**GENERAL INTRODUCTION**

The Terres Australes Françaises or French Southern Territories are composed of three sets of islands in the southern Indian Ocean—Crozet, Kerguelen, and Saint Paul and Amsterdam—with a total area of 760,000 ha. These islands are very isolated and lie at least 2,500 km away from the closest continental shores of Australia, southern Africa and Antarctica. The nearest islands to the French Southern Territories are Heard Island, 480 km south-east of the Îles Kerguelen, and Prince Edward and Marion Islands, 1,000 km west of the Îles Crozet. There is no permanent human population on these islands, but three have stations which house expeditions of 30 to 80 people each year.

The biodiversity of each island depends on its location and topography, the extent of direct human impact and, especially, the presence of introduced mammals. The greatest threats to the environment come from predation of birds by cats *Felis catus* and rats *Rattus rattus* and *R. norvegicus*, and from damage to vegetation by rabbits *Oryctolagus cuniculus* and ungulates (cows *Bos taurus*, reindeer *Rangifer tarandus*, sheep *Ovis aries* and mouflon *O. ammon*).

The islands are an overseas territory of France and are administered by the Territoire des Terres Australes et Antarctiques Françaises or TAAF (French Southern and Antarctic Territories), the headquarters of which is in Saint-Pierre on La Réunion, in the western Indian Ocean. The islands are served by boat from La Réunion.

### Îles Crozet (Crozet Islands)

The Crozet archipelago comprises five mountainous islands of volcanic origin, with a total area of 50,000 ha and a maximum altitude of 1,090 m. The climate is subantarctic, with low temperatures throughout the year (average 5°C), strong westerly winds (over 100 km/h) that bring frequent storms and high rainfall (average 2,470 mm per year). In oceanic terms, these islands are located in subantarctic waters, about 350 km north of the Polar Front.

The vegetation of these islands is depauperate and completely lacking in trees and shrubs. It comprises 154 species, three of which are endemic and 53 are introduced. It is mostly composed of grasses *Agrostis magellanica*, *Poa cooki*, *P. annua*, mosses and lichens, together with several herbaceous species (notably *Acaena magellanica*, *Azorella selago* and *Pringlea antiscorbutica*). Plant cover is significant only in coastal areas at low altitude; above 200 m, vascular plants are rare and bare rock dominates the landscape.

The greatest numbers of birds are found on Île de l’Est, Îles des Apôtes and Îles des Pingouins, where cats and rats are absent. On Île des Cochons and Île de la Possession where, respectively, cats and rats are present, the smaller seabird species, particularly petrels, have either been eliminated or are greatly reduced in numbers. Numbers of albatrosses and penguins nevertheless remain high.

### Îles Kerguelen (Kerguelen Islands)

This large group of islands, 1,500 km east of Crozet, covers 700,000 ha and ranks as the second-largest subantarctic archipelago after the Falkland Islands. Over 300 islands of different sizes surround the main island, Grande Terre. The islands’ volcanic origins have given rise to spectacular landscapes. The coastline consists of numerous deep fjords lying between rugged headlands and extends for 2,800 km. An ice sheet covers a large part of Grande Terre. The vegetation is similar to that of Crozet (163 species, 13 of which are endemic and 37 introduced). The climate is also similar, although it can be more severe because of the slightly higher latitude and the more marked relief—the highest peak, Mont Ross, reaches 1,850 m.

Seven species of introduced mammal occur on Kerguelen, the largest number in the French Southern Territories. They are distributed unevenly across the archipelago, depending upon the isolation of the island. Managed populations of sheep and mouflon occur on two islands of the Golfe du Morbihan. Reindeer are present in many areas of Grande Terre. Rabbits, which have had a disastrous impact on vegetation in many areas, inhabit most of Grande Terre and several adjacent islands. Mice *Mus musculus* and rats *Rattus rattus* are also present in many places. Cats were introduced only relatively recently, but have undoubtedly had the most serious impact on bird populations.
Île Saint Paul and Île Amsterdam
(Saint Paul and Amsterdam Islands)

Île Saint Paul and Île Amsterdam lie in the subtropical zone of the Indian Ocean, some 1,250 km north-east of Kerguelen. They are halfway between southern Africa and Australia, both about 3,600 km distant, which makes them amongst the most isolated islands in the world. They are separated from each other by 80 km of sea and, at 800 ha and 5,500 ha respectively, are the smallest of the French Southern Territories. Île Amsterdam is an 881-m-high volcanic dome. The coastline consists mainly of tall cliffs, particularly on the western side, where they reach 700 m. Île Saint Paul is an old and well-preserved volcano, whose caldera is open to the sea on the north-eastern side.

The climate is oceanic and the seasons temperate. The average annual temperature is 13°C, higher than those of the subantarctic islands. Winds are, however, often equally strong and rainfall is high (annual average 1,100 mm). Vegetation is denser and taller than in
the subantarctic territories, although it has been much modified on Amsterdam Island by fire and overgrazing. Here, up to altitudes of 350 m, it is dominated by the sedge Carex australis and several introduced species. These are replaced altitudinally by rushes Juncus effusus and other sedges Scirpus sp. and beyond, up to 500 m, by ferns and mosses. Plateaus above this altitude are mostly covered with peatbogs. On Île Saint Paul and on the Falaises d'Entrecasteaux on Île Amsterdam, the vegetation has been better preserved and consists of grasses, rushes, sedges and ferns. Before its discovery by humans, Île Amsterdam was ringed by a stand of Phyllea nitida, the only true species in the French Southern Territories, of which now only a relic scrub remains. A total of 130 plant species are found on Île Amsterdam, six of which are endemic and 108 are introduced. On Île Saint Paul, 20 plant species occur, of which three are endemic and nine are introduced.

Given their location, milder climate and smaller size, Saint Paul and Amsterdam have been the most affected, directly and indirectly, by human presence. Rats Rattus norvegicus and cats are responsible for the extinction or reduction of populations of numerous bird species on Île Amsterdam. The presence of a herd of cattle Bos taurus, abandoned in 1871, has resulted in considerable soil erosion and damage to vegetation. The herd is now managed and lives within a fenced area (1,200 ha). Over half the bird species which originally nested on these islands no longer do so and some island endemics are extinct. The small (2 ha), sheer-sided island of La Roche Quille, located 150 m off the north-east coast of Saint Paul has, however, remained free of introduced mammals and has therefore retained relic bird populations. Rats and rabbits have, moreover, recently been eradicated successfully from Saint Paul as part of a conservation programme.

ORNITHOLOGICAL IMPORTANCE

The French Southern Territories are home to huge colonies of seabirds whose total breeding population probably exceeds 40 million pairs. The avifauna on Kerguelen and Crozet is typical of subantarctic region, with many typical species found in international oceanic assemblages. Île de l'Est holds the largest known community of breeding seabirds in the world, with 32 species.

CONSERVATION INFRASTRUCTURE AND PROTECTED-AREA SYSTEM

Responsibility for environmental management in the islands lies with the administration of the Terres Australes et Antarctiques Françaises in conjunction with the Comité de l'Environnement Polaire (Polar Environmental Committee). Protection for the environment is provided for by French national legislation.

A 1938 decree designated certain areas as French Antarctic National Park. The regulations governing these areas differ considerably from those that apply to national parks in metropolitan France as they were created principally to control the hunting of seals. All bird species in the French Southern Territories are protected under the 1976 National Act for Protection of the Nature. An order dating from 1985 also classified some areas as Zones Réserve à la Recherche Scientifique et Technique—areas restricted for scientific and technical research. Importantly, this limits access to and activities on certain islands and applies for renewable five-year periods.

Two decrees, from 1980 and 1996, regulate fishing in the Zone Économique Exclue Exclusive Economic Zone. A 1994 decree made exploitation of whales illegal within the ZEE. A project is under way to gazette as Réserve Naturelles (Nature Reserves) several hitherto unprotected sites of particular importance for birds.

By far the most important threat to many areas of conservation value remains the introduction of exotic animal and plant species, against which the most effective means of protection is restriction of access. In practical terms, however, control of access is difficult given the isolation and often total absence of human activity on the islands.

Another major cause of seabird mortality, especially of albatrosses and Procellaria aequinoctialis in the region is, as elsewhere, by-catch in longline fisheries, particularly for Patagonian toothfish Dissostichus eleginoides. Measures taken to reduce the number of these deaths are not completely effective, and their use cannot be completely eradicated or for ships fishing illegally. Fishing quotas for Patagonian Toothfish in ZEE waters are granted annually to authorized companies operating longline fishing-boat fleets. On-board fisheries inspectors ensure that quotas are respected and that the approved measures are taken to limit incidental bird mortality. In the last few years, however, a sharp increase in illegal, unregulated and unreported (IUU) fishing has occurred in the region, especially to the east in the oceanic plateau of the French Southern Territories, mainly because of the limited surveillance possible in the vast ZEE. It is certain that considerable quantities of fish have been taken illegally and likely that large numbers of seabirds have died as a result. The French Navy is currently making efforts to improve control and inspections in the ZEE but, in the absence of strong international regulations, seabird mortalities will continue.

INTERNATIONAL MEASURES RELEVANT TO THE CONSERVATION OF SITES

France has ratified the Ramsar Convention, the Convention on Migratory Species, the Convention on Biological Diversity, the World Heritage Convention the Convention to Combat Desertification, the Convention on Climate Change, and participates in UNESCO’s Man and Biosphere programme. Of particular relevance to the French Southern Territories is that France has signed the Treaty on the Antarctic (1959), the Convention for the Protection of Seals (1978) and, most importantly, the Convention for the Conservation of Antarctic Marine Living Resources (CCAMLR, 1980), which applies to both Crozet and Kerguelen. However, despite the unique biodiversity of the French Southern Territories, there are no internationally recognized sites on these islands such as World Heritage Sites or Biosphere Reserves.

OVERVIEW OF THE INVENTORY

A total of 17 Important Bird Areas (IBAs) are included in the inventory, between them covering the most important breeding sites
for birds in the French Southern Territories (Map 1, Table 1). The 17 sites cover 2,469 km² or a third of the total area of the territories, but proportions vary between islands. Thus, 100% of Crozet are included, 32% of Saint Paul and Amsterdam and 30% of Kerguelen.

Three of the sites are completely unprotected, five are partially protected while nine are fully protected. Fourteen are also included within the programme of proposed Nature Reserves. Most of the main habitat-types are represented, in particular littoral ones because of their importance for nesting seabirds. While several of the smaller islands, especially those free of introduced mammals, are included in their entirety, large parts of the interior of Grande Terre (Kerguelen) are, for example, of little ornithological interest and are omitted.

COMMENTS ON THE INVENTORY

- Site names used are those given in Delépine (1973) and used on maps of the French Southern Territories, produced by the Institut Géographique National, Paris.
- Taxonomy and threat status follow Collar et al. (1994). Several subspecies that breed on the islands, some of them endemic (Eudyptes chrysocome moseleyi, Diomedea chlororhynchos bassi and Pachyptila salvini macgillivrayi), are sometimes considered full species.
- Data are generally thought accurate for ground-nesting species (e.g. albatrosses and penguins), because direct counts are possible. Data for other species, in particular hole-nesting petrels, are (on the other hand) imprecise or lacking. Many of the data are also at least a decade old. It is known that the sizes of many populations have changed considerably, since some, such as certain Aptenodytes patagonicus rookeries, have undergone a tenfold increase in the last decade. The data need, therefore, to be treated with caution. It is likely that many populations have been underestimated and hence more species qualify at more sites than shown here.
- Parts of Îles Kerguelen (e.g. Île de l’Ouest) have never been explored ornithologically and are thought to be of considerable importance for birds since they have remained free of introduced species. This inventory is, therefore, unlikely to be exhaustive.

ACKNOWLEDGEMENTS

I wish to thank the whole of the research team of the Centre d’Études Biologiques de Chizé, CEBC-CNRS and, in particular, Thierry Micol, Henri Weimerskirch, Christophe Guinet, Olivier Duriez, Yann Tremblay, Frédéric Jiguet, François Mougeot, Jean-Yves Georges, Pierrick Bocher and Corinne Rabouan for their advice and valuable information. Benjamin Singer translated the chapter into English.

SITE ACCOUNTS

Île de la Possession

<table>
<thead>
<tr>
<th>Admin region</th>
<th>îles Crozet</th>
<th>Coordinates</th>
<th>46°24’S 51°45’E</th>
<th>Area</th>
<th>14,600 ha</th>
<th>Altitude</th>
<th>0–934 m</th>
<th>A1, A2 (s048), A4i, A4ii, A4iii</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site name</td>
<td>Île de la Possession</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Area restricted to scientific and technical research, Unprotected</td>
</tr>
</tbody>
</table>

Site description

Île de la Possession is the largest of the five Crozet Islands. Its mountainous landscape is cut by deep glaciated valleys. The valleys and coastal areas are covered in subantarctic vegetation. Black rats occur over most of the island. The island is uninhabited by man except for a research station on the eastern tip of the island, staffed by approximately 20 people.

Birds

See Box for key species. At least 25 species breed. In addition to those given below, these include 2,000 pairs of Pygoscelis papua, 1,150 pairs Phoebetria palpebrata and 84 pairs of Macronectes giganteus. Numbers of Anas eatoni and Chionis minor are believed to exceed thresholds, but no quantitative data are available. Ten pairs of Diomedea chrysostoma were recorded breeding in 1984. The smaller species breed only at higher altitudes due to the presence of rats lower down.

Key species

- **A1** Diomedea exulans
- **A2** (s048) Kerguelen and Crozet Islands Secondary Area: Anas eatoni has been recorded at this site.
- **A3** Diomedea chrysostoma
- **A4i** Phoebetria palpebrata
- **A4ii** Macronectes giganteus
- **A4iii** Phoebetria fusca

- **A1** Diomedea exulans
- **A2** (s048) Kerguelen and Crozet Islands Secondary Area: Anas eatoni has been recorded at this site.
- **A3** Diomedea chrysostoma
- **A4i** Phoebetria palpebrata
- **A4ii** Macronectes giganteus
- **A4iii** Phoebetria fusca

Other threatened/endemic wildlife

Two species of fur seal breed on the island, Arctocephalus gazella and *A. tropicalis*, with respectively, 87 and 190 pups in 1991. Numbers have been increasing recently with the cessation of hunting. In 1997, 570 female Mirounga leonina bred. The coastal waters are inhabited by approximately 80 Orcinus orca (LR/cd). Two plants and 59 arthropod species endemic to the îles Crozet occur.

Conservation issues

Access to several parts of the island important for wildlife is restricted as they have been declared ‘Areas restricted to scientific and technical research’. Rats seriously affect the breeding of numerous species of petrel.

Further reading


Île de l’Est

<table>
<thead>
<tr>
<th>Admin region</th>
<th>îles Crozet</th>
<th>Coordinates</th>
<th>46°25’S 52°10’E</th>
<th>Area</th>
<th>13,000 ha</th>
<th>Altitude</th>
<th>0–1,090 m</th>
<th>A1, A2 (s048), A4i, A4ii, A4iii</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site name</td>
<td>Île de l’Est</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Area restricted to scientific and technical research, Unprotected</td>
</tr>
</tbody>
</table>

Site description

Île de l’Est is, as its name suggests, the easternmost island of the Crozet archipelago. It is also the most mountainous, reaching 1,090 m, with a coastline of high cliffs. Several steep-sided valleys of glacial origin cut across the island, in three of which rabbits occur, the only introduced animal species. Otherwise, the landscape is mainly mountainous bare rock. There is no human presence or infrastructure on the island, which is only rarely visited by research scientists.

Birds

See Box for key species. In addition, numbers of Pterodroma lessonii, Anas eatoni and Chionis minor are believed to exceed thresholds, but no quantitative data are available. This island holds the most diverse community of seabirds in the world: 32 species, of which 19 are hole-nesting petrels. Many are believed to number tens of thousands of pairs. Three taxa are particularly abundant, Pelagodroma marqueti, *P. urinatrix* and Pachyptila salvini salvini. Estimates of the population sizes of each are of several million pairs which, in the case of *P. s.*
salvini, represents 80% of its global population. The site is also home to 350 pairs of Diomedea melanophris.

### Key species

<table>
<thead>
<tr>
<th>Key species</th>
<th>A1</th>
<th>Breeding (pairs)</th>
<th>Non-breeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diomedea exulans</td>
<td>Macronectes halli</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diomedea chrysostoma</td>
<td>Sterna hirundo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phoebetria fusca</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key species</th>
<th>A2 (s048)</th>
<th>Breeding (pairs)</th>
<th>Non-breeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerguelen and Crozet islands Secondary Area: Anas eatoni has been recorded at this site.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Conservation issues

Île aux Cochons is a French Antarctic National Park to which access is restricted. It is also a proposed Nature Reserve. Of the three introduced species, cats are the greatest threat and have probably eliminated several species from the island.

### Further reading


### Other threatened/endemic wildlife

The island is home to the largest population of the mammal Mirounga leonina in the archipelago. Orcinus orca (LR/cd) occur in coastal waters. There is no information on fur seals Arctocephalus spp. Three endemic plant and 59 endemic arthropod species occur.

### Site description

Île aux Cochons is the westernmost island of the archipelago. It is a weakly eroded dome of volcanic origin, scattered with small, inactive craters. The coastline consists in part of low cliffs. Cats, rabbits and mice occur; there is, however, no human infrastructure and visits by scientific expeditions are rare.

### Further reading


### Other threatened/endemic wildlife

Large populations of the mammals Mirounga leonina, Arctocephalus gazella and A. tropicalis breed, and two endemic plant species and 59 endemic arthropod species occur.

### Conservation issues

Île aux Cochons is a French Antarctic National Park to which access is restricted. It is also a proposed Nature Reserve. Of the three introduced species, cats are the greatest threat and have probably eliminated several species from the island.

### Site description

This site is located close to the Île aux Cochons, on the western side of the archipelago. It consists of a small group of eroded reefs and sheer islands. The main island is 3 km long. The steep coastal cliffs make access from the sea virtually impossible; they have therefore only very occasionally been visited by man. The site is free of any introduced animal species and is therefore in a largely unaltered state.

### Birds

See Box for key species. At least 19 species breed. Île aux Cochons is extremely important for its large penguin populations: it holds the world’s largest rookery of Aptenodytes patagonicus. The largest colony of Diomedea exulans in the Indian Ocean is also found here. Despite the presence of cats, large populations of small petrels still nest on the island, notably four million pairs of Pachyptila salvini and one million pairs of Pelecanoides georgicus.

### Important Bird Areas in Africa and associated islands – French Southern Territories

<table>
<thead>
<tr>
<th>Îles des Apôtres</th>
<th>TF004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin region Îles Crozet</td>
<td>A1, A4ii, A4iii</td>
</tr>
<tr>
<td>Coordinates 45°58’5”S 50°27’E</td>
<td>French Antarctic National Park</td>
</tr>
<tr>
<td>Area 800 ha</td>
<td>Altitude 0–292 m</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key species</th>
<th>A1</th>
<th>Breeding (pairs)</th>
<th>Non-breeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diomedea exulans</td>
<td>Macronectes halli</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diomedea chrysostoma</td>
<td>Sterna hirundo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phoebetria fusca</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key species</th>
<th>A4ii</th>
<th>Breeding (pairs)</th>
<th>Non-breeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aptenodytes patagonicus</td>
<td>432,000–556,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phoebetria fusca</td>
<td>1,263</td>
<td>400–500</td>
<td></td>
</tr>
<tr>
<td>Pachyptila salvini</td>
<td>4,000,000</td>
<td>4,000,000</td>
<td></td>
</tr>
<tr>
<td>Pachyptila turtur</td>
<td>50,000–200,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pelecanoides georgicus</td>
<td>1,000,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catharacta antarctica</td>
<td>150–200</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key species</th>
<th>A4iii</th>
<th>Breeding (pairs)</th>
<th>Non-breeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 10,000 pairs of seabird breed regularly at this site.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Other threatened/endemic wildlife
None known to BirdLife International.

Conservation issues
The whole of the Îles des Apôtres is a French Antarctic National Park to which access is restricted. It is also a proposed Nature Reserve.

Further reading

Île des Pingouins
Admin region îles Crozet
Coordinates 46°25’S 50°25’E
Area 400 ha Altitude 0–420 m

Site description
Île des Pingouins is situated on the western edge of the archipelago, close to the Île des Cochons. It is a small, sheer island, 4 km by 1 km, much eroded by the sea. The coastal cliffs that surround the island vary in height between 30–300 m. The island is virtually inaccessible from the sea and is therefore only occasionally visited by man. It is free of any introduced species, so both vegetation and fauna are pristine.

Birds
See Box for key species. At least 29 species breed. This site has an exceptionally high density of seabirds, notably including six species of albatross which, in addition to those listed below, comprise 300 pairs of Diomedea melanophris, four pairs of D. cauta salvini, (the only breeding locality for this subspecies in the Indian Ocean) and 30 pairs of Phoebetria palpebrata. Several thousand pairs of Pachyptila salvini salvini and Procellaria aequinoctialis also occur.

Other threatened/endemic wildlife
None known to BirdLife International.

Conservation issues
The whole of Île des Pingouins is a French Antarctic National Park to which access is restricted. It is also a proposed Nature Reserve.

Further reading

Plateau des Tourbières
Admin region île Saint Paul and île Amsterdam
Coordinates 37°50’S 77°33’E
Area 800 ha Altitude 450–742 m

Site description
This plateau covers the highest part of Amsterdam in the centre-west of the island. The plateau is an ancient lava-flow now almost entirely covered with waterlogged peatbog. A number of craters are scattered across the site. Cats, rats and mice are present. The only human habitation on the island, a scientific research station which annually houses 20 or so scientists, is situated 3 km north of the site. The site itself is visited monthly, mostly for ornithological surveys.

Other threatened/endemic wildlife
A large population of the seal Arctocephalus tropicalis (5,700 pups in 1982) occurs. Offshore Orcinus Orca (LR/cd) are seen regularly. Three endemic plant species and 10 endemic arthropod species have been recorded.

Conservation issues
The site is an ‘Area restricted to scientific and technical research’,
to which access is limited. Both cats and rats are a serious threat to petrel populations and may have been the cause of the local extinction of several species. Thanks to their inaccessibility, the vegetation of the cliff-ledges has never been grazed by the once-feral cattle.

### Further reading

### Site description
The site comprises the main island of Saint Paul and the adjacent islet of La Roche Quille. Saint Paul is triangular in shape and encloses a well-preserved, roughly circular crater open to the sea on its north-eastern side. The crater’s walls and the north-eastern coastline consist of tall cliffs, some of which are over 200 m high. La Roche Quille, situated close to the opening of the caldera, is no more than a large, steep-sided rock covered mostly in herbaceous vegetation. It was, until recently, the only part of the site free of rats, mice and rabbits. There is no human presence on the island.

#### Birds
See Box for key species. Some 15 species breed, including a colony of *Eudyptes chrysocome moseleyi* (c. 9,000 pairs), *Phoebetria fusca* (21 pairs in 1996) and *Diomedea chlororhynchos* (a few pairs). The race *maccullivrayi* of *Pachyptila salvini* is endemic to La Roche Quille where only some 100–200 pairs bred in 1996. Given its subtropical location, Saint Paul has a distinct avifauna different from that of the French subantarctic islands. Thus, several species breed which are rare in the region or at these latitudes; *Morus serrator* (1–3 pairs), *Pachyptila turtur* (10–20 pairs), *Pterodroma macroptera* (50 pairs), *Puffinus assimilis* (25 pairs), *P. carneipes* (489 pairs), *Oceanites oceanicus* (10–50 pairs) and *Sterna fuscata* (one pair). Most species breed only on La Roche Quille. However, rats and rabbits have recently been eradicated from Saint Paul and hence its potential ornithological significance has grown considerably. For instance, there is evidence that *Pterodroma macroptera* and *Pachyptila salvini maccullivrayi* have begun recolonizing.

#### Other threatened/endemic wildlife
A large population of the fur seal *Arctocephalus tropicalis* (365 pups in 1993) breeds. Four species of insect and three species of vascular plant are endemic to Saint Paul.

#### Conservation issues
La Roche Quille is a French Antarctic National Park. Access to Saint Paul is also restricted but, in practice, not controlled as there is no permanent human presence. The site has been proposed as a Nature Reserve. Between 1995–1999, an ecological rehabilitation programme funded by TAAF and the European Environmental Fund successfully eradicated rats and rabbits from Saint Paul which, it is hoped, will now be recolonized by birds from La Roche Quille, currently at carrying capacity.

#### Further reading

### Important Bird Areas in Africa and associated islands – French Southern Territories

<table>
<thead>
<tr>
<th>Site</th>
<th>Area</th>
<th>Coordinates</th>
<th>Altitude</th>
<th>Admin region</th>
<th>Protected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Île Saint Paul</td>
<td>800 ha</td>
<td>38°43'S 77°32'E</td>
<td>0–264 m</td>
<td>Île Saint Paul TF008</td>
<td>Unprotected</td>
</tr>
<tr>
<td>Péninsule Courbet</td>
<td>60,000 ha</td>
<td>49°09'S 70°22'E</td>
<td>0–500 m</td>
<td>Îles Kerguelen TF009</td>
<td>Unprotected</td>
</tr>
<tr>
<td>Islands of the Golfe du Morbihan</td>
<td>28,000 ha</td>
<td>49°27'S 70°00'E</td>
<td>0–159 m</td>
<td>Kerguelen</td>
<td>Unprotected</td>
</tr>
</tbody>
</table>

#### Site description
Péninsule Courbet consists of a large, mainly flat peninsula of alluvium deposits of glacial origin on the north-eastern tip of Grande Terre. A large number of lakes of different sizes and boggy margins are scattered across the site. Inland areas of the peninsula are, however, drier and largely unvegetated. The western edge of the site is hillier and reaches 500 m. The western limit of the site is defined by a line linking Pointe Scott and Château d’If; the archipelago’s only base camp, Port-aux-Français situated nearby, is therefore excluded.

#### Birds
See Box for key species. At least 22 species breed. Three large rookeries of *Aptenodytes patagonicus* are found on the western coast of the site, with a combined total of 172,400 pairs. *Eudyptes chrysolophus* breed along the northern coast in a string of colonies. The inland parts of the site are also important as they hold the largest population of *Anas eatoni* in the French Southern Territories. In addition, numbers of breeding *Phalacrocorax vernerus*, *Chionis minor*, *Catharacta antarctica*, *Larus dominicus*, *Sterna vittata* and *S. vittata* exceed thresholds, but quantitative data are lacking.

#### Other threatened/endemic wildlife
The site holds the largest breeding population of the mammal *Mirounga leonina* in the archipelago, with 43,782 females (1997 census data). An important population of *Arctocephalus gazella* also occurs.

#### Conservation issues
The site is completely unprotected and has not been proposed as a Nature Reserve. The vegetation has generally been badly degraded by rabbits, and cats have probably been responsible for severe declines of several species.

#### Further reading
**Important Bird Areas in Africa and associated islands – French Southern Territories**

**Birds**

See Box for key species. At least 25 species breed, including 13 species of petrel, a consequence of the milder climate and the fact that some of the islands are predator-free. It is possible that numbers of breeding *Pterodroma brevirostris*, *P. macropera*, *P. lessoni*, *Pachyptila desolata*, *P. helcheri*, *Procellaria aequinoctialis*, *Oceanites oceanicus*, *Garrodia nereis*, *Pelecanoides georgicus*, *P. urinatrix*, *Phaëtophila arctica*, *Anas eutoni*, *Chionis minor*, *Catharacta antarctica* and *Sternula virgata* exceed thresholds, but quantitative data are lacking. Regionally, the *Nereis* *P. belcheri*, *Diomedea exulans*, *Sterna halinegaster*, and *S. antarctica* exceed thresholds, but quantitative data are lacking. Regionally, the islands are of interest because of their large populations of *Halobaena caerulea* and *Procellaria cinerea*.

**Other threatened/endemic wildlife**

Several cétacés occur, notably *Cephalorhynchus commersonii* (DD). Some islands retain their original subantarctic vegetation, including *Pringlea antiscorbutica*, *Lyallia kerguelensis* and *Ranunculus moseleyi*.

**Conservation issues**

Many of the islands are ‘Areas restricted to scientific and technical research’, to which access is limited. Programmes to eradicate rats and rabbits are under way on several of the islands.

**Further reading**


**Site description**

This site, in central-southern Grande Terre, includes part of the southwestern slopes of Mont Ross, the highest peak in the French Southern Territories (1,850m) and the peculiar tilted, pointed peak known as the Doigt de Sainte Anne. The site consists of the lower mountain slopes and beaches of sand and pebbles. There is very little vegetation.

**Birds**

See Box for key species. At least 22 species breed, including nine pairs of *Diomedea exulans* (1989) and small numbers of *Phaëtophila arctica* and *Anas eutoni*; 500 pairs of *Pygoscelis papua*, 6,000 pairs of *Eudyptes chrysocome* and 4,000 pairs of *E. chrysolophus* also breed. It is possible that numbers of breeding *Pachyptila desolata*, *P. helcheri*, *Procellaria aequinoctialis*, *P. urinatrix* and *Chionis minor* exceed thresholds, but quantitative data are lacking.

**Other threatened/endemic wildlife**

The mammals *Mirounga leonina* and *Arctocephalus gazella* breed.

**Conservation issues**

The site is not protected.

**Further reading**


**Birds**

See Box for key species. At least 21 species breed, including 13 species of petrel, a consequence of the milder climate and the fact that some of the islands are predator-free. It is possible that numbers of breeding *Pterodroma brevirostris*, *P. macropera*, *P. lessoni*, *Pachyptila desolata*, *P. helcheri*, *Procellaria aequinoctialis*, *Oceanites oceanicus*, *Garrodia nereis*, *Pelecanoides georgicus*, *P. urinatrix*, *Phaëtophila arctica*, *Anas eutoni*, *Chionis minor*, *Catharacta antarctica* and *Sternula virgata* exceed thresholds, but quantitative data are lacking. Regionally, the islands are of interest because of their large populations of *Halobaena caerulea* and *Procellaria cinerea*.

**Other threatened/endemic wildlife**

Several cétacés occur, notably *Cephalorhynchus commersonii* (DD). Some islands retain their original subantarctic vegetation, including *Pringlea antiscorbutica*, *Lyallia kerguelensis* and *Ranunculus moseleyi*.

**Conservation issues**

Many of the islands are ‘Areas restricted to scientific and technical research’, to which access is limited. Programmes to eradicate rats and rabbits are under way on several of the islands.

**Further reading**


**Site description**

This site covers the western half of Péninsule Rallier du Baty in southwestern Grande Terre. It is bordered to the north by the Cook Glacier and, to the east and south, by the main mountain ridge of the peninsula and the Arête Jérémine, respectively. Protected by rivers and glaciers, it is the only part of Grande Terre free from rats and cats, while rabbits are restricted to the northern part of the site. The landscape is mostly devoid of vegetation and the relief is very hilly, with glaciers covering mountain peaks. The mountains are interrupted by large, westward-sloping glaciated valleys. The area is geothermically active, indicated by vents of steam and gas. Human visits to the site are only very occasional.

**Birds**

See Box for key species. This site holds very high densities of seabirds and at least 31 species breed. Penguins are particularly common as, in addition to those listed below, 10,000 pairs of *E. chrysolophus* breed. The colony of *Diomedea exulans* is the largest in Kerguelen. It is also the only known breeding site in the archipelago for *Macronectes*
The site is the only breeding colony of the fur seal Arctocephalus gazella (over 5,000 females). This population has probably never been exploited, which has enabled the reconcentration of other sites from which it has been exterminated. The flora is believed to be perfectly preserved. There is a large breeding colony of the fur seal Arctocephalus gazella (over 5,000 females). This population has probably never been exploited, which has enabled the reconcentration of other sites from which it has been exterminated.

**Further reading**


---

**Additional information**

### Key species

#### A1

- Diomedea exulans
- Sterna virgata

#### A2 (s048)

- Kerguelen and Crozet islands Secondary Area: Anas eatoni has been recorded at this site.

#### A4ii

- Aptenodytes patagonicus
- Pygocelis papua
- Eudyptes chrysolophus
- Diomedea exulans
- Macronectes halli

#### A4iii

- More than 10,000 pairs of seabird breed regularly at this site.

### Further reading

500 ha. The landscape of the islands is mostly flat, rising westwards to meet coastal cliffs. Access from the sea is virtually impossible because of the extensive banks of the seaweed *Macrocystis pyrifera* which surround the islands. It is likely therefore that humans have never set foot on these islands.

### Birds
See Box for key species. The only data available are from observations made offshore and so are inevitably incomplete. Five or six pairs of *Diomedea exulans* breed (1989 data) as do unknown numbers of *Macronectes halli*. It is possible that the site is of importance for several petrel species, while numbers of breeding *Phalacrocorax verrucosus* exceed the threshold, but quantitative data are lacking.

#### Other threatened/endemic wildlife
The flora is thought to be pristine. A large colony of the fur seal *Arctocephalus gazella* occurs. This population has probably never been exploited, which has enabled the recolonization of other sites from where the species had been exterminated.

### Conservation issues
The site is a French Antarctic National Park to which access is restricted. It has also been proposed as a Nature Reserve. Although the islands are naturally protected and seem never to have been visited by man, the risk of colonization by introduced species remains.

### Further reading

### Ile Foch, Ile Sainte Lanne Gramont and Ile Howe

<table>
<thead>
<tr>
<th>Admin region</th>
<th>TF017</th>
<th>Coordinates 49°00′ 69°15′E</th>
<th>Area 48,000 ha</th>
<th>Altitude 0–687 m</th>
</tr>
</thead>
</table>

**Site description**

The islands are located between the Loranchet and Joffre peninsulas of Grande Terre, just off its central north-western shore. The site comprises three large islands (Ile Foch, the largest, Ile Sainte Lanne Gramont and Ile Howe) as well as several smaller ones (Ile MacMurdo, Ile Briand, Iles Dayman and Ilets Hallet). The landscape is rugged, consisting of coastal cliffs and rocky ridges inland, cut across by fjords and valleys. The site is free of introduced mammals, with the exception of Ile Howe where rabbits occur. Other than Ile Howe, the site’s vegetation is well preserved and more dense than on Grande Terre.

### Other threatened/endemic wildlife

The mammals *Mirounga leonina* and *Arctocephalus gazella* breed.

### Conservation issues

Ile Foch is an ‘Area restricted to scientific and technical research’, to which access is limited. The rest of the site is, however, unprotected. Ile Foch and Ile Sainte Lanne Gramont are proposed Nature Reserves. There is a permanent risk of colonization by introduced mammal species.

### Further reading

---

**BIBLIOGRAPHY**


Clark, M. R. and Dingwall, P. R., eds (1985) Conservation of islands in the southern ocean, a review of the protected areas of insulantarctica. Cambridge, UK: IUCN.


---

**See Box for key species. At least 29 species breed. Populations of petrels are thought to be large due the absence of introduced mammals, but data are incomplete. Ile Sainte Lanne Gramont, in particular, is poorly known. Large populations of penguins also occur, with over 3,000 pairs of *Pygoscelis papua* and 18,500 pairs of *Eudyptes chrysocome*. Twenty pairs of *Diomedea exulans* breed on Ile Howe (1989 data) as do several tens of pairs of *Pachyptila turtur*. *Pelecanoides georgicus* is also common. It is possible that numbers of breeding *Phoebetria palpebrata*, *Pterodroma brewsteri*, *P. mollis*, *Pachyptila desolata*, *Procellaria aequinoctialis*, *Fregata tropica* *Pelecanoides urinatrix*, *Phalacrocorax verrucosus*, *Anas eutoni* and *Sterna virgata* exceed thresholds, but quantitative data are lacking.**

#### Other threatened/endemic wildlife

The site is a French Antarctic National Park to which access is restricted. It has also been proposed as a Nature Reserve. Although the islands are naturally protected and seem never to have been visited by man, the risk of colonization by introduced species remains.

#### Further reading


