Management Plan

For Antarctic Specially Protected Area No. 120 POINTE-GÉOLOGIE ARCHIPELAGO, ADÉLIE LAND

Jean Rostand, Le Mauguen (formerly Alexis Carrel), Lamarck and Claude Bernard islands, Bon Docteur nunatak and emperor penguin breeding site

Introduction

The Pointe-Géologie archipelago, in Adélie Land, is made up of 8 main islands grouped together over less than 2.4 km², about 5 km from the Antarctic continent. Petrel Island, the largest of these islands, is home to the French scientific station Dumont-d'Urville (66° 39' 46" S, 140° 0' 07" E).

This archipelago is unique in that it hosts the reproduction of eight of the nine species of birds that nest on the coasts of the Antarctic continent, as well as one of the four species of seals endemic to Antarctica. Among these 8 species of birds, 4 belong to the *Procellariidae* family, 2 to the *Spheniscidae* family, 1 to the *Stercorariidae* family and finally 1 to the *Hydrobatidae* family. Most notable is the presence of emperor penguins, an emblematic species of Antarctica, whose winter colony is located a few hundred meters from the Dumont-d'Urville base.

Four islands, a nunatak and the emperor penguin breeding site were classified in 1995 (ATCM XIX Measure 3) as an Antarctic Specially Protected Area on the basis that they constituted a biologically, geologically and aesthetically representative example of terrestrial Antarctic ecosystems.

Resolution 3 (2008) recommended that the Environmental Domains Analysis for the Antarctic Continent serve as a dynamic model for the identification of Antarctic Specially Protected Areas (see also Morgan et al. 2007). According to this model, ASPA 120 falls under environmental domain L (continental coastal-zone ice sheet).

Resolution 6 (2012) also recommended that "Antarctic Conservation Biogeographic Regions" should be used in conjunction with the analysis of environmental domains to qualify the regions where ASPAs are established and thus to respond to the notion of systematized environmental and geographical framework referred to in paragraph 2 of article 3 of Annex V of the Protocol to the Antarctic Treaty regarding protection of the environment. Thus, the Pointe-Géologie archipelago is linked to the Antarctic Conservation Biogeographic Region No. 13 "Adélie Land" (see Terauds et al. 2016), one of the smaller Conservation Biogeographic Regions (178 km²).

It should also be noted that the Pointe-Géologie sector has been identified as an important area for bird conservation (IBA 150) under criteria A1 (presence of a globally threatened species) and A4iii (the site is known or thought to hold, on a regular basis, at least 10 000 pairs of seabirds of one or more species) (Harris et al. 2015).

Pointe-Géologie's Specially Protected Antarctic Area No. 120, hereinafter referred to as "the Area", corresponds to the perimeter as delimited in point 6(i) and illustrated in Map 2.

1. Description of values to be protected

Environmental value

The Area constitutes one of the most representative of the Adélie Land coasts for its fauna and scientific interest. It has exceptional environmental and scientific value due to the diversity of bird and marine mammal species that breed there:

- Weddell seal (*Leptonychotes weddellii*)
- Emperor penguin (*Aptenodytes forsteri*)
- South polar skua (*Catharacta maccormicki*)
- Adélie penguin (*Pygoscelis adeliae*)
- Wilson's storm petrel (*Oceanites oceanicus*)
- Southern giant petrel (*Macronectes giganteus*)
- Snow petrel (*Pagodroma nivea*)
- Cape petrel (*Daption capense*)

Scientific value

Research and continuous monitoring programs for these species have been under way for many years (from 1952 or 1964 depending on the species), currently supported by the French Polar Institute Paul-Emile Victor (IPEV) and the French National Centre for Scientific Research (CNRS). This allowed a demographic database to be established which is of exceptional value in terms of the duration of the observations and the number of species and individuals monitored. These long-term follow-ups have received the "Antarctic Workshop Areas" label from the CNRS, which gives them the status of iLTsERs (international Long-Term socio-Ecosystem Research), the biological equivalent of physical environmental observatories. Research programmes contribute, in particular, to the CCAMLR Ecosystem Monitoring Program (CEMP).

The human presence in the Area is mostly linked to the implementation of scientific programmes carrying out these monitoring surveys. The number of people present at any one time in the Area is usually 2, or very exceptionally 4. The frequency of visits varies from year to year. It remains less than one access per day.

Among the 61 emperor penguin breeding sites listed (Fretwell and Trathan 2020), that of Pointe-Géologie is one of the few to be located in the immediate vicinity of a permanent base. This is therefore a privileged site for the study of this species and its environment, and therefore requires special attention as regards the reduction of disturbances linked to the proximity of the base.

2. Aims and objectives

Management of the specially protected area of Pointe-Géologie aims to:

- avoid any degradation or any risk of degradation of the values of the Area;
- allow scientific research that cannot be carried out elsewhere, while ensuring that its potential impacts are minimized, in particular by developing, as far as possible, the use of means that allow reducing human presence on the site;
- prevent disturbances of the environments and species of the Area by preventing any unjustified human presence in the Area;
- reduce disturbances related to human presence near the Area, in particular due to the nearby presence of the Dumont-d'Urville base and the logistics operations deployed there;
- minimize the risk of introducing alien plants, animals or microbes into the Area.

3. Management activities

The following management activities will be carried out to protect the values of the Area:

- This Management Plan is regularly reviewed in order to ensure the monitoring of measures to protect the values of the ASPA.
- Start considering implementing a database on the ASPA's biodiversity and its state of conservation, ultimately allowing regular monitoring of changes in environmental values.
- In accordance with Article 7 of Annex V to the Protocol on Environmental Protection to the Antarctic Treaty, access to the Area at any time of the year is subject to obtaining a permit issued by a competent authority.
- All activities of a scientific or management nature carried out in the Area must be subject to an environmental impact assessment in accordance with the requirements stipulated in Annex I to the Protocol on Environmental Protection to the Antarctic Treaty.
- In accordance with Annex III to the Protocol on Environmental Protection to the Antarctic Treaty, abandoned equipment or materials will be removed as far as possible, provided that such removal does not affect the environment and the values of the Area.

- All persons staying in or passing through the Dumont-d'Urville station will be duly informed of the existence of the ASPA, its geographical limits, the regulated access and, more generally, of this Management Plan. To achieve this, a sign containing a map of the Area indicating the restrictions and specific management measures that apply to it is displayed at the Dumont-d'Urville station and on board the Astrolabe. Activities are being implemented to raise awareness of biodiversity issues linked to the ASPA.
- Copies of this Management Plan are also available in the four Treaty languages at the Dumont-d'Urville station. Information relating to each incursion into the ASPA (consisting of at least: activity undertaken or reason for presence, number of people involved, length of stay and specific observations) will be recorded by the Dumont-d'Urville station manager and entered into a database.
- Activities near the ASPA (development of the Dumont-d'Urville station, energy, waste water and waste management, logistics, supplies, transit of motor vehicles, helicopter flights, etc.) are to be performed, as far as possible, taking into account the sensitivity to disturbances of the environments and species of the ASPA and attempting to reduce the potential pressures in terms of disturbance of species, pollution and introductions of species and pathogens.

4. Period of designation

The Area is designated as an Antarctic Specially Protected Area (ASPA) for an indefinite period.

5. Maps

Map 1 shows the geographical location of Adélie Land within the Antarctic continent and the location of the Pointe-Géologie archipelago on the coast of Adélie Land.

Map 2 of the Pointe-Géologie archipelago indicates the location of the main bird colonies and, in dotted lines, the delimitation of Antarctic Specially Protected Area No. 120 within this archipelago.

6. Description of the Area and identification of the sectors

6(i) Geographical coordinates, boundary markers and natural features

LIMITS AND COORDINATES

ASPA 120 is located along the coast of Adélie Land, in the heart of the Pointe-Géologie archipelago (140° to 140° 02' E; 66° 39' 30'' to 66° 40' 30'' S). It consists of the following territories:

- Jean Rostand Island,
- Le Mauguen Island (formerly Alexis Carrel Island),
- Lamarck Island,
- Claude Bernard Island,
- Bon Docteur Nunatak,
- The emperor penguin breeding site, the limit of which is determined by the presence of one or more groups of emperor penguins increased by a buffer area of 40 m[1].

In total, the surface area of the outcropping rocks does not exceed 2 km². The highest points are distributed along a NE-SW ridge (Claude Bernard Island: 47.60 m; Jean Rostand Island: 36.39 m; Le Mauguen (formerly Alexis Carrel) Island: 28.24 m, Bon Docteur Nunatak: 28.50 m).

During the austral summer the pack ice between the islands sometimes disappears and only the northern slopes of the islands remain partially covered by snowfields. The ASPA is then well delimited by its natural features (outline of the islands and rocky outcrops).

There are no roads or paths within the Area.

[1]In the event that groups or the colony are located within 40 m of existing human settlements on Petrel Island or the Lion Trail, ad hoc procedures will be determined in accordance with the provisions of the Madrid Protocol and its Annex II.

GENERAL DESCRIPTION OF THE AREA

Weather

The average seasonal and meteorological conditions (temperature: -10.8° C, pressure: 987.3 hPa, wind speed: 9.5 ms^{-1} , prevailing wind direction: 120-160°) (**König-Langlo *et al*. 1998**) at the edge of the icecap play a fundamental role in the accumulation of snow, its melting, and the extent of pack ice near the continent. The seasons are characterized by a long winter, from May to October, a short summer, from November to January, and extremely short interseasonal periods (**Périard & Pettré 1993**). The strong seasonality of temperatures (-15° C in winter, -0.5° C in summer on average) implies that the melting only occurs from December to February, affecting the snow conditions on the various nunataks and the breakup of the ice pack around the archipelago. This is the direct result of variations in the energy supplied by solar radiation, which is strong in the summer, and of the "nocturnal" radiative cooling on the Antarctic plateau responsible for the establishment of stable atmospheric layers that cause the katabatic winds. (**Gallée & Pettré 1998; König-Langlo *et al.* 1998**). The strong and persistent katabatic wind is a key feature of the archipelago's climate (**Périard & Pettré 1993**). The area is nevertheless affected by frequent low pressure systems coming from the north-west (**King & Turner 1997**). More high pressure conditions are observed in summer and in winter but precipitation occurs all year round without the appearance of a clear seasonal cycle. (**König-Langlo *et al*. 1998**). Notable snowfall is limited to a few heavy precipitation events that can occur at any time of the year (**Turner *et al.* 2019**). These are caused by intense moisture transport from the mid-latitudes. These events occur during atmospheric blocking conditions, causing significant rises in temperature and heavy precipitation, which can give rise to the rare rain events reported in the area. (**Favier *et al*. 2011; Wille *et al*. 2021**). Although rare, the occurrence of precipitation as rain during the first weeks of life of Adélie penguins can have a dramatic effect on their breeding success. (**Ropert-Coudert *et al*. 2015**). The evolution of temperatures in the sector over the next century will exceed that observed on a global scale (according to the greenhouse gas emission scenarios, the entire continent will warm between 1.3 ± 0.5° C and 4.8 ± 1.2° C (**Bracegirdle *et al*. 2020 ; Krinner *et al*. 2019**). This warming will directly influence the communities of birds and mammals living on the archipelago. Nevertheless, the interannual climatic variability in the area is extremely strong and depends firstly on large-scale atmospheric conditions, mainly on the intensity of the southern annular mode (e.g. **Marshall *et al*. 2017**) and secondly on regional conditions (e.g. extent of sea ice; see **Goursaud *et al*. 2019; Krinner *et al*. 2014**). This is why anthropogenic global warming is not expected to emerge in this sector before the middle of the 21st century (**Mora *et al*. 2013**).

Geology

Well-marked escarpments offer asymmetrical transverse profiles, gently sloping to the north and steeper to the south. Numerous faults and fractures make the terrain very rugged. The basement rocks, mainly made up of gneisses rich in sillimanite, cordierite and garnets, are crossed by a dense network of pink anatextite veins. The most depressed parts of the islands are covered with moraines with a heterogeneous grain size (with blocks varying in diameter from a few centimetres to more than one metre).

Terrestrial biological communities
Flora and invertebrates

No vascular plants and no macro-arthropods live in the Area. Only the cosmopolitan seaweed *Prasiola crispa* is present and may have significant local coverage in connection with the contributions of bird droppings.

Fauna

Seven species of birds and a marine mammal (Weddell seal) breed in the Pointe-Géologie archipelago. They have all been the subject of population monitoring since the 1950s-1960s. Table 1 provides information on the numbers of seabirds observed, Table 2 on the periods these different species are present, and Table 3 on the estimated sensitivity of each species. The Weddell seal does not breed in the Area but on the pack ice outside. The population at the end of October varies between 70 and 170 individuals depending on the year, including 30 to 50 newborns (unpublished CEBC-CNRS data).

Regular visiting bird species include the Antarctic petrel *Thalassoica antarctica* and the chinstrap penguin *Pygoscelis antarctica*. Several species of marine mammals regularly visit the archipelago but do not reproduce there, including four seals (leopard seal *Hydrurga leptonyx*, crabeater seal *Lobodon carcinophaga*, Southern elephant seal *Mirounga Leonina*, Ross seal *Ommatophoca rossii*), and two cetaceans (killer whale *Orcinus orca* and Antarctic minke whale *Balaenoptera bonaerensis*).

Threats and pressures

The establishment of the Dumont-d'Urville station has led to a significant decrease in the population of giant petrels in the Pointe-Géologie archipelago. The breeding colonies located on Petrel Island almost completely disappeared in the late 1950s during the first years after the installation of the base in the immediate vicinity of these colonies (extension of buildings, intensification of helicopter flights, installation and replacement of oil tanks, direct persecution). Currently 95–100% of the Pointe-Géologie Giant petrel population breeds in the ASPA, in the south-eastern part of Rostand Island. A pair breeds regularly on Petrel Island on the Mount of Giants.

The works carried out between 1984 and 1993 to connect the Buffon, Cuvier and Lion islands in order to establish an airstrip destroyed the breeding sites of approximately 3000 pairs of Adélie penguins, 210 pairs of snow petrels, 170 pairs of Cape petrels, 180 pairs of Wilson's storm petrels and 3 pairs of south polar skuas (Micol & Jouventin 2001). A relatively large portion of Adélie penguin pairs moved within the ASPA, unlike the other species (Micol & Jouventin 2001, CEBC unpublished data).

The significant decrease in emperor penguins at the end of the 1970s seems to be due to a prolonged climatic anomaly between 1976 and 1982, which led to a significant reduction in the extent of the sea ice (Barbraud & Weimerskirch 2001, Barbraud et al. 2011, Jenouvrier et al. 2009, 2012). Other cumulative effects, such as construction of the Lion Island station and airstrip and scientific work carried out at the time are also likely to have impacted the Pointe-Géologie population and pushed some of the birds to emigrate to other colonies, notably that of Mertz (Cristofari et al. 2016). For the past fifteen years, the breeding population of emperor penguins has been stable or increasing slightly, in parallel with an increase in the extent of the sea ice in the Adélie Land sector (Barbraud et al. 2020, Table 3). However, vigilance is required in view of the recent changes observed (see below).

Among the bird species present in the Pointe-Géologie archipelago, the emperor penguin and the giant petrel breed only inside the ASPA (with the exception of a pair of giant petrels present on Petrel Island). Since the establishment of this ASPA in 1995, the populations of these two species are now stable or increasing slightly (Table 3). Long-term projections, however, make it necessary to maintain a high protection status through this Management Plan.

The region of the Pointe-Géologie archipelago does not yet show a significant trend of changes in temperature and precipitation. The area is in fact mainly marked on the one hand by very high interannual meteorological variability, and on the other hand by sea ice conditions that undergo extreme changes from one year to the next. Since 2010, the Pointe Géologie archipelago has experienced particularly extensive sea ice, probably attributable to the impact of the arrival of the giant iceberg B9B in Adélie Land. In addition to these sea ice conditions at Pointe-Géologie there have been two years of more intense meteorological phenomena than usual (rain, temperatures), and the populations of seabirds whose food ecology depends on sea ice have shown extreme responses, going as far as zero reproductive success for some of them, especially in the case of Adélie penguins (Barbraud et al. 2015, Ropert-Coudert et al. 2015, 2018). However, recent seasons suggest that a new pattern of sea ice conditions is developing which will be less unfavourable to penguins and some petrels, with a faster recession in the summer season.

IPCC climate projections suggest a decrease in the extent and concentration of sea ice off the coast of Adélie Land from the mid-21st century. This decrease will very likely have negative impacts on several species of seabirds breeding in the archipelago, such as the emperor penguin (Jenouvrier et al. 2009, 2014), the Adélie penguin (Iles et al. 2020), and the south polar skua (Pacoureau et al. 2019); but little effect for others such as the snow petrel (Barbraud et al. 2011, Sauser et al. 2021).

Structures equipped with guy wires such as the ionospheric mast on Petrel Island (out of use for several years) as well as overhead electric cables between buildings constitute a serious threat to several species. In fact, collisions and deaths of flying birds have been observed regularly for several years (at least 70 individuals have died by collision with these cables since 1999, including 45 south polar skuas and 14 giant petrels, CEBC-CNRS unpublished data). This shows the vulnerability of these species to overhead cables, and suggests that installing new cables in areas used by flying seabirds would have negative impacts. These species have very low numbers at Pointe-Géologie (south polar skua, Antarctic fulmar, giant petrel) and additive mortality in such long-lived species can have an almost immediate negative effect on their population.

Pollutants pose an additional threat to several species: several types of contaminants of anthropogenic origin (mercury, persistent organic pollutants such as hexachlorobenzene, polychlorobiphenyls, polybrominated diphenyl ethers, organochlorines) have been detected in several species (emperor penguin, Adélie penguin, snow petrel, south polar skua) reproducing in the area (Goutte et al. 2013, Tartu et al. 2014, Carravieri et al. 2020). For certain contaminants, such as mercury, negative effects on reproduction parameters have been demonstrated, with a potential impact on population dynamics (Goutte et al. 2014, 2018).

Site	Emperor penguin	Adélie penguin	South polar skua	Snow petrel	Cape petrel	Wilson's storm petrel	Giant petrel
Claude Bernard Island	--	4201	10	132	99	106	--
Lamarck Island	--	1445	2	27	11	32	--
J. Rostand Island		5396	8	44	20	83	19
Le Mauguen (formerly Alexis Carrel) Island	--	4396	18	15	11	63	--
Bon Docteur Nunatak	--	1461	3	2	--	43	--
Winter ice floes between the islands		--	--	--	--	--	--
ASPA Total	3727	16899	41	220	141	327	19
Pointe-Géologie Total	3727	41151	78	856	266	793	20
% ASPA/Pointe-Géologie	100%	41 %	53 %	26 %	53 %	41 %	95 %

Table 1: Number of breeding pairs of seabirds in ASPA 120 (counted during the 2019/2020 breeding cycle). The proportion of the population breeding inside this ASPA compared to that of the archipelago of Pointe-Géologie as a whole (PG) is also mentioned (Source: unpublished data CEBC-CNRS on the reproductive cycle 2019/2020 except for Wilson's storm petrels, 2016 data in Barbraud et al. 2018)

	Emperor penguin	Adélie penguin	South polar skua	Snow petrel	Cape petrel	Wilson's storm petrel	Giant petrel
First arrival	March	October	October	September	October	November	July
First laying	May	November	November	December	December	December	October
Last departure	End December	March	March	March	March	March	April

Table 2: Presence of birds on breeding sites

		Emperor penguin	Adélie penguin	South polar skua	Snow petrel	Cape petrel	Wilson's storm petrel	Giant petrel	Weddell seal
Sensitivity		high	medium	medium	high	high	high	high	medium
Trends	1952-1984	decrease	?	?	?	?	?	decrease	?
	1984-2000	stable	increase	increase	stable	stable	decrease	stable	stable
	2000-2019	increase	stable	increase	stable	stable	?	slight increase	decrease

Table 3: Sensitivity to human-induced disturbances and trend in bird populations in the Pointe-Géologie archipelago (Sources: unpublished data CEBC-CNRS, Barbraud et al. 2020 Pacoureau et al. 2019, Sauser et al. 2021, Barbraud et al. 2018 for Wilson's storm petrel data).

6(ii) Structures within the Area

The historic Prévost shelter and a refuge are located on Rostand Island, to the exclusion of any other structure in the whole Area. These buildings are mainly used by scientists to shelter themselves from meteorological conditions during their population monitoring operations.

6(iii) Location of other protected areas in the vicinity

The closest protected area to ASPA 120 is ASPA 166 "Port Martin", located 60 km to the east.

6(iv) Special zones within the ASPA

Giant petrel nesting sites on Rostand Island

Within the ASPA, giant petrel breeding sites are exclusively present in the south-eastern part of Rostand Island. All the nesting sites of this species on Rostand Island are covered by a special area to provide them with increased protection, the perimeter of which is defined on map 2.

Authorizations to access this special area are subject to their explicit mention in the ASPA entry permits issued under Article 7. Only visits for scientific purposes are authorized. A maximum of five annual visits may be authorized for all programmes.

7. Terms and conditions for entry permits

- Access to the Area is prohibited unless a permit has been issued by a competent national authority designated under Article 7 of Annex V to the Protocol on Environmental Protection to the Antarctic Treaty. In order to avoid conflict between operations in area, and to assess potential cumulative impacts prior to the activity, the national competent authority issuing the permit should inform the head of the Dumont-d'Urville station leader and/or the French national competent authority as soon as possible.
- Permits may be issued for the activities provided for in paragraph 7(ii) of this document. The permits specify for each visit the planned activities, their duration, the number of entries and the maximum number of people who can enter the Area (permit holders and any accompanying persons necessary for professional or safety reasons and who must be chosen by scientists based on their expertise).

7(i) Access to, and movement within or over, the Area

Access to the Area is authorized only on foot or by light boat (in summer).

Aircraft operation

- No helicopter may land in the ASPA (except for emergency procedures). Overflying the Area is prohibited for any aircraft (except in the case of emergency procedures). Overflight and landings within the Area by Remotely Piloted Aircraft Systems (RPAS) are prohibited except when carried out within the framework of the activities provided for in 7(ii) and in accordance with a permit issued by an appropriate national authority. RPAS use within the Area should follow the Environmental Guidelines for Operation of Remotely Piloted Aircraft Systems (RPAS) in Antarctica (Resolution 4 (2018).

Land vehicles

- Land vehicles normally cross between the Dumont-d'Urville station, on Petrel Island, and the Cap Prudhomme station, on the mainland, in winter in a straight line over the pack ice. When, on very rare occasions, the state of the sea ice does not allow them to cross safely, a journey via the western edge of the Bon Docteur Nunatak may be exceptionally authorized by the head of the Dumont-d'Urville station, as shown on Map 2.
- In all cases, land vehicles driven to circulate near gatherings of emperor penguins must maintain a minimum distance of 40 m from these animals.

Walking

- Authorized persons moving within the Area must be particularly vigilant to avoid disturbing birds and deteriorating the nesting areas and access to these.

7(ii) Activities which may be conducted within the Area with time and space restrictions

- Activities intended to serve essential scientific objectives and which cannot be carried out elsewhere.
- Activities aimed at pursuing conservation objectives for the environments or species present.
- Essential management and logistical activities. In this case, the permit application must demonstrate that there is no viable alternative for access to the Area.
- Activities for educational or scientific popularization (filming, photography, sound recording, etc.) which cannot be carried out elsewhere.

7(iii) Installation, modification or removal of structures

- The establishment of new structures or permanent installations is prohibited. Only temporary structures or equipment may be installed in the Area for essential scientific reasons or for management or conservation activities authorized by a competent national authority.
- Any modification or dismantling of the only installations currently present on Rostand Island can only be carried out with an authorization.

7(iv) Location of field camps

Camping is forbidden in the Area. An exception can be made only for security reasons, in particular when conducting scientific or conservation expeditions. If this is the case, the tents should be pitched in such a way that they disturb the environment as little as possible.

7(v) Restrictions on materials and organisms which may be brought into the Area[2]

- In accordance with the provisions of Annex II to the Protocol on Environmental Protection to the Antarctic Treaty, deliberate introductions of live animals or plants are prohibited in the Area.
- In order to avoid the inadvertent introduction of microbes, invertebrates or plants from other sites in Antarctica, including stations, or other regions outside Antarctica, all material brought into the Area, including scientific equipment, must be cleaned or sterilized.
- Shoes, clothing, bags, and in general all containers brought into the Area must have been thoroughly cleaned beforehand.
- No poultry products, including waste associated with these products and products containing egg powder, may be brought into the Area.
- Chemicals are prohibited in the Area with the exception of those introduced for scientific activities under the conditions indicated in the permits issued. All chemicals must be removed from the Area no later than the end of the activities for which permits have been issued.
- The deposit of fuels, food products or any other material is prohibited except when imperative for the activities for which permits are issued. All materials brought in must be withdrawn as soon as they are no longer useful. Permanent storage is prohibited.

[2]The CEP Non-Native Species Manual and the COMNAP/SCAR Checklists for Supply Chain Managers of National Antarctic Programmes for the Reduction in the Risk of Transfer of Non-native Species provide further guidance on the matter.

7(vi) Taking of, or harmful interference with, native flora and fauna

- Any removal of or interference with native flora and fauna is prohibited except for holders of a permit specifying this. In the event of permitted removal or interference, the SCAR Code of Conduct for the Use of Animals for Scientific Purposes in Antarctica (ATCM XLII-CEP XXII Resolution 4) should be used as a minimum standard.
- Dead or unhealthy specimens of native flora and fauna may only be taken out of the Area if this is expressly mentioned in the permit.

7(vii) Collection or removal of objects or materials not brought into the Area by the permit holder

- The collection or removal of objects or materials that have not been brought into the Area by the holder of a permit is prohibited except if specified in the permit.
- Debris generated by humans may be removed from the Area provided that such removal does not harm the environment and the values of the Area.

7(viii) Disposal of waste

All waste produced must be removed from the Area after each visit in accordance with Annex III to the Protocol on Environmental Protection to the Antarctic Treaty, as a minimum standard.

7(ix) Measures that may be necessary to continue to meet the aims and objectives of the Management Plan

- Visits to the Area are strictly limited to duly authorized activities provided for in paragraph 7(ii).
- Activities of a scientific nature will be carried out in accordance with SCAR's Environmental Code of Conduct for Terrestrial Scientific Field Research in Antarctica (ATCM XXXII-CEP XII IP004) and the SCAR Code of Conduct for the Use of Animals for Scientific Purposes in Antarctica (ATCM XXXIV-CEP XIV IP53).

7(x) Visit reports

The Parties shall ensure that the principal holder of each permit issued submits a report on the activities carried out in the Area to the competent authority. This report, to be provided at the end of each campaign, must include, if applicable, the information identified in the visit report form which appears in the Guide to the preparation of management plans for Antarctic Specially Protected Areas (Resolution 2 [2011]).

These reports contain, where applicable, the sites visited and the data collected that is necessary for environmental monitoring of the Area (population size and distribution in particular).

If applicable, the national authority should send a copy of the visit report to the Party that proposed the Management Plan so that it can use it for proper management of the Area or to review the Management Plan.

As far as possible, Parties should deposit the original or copies of the original visit reports in an archive accessible to the public in order to preserve a customary archive that can be used in the review of the site Management Plan and organization of the Area for scientific purposes.

8. Reference documents

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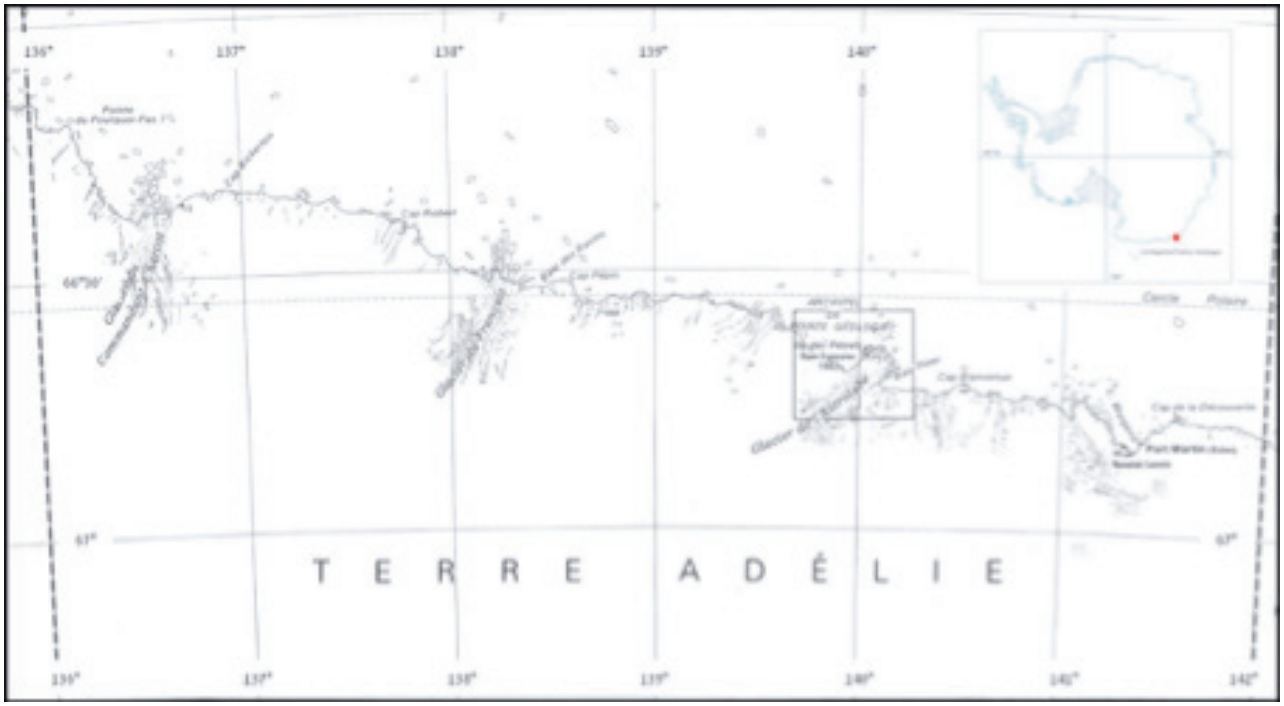
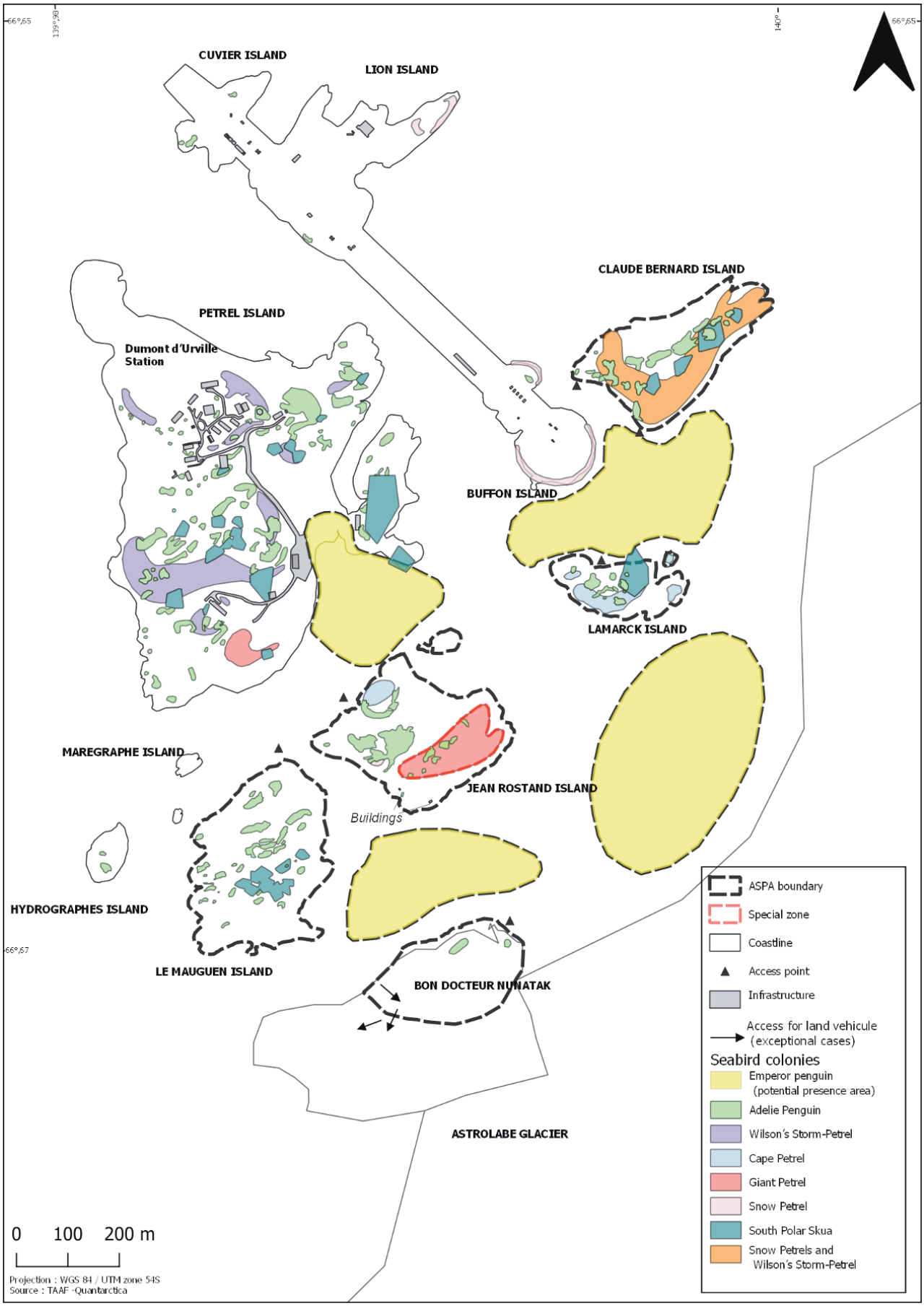


Map 1. Location of the Pointe-Géologie archipelago, in Adélie Land (Antarctica)



Map 2. Location of bird colonies within the ASPA and in the Pointe-Géologie archipelago. Dashed lines mark the boundaries of the ASPA. Emperor penguins, present from March to mid-December, establish their colony on the pack ice between the islands and their location fluctuates.