

Strasbourg, 12 August 2021  
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**T-PVS/DE(2021)08**

CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE  
AND NATURAL HABITATS

**Standing Committee**

41<sup>st</sup> meeting  
Strasbourg, 29 November - 3 December 2021

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**REPORT**  
**VIRTUAL ON THE SPOT EXPERT APPRAISAL OF THE**  
**SELVAGENS ISLANDS NATURE RESERVE**  
**(PORTUGAL)**

11 and 18-19 May 2021

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## INTRODUCTION

The Committee of Ministers of the Council of Europe, by means of its Resolution (92) 18, awarded the European Diploma for Protected Areas category "A" to Selvagens Islands Nature Reserve at its meeting of 18<sup>th</sup> May 1992, at the 476<sup>th</sup> meeting of the Minister's Deputies. The deadline established for its renewal was 18<sup>th</sup> May 1997. The Diploma has been further renewed in 1997, 2002, 2007 and 2012. The last renewal (Resolution CM/ResDip(2012)4), for a period of 10 years, has extended the award until 18th May 2022.

Restrictions due to COVID-19 pandemic obliged to hold the 2021 meeting of the Group of Specialists by means of a virtual platform on 24<sup>th</sup> February. Pending on-the-spot appraisal visits were examined, and the Secretariat took the initiative to propose an alternative two-step procedure to avoid backlog of visits because of the pandemic. The first step consists in online meetings with managers and relevant stakeholders of the protected area, the independent expert and a representative of the Secretariat acting as moderator. A preliminary report would be delivered by the expert containing provisional conditions and recommendations (scenario A). If the restrictions related to the pandemic later allow the appraisal visit, this report could, if necessary, be complemented/modified and would become the final appraisal visit report. If this visit cannot take place, the Group of Specialists would examine the preliminary report and, if adequate, renew the diploma but only for a limited period of five years (scenario B)

The Secretariat requested the participation of the undersigned expert in a virtual meeting with the Selvagens Islands Nature Reserve managers and stakeholders and organised the following virtual sessions:

- 11<sup>th</sup> May 2021 in the morning with the internal stakeholders
- 18<sup>th</sup> May 2021 in the afternoon with the Advisory Committee of the IFCN
- 19<sup>th</sup> May 2021 in the morning with official entities
- 19<sup>th</sup> May 2021 in the afternoon with the scientific community

The agendas and the lists of participants to the meetings is enclosed as Annex I to this report.

## I. BRIEF DESCRIPTION OF THE SELVAGENS ISLANDS NATURE RESERVE

Selvagens Islands are located in the Atlantic Ocean, nearly 300 km southeast to Madeira Island. This territory is the southernmost part of Portugal, above the parallel 30. The closest African coast is located approximately at 375 km South-East.

Some unsuccessful attempts of human settlements have occurred historically on these islands, but beyond a few remaining witnessing this occasional presence, they are inhabited by a few wardens and military staff responsible for the surveillance and security of the site, who are displaced in two-week turns.

This uncommon combination of circumstances, remoteness, limited disturbances, have provided exceptional conditions for seabirds and rare flora and fauna to inhabit their terrestrial and marine habitats. It was a private property until 1971. The purchase and early protection of the islands by the Portuguese Administration (being actually the first area of this country devoted to nature conservation) has also played a key role in maintaining the Reserve in extraordinary condition. It is under the responsibility of the Madeira Autonomous Region.

The archipelago is composed of a main island (Selvagem Grande) two smaller ones (Selvagem Pequena and Ilhéu de Fora) and about 15 islets. Their main physical features are as follows:

- Surface area: 281 hectares of terrestrial area and 9.471 hectares including the marine areas up to 200 meters depth
- Perimeter: 10,2 kilometers
- Maximum elevation: 163 meters (Pico da Atalaia-Selvagem Grande)
- Deepest area: > 3.200 meters below sea level

From the geological point of view, Selvagens Islands are the summits of two volcanoes rising from the bottom of the ocean at about 4.000 meters deep, emerging 29 million years ago. Successive episodes of erosion, eruptions and sedimentation have occurred, shaping the current setting of the Reserve. It configures an extremely interesting testimony of geological volcanic dynamics.

Selvagens are under the influence of prevailing Trade Winds with oceanic sub-tropical climate, but their low elevation is a major cause of low precipitation, below 200 mm per year.

Selvagens archipelago are included in the Macaronesian Biogeographical Region, along with Azores, Madeira, Canarias and Cabo Verde islands. The vegetation is very influenced by the aridity, the saline spray and the strong wind.

Exotic plant species only occur in Selvagem Grande, with 17 taxa, which are under control measures for eradication. The other islands are free from non-native species and it can be said that their ecosystems remain unaltered.

As commonly occurs with human settlement attempts, Selvagens have suffered from releases of exotic fauna species, namely wild rabbits and common mice, and probably domestic goats in the past, which deeply changed the ecology of the islands. Fortunately, eradication measures have been taken, these species have disappeared and the natural habitats are recovering well.

The most highlighting characteristics of this archipelago rely on the excellent quality of the habitat for marine seabird colonies.

## II. EUROPEAN INTEREST OF THE SITE

The European Diploma was awarded as a recognition of the exceptional characteristics of this natural area, firstly for the infrequent pristine habitats pretty untouched by human presence, in particular in the two small islands Selvagem Pequena and Ilhéu de Fora, and secondly for the large seabird colonies, representing a true “*reservoir of pelagic birds in the sub-tropical zone of the North Atlantic*”. New studies over time have provided valuable knowledge that has revealed other highlighting features of its privileged natural values. Species not that conspicuous but as relevant as those initially identified, have contributed to recognise this Reserve as one of the most original and well preserved of the European territory.

### II.1. Fauna

According to recent inventories provided by the Madeiran authorities 219 taxa of terrestrial invertebrates can be found in Selvagens Islands. Arthropods represent the main group (92 %). Some of them, 39 species and 7 subspecies, are endemic of the islands although these figures probably represent only partially the real biodiversity of this Reserve.

At least 8 species of molluscs have been found. Among them *Theba macandrewiana*, which is endemic of Selvagens Islands.

As usual in island habitats, terrestrial vertebrate fauna has few components. The two reptiles occurring are endemic, the gecko *Tarentola bischoffi* and the lizard *Teira dugesii* subsp. *selvagensis*. The passerine *Anthus berthelotii* subsp. *berthelotii* endemic of Selvagens and Canarias, breeds in the Reserve.

As regards seabirds, 8 species of 4 families breed in the Selvagens Islands. Petrels and Shearwaters forming large colonies:

#### PROCELARIIDAE:

- Cory's shearwater (*Calonectris diomedea* subsp. *borealis* = *Calonectris borealis*)
- Bulwer's petrel (*Bulweria bulweri*)
- North-Atlantic little shearwater (*Puffinus iherminieri* subsp. *baroli*)

#### OCEANITIDAE

- Frigate petrel or white-faced storm petrel (*Pelagodroma marina*)

#### HYDROBATIDAE

- Madeiran petrel or band-rumped storm petrel (*Hydrobates castro*)

#### LARIDAE

- Yellow-legged gull (*Larus michahellis*)
- Common tern (*Sterna hirundo*)
- Roseate tern (*Sterna dougalli*)

### II.2. Flora and vegetation

Several Community Interest Habitat Types of the Habitats Directive (92/43/CEE) occur in the area in an excellent conservation status:

- (1250) vegetated sea cliffs with endemic flora of the Macaronesian coasts
- (5330) thermo-Mediterranean and pre-desert scrub
- (1110) sandbanks slightly covered by sea water all the time

- (1140) mudflats and sandflats not covered by seawater at low tide
- (1160) large shallow inlets and bays

As regards the vascular plants, a total of 105 native species have been reported, with 6 taxa exclusive to Selvagens, which represents the highest rate of endemic taxa per 100 km<sup>2</sup> of all the Macaronesian Region: *Argyranthemum thalassophyllum*, *Monanthes lowei*, *Lobularia canariensis* subsp. *rosula-venti*, *Lobularia canariensis* subsp. *succulenta*, *Asparagus nesiotis*, subsp. *nesiotis* and *Euphorbia anachoreta*.

### II.3. Exploitation of resources

The Selvagens Islands were a private property until 1971. Before that time, very few natural resources were available. The main one was the culling of thousands of nestlings Cory's shearwater in September each year. Since early 1960's also adults started to be captured and it seems that the population level dropped significantly, although there are not validated data. Fortunately, the islands were purchased and protected by the Portuguese Administration and culling ceased. Some authors estimate that, since then, the population level of some seabird species increases by 5 % per year.

Any kind of hunting is forbidden in Selvagens and all methods for fishing (except tuna fishing with fishhook) are prohibited as well, both in terrestrial and marine areas.

In the past the lichen *Roccella canariensis* was exploited to obtain a violet pigment used at that time to stain tissues. Also, the succulent plants *Mesembryanthemum cristallinum* and *M. nodiflorum* were used to produce soda. These practices have ceased long time ago.

### II.4. European Interest justifying the diploma

Selvagens Islands Nature Reserve conform a virtually unspoilt set of insular-oceanic habitats, nearly disappeared not only in the European context, but also at world scale. The importance of the area for the protection of pelagic seabirds, of vagrant migratory birds and other marine fauna and also of some endemic plants, motivated the award of the European Diploma for Protected Areas (Category A) by the Committee of Ministers of the Council of Europe.

Selvagens Islands are a remarkable example of a natural area of exceptional interest from the biological, geological and nature conservation points of view. The strategic position in the middle of the Atlantic Ocean, its remoteness, isolation and the absence of human dwellers, allowed to maintain its original features, with very little human impact. Only a few opportunistic species were introduced, today mostly eradicated by the Madeiran authorities for conservation reasons.

The strategic position of the Selvagens archipelago very influenced by different atmospheric and oceanic currents, play probably a key role in the movements (migration, colonisation, dispersion, wandering) of innumerable fauna and flora species across the Atlantic, both in latitude and in longitude. Its conservation status may be crucial for a wide range of wild species that use these grounds during their life cycles, either occasionally, periodically or permanently. The role of Selvagens as "stepping stone" may not be well known for the time being, but the studies carried out up to now indicate that it is of great entity and involve a great deal of marine species far beyond the limits of the Reserve.

An efficient system of surveillance and security has been implemented, both to avoid damages from uncontrolled tourism or hunters, fishing vessels or any kind of illegal activities and also to develop intensive awareness raising and educational tasks with visitors, along with providing essential support to scientific activity. The technical team and the Wardens Corps are extremely committed to their work, very often implemented under very difficult conditions in the middle of hostile weather and harsh environment and requiring important personal sacrifices, remaining separated from their families for weeks.

Since the award of the European Diploma in 1992, the protection of the Selvagens Islands has significantly improved by:

- improving their legal and administrative instruments and measures;
- implementing measures in Selvagem Grande to successfully eradicate mice and rabbits introduced by the man, so damaging for the terrestrial ecosystem, the endemic plants and the seabird colonies;
- monitoring the natural resources of the islands to improve the scientific knowledge, to early detect negative effects and to follow up the efficiency of management and conservation practices;
- reinforcing staff and material means to improve the work conditions;
- involving the Portuguese Navy in the protection of the Islands, providing wardens and technicians with transport and protection means, in a constructive manner of summing up capacities;
- enhancing the scientific research to feed-back the management and conservation decision-making;
- implementing a sustainable programme for the attention of visitors;
- maintaining excellent relationships with stakeholders, particularly tourism and fisheries, scientists and other official institutions;
- making efforts for a planning process duly ordained, with periodic revisions of the Management Plans
- Improving the conservation levels of all the relevant flora and fauna species

For all these reasons, the current situation of the Selvagens Islands Nature Reserve remains in excellent condition, probably better than at the time of the award of the European Diploma.

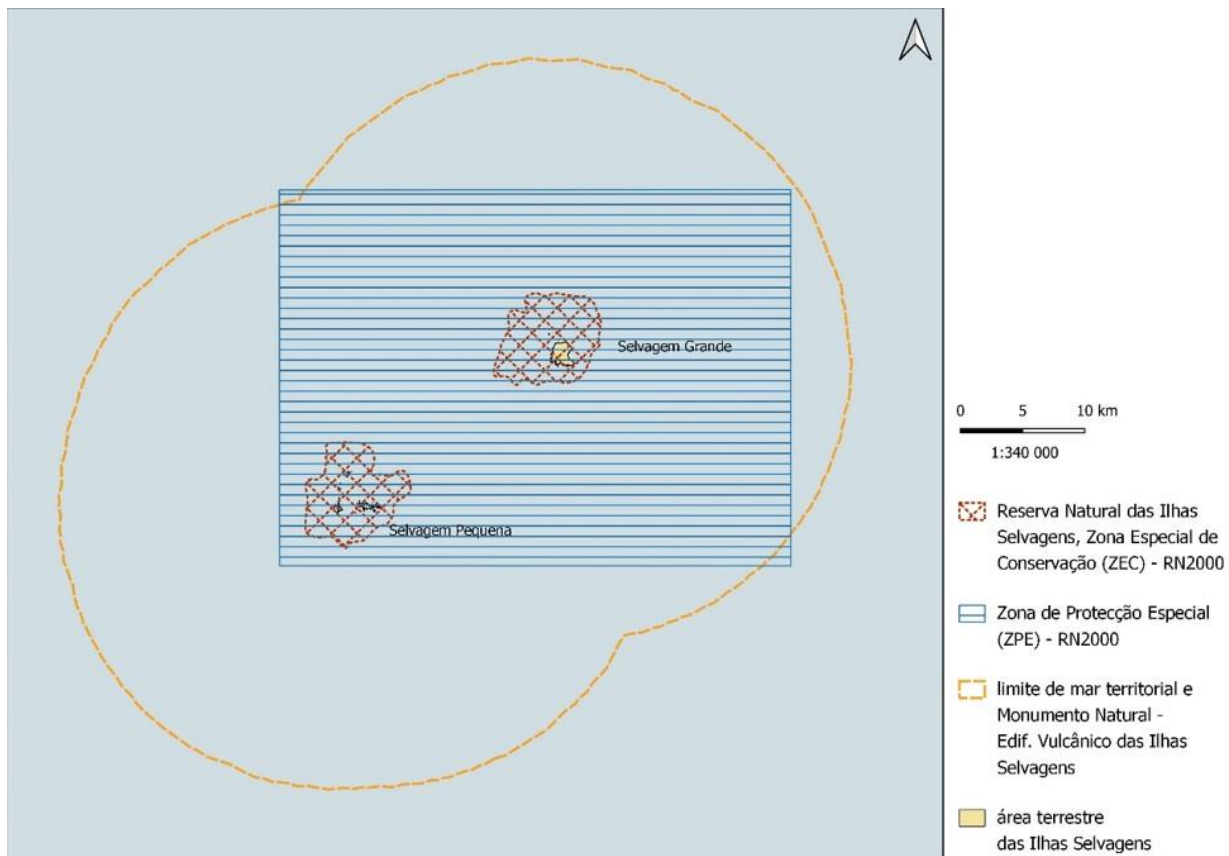
### III. CONSERVATION MEASURES

#### III.1. Legal protection status

Following their purchase in 1971, the Portuguese Government declared protected the Selvagens Islands, firstly as Reserve (Decree-Law 458/71 of 29<sup>th</sup> October) and later as Nature Reserve (Regional Decree 15/78/M), equivalent to category I-a of the IUCN classification of protected areas. The protected area included not only the terrestrial area, but also the maritime bottom, up to 200 meters deep.

This same area was further declared Special Conservation Area under Directive 92/43/EEC (Habitats). A big area comprising both volcanic edifices (Selvagem Grande and the complex Selvagem Pequena + Ilhéu de Fora) was declared Special Protection Area under Directive 79/409/EEC (Birds). Furthermore, the Natural Monument of the Selvagens Islands Volcanic Edifice (category III of IUCN) was created to protect its geological heritage. The limits of the latter are the same as the territorial waters, 12 nautical miles around the two volcanic edifices. In March 2021 the Legislative Assembly of the Madeira Autonomous Region created the Network of Natural Monuments of Madeira, integrating the Selvagens Islands within.

### III.2. Boundaries/zoning/buffer zones



The boundaries of the European Diploma area correspond to those of the Nature Reserve, described above.

The Madeiran authorities are considering the possibility to enlarge the limits of the Nature Reserve from the current 95 km<sup>2</sup> to those of the National Monument, of approximately 2.600 km<sup>2</sup>. This decision will probably be made within the next two years. At present the bottom of the Natural Monument is protected but not the water column. The enlargement would encompass its protection too, since now only the area covered by isobath of 200 meters (covered by the Nature Reserve) is duly protected.

### III.3. Supervision and warding

From the very beginning the need to protect the natural values of the islands from illegal fishing, hunting and culling emerged clearly and the Madeiran authorities created an efficient rotating system of 2 wardens in turns of two or three weeks permanently acting on the islands, supported by the Portuguese Navy. Their presence has been reinforced also with military staff also living in turns in the facilities of the islands.

The detachment of staff for weeks in this remote area is worth to be recognised as essential for the conservation and the security of the area. These wardens are not only responsible for the surveillance, they also make an important job as naturalists, being responsible for obtaining valuable series of monitoring data, field observation, images, etc. and offer an indispensable support to scientists working on the islands. Very often they must carry out their tasks in harsh conditions, loneliness, remoteness, bad weather, storms, etc., being separated from their families and relatives for weeks. These working conditions require a huge commitment and personal sacrifices even though they make it with devotion and dedication.



With regards to the warden staff, an emerging problem seems to require solutions in the short/medium term. The same can be said in relation to the technical team. The staff does not expand whereas the workload increases. New Reserves have been declared and the existing 35 wardens must divide their time among more sites. Moreover, as time goes on, they are getting older and, inevitably, their operational capacity may progressively decrease. It is feared that the effort to maintain the Selvagens Islands under efficient surveillance can, sooner or later, be insufficient if the staff is not duly renewed and reinforced with more and younger wardens.

### III.4. State of conservation of the main species and their habitats.

The available data concerning the number of nesting pairs of seabirds and its evolution are quite heterogeneous. The methods used for estimations, necessarily complicated due to the difficulties to move around the islands and the nocturnal habits of the birds, provide different and sometimes not comparable results. However different experts agree on the opinion that the seabird colonies show stable or even positive trends over time. According to data from the Madeiran authorities, the estimated figures are the following:

- Cory's shearwater (*Calonectris diomedea* subsp. *borealis* = *Calonectris borealis*), about 30.000 pairs, the largest colony of the world
- Frigate petrel or white-faced storm petrel (*Pelagodroma marina*), more than 80.000 pairs
- Bulwer's petrel (*Bulweria bulweri*), about 4.000 pairs
- Madeiran petrel or band-rumped storm petrel (*Hydrobates castro*), about 1.500 pairs
- North-Atlantic little shearwater (*Puffinus iherminieri* subsp. *baroli*), about 2.700 pairs
- Yellow-legged gull (*Larus michahellis*), some 50 pairs
- Common tern (*Sterna hirundo*), more than 60 pairs
- Roseate tern (*Sterna dougalli*), unknown population

The eradication during 2002-2004 of the exotic mammals introduced by the man decades ago, is giving back its original character to Selvagens Islands, where no mammal native species occur. Since then, a Monitoring Programme is underway, in order to follow up the recovery of the vegetation, which is being very active according to the results obtained. The vegetation cover has notably increased, up to three or four times, the soils are more protected and retain water more efficiently. The average number of plant species found in the quadrats increased gradually between 2002 and 2005, from an average of 3,8 to 7,1, becoming significantly higher in 2005. For species like the white-faced petrel (*Pelagodroma marina*) and other seabirds, the area used for nesting has remarkably expanded. The population levels of reptiles have multiplied by 4 or 5.

### III.5. Land use planning

According to the territorial ordinance for the Madeira Autonomous Region (Plano de Ordenamento do Território na Região Autónoma de Madeira - POTRAM), Selvagens Islands are considered "Natural Areas of Forbidden Usage" and "Natural Areas of usage strongly limited".

At national level the area is under the provisions of the National programme of Territorial Management Policy (Programa Nacional da Política de Ordenamento do Território (PNPOT), approved by Law 58/2007.

Insofar as the whole complex belongs to the Madeira Autonomous Region and the Reserve is entirely devoted to the conservation of its natural values, no land use other than this has been necessary. The decisions on the different sectors are made according to the Management Plan of the Nature Reserve.

### III.6. Threats

As any other remote island, the Selvagens Nature Reserve is vulnerable to the arrival of

exotic/invasive species, either by accident, negligence or malice. The authorities and the staff have adopted careful preventing measures to avoid introducing seeds, propagules or small fauna non-native species that could eventually colonise the area.

Natural areas are often raising the interest of tourism business and subject to illegal fishing or hunting, among others. In the Selvagens Islands Nature Reserve these situations are under control, thanks to the efforts of surveillance and the dialogue between managers and the local economic sectors. Uncontrolled speedboats from Canarias or the Madeira Islands sometimes arrive to the Reserve for different purposes, but they are efficiently detected and prosecuted. There are no major conflicts with these activities thanks to an efficient control by wardens supported by the Portuguese Navy and military staff.

During the survey made in 2016 along with the National Geographic Society and other partners, microplastics were found in 85% of the samples obtained from the water column. This is a global process, not linked to the management of the Reserve and beyond the control of its administrators, but the evolution of their concentration and the effect on the biodiversity should be subject to permanent surveillance under the Reserve's monitoring plan.

In general, the Selvagens Islands Nature Reserve is very well preserved and managed by the authorities. No major threats have been identified, since there is no exploitation of resources like hunting or fishing (except artisanal tuna fishing with fishhook), the tourism is pretty well regulated and the management measures are working properly. The Madeiran society feels proud of their nature. Some stakeholders feel that the Selvagens Islands are a very important touristic resource and that the model should be revised, since the presence of people is strategic but always in a sustainable way. Tourism and fishermen sectors are involved in the decision-making process and for the time being there are not major conflicts of interest threatening in the short and mid-term the conservation of the Selvagens Islands Nature Reserve.

## IV. MANAGEMENT

### IV.1. Management Plan

The Management Plan of the Selvagens Islands Nature Reserve has recently been revised. Some changes occurred recently in the Portuguese and the Madeiran legislation and the Management Plans of the different protected areas will have to be adapted accordingly. However, as the Management Plan of Selvagens Islands Nature Reserve is quite recent, it will probably be among the last to be modified.

### IV.2. Institutional responsibility

The authorities responsible for the Reserve conservation and management are under the responsibility of the Madeira Autonomous Region, more specifically under the *Instituto das Florestas e Conservação da Natureza* IP-RAM (Institute of Forests and Nature Conservation - IFNC) of the Regional Secretary of the Environment, Natural Resources and Climate Change.

### IV.3. Capacities

The management of the Protected Areas of Madeira is based on a network model; thus, the staff is not assigned to only one Protected Area. Having said that, the Selvagens Islands Nature Reserve is directly coordinated by a Biologist who manages the work of Nature Wardens on duty. This biologist is supervised by the Head of the Nature Conservation Division. The Nature Wardens work in teams of two members each, who alternate every 15 days. In addition, they are frequently joined by other IFNC staff depending on the research, monitoring or equipment maintenance requirements and needs that are to be carried out.

Besides these, there are many researchers (mainly ornithologists, botanists, biologists and geologists), biology and geology students and volunteers, both nationals and foreigners, who seek out this Reserve, not only to do their work, but also to join the work of the teams of the managing entity.

#### IV.4. Budget

The managing entity, Instituto das Florestas e Conservação da Natureza IP-RAM (IFNC), annual budget, including staff (n=334) costs, is of about 11.5 M€ and is based on two income sources: government allocation and own revenues. This amount covers the salaries of employees and expenses incurred in the management of all areas allocated to the IFNC, as well as programmes for the conservation of endangered species. In total, about 5% of IFNC's total budget is allocated each year to the management of the Selvagens Islands Nature Reserve.

#### IV.5. Research and Monitoring Programmes

In September 2015 in the framework of a cooperation between the National Geographic Society – Pristine Seas, the University Institute of Portugal ISPA, the Waitt Institute, the University of Western Australia and other partners, a survey of the ecological conditions of the Selvagens Islands was conducted. Special emphasis was made on the deep sea and the open ocean, which was quite poorly known. As a result of that, a chapter on the islands was produced by National Geographic Channel and a scientific report with the main findings was released in 2016. This study provided valuable scientific information on different topics:

- The nearshore showed to be in very good state of conservation, without symptoms of overfishing
- The intertidal community was found to be healthy with abundant grazer molluscs which help to reduce the macroalgal overgrowth;
- Fish species richness is not very high, but the biomass is very important, since the average size is quite higher than in other similar areas;
- The islands seem to be an important site for the migration of whales, of sea turtles (particularly the loggerhead *Caretta caretta*) and of pelagic fishes;
- The sampling in search of microplastics showed the presence of this pollutant in 85 % of the samples, even in such a pristine habitat.

The Portuguese authorities are planning a second expedition following the same procedures, in order to compare the results with those obtained in 2015. It was foreseen for 2020, but it could not take place because of the pandemic. Hopefully, it will be conducted at the end of 2021.

Some studies have been made under the M@rbis (Marine Biodiversity Information System) project (2010). Its main objective is the cataloguing of the marine biodiversity. These results contribute to a better understanding of the marine fauna of the Selvagens Islands. The M@rbis database holds ca. 15,000 biodiversity records, at least 100 of which are new records for the area. Eventually ca. 20 species are new species to science, not yet described. The preliminary results of these studies confirm the presence of very diverse pristine communities, representative of the Macaronesian marine habitats, which can't be found elsewhere in the world.

Other monitoring activities underway are the following:

- A laboratory for seabird research, with the most detailed ongoing combined study of migration and demography on a long-lived seabird, Cory's shearwater *Calonectris borealis*, in the entire world, providing unique insights into the factors affecting inter-individual and temporal changes in migratory patterns and their consequences for demography. This long-term study also provides

unique information about the responses to a top predator to environmental changes (including fisheries and climate change) in the sub-tropical Atlantic Ocean;

- Ongoing studies on Macaronesia White-faced storm petrel *Pelagodroma marina hypoleuca*, Macaronesia Audubon's shearwater *Puffinus lherminieri baroli*, Band-rumped storm-petrel *Hydrobates castro*, Bulwer's petrel *Bulweria bulwerii* and yellow-legged gulls *Larus michahellis*;
- Ongoing studies on Berthelot's pipit *Anthus bertheloti bertheloti*;
- Ongoing studies on endemic reptiles *Tarentola bischoffi* and *Teira dugesii selvagensis*;
- Ongoing studies on flora.

#### IV.6. Relationship between the Reserve Administration and other stakeholders

As explained in the introduction, the appraisal report is not based on an on-the-spot visit, due to the sanitary restrictions. Instead, a set of four on-line meetings have been organised with the management authorities and the local stakeholders:

- 11<sup>th</sup> May 2021 – Internal stakeholders
- 18<sup>th</sup> May 2021. Advisory Committee
- 19<sup>th</sup> May 2021 (morning). Official entities
- 19<sup>th</sup> May 2021 (afternoon). Scientific community and NGOs

The participants and the respective agendas are fully detailed in the Annex to this report.

The participants showed a very good and constructive willingness, revealing good relationship with the managers of the Reserve. They provided a lot of useful information that has allowed to obtain a quite clear idea of the situation in the Selvagens Islands Nature Reserve. The main issues raised were the following:

##### **Main impacts and threats.**

- The common impression is that there are not major causes of deterioration nor threats in the short term.
- The tourism is well regulated, since the sector considers that the Reserve is a valuable touristic resource but they are aware that it is quite fragile and must be implemented with caution.
- Fishing is forbidden (except tuna fishing with fishhook) and the professional sector accepts this restriction, since it is aware that the Reserve plays a good role as nursery for species they catch in nearby areas.
- The illegal fishing by fleets from the Canary Islands must continuously be under surveillance

##### **Natural resources.**

- The Selvagens Islands Nature Reserve is, by far, the area which maintains the highest conservation standard of the Macaronesian Region, since the human impact has historically been very limited and remains as a pristine and nearly untouched ecosystem;
- The impact of the mammals introduced by the man, particularly by mice, has been very intensive, as can now be assessed by the changes identified after their eradication.
- A new survey of biodiversity will shortly be carried out, in order to compare the results with those made in 2002 and 2015, the latter with the National Geographic Society.
- The survey made in 2015 showed to what extent the area between 400 and 600 meters deep is important for juveniles of many marine species.

- The Reserve has not large areas with suitable habitats for permanent groups of marine mammals. However, it is crucial for their migration.
- The conservation status of pelagic species depends to a great extent on the protected areas existing in the polygon Canary Islands – Mauritania – Madeira – Azores. Seabirds mostly feed on the fishing grounds of the African coast.
- There are evidences suggesting that Selvagens Nature Reserve may be of great importance for the threatened green turtle (*Chelonia mydas*);

#### **Enlargement of the Nature Reserve**

- Most participants were in favor of the enlargement that the Portuguese authorities are considering. The limits of the Nature Reserve would be expanded to those of the Natural Monument. This would be very positive for the conservation of a huge marine area and particularly for migrating species.
- However, some of them were cautious regarding the need to correctly evaluate the consequences and the scale of the new needs that would arise in terms of management resources.
- This situation would also require an important reflection regarding the regulation of the fishing activity in the enlarged area.

#### **IV.7. Public services including waste management**

Garbage produced in the island is periodically collected by the Administration responsible for the management and dropped in authorised rubbish dumps. A new facility for the treatment of waste waters has been recently installed in the lodge at Selvagem Grande, along with more modern communication systems of different types.

#### **IV.8. Use of renewable energy systems**

The facilities of the lodge existing in Selvagem Grande are provided with clean energy systems, basically solar panels, recently increased, engine generator and batteries, periodically maintained.

### **V. USES AND SOCIO-ECONOMIC ACTIVITIES**

#### **V.1. Exploitation of natural resources**

Selvagens Islands Nature Reserve is owned by the Portuguese State, so that it is a public property and it is not subject to exploitation of any kind. It is devoted exclusively to the conservation of its rich geodiversity, biodiversity and ecosystem services.

At present, since 2008, all fishing activity, except tuna capture with fishhook since 2018, is forbidden due to the presence of ciguatera, a biotoxin very dangerous for human health.

#### **V.2. Tourism and leisure activities**

The Management Plan contains some regulations regarding the tourism that can be developed in the islands. It is not allowed staying more than one night in Selvagem Grande. Some daily visits can be made for groups of 12 persons maximum accompanied by one guide. The cost is quite high and this factor is deterrent for most common tourists. Only specialists that can afford the costs of birdwatching or diving can approach the islands under these conditions.

Small cruises with 80 to 100 persons operated by companies from Madeira that know the rules, are also allowed to approach the Selvagens Islands.

### V.3. Education and awareness raising

The attention of visitors allowed to enter the islands rely on the wardens on duty. They explain the natural values of the Reserve and help them to comply with the rules to avoid the introduction of non-native species, which is crucial for the conservation of the islands.

There are initiatives to improve citizens' knowledge of the Reserve:

- A documentary is under preparation
- A new leaflet is being drafted
- The IFCN and the Municipality of Funchal receives petitions from schools to develop awareness raising activities, like talks on biodiversity (one of them specific on Selvagens) and exhibits.
- The Funchal Natural History Museum publishes many articles in its magazine and on its Bulletin
- The European Diploma logo is exhibited in all the materials produced and in the web pages

### V.4. Vessel traffic and public access

The authorised vessels and people are strongly regulated by the management authorities. The limitation is so important that the traffic is really restricted and related to tourism (see section V.2), scientific research and authorities.

### V.5. Hunting/fishing

Since the purchase of the islands by the Portuguese Government in 1971 and its declaration as Reserve, hunting and culling of seabirds has been forbidden, along with any extractive activity in land. Fishing was strictly controlled and only sustainable and artisanal fishing was allowed, (e.g., tuna capture with fishhook). At present, since 2008, all fishing activity, except tuna fishing since 2018, is forbidden due to the presence of ciguatera, a biotoxin very dangerous for human health.

### V.6. Human occupation

The Selvagens Islands were discovered in the XV Century and since then many attempts of human occupation have failed. The lack of water and the rough environment prevented it time after time.

A major strategy decided by the Portuguese authorities to maintain a high level of protection in Selvagens Islands Nature Reserve since its creation has been the continuous presence of wardens and military staff to avoid illegal activities that until then took place over time. For that purpose, a lodge linked to the managerial activity under the responsibility of the nature conservation authorities was built in Selvagem Grande to allow the presence of the surveillance teams and this is the only place where human occupation exists.

There is also a private house from Zino's family, who has a fundamental contribution to nature conservation and Selvagens Islands protection since 60's.

### V.7. Cultural heritage

Some remains of the historic attempts to allow the settlement of people in the islands can be found, like rubber walls constructed to facilitate some elementary agriculture and water catchment. These walls have shown to be useful for nesting seabirds and for that reason they have been reconstructed by the management authorities.

There are other testimonies of human occupation, like an oven to obtain soda from the plant locally called “barrilha” *Mesembryentemum cristallinum* and *M. nodiflorum*. Other remains like a tank and some channels can also be found.

## VI. CONNECTIVITY OF THE AREA

### VI.1. Ecological connectivity with other areas

The Selvagens Islands Nature Reserve is located in a remote area. Their fauna and flora species are related mostly to the biota of the Canarias Islands, since they share the continental platform and are distant from about 180 km. It also is related to the Madeira and Desertas Islands, located quite farther than the Canarias (nearly 300 km). For the oceanic fauna and flora, Selvagens must play a key role, especially during their movements like migration, dispersion, etc. and also as shelter during storms, hurricanes, etc. No ecological nor human-made barriers prevent such free movements of wildlife.

### VI.2. Other forms of recognition awarded

Besides the European Diploma and the national categories of protection under the Portuguese and/or Madeiran legislation (Nature Reserve and Natural Monument) Selvagens Islands Natural Reserve has also been designated under the international legislation and Conventions as:

- Important Bird and Biodiversity Area (IBA) by BirdLife International
- Special Protection Area (SPA) under Directive 79/409/EEC of 2<sup>nd</sup> April, on the conservation of wild birds, replaced by Directive 2009/147/EC, of the European Parliament and the Council, of 30<sup>th</sup> November
- Special Conservation Area (SCA) under Directive 92/43/EEC, of 21<sup>st</sup> May, on the conservation of natural habitats and of wild fauna and flora
- Tentative List of the UNESCO World Heritage Convention, as candidate for Natural Site: <https://whc.unesco.org/en/tentativelists/6217/>

## VII. IMPLEMENTATION OF PREVIOUS CONDITIONS AND RECOMMENDATIONS

When the European Diploma was renewed in 2012, Resolution CM/ResDip(2012)4, set one condition and six recommendations. In the absence of an ordinary appraisal visit for the reasons already stated in the introduction, **according to the information collected during the online meetings and from relevant sources**, the undersigned expert could draw the following conclusions:

**Assessment of CONDITION 1** – *The Portuguese Government continues to take the necessary steps to preserve the current islands status of the Selvagens Islands and to unequivocally support the Madeira Regional Government in all matters concerning the nature reserve, in accordance with the provisions of Act n° 15/86 of 21<sup>st</sup> May 1986.*

The different legislative, administrative and managerial measures taken in a coordinated way by the authorities, both at national and at regional level, have been addressed so as to maintain and even improve the good conservation status of Selvagens Islands Nature Reserve. The condition has, therefore, been **fulfilled**.

For the ongoing renewal, although there is no evidence that this situation may change in the medium term, **this condition should be maintained**.

**Assessment of RECOMMENDATION 1** – *Continue to take all precautions to ensure that non-native species of plants and animals are introduced*

A number of regulations and procedures are regularly adopted by the staff and visitors landing at the islands, in order to avoid the inadvertent introduction of small fauna, flora, seed or propagules of exotic invasive species.

The **Recommendation 1** has, therefore, been **fulfilled**.

This is a permanent threat and, consequently, for the ongoing renewal **this recommendation should be maintained or even reinforced**.

**RECOMMENDATION 2** – *Continue to improve the accommodation and the radio/phone system which provides the capacity for Wardens to contact their authorities in Madeira and their families*

New equipment of radio, satellite and mobile phone coverage has been recently installed in the Selvagem Grande lodge to improve the quality of and facilitate the communication between the wardens and/or military staff with their respective authorities or their families when on periodical duty on the islands.

The **recommendation 2** has, therefore, been **fulfilled**.

For the ongoing renewal **this recommendation should be maintained or reinforced in the sense of keeping up-to-date the equipment with the new communication technologies, when available**.

**RECOMMENDATION 3** – *Continue the studies to survey the effect of eradication of the alien species of the flora and fauna for the next few years*

Many studies and monitoring measures have been undertaken to demonstrate that the eradication of mice and rabbits has been fully successful and that the vegetation has increased its coverage, allowing a higher soil moisture, a better protection of the soil against wind erosion and more species registered.

The **recommendation 3** has, therefore, **been fulfilled**.

This is an extremely interesting case-study and, thus, for the ongoing renewal **this recommendation should be maintained**.

**RECOMMENDATION 4** – *Make efforts to eliminate the breeding of the yellow-legged gull (*Larus michahelis atlantis*) on Selvagem Pequena and Ilheu de Fora*

Yellow-legged gulls are a problem for the survival of endangered seabirds or coastal species when the site lies close to fisheries and garbage dump plants, since this is the basic feed resource for this opportunistic species. However, in Selvagens Islands the fishing fleets are very far away and there are not relevant unlimited sources of food. For that reason, the number of pairs of yellow-legged gulls is quite low and no specific management measures are taken to maintain this level.

The **recommendation 4** has, therefore, **been fulfilled**.



For the ongoing renewal **this recommendation should be dropped or reformulated, at most maintaining a close monitoring of their breeding sites, within the frame of the common monitoring of the area.**

**RECOMMENDATION 5** – *Increase the awareness of the importance of the geological heritage*

A new attractive leaflet with details of the main geological values of the islands has been published.

**The recommendation 5** has, therefore, **been fulfilled.**

For the ongoing renewal **this recommendation should be maintained**

**RECOMMENDATION 6** – *Continue the programme of reconstruction of the remaining unrestored rubble walls.*

One of the tasks of wardens on duty on the islands was the reconstruction of the rubble walls and the follow-up of the use made by the nesting seabirds. The task has been completed.

The recommendation 6 has, therefore, **been fulfilled.**

These constructions need periodical maintenance and, consequently, for the ongoing renewal **this recommendation should be reformulated in these terms.**

## FINAL APPRAISAL

The preliminary conclusion of the undersigned expert is **to recommend the renewal of the European Diploma for Protected Areas to the Selvagens Islands Nature Reserve for 5 years, unless a physical on-the-spot appraisal visit can take place since the area is of exceptional European interest and it is managed in an exemplary way.**

For the renewal of the European Diploma to Selvagens Islands Nature Reserve **the following condition and recommendations are proposed:**

**CONDITION:** *The Portuguese Government should continue to take the necessary steps to preserve the current islands status of the Selvagens Islands and to unequivocally support the Madeira Regional Government in all matters concerning the nature reserve, in accordance with the provisions of Act nº 15/86 of 21<sup>st</sup> May 1986.*

**RECOMMENDATION 1:** *Revise and reinforce, if necessary, all precautions to ensure that non-native species of plants and animals are introduced in the Reserve;*

**RECOMMENDATION 2:** *Continue to improve the accommodation lodge and the communication systems of the Reserve with the new technologies available, in order to increase the capacity for wardens and military staff to contact their authorities in Madeira and their families; Consider increasing the number of solar panels to reduce the dependence on the generator;*

**RECOMMENDATION 3:** *Include in the Monitoring Programme the follow-up of a selected number of parameters, not only to survey the effect of the eradication of the flora and fauna alien species, that must be continued, but also to establish monitoring protocols scientifically validated to generate long series of data allowing the comparison among different timeframes in a changing scenario. This recommendation includes the definition of specific census methods stable over time, providing reliable datasets that, when analysed, provide trustworthy information on the evolution, fluctuations and trends of the seabird colonies, including specific attention to possible rising of the yellow-legged gull population and the evolution and effect on the biodiversity of the microplastics;*

**RECOMMENDATION 4:** *In order to mitigate possible risks and hazards related to climate change and possible large-scale disturbances on the Reserve (like contamination, changes of the rainfall and/or temperature annual patterns, invasive alien species, frequency of extreme events, etc.), reinforce the existing Monitoring Programme with new technologies like remote sensing, satellite, drones, etc. to follow-up indicative parameters allowing: i) assessing the effect of the climate change in the Selvagens Islands, ii) early detection of undesirable consequences on species, ecosystems and ecological functions, iii) characterising the rate of changes (if any) and iv) predictive models that could be of help to anticipate possible management needs;*

**RECOMMENDATION 5:** *Considering the vital role of the staff responsible for the surveillance of the Reserve, and the difficult conditions in which they often must carry out their tasks, enlarge and reinforce the warden staff, providing opportunities and offering incentives to young naturalists to join the Warden Corps and to learn from the experienced current wardens, allowing a smooth transition between the generation on duty and the one that would replace it, without losing their knowledge;*

**RECOMMENDATION 6:** *Maintain the dialogue with the economic sectors of the region, namely with the actors of the tourism, in order to not increase the impact of people in a so delicate and vulnerable ecosystem, putting in practice the new resources and technology to maintain the necessary restrictions*

*combined with the better understanding by the citizens of the natural values of the Reserve; envisage drafting a tourism strategy to ensure a sustainable balance between showcasing the natural assets of the islands and the control over the touristic frequentation;*

**RECOMMENDATION 7:** *Along with the enlargement of the Nature Reserve to the boundaries of the Natural Monument, consider the extension of the area awarded the European Diploma and the protection of the whole water column between the water surface and the deep bottom. The Management Plans of the different existing protection categories should subsequently be harmonised;*

**RECOMMENDATION 8:** *Consider making the scientific data collected over the years available to the public;*

**RECOMMENDATION 9:** *Increase the awareness of the importance of the geological heritage;*

**RECOMMENDATION 10:** *Revise and maintain in good condition the restored rubble walls and reconstruct the unrestored (if any).*

## ACKNOWLEDGEMENTS

The undersigned wishes to warmly thank the contribution of Mr. Paulo Oliveira, Marc Hory and Helena Orsulic, for their efforts in the organisation, development and facilitation of the successful on-line meetings held to replace, as far as possible, the on-the-spot appraisal visit that, for the time being, is still to be made, if the sanitary conditions allow it.

I would also like to express my appreciation to all the participants in the four on-line meetings with different stakeholders, in which all of them honestly manifested their opinions on the different issues raised during the conversations. It was vital for a comprehensive understanding of the real situation of the Selvagens Islands Nature Reserve, even without having been there.

I particularly appreciate the presence and the contribution of Carolina Santos, Dilia Menezes and Luisa Gouveia during the meetings and also for the revision of the manuscript, along with Paulo Oliveira, who made excellent observations to improve the quality of the information contained in the report.

Finally, I would very much like to highlight the excellent work implemented by wardens, technicians, ancillary staff and military staff in maintaining in a so excellent state of conservation this wonderful Nature Reserve. So many different institutions working together with a single aim is simply a matter of admiration and recognition. The involvement of the economic actors in the conservation of the Selvagens Islands Nature Reserve, tourism, fishing, etc, deserves also warm recognition.

Granada, Spain, 12<sup>th</sup> August 2021  
Blanca Ramos  
Conservation Biologist

## ANNEX I

### LIST OF PARTICIPANTS AND AGENDA OF ONLINE MEETINGS

All meetings were organised and attended by Marc Hory and Helena Orsulic, (Bern Convention Secretariat), Paulo Oliveira (Member of the Board of Directors of the Instituto das Florestas e Conservação da Natureza IP-RAM (IFCN, Institute of Forests and Nature Conservation) and the undersigned. Mr. Robert Brunner, independent expert, attended as observer. The participants to the different meetings were the following:

#### **11<sup>th</sup> May 2021 – Meeting with internal stakeholders**

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##### **Participants:**

- Luisa Gouveia - Director of Services of Management and Valorization of Green Spaces and Protected Areas of the IFCN
- Dilia Menezes - Head of Division of Management and Valorization of Protected Areas of the IFCN)
- Carolina Santos - Coordinator of Selvagens Islands Nature Reserve

##### **Agenda:**

1. Fulfilment of the condition and the recommendations
2. The tourism as source of incomes and of potential threat
3. The Reserve Management Plan
4. Commercial activity around the islands. Is poaching a current threat?
5. Limits of the Reserve and of the rest of protection categories and international awards
6. The situation of the staff

#### **18<sup>th</sup> May 2021 - Meeting with the Advisory Committee**

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##### **Participants:**

- Barbara Spinola - Head of Information Services and Tourism Projects of the Regional Body responsible for the Tourism and Culture
- Francis Zino - Associate investigator of the Funchal Museum of Natural History
- João Batista - Geologist engineer and researcher at the GeoBioTec Research Unit; founder and director of Madeira Rochas - Scientific and Cultural Disclosures and of EnGeoMad - Geoengineering and Consultancy.
- João Canning-Clode - Principal Investigator at MARE - Marine and Environmental Sciences Centre and ARDITI - Agência Regional para o Desenvolvimento da Investigação Tecnologia e Inovação
- José Jesus - University of Madeira docent and investigator; course Director of the Master's Degree in Ecotourism at the University of Madeira
- Manuel Biscoito - Head of the Funchal City Hall Science Department
- Susana Fontinha - Deputy Regional Secretary for Environment, Natural Resources and Climate Change
- Luis Miguel Moura de Sousa - Head of Association of Municipalities in the Autonomous Region of Madeira
- Paulo Santos - Journalist and Biologist
- Luisa Gouveia - Director of Services of Management and Valorization of Green Spaces and Protected Areas of the IFCN
- Dilia Menezes - Head of Division of Management and Valorization of Protected Areas of the IFCN)
- Carolina Santos - Coordinator of Selvagens Islands Nature Reserve

**Agenda:**

1. Are there threats affecting the area?
2. Waste management
3. Maintenance of infrastructures
4. Awareness and educational activities
5. Situation of the staff: greatly committed
6. Limits of the Reserve and of other categories of protection and international awards

**19<sup>th</sup> May 2021 - Meeting with official entities**

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**Participants:**

- Pedro Sepúlveda - Regional Body responsible for the Environment and Climate Change
- João Rodrigues - Head of the Regional Body responsible for the Youth, Madeiran windsurfing world top athlete and ambassador of the 40th anniversary celebrations of Selvagens Islands Natural Reserve
- Mafalda Freitas - Head of the Regional Body responsible for the Sea
- Nuno Gouveia - Head of the Fisheries Inspection Service Direction of the Regional Body responsible for the Fisheries
- José Luís Guerreiro Cardoso - Commander of the Madeira Maritime Zone
- Luisa Gouveia - Director of Services of Management and Valorization of Green Spaces and Protected Areas of the IFCN
- Dilia Menezes - Head of Division of Management and Valorization of Protected Areas of the IFCN
- Carolina Santos - Coordinator of Selvagens Islands Nature Reserve

**Agenda:**

1. Protection status of the area
2. Human and financial resources of the Nature Reserve and possible consequences of the pandemic
3. Plans regarding the land use in the Reserve
4. Concerns related to climate change
5. Coherence of the limits of the Reserve

**19<sup>th</sup> May 2021 - Meeting with the scientific community and NGOs**

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**Participants:**

- José Pedro Granadeiro - Ornithologist and investigator of the National Museum of Natural History of the University of Lisbon
- Luís Freitas - Coordinator of the Science Unit of the Madeira Whale Museum
- Manuel Nogales - Investigator of the Spanish National Research Council
- Thomas Dellinger - University of Madeira docent and investigator of the Centre for Macaronesian Studies of the University of Madeira
- Emanuel Gonçalves - Biologist representing the Oceano Azul Foundation
- Cátia Gouveia - Regional Coordinator of the Society for the Study of Birds
- Luisa Gouveia - Director of Services of Management and Valorization of Green Spaces and Protected Areas of the IFCN
- Dilia Menezes - Head of Division of Management and Valorization of Protected Areas of the IFCN
- Carolina Santos - Coordinator of Selvagens Islands Nature Reserve

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**Agenda:**

1. Research and monitoring programmes planned, in particular regarding IAS and Climate Change
2. State of conservation of the main species and habitats. Effectiveness of conservation measures
3. What about whales?
4. Exporting knowledge and experience gained in Selvagens management and conservation