Status of Antarctic Specially Protected Area No. 144, Chile Bay (Discovery Bay)

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***Summary***

The Analysis of Antarctic Specially Protected Area No. 144, Chile Bay (Discovery Bay), carried out by Chile, concluded that, having completed the benthic fauna research programme and determined that its special interest as a control area for fauna restoration at Port Foster is no longer valid and that the research has not indicated the significant presence of other values that support continuing with its special protection, Chile suggests that the CEP cancel the additional protection of the Area as an ASPA.

***Background***

In 1967, Chile initiated a program to study the benthic fauna of the South Shetland Islands in Chile Bay (Discovery Bay), Greenwich Island. Following the volcanic eruption in Deception Island in December of that year, it was decided that the benthic studies would be focused on Port Foster. Later on, it was decided that Chile Bay (Discovery Bay) should be maintained as a reference and comparison site for the studies developed by Chilean researchers on Deception Island.

Under Recommendation XIV-5 (1987), considering the proposal submitted by Chile, Chile Bay (Discovery Bay) on Greenwich Island was designated as a Site of Special Scientific Interest (SSSI) No. 26. In accordance with Decision 1 (2002), the Area was renamed Antarctic Specially Protected Area, ASPA, No. 144. The Area designation was meant to protect the marine biological values present in it, mainly to conduct scientific activities and for comparison with the recovery and development of the benthic fauna in Port Foster, Deception Island.

In 2012, Chile submitted to the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR), a revision of the Management Plan for ASPA No. 144, which was also submitted for the consideration of the Committee for Environmental Protection (CEP). The document was accepted by the CCAMLR Scientific Committee and the Convention, while the management plan was forwarded to the CEP Subsidiary Group on Management Plans.

Chile continued to assess the status of the values protected in the Area, at CEP XXI in 2018 presenting working document WP 11, which reported the main results of the analysis of ASPA 144, and informative document IP 9, which provided the details of the analysis carried out on the current state of the Area.

With these documents, Chile informed its determination that the original designation of the ASPA be cancelled, considering that the original proposal as a control area for the repopulation studies at Port Foster, Deception Island, was no longer valid since they are actually different environments, and that due to the end of the ongoing research programme to provide a baseline for long-term research and the low level of activity in the Area, the values for which it was originally designated are not at risk, recommending that the Committee assess the need to continue protecting this Area as an ASPA.

The Committee recalled on that occasion that an offer had previously been accepted for Norway to lead the development of guidelines and criteria for the elimination of ASPAs, a proposal that they expected to present at the following meeting for consideration by the CEP. It further indicated that it would be appropriate to suspend the SGMP’s consideration of the Management Plan, pending further discussion and decisions regarding a possible revocation of the Area.

Given that during CEP XXIII, the Committee approved the Guidelines for de-designation of ASPAs (Appendix 3 to the Report of CEP XXIII), Chile then presented their progress in the analysis of the current state of the area through IP 127 and IP 128 at CEP XXIV (2022). At said meeting the Committee recognised that de-designation of ASPAs was an important topic that required careful consideration, in view of which Chile has reinforced its analysis of the state of Chile Bay, which it has included in a new IP and the conclusions from which are presented in this WP.

***Results***

Chile Bay (Discovery Bay) is located in the southwestern sector of Greenwich Island, South Shetland Islands. The entire bay comprises an area of about 25 km2, from the intertidal line to a depth of 200 m. For its part, ASPA 144 comprises an area of about 0.66 km2, with two sub-sites between 50 and 200 m depth.

Its designation was based on the benthic research that Chile had been carrying out continuously since 1967, which provided a baseline for long-term research and its usefulness as a control area with respect to the study of the restoration of benthic fauna at Port Foster, Deception Island, after the volcanic eruption of December 1967.

The area was analysed based on the Checklist to assist in the inspection of Antarctic Specially Protected Areas and Antarctic Specially Managed Areas, the Guidelines for implementation of the Framework for Protected Areas set forth in Annex V of the Protocol on Environmental Protection to the Antarctic Treaty and the Guidelines for de-designation of ASPAs. The most relevant results are:

1. The quantitative and qualitative benthic research to provide a baseline ended in the 1990s and its special interest as a control area for the re-establishment of benthic fauna is no longer valid according to the research carried out. The scientific data indicates that environmental instability at Port Foster has allowed the equal and parallel development of a large number of species with regular changes in the composition of the dominant species, which has maintained low diversity and homogeneity values and high dominance values, conforming the structure of this type of environments that have been altered by volcanic influence, while Chile Bay maintains a typical structure of areas with stable environments, with a high species diversity, high homogeneity and low dominance.
2. Chile Bay is considered a highly productive system during the austral summer, exhibiting seasonal changes in bacterial and plankton communities. The vertical temperature distribution is clearly stratified, with values above 0ºC and up to 2.0ºC. Salinity is also stratified, with values between 32.5% and 34.2%. Although the mixture of the water column is very dynamic due to the strong winds that lash this coastal area, the glacial melt in Chile Bay seems sufficient to establish a slight stratification in the first five metres of the water column.

The area presents the typical structure of areas with a stable environment, with a high specific diversity, high homogeneity and low dominance. Both benthic habitats (subsites) present a high diversity of species and biomass. Seabed topography and sediment characteristics influence community structure and distribution patterns.

The benthic fauna present at the subsites is dominated by polychaetes, bivalve molluscs, crustaceans and pycnogonids. Subsite A, is dominated by bivalves *Yoldia eightsii* and *Eudorella gracilor* as the characteristic fauna. Subsite B is located on the outer part of the bay and is dominated by polychaetes *Maldane sarci antarctica*, especially below a depth of 100 m. Other characteristic species are *Genaxinus bongranii*, *Cyamonactra denticulum*, *Typhlotanais greenwichensis* and *Pycogonida* spp.

A review of the scientific data available provides no conditions of Chile Bay that may significantly differentiate it from other nearby soft-bottom bays or that may make it particularly unique or of special scientific interest.

1. Chile Bay (Discovery Bay), on the other hand, is not a regular site for tourist visits, so the vessels that arrive in the area correspond mainly to those of the National Antarctic Programmes carrying out activities in the area (Chile and Ecuador), although it may sometimes receive visits from boats heading to the Aitcho Islands or Yankee Bay. Neither is it an active area for fishing vessels operating in CCAMLR sub-area 48.1.

***Recommendation***

Taking into account that:

* The continuous research programme on benthic fauna has ended,
* the protected area of Chile Bay (Discovery Bay) was of special interest as a study control for Port Foster, Deception Island, but the scientific data indicates that the sites present different population structures and environmental conditions, which means that they are not comparable;
* An analysis of the scientific literature on Chile Bay does not indicate the significant presence of new values that are particularly singular or of special scientific interest;
* The area has been subjected to a low degree of human interference, therefore it is considered that the values for which the Area was originally designated are not threatened and that its permanence under the general protection of the Environmental Protocol is appropriate to safeguard the values it holds.

Chile suggests that the CEP remove the designation of Antarctic Specially Protected Area ASPA 144, Chile Bay (Discovery Bay).