to as MED Workshops) were organised between 2019 and 2021. Workshop #5 focused on setting out the basic content of action plans for habitat types of community interest in biogeographical terms.

On the other hand, the *initial seminar of the Macaronesian biogeographic region of the Natura 2000 Network* was held in September 2018 in Funchal (Madeira, Portugal). The seminar's work was divided into two groups. One of them focused specifically on the favourable conservation status of habitat types and species of Community interest. It was arranged into four themes:

- Describing and characterising habitat types of Community interest.
- Harmonised definition and categorisation of Favourable Conservation Status and its assessment procedures.
- Coordinated maintenance of the favourable state of conservation.
- Monitoring of the Favourable Conservation Status.

From this group's work, it became clear that there was a need to work together to develop a pilot action plan for a habitat types of community interest in the Macaronesian region. It was proposed that a Macaronesian Region Working Group be set up for this purpose.

The purpose of this note is to present an overview of this Group's objectives and working approach, and to provide a preview of the work programme.

2. OBJECTIVES OF THE WORKING GROUP

The objectives of this Working Group are:

1. To draft an action plan for a habitat types of community interest in the Mediterranean region.
2. To identify, based on the experience garnered in this pilot, information gaps and further needs for preparing an action plan for the selected habitat types of community interest.
3. To draw up a project proposal that could be submitted to a call for European funds to cover the needs identified and to complete the preparation and implementation of the action plan.

3. METHODOLOGICAL AND ORGANISATIONAL ASPECTS

The work will be done through a Group in which experts and representatives of the public authorities of the two States of the Macaronesian region and of the three archipelagos (Canary Islands, Madeira and Azores), as well as participants from the European Commission and other EU institutions and organisations, are expected to participate.

The Spanish Ministry for Ecological Transition and the Demographic Challenge will provide technical and logistical support to drive the Working Group.

3.1. Tasks

The work plan will include the following tasks:

1. Selecting one or several habitat type(s) to prepare its action plan. This selection will be discussed with the participants at the first work presentation meeting[25] .
2. Compiling and analysing available information and data to prepare an action plan for the selected habitat. In particular, reviewing the relevant conclusions of the *initial seminar of the Macaronesian Biogeographic Region* as well as the content and methodologies set out in the MED Workshops to adapt them, if necessary, to the peculiarities of this region.
3. Identifying information gaps and additional needs for the development of an action plan for the selected habitat type.
4. Developing a pilot action plan for the selected habitat type:
    a. Identifying and characterising the habitat type, distribution and ecological requirements.
    b. Analysing conservation status and trends: Available information, knowledge gaps and needs.
    c. Pressures and threats analysis: Available information, knowledge gaps and needs.
    d. Setting objectives: in terms of biogeographical region, archipelago and protected area.
    e. Setting out the measures necessary to achieve the proposed objectives, to maintain or restore the selected habitat type to a favourable conservation status.
    f. Setting out the tools to be implemented, support measures and sources of funding.
5. Preparation of a project proposal covering the eventual needs and information gaps identified, allowing for a comprehensive action plan for the selected habitat type in the future.

3.2. Schedule

The Working Group will be set up in the second half of 2022.

The work will be done through regular online meetings and an information exchange platform.

The Group will complete its work in February 2024.

3.3. Working languages

Spanish and Portuguese.

[25] The selected habitat type should be represented in both countries in the Macaronesian region, and, if possible, in all three archipelagos. Available information, conservation status, pressures and threats, etc., should also be considered.

WORKING GROUP TERMS OF REFERENCE

1. INTRODUCTION AND OBJECTIVES

The objective of this proposal is to elaborate an Action plan for a habitat type of Community interest in the Macaronesian region that works as a trial experience and prototype for other habitat types in this biogeographical region. Following the selection criteria discussed in the meeting with representatives from Azores, Canary Islands, and Madeira, the habitat type chosen for this exercise is 9360 Macaronesian Laurel Forests (*Laurus, Ocotea*), an endemic habitat to the Macaronesian region and listed as a priority habitat in Annex I of the Habitats Directive.

This action plan aims to guide the necessary measures to maintain or restore the favourable conservation status of the habitat type at the scale of the biogeographical region.

The proposal is conceptually and operationally framed within the workshops for the harmonisation of procedures for the monitoring, assessment and conservation of habitat types of Community interest in the Mediterranean region, held between 2019 and 2021, and specifically a result from Workshop #5, which focused on the establishment of the basic contents of action plans for habitat types at the biogeographic region level. Likewise, the results of the thematic block on monitoring the Favourable Conservation Status of habitat types and species of community interest from the **initial seminar of the Macaronesian Biogeographical Region of the Natura 2000 network** (held in September 2018 in Funchal, Madeira) will be taken into account.

2. DUTIES

The Working Group will discuss and work together in the elaboration of the pilot Action plan. In particular, they are expected to undertake the following tasks:

- Gathering and analysing the information needed for the elaboration of the pilot Action plan.
- Taking part in the workshops and meetings that will be organise for the discussion of the pilot action plan contents and its elaboration.
- Elaborating and reviewing the pilot Action plan contents.
- Identifying information gaps and other aspects needed for the elaboration of a full Action plan.
- Taking part in the potential elaboration of a further Project proposal, which might be submitted in the future to European funding project calls, with the objective of elaborating a full action plan for the selected habitat type.

3. WORKING GROUP STRUCTURE

The Working Group will consist of:

- Scientific coordinator: José María Fernández Palacios (University of La Laguna, Tenerife).
- Technical coordinators: Concha Olmeda and Juan Carlos Simón (ATECMA).
- Group management and technical support: Tragsatec.

- 6-8 Scientific experts in the habitat type selected, if possible, appointed by the national Natura 2000 focal point (this might include experts in flora, fauna and the sea of clouds in the Macaronesian region).
- Representatives from each Member State, with a technical/management background and knowledge/experience about Habitat Directive implementation and management of Natura 2000 sites, ideally designated by their national Natura 2000 focal points.

Also, in order to get advice on specific issues, other people may be invited to participate in some meetings on an *ad-hoc* basis

- Experts on specific topics that must be addressed by the group (e.g. pressures and threats, favourable reference values, etc.).
- Experts participating in one of the other working groups of this initiative.

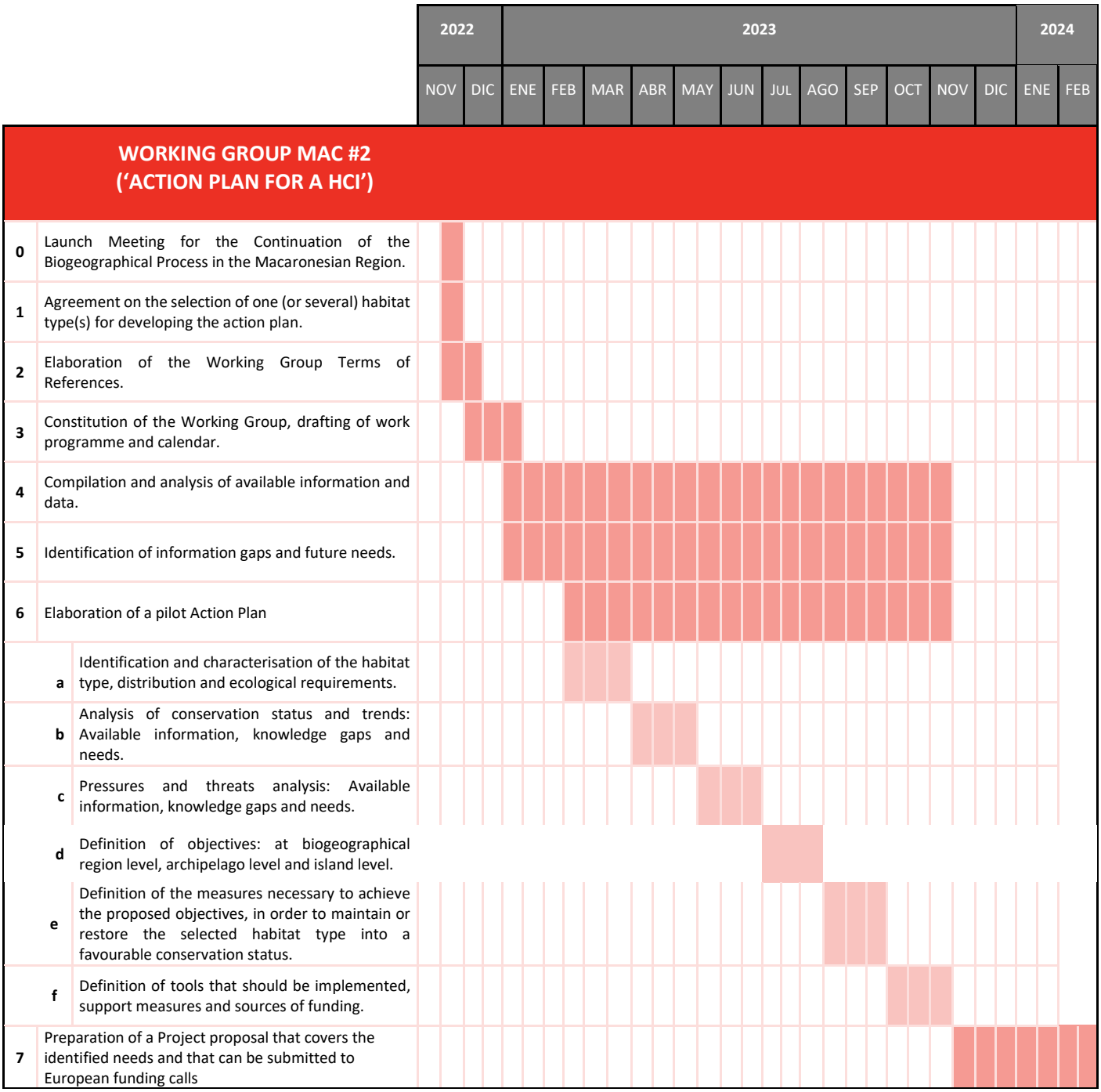
3.1. Way of working

- Sharing and reviewing documents through an online working platform.
- Replying to questionnaires that will be sent by the coordination team in order to collect information from each Member State.
- Attending regular online meetings and workshop to address and discuss the main relevant topics for the elaboration of the action plan.

3.2. Language of working

Spanish and Portuguese.

3.3. Schedule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WORKING GROUP MAC #2
('ACTION PLAN FOR A HCI')
0 Launch Meeting for the Continuation of the Biogeographical Process in the Macaronesian Region.
1 Agreement on the selection of one (or several) habitat type(s) for developing the action plan.
2 Elaboration of the Working Group Terms of References.
3 Constitution of the Working Group, drafting of work programme and calendar.
4 Compilation and analysis of available information and data.
5 Identification of information gaps and future needs.
6 Elaboration of a pilot Action Plan
a Identification and characterisation of the habitat type, distribution and ecological requirements.
b Analysis of conservation status and trends: Available information, knowledge gaps and needs.
c Pressures and threats analysis: Available information, knowledge gaps and needs.
d Definition of objectives: at biogeographical region level, archipelago level and island level.
e Definition of the measures necessary to achieve the proposed objectives, in order to maintain or restore the selected habitat type into a favourable conservation status.
f Definition of tools that should be implemented, support measures and sources of funding.
7 Preparation of a Project proposal that covers the identified needs and that can be submitted to European funding calls

Annex 2 - List of LIFE projects

Projects funded between 2012 and 2022 dealing with conservation and restoration of habitats and species within Natura 2000 network and adjacent buffer areas in the Macaronesian region.

LIFE Reference	*Title*	*MS*	*End date*	*Budget*
LIFE12 BIO/PT/000110 LIFE CWR	Ecological Restoration and Conservation of Praia da Vitória Coastal Wet Green Infrastructure	PT	10/2018	2,163,042 €
LIFE12 NAT/PT/000527 Life Terras do Priolo	Active protection of the population of the Azores bullfinch (Priolo) and its habitats and sustainable management of Pico da Vara/ Ribeira do Guilherme SPA's	PT	06/2019	3,363,260 €
LIFE12 NAT/ES/000286 LIFE+ GUGUY	Recover of native forests with *Juniperus* spp, and its flora and fauna, in the Special Nature Reserve Gig.	ES	12/2017	852,808 €
LIFE12 NAT/ES/000354 LIFE+ RABICHE	Reintroduction of endemic pigeon *Columba junoniae*, white-tailed laurel pigeon, on the island of Gran Canaria	ES	12/2017	1,401,870 €
LIFE12 NAT/PT/000195 LIFE RECOVER NATURA	Recovery of the species and land habitats of the Natura 2000 sites Ponta de So Loureno and Desertas Islands.	PT	03/2019	1,344,044 €
LIFE12 NAT/PT/000402 LIFE Fura-bardos	Conservation of Macaronesian Sparrowhawk and Laurisilva habitat in Madeira Island	PT	06/2017	1,629,198 €
LIFE13 NAT/ES/000240 LIFE+ GARAJONAY VIVE	Ecological restoration Garajonay National Park and its surroundings, after the great fire of 2012	ES	12/2018	1,511,494 €
LIFE13 NAT/ES/000974 LIFE Monk seal	Mediterranean monk seal conservation in Madeira and development of a conservation status surveillance system	PT	12/2019	1,143,364 €
LIFE14 CAP/PT/000004 PT CAPACITY BUILDING	Portugal Capacity Building for better use of LIFE	PT	31/12/2018	786,693 €
LIFE14 ENV/ES/000621 LIFE RAMSES	Enhanced Reclaimed wAter quality through MainStream anaErobic treatment using Supported biomass growth.	ES	15/07/2018	1,158,391 €
LIFE14 NAT/ES/000077 LIFE+PINZON	Project of range expansion, and population size of the priority species *Fringilla teydea polatzeki*	ES	15/02/2020	1,123,860 €
LIFE15 ENV/ES/000157 LIFE BAQUA	Solutions through the new use for a waste of banana crop to develop products in aquaculture and plastics sector	ES	31/10/2019	1,677,663 €
LIFE15 CCA/ES/000125 LIFE The Green Link	Restore desertified areas with an innovative tree growing method across the Mediterranean border to increase resilience.	ES	03/2020	2,876,202 €
LIFE15 IPE/ES/000012 LIFE-IP INTEMARES	Integrated, Innovative and Participatory Management for N2000 network in the Marine Environment	ES	12/2024	27,278,552 €
LIFE16 ESC/ES/000003 LIFE FOLLOWERS	Followers of the Natura 2000 network	ES	08/2020	797,330 €
LIFE16 NAT/IT/000659 LIFE EGYPTIAN VULTURE	Measures for the conservation of the Egyptian vulture in Italy and the Canary Islands	IT, ES	09/2023	5,084,605 €
LIFE16 CCA/IT/000011 LIFE DESERT-ADAPT	Preparing desertification areas for increased climate change	IT	01/09/2023	4,063,805 €
LIFE16 ENV/ES/000341 LIFE - DESEACROP	DESALINATED SEAWATER FOR ALTERNATIVE AND SUSTAINABLE SOILLESS CROP PRODUCTION	ES	31/12/2020	1,048,026 €
LIFE17 IPE/PT/000010 LIFE-IP AZORES NATURA	Active protection and integrated management of Natura 2000 Network in Azores	PT	12/2027	19,087,522 €
LIFE17 NAT/PT/000510 LIFE VIDALIA	LIFE VIDALIA Valorization and Innovation for Azorina and Lotus in the Azorean Islands	PT	06/2023	1,757,577 €
LIFE18 NAT/PT/000864 LIFE BEETLES	Bringing Environmental and Ecological Threats Lower to Endangered Species	PT	12/2025	1,772,632 €
LIFE19 CCA/PT/001178 LIFE DUNAS	LIFE DUNAS	PT	09/2025	3,082,408 €
LIFE19 CCM/ES/001199 LIFE NIEBLAS	Reforestation & Climate Change Mitigation: tests, evaluation and transfer of innovative methods based on fog collection	ES	12/2024	2,185,777 €
LIFE19 IPC/PT/000004 LIFA IP CLIMAZ	Regional Program for Climate Change in Azores	PT	12/2030	22,777,835 €
LIFE20 CCA/ES/001641 LIFE Garachico	Coastal Flooding Adaptation to Climate Change through flexible strategies in Macaronesia urban areas	ES	09/2026	2,638,132 €
LIFE20 NAT/ES/001007 LIFE INSULAR	Integrated strategy for sustainable management of insular habitats in Natura 2000 islands of the Atlantic Ocean	ES	12/2026	5,274,922 €

LIFE20 NAT/PT/001098 LIFE Natura@night	Reducing and mitigating Light Pollution impact in Natura 2000 areas in Macaronesia	PT, ES	09/2025	3,260,350 €
LIFE20 NAT/PT/001277 LIFE Pterodromas4future	Improving the conservation status of two Pterodroma petrels endemic to the Madeira archipelago	PT	09/2026	1,838,151 €
LIFE20 NAT/PT/001377 LIFE SNAILS	LIFE SNAILS - Support and Naturalization in Areas of Importance for Land Snails	PT	12/2026	1,994,078 €
LIFE22-CCA-ES-LIFE-COSTAdapta/101113851 LIFE COSTAdapta	Soft systems for progressive coastal adaptation to climate change	ES	30/06/2030	3,337,563 €
LIFE22-ENV-ES-LIFE-ELEKTRA/101113771 LIFE ELEKTRA	Circular economy applied to nitrate removal: hydrogen generation and waste recovery in drinking water	ES	31/03/2027	2,329,944 €
LIFE22-NAT-ES-LIFE-Phoenix/101113584 LIFE Phoenix	Restoration and improvement of Priority Habitat 9370* Palm groves of Phoenix	ES	30/06/2028	3,901,577 €

Annex 3 – Additional references

Official page on biodiversity in the Canary Islands and Azores:

- https://azoresbioportal.uac.pt/
- https://www.biodiversidadcanarias.es/

Biodiversity projects in Madeira:

- https://ifcn.madeira.gov.pt/biodiversidade/projetos.html

Natura 2000 in Madeira, Azores and the Canary Islands:

- https://ifcn.madeira.gov.pt/biodiversidade/rede-natura-2000.html
- http://ot.azores.gov.pt/Instrumentos-de-Gestao-Territorial-Documento.aspx?id=4
- https://www.gobiernodecanarias.org/medioambiente/materias/biodiversidad/espacios-protegidos/red-natura-2000/red_natura_2000_en_canarias/

Useful papers:

- https://www.researchgate.net/publication/226288132_A_review_on_the_impacts_of_feral_cats_Felis_silvestris_catus_in_the_Canary_Islands_Implications_for_the_conservation_of_its_endangered_fauna
- https://www.researchgate.net/publication/225852967_Contradiction_in_Conservation_of_Island_Ecosystems_Plants_Introduced_Herbivores_and_Avian_Scavengers_in_the_Canary_Islands
- https://www.researchgate.net/publication/237036321_Diversity_rarity_and_the_evolution_and_conservation_of_the_Canary_Islands_endemic_flora
- https://www.researchgate.net/publication/318440975_Are_dispersal_syndromes_of_plant_species_associated_with_their_conservation_status_A_case_study_in_the_Canary_Islands
- https://www.researchgate.net/publication/226578033_Actual_and_potential_natural_vegetation_on_the_Canary_Islands_and_its_conservation_status
- https://www.researchgate.net/publication/254371080_Conservation_Grazing_Management_A_Novel_Approach_to_Livestock_Management_and_Biodiversity_Conservation_on_the_Canary_Islands
- https://www.researchgate.net/publication/341652190_LOS_PLANES_DE_RECUPERACION_Y_CONSERVACION_DE_LAS_ESPECIES_AMENAZADAS_DE_CANARIAS_RECOVERY_AND_CONSERVATION_PLANS_OF_THE_THREATENED_SPECIES_OF_THE_CANARY_ISLANDS_SPAIN
- https://www.researchgate.net/publication/350063935_The_impact_of_the_European_rabbit_as_ecosystem_engineers_in_the_Canary_Islands

- https://www.researchgate.net/publication/271074658_Invasive_Terrestial_Flora_Fauna_of_Macaronesia_TOP_100_in_Azores_Madeira_y_Canarias
- https://gd.eppo.int/reporting/article-188