5th NATIONAL REPORT

To

CONVENTION ON BIOLOGICAL DIVERSITY

Instituto da Conservação da Natureza e das Florestas, IP

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CONTENTS

ABBREVIATIONS AND ACRONYMS

ABS - Access to genetic resources and the fair and equitable sharing of benefits arising from their utilisation
ACCOBAMS - Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean and adjacent Atlantic Area
AEWA - Agreement for the Conservation of African-Eurasian Migratory Waterbirds
APA - Portuguese Environmental Agency
ARA - Autonomous Region of the Azores
ARM - Autonomous Region of Madeira
BERN - Convention on Wildlife and Natural Habitats in Europe
BMP - Biodiversity Management Plan
CA - Classified Area
CAOP - Official Administrative Map of Portugal
CBD - Convention on Biological Diversity
CCDR - Regional Coordination and Development Commission
CFP - Common Fisheries Policy
CIAM - Inter-ministerial Commission for Maritime Affairs
CIC - Inter-ministerial Conference for Cooperation
CITES - Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS - Convention on the Conservation of Migratory Species of Wild Animals (also known as the Bonn Convention)
CNADS - National Council of the Environment and Sustainable Development
CO_2 - Carbon Dioxide
COP- Conference of the Parties
COS - Land Occupation Map
CPLP - Community of Portuguese Speaking Countries
CRIF - Forest Fire Risk Map
CRUS - Map of the Regime of Land Use
CT - Corporation Tax
CUP - Map of Landscape Units
DGT - Territorial Directorate General
DNA - Deoxyribonucleic acid
DRA - Regional Directorate for the Environment
DRRF - Regional Directorate of Forestry Resources
DTM - Digital Terrain Models
EA - Environmental Assessment
EAFRD - European Agricultural Fund for Rural Development
EEZ - Exclusive Economic Zone
EFF - European Fisheries Fund
EFFIS - European Forest Fire Information System
EIA - Environmental Impact Assessment
EIncA - Environmental Incident Analysis
EMAS - Eco-Management and Audit Scheme

EMFF - European Maritime and Fisheries Fund
EMP - Estuary Management Plans
ENCNB - National Strategy for the Conservation of Nature and Biodiversity
ENGO - Environmental Non-Governmental Organisation
ERDF - European Regional Development Fund
ERPVA - Regional Structure of Environmental Protection and Enhancement
ESF - European Social Fund
EU - European Union
EU ETS - European Emissions Trading Scheme
EUROBATS - Agreement on the Conservation of Populations of European Bats
FAO - Food and Agriculture Organisation of the United Nations
FMP - Forest Management Plan
FSC - Forest Stewardship Council
GEOEQUIP - Public Equipment for Collective Use
GNI - Gross National Income
GOP - Planning Main Options
GNR - National Republican Guard
ICC - Inter-ministerial Coordination Committee
ICCAT - International Commission for the Conservation of Atlantic Tunas
ICES - International Council for the Exploration of the Sea
ICNB, I.P. - Institute of Nature Conservation and Biodiversity
ICNF, I.P. - Institute for Nature Conservation and Forests
IHRU - Institute of Housing and Urban Rehabilitation
IMI - Municipal Property Tax
IOEM - National Maritime Spatial Planning Instruments
ITI - Integrated Territorial Intervention
IUCN - International Union for Conservation of Nature
JRC - Joint Research Centre
LBGPPSOTU - Law of Public Policy on Soil, Land-use Planning and Urban Planning
LIFE - Financial Instrument for the Environment
LPG - Liquefied Petroleum Gases
MAES - Mapping and Assessment of Ecosystems and their Services
MDGs - Millennium Development Goals
MMP - Municipal Master Plan
MES - Municipal Ecological Structure
MPA - Marine Protected Area
MPB - Organic Production Method
MSFD - Marine Strategy Framework Directive
N2000 - Natura 2000 network
NER - National Ecological Reserve
NGO - Non-Governmental Organisation
NGV- Natural Gas Vehicle
NSS - National Strategy for the Sea
NWP - National Water Plan

ODA - Official Development Assistance
OL - Overall Length
OSPAR - Convention for the Protection of the Marine Environment of the North-East Atlantic
PA - Protected Area
PACLIP - Action Plan for the Conservation of the Iberian Lynx in Portugal
PACLobo - Action Plan for the Conservation of the Iberian Wolf
PAF - Prioritised Action Framework
PALOP - Portuguese-Speaking African Countries
PCESLI - The Iberian Lynx Ex situ Conservation Programme
PEFC - Programme for the Endorsement of Forest Certification
PEOT - Special Territorial Plan
PGRH - Hydrographic Region Management Plan
PIC - Prior Informed Consent
PIT - Personal Income Tax
PMA - Azores Marine Park
PMOT - Municipal Territorial Plan
PNI - Island Natural Park
PNSSM - Natural Park of Serra de São Mamede
PO SEUR - Operational Programme for Sustainability and Efficiency in the Use of Resources
POAAP - Public Waterway Management Plan
POAP - Protected Area Management Plan
POBH - Drainage Basin Management Plan
POBHL - Lagoon Drainage Basin Management Plan
POGAP - Programmes for Planning and Management of Protected Areas
POOC - Coastal Area Management Plan
PORBGUA - University of the Azores Garden Germplasm Bank
POTRAA - Tourism Management Plan of the Autonomous Region of the Azores
PPA - Programmes, Projects and Actions
PRESAA - Azores Regional Plan for Environmental Education and Awareness Raising
PROCONVERGENCIA - Azores Operational Programme for Convergence
PRODERAM - Rural Development Programme of the Autonomous Region of Madeira
PROF - Regional Forest Management Plan
PRORURAL - Rural Development Programme 2007-2013 of the Autonomous Region of the Azores
PRORURAL+ - Rural Development Programme 2014-2020 of the Autonomous Region of the Azores
PROTAlentejo - Alentejo Regional Plan of Territorial Management
PROT-N - North Regional Plan for Territorial Management
pSCI - proposed Site of Community Importance
PSRN2000 - Sector Plan of the Natura 2000 Network
PUB - Common Land Utilisation Plan
PWD - Public Water Domain
RAMSAR - Convention on Wetlands of International Importance
RAN - National Agricultural Reserve

RAR - Regional Agricultural Reserve
RCG - Resolution of the Governing Council
RCM - Resolution of the Council of Ministers
RDP - Rural Development Programme
ReNEP - The Portuguese Network of Continuously Operating Reference Stations
REUE - European Union Ecolabel
RFCN - The Fundamental Network for Nature Conservation
RGN - National Geodetic Network
RJIGT - Legal Regime of Territorial Management Instruments
RLD - Regional Legislative Decree
RNAP - National Protected Areas Network
RNG - National Gravimetric Network
RNGAP - Precise Geometric Levelling Network
RRD - Regional Regulatory Decree
RTP - Radio and Television of Portugal
SAC - Special Area of Conservation
SCI - Site of Community Importance
SEA - Strategic Environmental Assessment
SEPNA - Nature and Environment Protection Service, National Republican Guard
SIPA - Architectural Heritage Information System
SNIG - National Geographic Information System
SNIT - National Territorial Information System
SPA - Special Protection Area
SPEA - Portuguese Society for the Study of Birds
SRUP - Servitudes and Public Utility Restrictions
TEEB - The Economics of Ecosystems and Biodiversity
TMI - Territorial Management Instruments
UNCCD - United Nations Convention to Combat Desertification
UNEP - United Nations Environment Programme
UNESCO - United Nations Educational, Scientific and Cultural Organisation
UNFCCC - United Nations Framework Convention on Climate Change
VAT - Value-Added Tax
VED - Vehicle Exercise Duty
WFD - Water Framework Directive
WWF - World Wildlife Fund
ZIF - Forest Intervention Zone

Foreword

The Report on the national implementation of the Convention on Biological Diversity (CBD) is regularly prepared in accordance with the timetable set by the CBD Conference of the Parties (COP).

Its main objective is to evaluate the implementation of the Convention in Portugal and to gauge the path taken towards the objectives of the CBD and the Aichi Biodiversity Targets contained in the Strategic Plan for Biodiversity 2011-2020.

Although the reporting period is from 2010 to 2014, information was occasionally incorporated prior to 2010, either as a framework or because it was not transmitted in the previous report. Also, for specific topics, information from post-2014 can be found, which was decided to include due to its availability.

It should also contribute to the preparation of the edition of the Global Biodiversity Outlook and to the assessment of the implementation of the European Union (EU) Biodiversity Strategy to 2020. It also recognises obstacles and visualises opportunities and ways to circumvent impediments to the effective implementation of the CBD and its Strategic Plan for Biodiversity 2011-2020.

The central component of this Report is composed of 3 chapters that report on the status and trends of biodiversity and the threats detected, which account for the actions taken to achieve the Aichi Biodiversity Targets and, finally, based on the experience gained, which topics will merit greater attention for a more adequate and comprehensive implementation of the decisions of the CBD COP in Portugal.

The drawing up of the report was dependent on the valuable collaboration of the various entities of the national, regional and local administration, environmental non-governmental organisations, and universities and institutes (see technical sheet) that provided, in a timely manner, relevant information and validated the analyses produced.

Subsequent public hearings were held and consultation was conducted with the National Council for Environment and Sustainable Development (CNADS).

The document was finally approved by the Inter-ministerial Coordination Committee to be sent to the CBD Secretariat.

Chapter 1 Updating the state of biodiversity, trends and threats and the implications for human well-being

1.1 Importance of biodiversity for Portugal

Terrestrial mainland Portugal covers 88600 km^2 and the terrestrial areas of the archipelagos of Madeira and the Azores have a total of, respectively, 833 and 2331 km^2. Portugal is located in the extreme south-west of Europe in an area of transition between two distinct biogeographic regions: the Euro-Siberian (Atlantic sub-region) and Mediterranean and its climate is temperate. The oceanic archipelagos are located in the Macaronesian biogeographic region.
At European level Portugal has a high biodiversity, to which the island territories contribute significantly.

Mainland Portugal

Forest ecosystems (e.g. pine forests, eucalyptus forests and cork oak and holm oak forests), which occupy about 35% of mainland Portugal, have a largely anthropogenic origin, being mostly oriented to production, with a marked human intervention. The predominant Mediterranean climate in Portugal, the species mostly used and the type of management together entail a significant risk of forest fires.
The future of these ecosystems is dependent on market trends and the demand for the goods they produce, as well as the recognition by society and the internalisation of the environmental services they provide. An intensification of the demand for goods and services will need to be accompanied by sustainable management, minimising negative impacts on biodiversity and soil.
Cork Oaks are a remarkable example of sustainable use. With a dominant cork oak (*Quercus suber*), holm oak (*Quercus rotundifolia*) or pyrenean oak (*Quercus pyrenaica*), they have a park land structure, maintaining a significant biodiversity along with a multifaceted use (silviculture, livestock, agriculture, hunting) and the provision of various environmental services.
Agricultural ecosystems (if we exclude grazing areas or tree covered areas) occupy about 25% of the national land territory and present a tendency to reduce at the expense of the expansion of woods and pastures, but also of urban use. These ecosystems provide important services, thanks to relatively low levels of intensification and pollution of soil and aquifers, non-specialisation, non-concentration and maintenance of the mosaic of the traditional landscape of Portuguese agriculture, contributing to support, in a diverse landscape, a significant biodiversity (wild or not) dependent on agricultural ecosystems.
More than 40% of mammal, bird, amphibian, reptile and butterfly species are associated with agricultural ecosystems. Also, in the last thousands of years, the domestication has contributed to the existence of autochthonous races and local varieties.

An increasing trend towards agricultural abandonment and/or concentrated agricultural intensification have been the main factors in changing the provision of environmental services provided by agricultural ecosystems.

Agricultural and forestry ecosystems occupy about 60% of Protected Areas (PA) and/or Classified Areas (CA) in mainland Portugal, reflecting the importance of agricultural and forestry activities in biodiversity conservation. Achieving that agricultural, forestry and pastoral management practices conducive to biodiversity conservation remain in these areas seems to be the main obstacle to a steady or positive evolutionary trend.

Mountain ecosystems occupy about 10% of the land surface of mainland Portugal, being distributed mainly in the North and Centre of the country. They play a key role in the conservation of biodiversity and in the provision of various environmental services, particularly to the lowlands. The greatest threat to its continuity comes from agricultural and pastoral abandonment.

Inland water ecosystems have great diversity and ecological complexity, encompassing humid areas of high naturalness, richness, rarity or uniqueness of species and their habitats. The particular characteristics of the bodies of groundwater and the relevance of the stygofauna in self-purification should also be noted.

These ecosystems are complex, ecologically open and deeply dependent on drainage basins and interactions with surrounding terrestrial ecosystems, being subject to different degrees and types of human intervention and being very vulnerable to human pressure (extraction, pollution, changes in connectivity, morphology and flow, degradation of riparian galleries, invasion by alien species, climate change).

They provide numerous environmental services, particularly water supply. In mainland Portugal, water availability is deeply dependent on the efficiency of water use in agriculture, which consumes about 75% of the volume of water abstracted.

The publication "Ecosystems and Human Well-being: Millennium Ecosystem Assessment for Portugal"[1] proposes different scenarios based on the typologies advocated by the Millennium Ecosystem Assessment, in response to possible trends, for the different ecosystems in mainland Portugal.

Autonomous Regions

The oceanic archipelagos of Madeira and the Azores are the two Portuguese island regions and are part of the Macaronesian biogeographic region, one of the most rich European regions in fungal, plant and animal diversity, according to Borges *et al*. (2008). Its ecosystems are unique, possessing a high biodiversity, rich in endemism and of great environmental, economic and social value, providing extremely valuable services to numerous productive, recreational, tourist and cultural activities, being a support for the regional economies.

The islands are particularly sensitive to anthropogenic disturbances, which in the island of Madeira, particularly in the southern part of the island, are caused by tourism, while in the Azores they derive mainly from changes in land use (especially those related to agriculture and forestry), eutrophication of wetlands and invasive alien species.

[1] http://ecossistemas.org/

Autonomous Region of Madeira

The Autonomous Region of Madeira (ARM), which includes the archipelagos of Madeira and the Selvagens, houses 7571 *taxa*, of which 19% are endemic, corresponding to 1286 species and 182 subspecies, mostly invertebrates (arthropods and land molluscs). The animal phylum is the most diverse corresponding to 58% of land biodiversity, the remaining 42% represented by plants and fungi. For the Madeira and Selvagens archipelagos, 512 bryophytes, including 36 Macaronesian endemics, are mentioned, with 11 exclusive to Madeira. 26 *taxa* of the archipelagos were selected as priorities for management in the European Macaronesia, integrating the TOP 100 of the priority threatened species in terms of Macaronesia management.

In terms of land ecosystems, the Laurel forest, which covers about 20% of the island of Madeira, has about 15,000 hectares and is mostly integrated in the Natural Park of Madeira, deserves special attention. Since 1999, this forest has been a World Natural Heritage site under the aegis of UNESCO, and since 1992 a Biogenetic Reserve by the Council of Europe. It is a priority habitat of the Habitats Directive (92/43/EEC) and many of its characteristic species are also protected by the Birds Directive (2009/147/EC). It integrates the Natura 2000 network (N2000). It has high scientific value, being rich in terms of biological diversity, with a high percentage of endemism. Arthropods and plants are the dominant elements, with well documented lichens, bryophytes, pteridophytes and phanerogams. It has a great socioeconomic importance, both in the island's hydrological regime and in terms of landscape.

Autonomous Region of the Azores

The Autonomous Region of the Azores (ARA) has unique ecosystems and a high biodiversity, with a unique set of endemisms and a genetic heritage of high patrimonial value. In the Azores there are 29 habitats (26 terrestrial and 3 marine) listed in Annex I of the Habitats Directive, of which 18 are exclusive to the Azores and 11 are common to Madeira. Of these 29, 9 are prioritary habitats. Although the original ecosystems are reduced due to six centuries of human intervention, new equilibria have been established and new ecosystems have been created by human activities, highlighting the semi-natural pastures extremely rich in endemic plant species that survive due to a low intensity of cattle grazing and low input of fertilisers. Associated with this pattern also many species of insects and other arthropod endemic to the Azores occur in these systems.

In the archipelago of the Azores the total number of species and subspecies is 8047. The number of terrestrial *taxa* is 6164 (*Fungi* 1328, *Chromista* 4, *Protoctista* 575, *Plantae* 1590 and *Animalia* 2667), of which 452 are endemic (*Fungi* 34, *Protoctista* 7, *Plantae* 80 and *Animalia* 331). Adding 325 *taxa* corresponding to non-nesting and potentially nesting birds, amounting to 6489 *taxa* in the Azorean terrestrial environment. Arthropods are the most diverse terrestrial group with 2,298 species and subspecies, of which 266 are endemic. Special references to the bat *Nyctalus azoreum*, the only mammal endemic to the Azores, and to the Azores bullfinch (*Pyrrhula murina*), a ground-nesting bird, endemic to the island of S. Miguel.

Marine Environment

Portugal has an approximate land area of 91760 km^2, with a coastline of 1793 km long, but has sovereignty or jurisdiction over a considerable marine area of about 1720560 km^2, including inland marine waters, territorial sea and Exclusive Economic Zones (EEZ) (Table 1). This sea area is about 18.7 times the land area [2].

	Land Area	Inland marine water	Territorial Sea	Exclusive Economic Zone
Mainland	88600	6510	16476	287715
Madeira	833	825	10823	442316
Azores	2331	6083	23660	926149
Total	91763	13419	50960	1656181

Table 1 – Terrestrial and marine areas of Portugal (km^2).

Portugal has the largest EEZ in the EU (in Europe), for which the archipelagos of Madeira, the Selvagens and the Azores make a very significant contribution.

The submission by Portugal to the Commission on the Limits of the Continental Shelf of the extension of the continental shelf area under its jurisdiction extends the national territory substantially, increasing it by 2150000 km^2 for a total of about 4000000 km^2, a maritime territory about 40 times greater than the land area.

The physiography of the mainland and autonomous regions of the archipelagos of Madeira and the Azores, in the Atlantic Ocean, is quite different.

In mainland territory, the platform extending to the edge of the continental slope, at a depth between 200 and 300 m, has a total area of about 20000 km^2, extending reasonably continuously along the coastline, with a width between 10 and 15 nautical miles.

The volcanic origin of the archipelagos, regardless of their substantial geological difference of age, means that they do not have a true continental shelf or a true coastal ocean.

Coastal and marine ecosystems provide a range of services of great magnitude and economic importance to a coastal country, but are subject to local or regional pressures (coastline occupation/artificialisation, pollution, overfishing, degradation of biotopes, reduction of sedimentary drainage), or even global (climate change, and consequent rise in sea level, increased sea turmoil, changes in ocean circulation patterns).

The EEZ, due to its archipelagic nature, extension and location in a biogeographic transition area, with a sympatric occurrence of species with subtropical, Mediterranean, temperate and sub-boreal affinities, presents a high biodiversity.

The EEZ that surrounds the ARM marks the southern boundary of the large maritime space under national jurisdiction, presenting important oceanic ecosystems with significant marine biodiversity. It covers an area about 500 times greater than the terrestrial area and comprises several fishing banks (Seine, Leo, Unicorn, Dragon, Susana and Ampere) distributed mainly in the North-Northeast direction, the closest being (Seine) at a distance of 135 nautical miles from the island of Madeira. These submerged mountains, being places with peculiar

[2] http://www.marinha.pt/pt-pt/historia-estrategia/estrategia/folhetospt/Portugal_uma_nacao_maritima.pdf

hydrographic and geological conditions, act as places of concentration for the epibenthic and pelagic fauna, usually presenting a high rate of endemism, being important places of passage for the transoceanic dispersion of coastal species and also functioning as local of breeding and/or feeding for migratory species.

There are 226 registered species of coastal fish in the Madeira Sea (Wirtz *et al*. 2008).

The oceanic archipelagos constitute an "oasis" for cetaceans in the middle of the vast Atlantic Ocean. Oceanographic and ecological characteristics are the basis of this preference and are generally related to the availability of food (higher productivity of the archipelagic sea in relation to the high seas), with the conditions they offer for the development of activities such as reproduction, birth and survival of the offspring in the first years of life, socialisation, rest, among others (Freitas *et al*. 2004).

The most recent projects for the inventory and assessment of the conservation status of cetaceans in Madeira (i.e. EMECETUS, CETACEOSMADEIRA I and CETACEOSMADEIRA II[3]), carried out by the Madeira Whale Museum, reported 26 species (Freitas *et al*. 2012). The Mediterranean monk seal (*Monachus monachus*), the sole representative of pinnipeds, is circumscribed to the Desertas Islands and to the island of Madeira, with an estimated population of 30-40 individuals.

Still in the ARM, for invertebrates, and for decapod crustaceans, 127 species are catalogued to date (Araújo & Calado, 2003). Twenty-seven species of Cirripedia (e.g. barnacles), distributed in 20 genera, of which 22 occur at a depth of less than 200 metres (Wirtz *et al*. 2006). This low diversity is probably a consequence of the distance to the mainland coasts and the small area of available habitat, where there are no endemic species. At the level of macroalgae and marine algae, 359 species of algae are registered (Neto *et al*. 2001), with emphasis on the *Chlorophycota* (green algae - 64 species), *Chromophycota* (64 species) and *Rhodophycota* (red algae - 231 species) divisions.

[3] http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=3344

1.2 Main changes that occurred in the states and trends of biodiversity in Portugal

Conservation status of species and habitats in biogeographic regions (Atlantic, Mediterranean, Macaronesian, Marine Atlantic and Marine Macaronesian)

The results of the national report on the implementation of the Habitats Directive for the period 2007-2012 on the conservation status of species and habitats included in the reference lists for Portugal are presented in Table 2.

BIOGEOGRAPHIC REGION	STATE OF CONSERVATION	SPECIES (no.)	%	HABITATS (no.)	%
Atlantic	Favourable	16	18	8	21.6
	Inadequate	23	25.8	26	70.3
	Bad	4	4.5	3	8.1
	Unknown	46	51.7	-	
Mediterranean	Favourable	33	16	24	29.6
	Inadequate	74	35.9	49	60.5
	Bad	20	9.7	5	7.4
	Unknown	79	38.3	3	2.5
Marine Atlantic	Favourable	1	10	-	
	Inadequate	3	30	4	67
	Bad	-		1	17
	Unknown	6	60	1	17
Macaronesian	Favourable	32	32.5	11	40.7
	Inadequate	25	25.5	12	44.4
	Bad	17	17.3	3	11.1
	Unknown	24	24.5	1	3.7
Marine Macaronesian	Favourable	-		3	60
	Inadequate	6	25	-	
	Bad	-		-	
	Unknown	18	75	2	40

Table 2 - Conservation status[4] of species (except birds) and habitats in biogeographic regions for the period 2007-2012.

[4] Conservation status of a natural habitat is defined as the combined effect of influences acting on the natural habitat in question, as well as on the typical species living in it, likely to affect in the long term its natural distribution, structure and their functions, as well as the long-term survival of their typical species.
The conservation status of a natural habitat shall be considered favourable where its natural range and the areas within it are stable or expanding and the structure and specific functions necessary for its long-term maintenance

These results indicate that the unfavourable condition prevails over the favourable condition in all regions, for species and habitats (except in Marine Macaronesian). In the Marine Atlantic no habitats were recorded in favourable conditions, as well as in any species of the Marine Macaronesian.
The high percentage of unknown condition stands out, in particular for the species.

The overall assessment of the condition of the different habitat types in the biogeographic regions is presented in Table 3. Dunes, forests, coastal habitats and meadows are the natural habitats with the highest number of situations of unfavourable state (bad or inadequate).

	Favourable			Unfavourable						Unknown		
Overall assessment	FV			U1			U2			XX		
Group	**ATL**	**MED**	**MAC**	**ATL**	**MED**	**MAC**	**ATL**	**MED**	**MAC**	**ATL**	**MED**	**MAC**
Coastal habitats (1XXX)		4	3	6	6	1		1	2			2
Dune habitats (2XXX)				6	9	1		2				
Freshwater habitats (3XXX)	2	4	2	2	6	2		2				
Heath and scrubland (4XXX)	1	3	2	2	2							
Sclerophyllous scrub (5XXX)		5		1	3	1						
Grassland (6XXX)	1	3		4	6	1					1	
Peat bogs (7XXX)			2	1	1	1		1	1			
Rocky Habitats (8XXX)	2	3	2	1	3	1						1
Forests (9XXX)	2	2		3	13	4					1	
Subtotal	8	24	11	26	49	12		6	3		2	3
Marine habitats (MATL)	-						1					
Marine habitats (MMAC)	3									1		
Subtotal	3						1			1		

Table 3 - Conservation status of habitats in biogeographic regions (for the period 2007-2012).

The overall assessment of the condition of the different taxonomic groups is presented in Table 4. Among the species it should be noted that most invertebrates present an unknown (70%) or unfavourable (22%) conservation status, similar to that of the amphibian group (respectively, 75% and 25%). Reptiles and fish show the least number of unknown conservation status, although they are also the groups with the highest percentages of

exist and are susceptible to continue to exist for the foreseeable future and the state of conservation of typical species is favourable.
Conservation status of a species is defined as the effect of all the influences that, acting on the species in question, can affect, in the long term, the distribution and the importance of its populations. The conservation status shall be considered to be favourable where data on the dynamics of the populations of the species concerned indicate that this species continues and is likely to continue in the long term to constitute a vital element of the natural habitats to which it belongs and the natural range of this species does not diminish or threaten to diminish in the foreseeable future and there is likely to be a sufficiently large habitat for its populations to be maintained in the long term;

unfavourable conditions (65% and 57%, respectively). Only amphibians and reptiles do not have species with an unfavourable-bad state.

Group	Favourable		Unfavourable				Unknown	
	FV	%	U1	%	U2	%	XX	%
Non-vascular plants (18)	5	24.22	5	30.49	_	11.21	8	33.18
Non-vascular plants (205)	49		63		25		68	
Molluscs (18)	3	8.11	_	_	7	21.62	8	70.27
Arthropods (19)	_				1		18	
Fish (30)	10	33.33	13	43.33	4	13.33	3	10
Amphibians (20)	_	_	5	25	_	_	15	75
Reptiles (17)	4	23.53	11	64.71	_	_	2	11.76
Mammals (98)	10	10.20	34	34.69	4	4.08	50	51.02

Table 4 - State of conservation of the species by taxonomic group at national level.

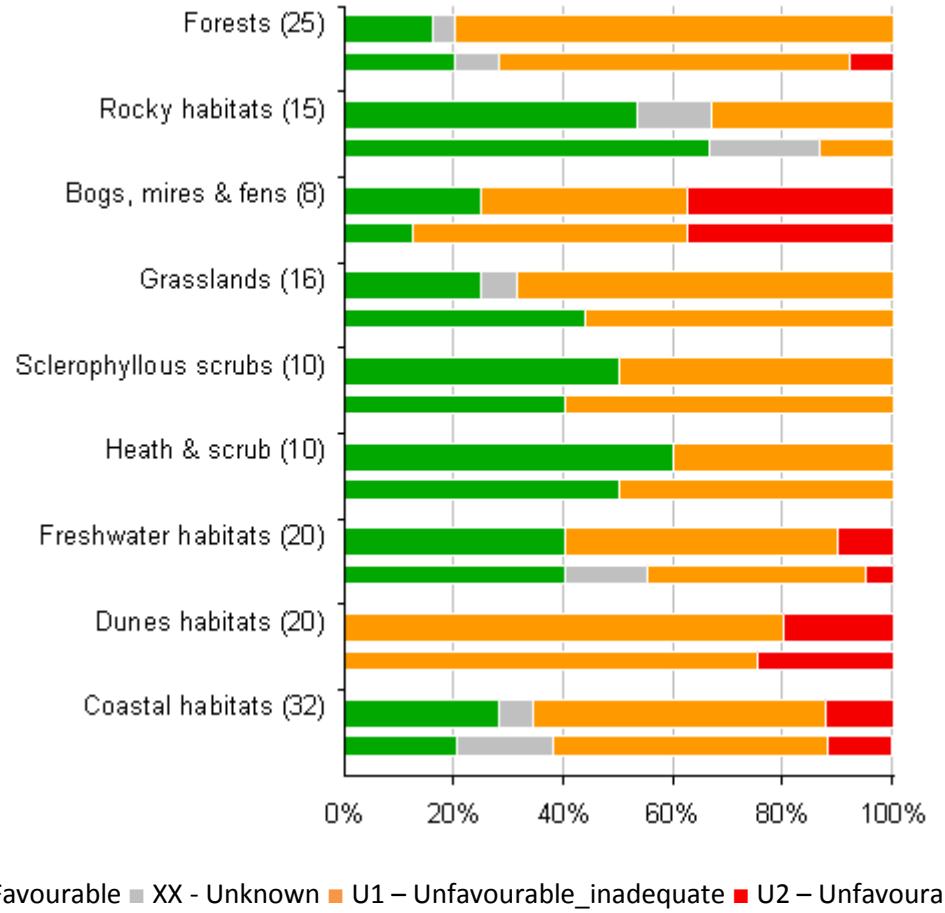

Figure 1 - Overall comparison of the assessments for the periods 2007-2012 and 2001-2006 by habitat group. Top bar: 2007-2012; bottom bar: 2001-2006. In parentheses are the numbers of biogeographic evaluations (2007-2012 and 2001-2006) for each group of habitats.

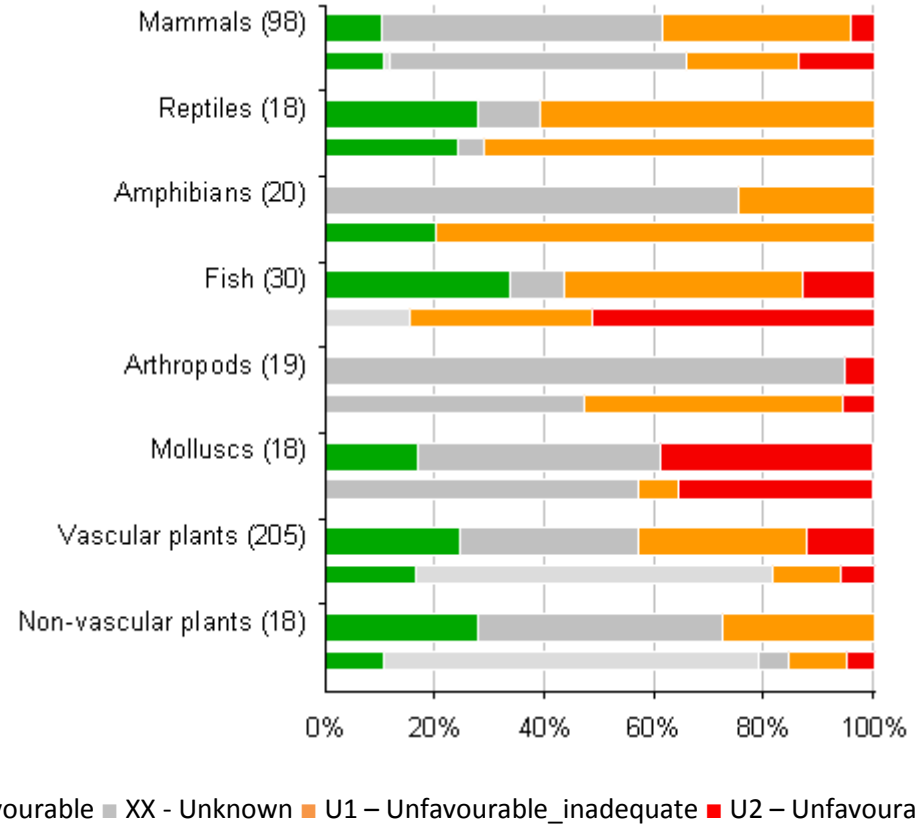

Figure 2 - Overall comparison of the assessments for the periods 2007-2012 and 2001-2006 by species group. Top bar: 2007-2012; bottom bar: 2001-2006. In parentheses are the numbers of biogeographic evaluations (2007-2012 and 2001-2006) for each group of species.

Figures 1 and 2 show the percentage of biogeographic assessments for the 2007-2012 and 2001-2006 periods for habitat and species groups (except for Birds).

The national report on the implementation of the Habitats Directive for the period 2007-2012 provides information on trends in natural habitats and species (other than Birds) protected.

Trends of unfavourable assessments in the reporting period, which are expected to continue in the future, for habitats and species (other than Birds), are presented in figure 3 below. Analyses of the proportion of unfavourable evaluations that are improving, worsening, stable or unknown, highlight where progress has been made or where special attention is needed.

The unknown trend is very significant (over 50%) for the group of species (other than Birds) and indicates the absence of relevant data for the period 2007-2012.

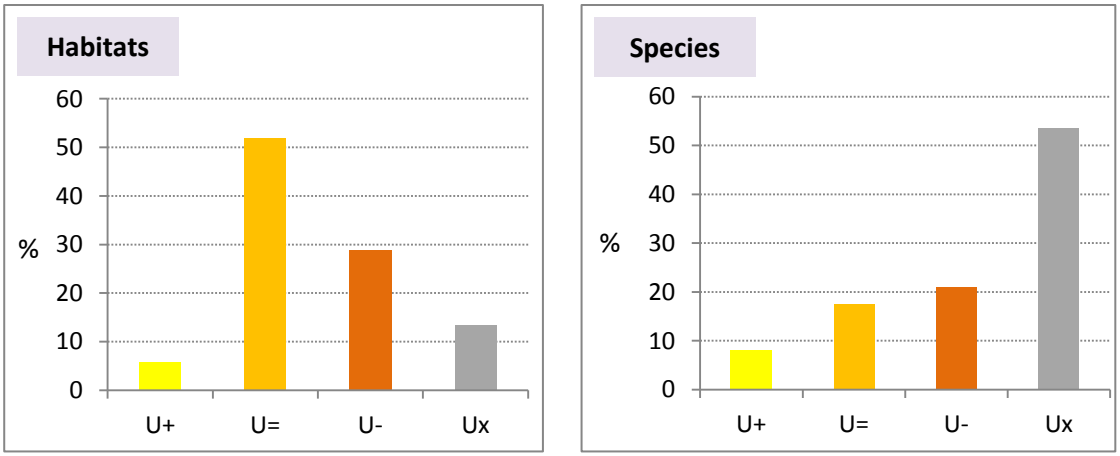

Figure 3 - General trend of conservation status of habitats and species (except Birds) [U+ - unfavourable (inadequate and bad) to improve, U= - unfavourable stable, U- - unfavourable to deteriorate, Ux - unfavourable with an unknown tendency].

As far as birds are concerned, the national report on the implementation of the Birds Directive (2008-2012) provides information on the population and on the range trend of the species to mainland Portugal, Azores and Madeira (figures 4 to 9).

Two trends periods are considered: short-term trends (in the last 12 years) to assess current and recent trends and trends and long-term trends (from around 1980) to assess progress since the Birds Directive came into force. Five categories of trend were considered: stable, fluctuating, increasing, reduction and unknown. Fluctuating defines species whose average population level does not change (i.e. in the long term), but which are characterised by large interannual abundance variations, sometimes of one or two orders of magnitude.

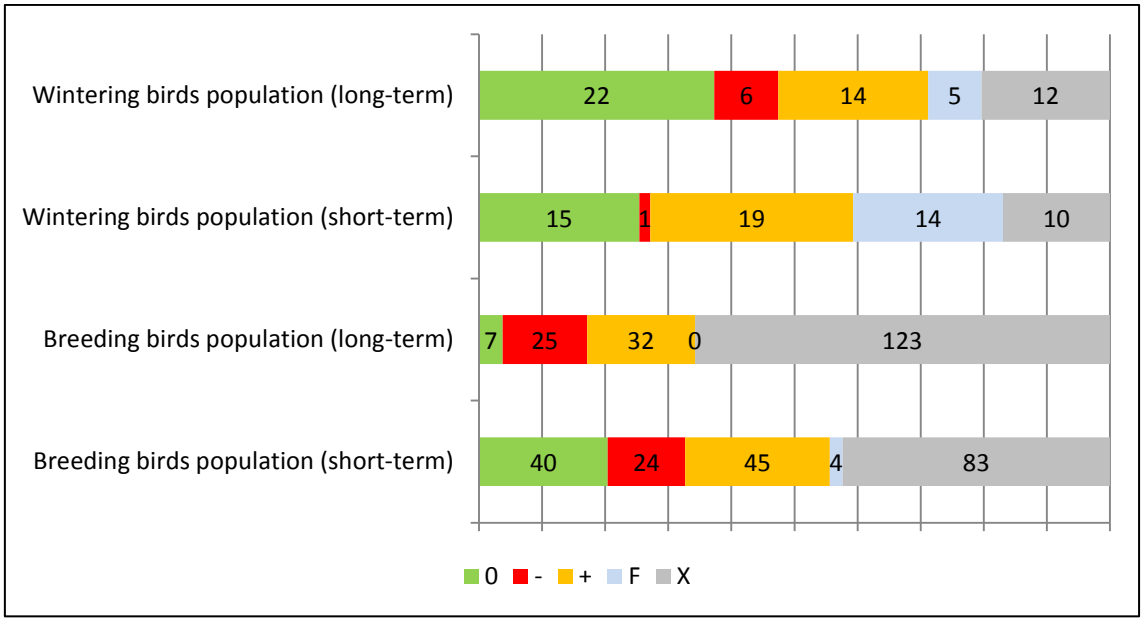

Figure 4 - Trends of bird populations in mainland Portugal
(Nesting assessments = 196; Wintering assessments = 59).

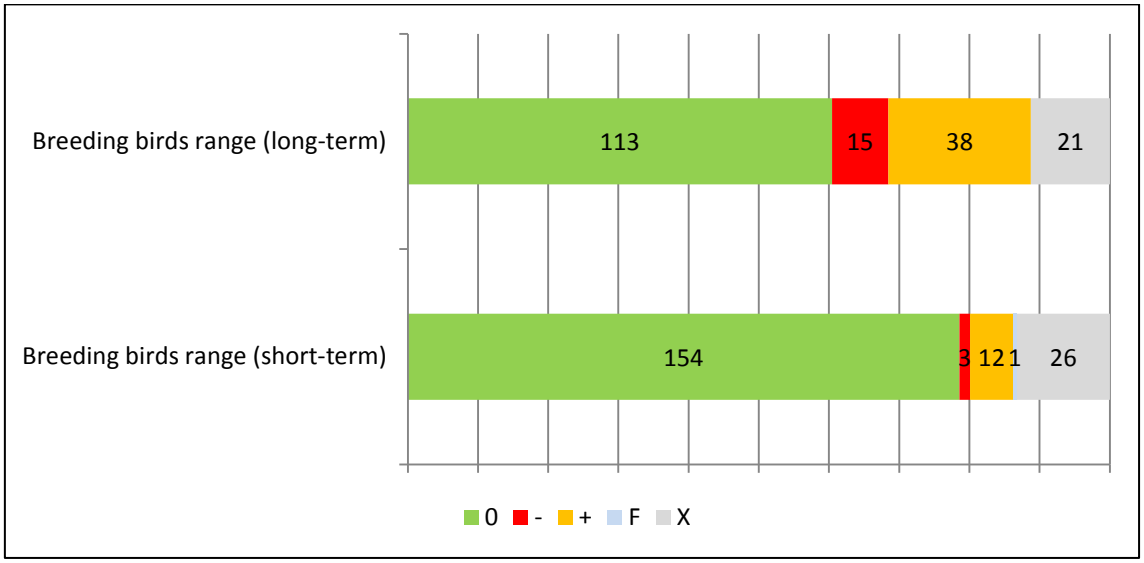

Figure 5 - Trends of bird populations range in mainland Portugal
(Nesting assessments = 196; Wintering assessments = 59).

Figure 6 - Trends of bird populations in the Azores archipelago
(Nesting assessments = 34).

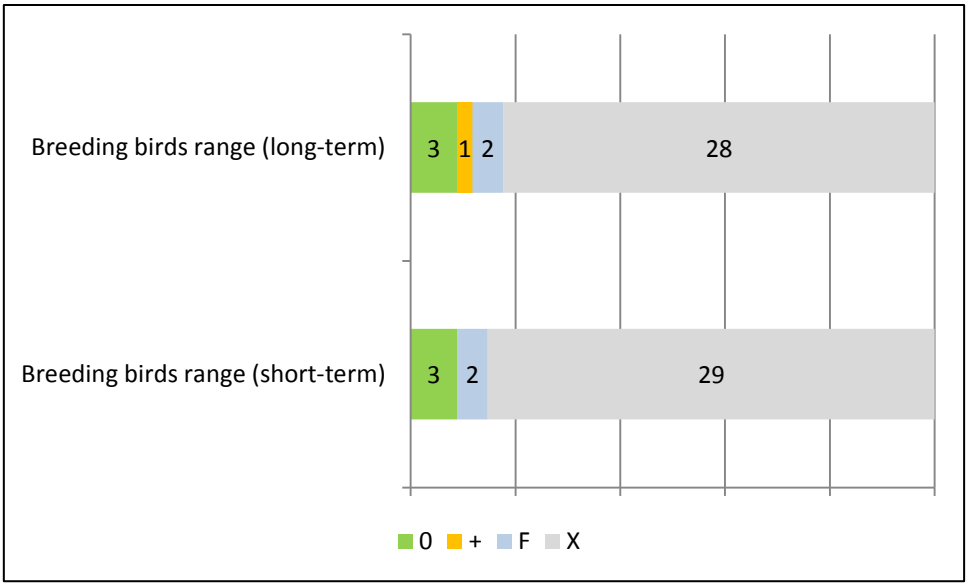

Figure 7 - Trends of bird populations range in the Azores archipelago (Nesting assessments = 34).

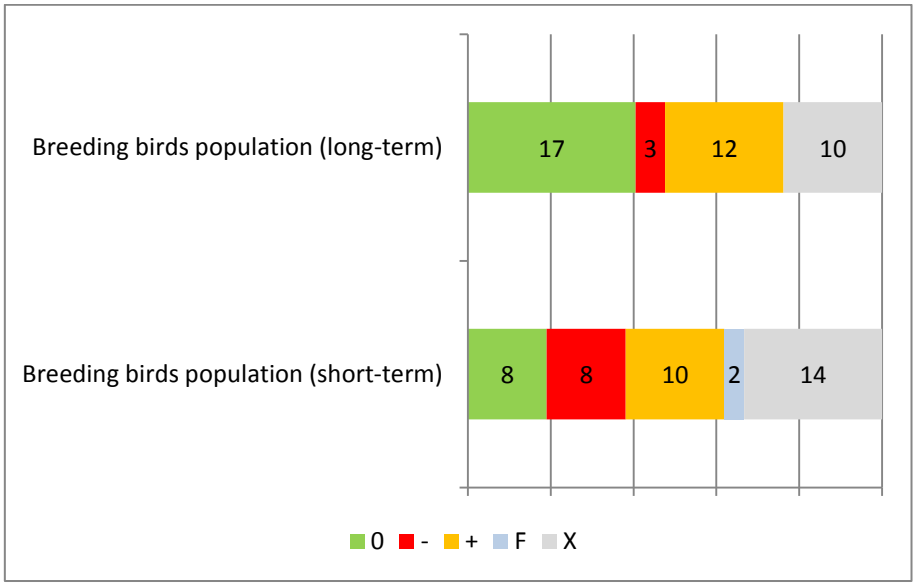

Figure 8 - Trends of bird populations in the Madeira archipelago (Nesting assessments = 42).

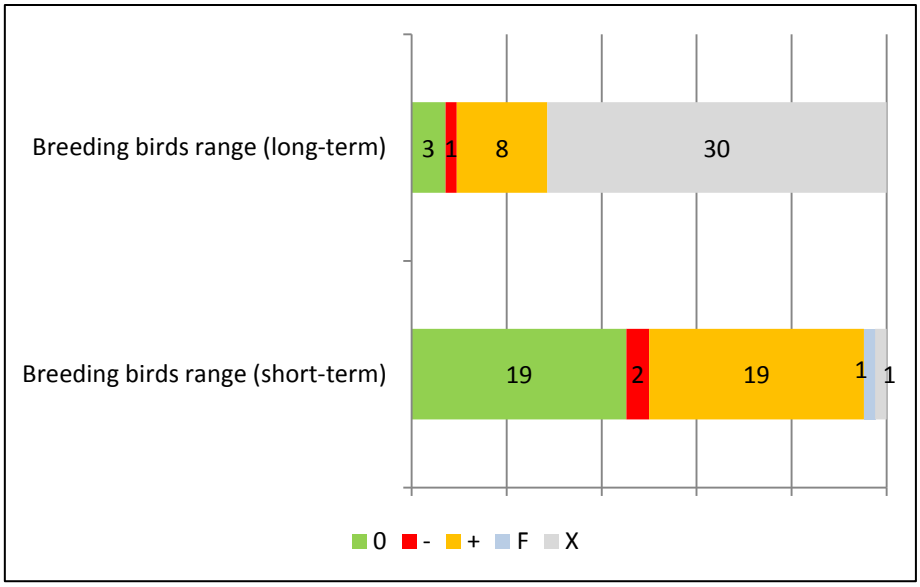

Figure 9 - Trends of bird populations range in the Madeira archipelago (Nesting assessments = 42).

1.3 Main pressures and threats to biodiversity

Pressure is understood as a negative factor acting currently on the natural value and threat as a negative factor that is expected to come in the future to act on the natural value.
Information on habitat and species pressures or threats (except birds) is provided by the national report on the Habitats Directive (2007-2012) (figures 10 and 11).

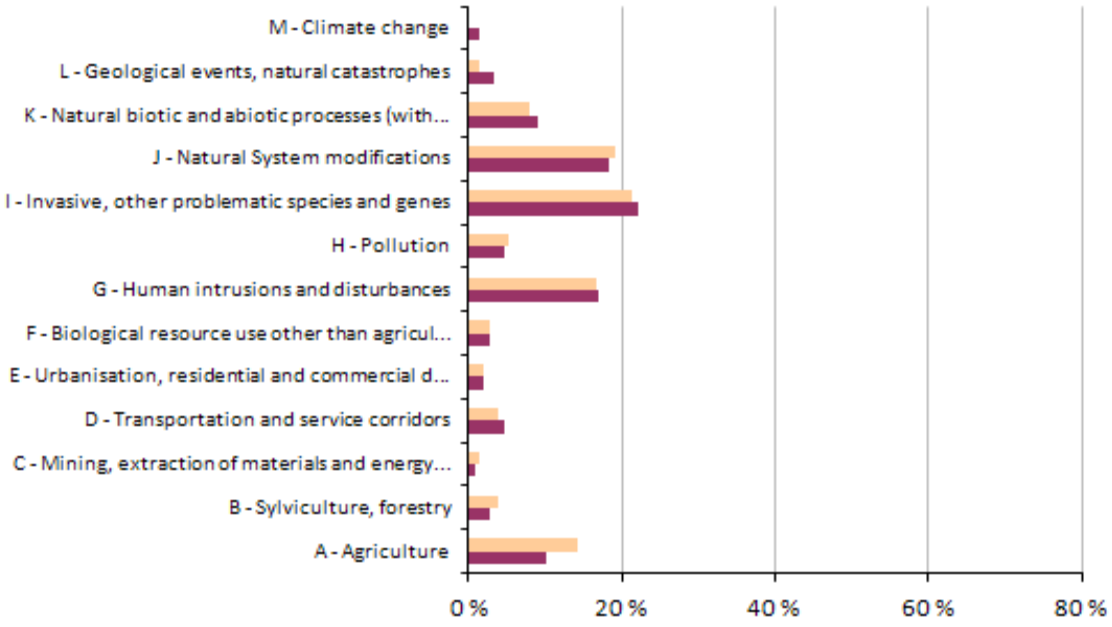

Figure 10 - Percentage of habitat assessments reported to be affected by one or more "high" importance pressure or threat. pressures threats

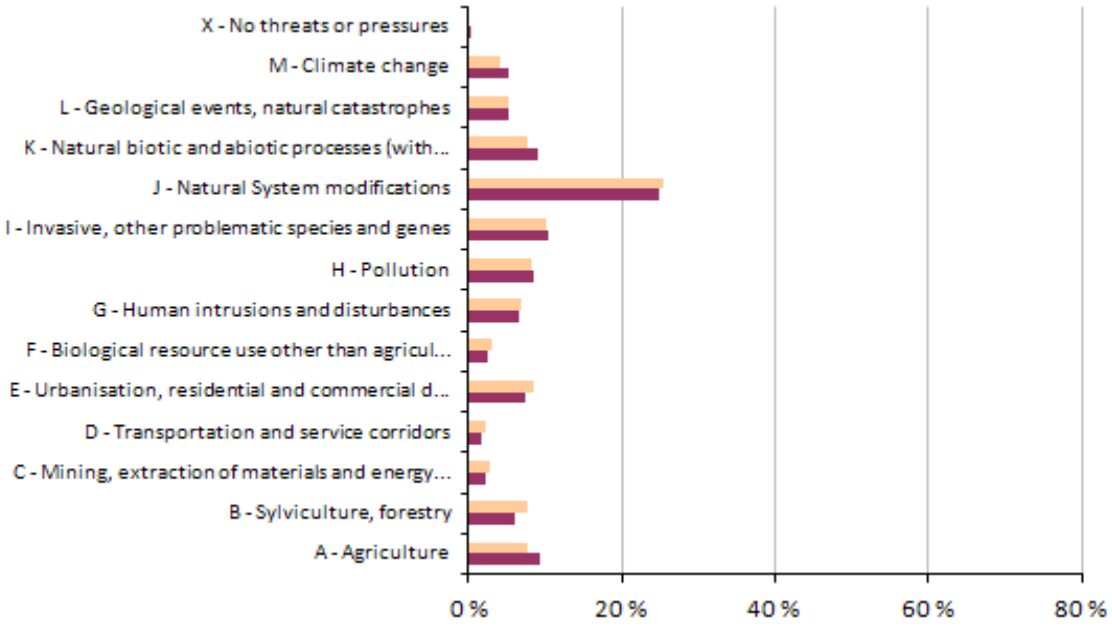

Figure 11 - Percentage of species assessments (except Birds) reported to be affected by one or more "high" importance pressure or threat. pressures threats

Similar information on pressures or threats on bird species is provided by the national report on the Birds Directive (2008-2012) (figures 12, 13 and 14).

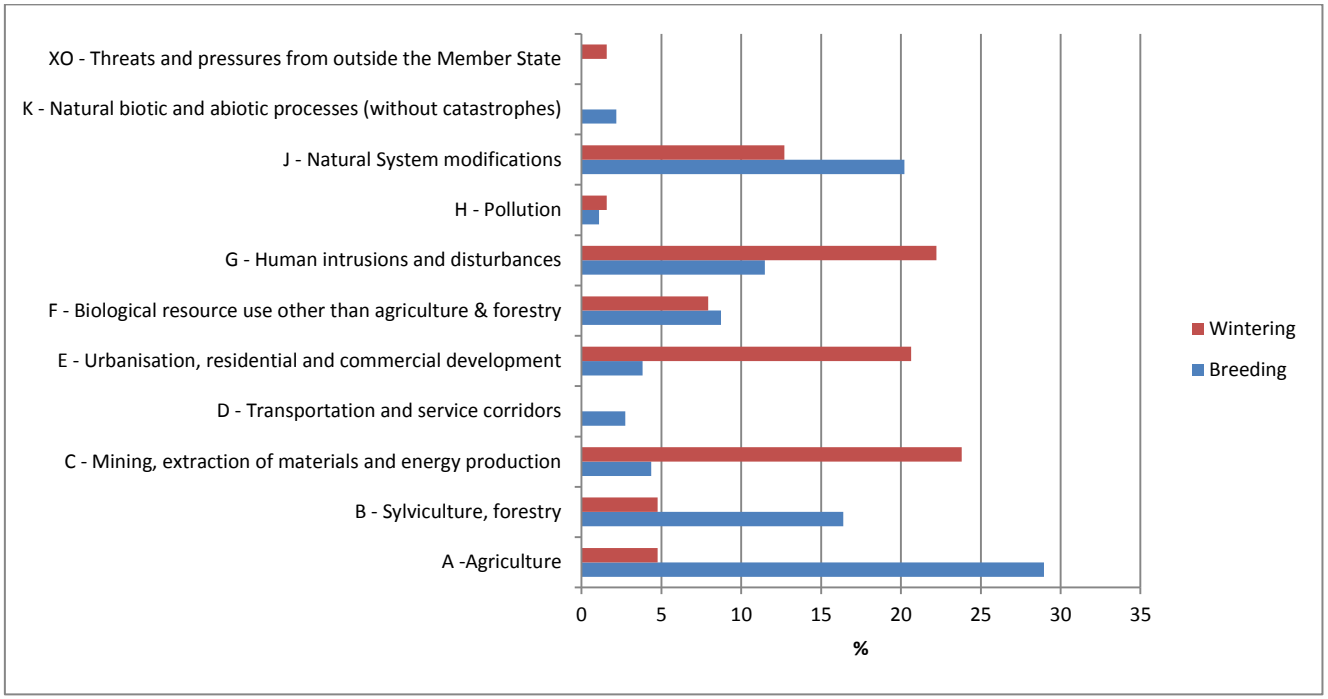

Figure 12 - Percentage of evaluations of nesting and wintering bird species reported to be affected by one or more "high" pressures or threats in mainland Portugal.

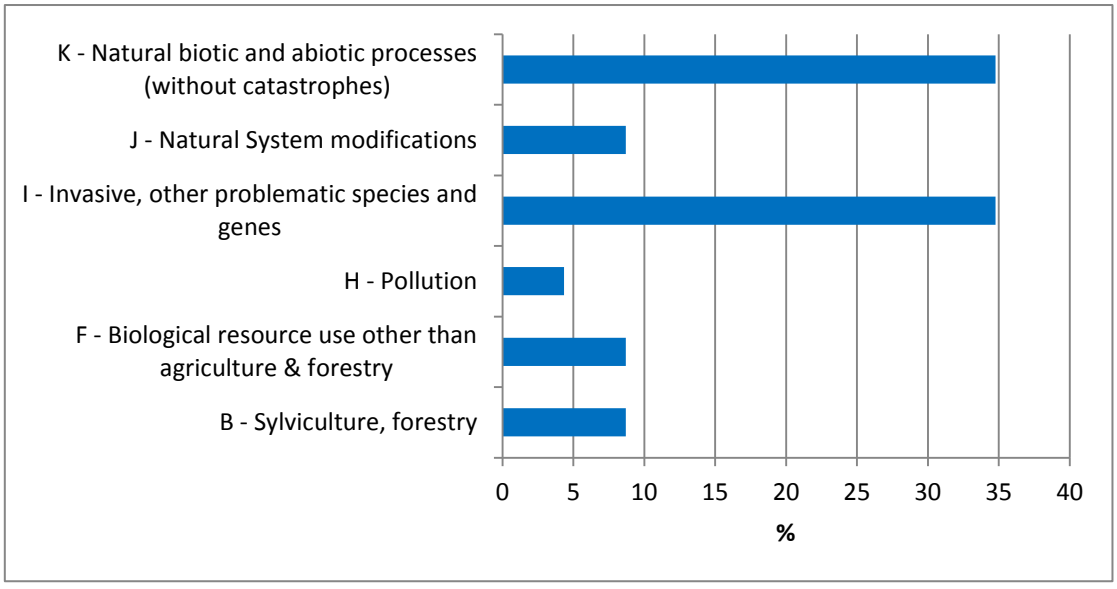

Figure 13 - Percentage of assessments of nesting bird species reported to be affected by one or more 'high' pressures or threats in the Azores archipelago.

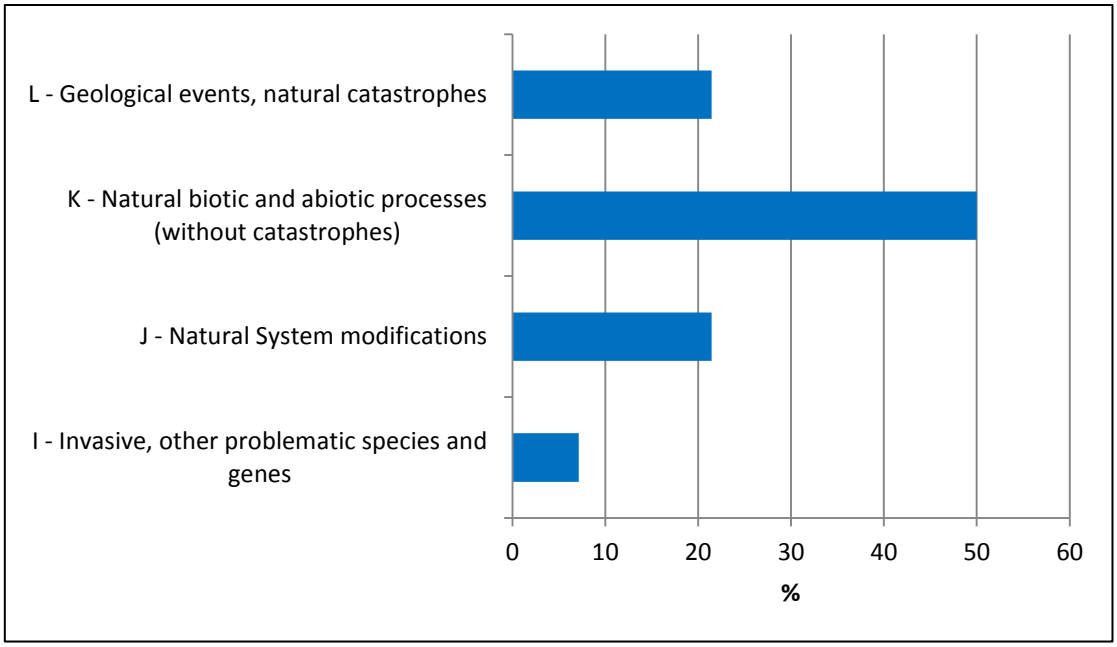

Figure 14 - Percentages of nesting bird species reported to be affected by one or more 'high' pressures or threats in the Madeira archipelago.

1.4 Impact of changes to biodiversity for ecosystem services and their sociocultural implications

Mainland Portugal

There is no assessment in Portugal of the impact of changes to biodiversity on ecosystem services or the sociocultural implications of ecosystem services. Nevertheless, there are initiatives for valuing biodiversity and ecosystem services that are worthy of note[5].

Following the adoption of the CBD Strategic Plan for the period 2011-2020, the European Commission presented in May 2011 the EU Biodiversity Strategy to 2020, which is organised around 6 Targets and 20 actions to be implemented during the period from 2011 to 2020.

This Strategy foresees the pursuit of a number of particularly ambitious and complex objectives with well-defined timetables and targets and with a very high level of resource requirements, technical capacity building, involvement of various administrative and private sectors, and political guidance.

Target 2 "Maintenance and Recovery of Ecosystems and their Services" of the EU Biodiversity Strategy to 2020 consists of "By 2020, ecosystems and their services are maintained and enhanced by establishing green infrastructure and restoring at least 15 % of degraded ecosystems". Of the 3 actions planned for the achievement of Target 2, we highlight "Action 5: Improve knowledge of ecosystems and their services in the EU". In this context Portugal has been developing a series of initiatives that contribute to the implementation of Action 5:

- 2011 - *Ecosystem Valuation Initiative* - the case study of the Serra da Estrela Waterfall and its watershed;
- 2014 - Economic valuation and governance of marine ecosystem services - Case study of TEEB Oceans and Coasts;
- 2014 - ptMAES *Mapping and Assessment of Ecosystems and their Services - Forests Pilot Study*;
- 2014 - Pilot ptTEEB Natural Park of Serra de São Mamede - mapping and evaluation of ecosystems and their services, focused on the agricultural, forestry and agroforestry ecosystems of the Alentejo region in the current pilot phase, which aims for the coming years to assess the contribution and relationship of ecosystem services to the various sectors and economic activities, and to integrate initiatives to account for the economics of ecosystems in a TEEB (The Economics of Ecosystems and Biodiversity) logic.

Autonomous Region of Madeira

In the ARM, the tourism sector is the largest employer, with a significant regional and local socioeconomic impact. Most tourist activities (e.g. hiking, canyoning) are developed in PA and CA and have a sustainable character. In view of the tourist potential of the pedestrian paths (trails and tracks), a continuous public investment is foreseen in its improvement or recovery.

[5] http://www.icnf.pt/portal/naturaclas/mase

There are 28 recommended walking routes on the island of Madeira and 2 on the island of Porto Santo, covering 197.2 km. It is also worth noting that the Laurel Forest of Madeira is considered Natural World Heritage, Santana municipality has been distinguished by UNESCO in 2011 as a Biosphere Reserve and the increasing value of cetacean observation activity.
Within the scope of the Action Plan for Research, Technological Development and Innovation, actions are planned for the implementation of mechanisms for valuing biodiversity.

Autonomous Region of the Azores

In the ARA the values of biodiversity are included in operational programmes and planning instruments that consider that the development involves the enhancement of the environmental area, such as the preservation of the environment and the valuation of environmental services. Biodiversity conservation is fundamental for the regulation and maintenance of island ecosystem services. Indigenous forest areas play a key role in water regulation, soil maintenance, mitigation and adaptation to climate change, reduction of soil and water pollution and as a reservoir of unique biodiversity and with an indirect economic value due to its high aesthetic value and recreational potential.

Considering the importance of island ecosystem services it is recognised that there is a need to quantify the services of the natural and modified ecosystems of the ARA in order to understand their relative contribution to food production, drinking water, carbon sequestration, soil maintenance and recreation.

In humid ecosystems, water lines (watercourses and waterfalls) are a potential source of drinking water for populations, of high scenic value who promote oudoor tourism. Peat bogs are relevant as structuring elements of the landscape, such as buffers/retainers of the natural water cycle, even in the upper reaches of the islands, upstream of the water lines. They also function as greenhouse gas sequesters (methane and carbon); as promoters of zonal and azonal biodiversity and of physical stability in the upper island areas, limiting the occurrence of disasters (landslides). Semi-natural pastures play an important ecological role, benefiting the diversity of arthropods and native vascular plants. Coastal areas, in a high natural state and with high ecological value, promote activities related to nature and rural tourisms, diversifying economic activities. Lagoon ecosystems play an important role in coastal protection, as well as in the nesting and passage of migratory birds, which in turn promotes birdwatching. In marine waters, the watching of marine species (e.g. mammals) and underwater caves, bathing uses, recreational activities, such as fishing, are relevant.

Chapter 2 Implementation of the Strategic Plan for Biodiversity 2011-2020, including the Aichi Biodiversity Targets for 2020, and actions taken

Strategic objective A. Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

Target 1: By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.

An evaluation carried out in 2013 (Eurobarometer)[6] contains the results of a citizen survey, answering the following questions:

- Importance and seriousness of biodiversity loss
- Individual efforts to address the loss of biodiversity
- The Natura 2000 network and the importance of nature conservation areas
- Measures that the European Union must take to protect biodiversity

The Natural.PT Brand was officially launched on the 25th of July of 2014 and is owned by the Institute for Nature Conservation and Forests, IP. The initiative is part of a model of management of protected areas of mainland Portugal that associates the protection of biodiversity and the economic development of the regions (relevant to Target 2). The Natural.PT initiative and its strategy are integrated into the financial programming of Portugal 2020 and were also considered in the recently launched National Nature Tourism Programme.
It is intended to be a network of territories of excellence, with a joint and coherent promotion strategy; a network of entities that work together and are committed to the promotion and dissemination of all brand partners; a set of outstanding entities, associated with the valuation and usufruct of protected areas; and an incentive to conduct environmentally and socio-economically responsible behaviour on the part of the adherents.
This initiative provides the participating entities with promotion and dissemination as entity/product/service Natural.PT in national and international events in which the brand is present; dissemination in promotional materials and events of the Natural.PT brand; integration in the brand portal, in social networks associated with the brand and in search engines available to consumers; cross-promotion, namely with the dissemination and referral of consumers to Natural.PT partners.
On the other hand, it develops in a coordinated and articulated way the promotion of the National Network of Protected Areas by making it known and inviting a greater visitation of these spaces, with greater awareness and available information to visitors and tourists.
During the course of 2015 several actions were developed within the scope of the brand, the main one being the recruitment of members, since they are fundamental for the project to develop, having been reached 254 products and adherent services of 105 different entities.

[6] http://ec.europa.eu/public_opinion/flash/fl_379_fact_pt_en.pdf

The contents of the Marca Natural.PT[7] site in Portuguese and English have been increased, which is the basis of the project, where protected areas are advertized, with information on their natural, heritage and ethnographic values, suggestion of routes, useful advices and contacts, events, and is the platform where all the adherents are publicized. The Natural.PT monthly newsletter was launched, whose first number came out in July 2015. The Facebook[8] page has been started up.
Several Natural.PT events were held, 4 Natural.PT product shows and services (in Lisbon, Sintra and Silves), awareness events throughout the country, the Natural.PT Roadmap, where the President of the ICNF IP Board and the Secretary of State for Territorial Management and Conservation of Nature visited and contacted many of the adherents in several protected areas around the country, leaflets were published to publicise the Protected Areas, the Natural.PT brand and the adherents, and the first edition of the Natural.PT Awards took place, aimed at rewarding good practices in protected areas developed by the brand's adherents.

The Observanatura[9] fair is an initiative dedicated to nature tourism. On 10 and 11 October 2015, Herdade da Mourisca hosted the Observanatura fair for the seventh time, organised by the ICNF and Tróia-Natura, with partners such as Setúbal City Hall and the Biodiversity4all Association. It was attended by 43 exhibitors, especially nature tourism companies, NGOs, companies of optical equipment and other products related to bird watching and other nature tourism activities, and food companies.
The extensive program included communications, workshops and mini-courses (e.g. photography, plant identification, ringing of birds) and activities free to the public, such as captive hot air ballooning, children's rope obstacle course, boat-rides in the estuary, ringing of birds, bird watching with the support of SPEA and building of bird houses by the Buçaco National Forest Foundation.

Throughout 2015, there were 19 Open Days of PAs, events that celebrate the day of creation of the respective Protected Areas, with various activities open to the public, such as PA tours, workshops and volunteer actions.

The 3rd International Congress of Environmental Education of the Portuguese Speaking Countries and Communities took place in July 2015. It was organised by the Portuguese Environmental Education Association, the Centro Ciência Viva of University of Aveiro and Murtosa City Hall[10]. Under the theme "Environmental Education: Crossings and meetings for common goods", it contributed to the strengthening of the networks and communities that work in the area of Environmental Education in the Lusophone and Galician space and under the guidance of the Peoples' Sustainability Treaty on Environmental Education for Sustainable Societies and Global Responsibility and the Earth Charter, an it was organised around 10 Thematic Axes[11].

[7] http://natural.pt

[8] www.facebook.com/Natural.PT

[9] http://www.observanatura.com/

[10] http://ealusofono.org/index.php/

[11] http://ealusofono.org/index.php/a-programacao/eixos-tematicos

Worthy of mention is the project *LIFE+ BIO+SINTRA Enhancing Biodiversity in Sintra, Europe's First Cultural Landscape (2010 to 2013).* Its objectives were to promote the active participation of the public in the conservation of the main natural values of the Serra de Sintra and to raise awareness of the causal relationships between daily activities, carbon emissions, climate change and loss of biodiversity to foster the adoption of environmentally friendly behaviour and sustainable visits to Sintra, which amount to about 1 million visitors per year[12].

The iGEO Initiative - Open Geographic Information[13] promotes the multidisciplinary use of reference data of the Public Administration, whose main target audience is the public administration, educational and research institutions, NGOs and also private companies (also relevant to Aichi Target 2).

The Open Geographic Information Portal is developed in three essential areas, namely:

- A directory of web services and georeferenced base data, with detailed information about them and possibility of visualisation;
- An open source area dedicated to the development of mobile applications, which fosters the cooperative development and use of the data sources made available by the portal;
- A challenging area for the imagination to promote a mobile app contest.

The data will be available, in a permanent and dynamic way, in a pre-established format, in order to ensure its integration, in real time, in the applications used or developed by the users. The availability of these reference data, enabling their reuse or integration in other information systems, supports the creation and development of new business models, and contributes to a more sustained decision-making, supported by a detailed analysis of risks and trends.
Participating entities include the Portuguese Environment Agency, the Territorial Directorate General, the Institute for Nature Conservation and Forests and the Institute for Housing and Urban Rehabilitation.
In this portal, the ICNF provides various geographic information relevant to Biodiversity:

- **National Network of Classified Areas:** It consists of the National Network of Protected Areas, the areas that make up the Natura 2000 network (SCI and SPA) and the other areas designated under international agreements by the Portuguese State.
- **Protected Areas:** The National Network of Protected Areas includes areas whose biodiversity or other natural occurrences have, by their rarity, scientific, ecological, social or scenic value, a special relevance that requires specific conservation and management measures, regulating artificial interventions that may degrade them.
- **Natura 2000 network:**
  - SCIs are designated for the maintenance or restoration of favourable conservation status of natural habitats or of populations of flora and fauna listed in Annexes I and II of the Habitats Directive and occur on the site. They will be part of the European ecological network, Natura 2000, after being classified as a Special Area of Conservation.

[12] http://biomaissintra.parquesdesintra.pt/webapp/index.php/pt/site/home/

[13] http://www.igeo.pt/

- SPAs are areas of national territory of Community importance in which the necessary measures are taken to maintain or restore the conservation status of wild bird populations listed in Annex I to the Birds Directive and their habitats as well as bird species not mentioned in this annex and whose occurrence in the national territory is regular. They are part of the Natura 2000 network, an ecological network of European scope.

- **RAMSAR Wetlands:** Ramsar Sites are areas included in the National Network of Classified Areas, whose natural values are recognised as being of supranational relevance under the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention).
- **Trees of Public Interest:** They are trees that by their size, design, age, rarity, historical or cultural reasons are distinguished from the other specimens, which constitute a heritage of very high ecological, landscape, cultural and historical value, largely unknown to the Portuguese population.
- **Burnt areas:** National cartography on burnt areas based on the European Forest Fire Information System (EFFIS) of the JRC (Joint Research Centre), feeding on information from the Modis satellite images. The basic information is verified in field surveys carried out by the GNR and/or the Forest Technical Offices, being the final version of the responsibility of the ICNF.
- **Regional Forest Plans:** They are “sectorial instruments of territorial management" that establish the norms of intervention on the occupation and the use of the forest spaces.
- **Forest Intervention Zone:** Continuous forest area belonging to several owners who organise themselves to jointly manage and protect their forest patrimony, supported by a single management entity with adequate technical capacity and with a cost centre.
- **Sites of Pine Wood Nematode Intervention:** Parishes where the presence of the Pinewood wood nematode is known or where the ICNF recognises the risk of its establishment and dispersal.
- **Pine Wood Nematode Buffer Zone:** Area of the mainland territory with a width of approximately 20 km adjacent to the border with Spain called a buffer zone.
- **Species Distribution:** Animal and plant species of Community interest whose conservation requires the designation of Special Areas of Conservation under the Habitats Directive (92/43/EEC).

The geographic information provided by the DGT comprehends more than 2000 web services, corresponding to the information produced and already made available by the DGT, in the various National Systems, namely National Geographic Information System and National Territorial Information System. The information is divided into 3 topics:

- **Cartography base** - access to the Official Administrative Map of Portugal (CAOP); Forest Fire Risk Map (CRIF), Digital Terrain Models (DTM), Orthophotomaps and various National cartographic series (1:10 000, 1:50 000, 1:100,000, 1:500,000, 1:1,500,000, 1:2,500,000);
- **Geodesy** - access to Geoid Geodata Model (Geod PT08), Permanent Stations Network (ReNEP), National Geodetic Network (RGN), National Gravimetric Network (RNG) and High Precision Geometric Levelling Network (RNGAP);

- **Territorial Management** - access to Territorial Management Instruments (TMI), Servitudes and Public Utility Restrictions (SRUP); Public Collective Use Equipment (GEOEQUIP); Map of the Land Use Regime (CRUS); Land Occupation Map (COS), Map of Landscape Units (CUP).

The geographic information provided by the IHRU originates from the inventory produced under the Information System for Architectural Heritage (SIPA) relating to heritage data in the following categories: Building and Structure, Architectural Complex, Green Space, Urban Complex and Landscape. The information is divided into two topics:

- **Protected Heritage** - access to information on all legally protected Portuguese heritage as a cultural or natural heritage of local, regional, national and/or global value.
- **Unprotected Heritage** - access to information on all Portuguese heritage without legal protection as a cultural or natural heritage.

Regional and local levels

At the level of the regional and local administration, the training and dissemination actions developed or supported by the Regional Coordination and Development Commissions (CCDR), open to the participation of technicians and stakeholders, namely central public administration bodies, local authorities, planning technical teams, universities and non-governmental organisations (NGOs), dealing with issues related to biodiversity and nature conservation, such as Natura 2000 Network Plan (PSRN2000), Forests, Territorial Management, National Ecological Reserve (NER), Environmental Impact Assessment (EIA) or Strategic Environmental Assessment (SEA).

An example of projects of local scope that have been implemented is BIORIA, which is aimed at making the society aware, increasing its contact with biodiversity, leading it to recognise and value the natural heritage of the Municipality of Estarreja. Since 2005, the recovery of environmentally degraded areas has been carried out and a network of pedestrian and cycle paths has been established, covering the whole of the County, accompanied by support structures and informative panels on the natural landscape and its diversified mosaic of habitats[14].

Autonomous Region of Madeira

The ARM has developed awareness-raising and environmental education activities (study visits, thematic workshops, educational games, awareness-raising activities in schools, exhibition sharing, volunteer campaigns and guided walking routes), through the services of the regional government, various municipalities and environmental non-governmental organisations (ENGO), with the school community and cultural, sports and social solidarity institutions. A number of projects have been carried out, notably LIFE ECOCOMPATÍVEL (LIFE09 INF/PT/00045), which aims to establish ways and means of communication for socio-economic sustainability, human use and biodiversity in N2000 sites in the Madeira archipelago[15].

[14] www.bioria.com/

[15] http://www.lifeecocompativel.com/

Public access to information on biodiversity and ecosystem services has been strengthened through portals and websites of public administration bodies and ENGOs, namely the Biodiversity Portal of the Autonomous Region of Madeira[16], social networks, TV and radio programmes and spots, various applications for mobile devices (on footpaths, a tour guide to the Madeira Botanical Garden, or information on the Zino's petrel) and publication of several interpretative guides, including "Mushrooms of Madeira - Guide to the identification of the most common species".
Partnerships have been promoted with private entities, namely those in the tourism sector, to carry out nature conservation and biodiversity activities, and investments have been made in several environmental interpretation and public reception facilities, mainly:

- Creation of the Zino's Petrel Centre, Dr Rui Silva - Pico do Areeiro;
- Refurbishment of the Casa do Sardinha Reception Centre;
- Creation of the Centre for Interpretation of Hiking in the Autonomous Region of Madeira;
- Requalification of the Ribeiro Frio Environmental Interpretation Centre;
- Madeira Whale Museum.

Much of the technical-scientific documentation and dissemination produced by the Madeira Whale Museum in the scope of projects and other initiatives is available for consultation[17], as well as a listing of scientific publications and thesis generated at the Museum[18]. This Museum also has an active environmental education program for sea literacy and education and awareness for the conservation of cetaceans and the marine environment[19].
Consultation and public hearings are promoted on biodiversity issues that are part of the development or revision of various territorial management instruments (Municipal Master Plans (MMPs), Hydrographic Region Management Plans (PGRH), National Programme of Action to Combat Desertification, etc.). Surveys are conducted on visitors to PAs (tourists, school community, etc.).
The Regional Government is also responsible for the promotion of environmental awards in the field of environmental education for sustainability, namely Eco-Schools (educational facilities), Green Key (tourist and catering facilities) and Blue Flag (beaches, marinas and recreational ports).

Autonomous Region of the Azores

In the ARA, with the 9 Island Natural Parks (PNI), each island has a unique management of its PAs and its environmental education and awareness services (ecotecas), interpretation centres and pedestrian paths in protected areas. These services focus mostly on sustainable management of PA visitation and natural resources.
Since 1999, the Regional Directorate for the Environment (DRA) has coordinated a regional service for education and environmental awareness, integrating the PNI management teams,

[16] http:\\biodiversidade.gov-madeira.pt
[17] http://www.museudabaleia.org/pt/downloads.html
[18] http://www.museudabaleia.org/pt/ciencia-no-museu/publicacoes-cientificas.html
[19] http://www.museudabaleia.org/pt/servicos-educativos.html

with its action guided by the Regional Plan for Education and Environmental Awareness of the Azores (PRESAA), in force since 2011 and which combines all the campaigns, projects and actions promoted by the Government of the Azores in this matter, which are supported by the Regional Networks of Ecotecas and Environmental Centres of the PNI. Several other entities (namely municipalities, companies, NGOs and local associations) contribute to the implementation of this Plan.

The Regional Network of Environmental Centres of the DRA is composed of 14 centres, with presence on all the islands of the archipelago. The Science Centres promoted by the Regional Secretariat for Education, Science and Culture of the Government of the Azores, as well as the environmental and visitor centres managed by ENGOs and regional municipalities, make up a set of environmental education structures with expression in all the islands of the archipelago. The maintenance of formal networks (e.g. the Regional Network of Ecotecas of the Azores, the network of Eco-Schools, the Network of Associated Schools of UNESCO) and informal networks in the area of environmental education (such as the network of the Regional Centre of Experts for Sustainable Development of Azores - RCE Açores, and the Azores Marine Education Network - REMA) are examples of instruments for the sharing of information between governmental environmental entities and their partners, volunteers and the general population.

Within the framework of the PRESAA, the "Azorean Biodiversity Kit" was published in 2012 by the DRA, distributed in all 158 1st cycle schools, covering 12,672 students and 740 teachers[20].

Other pedagogical resources within the scope of the PRESAA are available in the portal "Educar para o Ambiente Azores"[21] (Educate for the Environment of the Azores). A relevant example is the video “A Natureza dos Açores” ("The Nature of the Azores”) produced for the Azorean Biodiversity Kit.

For the celebration of World Environment Day 2013 (5 June), the DRA established a partnership with RTP Açores and, from 1 to 5 June in prime time, they broadcasted DRA-produced documentary films on biodiversity, their values and the importance of balance in the Man-Nature relationship.

The environmental promotion and awareness initiatives organised regularly by PNIs seek to involve the population, in their various sectors, in biodiversity issues. Some examples of activities are lectures or gatherings for the general public, thematic competitions, interpretive visits, as well as initiatives with direct action such as bird census, endemic planting and removal of alien invasive sepcies in PAs. Regional ENGOs also promote a range of local and regional initiatives for citizen mobilization and environmental volunteering.

The educational services of the 9 PNIs offer the annual "Parque Escola" programme, a set of activities in the classroom, complemented with field trips to PAs and visits to environmental centres. The theme of Biodiversity of the Azores is one of the main themes of this programme, along with geodiversity, waste prevention, climate change and good practices of environmental citizenship. The actions involve students from pre-school to high-school, including vocational education, relating the content of the sessions with the formal school curriculum.

[20] http://www.azores.gov.pt/Gra/srrn-educar/conteudos/livres/Mais+End%C3%A9micas+-+Kit+da+Biodiversidade.htm

[21] http://www.azores.gov.pt/gra/srrn-educar

The Regional Curriculum of Basic Education of the Azores - CREB, formalised by Regional Regulatory Decree (RRD) no. 17/2011/A, promotes the national curriculum but in a perspective of Education for Sustainable Development and Valuation of the Azoreanity, with native and endemic biodiversity being one of the aspects focused on basic education, with the support of the educational resources produced by the DRA, namely the Azorean Biodiversity Kit.

A wide range of actions is also targeted at the non-school audience, particularly at specific groups (fishermen, farmers, chambers of commerce, youth associations, etc.). The Park Friendly Card should be referred, with its special conditions to motivate the population to visit and know the environmental centres and to participate in actions developed by the PNIs.

The valuation of the natural heritage is made, for example, through guided visits to volcanic caves and pedestrian paths, landscape contemplation, promotion of the integration of cultural and natural heritage and encouragement of sustainable recreational activities (climbing, diving, observation of flora and fauna, etc.), aimed at the resident and tourist populations.

In 2012, the "More Endemic" project was initiated, underpinned by the 9 PNI, which aims to promote and conserve biodiversity, with a component of native and endemic plants for the recovery/reforestation of habitats in PAs, with many of the actions of removal of alien invasive plants in sensitive protected areas and of plantation of endemic species carried out by volunteers (adult and school).

Another project that promotes the discussion on biodiversity is the “Chama-lhe nomes” (“Name it”) started in 2012, through a contest launched on the social network Facebook, an initiative of the Azorean Biodiversity Group, University of the Azores. The visitors of the webpage were invited, until the end of 2012, to suggest common names for 12 species of insects that are endemic to the Azores, making these insects known to the general population in an interactive and appealing way. On average around 400 people visited the content associated with the page "Chama-lhe Nomes!” daily[22].

Also in the NetBiome[23] and BEST networks[24], processes for identifying issues related to sustainable management of biodiversity and the definition of an ecosystem profile actively involve all interested parties, including government entities, civil society, the scientific community and private sector.

The University of the Azores has carried out some studies to evaluate the degree of knowledge, attitude and behaviour of citizens towards biodiversity, through the Azorean Biodiversity Group, as well as several master degree thesis that have addressed this subject, namely the masters in environmental education and in nature conservation and management.

The Partner Program for Sustainable Development[25] promotes a culture focused on nature in order to raise awareness and appreciation for biodiversity among the public.

The DRA promotes several environmental awards that value and promote nature and sustainable development, such as the international awards: Eco-Schools, ECOXXI, Green Key, Blue Flag, and Ecofreguesia regional awards, “freguesia limpa” (“clean parish”) (aimed at parish councils) and Miosotis Azores (aimed at tourist establishments).

[22] https://pt-pt.facebook.com/Chama.lhe.Nomes

[23] http://www.netbiomecsa.netbiome.eu/np4/home.html

[24] http://ec.europa.eu/environment/nature/biodiversity/best/index_en.htm

[25] http://servicos-sraa.azores.gov.pt/doit/servicos.asp?id_dep=3&id_form=68

UNESCO's international prizes and classifications are also a way to promote awareness and appreciation among the population. In the ARA there are 3 Biosphere Reserves (the islands of Flores, Corvo and Graciosa) and the Landscape of the Pico Island Vineyard Culture is, since 2004, classified by UNESCO as a World Heritage Site. In 2014 the preparation of the application of the Fajãs de S. Jorge as Biosphere Reserve was started, presented at the V Conference of the World Network of Biosphere Reserves on Islands and in Coastal Zones (March 2015, in Malta), and made official in September 2015.

Several internet portals provide information on biodiversity, its values and its sustainable management. The website "Sentir e Interpretar o Ambiente dos Açores" ("Feel and Interpret the Environment of the Azores") - SIARAM[26], created during the International Year of Biodiversity (2010) and updated regularly, has content (multimedia, texts, videos, photos and audio, with testimonials from researchers from the University of the Azores and other experts) that can be freely used for educational and non-commercial purposes.

The webpage of the Regional Secretariat for Natural Resources[27] deserves to be highlighted, namely the Nature Conservation portal and the Azores Natural Parks portal which contains a description of the natural values of each protected area. On the Environmental Monitoring Portal - AzMoniAmb[28] you can also access relevant information.

Diverse information on biodiversity is provided by the University of the Azores, namely on its Biodiversity Portal. As an example, this portal offers a number of resources that promote students' autonomy in the development of herbarium projects, improving their ability to identify plant species and understanding higher levels of taxonomy, allowing them to compare published distributions with their observations. Their records, after validation, feed into a database, promoting collaboration between scientists, teachers and students. The relevant websites established or maintained by the Biodiversity Group of the University of the Azores in the last 6 years are:

- Azorean Biodiversity Group[29];
- Azorean Biodiversity Portal[30];
- Azorean Biodiversity Gallery[31];
- ATLANTIS Database[32];
- Azorean Spiders[33];
- Azorean Termites[34];
- E.D.E.N. - Azorean Habitats[35].

[26] http://siaram.azores.gov.pt/

[27] http://portal.srrn.azores.gov.pt/

[28] http://sig.srrn.azores.gov.pt/azmoniamb/

[29] http://www.gba.uac.pt/

[30] http://www.azoresbioportal.angra.uac.pt/

[31] http://galeria.azoresbioportal.angra.uac.pt/

[32] http://www.atlantis.angra.uac.pt/

[33] http://www.jorgenlissner.dk/azoreanspiders.aspx

[34] http://sostermitas.angra.uac.pt

[35] http://www.eden-azores.com/

The Botanical Garden of Faial, in addition to its work in conservation, is a structure strongly aimed at education and environmental awareness. The Botanical Garden is part of the Regional Network of Environmental Centres.

It is legally envisaged that the environmental authority will maintain a database made available to the public on the Regional Government portal, with information on the land and sea biodiversity of the ARA, including distribution, conservation status and multimedia means for the identification of species, habitats and ecosystems.

During 2011 the Regional Government, in partnership with other stakeholders, prepared an application of the Terras do Priolo (municipalities of Nordeste and Povoação) to the "European Charter for Sustainable Tourism" award. A diagnosis of the territory was developed and a strategy and respective plan of action to be developed between 2012 and 2016 were defined. The award, awarded in October 2012, aims at the interaction between the local community, businessmen linked to tourism and others sectors and the PAs of the municipalities of Povoação and Nordeste, among them the Special Protection Area (SPA) Pico da Vara/Ribeira do Guilherme, contributing to the sustainable development of that territory. Within the framework of this project, several discussion forums broadened to the population are regularly held. A website was developed, focusing on the diagnosis made, which inform about the conservation actions, existing biodiversity and PAs on the area[36].

Reference should be made to the Regional Council for Environment and Sustainable Development (RRD 11/2013/A, 2 August), an advisory body of the Regional Secretary with responsibility in the area of the Environment, which seeks to ensure dialogue and cooperation with entities and organisations of regional scope that represent the population and diverse sectors. Among others, it includes representatives of ENGOs, associations of municipalities and consumers, chambers of commerce, associations, federations and cooperatives.

Various training initiatives have been delivered by the DRA to its island technicians of environment bodies. In 2012 training sessions were held in preparation for the Azores Bats Census and on seed collection and propagation of native species to support the project of the Seed Bank of the Botanical Garden of Faial. One occasion of training for the environmental education technicians of the DRA's operational services is the Regional Meeting on Environmental Education and Eco-Schools. The 11th Meeting took place in October 2014. Annually there are meetings for the planning and training of technicians of the educational services of the Natural Parks.

Other events organised by the University of the Azores, by the ENGOs or by schools, such as congresses, pedagogic days or workshops, are also regular initiatives in the region.

[36] http://www.azores.gov.pt/Gra/srrn-cets/menus/principal/acoes+conservacao/

Target 2: By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.

National Ecological Reserve (REN)

The NER is a biophysical structure that integrates sensitive areas with ecological value or exposed and vulnerable to natural hazards. It is a restriction of public utility that restricts the occupation, use and transformation of the soil to uses and actions that are compatible with its objectives.

Seeking a better articulation with other legal regimes, the NER's legal framework was revised in 2012. The amendment of Decree-Law (DL) no. 166/2008 by DL no. 239/2012, of 2 November, approved the strategic guidelines at the national and regional levels by Resolution of the Council of Ministers (RCM) no. 81/2012, of 3 October, rectified by Decree no. 71/2012 of 30 November, which includes the guidelines and criteria for the delimitation of the areas of the NER at a municipal level.

Territorial Planning

Territory planning policy (and related regional development) is a key instrument for sectoral integration of biodiversity. The articulation between the Institute for Nature Conservation and Forests (ICNF, IP) and other entities in the elaboration of the relevant territorial management instruments (TMI) is guaranteed by law.

Until 2012, the former ICNB, IP, followed the elaboration of the TMI whose territorial scope crossed with classified areas. After that date the ICNF, IP, began to monitor all TMIs that are not limited to urban areas.

Since 2014, there have been a number of changes in the legislative body on land-use planning, of which a summary is presented.

Bearing in mind the paradigm change determined by the General Bases Law of Public Policy on Soil, Land-use Planning and Urban Planning (LBGPPSOTU - Law no. 31/2014, of 30 May[37]) and developed in the Legal Regime of Territorial Management Instruments (RJIGT - Decree-Law no. 80/2015, of 14 May[38]), on 30 June 2014, it was started the process of transposing the contents of Protected Area Management Plans (POAP) to the Municipal Master Plans (MMP), aiming to incorporate in them all the contents of the POAPs related to the occupation, use and transformation of the land, with urban territorial impact.

The procedure for transposing content from the POAP to the MMP corresponds to a first step on the adaptation of the TMI in force to the LBGPPSOTU and RJIGT, prior to the completion of the process of transforming POAPs in Special Programs (to be called Programmes for Planning and Management of Protected Areas - POGAP). It will be under the reinstatement of the POAP as POGAP, that the revision of the strategies of planning and management of protected areas

[37] http://www.icnf.pt/portal/icnf/legisl/legislacao/2014/lei-n-o-31-2014-de-30-de-maio-d-r-n-o-104-serie-i

[38] https://dre.pt/application/conteudo/67212743

with a special plan in force, within the new legal framework, will be achieved, through the promotion of the necessary changes and adjustments to the safeguard regime of natural resources and values present, and to the regime of management and sustainable use of the territory covered. The following aspects should be highlighted:

- The new POGAPs will have integrated and comprehensive content, establishing the safeguarding regimes of natural resources and values present and including all the binding material content of planning and territorial management necessary for this safeguard objective;
- The Territorial Plans will integrate all the binding contents to individuals of the current POAPs and of the new POGAPs related to the occupation, use and transformation of the soil, with urban territorial impact;
- All the contents of the POGAPs that are binding on individuals, which relate to management rules of the protected area, which may affect or compromise the resources or values to be safeguarded, and which do not constitute an objective condition for the occupation, use and transformation of land with urban territorial impact should include a Management Regulation;
- The new POGAP will identify measures to coordinate uses and activities with other TMIs in order to ensure the necessary compatibility, in particular with the National Maritime Spatial Planning Instruments (IOEMs), whenever applicable. The rules of the special programmes for safeguarding natural resources and values of marine protected should be integrated into the IOEMs.

Immediately after the entry into force of the LBGPPSOTU, an assessment was made of the implementation of each of the existing POAPs and of their internal consistency, followed by a comparative analysis of the thematic and normative contents of all the existing POAPs. This work was developed with the aim of ensuring a harmonisation and coherence of approach in the context of the identification of the rules to be transposed to the MMPs and of preparing the future renewal of the POAPs as POGAP.
In order to guarantee the protection of public assets under the respective POAP, the ICNF, in the scope of its powers and attributions, developed a methodology with a national territorial scope, in order to support and guide the process of transposition of content of the POAP in force for the MMPs, which will have to happen by 30 June 2017. The methodological document developed is the basis of the current exercises in the ICNF, in terms of the identification of the contents and standards of the 25 POAPs in force, concerning the regimes of safeguarding territorial resources and natural values, directly binding on individuals, concerning the occupation, use and transformation of the soil, with urban territorial impact, of the municipal sphere of competence, to integrate the MMPs. These exercises, which are in a final stage of development, will be provided to the municipalities concerned, accompanied by the methodological document developed.

In the current framework and in order to ensure the effectiveness of the application of the safeguard of natural values, the appropriate deadline for approving the special programmes and their regulations for the management of protected areas is 29 June 2017. This circumstance requires the ICNF to continue the task of renewing the 25 POAPs as POGAPs in

parallel with the task of monitoring the procedure for transposing the standards to the respective MMPs.

Environmental Assessment

The Environmental Assessment (EA) for programmes and plans, foreseen in national legislation since 2007, is a powerful tool for integrating environmental issues into other sectors, but its use is still far from efficient and its purposes are not yet attained.
In 2010, the ICNB, IP, established guidelines for the assessment of biodiversity in the EA of plans and programmes, in accordance with the Strategic Environmental Assessment Directive (2001/42/EC) and the best national practises. These guidelines include thematic indicators of integrity and coherence of N2000, as well as the National System of Classified Areas (SNAC), conservation status of species and habitats, and the cumulative effects of plans or programmes.

Actions planned for the systematisation of information on biodiversity monitoring, within the scope of monitoring of environmental assessment procedures:

- By integrating and safeguarding biodiversity concerns in projects, plans and programmes, the EIA, the SEA and Environmental Incident Analysis (EIncA) are tools that contribute to biodiversity conservation.
- At the beginning of 2014, the reinforcement of the follow-up of the environmental assessment procedures was approved, with a view, among others, to harmonize procedures and criteria and to timely identify the most critical processes for nature conservation.
- In order to promote the organisation of information on environmental assessment processes, a new registration, monitoring and centralised archive system is planned.
- In order to ensure uniform procedures and common criteria, the preparation and coordination of the revision of technical standards and guidance documents is scheduled.

Environmental Impact Assessment

The ICNF, IP, has also established specific guidelines for Environmental Impact Assessment (EIA) of projects, focusing on target groups or species. These guidelines include a set of minimisation and compensation measures that should be considered in the EIA process according to the type and level of expected impacts of each project.
Specific monitoring plans are often implemented as measures prescribed in EIA and EIncA.

In this context, the MoBiA Project - Monitoring of Biodiversity in Environmental Assessment aims to assess how effective the biodiversity approach in EIA is and the contribution of associated monitoring programmes to a national monitoring network.
The first part of this project evaluates biodiversity and ecosystem services monitoring programmes in EIA and at an EA level. The second part uses ongoing EIA data for a detailed study of the impacts and their relevance of two types of infrastructures, wind farms and highways, on biodiversity, particularly on mammal and bird populations. Using data from

monitoring programmes, the effectiveness of mitigation measures will also be compared with biodiversity compensation measures. This project is supported by the Foundation for Science and Technology (PTDC/AAC-AMB/114522/2009).

Autonomous Region of Madeira

In the ARM, biodiversity issues play a major role in regional planning, integrating a series of strategic documents, plans, programmes and regional policies, namely:

- Plan for Territorial Planning in the ARM (POTRAM) - Regional Legislative Decree (DLR) no. 12/95/M, of 24 June, modified by DRL no. 9/97/M, of 18 July;
- Regional Environmental Policy Plan (PRPA) - Resolutions of the Governing Council (RCG) no. 1149/97 of 18 August, 593/99 of 3 May and no. 809/2000 of 8 June;
- Strategic Plan for Waste from the ARM (PERRAM), approved by Joint Order no. 1/99, of 13 July;
- Plan for Tourism Planning of the ARM (POT) - DLR no. 17/2002/M, of 29 August;
- Energy Policy Plan of the ARM (PPERAM), approved by Resolution no. 1468/2002 of 11 December;
- Economic and Social Development Plan 2007 - 2013 (PDES), approved by the Declaration of the Regional Legislative Assembly no. 10/2006/M;
- Madeira Regional Water Plan (PRAM) approved by DLR no. 38/2008/M, of 20 August;
- Planning and Management of Protected Areas;
- Programmes of Measures for Management and Conservation of Protected Areas;
- Municipal Master Plans;
- Rural Development Programme of the ARM (PRODERAM);
- The ARM's Action Plan for Research, Technological Development and Innovation.

Territorial planning takes into account a set of mechanisms that require the protection and safeguarding of biodiversity, with the need to observe a set of legal instruments related to protected and classified areas, including the SAC and SPA of the ARM, Madeira Natural Park and the Natural Reserves.

The conservation and sustainable use of biodiversity are always taken into account in the SEA processes of the above plans and programmes. Also during the EIA processes, measures are defined to minimise and/or compensate for the negative impacts caused by the project in question and to implement monitoring plans for the descriptors that are justified in each case.

Autonomous Region of the Azores

The ARA has been working to integrate biodiversity into other sectoral policies (agriculture, forestry, rural development, tourism, etc.). The legal framework for nature and biodiversity conservation[39] requires public policies to develop strategies, plans and programmes for the conservation and sustainable use of biodiversity and to adapt those goals to existing strategies,

[39] DLR no. 15/2012/A, of 2 April - https://dre.pt/application/file/553827

plans or programmes, which should reflect, *inter alia*, the relevant measures set out in the CBD, and to integrate, as appropriate, the conservation and the sustainable use of biodiversity into sectoral or intersectoral plans, programmes and policies.
Biodiversity values are considered and integrated into operational programmes such as the Rural Development Programme (PRORURAL), in which rural development involves the enhancement of the environmental area. The intervention over the classified natural values with a direct link to agricultural and forestry activities, is privileged, with a greater compensation to farmers and forest owners for the losses of income and added costs in the conservation of these natural values. The intervention logic of PRORURAL addresses a structure focused on supporting productive and territorial competitiveness but taking into account an integrated approach that values the sustainability of natural resources.

The Azores have integrated natural values into their tourism policy, and the Plan for Tourism Planning (POTRAA) was approved by DLR no. 38/2008/A, of 11 August. Nature is recognised as essential in the consolidation of the region as an ecological tourist destination and in its economic development.

The "Partner for Sustainable Development" initiative was developed, a program of partnership between PNIs and regional companies, to disseminate natural values and to promote an economic development compatible with the conservation of biodiversity. Being a partner of a PNI enables the connection to a concept of sustainability, enhancing economic growth, based on nature tourism.
The Regional Council for Environment and Sustainable Development, an advisory body of the Secretariat with competence in the field of the environment, aims to contribute to public participation in environmental policy and to ensure dialogue and cooperation with entities and organisations of civil society with an interest in environmental matters.
Biodiversity issues have been integrated into spatial planning and management instruments to prevent potential changes related to urbanisation, infrastructure, accessibilities, tourism, extractive industry, recreation and leisure.
The integration of biodiversity issues in the area of territorial planning is done through the development of the territorial management system, in particular in the application of the regulations of the plans in force.

The Regional Plan for the Territorial Management of the Azores (DLR 26/2010/A, of 12 August), in particular through environmental protection and valuation systems, sets out strategic objectives to safeguard the integration of biodiversity issues in the territorial planning of the ARA. The focuses of this Plan, within this scope, are developed through measures with territorial implications such as:

- Identification of the Fundamental Network of Nature Conservation (RFCN) by island, as a management unit, forming the Regional Network of Protected Areas of the Azores. PNIs were established for each island, integrating all PA categories, pursuing the overall management objectives of the Regional Network and the specific objectives of PA categories.

- The assumption of a territorial model that defines sectorial options and objectives with spatial impact, as well as execution rules for integrated management and compatibility of uses and functions in the scope of the valuation of habitats that integrate the N2000. This action is being developed through the implementation of the ARA's PSRN2000 (DLR 20/2006/A[40], of 6 June, modified by DLR 7/2007/A[41], of 10 April).
- The preservation of complementary ecological areas and aesthetic quality of the landscape of exceptional or unique value, such as the identity traits of the Azores, able of anchoring diversified tourist segments, based on the enjoyment of nature. Through this action, the ARA developed the Landscape Management Plan for the Pico Island Vineyard Culture, in order to safeguard the characteristics of this particular cultural landscape.
- The adoption of internationally recognised principles of coastal planning and the strategic recognition of the need to promote the integrated management and the sustainable development of coastal and marine areas was developed in the ARA through the development and approval of Coastal Land Management Plans (POOC) for all the islands of the Region. With a view to the correct planning of the coast and the preservation of its biodiversity, it was chosen to create a zone constituted by the fundamental areas to safeguard the coastline by integrating the maritime protection strip and the sea bed and banks. As a result, it was decided to subdivide this zone into the following preferential uses (e.g.: Terceira island POOC): bathing; natural and cultural use, which integrates areas of special environmental interest, areas of special landscaping and cultural interest and cliffs and protection zones; urban use in hazardous areas. Thus, POOCs integrate the theme of biodiversity into territorial planning decisions. In their management regime, they foresee the existence of areas of protection and conservation of nature aiming at the preservation of the environment and the need to ensure the due protection to a representative set of habitats and associated biodiversity, also representing a territorial continuity important to protect the nesting of seabirds, the pursuit of the objectives of N2000 and of the PA Network of the Azores. During the period covered by this report, the POOC of Pico Island was approved by RRD no. 24/2011/A, of 23 November, and the POOC of Faial was approved by DRR no. 19/2012/A.
- The promotion of the planning of rural territory in the watersheds from the freshwater lagoons ecosystems in the islands has been achieved through the establishment of safeguard and management regimes compatible with the sustainable use of natural resources and values of the ARA watersheds, through the development and approval of the Territorial Plans of Lagoons Watersheds. Since 2010, the POBH of Lagoas do Fogo, Congro, São Brás and Serra Devassa and has been approved by RRD no. 12/2013/A[42] of 30 September and the POBH of the Lagoas das Flores has been approved by RRD no. 6/2013/A[43] of 8 July.

[40] https://dre.pt/application/file/354009

[41] https://dre.pt/application/file/519918

[42] https://dre.pt/application/file/500358

[43] https://dre.pt/application/file/497533

It should also be noted that the aforementioned actions are also integrated in the Municipal Plans of Territorial Planning (PMOT), taking into account the internal coordination of the Territorial Management System.

There are also administrative easements and public utility restrictions (SARUP) that have to be taken into account when designing planning models, such as the NER and the Regional Agricultural Reserve (RAR). The NER is articulated with the aforementioned plans, being one of the components of the RFCN, favouring the connectivity between the nature conservation nuclear areas and the biodiversity integrated in the SNAC. The objectives of NER are, *inter alia*, to protect water and soil natural resources, as well as to safeguard biophysical systems and processes associated with the coast and the terrestrial hydrological cycle, which ensure environmental goods and services indispensable to the development of human activities, and contribute to the connectivity and the ecological coherence of the RFCN. These objectives are pursued through the integration in the NER of coastal protection areas and areas relevant to the sustainability of the terrestrial hydrological cycle. On the other hand, RAR aims to ensure the preservation of the soil and its proper use, safeguarding the well-being of the rural populations and the creation of wealth. The RAR is made up of soils of high agricultural potential, which have been or may be the object of study for major investments, with a view to preserving and increasing their productivity and to making better use of their potential in the modern, rational and sustainable agriculture.

Within the scope of the projects subject to EIA, in general, minimisation measures are established, and in several cases, monitoring plans approved in the scope of the evaluation are implemented.

Biodiversity protection is also integrated into the General Regime for the Prevention and Management of Waste (DLR no. 29/2011/A, of 16 November).

Following the implementation of the Action Plan of the National Sea Strategy (NSS), the Azorean Maritime Spatial Planning (POEMA) is under preparation.

Biodiversity conservation objectives have been integrated into the management and financing instruments of the agricultural and forestry policy, in the context of PRORURAL (involving agricultural and forestry environmental measures and associated non-productive investments).

In the 2007-2013 Convergence Operational Programme for the Azores (PROCONVERGENCIA)[44], the procedures for verifying compliance with environmental standards were applied at the stage of the admissibility of applications. In the Incentive System for Regional Development of the Azores[45], when analysing the applications, and whenever they provide for intervention on environmental issues, an opinion is requested from the DRA that for specific activities linked to

[44] http://www.proconvergencia.azores.gov.pt/

[45] http://www.azores.gov.pt/Portal/pt/entidades/vp-draic/textoTabela/Sistema+de+Incentivos+SIDER.htm

the environmental issues is essential for the eligibility of the application. In the context of inspection and monitoring actions, compliance with national and European Union legislation, including compliance with environmental standards, is checked. A separate chapter on SEA issues is contained in the Annual Implementation Reports, which includes monitoring indicators and the follow-up to the recommendations from the *ex-ante* SEA.

The involvement of the various Regional Government departments, promoted by the Regional Science Fund, in pursuit of the NetBiome and BEST networks aims to increase this awareness by encouraging participation in problems identification and their solutions.

Regional and local levels

Biodiversity issues and values have also been integrated into the development strategies and regional and local planning processes in mainland Portugal. As an example, information on the North and Alentejo regions is presented.

The Northern Regional Coordination and Development Commission is involved in territorial planning and management and nature conservation processes, in a more or less direct and representative way, in the application of various legal instruments:

- Elaboration, availability and dissemination of the proposal of the Regional Plan for Territorial Management of the North (PROT-N), with the analysis of the issues of nature and biodiversity conservation, contributing to the implementation of ecological networks and corridors in the region, the definition of the Regional Structure of Environmental Protection and Enhancement (ERPVA), which integrates components of the RFCN, the production of guidelines, the regulation of compatible uses, the safeguarding of resources and the functioning of the systems, and the orientation lines for transposition to the TMI and definition of transposition guidelines for PMOTs in the form of Municipal Ecological Structure (MES), consistent with the RFCN. There is also articulation with the ICNF, IP, for the improvement of the integration of the PSRN2000[46] and the Regional Forest Management Plans (PROF) in the PMOT.
- Issuance of recommendations to the PMOTs in order to:
  - coordinate the ERPVA areas with the categories of rural soil,
  - regulate compatible uses,
  - promote, through MES, productive activities and sustainable uses that favour the conservation of biodiversity, priority species and habitats,
  - promote the territorialisation of nuclear and continuity areas and ecological corridors of connectivity of the ERPVA;
  - ensure that in MES preference is given to uses or actions of ecological restoration.

  In the review of the MMPs these guidelines and recommendations have been considered. However, the regulation and enhancement of compatible uses in the MES still require more effective measures to ensure the proper performance of biophysical and ecological functions.

[46] RCM no. 115-A/2008, of 31 July - https://dre.pt/application/file/649778

- Analysis and dissemination of the PSRN2000, with its use in the TMI verification of the identification, delimitation and/or transposition of the RFCN, the adequacy of land use and occupation and/or established levels of protection, and the transposition of specific management rules for species and habitats.
- Representation in the Strategic, Advisory and Directives Boards of the PAs (national and local) located in the region and monitoring and support to the creation of new PAs, in accordance with the Legal Regime of Nature and Biodiversity Conservation[47], evaluating programmes, plans and opinions related to those areas. It should be noted that between 2009 and 2011, four PAs at the local level were established in the North. Currently two PAs are being created and a transboundary area is being classified as Biosphere Reserve (UNESCO's Man and the Biosphere Programme).
- In the scope of application of the Legal Regime of the TMI[48], it assumes the chairmanship of the Monitoring Committees (MC) of the revision of the MMPs and integrates the MC's of Special Territorial Management Plans (PEOT), taking into account the proper integration of general nature conservation issues in these plans, checking the identification, delimitation and/or transposition of the RFCN, the adequacy of the regulations and the transposition of specific management rules for species and habitats, which is translated in the case of MMPs in incorporation of the MES, identification in the Conditioning Plant of the National Ecological Reserve (NER), the National Agricultural Reserve (RAN) and the Public Water Domain (PWD) (areas of continuity of the RFCN), and identification in the Planning Plant of the categories of natural spaces, agricultural and forestry spaces for conservation and multiple use spaces compatible with agricultural, forestry or natural spaces. It is also worth mentioning the ongoing integration of the contents of the PEOTs (Territorial Plans of Protected Areas (POAP), Public Water Reservoirs (POAAP), Estuaries (EMP) and POOC) in the MMPs, carried out in conjunction with the City Councils, under the Law of Public Policy on Soil, Land-use Planning and Urban Planning (LBGPPSOTU[49]), ensuring the proper regulation of uses and activities in these classified spaces.
- In the Northern region, 47 of the 86 municipalities have published revised MMPs and 24 are in the final revision phase, representing 83% of the municipalities of the region.
- Together with the City Councils, it draws up proposals for the NER's maps, in line with the respective legal regime[50], ensuring the proper integration of several ecosystems, namely dunes, marshes and watercourses.
- Participation in RAN regional meetings under their Legal Regime[51], for a joint decision on the non-agricultural use of RAN areas, considering the relevance of safeguarding of the natural resource soil and of agricultural ecosystems.
- Participation in SEA procedures, under the respective Legal Regime[52], in the elaboration and revision of Plans and Programmes, for the proper integration of general environmental issues and specifically nature conservation in the plan proposals.

[47] DL no. 142/2008, of 24 July - https://dre.pt/application/file/454450

[48] DL no. 46/2009, of 20 February - https://dre.pt/application/file/602179

[49] Law no. 31/2014, of 30 May - https://dre.pt/application/dir/pdf1sdip/2014/05/10400/0298803003.pdf

[50] DL no. 166/2008, of 22 August - https://dre.pt/application/file/453366

[51] DL no. 73/2009, of 31 March - https://dre.pt/application/file/603129

[52] DL no. 232/2007, of 15 June - https://dre.pt/application/file/639060

- Participation in EIA processes, under the respective Legal Regime[53], with the drafting of opinions related to the descriptor "Ecology" with analysis of the general issues of nature conservation and specifically of biodiversity and opinions related to the descriptor territorial planning, soil occupation and use, namely with the analysis of the allocation of NER and RAN areas. Post-EIA follow-up, including analysis of minimisation/compensation measures and monitoring plans for flora, fauna and habitats. Wherever justifiable, changes to landscape recovery and integration projects have been requested in order to lead to the replenishment of native vegetation cover and to promote biodiversity as well as the control of areas occupied by invasive alien species.
- Issuance of opinions to Forest Management Plans (FMP)[54] and Common Land Utilisation Plans (PUBs), in order to integrate the concerns of maintenance and enhancement of the functions of conservation and protection exercised by the proposed forest stands, establishing recommendations regarding, in particular, the composition, subdivision and diversification of the range of species, soil mobilization and their installation and conduction techniques, as well as their articulation with the orientations of the PROFs.
- Issuance of opinions to (re)afforestation projects in NER and their articulation with the legal regime applicable to afforestation and reforestation actions (RJAAR)[55], verifying the adequacy of (re)afforestation actions to the NER systems in question, taking into account the performance of their biophysical functions.
- Approval of applications by the local and central public administration and regional development associations to the Regional Operational Programme of the North, within the scope of the Network of Cooperation of Protected and Classified Spaces, and monitoring of their execution. These applications aim to maintain biodiversity and the sustainable use of natural resources in areas of the RFCN: PA, N2000; RAN, NER, PWD.

In the Northern Region of Portugal the relevance attributed to biodiversity issues has evolved positively. A wide range of initiatives, targeted at nature and biodiversity conservation, some of which are EU-funded, is promoted by local authorities, universities, regional development associations, citizens' associations and NGOs.
Examples are the ongoing projects, with a supra-municipal scope:

- Project of 100,000 trees in the Oporto Metropolitan Area - CRE Oporto initiative (Regional Centre for Excellence in Education for the Sustainable Development of the Metropolitan Area of Oporto)[56];
- Campaign 50 Green Spaces in Danger and 50 Green Spaces to Preserve in the Oporto Metropolitan Area - an initiative of the Campo Aberto Association, covering 9 municipalities[57].

[53] DL no. 151-B/2013, of 31 October - https://dre.pt/application/file/513900

[54] DL no. 16/2009, of 14 January - https://dre.pt/application/file/397417 - modified by DL no. 114/2010, of 22 October - https://dre.pt/application/file/397417.

[55] DL no. 96/2013, of 19 July - https://dre.pt/application/file/497960

[56] https://www.facebook.com/100000arvores
http://embaixadadafloresta.blogspot.pt/p/projecto-futuro-100000-arvores.html

[57] http://www.campoaberto.pt/?cat=79

The Alentejo Regional Coordination and Development Commission also underlines its contribution to the integration of biodiversity.

The elaboration of the Regional Plan for Territorial Planning of the Alentejo (PROTAlentejo)[58] has considered and articulated with the provisions of other legal regimes and TMI, namely the National Strategy for Nature and Biodiversity Conservation (ENCNB) and the PEOTs, as the Protected Areas Territorial Plans, and the PSRN2000. On the basis of the spatial model for the region and of the aforementioned legal framework, is a set of Territorial Based Strategic Options, among which is the Conservation and Enhancement of the Environment and Natural Heritage, which aims, *inter alia*, to fulfil environmental targets, and to guarantee the maintenance and enhancement of biodiversity through the integration of the management of natural systems, in particular in CAs for nature conservation, and the opportunities offered to productive activities, to promote the balanced development of rural areas, to prevent technological and natural risks and to minimise their impact. PROTAlentejo establishes the ERPVA, which has been designed to counteract and prevent the effects of habitat fragmentation, which has negative impacts on the life cycles and ecology of species with legal protection status or that provide life support systems, and reinforces the importance of enhancement and protection of natural resources as a support for sustainable development, while ensuring the preservation of the landscape and regional identity. Thus, in addition to the integration of CAs into ERPVA, within the scope of the RFCN, it is proposed at a regional scale, with the necessary transposition to the local scale in the PMOT, the development of a territorial system of ecological structure that establishes or increases the connectivity and promote the quality of landscapes from the point of view of biodiversity, by increasing the resilience of habitats/ecosystems and by facilitating population adaptation by creating more stable and lasting life support systems. The ecological framework also seeks to contribute to meeting the targets of reducing biodiversity loss and increasing the resilience of biological systems to climate change.

At a local level, the transposition of ERPVA delimitation guidelines for municipal ecological networks, the implementation of measures contained in the PSRN2000, Agenda 21 processes and the SEA are important measures to integrate the objectives of nature and biodiversity conservation policies. The practice of the SEA promotes biodiversity conservation policies. The knowledge obtained through this practice on ecological systems and landscapes, the analysis of the monitoring results, and the governance framework that identifies and holds participants at the various levels in the planning process are relevant.

[58] RCM no. 53/2010, of 2 August - https://dre.pt/application/file/333875

Synergies at national and regional level in the implementation of the CBD with other Agreements and Conventions

In Portugal, the capacities related to global or regional biodiversity conventions (CBD, CITES, Ramsar Convention, CMS, EUROBATS, AEWA, ACCOBAMS, Berne Convention) are mostly concentrated in a single administration body (ICNF, IP), which facilitates the synergies in their application.

The implementation of the UNCCD is also within the capacities of the ICNF, IP.

In Europe, bats are protected by the Habitats Directive, the Berne Convention, the Bonn Convention (CMS) and the EUROBATS Agreement, established under this Convention. Portugal follows this agreement, attending various intersessional working groups and contributing to their recommendations, and strives to actively implement all resolutions.
Externally to the ICNF, IP, but also within the central administration, are the implementing powers of the FAO, UNFCCC and OSPAR provisions.

In relation to the UNFCCC, Portugal approved the Adaptation to Climate Change Strategy in 2010.[59] Biodiversity is one of the nine priority sectors identified. Between 2010 and 2013, efforts focused on the identification of impacts and the definition of adaptation measures. The first progress report on the implementation of this strategy was drawn up in 2013.

In the ARA, the DLR 15/2012/A, of April 2[60], implements international and community policy, promoting and reinforcing the synergies between several multilateral biodiversity conventions, in particular the Convention on Biological Diversity, Bonn Convention (CMS) and Ramsar Convention, and also establishes the measures necessary for the implementation and application of CITES and associated Regulations, EUROBATS and AEWA in the territory of the Azores.

Target 3: By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.

In 2013, the value of taxes with environmental relevance in Portugal was 4,494 million euros, a decrease of 10.7% when compared to 2012 and the lowest value since 2006. From 2006 to 2012 there was a reduction in tax revenue from environmental taxes, estimated at more than €1.6 billion, mainly due to the decrease in revenues from energy and transport taxes, of which oil and energy products and the car tax/vehicle tax (VED) are the most relevant.

[59] RCM no. 24/2010 of 1 April - https://dre.pt/application/file/612572

[60] https://dre.pt/application/file/553827

In the same year, and similarly to previous years, most of the revenue came from energy taxes (49%), of which the oil and energy products tax stood out, followed by taxes on pollution (31%), coming almost exclusively from tax on tobacco. Transport taxes (divided between the car tax and road tax) accounted for 19% of revenues, while taxes on resources (hunting and fishing licenses and the water resource tax) accounted for only 1% of total revenue collected.
The reduction of environmental taxes, coupled with the increase in tax revenue and the nominal increase of Gross Domestic Product during the year 2013, made the weight of taxes with environmental relevance in total tax revenues and social contributions decreased from 11.8% in 2006 to 7.7% in 2013. Likewise, the weight of taxes with environmental relevance in Gross Domestic Product went from 4% in 2006 to 2.6% in 2013.

A proposal for a Green Tax Reform Law was recently approved by the Assembly of the Republic, which aims to "promote a new tax and parafiscal framework by developing mechanisms that allow the internalisation of environmental externalities", on a basis of fiscal neutrality (see Target 4).

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In the ARM, in the framework of PRODERAM, Natura 2000 payments, in order to compensate beneficiaries for additional costs and loss of income as a result of the implementation of the Birds and Habitats Directives, and agri-environmental payments have served as positive incentives for the conservation and sustainable use of biodiversity.

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In the ARA, where livestock farming is the dominant economic activity, incentives are granted for the conservation of biodiversity through the PRORURAL, by the EAFRD. "Natura 2000 payments" compensate for costs and loss of income resulting from the constraints arising from the implementation of the Birds and Habitats Directives. Support is provided for the reduction or elimination of the use of fertilisers, herbicides and pesticides, for the reduction of the livestock numbers, the maintenance of areas with native vegetation, the conservation of the traditional orchards of the Azores and the protection of the native breed Ramo Grande.

The legal regime for nature and biodiversity conservation[61] creates complementary regional mechanisms to compensate landowners and farmers in areas covered by the implementation of the Birds and Habitats Directives, contributing to the effective management of N2000 by establishing technical and financial support for biodiversity maintenance and restoration namely to the maintenance and restoration of habitats relevant for the protection of biodiversity, of priority protected species, afforestation and reforestation of PAs and protection bands of water courses, and maintenance and rehabilitation of PAs classified as protected landscape.

[61] DLR no. 15/2012/A, of 2 April - https://dre.pt/application/file/553827

Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

Reference is made to Portugal 2020[62], a Partnership Agreement between Portugal and the European Commission, which brings together the five European Structural and Investment Funds - ERDF, Cohesion Fund, ESF, EAFRD and EMFF - in which programming principles are defined, principles that enshrine the policy of economic, social and territorial development to be promoted, in Portugal, between 2014 and 2020. These programming principles are aligned with Intelligent, Sustainable and Inclusive Growth, following the Europe 2020 Strategy[63].
Among the main policy objectives to be pursued in Portugal 2020 are the integration of people at risk of poverty and the fight against social exclusion, and the promotion of sustainable development, with a view to efficiency in the use of resources, with Sustainability and Efficiency in the Use of Resources being one of the four thematic areas.
The Operational Programme for Sustainability and Efficiency in Resource Use (PO SEUR)[64] is the tool of the Europe 2020 Strategy for the sustainable growth priority, responding to the challenges of transition to a low carbon economy based on a more efficient use of resources and on the promotion of greater resilience in the face of climate risks and catastrophes. The strategy for this Operational Programme is based on three strategic pillars: supporting the transition to a low carbon economy in all sectors; promote adaptation to climate change and risk management and prevention; and protect the environment and promote efficiency on yhe use of resources.

Environmental management tools such as registration in the Community Eco-Management and Audit Scheme (EMAS), the EU Ecolabel (REUE) and ISO 14001:2004 environmental certification are essential for sustainable development across the EU, contributing equally to the objective of sustainable production and consumption.
The adherence to these instruments has been decisive for the efforts of organisations that seek to reduce their environmental impacts by adopting a set of sustainable practices that allow them to reduce the risks and costs associated with their activities, while complying with their respective legal requirements. The voluntary adoption of a responsible attitude towards the communities where they are inserted, allows these organisations significant improvements in the perception of an increasingly conscious and predisposed public to invest in products with better environmental performance, which results in increasing their competitiveness in the market.
In 2013, three new registrations were awarded to EMAS and six were cancelled, resulting in a total of 59 registered organisations, and by July 2014 the REUE was allocated to products from

[62] https://www.portugal2020.pt/

[63] http://ec.europa.eu/europe2020/index_pt.htm

[64] https://www.portugal2020.pt/Portal2020/Media/Default/Docs/Programas%20Operacionais/BROCHURAS%20PO/POSEURBrochura.pdf

16 companies. In the last decade, the number of organisations certified by ISO 14001:2004 in Portugal has more than quadrupled: from 248 in 2003 to 1048 in 2013. Between 2012 and 2013, this growth was around 16%. The number of certification bodies accredited by the Portuguese Quality System in this area has increased from five to eight in the last decade, and has remained stable since 2011.

Through the Order no. 1962/2014[65], the Government decided to initiate a review of environmental and energy taxation, as well as to promote a new tax and parafiscal framework, through the development of mechanisms that allow the internalisation of environmental externalities, and the Commission for the Green Tax Reform was constituted. This Commission carried out a thorough and comprehensive assessment of green taxation and submitted a report on 30 March 2014 which describes the legal framework in this area (including biodiversity) and justifies the guiding principles and broad outline of the reform[66].
On 1 January 2015, the reform was introduced, aiming to induce more sustainable production and consumption patterns, promote resource efficiency, reduce energy dependence from abroad and foster entrepreneurship and employment. This reform is based on the principle of fiscal neutrality. Thus, in addition to the incentives to grant, through green taxation, to the electric vehicles, plug-in hybrids and NGVs, to nature conservation projects and sustainable forest management activities, the net revenue generated of 150 million euros is fully allocated to the financing of the tax relief on personal income tax (PIT), within the framework of the family quotient, conveying a paradigm shift, penalising what pollutes and degrades, to alleviate work and families. This fiscal reform, which has previously assessed the environmental, economic and social impacts of the options taken, adresses across all sectors and resources:

- Lightweight plastic bags will be subject to a contribution (8 Euro cents + VAT), promoting a more sustainable behaviour of consumers, producers and traders. Part of the revenue will serve to strengthen the Nature Conservation Fund to finance projects in the municipalities that integrate Classified Areas, namely, through the Natural.pt programme.
- In the energy and transport sector, the reform encourages the use of electric cars, plug-in hybrids, LPG and NGV, through PIT and Corporate Income Tax (CT), also allowing the deduction of VAT on the acquisition, manufacture or import, lease or conversion of electric passenger cars or plug-in hybrids.
- In order to promote a low-carbon economy, combat climate change and reduce energy dependence from abroad, a carbon tax has been introduced to cover sectors not included in the European Emissions Trading Scheme EU ET), with an estimated impact in 2015 by more than EUR 95 million and VED rates, on the basis of vehicle CO2 emissions, were increased, with a projected impact of EUR 28 million.
- At an IMI level, the reform provides for a 50% reduction in the collection of IMI in land areas dedicated to the production of renewable energy and rural lands inside Classified Areas, which provide ecosystem services. In addition, IMI exempts land areas dedicated to public supply of water, sanitation and municipal waste management, and those that

[65] https://dre.pt/application/file/2460549

[66] http://www.portugal.gov.pt/pt/os-ministerios/ministerio-do-ambiente-ordenamento-do-territorio-e-energia/documentos-oficiais/20140417-maote-rel-reforma-fiscalidade-verde.aspx

correspond to forest areas adhering to the Forest Intervention Zone (ZIF) or that are subject to forest management plans or integrated in the land banking. Finally, in the case of companies whose turnover is more than 50% resulting from the exploitation of natural resources or from the treatment of waste, the lease is allocated to the respective municipality[67].

Under a partnership between the Directorate General of Agriculture and Rural Development and the ICNF, IP, and with the support of the Programme for the National Rural Network, in 2013 were published the *Manual de Boas Práticas de Colheita e Consumo de Cogumelos Silvestres* (Manual of Good Practices of Harvesting and Consumption of Wild Mushrooms) and the *Guia do Coletor de Cogumelos – para os cogumelos silvestres comestíveis com interesse comercial em Portugal* (Guide to the Mushroom Collector - for edible wild mushrooms with commercial interest in Portugal). These publications, with relevant information on the importance of biodiversity conservation, the role played by fungi in nature and the sustainable use of this natural resource, are being distributed by the country to the Regional Directorates of Agriculture and Fisheries, associations of forest producers, etc., accompanied by public dissemination and awareness raising sessions.

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In the ARM, as legislative measures to minimise or eliminate the most significant impacts of human activities on biodiversity, we highlight the following:

- DLR no. 11/95/M[68], which regulates the exercise of spearfishing;
- DLR no. 11/2006/M[69], which establishes the legal regime for the harvesting of limpets;
- DLR no. 35/2008/M[70], of 14 August, which establishes the regime of protection of natural and forest resources;
- DLR no. 15/2013/M[71], which approves the regulation of the activity of observation of marine vertebrates;
- Ordinance no. 46/2014, which regulates the load capacity inherent to the activity of cetacean observation.

The LIFE ECO COMPATÍVEL Project (LIFE09 INF/PT/00045) - "Communicating for socio-economic sustainability, human use and biodiversity at N2000 sites in the Madeira archipelago" is underway[72].

[67] http://www.portugal.gov.pt/pt/os-ministerios/ministerio-do-ambiente-ordenamento-do-territorio-e-energia/mantenha-se-atualizado/20141231-maote-fiscalidade-verde.aspx
http://www.crescimentoverde.gov.pt/tag/fiscalidade-verde/

[68] https://dre.pt/application/file/475426

[69] https://dre.pt/application/file/650060

[70] https://dre.pt/application/file/455570

[71] https://dre.pt/application/file/261050

[72] http://www.lifeecocompativel.com/

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In the ARA, the General Regime for the Prevention and Management of Waste[73] provides for consideration for environmental protection and consequently for the protection of biodiversity in productive activities. Thus, it is incumbent upon the Department of the Regional Government with competence in environmental matters, as an environmental authority, to ensure the implementation of a regional strategy for waste, namely through the planning, licensing, issuance of technical standards applicable to waste management operations and monitoring of their activities and to follow international, european union and national procedures in the area of waste management. The RCG no. 85/2013[74], of 29 July, determines the preparation of the Strategic Plan for the Prevention and Management of Waste in the Azores.

DLR 30/2010/A[75] of 15 November establishes the legal regime for the evaluation of the effects of certain plans and programmes on the environment and the EIA of public and private projects that can have significant effects on the environment, promoting the sustainable use of natural resources.

In 2012, the Regional Environmental Inspection published the *Manual de Ambiente* (Environmental Manual), an environmental guide to support companies[76].

Several diplomas have been published in line with the objectives of the CBD, namely regarding the sustainable use of biodiversity:

- RCG no. 122/2011, of 17 October, created two integral hunting reserves on the island of São Miguel, prohibiting the hunting of any species, as well as activities that harm or disturb game species existing there;
- Ordinance no. 91/2011, of 16 November, issued by the Secretariat of Agriculture and Forests, established the islands and the hunting periods for each game species;
- RCG no. 1/2012, of 2 January, created a Partial Hunting Reserve on Graciosa Island, in the parish of Guadalupe, where it is forbidden to hunt for quail (*Coturnix conturbans*), as well as activities that harm the species;
- RRD no. 22/2012/A, of 13 November, changes the regulation of the legal regime related to hunting activity.

[73] Approved by DLR no. 29/2011/A, of 16 November - https://dre.pt/application/file/146280

[74] http://www.azores.gov.pt/JO/Serie+I/2013/S%C3%A9rie+I+N%C2%BA+85+de+29+de+Julho+de+2013/

[75] https://dre.pt/application/file/308824

[76] http://servicos.sram.azores.gov.pt/ira/manualambiente2012/

Strategic objective B. Reduce the direct pressures on biodiversity and promote sustainable use

Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

Mainland Portugal

TMI are in force, Integrated Territorial Interventions (ITI) under the Rural Development Programme (PRODER), a strategic and financial instrument to support the mainland's rural development for the period 2007-2013, approved by the European Commission, Decision C(2007)6159, on 4 December[77], and preventive regulations, such as the environmental assessment procedure and the Habitats and Birds Directives.

Various natural habitats in unfavourable conservation status, such as habitats 9580*Mediterranean *Taxus baccata* woods, 3170*Mediterranean temporary ponds, 4020*Temperate Atlantic wet heaths with *Erica ciliaris* and *Erica tetralix*, 6230*Species-rich *Nardus* grasslands, on siliceous substrates in mountain areas (and submountain areas in Continental Europe), 6110*Rupicolous calcareous or basophilic grasslands of the *Alysso-Sedion albi* and 8240*Limestone pavements were the subject of projects co-financed by the LIFE programme:

- Project LIFE+ Taxus - Restoring yew thickets (2013-2016) will produce a total of 25000 plants (10,000 yew plants and 15,000 other trees and shrubs belonging to the habitat). About 18,000 of these plants will be used to increase the habitat area on 15 hectares in the Serra da Estrela Site of Community Importance (SCI) and the remaining 7,000 will be used to ensure the continuity of the project objectives after its completion. The active management of 50 hectares in SCI Peneda-Gerês and of 10 hectares in Serra da Estrela will focus on improving the conservation status of the habitat and ensuring that in the future the area will not be subject to unnatural disturbances[78];
- Project LIFE+ Conservation of Temporary Ponds Project in the Southwest Coast of Portugal (2013-2017) whose main result will be to halt the loss of temporary ponds in SCI Costa Sudoeste (N2000), reversing the trend of decline observed in recent years[79];
- LIFE + Project NAT/PT/000043 Higro (2010-2014) aimed at the recovery and active conservation of hygrophilous heather/gorse and grassland habitats[80];
- LIFE+ Project NAT/PT/000040 Habitats Conservation (2010-2014) for the conservation of rupicolous calcareous or basophilic grasslands of the *Alysso-Sedion albi*, semi-natural dry grasslands and scrubland facies on calcareous substrates(*Festuco-Brometalia*), which are

[77] http://www.proder.pt/ResourcesUser/Legisla%C3%A7%C3%A3o/Comunit%C3%A1ria/Decisao_Comissao2007_6159.pdf

[78] http://www.lifetaxus.quercus.pt/en/LIFE

[79] http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=4746
http://www.lpn.pt/Homepage/What-we-do/Projects/Ongoing-projects/List.aspx?tabid=2459&code=en&ItemID=250

[80] http://higro.org/

important habitats of orchids, pseudo-steppe with grasses and annuals of the *Thero-Brachypodietea,* and limestone pavements[81].

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Measures and actions targeting habitats protected under the Habitats Directive have been implemented in the ARM, notably under the LIFE Programme. Six projects have been implemented or are underway in three of the four islands of the archipelago, which significantly cover the priority habitats of the archipelago:

- LIFE Islets of Porto Santo (LIFE09 NAT/PT/000041) - Halt the loss of European biodiversity through the recovery of habitats and species of the islets of Porto Santo and the surrounding marine area[82];
- LIFE Mountainous Massif (LIFE11/NAT/PT/327) - Recovery and conservation of species and habitats of the Madeira Mountainous Central Massif[83];
- LIFE RECOVER NATURA (LIFE12 NAT/PT/000195) - Recovery of terrestrial species and habitats of the N2000 sites of Ponta de São Lourenço and Desertas Islands[84];
- LIFE Macaronesian Sparrowhawk - Conservation of Sparrowhawk and habitat of Laurissilva, on the island of Madeira[85];
- LIFE SOS Desertas Petrel (LIFE06 NAT/P/000184) - Urgent measures for the recovery of the Desertas' Petrel *Pterodroma desert* and its habitat[86];
- LIFE Madeira Monk Seal (LIFE13 NAT/ES/000974) - Conservation of the Monk seal in Madeira (*Monachus monachus*) and development of a system to monitor its conservation status[87].

Complementarily other actions have been developed, such as:

- Adoption of regulations that define acts and activities prohibited or conditioned in areas of high natural value;
- Compliance with the legal framework on environmental protection;
- Surveillance and supervision;
- Environmental awareness and education;
- Scientific investigation.

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In the ARA, with the creation of PNIs, each of the 9 islands was equipped with an effective management body for all Classified Areas, contributing to reduce the loss of natural habitats.

[81] http://habitatsconservation.org/
[82] http://www.lifeportosanto.com/
[83] http://lifemacicomontanhoso.sra.pt/
[84] http://www.pnm.pt/
[85] http://life-furabardos.spea.pt/pt/
[86] http://www.sosfreiradobugio.pt/
[87] http://www.lifemadeiramonkseal.com/pt/

Work on the restoration of natural habitats and sensitive areas has been carried out, with control of invasive species and, when necessary, planting native species characteristic of the habitat, produced in public nurseries.
In the Pedro Miguel Ponds, on the island of Faial, invasive species were removed and the endemic *Juniperus brevifolia* was planted. The area was qualified, the water courses being redirected to the pond. Under the LIFE programme, the natural forest and peat bogs were restored in the N2000 areas, in Graminhais-Nordeste, on the island of São Miguel.
The POBH of the Furnas Lagoon was implemented on the island of S. Miguel, making uses and activities compatible with the protection and environmental enhancement of the watershed, with the main objective of improving the water quality of the lagoon, reversing its eutrophication.
The Scientific Project of Renaturalisation and Enhancement of the Forest Nucleus of the Lagoa do Negro was developed and implemented, as well as a study of the ecological processes that promote the regenerative succession of the Azorean bogs after anthropogenic pressure, as an ecological restoration model where management and active restoration measures are applied.

Target 6: By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

The National Strategic Plan for Fisheries 2007-2013 aims to:

- Ensure the sustainable exploitation of living aquatic resources by adjusting fishing effort levels to achieving maximum sustainable yield, diversifying production techniques and methods and promoting quality production, ensuring that the biological safety limits for each resource and the quotas set at Community level by the Common Fisheries Policy (CFP) are not exceeded;
- To promote a development of the fishing production compatible with the environmental preservation and with the other uses of the marine environment and living resources;
- Protect habitats and sensitive marine species from destructive fishing practices.

Due to the International Council for the Exploration of the Sea (ICES) has considered the stocks of sardines (*Sardina pilchardus*), monkfish, hake (*Merluccius merluccius*) and norwegian lobster (*Nephrops norvegicus*) to overpass the biological safety limits, several measures were taken.
In 2013, the impact of the measures resulting from the Management Plan for Sardine Fishing allowed a rapid recovery of biomass and an increase in recruitment, and the recovery of the certification by the Marine Stewardship Council of sardines as a sustainable fishery, which had been suspended at the beginning of 2012. It is important to point out that the sardine stock is Iberian, so the success of the corrective measures depends on corresponding actions by the Spanish authorities and operators.

The Recovery Plan for Hake, adopted by Council Regulation (EC) no. 2166/2005 of 20 December, aims to recover, by 2016 (over a 10-year period), the stock of hake to a spawning biomass of 35 thousand tonnes. In recent years the biomass of the hake stock has been increasing steadily, reaching around 21 thousand tonnes in 2012.
Measures have been taken to ensure the maintenance of marine biodiversity, contributing to a favourable conservation status of marine and coastal ecosystems.

The National Strategy for the Sea (NSS) presents the vision of Portugal for the period 2013-2020 regarding the development model based on the conservation and sustainable use of marine ecosystem resources and services.
As the implementation and results of this cross-sectoral and multisectoral policy depend on the involvement of public and private actors, after an extensive Public Discussion, the NSS 2013-2020 was approved by the Inter-ministerial Commission for Marine Affairs (CIAM)[88] in November of 2013.

The Marine Strategy Framework Directive (MSFD) (2008/56/EC) sets out the framework for Community action in the field of marine environment policy in which EU Member States must take the necessary measures to obtain or maintain good environmental status in the marine environment by 2020. This Directive, which constitutes the environmental pillar of the Integrated Maritime Policy, states that in order to achieve good environmental status of the marine environment, Member States should develop marine strategies for marine waters under national sovereignty or jurisdiction.
Several subdivisions were considered for the implementation of MSFD, taking into account the specificities of the marine areas, i.e. their hydrographic, oceanographic and biogeographic characteristics. In Portugal, marine waters are part of the Northeast Atlantic region and the sub-regions of the Bay of Biscay and the Iberian Coast, and the Macaronesian coast, i.e. the waters around the Azores and Madeira archipelagos.
In Portugal, through the diploma that transposed the MSFD[89], four marine strategies were implemented, in compliance with the first part of the preparation phase:

- Marine Strategy for the Mainland Subdivision[90];
- Marine Strategy for the Extended Continental Shelf Subdivision[91];
- Marine Strategy for the Azores Subdivision[92];
- Marine Strategy for the Madeira Subdivision[93].

The second part of the preparation phase, up to 15 July 2014, provided for the establishment and implementation of a monitoring program for constant assessment and periodic updating of environmental targets. The preparatory phase is followed by the programme of measures

[88] http://www.dgpm.mam.gov.pt/Pages/ENM_2013_2020.aspx

[89] DL no. 108/2010, of 13 October, with the changes introduced by DL no. 201/2012, of 27 August.

[90] http://dl.dropbox.com/u/103729442/EstrategiaMarinha_subdv_Continente.pdf

[91] http://dl.dropbox.com/u/103729442/EstrategiaMarinha_subdv_Plataforma%20Continental%20Estendida.pdf

[92] http://www.dgrm.min-agricultura.pt/xeo/attachfileu.jsp?look_parentBoui=3242367&att_display=n&att_download=y

[93] http://www.dgrm.min-agricultura.pt/xeo/attachfileu.jsp?look_parentBoui=3243593&att_display=n&att_download=y

phase, which determines, by 2015, the completion of a programme of measures for the achievement or maintenance of good environmental status and, by 2016, to start the implementation of the programme of measures.
It is the responsibility of the Directorate-General for Natural Resources, Safety and Maritime Services (DGRM) to coordinate the application of Decree-Law no. 108/2010, of 13 October, as amended by Decree-Law no. 201/2012 of 27 August[94], at a national level. The drafting of the strategies for the subdivisions of Madeira and the Azores, which include the national marine waters defined around both archipelagos, are under the responsibility of the respective Regional Governments.

The Marine Strategy for the Mainland Subdivision carries out a survey and characterisation of the environmental state of the sea in Portugal and a study of the impacts of socio-economic activities (fishing, shipping or aquaculture and port activities). 14 targets are proposed by 2020. The report classifies in "Good Environmental Status Affected" most of the 11 descriptors evaluated, including biodiversity, seabed integrity, commercially exploited fish and shellfish populations and contaminants in fish and shellfish for human consumption.

An activity with potential high impacts is the fishing of certain species, but currently most commercially exploited species are in a state that indicates a Good Environmental Status Achieved, high or moderate. Problems are detected in the biomass of the stocks of 5 evaluated fish species, which require recovery through the establishment of fishing limits and a set of targets:
- to recover the biomass levels of the sardine stock;
- to recover the biomass levels of hake stock;
- sustainable exploitation of the stock of white monkfish;
- sustainable exploitation of the stock of four-spot megrim;
- sustainable exploitation of the stock of shortfin mako shark.

Another concern is the coastal contamination (mainly in the sediments) by the estuaries of the Tagus and the Sado, originating from land activities. It is also necessary to reduce the amount of litter on beaches and the seabed by 2020[95].

Ordinance no. 114/2014 of 28 May[96] creates more favourable conditions for the protection of the seabed from the adverse impacts of fishing activity by prohibiting the use of and on-board fishing gear susceptible of causing negative impacts on deep-sea ecosystems, and by requiring registration and reporting on sponges and corals caught. The ban on trawling and bottom gillnets was therefore enacted in an area of more than 2 million square kilometres of the North

[94] http://www.dgrm.min-agricultura.pt/xportal/xmain?xpid=dgrm&actualmenu=1470807&selectedmenu=1470807&xpgid=genericPageV2&conteudoDetalhe_v2=1480077

[95] http://www.publico.pt/ciencia/noticia/e-preciso-recuperar-stocks-de-especies-e-reduzir-lixo-no-mar-ate-2020-1562377

[96] https://dre.pt/application/file/25346153

Atlantic Ocean, which includes areas of the EEZ and the extended continental shelf of Portugal under the United Nations Convention on the Law of the Sea.

This law supplements a Community regulation (Reg. (EC) no. 1568/2005) which, in order to protect vulnerable habitats such as hydrothermal vents and seamounts and benthos, such as deep-sea corals, prohibit the use of gillnets, entangling nets or trammel nets at depths greater than 200 metres and bottom trawls or similar towed nets operating in contact with the seabed in large areas of the EEZ around the Azores and Madeira.

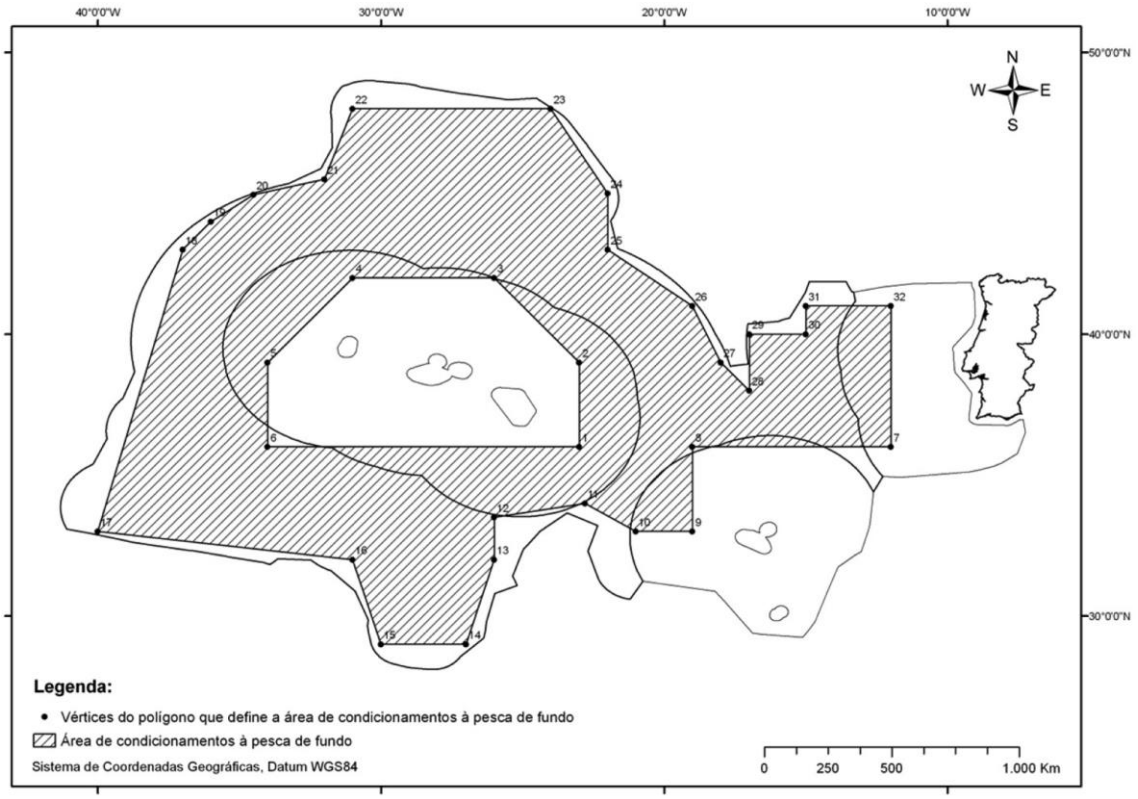

Figure 15 - Conditioning area for bottom fishing.

One of the main concerns of SAFESEA projects - *Sustainable local fisheries and promotion of a safe sea for cetaceans* (supported by the EEA Grants)[97] and MARPRO (co-financed by the LIFE programme)[98] has been the by-catch of seabirds and marine mammals during fishing activities. Specific questionnaires addressing the problem were answered by vessel captains to get an initial view of the number of birds and mammals caught during fishing events and to understand the details of the incidents. Several observers on board collected important information to characterise the situation. Most of this information is still being analysed under the LIFE + MARPRO project. At the same time, since 2012, an awareness campaign has been

[97] http://fmo.07.no/id/1587?casenumber=PT0039

[98] http://marprolife.org/

established involving leaflets and manuals on good practices addressing the problem and possible mitigation measures to be applied during fishing activities. A call for ideas on measures to mitigate the impact of fisheries on birds and marine mammals was launched in 2014. In relation to the reduction of marine mammals caught in fishing gear, preliminary measures were implemented, namely the use of pingers (acoustic alarms) in nets during fishing activities.

In mainland Portugal, the PEOTs for marine PAs include a set of regulatory measures for professional and recreational fishing activities aimed at the protection of species and habitats.

In inland waters, particularly in areas with species with a relevant protection status or high commercial or sporting value, Protection Zones, Professional Fishing Zones, Reserved Fisheries Zones and Fishing Concessions were created, with specific regulations or standards for the protection of aquatic resources and sustainability of fisheries[99].
The Eel Management Plan for 2009-2012 (revised November 2010) was submitted to the European Commission in accordance with Council Regulation (EC) no. 1100/2007[100]. In 2012, Portugal established a closed season for the European eel (*Anguilla anguilla*) during its migration towards the sea, as well as the restriction of professional eel fishing to the Professional Fishing Zones.
Other measures have been taken for the management of inland fisheries, listed here by target species:

- *Cobitis calderoni*, *Cobitis paludica*.
  Total ban on fishing and on the use of the species as live bait in fishing.
  Ordinance no. 624/2010 of 23 August[101];
- *Alosa alosa*, *Alosa fallax*, *Petromyzon marinus*.
  Professional fishing forbidden during the peak of reproductive migration, and experimental implementation of a two weeks migration window for the shad, twaite shad and marine lamprey, on the Mondego River.
  Notice of the Professional Fishing Zone of Baixo Mondego[102];
  Notice of the Professional Fishing Zone of Médio Mondego[103];
- *Anguilla anguilla*.
  Total ban of professional and sport fishing during the reproductive migration, from October to December. Ordinance no. 180/2012, of 6 June[104];
  Restriction of professional fishing to the Professional Fishing Zones (with specific fishing regulations). Ordinance no. 180/2012, of 6 June[105];
  Reduction of fishing effort directed at the species (number of professional fishing licenses, number of fishing gear authorised and length of fishing period).

[99] http://www.icnf.pt/portal/pesca
[100] http://www.icnf.pt/portal/pesca/gr/pgeng
[101] http://www.icnf.pt/portal/pesca/pdesportiva/proib-cobitideos
[102] http://www.icnf.pt/portal/pesca/ead/editais/resource/doc/ed2014/zpp/ed-zpp-baix-mondeg-1
[103] http://www.icnf.pt/portal/pesca/ead/editais/resource/doc/ed2014/zpp/ed-zpp-med-mondeg-13-14
[104] http://www.icnf.pt/portal/icnf/legisl/legislacao/2012/portaria-n.o-180-2012-de-06-de-junho.-d.r.-n.o-110-serie-i
[105] http://www.icnf.pt/portal/icnf/legisl/legislacao/2012/portaria-n.o-180-2012-de-06-de-junho.-d.r.-n.o-110-serie-i

Notice of the Professional Fishing Zone of the Lagoa de Santo André[106].
Notice of the Professional Fishing Zone of Baixo Mondego[107].
Notice of the Professional Fishing Zone of Médio Mondego[108];
Prohibition of silver eel fishing in the Lagoa de Santo André.
Notice of the Professional Fishing Zone of the Lagoa de Santo André[109];

- *Anaecypris hispanica*.
  Increase in fishing effort on the largemouth bass (elimination of the closed season and minimum catch size) in the Spanish minnowcarp distribution zone.
  Ordinance no. 63/2014, of 10 March[110].
  Ordinance no. 170/2013, of 2 May[111];

A number of research and development projects have also been carried out, with the formal participation of the national authority for nature and biodiversity conservation and national forest authority:

- POCI FISHPASS - Migratory ecology of Iberian inland fish fauna and improvement of fish performance - POCI/AGR/57175/2004[112];
- BIOMANIPULATION - Angling in reservoirs of the centre and south of Portugal: Contribution of biomanipulation to the reduction of eutrophication[113];
- ALBUFEIRAS - Ecological Quality and Integrated Management of Dams[114];
- AQUARIPORT - National programme for monitoring fish resources and assessing the ecological quality of rivers[115];
- National Fisheries Map[116].

Autonomous Region of Madeira

For the purpose of implementing the MSFD, the subdivision of Madeira, which is part of the Macaronesian sub-region, includes national marine waters around the Madeira archipelago, with the exception of the extended continental shelf.
The characterisation and evaluation of the current state of the waters and seabed of the Madeira subdivision, and of the related ecosystems and corresponding pressures and impacts,

[106] http://www.icnf.pt/portal/pesca/ead/editais/resource/doc/ed2013/zpp/zpplagoa-santo-andre
[107] http://www.icnf.pt/portal/pesca/ead/editais/resource/doc/ed2014/zpp/ed-zpp-baix-mondeg-1
[108] http://www.icnf.pt/portal/pesca/ead/editais/resource/doc/ed2014/zpp/ed-zpp-med-mondeg-13-14
[109] http://www.icnf.pt/portal/pesca/ead/editais/resource/doc/ed2013/zpp/zpplagoa-santo-andre
[110] https://dre.pt/pdf1sdip/2014/03/04800/0181701818.pdf
[111] https://dre.pt/pdf1sdip/2013/05/08400/0269402694.pdf
[112] https://www.fct.pt/apoios/projectos/consulta/vglobal_projecto.phtml.en?idProjecto=57175&idElemConcurso=29
[113] http://www.icnf.pt/portal/pesca/gr/recaquic/pesca-desportiva-em-albufeiras-do-centro-e-sul-de-portugal
[114] http://www.icnf.pt/portal/pesca/gr/recaquic/qual-eco-alb
[115] http://www.icnf.pt/portal/pesca/gr/recaquic/aquariport-1
[116] http://www.icnf.pt/portal/pesca/cpn
http://www.cartapiscicola.org/#

formed the basis for the Good Environmental Status classification. In the initial assessment of the 7 descriptors analysed (Biodiversity, Alien Species, Anthropogenic Eutrophication, Seabed Integrity, Permanent change of hydrographic conditions and Contaminants and Contaminants in fish and shellfish for human consumption) only Descriptor 9 (Contaminants in fish and shellfish for human consumption), is not in good environmental condition, in particular for deep-sea species. This result is not a direct consequence of anthropogenic activities with local origin, being probably of natural origin and therefore not susceptible to mitigation actions.
For the subdivision of Madeira, 23 targets were proposed by 2020 to achieve the Good State or to maintain it, in relation to the initial assessment. In the Monitoring Programme (PMo,) for continuous assessment of environmental status and periodic updating of environmental targets and corresponding to the second part of the preparation phase of marine strategies, for the subdivision of Madeira nine monitoring projects related to descriptors 1 (Biodiversity), 2 (Alien Species), 3 (Commercially exploited fish and shellfish populations), 4 (Marine Food Chain), 9 (Contaminants in fish and shellfish for human consumption) and 10 (Marine litter) are created.

Autonomous Region of the Azores

In the ARA, the PAs covering marine areas, such as the PNIs and the Azores Marine Park (PMA), are instruments for the conservation of natural resources and marine ecosystems. The legal regime for the conservation of nature and biodiversity[117] creates mechanisms to regulate the capture and trade of protected marine species subject to exploitation, as well as the harvesting of limpets, barnacles and clams, as well as the capture of lobster, Mediterranean slipper lobster, spider crab and eels, defines the criteria for granting licenses, and sets the areas on all islands where certain marine algae, molluscs, echinoderms and crustaceans are allowed to be harvested.
The fishing fleet of the Azores is mainly composed of small vessels, less than 14m length overall (OL), with more than 80% open mouth. It is thus classified as small-scale, presenting features that limit its autonomy and the type of fishing technology that it can use and operate in an artisanal regime.

In order to ensure the sustainability of fishing and shellfish harvesting activities, minimising the impact on marine ecosystems and seeking the recovery of vulnerable species, the following apply:
- Regional, national and European Union regulations under the CFP;
- Measures to reduce by-catch of non-target species (sharks, mammals, reptiles);
- Sustainable fishing methods through the use of traditional gear;
- Stock management measures for professional and recreational fisheries, ensuring their sustainable exploitation and recovery, as well as the establishment of authorised catch limits and annual/multi-annual fishing quotas or the definition of minimum catch sizes for some species.

[117] DLR no. 15/2012/A, of 2 April - https://dre.pt/application/file/553827

In addition to the European Union fisheries management instruments, a number of measures have been taken at a regional level, including:

- Prohibition of the use of trawls, gillnets at more than 30 metres depth, driftnets and gillnets of more than one sheet in the EEZ around the Azores;
- Prohibition of the licensing of gillnets directed to deep-sea species[118];
- Amendment to the regulation on the method of fishing with gill nets, prohibiting the landing of fish caught with drifting trammel and gill nets at the ports of the ARA, as well as gill nets intended for demersal and deep-sea species[119];
- Prohibition of landing in the ports of the ARA for fish caught by seabed trawls or similar towed nets operating in contact with the seabed[120];
- Regulation of various types of harvest (diving, for scientific purposes, for aquaculture and aquarium establishments, recreational and commercial purposes)[121].

The fishing activity of the regional fleet is monitored on the basis of the applicable European Union regulations, one of the most advanced in terms of control and surveillance at a global level. In addition to VMS (Vessel Monitoring System) monitoring of vessels exceeding 15 metres of OL and all regional vessels between 8.5 and 15 metres of OL operating with seabed longlines, fishing logs on all vessels over 10 metres of OL, control of the first sale through the obligation of unloading and sale of fresh fish in designated facilities for all vessels, there are also numerous inspection and control actions under the Integrated Surveillance, Supervision and Control System of Fishery Activities, coordinated by the Regional Inspection of Fisheries and in which several entities with legal competence in the field, including the National Republican Guard, the Portuguese Navy and Air Force participate.

In the Azores there are more than 40 species of elasmobranchs, covering pelagic, benthopelagic and benthic habitats from shallower to deep waters in areas near the islands' coast, banks and seamounts. However, only about 17 species of sharks are identified in fish unloads. Elasmobranch catches in the Azores (ICES sub-area X) are mainly a bycatch of three main fisheries: swordfish, demersal and black scabbardfish. For the protection of these species, the capture of deep-sea sharks in the Azores Sea (Reg (EC) no. 1359/2008) has been prohibited since 2010. The existence of a zero quota means that it is not possible to catch a particular species, such as deep-sea sharks, at this time.
The ICES Working Group on Elasmobranch Fishes (WGEF) assesses stocks of deep-water elasmobranch species, while the International Commission for the Conservation of Atlantic Tunas (ICCAT) is responsible for assessing pelagic sharks.

Collaboration between the fisheries sector, the academia and the public administration is recurrent. The Regional Directorate for Fisheries has supported several research projects, some for the fulfilment of obligations under the CFP: National Programme of Data Collection of

[118] Ordinance no. 91/2005, with the drafting of Ordinance no. 34/2006.

[119] Ordinance no. 48/2006.

[120] Ordinance no. 7/2012.

[121] Ordinance no. 4/2014.

the CFP; management and maintenance of ARA research vessels; demersal project; Programme of Observation of the Fisheries of the Azores; barnacles project and Aqualab; monitoring and interaction of cetaceans in squid fishery; genetic study of black scabbardfish; potential aquaculture zones.
The ARA also supports the project "Valuing the Sea of the Azores" involving schools of vocational training in São Miguel, making future cooking professionals aware of gastronomic innovation and of the importance of the diversified and sustainable consumption of fresh fish.
Within the scope of the multidisciplinary project "Observatory for the long-term study and monitoring of the ecosystems of seamounts in the Azores - CONDOR", coordinated by the Department of Oceanography and Fisheries of the University of the Azores, the regional government, after meetings with the fishing industry and the academia, established specific access rules for the fishing activity at the Condor bank, namely the prohibition of certain gear, guaranteeing the full execution of the project[122]. In 2012 it decided to extend the ban on fishing in the Condor bank area until the end of 2014 to allow full implementation of the project[123]. A scientific station for permanent observation, particularly relevant to the biological, ecological and oceanographic knowledge of the marine area, was installed in the Condor bank.

Target 7: By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

Agricultural and agroforestry ecosystems

Mainland Portugal

In mainland Portugal, the implementation of the PSRN2000 is continued through its integration into TMI (PMOT and PEOT).

ITIs, financial instruments supported by RDP, related to the maintenance and promotion of the conservation status of habitats and species, remain in force. Local Support Structures (ELA) have been created to support, guide and inform farmers and forest managers on the adoption of contractual measures and investments included in ITIs. These structures include agroforestry and nature conservation authorities and other stakeholders, including ENGOs. In addition, guides on forest and agricultural good management practices were prepared, and demonstration actions were carried out for farmers.
The implementation of management measures under RDP is assessed through the following items:
- Index of Common Birds of Agricultural Zones;
- Agricultural area of high natural value;

[122] Ordinance no. 48/2010.
[123] Ordinance no. 47/2012.

- Natural values Monitoring Programme in the area of Integrated Territorial Intervention of the Southwest Coast: monitoring of bird communities and characterisation of the flora and amphibians of temporary ponds took place in 2010. N2000 areas covered: Southwest Coast SCI and Southwest Coast SPA;
- Monitoring of stepparian birds during spring 2010 and winter 2010-11. N2000 area covered: Castro Verde SPA.

In order to extend this assessment to other areas of the N2000, monitoring programmes and indicators, methodologies and baselines are in preparation for the Serra da Estrela SCI, Tejo Internacional SPA, Erges e Pônsul SPA, Monchique SPA and SCI and Caldeirão SPA.

At national level, sales of plant protection products, which are currently the best indicator for estimating the use of these products, have been consistently declining, having decreased by around 15% between 2012 and 2011.

In mainland Portugal, the agricultural area in organic production mode (MPB) increased between 1994 and 2012 from 0.2% to 6.1% of the total Utilised Agricultural Area (UAA). In 2012, on the mainland, the predominant type of MPB crops were pastures (61.8% of the area). In terms of animal production, in 2012, in mainland Portugal sheep and cattle were the main species in MBP, accounting for about 36.5% and 27.5% of the national herd.

Autonomous Region of Madeira

In order to contribute to the conservation of biodiversity, in areas for agriculture and forestry, the following measures have been implemented:

- Application of the regulations of the Territorial Planning and Management Plans and Programmes of Management and Conservation Measures of the N2000 CA;
- Compliance with applicable European Union, national and regional legislations;
- Natura 2000 payments and Agri-environmental payments.

Under PRODERAM, Natura 2000 payments and agri-environmental payments have served as positive incentives for the conservation and sustainable use of biodiversity. The impact of support subject to environmental conditionality is controlled *in loco* (physical and documental). Also in support of rural development was the Leader programme, co-financed by the European Union structural funds and aimed at encouraging rural actors to implement integrated strategies for sustainable development.

Autonomous Region of the Azores

In the ARA it is considered that PRORURAL (2007-2013) should strengthen the environmental area, preserving biodiversity and valuing ecosystem services. Positive intervention on classified natural values with a direct link to agricultural and forestry activities is privileged, giving greater expression to the compensation of farmers and landowners for income losses and

increased costs in the conservation of those values. PRORURAL's logic supports productive and territorial competitiveness, but it addresses an integrated approach that values the sustainability of natural resources. In PRORURAL, a measure implemented through the EAFRD was the Improvement of the Environment and Landscape, which encompasses the Action Protect Biodiversity and Natural and Landscape Values.
For agriculture, measures have been implemented to reduce the use of agrochemicals.
The annual implementation reports drawn up by the PRORURAL Management Authority, as well as the annual and interim evaluations to which PRORURAL is subject, are the instruments for evaluating the performance of the Programme.[124]

A document was prepared by the ARA that identifies and characterises three systems of agriculture of High Natural Value:
- Systems of extensive semi-natural grazing (permanent pastures);
- Extensive systems of permanent crops (traditional vineyards and orchards);
- Traditional polyculture systems.

Forest Ecosystems

Mainland Portugal

The national legal system provides a framework for forest planning and management, which includes three levels:
- I. The Regional Forest Management Plans (PROF) are sectorial policy instruments for the regional level. They lay down the general guidelines for intervention, forest use and exploitation adapted to the regional specificities, in order to promote and guarantee the sustainable production of all goods and services, safeguarding the objectives of the National Strategy for Forests[125]. PROFs are binding on administrative authorities at all levels.
- II. Forest Management Plans (FMP) are tools for the management of forest areas at the unit level, according to the guidelines defined in the respective regional forest plan. They determine, in space and time, the form of the concrete actions and exploitation of the resources in the forest unit, aiming the sustainable production of goods and services and taking into account the activities and the uses of the surrounding areas and existing legal and binding restrictions.
- III. Specific Forest Intervention Plans (PEIFs) are instruments that design specific intervention measures in forest areas with major biotic problems (e.g. cases of invasive plants or outbreaks of pests or diseases) or abiotic (e.g. very high risk of forest fire).

[124] http://prorural.azores.gov.pt/documentacao/default.aspx?id=36
http://prorural.azores.gov.pt/documentacao/default.aspx?id=76
http://prorural.azores.gov.pt/documentacao/default.aspx?id=77
[125] RCM no. 114/2006 - https://dre.pt/application/file/539887

All public forests need to have a FMP. Also all local communities forest areas must have a FMP (or a PUB - Common Land Utilisation Plan), regardless of their size. These plans are prepared by the public administration body responsible for the management of public forest exploitation and approved by the national forestry and nature conservation authority (ICNF, IP).

Forest Management Plans are mandatory for private forests when:

- Satisfy the size conditions established in the respective Regional Forestry Plan (PROF) (varying between minimums of 25, 50 and 100 ha);
- Included in the ZIF (in accordance with the provisions of DL no. 127/2005, of 5 August, in the wording given by DL no. 15/2009, of 14 January, no. 2/2011, of 6 January, and no. 27/2014, of 18 February). In this case, either they adopt the Plan of the entire ZIF area or they have a specific FMP.
- There is a provision of public (EU or other) funding for forest management or afforestation. This obligation for all projects, regardless of their size, was in force until February 2014, the date from which this obligation became mandatory only for projects with areas above those defined in their PROF (modified by DL no. 27/2014, of 18 February), as for all other projects not supported by public funds.

In these cases, the FMPs are prepared by the entity responsible for forest management and approved by the national forest authority (ICNF, IP).

Where forest holdings overlap an area designated for nature conservation or biodiversity (including N2000 and national level PA), the FMP shall include a Biodiversity Management Programme (BMP), the purpose of which is to ensure the compatibility and the contribution of the interventions proposed in the FMP for the conservation of protected species and habitats whose favourable conservation status depends on forest management. This program has to consider the applicable provisions contained in PSRN2000 and other relevant plans and regulations (e.g. plans or regulations for management of protected areas and land use planning). Guidance was provided to support forest owners and managers.
About 25% of the area under FMP is included in the SNAC (PA, N2000 sites and other sites (Biosphere Reserves, Ramsar sites, etc.)), and is therefore subject to BMP.
The legislative changes referred to above obviously lead to a decrease in the area under FMP.

For forest owners not obliged to an FMP, the Regional Forestry Plan (PROF) or the PSRN2000 provide general guidance. Additionally, there is national legislation that includes specific operational rules of a mandatory nature, such as species protection, soil protection or forest fire prevention. Municipal or other management plans contain some mandatory rules that have to be considered.
New afforestation activities need to be reported in advance or, in some cases, authorised by the national forest authority (ICNF, IP) and may even require an EIA, in accordance with the Habitats Directive and national legislation.
A guide was produced for the elaboration of forest plans or projects in CA. The purpose of this document is to support forest owners, managers and planners in the preparation of forestry

projects and in the implementation of forestry operations, in order to ensure their compatibility with existing natural values and even contribute to their improvement.
Forest owners also make use of voluntary market instruments, such as the internationally recognised certification systems (Forest Stewardship Council (FSC) and Programme for the Endorsement of Forest Certification (PEFC)), or adopt practices consistent with ""codes of good practice for sustainable forest management" based on the work developed by the Technical Commission for Standardisation 145/IPQ (Portuguese standard NP 4406/2003 - Sustainable Forest Management Systems), which applies the pan-European criteria for sustainable forest management and operational level guidelines. At the end of 2013, more than 200,000 hectares of forest were certified under the PEFC system and more than 300,000 ha under the FSC system.

Autonomous Region of Madeira

In the ARM, the Regional Strategy for Forests has a perspective on the conservation of biodiversity and nature and its sustainable use, issues also foreseen in the PROF of the ARM.
In the first ARM Forest Inventory (IFRAM1) indicators of biological diversity were contemplated, namely the characterisation of the structure of the plant formations of the Laurissilva forest, as well as the analysis of its specific diversity.
The awareness raising, advice and technical guidance of the main players on the issues of nature conservation and biodiversity have deserved special attention in forestry investments. Financial incentives have also promoted sustainable forest management, on a shared perspective by public and private entities. The adequacy of the incentive schemes to the expectations of the local actors has allowed to increase the levels of intervention, allowing the implementation of adequate management strategies.
The forestry projects implemented, in addition to the benefits in terms of stand management, erosion and soil protection, water regulation, landscape and increased security of the lowlands, have contributed to the control of alien invasive species and the increase of biodiversity.
Since 2010, public investments in afforestation and forest improvement have been made in about 640 hectares. In projects implemented by public entities, attention has been paid to the choice of tree species as a contribution to the increase of biodiversity and also for their medium/long-term contribution to a harmonious and sustainable development of forest communities.

Forest Areas of High Natural Value in the ARM:
- SAC PTMAD0001 - Laurissilva da Madeira: 15,367 ha;
- SAC PTMAD0002 - Maciço Montanhoso Central da ilha da Madeira: 6,224 ha;
- SAC PTPOR0002 - Pico Branco - Porto Santo: 127 ha;
- SAC PTMAD0005 - Achadas da Cruz: 185 ha.

Through projects such as the LIFE Maciço Montanhoso, and in particular in relation to the species *Taxus baccata* (yew) and *Juniperus maderensis* (Madeiran-juniper), the identification

and genetic characterisation of autochthonous forest species or populations at risk of erosion, have been promoted[126].

The forest areas in the ARM are periodically subject to accidents, namely forest fires, causing significant losses. The regional government has invested in their prevention, namely through:

- Construction/improvement of the road and divisional network to increase its functionality;
- Construction/improvement of reservoirs (water points) in areas with a high risk of fire;
- Implementation of preventive forestry techniques aimed at reducing the risk of ignition and progression;
- Information and awareness.

Autonomous Region of the Azores

In the ARA the forestry activity is subject to technical and legal constraints, considering the conservation of the natural heritage and the protection of soil and water. In the elaboration of the FMP, space organisation models are used, with a functional zoning of the Forest Management Units that, among other things, protect the soil and the hydrological network, conserve biodiversity and produce timber. For the execution of the FMPs or in the licensing of lumber requests technical guidelines are issued for the adequacy to the vegetation cover (with relevance for the use of indigenous species) in the most sensitive areas. When the size of the area justifies it, for the protection of the hydrological network (public water domain) or for protection of the soil on slopes higher than 30 degrees, forest conversion with an under-cover of endemic or native species of the Azores should be promoted.

The new Regional Forestry Strategy, which will guide the ARA's medium and long-term forest policy, has been discussed by a broad range of stakeholders and includes concerns about forest management and the conservation of forest resources[127].

The forest management and planning in PAs or CAs have complied with their legal provisions, including management plans.

Also in PRORURAL the action Valorisation of the sustainable use of forest land was incorporated, consisting of by four measures:

- Natura 2000 payments on forest lands, with the objective of maintaining the conservation status of the priority natural habitats included in the SCI and SPA of the N2000;
- Forest-based payments in response to increased demand for ecosystem services by encouraging forest holders to make voluntary commitments that go beyond mandatory standards and promote biodiversity, preservation of high-value forest ecosystems, and enhancement of the protecting role of forests on soil erosion, maintaining the quantity and quality of water resources and preventing natural hazards;
- Support for non-productive investments with the aim of assisting forest holders to meet forestry commitments related with the environment or to achieve other environmental objectives or to increase the value of the public utility of forests;

[126] http://lifemacicomontanhoso.sra.pt/

[127] http://servicos-sraa.azores.gov.pt/grastore/DRRF/Estrategia_Florestal_Acores.pdf

- Support for the restoration of silvicultural potential and the introduction of preventive measures to restore productive potential in forests affected by harmful abiotic and biotic agents, improving their resistance and supporting appropriate prevention measures.

These measures were well received by forest owners, with the approval of:

- Natura 2000 payments on forest land, on 358,3 ha;
- Forest-environmental payments, on 573,0 ha;
- Support for non-productive investments, on 414,5 ha.

Promoting the dynamisation and modernisation of the sector and the protection of the forest heritage, a model of management of the forest perimeters and regional forests is being implemented by the Regional Directorate for Forest Resources (DRRF), creating conditions for the development of a regional standard for certification through the FSC system.

This process started in 2013 in the pilot area of the Forest Nucleus of Achadinha, in the Nordeste, São Miguel, in about 200 hectares, in which 80 are of forest, will be extended to other forest perimeters. In this Nucleus about 40% of the forest area of production will be reconverted, installing a vegetation cover adjusted to the functions of protection of the hydrographic network, soil and containment of slopes, forest subdivision and conservation of biodiversity, although at the expense of reduction of the area oriented to the production of timber, a planning option that represents a paradigm shift.

Before any operation, its impact is evaluated. As this is significant, particularly for relevant natural values, mitigating measures are implemented. For birds, in public areas, before carrying out operations with a possible impact, the existence of nests or nesting birds is evaluated (particularly of more sensitive species).

The most recommended measures, in private or public areas, are the compartmentalisation and dispersion of the areas to be intervened, reducing the magnitude and extent of possible impacts and ensuring a relationship between the intervened areas and the surrounding populations with the capacity to recolonise them.

Among the benefits of certification are:

- Reduction of environmental impact;
- Improvement of competitiveness and economic valuation of products (obtaining differentiated market prices);
- Maintenance of products in progressively more demanding markets or access to new (global) markets;
- Valuation of landscape and other services (soil protection, water regulation, biodiversity conservation, carbon storage, etc.);
- Improvement of the working conditions of operators in the sector;
- Improvement of the institutional image of the agents involved.

In the scope of the Certification process, the Manual of Good Practices for Forest Management of the Azores was prepared, guiding forest sector agents, pointing out the main actions and forestry operations necessary for the management of forest resources in the Azores,

identifying their potential impacts and recommending practices and safeguards to avoid or minimise them[128].

There are endemic species, with high quality wood and demand, not available in the market. The ARA Forest Improvement Programme defines the forestry that best expresses the forest potential of these species. Studies on the "Genetic Structure and Variability" of the natural populations of Azores-juniper (*Juniperus brevifolia*) and "pau-branco" (*Picconia azorica*) have been carried out to establish appropriate conservation and development measures. Consolidating the production of Azores-juniper and "pau-branco", there is the possibility of extending domestication to other species that may offer interesting woody products such as *Frangula azoric*a and *Myrica faya*, or others, such as blueberries of *Vaccinium cylindraceum*.

The use of forest biomass in the ARA, for domestic or industrial use in the 2011-2013 triennium, averaged 15,640 cubic metres of Acacia, Eucalyptus and other hardwoods and 2,640 tonnes of sweet pittosporum (*Pittosporum undulatum*). This represents an average annual area of about 169 hectares exploited for biomass, about 0.07% of the land territory of the Azores. According to the Legal Regime for the Protection of the Forest Heritage, the forest stands for fuel use can only be exploited every 10 years, which guarantees the sustainability of natural resources, due to the spatial rotation of the land dedicated to this and the small proportion of the territory with this objective.
In 2009-2010, the DRRF carried out a study on the annual potential of sustainable supply of Forest Biomass for all islands (excluding the areas occupied by natural vegetation), a document that has already served as the scenario for the design of some investment proposals.

DRRF planned and executed a Forest Inventory project, completed in 2007 (IFRAA1). The main objectives were to obtain graphical and numerical information on the occupation of the soil and the evaluation of the stocks in timber, incorporating the information generated in a Geographic Information System. The natural or semi-natural areas occupy an area of 22,951.57 hectares, which represents 9.84% of the land territory of the ARA.
A second Forest Inventory (IFRAA2) will improve the information collected, namely on the composition and structure of areas of natural and spontaneous vegetation. It is necessary to make the classification of Land Use and Land Occupation closer to that used in the National Forest Inventory and to the international standards for the production of this type of cartography, namely those established in the report "Good practice guidance for land use, landuse change and forestry" (GPG -LULUCF) of the Inter-governmental Panel on Climate Change (IPCC).

Trade in wood and by-products

European Union and national rules on trade in timber and by-products ensure that their entry into and exit from the country originates from legal sources.

[128] http://drrf-srrn.azores.gov.pt/areas/cert/Documents/Manual_de_Boas_Praticas_para_a_Gestao_Florestal_nos_Acores_V3.pdf

At EU level, Regulation 995/2010 prohibits the placing on the internal market of illegally harvested timber or its by-products and creates obligations on operators placing wood and wood products on the community market. This regulation is applied at national and regional level by DL no. 76/2013, of 5 June.

Freshwater Ecosystems

In Portugal, aquaculture with freshwater species is residual, with a declining trend. The development of aquaculture activities in freshwater in the N2000 and in PA's depends on the licensing granted by ICNF, IP. This procedure ensures compatibility between conservation objectives and operating units.

Marine and coastal ecosystems

Mainland Portugal

Overall aquaculture production has increased to reach 10,317 tonnes in 2012, more 12.2% than in 2011. The production of fish (60%) and bivalve molluscs (40%) in brackish and marine waters corresponds to 95.4% of the total production.

In the PAs, the development of aquaculture with marine species is monitored by the ICNF, IP, in the Inspection Commission. The compliance of aquaculture management with the conservation objectives of the protected area is ensured by this procedure and through regular inspections to the operating units.

Autonomous Region of the Azores

In the ARA there are still no marine and coastal areas subject to aquaculture. DLR no. 22/2011/A, of 4 July[129], regulated the activity of aquaculture, defining the conditions for the exercise of the activity, ensuring its sustainability and adaptation to regional specificities. A laboratory was created in the Department of Oceanography and Fisheries of the University of the Azores to investigate and support aquaculture.
In line with the Strategic Guidelines for the sustainable development of EU aquaculture (COM (2013) 229 final) produced by the European Commission, legal constraints should be laid down in the ARA, namely the definition of areas for possible implementation of aquaculture units.

[129] https://dre.pt/application/file/670612

Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

In accordance with Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources, Portugal draws up the four-yearly report describing the situation and development of pollution caused by nitrates from agricultural sources and assessing the effectiveness of the measures established in the vulnerable zone action programmes.

Mainland Portugal

In compliance with DL no. 135/2009, of 3 June, republished by DL no. 113/2012, of 23 May, which transposed Directive 2006/7/EC on the management of bathing water quality, 543 bathing waters (446 coastal or transitional waters and 97 inland waters) were monitored in 2013, maintaining positive trends, with the quality of 97.8% of coastal and transition bathing waters classified as "acceptable" or higher, with 91.9% "excellent", and 84.5% of inland bathing water qualifying as "acceptable" or higher, with 59.8% "excellent". This monitoring is not specific to the assessment of water pollution, but it indicates that the evolution of water quality is positive.

The environmental objective of the Water Framework Directive (WFD), and consequently of the national Water Law, is to achieve, in 2015, the good status of all water bodies. The recent Euroean Union recognition of the impossibility of achieving this objective as early as 2015, both in Portugal and in other EU countries, defers the achievement of this target to 2021 and 2027, along with the adoption of an effective program of measures oriented to the preservation and improvement of water bodies.

In 2010, under the Management Plans of the Hydrographic Regions (PGRH 2009-2015), the status of the water bodies was classified based on the data collected in the monitoring programmes and, when data was lacking, by modelling and expert analysis, concluding that at national level 52% of the bodies of water have good or superior quality.
For the natural surface-water bodies, the overall state results from the combination of the ecological and chemical states, being determined by the worst of the two. This classification is complemented by the assessment of the status of protected zones.
In 2010 the ecological status of natural surface-waters (rivers, transitional waters and coastal waters) in the different Hydrographic Regions was "good or better" between 42% and 73%. The chemical status was mostly unknown.
For groundwater the overall status results from a combination of chemical and quantitative status, a classification complemented by an assessment of the state of protected zones. The generality of the groundwater reaches the good state.
The National Water Plan (NWP)[130] defines the national strategy for integrated water management. It sets out the broad options of the national water policy and the principles and

[130] http://www.apambiente.pt/?ref=16&subref=7&sub2ref=9&sub3ref=833

guidance rules of that policy, to be applied by hydrographic region management plans and other water planning instruments. One of its objectives is for the status of surface water and groundwater to be "good or superior" in all Hydrographic Regions by 2027.

Autonomous Region of the Azores

Under PRORURAL, support is provided for the reduction or elimination of the use of fertilisers, herbicides and pesticides and the reduction of the livestock by area.
For the protection of water bodies against pollution caused by nitrates from agricultural sources, Ordinances no. 92/2012, no. 110/2012 and no. 111/2012 were published, respectively for the Action Programmes for vulnerable zones no. 5 – Sete Cidades, São Miguel Island, no. 1 – Serra Devassa, no. 2 - São Brás, no. 3 - Congro, São Miguel Island, no. 6 - Capitão, no. 7 - Caiado, Pico Island, no. 8 - Funda, Flores Island, and no. 4 – Furnas, São Miguel Island, with protection areas coincident with the drainage basins.
It is also worth mentioning the implementation of the POBH of Furnas Lagoon, island of S. Miguel (referred to in Target 6), whose main objective is to improve the quality of the water body, reversing its eutrophication. In order to promote an ecological, economical and social sustainable management of the territory, the public acquisition of surrounding land was made.
The legal regime for air quality and protection of the atmosphere (DLR no. 32/2012/A, of 13 July) was also established.

Target 9: By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

A report summarising the actions and projects (including in the legal framework) on alien species in Portugal during 2011-2012 was prepared[131].

Mainland Portugal

The following projects have been or are in progress:

- LIFE + BRIGHT - Bussaco's Recovery from Invasions Generating Habitat Threats (2011 to 2016). The project, developed in the Buçaco National Forest, aims to recover local habitats by implementing an integrated set of actions to control and eradicate alien species, propagatiing and planting of native flora and active involvement of stakeholders (schools, local communities, visitors and private sector)[132].
- LIFE + Biodiscoveries - Invasive species control through public participation (2014 to 2019). Considering the experience of other LIFE projects, it is intended to develop an alternative to

131 http://www.coe.int/t/dg4/cultureheritage/nature/bern/institutions/Documents/2013/tpvs05aadd_2013_IAS_National_Reports_Alghero_2013.pdf

132 http://www.fmb.pt/bright/index.php/pt/

the traditional models of invasive species control, by combining a public component and a strong volunteer support[133].

- LIFE + Trachemys - Alien turtle eradication techniques (2011 to 2013). This Iberian project aimed, inter alia, to halt the loss of biodiversity (especially native fish and turtles) in freshwater ecosystems caused by invasive alien turtles[134].
- LIFE + INVASEP - Combating Invasive Species Within the Tagus and Guadiana River Basins in the Iberian Peninsula (2012-2016). This Iberian project aims, inter alia, to establish a base of Iberian cooperation in combating invasive alien species, including the development of a Strategy and an Action Plan, and to eradicate and prevent the introduction of various alien species in the Tagus and Guadiana basins[135].
- The Practical Guide for the Identification of Invasive Plants in Portugal was published in 2014[136].
- During the year 2014 the Action Plan for the Vigilance and Control of the *Vespa velutina* in Portugal was elaborated, and it was published in January 2015[137].

Autonomous Region of Madeira

In the ARM there has been developed a programme to control and eradicate invasive plants, and to recover natural ecosystems, mainly in PA. It is also the objective of this program to raise awareness, through lectures and training courses, of local communities, managers and users of natural areas, and of all those involved with the sector of production and trading of plants.
DLR no. 35/2008/M prohibits afforestation and reforestation with fast-growing species, exploited in short cycles, including invasive species such as acacias and the sweet pittosporum.
The wild-rabbit and mouse eradication in Bugio (Desertas Islands) allowed an increase of the vegetation cover in the targeted area, allowing the reappearance of several characteristic plant species. The reduction of the predation on the Desertas' petrel (*Pterodroma deserta*) eggs was also verified. The eradication of wild-rabbits on the islets of Cima and Baixo (Porto Santo) allowed for an increase of the vegetation cover in the targeted area, while the eradication of the mouse on the islet of Baixo (Porto Santo) allowed an increase in the abundance and area of distribution of the land mollusc *Idiomela subplicata* (species of the Habitats Directive).
Actions to eradicate invasive alien species are planned under the LIFE projects Islets of Porto Santo[138], RECOVER NATURA[139], Macaronesian Sparrowhawk (*Accipiter nisus granti*) [140] and Mountain Massif[141].

Autonomous Region of the Azores

[133] http://www.lifebiodiscoveries.pt/
[134] http://www.citma.gva.es/web/biodiversidad/life-trachemys
[135] http://www.invasep.eu/index.php
[136] http://invasoras.pt/quem-quer-o-guia-de-identificacao-de-plantas-invasoras/
[137] http://www.icnf.pt/portal/naturaclas/patrinatur/especies/n-indig/vesp-velutina#plano-acao
[138] http://lifemacicomontanhoso.sra.pt/
[139] http://liferecovernatura.pnm.pt/
[140] http://life-furabardos.spea.pt/pt/
[141] http://lifemacicomontanhoso.sra.pt/

In the ARA, the legal regime for the conservation of nature and biodiversity[142] establishes the regulations on the importation, possession and introduction of alien species, identifies the invasive species of fauna and flora or with a known ecological risk and indicates the priority *taxa* for control and eradication. It also creates a specific regime for the Japanese beetle (*Popillia japonica*).

After the DLR no. 31/2010/A, of 17 November[143], on measures to prevent, control and reduce the presence of invasive and commensal rodents, the Manual of Good Practices of Control of Rodents for the ARA was elaborated and made available in 2012. It applies to human activities of various economic sectors (primary, secondary and tertiary) whose methods of production, transformation, distribution and/or trading act as generators of disturbances in the ecosystem and distributors of resources, providing attractives to the proliferation and dispersion of rodents. Ordinance no. 98/2012 of 18 September, was later published, with the technical requirements of the integrated rodent control plans.

The regional administration continues to control the invasive flora in sensitive areas of all the islands of the Azores, and from 2011 to 2013 intervening in about 1200 ha. Many of the LIFE projects implemented in the Region, although for most cases not their main objective, include actions to control and eradicate invasive alien species.

Strategic objective C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.

The National System of Classified Areas (SNAC)[144] consists of the National Network of Protected Areas (RNAP), the Classified Areas that integrate the N2000 (see below) and the other Classified Areas under multilateral agreements ratified by the Portuguese State.

The areas of the RNAP are classified as National Park, Natural Park, Nature Reserve, Protected Landscape and Natural Monument.

On mainland Portugal, the total area classified under RNAP and N2000 corresponded at the end of 2013 to around 22% of the mainland terrestrial area. To this value it maus be added about 190,000 ha of marine area classified under the same scope, which includes about 53,000 ha of Protected Areas (RNAP), specifically in the Natural Parks of the Litoral Norte, Arrábida,

[142] DLR no. 15/2012/A, of 2 April - https://dre.pt/application/file/553827

[143] https://dre.pt/application/file/308842

[144] Defined in DL no. 142/2008, of 24 July - https://dre.pt/application/file/454450

Sudoeste Alentejano e Costa Vicentina, Natural Reserves of the Dunas de S. Jacinto, Berlenga, Lagoas de Santo André e Sancha Lagoons and the Cabo Mondego Natural Monument.

Areas included in the Fundamental Nature Conservation Network between 2010 and 2014:

Ramsar Sites (Wetlands of International Importance):
- Pateira de Fermentelos and Vales dos Rios Águeda e Cértima (27 July 2012).
- Ribeira do Vascão, (30 October 2012).
- Paul da Praia da Vitória, (13 December 2012).

In March 2014, there were 31 Ramsar Sites in Portugal, amounting to 132,487.7 hectares.

National Network of Protected Areas, classified under Decree-Law no. 142/2008, of 24 July:
- Protected Local Landscape of Açude da Agolada (266.4 ha). Deliberation of the Municipal Assembly of the City Council of Coruche (Notice no. 16052/2010, of 11 August);
- Protected Local Landscape of the Monte da Barca Dam (867.79 ha). Deliberation of the Municipal Assembly of the City Council of Coruche (Notice no. 16052/2010, of 11 August);
- Protected Local Landscape of Rocha da Pena (671.84 ha). Resolution of the Municipal Assembly of Loulé (Notice no. 20717/2010, of 18 October, and Declaration of Rectification no. 2210/2010, of 29 October);
- Protected Local Landscape of Fonte Benémola (406.38 ha). Resolution of the Municipal Assembly of Loulé (Notice no. 20717/2010, of 18 October, and Declaration of Rectification no. 2210/2010, of 29 October);
- Private Protected Area Faia Brava (214.67 ha). Notice no. 26026/2010, of 14 December;
- Regional Natural Park of the Tua Valley (24,767.46 ha). Initiative of the Associations of Municipalities of the North Douro Valley and Terra Quente Transmontana. Regulation no. 364-A/2013, of 24 September, and Declaration of Rectification no. 28/2014, of 13 January[145].

The Territorial Plans approved since 1 April 2009 include the Implementation Programme that defines and prioritises the conservation measures necessary to achieve the objectives defined in the territorial plan:
- Peneda-Gerês National Park. RCM no. 11-A/2011, of 4 February[146] and Statement of Rectification no. 10-A/2011, of 5 April[147];
- Natural Park of the Serras de Aire and Candeeiros. RCM no. 57/2010, of 12 August[148];
- Natural Park of Sudoeste Alentejano e Costa Vicentina. RCM no. 11-B/2011, of 4 February[149] and Declaration of Rectification no. 10-B/2011, of 5 April[150].

[145] http://www.icnf.pt/portal/ap/amb-reg-loc/pnrv-tua

[146] https://dre.pt/application/dir/pdf1sdip/2011/02/02501/0000200030.pdf

[147] https://dre.pt/application/dir/pdf1sdip/2011/04/06701/0000200002.pdf

[148] https://dre.pt/application/dir/pdf1s/2010/08/15600/0340303422.pdf

[149] https://dre.pt/application/dir/pdf1sdip/2011/02/02501/0003100067.pdf

[150] https://dre.pt/application/dir/pdf1sdip/2011/02/02501/0003100067.pdf

Protected Area Management Plans (concluded), using participatory methodologies

- Natural Park of the Litoral Norte;
- Nature Reserve of Paul de Arzila;
- Nature Reserve of the Estuário do Tejo;
- Nature Reserve of the Estuário do Sado;
- Nature Reserve of Sapal de Castro Marim e Vila Real de Santo António;
- Protected Landscape of the Arriba Fóssil da Costa da Caparica.

Natura 2000 Network

The European Ecological Network (Natura 2000 network) is structured around Sites of Community Importance (SCI) / Special Areas of Conservation (SAC) and Special Protection Areas (SPAs).

Until May 2014, Portugal designated 97 SCI/SAC, with a total area of 16844 km², amounting to 17.4% of the country's terrestrial area. 30 sites include a marine area, with this area amounting to 1173 km². 59 SPAs are designated, with a total area of 11486 km², amounting to 10.7% of the terrestrial area of the country. 10 SPAs are marine, amounting to 762 km² (Table 5).

SCI/SAC (Habitats Directive):		**SPA (Birds Directive):**	
Number of sites	97	Number of sites	59
Total area of sites (km²)	16,844	Total area of sites (km²)	11,486
Terrestrial Area (%)	17,4	Terrestrial Area (%)	10,7
Number of marine sites	30	Number of marine sites	10

Table 5 - Sites of the Natura 2000 network in mainland Portugal, Madeira and the Azores.

14 sites of N2000, amounting to 3% of the total area of the network have management plans completed.

The percentages identified in Table 5 consider all designated areas under the Birds and Habitats Directives, i.e. a total of 156 CA s.

At present there is no single definition for marine sites. Due to different definitions of "marine sites" adopted by different services of the European Commission, the figures presented here for N2000 marine sites may differ slightly from those provided elsewhere. The percentage of marine areas is not available.

The adequacy of N2000 is regularly verified under the implementation process of the Birds and Habitats Directives, and was verified in 2014.

The lack of designation of SCI has been addressed through technical proposals related to the terrestrial environment (Ria de Aveiro pSCI, already integrated in the National List of Sites (RCM no. 45/2014, of 8 July), extension of the Ria Formosa SCI, the Serra da Tronqueira/Planalto dos Graminhais SCI, in the ARA), and to the marine environment (Gorringe Bank pSIC, already integrated in the National List of Sites, by RCM no. 59/2015, of 31 July).

Mainland Portugal

Conserving species and habitats in the marine environment (also relevant to Targets 5, 6, 7, 10 and 12) was highlighted as a strategic area of intervention. The Working Group on Marine Biodiversity was created (Order no. 7670/2014, of 12 June) to encompasse different public administration bodies with relevant competences, both in the marine environment and in the field of nature conservation, allowing the consolidation of technical information, aiming to increase the creation of MPAs and the extension of the N2000 to the marine environment.

Regarding the identification and legal protection of areas with relevant natural values in the marine and coastal environment, one of the main actions was the extension of the Berlengas Islands SPA in 2012, covering a vast marine area around the archipelago, following new data about ocean distribution of the breeding population of the Cory's shearwater (*Calonectris diomedea*) and in order to include feeding and resting areas important for the life cycle of the species. To improve management for the conservation of seabirds, no-take zones have been identified.
The project LIFE+ Berlengas - Conservation of endangered habitats and species in Berlengas SPA through sustainable management (2014 to 2018) (see Target 12) is underway in this SPA[151].

Along the coast of mainland Portugal, two new SPAs, Aveiro/Nazaré and Raso, were also designated for seabirds, and the areas of the Costa Sudoeste and Cabo Espichel SPAs were extended. These new areas are mainly aimed at the very threatened migratory and wintering population of the Balearic Shearwater (*Puffinus mauretanicus*). SPA enlargements and new classifications are the result of information from various projects co-financed by European funds, namely the LIFE programme and the European Economic Area Grants (EEA Grants).

Also very important was the designation of the Gorringe Bank, a seamount located on the high seas, southwest of Cabo de São Vicente, with an area of almost 23,000 km^2, which contributed substantially to the extension of the N2000 to the marine environment.

All the SCIs and SPAs already established in the marine environment benefit from a Sectorial Plan that regulates the activities within the N2000. In addition, some of these areas overlapping with Parks and Natural Reserves are managed by specific protection rules and, in some cases, there is a management plan in place. The management plans of the marine parts of PAs define no-take zones, establishing restrictions to fishing activity, be it recreational or professional.

During the enlargement of the Berlengas Islands SPA (2010-2011) a process was set up to define the management priorities of the future SPA with the involvement of stakeholders, which resulted in the preparation of the "Bases for the future management plan of the

[151] http://www.spea.pt/pt/noticias/novo-projeto-life-berlenga-ajuda-a-repor-os-valores-naturais-do-arquipelago/
http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=5044&docType=pdf

Berlengas Islands SPA", a document under review before its formal adoption by the Portuguese Government. The stakeholders involved included fishermen, local government, government agencies and representatives of tourism activities, and their needs and expectations were addressed at various meetings.

The management model for the future N2000 extended to the marine environment is currently under internal discussion at the agency responsible for nature conservation in Portugal (ICNF, IP). Whatever the outcome, new areas and their management needs will be addressed with the stakeholders in a process similar to the one conducted for the Berlengas Islands SPA.

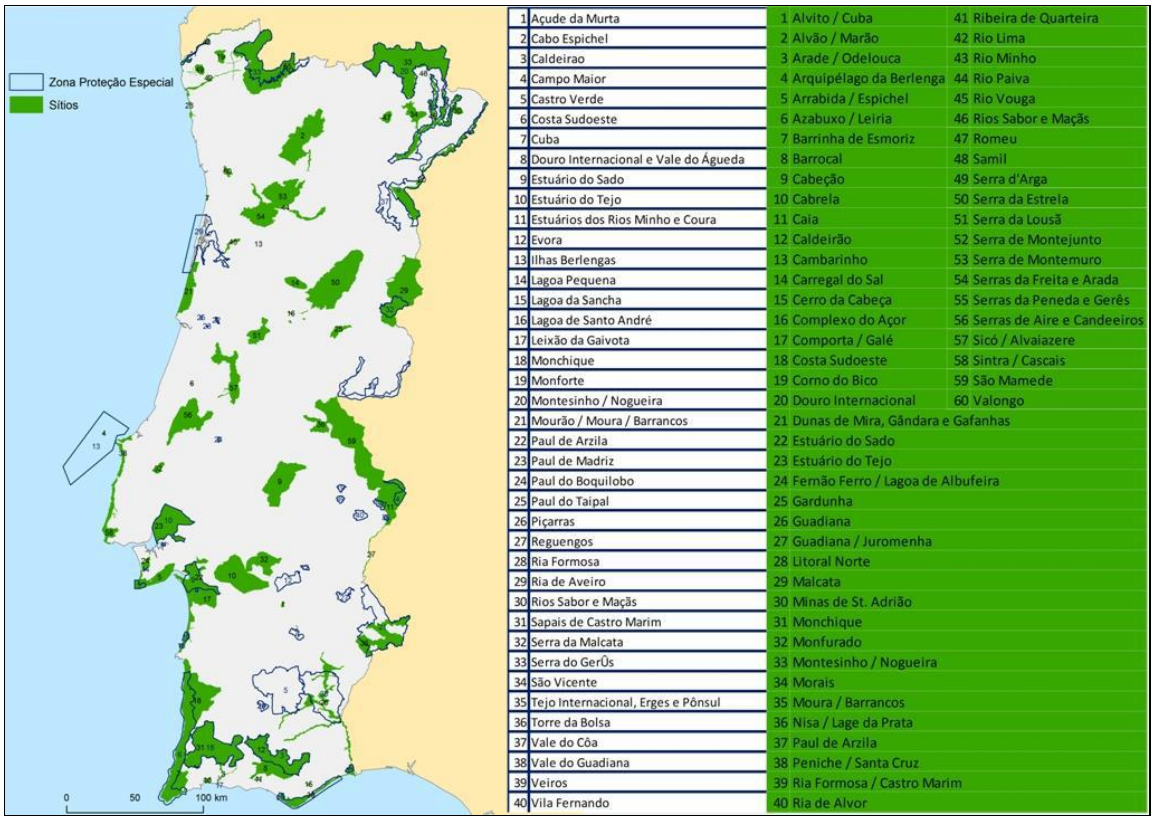

Figure 16 - Natura 2000 network in mainland Portugal

SCI/SAC (Habitats Directive):		**SPA (Birds Directive):**	
Number of sites	61	Number of sites	40
Total area of sites (km²)	16,056.25	Total area of sites (km²)	10,916.53
Terrestrial Area (%)	97.63% (15,675.44)	Terrestrial Area (%)	94.61% (10,328.27)
Number of marine sites	6	Number of marine sites	8

Table 6 - Sites of the Natura 2000 network in mainland Portugal

Projects aimed at acquiring knowledge to support the enlargement of N2000 in the marine environment have been developed or are still ongoing, namely:

- Project FAME - *Future of the Atlantic Marine Environment* (2010-2012). This project has among its objectives: to develop specific recommendations on the designation and management of protected marine areas; to map marine areas essential for the survival of endangered/protected species of seabirds; to assess the impact of human activities (including fisheries and renewable energies in the marine environment) in areas of high ecological importance; to develop recommendations for the management of areas of high ecological importance for the benefit of threatened/protected species of seabirds; to recommend marine areas for classification as protected[152];
- Project Interreg MESH Atlantic (2010-2012)[153];
- Project LIFE+ MarPro (2011-2015), aims to acquire knowledge about the interaction between fishing activity and natural marine values and the contribution to the definition of *offshore* N2000 sites (contiguous to mainland Portugal).[154].

Autonomous Region of Madeira

In the ARM the N2000 consists of 11 SACs and 5 SPAs, encompassing areas of high natural value. The SACs total area is around 47,000 hectares, about 30% of the land surface of the Region.

Code	Name	Area (hectares)
PTMAD0001	Laurissilva da Madeira	15,367
PTMAD0002	Maciço Montanhoso Central da Ilha da Madeira	6,224
PTMAD0003	Ponta de São Lourenço	1,920
PTMAD0004	Ilhéu da Viúva	1,710
PTMAD0005	Achadas da Cruz	185
PTMAD0006	Moledos - Madalena do Mar	8
PTMAD0007	Pináculo	24
PTPOR0001	Ilhéus do Porto Santo	209
PTPOR0002	Pico Branco – Porto Santo	127
PTDES0001	Ilhas Desertas	11,457
PTSEL0001	Ilhas Selvagens	9,471

Table 7 - SACs - Special Areas of Conservation in the ARM[155]

[152] http://www.fameproject.eu/pt/

[153] http://www.meshatlantic.eu/

[154] http://marprolife.org/

[155] Cartographic Base of the Regional Secretariat for Environment and Natural Resources, 2009

Code	Name	Area (hectares)
PTMAD0001	Laurissilva da Madeira	15,367
PTZPE0041	Maciço Montanhoso Oriental	3,050
PTMAD0008	Ponta de São Lourenço	2,412
PTDES0001	Ilhas Desertas	76,462
PTSEL0001	Ilhas Selvagens	124,530

Table 8 – SPAs - Special Protection Areas in the ARM[156]

In the ARM the promotion and establishment of N2000 (tables 7 and 8) have taken place through:

- Development of appropriate legislation;
- Development of action plans for priority species and habitats;
- Implementation of management and nature conservation projects in N2000 areas throughout the archipelago, oriented to terrestrial and marine species and habitats;
- Awareness programmes for local and regional communities on the importance of PAs and CAs.

Worth mentioning:

- Publication of RRD no. 3/2014/M, which classifies the SPAs of the ARM;
- Proposal to integrate the Nature Partial Reserve of Garajau in the SAC "Pináculo" and the Network of Marine Protected Areas of Porto Santo in the SAC "Ilhéus do Porto Santo";
- Proposal to include in the N2000 the areas in the ARM where cetaceans occur;
- Approval of the Territorial and Management Plan of the Nature Partial Reserve of Garajau;
- Project LIFE Marine IBAs, with the identification of two marine IBAs in the EEZ adjacent to the Madeira Archipelago, in the surrounding areas of the Ilhas Desertas (PTM16) and the Ilhas Selvagens (PTM17). These areas are used by some of the most important pelagic seabird colonies in the North Atlantic[157].

Autonomous Region of the Azores

In the ARA, the legal regime for the conservation of nature and protection of biodiversity includes the RFCN, a set of territories aimed at the conservation of natural heritage and biodiversity, promoting an integrated and comprehensive view of this heritage, subject to a legal status of protection and management. This regime includes the N2000, PAs of regional importance, the Ecological Reserve and the Regional Agricultural Reserve.

It forsees a regional PA network, which materializes the classification adopted by the International Union for Conservation of Nature (IUCN) and which integrates the management units PNI, PMA and PA of local importance. The 9 PNIs (which are part of the N2000 and CA areas under multilateral conventions) and the PMA are the basic management unit of the ARA PA Network, and each unit is equipped with appropriate management and action tools (table 9). In 2011, with the PNIs of Flores, São Jorge and Terceira and of the PMA, all the

[156] RRD no. 3/2014/M, of 3 March, which classifies the SPAs of the ARM.

[157] http://lifeibasmarinhas.spea.pt/pt/

management units were established. At present, the PNIs and the PMA encompass 123 and 11 CAs, respectively (table 10).

The PNIs manage CAs, but as a unit of management of each island, they also promote the necessary actions for the conservation of biodiversity outside those areas.

Ordinance no. 1530/2012, of 10 October, defined complementary measures for the PNI of São Miguel through an action plan for special zones and increased the management instruments, with a period of implementation and validity from 2013 to 2017.

Also, Ordinance no. 1080/2014, of 5 September, approved the Programme for the Execution of Actions Relative to the Pico da Vara Nature Reserve and the Protected Area for the Management of Habitats or Species of Tronqueira and Planalto dos Graminhais.

Network of Protected Areas	No.	Total area (ha)	Terrestrial area (ha)	Marine area (ha)
Natural Island Parks				
Nature reserve	19	61,429.56	8,667.13	52,762.43
Natural Monument	10	733.52	733.52	0.00
Protected Area for the Management of Habitats or Species	48	18,818.36	18,816.65	1.71
Protected Landscape Area	16	26,612.35	26,612.35	0.00
Protected Area for the Management of Resources	30	72,653.04	1,236.66	71,416.38
Azores Marine Park				
Marine Nature Reserve	5	472,396.03	0.00	472,396.03
Marine Protected Area	6	10,666,932.40	0.00	10,666,932.40

Table 9 - Network of Protected Areas of the Azores

Name	No. in 2010	No. in 2014	Notes
Network of Protected Areas			
Nature reserves	13	19	
Natural Monument	6	10	
Protected area for the management of habitats or species	31	48	
Protected Landscape Area	13	16	
Protected Area for the Management of Resources	18	30	
Natura Network			
SCI	2	3	
SAC	23	23	
SPA	15	15	
Areas protected by other instruments			
RAMSAR	12	13	
OSPAR	11	11	
Biosphere Reserves	3	3	
Geopark		1	57 geosites identified

Table 10 - Classified Areas in the ARA (about 24% of the terrestrial surface)

Islands	Protected area 2010 (ha)	% terrestrial area	Protected area 2014 (ha)	% terrestrial area
Santa Maria	1,680.22	17.34	1,680.22	17.34
São Miguel	14,236.01	19.12	14,255.81	19.15
Terceira	47.92	0.12	8561.11	21.39
Graciosa	351.13	5.79	353.27	5.82
São Jorge	40.21	0.17	5,651.28	23.19
Pico	15,704.08	35.31	15,720.31	35.34
Faial	3,008.79	17.39	3,008.79	17.39
Flores	0	0	6,058.12	42.98
Corvo	777.42	45.43	777.42	45.43
Azores	**35,845.78**	**15.44**	**56,066.33**	**24.14**

Table 11 - Terrestrial area of the ARA occupied by the Network of Protected Areas

Islands	N2000 Area 2010 (ha)	% land area	N2000 Area 2014 (ha)	% land area
Santa Maria	193.55	2	193.62	2
São Miguel	7,345.71	9.87	9,359.06	12.57
Terceira	5,117.92	12.79	4,907.97	12.26
Graciosa	150.1	2.47	142.84	2.35
São Jorge	4,112.31	16.88	4,112.39	16.87
Pico	14,985.59	33.69	14,980.32	33.68
Faial	4,043.04	23.36	4,042.96	23.36
Flores	3,535.62	25.08	3,535.94	25.08
Corvo	1,444.81	84.42	1,444.81	84.42
Azores	**40,928.65**	**17.63**	**42,719.91**	**18.4**

Table 12 - Terrestrial area of the ARA occupied by the Natura 2000 network

Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

Relevant information for this Target is in section 1.2 on the main changes that have occurred in the states and trends of biodiversity in Portugal.

Monitoring and systematic surveillance

For monitoring and systematic surveillance programmes of species, the implementation reports of the Birds and Habitats Directives require periodic assessment of the conservation status of many relevant species and habitats. The Development and Management Plans of PAs and CAs of the N2000 may also include a monitoring program for a periodic assessment of the implementation of the measures and actions proposed. In addition, EIA processes involve the monitoring of key environmental descriptors (notably fauna, flora and vegetation) potentially affected by project implementation.

Mainland Portugal

There is not a comprehensive biodiversity monitoring programme in mainland Portugal, but biodiversity monitoring is among the priorities in the 2014-2020 Priority Action Framework (PAF) for the N2000. No essential biodiversity indicators have been identified, but a number of monitoring programmes have been implemented for certain species of high natural value or considered as representatives of a given taxonomic group, which may be included in the set of indicators of progress towards the significant reduction of the biodiversity loss rate. National biodiversity indicators (based on the SEBI[158]) should be developed and approaches and methodologies for monitoring species and habitats should be identified and operationalised.

The ICNF, IP, leads a number of long-term monitoring programmes for various species and groups of birds:

- The National Monitoring Programme for Winter Waterfowl, for species highly dependent on wetlands. In progress since 1976. It involves the annual evaluation of population abundance and distribution of species of Anseriformes and Gruiformes[159];
- Stations of Continuing Effort Project. It aims to monitor the population changes of passeriform and near-passeriform species with wide distribution[160].

Specific monitoring actions at a regional level:

- Monitoring scheme of cliff-nesting birds (*Gyps fulvus, Neophron percnopetrus, Hieraaetus fasciatus, Aquila chrysaetos, Ciconia nigra, Bubo bubo, Oenanthe leucura*) nesting in the Natural Park of Serra de S. Mamede;

[158] http://biodiversity.europa.eu/topics/sebi-indicators

[159] http://www.icnf.pt/portal/naturaclas/ei/cempa/pp-monit/pnmaai

[160] http://www.icnf.pt/portal/naturaclas/ei/projeto-de-estacoes-de-esforco-constante
http://www.apaa.pt/peec/index.html

- Annual monitoring scheme for birds of prey in the Lagoas de Santo André e Sancha Nature Reserve;
- Monitoring scheme for *Glareola pratincola* and *Sterna albifrons* nesting in the Estuário do Tejo Nature Reserve;
- Monitoring scheme for *Larus audouinii* nesting in the Sapal de Castro Marim e Vila Real de Santo António Nature Reserve;
- Monitoring scheme for *Hieraaetus fasciatus, Falco peregrinus, Apus melba, Phalacrocorax aristotelis* and *Accipiter* nisus in the Sintra-Cascais Natural Park;
- Monitoring scheme of cliff-nesting birds (*Gyps fulvus, Neophron percnopetrus, Hieraaetus fasciatus, Aquila chrysaetos, Ciconia nigra, Falco peregrinus*) nesting in the Douro International Natural Park;
- Monitoring scheme of *Hieraaetus fasciatus* nesting in the Vale do Guadiana and Castro Verde SPAs and adjacent areas;
- Monitoring scheme of *Ciconia nigra* nesting in the Vale do Guadiana SPA;
- Autumnal and spring counts of *Pterocles orientalis* in the Vale do Guadiana and Castro Verde SPAs;
- Monitoring scheme of *Falco peregrinus* nesting in the Costa Sudoeste SPA;
- Monitoring scheme for *Grus grus* wintering in the Vale do Guadiana and Castro Verde SPAs and adjacent areas;
- Monitoring scheme of *Larus michahellis, Phalacrocorax aristotelis and Uria aalge* in the Ilhas Berlengas SPA;
- Monitoring scheme for seabirds in the Lagoas de Santo André e Sancha Nature Reserve.

At the national level, other monitoring projects have been carried out since 2010 for different taxonomic groups:

- The ICNF, IP has two specific monitoring systems directed at the Iberian wolf, one for the verification of losses in livestock species attributed to the wolf and another for the monitoring of dead wolves, through which the causes of death that affect the species are detected, namely those of anthropogenic origin.
  At the regional level, every year a number of monitoring activities are carried out by several entities in the framework of research projects and monitoring plans to assess the impacts associated with the implementation of infrastructures in areas where wolves exist.
- Monitoring programme for species of cave bats, in progress since 1987. Every year the most important wintering and maternity shelters at a national level are visited and an annual estimate is made of the numbers present. A recent analysis of the data collected between 1988 and 2012 includes the trends of populations of seven species calculated with the TRIM software[161].
  The use of updated criteria to evaluate shelters of national importance showed that there are currently 76 important shelters (3 important ones throughout the year, 43 *hibernacula* and 40 maternity shelters)[162].

[161] http://www.icnf.pt/portal/naturaclas/patrinatur/especies/mam/morc
http://www.icnf.pt/portal/naturaclas/patrinatur/resource/docs/Mam/morc/prog-abri-sub1988-2012v3

[162] http://www.icnf.pt/portal/naturaclas/patrinatur/resource/docs/Mam/morc/morc-crit-aval-abrig

Examples of evolution graphs of population figures:

Rhinolophus ferrumequinum (steady trend)

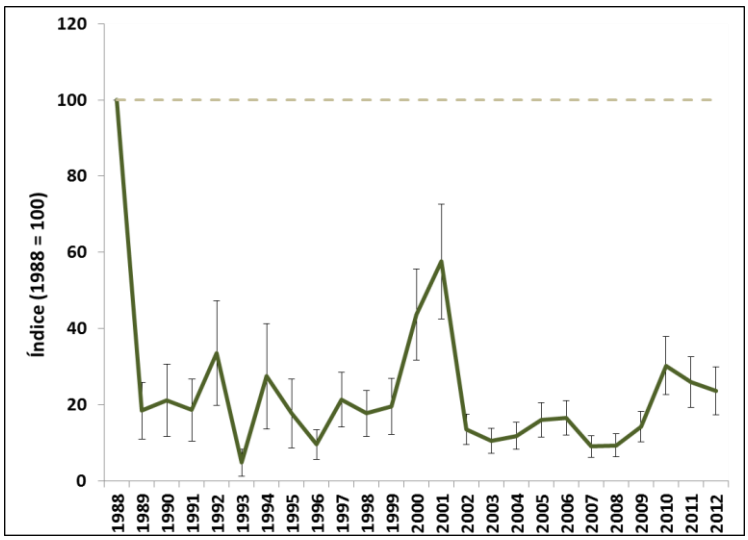

Figure 17 - Annual evolution of the population indexes of the *Rhinolophus ferrumequinum* for the hibernation station calculated by the TRIM software (1988-2012 data). The vertical lines represent the standard deviation of 95%. The 1988 reference value is considered representative.

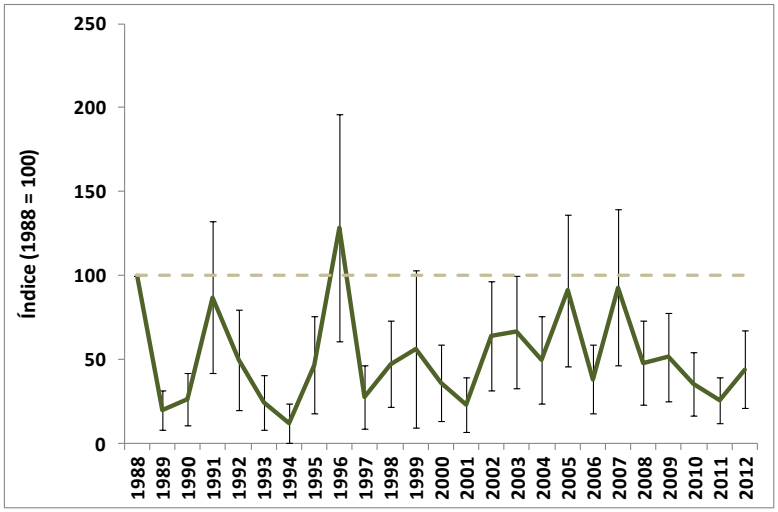

Figure 18 - Annual evolution of the population indexes of the *Rhinolophus ferrumequinum* for the maternity station calculated by the TRIM software (1988-2012 data). The vertical lines represent the standard deviation of 95%. The 1988 reference value is considered representative.

- The CAC *Censo de Aves Comuns* (Census of Common Birds), a long-term monitoring programme for common nesting birds and their habitats, in Portugal. Launched by the Portuguese Wild Bird Society (SPEA) in 2004, in mainland Portugal and Madeira, and in

2007 in the Azores. It is integrated into the Pan-European Common Bird Monitoring Scheme (PECBMS)[163].

This census received public support in 2009 and 2010. It continues to be carried out annually but lacks funding, namely for data processing and analysis, reporting of results and support to the volunteer network, which has made it unfeasible to provide the Common Bird Indexes (IACZA, IACZF, etc.) to the public administration. These indexes were published until 2009. After 2009, only CAC reports are available, which only contain information disaggregated by species[164];

- CANAN *Contagens de Aves no Natal e Ano Novo* (Bird counts at Christmas and New Year), monitoring of population trends of wintering bird species in Portugal's agricultural fields[165];
- NOCTUA-Portugal, monitoring of nocturnal birds[166];
- RAM, network of observation of birds and marine mammals[167];
- Project Arenaria, monitoring the distribution and abundance of birds on the beaches and coasts of Portugal[168];
- Monitoring scheme of the great bustard (*Otis tarda*);
- Monitoring scheme of the imperial eagle (*Aquila adalberti*).
- Monitoring the mortality of vertebrates by being run over on roads in Portugal. Since 2010, a joint project of the University of Lisbon and Estradas de Portugal, SA, aiming at minimising road mortality and improving roadway permeability through the identification of points of high mortality and improvement of hydraulic passages for animals to pass;
- As a contribution to the establishment of a reference framework for species, the most important are the Atlas of Bats of Portugal [169], the Atlas of Wintering and Migratory Birds[170], the Atlas of Nesting Birds in the Madeira Archipelago[171], the Atlas of Nesting Birds and Birds Passing through Portugal (in prep.) and the 6th volume of the Madeiran Biodiversity collection: Assessment and Conservation of the Native Land Vertebrates of the Madeira and Selvagens Archipelagos - Reptiles and Mammals[172].

  The main objectives of the Atlas of Bats of Portugal (mainland) project, which involved about 150 volunteers, was to map the current distribution of 25 species of bats with known occurrence in mainland Portugal, fill in a database to make this information available to the interested parties and, together with the 2011-2012 Year of the Bat campaign, mobilize and

[163] http://www.spea.pt/pt/estudo-e-conservacao/censos/censo-de-aves-comuns/

[164] http://www.spea.pt/fotos/editor2/relatoriocac_2011.pdf

[165] http://www.spea.pt/pt/estudo-e-conservacao/censos/canan/

[166] http://www.spea.pt/pt/participar/grupos-de-trabalho/aves-noturnas/monitorizacao/

[167] http://www.spea.pt/pt/estudo-e-conservacao/censos/dias-ram/

[168] https://sites.google.com/site/projectoarenaria/Home

[169] http://www.icnf.pt/portal/icnf/noticias/gloablnews/atlas-morcegos

[170] http://www.spea.pt/pt/estudo-e-conservacao/censos/atlas-aves-invernantes-e-migradoras/

[171] http://www.pnm.pt/index.php?option=com_content&view=article&id=10%3Aatlasdasaves&catid=28&Itemid=16&lang=pt

[172] http://www3.uma.pt/jesus/docs/PDFs/Vertebrados_terrestres_autoctones_dos_arquipelagos_da_Madeira_e_Selvagens.pdf

encourage practitioners in this area to educate the public about the importance of bats in ecosystems.

The implementation of management measures under RDP is assessed through the following items:

- Index of Common Birds of Agricultural Zones;
- Agricultural area of high natural value;
- Monitoring Programme of natural values in the area of Integrated Territorial Intervention of the Costa Sudoeste. The monitoring of bird communities and the characterisation of flora and amphibians from temporary ponds, took place in 2010. The areas of N2000 SCI and SPA Costa Sudoeste were included;
- Monitoring of steppe birds during spring 2010 and winter 2010-11. The area covered by N2000, the SPA Castro Verde was included.

In order to extend this assessment to other areas of the N2000, monitoring programmes and indicators, methodologies and baselines are under way for the SCI Serra da Estrela, SPA Tejo Internacional, SPA Erges and Pônsul, SPA and SCI Monchique and SPA Caldeirão.

Reference should be made to the development of the Northern Portugal Biodiversity Information and Monitoring System (SIMBioN), developed by ICNB, IP, and by CIBIO, which had among its objectives to provide the ICNB, IP, with a management support tool of biodiversity and contribute to scientific knowledge and the public dissemination of biodiversity.
This system encompasses monitoring, research and communication and can provide information on the state of biodiversity (species and habitats) and on the effects of drivers of biodiversity change. There is a need to test the application of knowledge gained and procedures to a wider level.

Autonomous Region of Madeira

In the ARM actions have been developed, integrated in projects or of recurrent character, that aim to halt the loss of biodiversity and to improve its state of conservation. These include:

- *Ex situ* propagation;
- *Ex situ* collections;
- Population reinforcement;
- Inventory;
- Monitoring;
- Ecological characterisation.

In this context the following monitoring programmes have been implemented or are under way:

- Arthropod fauna of the Castanheira valley, in the Desertas Islands;
- Malacology of the Castanheira valley, in the Desertas Islands;
- Conservation status of the Mediterranean monk seal (*Monachus monachus*), in the Desertas Islands;
- Conservation status of the Desertas' petrel (*Pterodroma deserta*), in the Desertas Islands;

- Population of the white-faced storm-petrel (*Pelagodroma marina hypoleuca*), on Selvagem Grande Island;
- Populations of Boettger's wall gecko (*Tarentola boettgeri bischoffi*) and Madeiran wall lizard (*Teira dugesii selvages*) of Selvagem Grande Island;
- Recovery of the population of Boettger's wall gecko (*Tarentola boettgeri bischoffi*);
- Marine fauna and flora of the Selvagens Islands;
- Recovery of terrestrial habitats of Selvagem Grande;
- Cory's shearwater population (*Calonectris diomedea borealis*) of Selvagem Grande;
- Conservation status of the Madeira Laurel-pigeon (*Columba trocaz*);
- Conservation status of the Zino's petrel (*Pterodroma madeira*);
- Monitoring and identification of entomological fauna on the Desertas Islands;
- Monitoring and control of yellow-legged gulls (*Larus michahellis*).
- Monitoring of fauna, flora and vegetation in wind farms.

Since 1995, the Madeira Whale Museum has been implementing and managing the RACAM - Cetacean Stranding Network of the Madeira Archipelago, recording whales and cetaceans strands, and carrying necropsies to these animals whenever logistically and technically feasible[173].
The museum also registers the opportunistic sightings of cetaceans in the archipelago that are transmitted to the institution, working closely with the whale-watching operators. Within the framework of the CETACEOSMADEIRA I project (achieved an inventory of cetacean species for the Madeira archipelago), a permanent cetacean monitoring plan in the Madeira archipelago was presented, which was implemented through the EMECETUS and CETACEOSMADEIRA II projects[174].

Autonomous Region of the Azores

It is the responsibility of the environmental authority to identify and monitor the most important ecosystems, habitats and *taxa* for the conservation of biological diversity:
- Ecosystems and habitats with high biological diversity or large numbers of endemic or endangered species;
- Ecosystems and habitats with unique species and therefore locally irreplaceable;
- Ecosystems and habitats used by migratory species, of social, economic, cultural or scientific importance, or representative, unique or associated with key evolutionary processes or other relevant biological processes;
- Endangered species and communities, wild relatives of domesticated or cultivated species, of medicinal, agricultural or other economic value, of social, scientific or cultural importance or relevant to research on the conservation and sustainable use of biological diversity, such as indicator species;
- Traditional breeds, varieties and cultivars of domesticated or cultivated species;

[173] http://www.museudabaleia.org/pt/ciencia-no-museu/racam.html
[174] http://www.museudabaleia.org/pt/ciencia-no-museu/projetos-cientificos.html

- Genomes and genes of social, scientific or economic importance or with potential for use in biotechnology.

It is for this authority, taking into account the priority natural habitat types and species, to ensure the monitoring and systematic surveillance of the conservation status of protected species and habitats.
In the context of the report under Article 17 of the European Union Habitats Directive, a proposal for a monitoring plan was drawn up, which is being adjusted. Values have been monitored and information collected.

In the ARA the following monitoring is carried out:
- Census of Common Birds (CAC) - since 2007;
- Census of the Azores bullfinch (*Pyrrhula murina*) - Included in the monitoring program of this species in danger of extinction, coordinated by the SPEA, within the framework of the conservation works of the SPA Pico da Vara/Ribeira do Guilherme, these census dates since 1990, with different periodicity and methodologies. The current methodology (158 points) began in 2008 and is carried out annually. Every 4 years, the census is complemented with a simultaneous count of 149 points, making a total of 307 points for the Atlas of the Azores bullfinch project, with the objective of evaluating the Azores bullfinch population (distribution and abundance);
- Azores bullfinch Juvenile Recruitment Census - Held annually by SPEA from 2006 to 2008 as part of the Azores bullfinch population monitoring, integrated in the LIFE Project Azores bullfinch and biennially in 2010 and 2012, it is supported by Birdlife International's Preventing Extinctions Programme, which aims to ensure the conditions for the protection and survival of the most endangered species of wild birds in the world;
- The buzzard Census (*Buteo buteo rothschildi* and *Buteo buteo harterti*) - is coordinated by SPEA and seeks to obtain basic information on the populations of buzzard sin the Azores and Madeira archipelagos. It takes place from 2006, annually, during a weekend, in the month of March or April;
- Monitoring of Eurasian woodcock populations (*Scolopax rusticola*) - Initiated in 2001 on the island of Pico, it was later extended to the remaining islands, with the exception of Santa Maria and Corvo. It is based on the census of males (rooding census), between March and April, at fixed points of observation;
- Monitoring of the Quail populations (*Coturnix c. conturbans*) - This monitoring has two aspects: a) Census on the island of São Miguel, with abundance (birds/ha) estimated before and after the hunting season with the help of Pointer dogs (since 2002); b) Census of males (calling males), recording males calling along linear transects walked on foot in June-July, in order to estimate their abundance (males listened to/km) (since 2006);
- Monitoring of the Common snipe populations (*Gallinago gallinago*) - Monitoring of abundance through censuses during breeding season, recording birds on display (in drumming, calling, etc.) at fixed observation points;
- Monitoring of the abundance of game species during the hunting season - started in 2002 on the island of São Miguel and later extended to other islands, collects information from hunters on hunting days, estimating a hunting index of abundance (number of birds

observed per hour and by hunter), which complement the annual monitoring and the systematic surveillance of the conservation status of the respective populations, which compete with the services of the regional administration with intervention in the hunting activity.

- Census of Bats.
- Study on the ecology, evolution, taxonomic status and conservation of the Azores Common wood pigeon (*Columba palumbus azorica*) (M2.1.2/F/025/2011) for 36 months, informing the design of an action plan. A reliable estimate of the population size in the archipelago allowed establishing a baseline for monitoring and defining population trend.
- Several monitoring plans are also implemented within the scope of minimisation measures resulting from Environmental Impact Assessment processes.

Red Lists and Books

In 2013, the Atlas and Red Book of Bryophytes of Mainland Portugal was published, adopting the criteria and threat categories proposed by IUCN and updating the red list of bryophytes for mainland Portugal. There are 704 *taxa* of bryophytes (including species, subspecies and several taxonomically relevant varieties), comprising about 40% of European species and almost 65% of all Iberian bryophytes. The conservation status of all known species is given in Portugal, the priority areas are identified and specific conservation measures are proposed. A brief description, occurrence data, ecology, conservation status and sensitivity, a distribution map, photographs of species or habitats, notes and bibliography are presented for the most relevant species. Information about high-value bryophyte communities located on the national PA network is also included[175].

In the ARM, the public administration bodies with competence in the field of the environment and nature conservation have collaborated in the elaboration of the Red Books of Europe for the various biological groups analysed.
It is also worth noting the publication in 2014 of the first red list of Madeira bryophytes[176].

In the ARA, with the publication of the legal regime of nature conservation and biodiversity, it was established that the evaluation of the conservation status of the wild *taxa* follows the criteria of the Species Survival Commission of the IUCN, due to its robustness, vast international experience in the application, excellent public acceptance and comparability of different situations. The declaration of a taxon as a priority requires the designation of at least one protected site that integrates an area of the *taxon* habitat with appropriate dimensions and characteristics and the implementation of an action plan for conservation.
The involvement of the ARA in the BEST III project, namely in the development of a Macaronesian Ecosystem Profile, will contribute to the development of lists of species and/or

[175] http://blogue-documenta.blogspot.pt/2014/04/atlas-e-livro-vermelho-dos-briofitos_17.html
[176] http://www.tandfonline.com/doi/abs/10.1080/14772000.2014.918063

habitats considered vulnerable or threatened and to identify the pressures and measures to be taken[177].

Strategies, Action Plans and Projects

Strategies or plans of action for endangered species are being implemented and have been developed or revised:

- Action Plan for the Conservation of the Iberian Lynx (2008). The implementation of this plan, aimed at reversing the process of continued decline of populations and recovering the historical nuclei of this species in Portugal, is under way[178]. In 2014 an evaluation of its implementation was carried out, which resulted in the need for its revision, namely by the beginning of reintroduction of specimens in Mértola (first release on 16 December 2014). The new PACLIP 2015/2020 is published through Order no. 8726/2015, of 7 August[179]. With the initiation of the reintroduction actions, in parallel with the implementation of several measures of habitat management and reinforcement of preys, 2014 was a milestone in this process.

  Portugal participates in the PCESLI - *Ex Situ* Conservation Programme of the Iberian Lynx, to guarantee the conservation of 85% of the genetic variability of the species, providing individuals for reintroduction programmes in previously selected areas. Under this programme 48 lynx specimens were created in Portugal, of which 27 were released in Spain and 3 in Portugal[180]. In total, six specimens have been released in Portugal, one of which has died, from a cause still unknown. It is expected that by the end of May 2015 another four specimens, two males and two females, will be released. The process of reintroduction in the area of reintroduction of Mértola will run until the establishment of a viable population, with annual reintroductions of a maximum of 10 specimens.

  The Iberian Lynx reintroduction process began in Portugal with the Life + Iberlince Project[181] "Recovery of the historical distribution of the Iberian Lynx (*Lynx pardinus*) in Spain and Portugal", which began in 2010. However, the implementation of the planned actions began only in 2012 and had the objective of selecting the first area of reintroduction, which took in consideration the criteria established in the project: minimum area contracted with the managers of that territory, social acceptance and the existence of 2 rabbits/ha. For this, contracts were established with owners and managers of hunting areas in an area of about 10,000 ha, rabbit censuses were carried out and a study on the social acceptance of the population of the reintroduction area was carried out. The choice of new areas of reintroduction in Portugal depends on several factors, namely the dispersion of the animals

[177] http://www.azores.gov.pt/Gra/BEST_III_Macaronesia

[178] http://areasprotegidas.icnf.pt/lince/
http://www.iberlinx.com/index.php?option=com_content&view=article&id=80:a-estrategia-portuguesa-de-conservacao-do-lince-iberico-o-plano-de-accao-para-a-conservacao-do-lince-iberico-em-portugal-paclip-&catid=6:artigo&Itemid=9

[179] https://dre.pt/application/file/69968203

[180] http://areasprotegidas.icnf.pt/lince/index.php/lince-iberico/projetos/conserv-ex-situ

[181] http://www.iberlince.eu/index.php/port/

released and the capacity of the Reproduction Centres to produce animals suitable for reintroduction.

Integrated into the Action Plan for the Conservation of the Iberian Lynx, the Lisbon Zoo received two specimens of Iberian lynx, considered to be surplus of the breeding program in captivity. Both specimens do not qualify for reintroduction into nature. Azahar, the original female, since January 2005, of the National Centre for Reproduction of the Iberian Lynx (CNRLI), which never reproduced. Gamma, the male, was born in 2010 at the La Olivilla Reproduction Centre in Spain and was at the National Iberian Lynx Reproduction Centre in Portugal since November 2014. With the exhibition of these two specimens, the Zoo will play a strategic role in the conservation plan of the species, as an essential tool for dissemination and awareness among the population.

- Specific programme for the conservation of the imperial eagle. It has been developed since 2008. In 2011 a multi-year plan of activities was elaborated and since then the main actions have been effectively put into practice. Monitoring has obtained detailed information on the reproductive success of each pair and on the main threats to the population. Whenever possible, localised threats are handled by local teams, which have close links with owners and game managers in areas where nests or feeding grounds are located. For example, roads and paths located near nests are fenced. Threats on a wide scale, such as electrocution by overhead power lines, are addressed at a national level directly with power companies. Various mitigation measures, such as insulation of cables or the correction of particularly dangerous posts, have been applied in the most important areas. The Portuguese and Spanish working groups meet regularly and work on an Iberian perspective, aiming at integrating imperial eagle conservation efforts. One of the results is the proposed Iberian Strategy for the Imperial Eagle, currently being evaluated by the Portuguese and Spanish administrations, in order to be published soon[182];

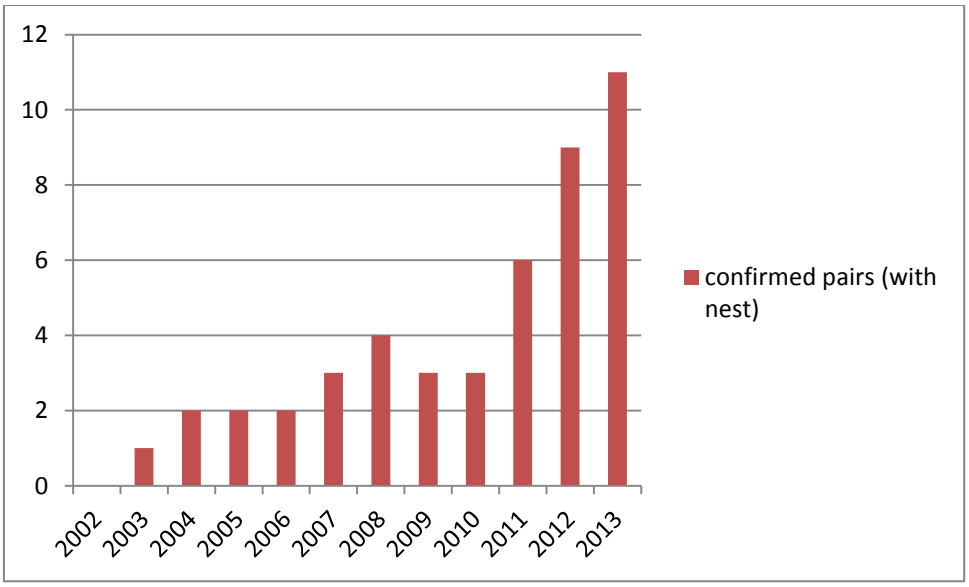

Figure 19 - Evolution of the breeding population since 2003, year in which the imperial eagle re-nested in Portugal, showing a slow recovery of the species.

[182] http://www.icnf.pt/portal/naturaclas/patrinatur/especies/aves/ag-imp

- Action Plan for the Safeguarding and Monitoring of the Resident Population of Bottlenose dolphin in the Sado Estuary. Published October 2009 (Order no. 21997/2009)[183];
- Regional Action Plan for the Conservation of Cinereous Vulture (*Aegypius monachus*);
- Regional Plan to mitigate the use of poisons in the regions of Mourão/Moura/Barrancos and Vale do Guadiana (under the LIFE Nature Project "Promoting the habitat of the Iberian lynx and Cinereous vulture in south-eastern Portugal" (2010-2013))[184];
- Action Plan for the conservation of tree populations of Bonelli's eagle (*Aquila fasciata*) from Portugal - Strategic Lines (under the LIFE Project "Conservation of tree-nesting Bonelli's Eagle populations in Portugal" (2006-2011)[185];
- Action Plan of the Spanish minnowcarp (*Anaecypris hispanica*) 2012-2016. Completed in September 2011[186];
- National Plan for the Conservation of Scavenging Birds of Portugal, which aims to establish the actions needed for the recovery and conservation of scavenging birds in general and, in particular, to halt the regression of the breeding population of the Egyptian vulture and to increase the nesting population of the Cinereous vulture, defining priorities of action, pointing out lines of future work and framing new projects.
- Action Plan for the Conservation of the Iberian Wolf (PACLobo) (2015-2020), prepared in 2015, through a participatory process involving more than 70 entities belonging to different interest groups. This plan frames, plans and identifies conservation and management actions to be developed for a favourable conservation status of the Iberian wolf (*Canis lupus signatus*) in Portugal, in harmonious coexistence with human activities, with emphasis on agriculture and livestock.

Highlighted projects:

- LIFE + Promoting the habitat for the Iberian lynx and the Cinereous vulture in south-eastern Portugal (2010-2013)[187];
- LIFE + Iberlince - Recovering the historical area of occurrence of the Iberian lynx (*Lynx pardinus*) in Spain and Portugal (2011 to 2016). This transnational project (Spain-Portugal) aims to restore the historical occurrence area of the Iberian lynx in the areas of Andalusia, Castilla-La Mancha, Extremadura (in Spain) and Vale do Guadiana, Moura-Barrancos and Malcata (Portugal). The project will strengthen existing populations, establish new populations in areas identified as appropriate, through the introduction of captive-bred or individuals captured in the wild to increase existing populations and their genetic diversity. Increased breeding and survival rates will be sought through improved habitat and connectivity among core areas of those populations [188].

[183] http://www.icnf.pt/portal/naturaclas/gest-biodiv1/roazes-do-sado/documentos

[184] http://habitatlinceabutre.lpn.pt/default.aspx

[185] http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=3166&docType=pdf

[186] http://www.icnf.pt/portal/naturaclas/gest-biodiv1/saram

[187] http://habitatlinceabutre.lpn.pt/default.aspx

[188] http://www.iberlince.eu/index.php/port/

A set of measures was developed by the nature conservation authority to ensure the best possible habitat conditions and to improve the acceptance of human populations in the Guadiana Valley;

- LIFE + IMPERIAL - Conservation of the Spanish Imperial Eagle (*Aquila adalberti*) in Portugal (2014 to 2018). It aims to promote the increase in Portugal of the Spanish imperial eagle population, the most threatened bird of prey in Europe, with actions foreseen in the Castro Verde, Vale do Guadiana, Mourão/Moura/Barrancos and Tejo Internacional, Erges and Pônsul SPAs[189];
- LIFE + Saramugo - Conservation of the Spanish minnowcarp (*Anaecypris hispanica*) in the Guadiana watershed (Portugal) (2014 to 2018). It aims to promote the conservation of the populations of the Spanish minnowcarp in 3 sub-basins of the Guadiana river (Xévora, Ardila and Vascão), reversing the current pre-extinction tendency[190];
- LIFE + Berlengas - Conservation of endangered habitats and species in the Berlengas SPA through sustainable management (2014 to 2018). Its objectives are to establish a management plan with measurable actions and targets, to achieve the minimisation and elimination of threats affecting seabirds and endemic flora, to establish a monitoring and promotion scheme for sustainable use by the fishing and tourism sectors[191];
- LIFE + ECOTONE - Management of riparian habitats for the conservation of endangered invertebrates (2012 to 2016). It aims to manage the habitat of invertebrates (alluvial forests of alders in two Portuguese rivers), aimed at increasing populations of three species of dragonflies (*Oxygastra curtisii, Gomphus graslinii and Macromia splendens*)[192];
- Reintroduction of Eaglefish *Pandion haliaetus* in Portugal (2011-2015)
- LIFE + MED-WOLF - Actions of good practice for the conservation of the wolf in Mediterranean areas (2011-2107). Its main objectives are to reduce conflicts between the needs of large carnivores and human activities and to promote the stable presence of wolf populations in rural areas in Western Mediterranean Europe through the restoration of cultural uses that enable coexistence between humans and the wolf[193];
- LIFE+ Steppe birds - Conservation of the Great Bustard, Little Bustard and Kestrel in the cereal steppes of the Alentejo (2009-2012)[194];
- LIFE + Conservation of the tree populations of the Bonelli's eagle (*Aquila fasciata*) of Portugal (2006-2011)[195];

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[189] http://lpn.pt/Homepage/O-que-fazemos/Projetos/Projetos-a-decorrer/List.aspx?tabid=2459&code=pt&ItemID=279

[190] http://lpn.pt/Homepage/O-que-fazemos/Projetos/Projetos-a-decorrer/List.aspx?tabid=2459&code=pt&ItemID=277

[191] http://www.spea.pt/pt/noticias/novo-projeto-life-berlenga-ajuda-a-repor-os-valores-naturais-do-arquipelago/

http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=5044&docType=pdf

[192] http://ecotone.pt/

[193] http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=4330; http://www.medwolf.eu/

[194] http://www.lifeesteparias.lpn.pt/

[195]

http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=3166&docType=pdf

- Recovery of Kestrel colonies in the S. Vicente SPA.

In mainland Portugal, the study of the mycological biodiversity in the forest area of the Sintra Parks, an integral part of the Sintra Cultural Landscape (classified by UNESCO as a World Heritage Site) and the Sintra-Cascais Natural Park, was carried out.
The inventory work, financed by Parques de Sintra – Monte da Lua, SA, ran between September 2010 and December 2011, and identified 156 macrofungal species, 65 of which were cited for the first time in the Sintra region and 17 for the first time in Portugal.

Measures to mitigate various pressures affecting a number of endangered species, such as the illegal use of poisons and mortality caused by energy distribution and transmission infrastructures, have also been implemented:

- LIFE + Project Innovative actions against illegal poisoning in EU Mediterranean pilot areas (2010-2015) on the poisoning of wild species considered to be harmful to the management of game species. The use of poison was detected in several areas of occurrence of the Imperial eagle, and a legal process to condemn infractions was implemented[196];
- Antidote Programme Portugal, public-private platform to combat the illegal use of poisons and a better understanding of its consequences on wildlife[197];
- Cooperation protocols between an electric power company, NGOs and environmental authorities have provided the technical knowledge and institutional basis for this company's commitment to implement mitigation measures in new lines, especially in N2000, in the IBAs (Important Bird Areas) and in the PAs. Guidelines were produced on Good Environmental Practices.

In the ARM the following projects were carried out or are under way:

- LIFE Islets of Porto Santo (LIFE09 NAT/PT/000041) – To halt the loss of European biodiversity through the recovery of habitats and species of the islets of Porto Santo and the surrounding marine area[198];
- LIFE Maciço Montanhoso (LIFE11/NAT/PT/327) - Recovery and conservation of species and habitats of the Madeira Mountain Central Massif[199];
- LIFE RECOVER NATURA (LIFE12 NAT/PT/000195) - Recovery of terrestrial species and habitats of the N2000 sites of Ponta de São Lourenço and Ilhas Desertas[200];
- LIFE Fura-bardos - Conservation of Macaronesian Sparrowhawk and habitat of Laurissilva, on the island of Madeira[201];
- LIFE CetaceosMadeira II (LIFE07 NAT/P/000646) - Identification of critical marine areas for the Bottlenose dolphin and monitoring of the conservation status of cetaceans in the Madeira Archipelago[202];

[196] http://www.lifeagainstpoison.org/
[197] http://www.antidoto-portugal.org/portal/PT/25/default.aspx
[198] http://www.lifeportosanto.com/
[199] http://lifemacicomontanhoso.sra.pt/
[200] http://www.pnm.pt/
[201] http://life-furabardos.spea.pt/pt/
[202] http://www.museudabaleia.org/pt/ciencia-no-museu/projetos-cientificos/cetaceosmadeiraII.html

- LIFE marine IBAS (LIFE04 NAT/PT/00023) - Important areas for seabirds in Portugal[203].
- LIFE SOS Freira do Bugio (LIFE06 NAT/P/000184) - Urgent measures for the recovery of the Desertas' petrel *Pterodroma desert* and its habitat[204];
- LIFE Madeira Monk Seal (LIFE13 NAT/ES/000974) - Conservation of the monk seal in Madeira (*Monachus monachus*) and development of a monitoring system for its conservation status[205].

In the ARA, with the implementation of several projects focused on the Azores Bullfinch (*Pyrrhula murina*) and its habitat and of the Project Species Action Plan for the Azores Bullfinch (*Pyrrhula murina*) in the European Union (2009 - 2019), prepared by Bird Life International and requested by the European Commission, with the main objective of withdrawing the Azores Bullfinch from the IUCN Red List of endangered species, there has been an increase in the population of the species[206].

Several conservation actions carried out in recent years by the SPEA in collaboration with various entities such as the Regional Government of the Azores, the Royal Society for the Protection of Birds (UK) and the Municipalities of the Nordeste and Povoação, have sought to reverse some of the main threats such as the invasion of their habitat, the native forest, by alien plants or food shortages due to the reduction of native forest over the last few centuries. Confirming the success of conservation measures in population growth and expansion of the distribution area, the species has changed the conservation status from "Critically Endangered" to "Endangered".

The Project LIFE12 NAT/PT/000527 Terras do Priolo (2013 to 2018) aims to contribute to the management of the SPA Pico da Vara/Ribeira do Guilherme, through the implementation of innovative measures for the management and recovery of the Laurissilva forest, biodiversity monitoring, management of public use, public awareness and long-term sustainability promotion. Better management of the SPA will contribute to the conservation of the population of the Azores Bullfinch, endemic to this CA of the island of São Miguel, in the Azores[207].

The Project LIFE07 NAT/P/000649 Sanctuary Islands for Seabirds (2009 to 2013) pioneered the conservation of seabird colonies in the Azores by restoring habitat and adopting measures to control and eradicate of introduced invasive species[208].

National Implementation of CITES

This Convention is a fundamental tool for the protection and conservation of species, which helps to mitigate the global crisis of biodiversity loss.

In view of the large number of amendments and updates that had been made to the text of the Convention and the adoption of a number of new European Union regulations on this

[203] http://lifeibasmarinhas.spea.pt/pt/

[204] http://www.sosfreiradobugio.pt/

[205] http://www.lifemadeiramonkseal.com/pt/

[206] http://ec.europa.eu/environment/nature/conservation/wildbirds/action_plans/docs/pyrrhula_murina.pdf

[207] http://life-terrasdopriolo.spea.pt/pt/

[208] http://life-corvo.spea.pt/pt/

subject, DL no. 211/2009 of 3 September was published, laying down measures necessary for the implementation and enforcement of CITES and the implementation of EU regulations. With this legal diploma and its derived ordinances, the legal regime for the application of CITES was updated, also redefining the national entities that hold the responsibilities of administrative authorities, scientific authority and supervisory authorities. The inspection of its application involves several public authorities with a wide range of competences, including inspection of economic activities and customs, health and animal welfare control. In order to coordinate actions under CITES enforcement, an implementation group has been set up, including representatives of these entities and police authorities. A Scientific Committee was also created involving the national academic community.

The legal diploma creates a CITES National Register in which all holders and operators working with species covered by the annexes to Regulation (EC) no. 338/97 have to register and which, under Ordinance 7/2010, of 5 January, is complemented by a parallel registration applicable to all indigenous species legally protected in Portugal.

In addition to fulfilling its responsibilities at national level, ICNF, IP, as the national administrative authority and coordinator of the scientific authority, has participated in a number of actions at European and international level to monitor and control illegal trafficking. In addition to its active participation in the working groups established at the level of the European Union, Portugal has also been involved internationally in the bodies of the Convention, as representative of the European region. In 2010 it organised a CITES training initiative involving the countries of the Community of Portuguese-speaking Countries and has been responsible for translating the training materials provided by the Convention Secretariat into Portuguese.

In the ARM, training actions directed at the regional organisations competent in environmental protection have been promoted.

In the ARA, the DLR 15/2012/A, of 2 April, establishes the CITES regional register. This register also includes scientific and educational institutions holding specimens of the species concerned.
The regional environmental authority has raised awareness and continuously liaised with inspection authorities, in particular the SEPNA, to carry out the checks and formalities related to the transit of CITES specimens in customs offices and the holding of alien species in trading facilities.

In addition to the CITES workshop for enforcement authorities, public and private services, that was held in 2010, the CITES Regional Authority is preparing a new training with ICNF, IP.

Biological and Genetic Material Banks

It is yet to be established a national level strategic approach that integrates the different Biological and Genetic Material Banks, promoting networking, reducing duplication, increasing synergies and safety, improving the *ex situ* conservation of native species and providing a tool useful to conservation actions *in situ*.

A protocol between the ICNF, IP (national authority for nature conservation and biodiversity) and the Botanical Garden of the National Museum of Natural History (University of Lisbon) aims to conserve *ex situ* threatened native flora. To implement this protocol, a plan of action is being implemented.
By the end of 2013, seeds of 53% of the plant *taxa* legally protected under the Habitats Directive were conserved in the long term, in a germplasm bank, with 23% of these species also being included in a DNA bank. These actions are an important contribution to meeting Target 8 of the 2011-2020 Global Strategy for Plant Conservation (At least 75 percent of threatened plant species in *ex situ* collections, preferably in the country of origin, and at least 20 percent available for recovery and restoration programmes).
The main constraints to the implementation of the plan[209] are:

- Scarcity of human and financial resources;
- Geographical disjunction of target *taxa* and overlapping of dispersal seasons;
- Low degree of accuracy of the information on the geographical location of the *taxa*, with part of the expeditions time destined to prospect (sometimes unsuccessfully);
- Phenology and intrinsic characteristics of taxa constaining the seed collection (e.g. very short dispersal season, predation, detection difficulties in the dispersal phase, etc.).

The Germplasm Bank of the Botanic Gardens of the University of Trás-os-Montes and Alto Douro integrates almost 2,000 species of vascular flora. About 75% are Portuguese specimens[210].

In the ARM, in order to safeguard biological and genetic material, the following genetic heritage repositories have been created:

- Seed Bank of the Botanical Garden of Madeira[211];
- Marine Genetic Bank of Macaronesia (BANGEN)[212];
- ISOPlexis Germplasm Bank[213];

In the ARA, with the Seed Bank of the Azores adopting internationally implemented work methodologies, there was a remarkable increase in the conserved species and samples (22 new species and 238 samples). This seed bank, whose main objective is the *ex situ* conservation of wild native flora, was a partner of the transnational cooperation project (PCT-

[209] http://www.mnhnc.ulisboa.pt/portal/page?_pageid=418,1391363&_dad=portal&_schema=PORTAL
[210] http://jb.utad.pt/germoplasma
[211] http://www.sra.pt/jarbot/
[212] http://ebmf.cm-funchal.pt/
[213] http://www3.uma.pt/isoplexis/

MAC) BIOCLIMAC, through Adeliaçor, and is a member of the Ibero-Macaronesian Association of Botanical Gardens, through the Botanical Garden of Faial[214].

Target 13: By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

In the ARM, the ISOPlexis Germplasm Bank[215] of the University of Madeira has developed efforts to maintain the genetic diversity of cultivars. The Bank's partnership with the Madeira Farmers Association has developed identification, collection and experimentation of regional varieties or considered as such. In contrast, the growing market for certified seeds has been promoting the erosion of local varieties.

In the ARA it is legally established that the environmental authority must identify the varieties of traditional cultivars and local domesticated breeds. PRORURAL established financial support for the conservation of genetic resources through the "Conservation Action of the Traditional Orchards of the Azores" and the "Protection Action of the Ramo Grande Breed", maintaining the important agricultural, livestock, historical and cultural heritage. In 1996, the total number of adult bovine animals was 227, but now is more than 1900.
The Department of Biology of the University of the Azores has been dedicated to the conservation of the traditional agricultural varieties in the Archipelago and their inclusion in the Germplasm Bank of the University of the Azores (PORBGUA).
Also the "Azorean Germbank" integrates hundreds of traditional varieties of fruits, vegetables or even cereals, maintaining active and passive collections of endangered traditional cultivars.

Strategic objective D: Enhance the benefits to all from biodiversity and ecosystem services

Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

A pilot study on Mapping and Assessment of Ecosystem and their Services (MAES) was promoted with the following specific objectives:

- Map the most relevant typologies of the ecosystems of Portugal and the services they provide;
- Assess the structural and functional state of ecosystems and their services, so as to enable the establishment of priorities for the restoration of degraded ecosystems;

[214] http://siaram.azores.gov.pt/centros-interpretacao/JardimBotanico-Faial/banco-sementes/_intro.html

[215] http://www3.uma.pt/isoplexis/

- Economic and social value of ecosystem services;
- Determine the specific contribution of ecosystems in SNAC;
- Launch the basis of a study of The Economics of Ecosystems and Biodiversity (TEEB).

The MAES methodology was applied to agricultural, agroforestry and forest ecosystems in order to map and evaluate their services in the NUTII region of the Alentejo.
By linking this MAES pilot study to the TEEB pilot study promoted in the Serra de São Mamede Natural Park (PNSSM), it was intended to obtain a future replicability in other areas of the SNAC.
The TEEB initiative in Portugal addresses the benefits of biodiversity for their inclusion in public accounts (relevant to Target 2), starting with a pilot study developed by the ICNF for the PNSSM, associated to the MAES pilot study, as well as with the collaboration from the Calouste Gulbenkian Foundation in the TEEB for Oceans and Coasts.

The programme where Coca-Cola Portugal - Refrige voluntarily pays for an ecosystem service in a partnership mediated by WWF deserves to be highlighted[216].
A group of forest owners, from the Ribatejo and Alentejo regions, joined under APFCertifica and adopted sustainable forest management practices in order to be certified by the FSC, committing themselves to maintain good forest management practices in the 16,000 hectares certified. The certification by the FSC has a strong biodiversity conservation component and protection of the watershed of the Tagus River, with about 600 hectares considered as of critical importance for biodiversity and the recharge of the Tejo aquifer and Areas with a High Value for Conservation.
Coca-Cola Portugal - Refrige, located in the Tejo aquifer area, consumes 500,000 m^3 of water per year from this aquifer. Interested in maintaining the quality of the water it uses for its manufacture, Coca-Cola Portugal – Refrige pays to the APFC forest owners in the areas classified as having High Value.
This partnership was established under the "Green Heart of Cork" initiative, developed in Portugal by the WWF Mediterranean, which aims to promote the voluntary market for ecosystem services in the world largest cork oak area located over the largest Iberian aquifer.
The project used the HABEaS WebGIS[217] tool to collect information on High Value Areas and to make information on biodiversity and ecosystem services publicly available.

In the ARA, all the relevant lagoons in the Azores Hydrographic Region are covered by Terrestrial Planning. The RRD no. 12/2013/A, of 30 September, approved the POBH of the Fogo, Congro, São Brás and Serra Devassa Lagoons, and the RRD no. 6/2013/A, of 8 July, approved the POBH of the lagoons of Flores Island.
After developing the Island Water Resources Management Plans, safeguarding the specificities of each island, the PGRH-Açores (RCG no. 24/2013, of 27 March) was prepared and approved, which is responsible for the protection and management of resources implementing the European Union WFD and complying with the national Water Law. As a water resource

[216] http://awsassets.panda.org/downloads/wwf_ghoc_case_sudy.pdf
[217] www.habeas-med.org

planning tool it relates pressures, water state assessment and mitigation measures. The 2016-2021 PGRH-Açores is under preparation.
Groundwater resources are of crucial importance in the ARA because 97.6% of the inhabitants' homes are supplied from sources and wells. Groundwater abstractions to the public supply for human consumption are protected by delimitation perimeters.

Target 16: By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

Portugal participated in the negotiations at the level of the CBD and the EU which led to the adoption of the Nagoya Protocol in 2010. In January 2010, a Focal Point for the ABS was designated. In January 2011, the same representative was appointed to accumulate the Focal Point functions for the Intergovernmental Committee of the Protocol of Nagoya. The Protocol of Nagoya was signed by Portugal on 20 September 2011.

In June 2012[218], among others, the ICNF, IP, was given the responsibility of "Proposing the regulation of access to and sharing of the benefits arising from their use and promoting the application of the resulting legal and administrative regime, together with other entities competent in this matter."

Since October 2012, Portugal has been actively involved in the development of the Regulation aimed at implementing in the EU the mandatory aspects of the Nagoya Protocol, namely compliance measures. With the submission of the EU ABS Regulation proposal (October 2012), the ratification process of the Nagoya Protocol by Portugal was put on hold until the final contours of the Regulation were known and with a view to simplifying the resulting legislation and/or elements of administrative nature at a national level.

Although ICNF, IP, is the governing body with the highest responsibilities for ABS, many other Ministries and Public Administration bodies have relevant competencies for the implementation of the provisions of the Nagoya Protocol and the EU ABS Regulation. As such, during the aforementioned period (2012-2014) the ICNF, IP, held several intra-ministerial and inter-ministerial meetings with the objective of defining a consolidated national position on the ongoing negotiations and promoting the involvement of all administrative bodies from an early stage of the process.

The ABS Regulation (EU) no. 511/2014 was adopted on 16 April 2014 after which the ICNF, IP, triggered the mechanisms for the conclusion of the ratification process of the Nagoya Protocol. The EU ABS Regulation will enable Portugal to implement measures to comply with the Nagoya Protocol. Nevertheless, Portugal does not exclude the possibility of developing access measures in accordance with the provisions of the Nagoya Protocol. In view of an informed

[218] DL no. 135/2012, of 29 June - http://dre.pt/pdf1sdip/2012/06/12500/0332603330.pdf

decision-making process regarding the development of access measures and compliance measures in addition to those provided for in the EU ABS Regulation, an Inter-Ministerial ABS Working Group was set up[219] with two main tasks:

- Develop the specifications for a cost-benefit study of the impact of developing a national regime for access to and sharing of benefits arising from their use, including regulation of access to genetic resources under national jurisdiction and additional compliance measures of the Nagoya Protocol;
- Propose the legal-administrative model for the application of Regulation (EU) 511/2014 ABS, including the identification of the responsibilities of the different public administration bodies.

The Inter-Ministerial Working Group included representatives from the ARA, the ARM and the following Ministries: Environment, Territorial Planning and Energy, Finance, Internal Administration, Economics, Science and Education, Health, Foreign Affairs, Agriculture and the Sea, National Defence and Justice.

The results of the work carried out by the Inter-Ministerial Working Group on ABS could lead to the development of additional legislation to the one to be adopted with a view to the proper implementation of Regulation (EU) 511/2014 in Portugal. In any case, the work developed by the Inter-Ministerial Working Group on ABS contributes to the operationalisation and implementation of the Nagoya Protocol in Portugal.

In the ARA, the Regional Secretariat for Education, Science and Culture, together with the University of the Azores, has been involved in meetings on the development of this topic at national and EU level, as well as in the creation of regional legislation (DLR no. 9/2012/A[220] of 20 March and RRD no. 20/2012/A[221] of 5 November) on access to and use of natural resources for scientific purposes in the region, which provides that access to genetic resources (among others) and its derivatives is subject to prior information consent in accordance with the procedure defined in referred diploma.

The implementation of the regional legislation is made through the mandatory completion of an online application form for access to natural resources for scientific purposes[222].

DLR no. 15/2012/A[223] of 2 April, article 147 establishes the principles of responsible use of biogenetic resources in the Region, which should only be accessed in the frame of the access to resources and sharing of benefits regime.

[219] RCM 49/2014, of 22 August - https://dre.pt/application/file/56307319

[220] https://dre.pt/application/file/553566

[221] http://dre.pt/pdf1sdip/2012/11/21300/0635006357.pdf

[222] http://www.formstack.com/forms/GRApedido_de_autorizacao_para_acesso_a_recursos_naturais_para_fins_cientificos

[223] https://dre.pt/application/file/553827

The Prior Informed Consent experience in Portugal

From the end of 2009 until 25 March 2014, the ICNF, IP, tested a Prior Informed Consent Procedure (PIC) with no binding legal force based on the Bonn Guidelines and, in a way, in line with the Nagoya Protocol. No Mutual Agreed Terms were established ever, as they would require the development of specific legislation to frame them. When the national PIC procedure was developed, negotiations on the Nagoya Protocol were already underway. As such only a simple PIC procedure was chosen to be tested.

The underlying idea was to facilitate access to genetic resources for environmentally sound uses and not to impose restrictions contrary to the objectives of the CBD. Portugal has facilitated access to all entities that have committed to environmentally sound bioprospection and utilization of the genetic resource for which access has been requested.

It also provided a means of communicating with and raise users awareness (researchers and companies) on the concepts of ABS, the rules under the CBD and the Nagoya Protocol on the development and short-term implementation of EU and national regimes, as well as on Portugal's commitment to these objectives.

In this period, whenever the ICNF, IP received a request for access, it asked the applicants/users of genetic resources for information on the request. The requests, carefully analysed, resulted in access to Genetic Resources in Portugal when the information provided by the users confirmed that the genetic resources would be used for environmentally sound purposes and in line with the objectives of the CBD and the Nagoya Protocol.

However, this procedure has not proved to be effective since the Portuguese administration has not been able to trace the genetic resources accessed, despite the fact that the following requirements have been established: "The origin of genetic resources and associated information must always be explicit (in related publications); Any results of research resulting from the use of the genetic resources accessed and associated information must be transmitted to the ABS Authorities of Portugal; Any change in the declared use or transmission of genetic resources to third parties is subject to a new Prior Informed Consent procedure and must be immediately communicated to the ABS Authorities of Portugal."

The main lesson from this experience is that a strong system based on legal certainty, clarity, transparency and rules on access to genetic resources that clearly identifies responsible bodies and their competencies is essential for the application of an effective ABS model.

ABS matrix

	Relevant COP decisions, programmes of work, work plans, guidelines and suggested activities	National implementation and contributions	Results achieved	Future priorities
Nagoya Protocol	X/1 2. Requests the Secretary-General of the United Nations to be the Depositary of the Protocol and to open it for signature at the United Nations Headquarters in New York from 2 February 2011 to 1 February 2012; 3. Calls upon the Parties to the Convention on Biological Diversity to sign the Protocol at the earliest opportunity and to deposit instruments of ratification, acceptance or approval or instruments of accession, as appropriate, with a view to ensuring its entry into force as soon as possible;	Signing of the Nagoya Protocol	20 September 2011	N/A
Nagoya Protocol	X/1 3. Calls upon the Parties to the Convention on Biological Diversity to sign the Protocol at the earliest opportunity and to deposit instruments of ratification, acceptance or approval or instruments of accession, as appropriate, with a view to ensuring its entry into force as soon as possible; XI/1 A3.Calls upon Parties to the Convention on Biological Diversity that have not yet done so to initiate and expedite their internal processes leading to ratification, approval or acceptance of or accession to the Nagoya Protocol;	Ratification	Ratification process triggered / Portugal (and other EU Member States) has chosen to wait for the conclusion of negotiations on the EU ABS Regulation to complete its ratification processes.	Portugal points to the conclusion of the ratification process of the Nagoya Protocol up to COP 13 of the CBD. In addition, an Inter-Ministerial Working Group was set up to provide, inter alia, a general framework for the implementation of the Nagoya Protocol and EU Regulation 511/2014.

Nagoya Protocol	X/1 10.Decides that the Intergovernmental Committee shall hold its first meeting from 6 to 10 June 2011 and the second meeting from 23 to 27 April 2012 XI/1 A2.Decides to reconvene the Intergovernmental Committee for a third meeting to address outstanding issues in its workplan, in preparation for the first meeting of the Conference of the Parties serving as the meeting of the Parties to the Protocol;	Participation in ICNP meetings	The ABS Focal Point represented Portugal at the first meeting of the ICNP.	N/A
Nagoya Protocol	X/1 20. Urges the Parties to the Convention and other States and regional economic integration organisations to designate, as soon as possible and no later than 31 March 2011, a focal point for the Intergovernmental Committee and to inform the Executive Secretary accordingly;	Designation of the ICNP Focal Point	In January 2010, Portugal designated its National Focal Point for the ABS. In January 2011 the National Focal Point was designated as Focal Point for the ICNP.	N/A
Nagoya Protocol	XI/1 E3. Also invites Parties, other Governments, international organisations and other relevant actors to carry out awareness-raising activities to support the ratification, early entry into force and implementation of the Protocol, taking into account the draft awareness-raising strategy set out in recommendation 2/6 of the Intergovernmental Committee.	Awareness	The ICNF, IP website [224] contains basic information on the ABS and links to the Nagoya Protocol website.	To be developed

[224] http://www.icnf.pt/portal/naturaclas/ei/cbd/CBD#nagoi

Strategic objective E. Enhance implementation through participatory planning, knowledge management and capacity building

Target 17: By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.

The National Strategy for the Conservation of Nature and Biodiversity (ENCNB) was adopted by RCM no. 152/2001, of 11 October[225]. During its period of validity, between 2001 and 2010, ENCNB was an important strategic tool at national level with three central objectives:

- To preserve nature and biological diversity, including the remarkable elements of geology, geomorphology and palaeontology;
- Promote the sustainable use of biological resources;
- To contribute to the pursuit of the objectives of the international cooperation processes in the area of nature conservation in which Portugal is involved, in particular the objectives defined in the CBD.

These objectives were materialised through ten Strategic Options, each one originating a set of Action Directives, some with deadlines and defined actors.

The implementation of ENCNB 2001-2010 was the subject of an assessment[226] process in 2009 and although its validity of ENCNB has ceased, there are targets that remain valid and will continue to be pursued.

Following the results of this assessment and relevant developments at international level, such as the adoption of the Strategic Plan for Biodiversity 2011-2020 and the EU Biodiversity Strategy to 2020[227], ENCNB has been subject to a review process.

The national targets set in this context have taken into account the EU targets in its Biodiversity Strategy and consistency with the priorities and objectives of the reforms of the EU's common agricultural and fisheries policies on environment and biodiversity matters and cohesion policy for the EU, for the 2014-2020 period.

A revised and updated ENCNB proposal is finalised, pending its adoption as a policy instrument.

[225] https://dre.pt/application/dir/pdf1sdip/2001/10/236B00/64256451.pdf

[226] http://www.icnf.pt/portal/icnf/docref/encnb

[227] http://ec.europa.eu/environment/nature/biodiversity/comm2006/2020.htm

Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

Horizon 2020[228], the European Union Research and Innovation Framework Programme, is worth mentioning, with an overall budget of more than EUR 77 billion for the 2014-2020 period. This is the EU's largest instrument specifically oriented to support research through co-financing of research, innovation and demonstration projects. Financial support is granted through calls and proposals are subject to an independent evaluation procedure.
Horizonte 2020 has three priority pillars of action, one of which is the Societal Challenges (around 39% of the total budget). This pillar includes the themes of energy, environment, climate action, transport and efficiency in the use of resources and raw materials and agricultural and maritime bioeconomics.

With regard to Food Security, Sustainable Agriculture and Forestry, Marine and Maritime Research and Inland Water and Bioeconomics, the following lines of research and innovation are considered:

- Sustainable agriculture and forestry (improving production efficiency and capacity to address climate change, ensuring sustainability and resilience, providing ecosystem services and public goods, and promoting sustainable forestry);
- Sustainable agri-food sector;
- Unlock the potential of aquatic living resources (develop sustainable and environmentally friendly fisheries);
- Sustainable bio-industries and the development of a European bio-economy:
- Marine and maritime cross-cutting research (impact of climate change on marine ecosystems and maritime economy and development of the potential of marine resources through an integrated approach).

Regarding Safe, Non-Polluting and Efficient Energy, the following lines of research and innovation, among others, are considered:

- Reducing energy consumption and carbon footprint through smart and sustainable use, low-carbon electricity supply, alternative fuels and mobile energy sources.

With regard to Climate Action, Environment, Efficiency of Resources and Raw Materials are considered, among others, the lines of research and innovation:

- Combating and adapting to climate change (improving understanding of climate change and providing reliable climate projections, assessing impacts and vulnerabilities, and developing innovative and cost-effective risk prevention and adaptation measures, and supporting mitigation policies including studies on the impact of other sectoral policies);
- Environmental protection, sustainable management of natural resources, water, biodiversity and ecosystems (improving understanding of the functioning of ecosystems,

[228] http://www.gppq.fct.pt/h2020/h2020.php

their interactions with social systems and their role in the economy and human well-being, developing integrated approaches to sustainable management of the water sector;
- Ensure the sustainable supply of non-energy and non-agricultural raw materials;
- To enable the transition to a green society and economy through eco-innovation (to strengthen eco-innovative technologies, processes, services and products and to encourage their market acceptance, to support innovative policies and societal change, to measure and assess progress towards green economy and promote efficiency in the use of resources through digital systems;
- Develop comprehensive and sustained global observation and information systems.

In the ARM, public institutions have been involved in the establishment of transnational research networks and projects, and in sharing knowledge, experiences and good practices in the sustainable management of island natural resources, namely:
- TOURMAC II - Thematic Paths of Macaronesia[229];
- BIOCLIMAC - Biotechnology and Conservation in the face of climate change[230];
- SOST-MAC - Cooperation and Synergies in Sustainable Actions in Protected Natural Areas of Macaronesia[231];
- FORESMAC - Cooperation and Synergies in Sustainable Forestry for the Macaronesia Region[232];
- NET-BIOME - Tropical and Subtropical Biodiversity Network of the Outermost Regions of Europe in support of Sustainable Development[233].
- LIFE projects with the participation of several international experts.

Also the participation of local technicians and researchers in international thematic panels, meetings, conferences, workshops and trainings, as well as the publishing of literature (books, scientific articles) and dissemination on the internet (website, social networks) have communicated the projects and results obtained from the management and conservation of nature in the ARM.

In the ARA, cooperation with other regions under the European Regional Development Fund (ERDF) takes place through the implementation of projects under the Madeira-Azores-Canarias Transnational Cooperation Programme for the 2007-2013 period.
The above-mentioned Programme is structured in three priority axes, one of which is aimed at strengthening environmental management and risk prevention. Several objectives have been defined for this axis, of which the most relevant are the ones related with the development of strategies for the valuation and protection of biodiversity and natural resources, mainly marine resources; the promotion of interventions to improve the environmental quality of the coast; the establishment of plans for the sustainable management of natural areas and protected marine areas.

[229] http://www.tourmac.info/pt/

[230] http://www.sra.pt/jarbot/index.php?option=com_content&view=article&id=168&Itemid=185&lang=pt

[231] http://www.sostmac.com

[232] http://www.foresmac.com/

[233] http://www.netbiomeeranet.netbiome.eu/

Nevertheless, the Axis 1 of the Programme, dedicated to research, technological development and information society, in its fields of application also provides for research projects on biodiversity.
The development of these projects requires the involvement of partners from the regions that make up the Programme, through research institutions, such as the University of the Azores and government departments responsible for environmental issues. Most of the partnerships observed in the Programme already have a considerable degree of consolidation, since they have already implemented projects since the 2000-2006 period.

Regarding the development of projects, within the biodiversity topic, it should be mentioned that these are, as a rule, immaterial in nature, being primarily associated with research and technology transfer. Relevant examples of projects carried out in these topics include the creation of a genetic seed bank within the framework of the Global Strategy for Plant Conservation; the creation of a Macaronesia marine genetic bank; actions to boost the biotechnology and pharmaceutical industries; actions in the field of technology transfer to the agricultural sector, aiming at the conservation of agricultural varieties of Macaronesia; actions on conservation of landscape stations, studies on the collection and processing of information, for inclusion in a georeferenced database of the ecological reserve, among others.

Involvement in the ERA-Net, NetBiome and BEST networks reinforces the cooperation of the Regional Government of the Azores at EU level in the creation of platforms for the sharing of information on financing opportunities for projects oriented to the conservation and sustainable use of biodiversity and ecosystems services in the outermost regions and in the European overseas countries and territories. These platforms should facilitate the exchange of information between funders (European Commission, Member States, financial institutions, non-governmental entities and companies) and project promoters.

Participation in European networks for the sustainable management of biodiversity has ensured the participation of the Regional Government of the Azores in international fora with a focus on these issues, consequently increasing their proximity to the European institutions and decision centres relevant to the area in question (e.g. IUCN, European Environment Agency, Directorate-General for the Environment).

In ARA, the dissemination of biodiversity and ecosystem services has been promoted especially with and as of the International Year of Biodiversity in 2010.
The systematisation of information and the availability of the listing of terrestrial and marine organisms of the Azores continues to be carried out through the Biodiversity Portal.
A free smartphone application was created and made available with information about the CA of the Parque Natural in Pico Island.
Through the Azores Agrarian Research and Technology Centre (CITA-A), which integrates teachers, researchers, scholars and employees of the University of the Azores - Department of Agrarian Sciences, fundamental and applied research on biodiversity is promoted, as well as the organization of seminars, conferences, congresses and other meetings, within the scope of

or related to research activities developed, and also, participation in similar activities promoted by other entities.
This group has developed several projects related to biodiversity (including studies on genetic variability), some of them in conjunction with researchers from foreign universities.
With the funding of projects under the ERA-Net, NetBiome and BEST networks, the aim is to develop the scientific base to support the sustainable management of biodiversity in the Region.
The legal regime for the conservation of nature and biodiversity establishes the obligation to carry out inventories and registration of biological collections in order to guarantee to the administrative, scientific and supervisory authorities, means of control to comply with international conventions and regional, national and European Union legislation on protection species of wild fauna and flora and to prevent trafficking in those species.

Target 20: By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.

The Habitats Directive provides in no. 4 of art. 8 "According to the assessment referred to in paragraphs 2 and 3[234], the [European] Commission shall adopt, having regard to the available sources of funding under the relevant Community instruments and according to the procedure set out in Article 21, a prioritized action framework of measures involving co-financing to be taken when the site has been designated under Article 4 (4)", concerning the designation of SCIs as SACs.
On 24 January 2014, WWF and ICNF, IP, held a workshop on "Financing of the Natura 2000 Network - More and better opportunities from EU funds for 2014-2020", where the Priority Action Framework of Portugal (PAF) was presented[235].
The PAF identifies the priority conservation measures to be implemented/initiated until 2020, consisting of a concise, objective and realistic framework of action, to the detriment of a comprehensive sum of possible relevant measures, but beyond the administrative, technical and scientific capacity of the country in the coming years.
Priority measures identified are of a general but structural nature (e.g. natural habitat mapping and assessment and monitoring of protected natural values) and strategic (e.g. the N2000's

[234] 2. In agreement with each of the Member States concerned, the Commission shall identify, for sites of Community importance for which co-financing is sought, those measures essential for the maintenance or re-establishment at a favourable conservation status of the priority natural habitat types and priority species on the sites concerned, as well as the total costs arising from those measures.
3. The Commission, in agreement with the Member States concerned, shall assess the financing, including co-financing, required for the operation of the measures referred to in paragraph 2, taking into account, amongst other things, the concentration on the Member State's territory of priority natural habitat types and/or priority species and the relative burdens which the required measures entail.

[235] http://www.wwf.pt/o_nosso_planeta/especies/workshop_financiamento_rede_natura_2000/

agricultural and forestry management and valuation of ecosystem services), in order to integrate, at the appropriate levels in the programming of European Union funds, access to finance by public and private entities with a view to implementing the essential biodiversity policy measures and the pursuit of Portugal's goals and legal and political commitments and obligations at national, EU and global levels.
In order to mobilize sources of funding for the Autonomous Regions, the PAFs for the N2000 of the Azores and Madeira were developed for the period 2014-2020.

In addition to the regional funds, other European Union funds such as LIFE, EAFRD, ERDF and ESF contribute to funding biodiversity conservation actions. The EMFF and Horizon 2020 are also relevant for research and development.

Regarding the international aspect of the mobilization of resources, in the recent years and until the beginning of 2014, Portuguese development cooperation has guided its action in accordance with the document "A Strategic Vision for Portuguese Development Cooperation" approved by RCM no. 196/2005[236], of 22 December, which defines the following fundamental principles:

- The historical and cultural relationship with the Portuguese-speaking African Countries (PALOP) and Timor-Leste;
- The promotion of the Portuguese language;
- Strengthening Portugal's role in international coordination mechanisms.

In this period, development cooperation policies in Portugal have been developed taking into account the international guidelines on this subject, namely the Paris Declaration and the Accra Agenda for Action (AAA), both on aid effectiveness, and the EU Code of Conduct for Complementarity and Division of Labour in Development Policy. Still within the scope of aid effectiveness we are committed to implementing the Busan Action Plan, including the "New Deal for Engagement in Fragile States" and the "Gender Equality Initiative ".
The strategy of Portuguese Cooperation has been designed to avoid the dispersion of resources in favour of a more coherent logic, improving the rationality, efficiency and effectiveness of the aid. To this end, an effort was made to concentrate the cooperation actions both in terms of partners and in terms of actions and intervention sectors, to continue to follow the geographic concentration in the Portuguese-speaking countries, especially in the PALOP and Timor-Leste, and also to comply with the principle of sectoral concentration in Education, Health, Safety and Justice, with a view to sustainable development and fight against poverty, as a way to achieve the Millennium Development Goals (MDGs).

Portugal has been increasingly concerned about policy coherence and has progressively included this theme in the formulation of its public policies. Inclusion of references to the MDGs in national strategic documents, such as the Planning Main Options (GOP) and the National Strategy for Sustainable Development (NSSD), is a good example of this. Attempts have also been made to minimise the impact of the implications of the various national

[236] https://dre.pt/application/file/464152

policies on the development of partner countries by promoting greater coherence between them. Within this effort, three key instruments stand out: the Inter-ministerial Conference for Cooperation (CIC), the Forum for Cooperation for Development and the "Strategic Vision of Portuguese Development Cooperation".
Development cooperation has recently undergone major changes in the merger process, concluded in July 2012, between the Portuguese Institute for Development Support (IPAD) and the Camões Institute, with the subsequent reorganisation and rationalisation of services, creating the Camões, Institute of Cooperation and Language (Camões, IP).
DL no. 21/2012[237], of 30 January, which creates Camões, IP, ensures the maintenance of the principles, rules of operation, organisation and management of Portuguese cooperation, keeping it at the service of promoting the development of partner countries, and the Statutes reiterate these principles. The pursuit of efficiency, mutual accountability and results-based management underpin the functioning of the new institution.
Camões, IP, coordinates all Portuguese cooperation, which includes oversight of the State's general budget for Official Development Assistance (ODA), prior binding opinion and evaluation of all Portuguese cooperation. In addition to thematic meetings, it promotes coordination and articulation through the CIC (sectoral ministries) and the Forum of Cooperation (ensuring the involvement of civil society). The CIC is the forum for cooperation between the sectoral ministries operating in the area of development cooperation and exchange of information, which aims to achieve greater coordination, coherence and complementarity of policies and practices among Portuguese Cooperation actors. The Forum for Development Cooperation seeks to achieve greater coherence in the formulation and implementation of public policies likely to affect the development of the least developed countries and is a space for concerted action between public and private actors of cooperation.
The country coordination effort was anchored in the Indicative Cooperation Programmes in the period 2010-2013 in order to avoid dispersion and this has remained the main instrument of Portuguese cooperation with partner countries (PALOP and Timor-Leste, mostly Least Developed Countries and Fragile states), ensuring the alignment and predictability of aid.

Portugal, as a Member State of the Development Assistance Committee (DAC) of the OECD, accounts for its ODA according to the statistical reporting guidelines for development financing flows according to the CRS (Creditor Reporting System) format and applies the so-called Rio Markers[238], in particular the environmental marker and the biodiversity marker.
Between 2010 and 2012, the evolution of the Portuguese ODA maintained a positive overall trend, having in 2013, although still with preliminary values, decreased compared to 2010. The period of control of the public deficit and fiscal consolidation and the fact that Portugal is largely in this period under review in this report under an Economic and Financial Assistance Programme explains this decrease.

[237] https://dre.pt/application/file/543854

[238] The OECD Development Assistance Committee (DAC) gathers statistical data from donors and bilateral and multilateral agencies on aid to developing countries annually. Since 1998 it has monitored this aid qualitatively, using the so-called Rio Markers.

In 2011, Portuguese ODA registered a positive change of 3.90% compared to 2010, despite the adverse situation. However, when compared with the previous year, in 2012 budget constraints led to a decreasing of 9.9% in bilateral aid, as well as of 13.9% in the multilateral component, a trend that has intensidfied in 2013.

The overall positive variation of ODA for 2011 and 2012 compared to 2010 was due to an increase in bilateral contributions, where the Concessional Loans and Credit Lines to partner countries of the Portuguese Cooperation represented a significant weight in the global ODA. The availability of this type of aid thus conditioned, to a large extent, the annual variation of bilateral ODA. The volume of Multilateral ODA for 2012 followed the downward trend since the previous year. The reduction of ODA contributions through EU institutions and the World Bank Group resulted in a decrease of around € 24 million when compared to 2011.

The ODA/Gross National Income (GNI) ratio between 2010 and 2012 ranged from 0.29% to 0.28%, with a peak in 2011 of 0.31%. In 2013 it was 0.23%. Despite the initial effort to increase ODA, Portugal still falls short of the commitment to achieve the ODA/GNI ratio of 0.33%, which should have been achieved in 2006. In this context, the target of 0.7% in 2015 is also difficult to be achieved.

The Portuguese Bilateral ODA represents on average 62% of Total ODA, with a strong geographic concentration in the PALOP and Timor-Leste, while the Multilateral ODA has a relative weight of 38%, mainly channelled through EU institutions, The World Bank Group and the United Nations.

Between 2010 and 2012, the donor component of bilateral ODA showed a decreasing trend, with the Concessional Loans and Credit Lines component gaining a strong expression, and this trend is expected to continue in 2013. In 2012, the component of Concession Loans and Credit Lines reached 70% of Bilateral ODA, while aid in Donations amounted to 30%.

The trend of the geographical concentration of Portuguese ODA, particularly marked in 2010 and 2011, where PALOP and Timor-Leste together accounted for approximately 80% and 90% of bilateral ODA respectively, fell in 2012 to 76%. Also this reduction is related with the ODA to the Kingdom of Morocco which reached 15% of the bilateral ODA, through a credit line amounting to € 400m (started in 2008), thus becoming the third largest beneficiary of the Portuguese ODA in 2012.

In sectoral terms, the priorities of the Portuguese Cooperation meet two fundamental criteria. The first reflects the priorities established by partner countries in their national development strategy papers. The second criterion results from the added value of Portuguese Cooperation, which is given above all by a common language and a shared history, which calls for a concentration in the areas of education and training and institutional capacity building, including strengthening the State's administrative capacity and promoting conditions for good governance.

This order of priorities justifies the low values of the environmental ODA and of the biodiversity ODA in relation to the total ODA. Between 2010 and 2013 the environmental ODA varied between 14.7% and 8.1% and the biodiversity ODA between 1.1% and 0.6% of total ODA, respectively (for more detail see Table 13).

	2010		2011		2012		2013	
	€	%	€	%	€	%	€	%
Environment Marker	44,100,213	14.7%	21,769,301	6.3%	17,343,023	5.6%	18,143,696	8.1%
Biodiversity Marker	3,399,295	1.1%	3,431,041	1.0%	1,477,980	0.5%	1,273,526	0.6%
BILATERAL ODA	299,042,056	100.0%	343,175,288	100.0%	309,083,860	100.0%	228,070,585	100.0%
ODA/GNI Ratio (%)	-	0.29	-	0.31	-	0.28	-	0.23

Table 13 - Breakdown of bilateral ODA by Environment and Biodiversity Markers[239]

Portuguese cooperation has been making an effort to improve the ODA values related to environment and biodiversity through a set of actions such as:

- Strengthening the application of the biodiversity marker, which aims to qualify the ODA for the implementation of the CBD objectives;
- Integration of environmental issues in development cooperation, e.g. supporting in 2010 the creation of the Network of Portuguese Language Countries for Impact Assessment and the implementation of training initiatives with partners in the PALOP and Timor Leste and, at an internal level, in the Portuguese cooperation, including the most relevant ministries, on EIA and SEA;
- Support in September 2010, under the Community of Portuguese Speaking Countries (CPLP) to the workshop on the CITES Convention;
- In 2013, it promoted the adequacy of the forms, the development of new rules for the submission of applications and new criteria for analysis of Programmes, Projects and Actions (PPA) to be financed by the Portuguese cooperation in order to integrate environmental issues, namely biodiversity.

The tables on Resource Mobilization for Biodiversity in Annex 1 present, in more detail, the evolution of ODA with the biodiversity marker, in particular as regards the classification with the "principal objective"[240], being directly related, and that classified with the "significant objective"[241], being indirectly related. Within the framework of the Rio markers in which the biodiversity marker is included, Portugal does not apply any coefficient system.

The biodiversity marker is applied to all bilateral Portuguese ODA, and it can be deduced that the remaining bilateral aid has been examined in the light of the biodiversity marker and has been considered as not oriented towards the CBD objectives.

[239] BDCOOP/DPC

[240] In the case of aid through PPA that is specifically targeted to achieve CDB objectives.

[241] In the case of aid that is not geared specifically to achieving the objectives of the CDB, it contributes through some of its components to the implementation of these objectives.

The multilateral ODA is not marked by the donor with the Rio markers, but by the multilateral institutions themselves, which subsequently report to the OECD. In the context of the Portuguese multilateral ODA related to biodiversity, contributions to UNEP in 2011 and 2013 in the amount of 36,679 and 36,974 thousand euros respectively and for CITES in 2010, 2011 and 2012 of 21,802, 19,774 and 21,585 thousand euros, respectively, stand out.

In relation to the Global Environment Facility (GEF), the figures presented in Table 14 refer to the fourth replenishment of the Fund. As far as the fifth replenishment is concerned, no commitment has been made to date on any contribution from Portugal.

Table 14 - Contributions to the Global Environment Facility (GEF)[242]

Type of Flow	Currency	2007	2008	2009	2010	2011	2012	2013
Commitment - Issuance of Promissory Notes (110)	USD*	3,770,000	1,980,000	1,920,000	0	0	0	0
	EUR	2,753,985	1,372,734	1,378,752	0	0	0	0
Disbursement - Use of promissory notes (311)	USD*	2,500,000	3,030,000	1,900,000	2,170,000	1,210,000	995,630	608,072
	EUR	1,826,250	2,100,699	1,364,390	1,638,350	870,232	774,600	458,000

Exchange Rates (USD/EUR)[243]						
2007	2008	2009	2010	2011	2012	2013
0.7305	0.6933	0.7181	0.7550	0.7192	0.7780	0.7532

With regard to technology transfer, we can say that most PPAs developed by Portuguese cooperation in the context of official development aid involve the transfer of technology, practices and processes appropriate to each of the areas of the PPA, as well as the knowledge necessary for the application of technologies. Although the specific identification of technologies associated with PPAs is not available in a database, in the course of the PPA review and approval process, the identified technologies are taken into account and their assessment is part of the criteria considered.

Since 7 March 2014, the Strategic Concept of Portuguese Cooperation approved by RCM no. 17/2014[244], the guiding document of the Portuguese cooperation for the 2014-2020 period, has been in force. This document takes into account the changes that have taken place at an international level in the context of development cooperation, seeking to guide the necessary

[242] DAC Tables

[243] CAD/OECD

[244] https://dre.pt/application/file/572247

adjustments, ensure continuity with the main priorities and added value of the Portuguese Development Cooperation, as well as the fulfilment of commitments made at an international level.

Chapter 3 Lessons to be learned from the implementation of the Convention in Portugal

A number of concerns emerge from the process of implementing the Convention at a national level and should continue to be taken into account:

- Follow-up of the guidelines contained in the strategic documents, namely the ENCNB;
- The importance of a better coordination and synergies at a national level between the Rio Conventions;
- Need for a greater integration of biodiversity issues in different sectors and policies;
- Increased involvement of the private sector;
- Development of the biodiversity valuation process and integration of these values into public accounting;
- To proceed with the classification, inventory and ecological characterisation of biodiversity and its monitoring;
- Increased efficiency in management of the conservation status of endangered species, including *ex situ* conservation;
- Establishment of an integrated system of early warning, rapid response and control or eradication of invasive alien species;
- Restoration of habitats;
- Implementation of the Nagoya Protocol;
- Improving the integration of Cartagena Protocol issues in the implementation of the Convention at a national level;
- Training of technicians involved in biodiversity issues;
- Reinforcement of inspection on crimes against biodiversity;
- Promoting the active involvement of civil society in biodiversity issues.

Annex 1 Reporting Framework on the Resource Mobilization for Biological Diversity

Disbursements

1) Please indicate the amount of financial resources provided by your Member State to contribute to the implementation of global biodiversity commitments over the last five years, or since 2006 if possible. (Please see the guidelines provided in document UNEP/CBD/COP/11/14/Add.1 available at http://www.cbd.int/doc/meetings/cop/cop-11/official/cop-11-14-add1-en.pdf)

Year: **2010**		Currency: **€**					
Type of financial flows		Activity Categories (1)				Total	
		Directly related (A)		Indirectly related (B)			
		Amount	Confidence (*)	Amount	Confidence (*)	Amount	Confidence
1.1 Official Development Assistance (2)	1.1.1 Bilateral (3)	**€ 419,278**		**€ 2,980,017**		**€ 3,399,295**	
	1.1.2 Multilateral (4) [1)]						
1.2 Other public funds (5)							
1.3 Private/Market (6) [2)]							
1.4 Not for profit organisations							

Comments:

1) Multilateral ODA is not marked against policy markers due to the multilateral character of the contribution - core funding.

2) Private Flows are not marked against policy markers

Disbursements

1) Please indicate the amount of financial resources provided by your Member State to contribute to the implementation of global biodiversity commitments over the last five years, or since 2006 if possible. (Please see the guidelines provided in document UNEP/CBD/COP/11/14/Add.1 available at http://www.cbd.int/doc/meetings/cop/cop-11/official/cop-11-14-add1-en.pdf)

Year: **2011**		Currency: **€**					
Type of financial flows		Activity Categories (1)				Total	
		Directly related (A)		Indirectly related (B)			
		Amount	Confidence (*)	Amount	Confidence (*)	Amount	Confidence
1.1 Official Development Assistance (2)	1.1.1 Bilateral (3)	**€ 308,059**		**€ 3,122,982**		**€ 3,431,041**	
	1.1.2 Multilateral (4) [1)]						
1.2 Other public funds (5)							
1.3 Private/Market (6) [2)]							
1.4 Not for profit organisations							

Comments:

1) Multilateral ODA is not marked against policy markers due to the multilateral character of the contribution - core funding.

2) Private Flows are not marked against policy markers

Disbursements

1) Please indicate the amount of financial resources provided by your Member State to contribute to the implementation of global biodiversity commitments over the last five years, or since 2006 if possible. (Please see the guidelines provided in document UNEP/CBD/COP/11/14/Add.1 available at http://www.cbd.int/doc/meetings/cop/cop-11/official/cop-11-14-add1-en.pdf)

Year: **2012**		Currency: **€**					
Type of financial flows		Activity Categories (1)				Total	
		Directly related (A)		Indirectly related (B)			
		Amount	Confidence (*)	Amount	Confidence (*)	Amount	Confidence
1.1 Official Development Assistance (2)	1.1.1 Bilateral (3)	**€ 185,579**		**€ 1,313,986**		**€ 1,499,565**	
	1.1.2 Multilateral (4) [1)]						
1.2 Other public funds (5)							
1.3 Private/Market (6) [2)]							
1.4 Not for profit organisations							

Comments:

1) Multilateral ODA is not marked against policy markers due to the multilateral character of the contribution - core funding.

2) Private Flows are not marked against policy markers

Disbursements

1) Please indicate the amount of financial resources provided by your Member State to contribute to the implementation of global biodiversity commitments over the last five years, or since 2006 if possible. (Please see the guidelines provided in document UNEP/CBD/COP/11/14/Add.1 available at http://www.cbd.int/doc/meetings/cop/cop-11/official/cop-11-14-add1-en.pdf)

Year: **2013**		Currency: **€**					
Type of financial flows		Activity Categories (1)				Total	
		Directly related (A)		Indirectly related (B)			
		Amount	Confidence (*)	Amount	Confidence (*)	Amount	Confidence
1.1 Official Development Assistance (2)	1.1.1 Bilateral (3)	**€ 49,382**		**€ 1,224,144**		**€ 1,273,526**	
	1.1.2 Multilateral (4) [1)]						
1.2 Other public funds (5)							
1.3 Private/Market (6) [2)]							
1.4 Not for profit organisations							

Comments:

1) Multilateral ODA is not marked against policy markers due to the multilateral character of the contribution - core funding.

2) Private Flows are not marked against policy markers

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Annex 3 Technical sheet

For the launch of the process of preparation of this fifth national report and in accordance with the provisions of the Resolution of the Council of Ministers no. 41/99 of 17 May, a meeting was held on 31 March 2014 at the Ministry of Foreign Affairs, on a meeting of the Inter-ministerial Coordination Committee on Biological Diversity.
For this purpose, the following entities of the national and regional administration were convened:

- Ministry of Foreign Affairs
- Ministry of Environment, Territorial Planning and Energy
- Ministry of Justice
- Ministry of Finance
- Ministry of Economy
- Ministry of Agriculture and the Sea
- Ministry of Education and Science
- Ministry of Health
- Autonomous Region of the Azores
- Autonomous Region of Madeira

Subsequently, on 9 April, a working meeting was held at the ICNF for entities that had not been able to represent themselves at the meeting of the Inter-ministerial Coordination Committee.
Relevant documentation related with the process was then sent to all focal points designated by the involved entities, including manuals and guidelines for the preparation of the report.

After receiving and compiling the contributions of several entities, a first draft of the report was prepared, which was circulated by the contributors to any suggestions, updates or corrections.
A second draft of the national report was then produced, which was subject to public consultation and the opinion of the National Council for the Environment and Sustainable Development.
The contributions considered relevant were included and from this process a weighting report was produced. The final draft of the report was submitted to a meeting of the Inter-ministerial Coordination Committee for approval.

Finally the national report was translated into English in order to be submitted to the Secretariat of the Convention on Biological Diversity.