

9: The Falkland Islands



Introduction

The Falkland Islands are situated in the South Atlantic. They cover an area of 12,173 km², with two main islands, East Falkland and West Falkland, and hundreds of smaller offshore islands and islets. There are 2,121 permanent residents (March 1991) with about the same number of temporary inhabitants. The traditional economic activity of the Falklands is sheep ranching for the production of wool. Since 1987 the chief source of income has been the sale of fishing licences to foreign squid and finfish fleets operating within a unilateral, offshore fisheries conservation zone.

The Falkland Islands Tourist Board was established in 1985. Tourism is directed at three main sectors: overseas wildlife and game fishing enthusiasts; cruise ships; and the local civilian and military communities. Cruise ship visits have increased from 11, carrying 1,587 visitors during the 1990–1991 summer season, to 55, carrying almost

20,000 visitors during the 1998–1999 season (Black *in litt.*).

The Falkland Islands are especially important in an international context for their bird and marine mammal populations. Threats to the wildlife of the Falklands have included the introduction of domestic livestock and other mammals, and the uncontrolled burning of native vegetation. Domesticated pigs, goats and cattle introduced in the 18th and 19th centuries to both main islands and a number of others have, together with the burning of maritime tussock grass communities in the early 1800s, resulted in the loss of important habitats. The introduction of sheep farming to the Falklands in the 1860s compounded this effect. Rats and mice found on the main islands and some offshore islands have greatly affected the bird populations.

International obligations relevant to nature conservation

- Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)
- Convention Concerning the Protection of World Cultural and Natural Heritage (World Heritage Convention)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)
- International Convention on the Regulation of Whaling

Implementation

Ramsar: various reports have been produced to identify sites suitable for designation as Ramsar sites in the Falklands (Standring 1982a; Hepburn et al. 1992; M. Smart & P. St Pierre *in litt.*). Four areas have been identified as candidate sites: Berthas Beach, Lake Sullivan/River Doyle, Pebble Island East and Sealion Island (JNCC 1998).

Protected areas

Legal protection for sites of conservation importance is provided by:

- **The Nature Reserves Ordinance of 1964:** this provides for the designation of nature reserves as follows:

Nature reserve: reserved for the purposes of protecting flora and fauna, and for providing opportunities for research on the biota, nature reserves may only be designated on Crown land. Entry into, and activities within, reserves are restricted, including the burning and cutting of vegetation and the hunting of animals.

- **The Wild Animals and Birds Protection**

Ordinance 1964: sanctuaries may be designated under this legislation, which also provides for more general protection of animals. Private land may, with the consent of the owner, be made a wild animal and bird sanctuary. The protected area designations are:

Animal and bird sanctuary: established for the protection of animals and birds, with specified exceptions. The introduction of animals is prohibited and there is provision for scientific research.

Private sanctuary: protected with the consent of the landowner, provisions are as above, although subject to the landowner's stipulations. Limited farming, tourism and research can occur.

There are currently 11 sanctuaries, three on Crown land and eight on private land. In addition there are 48 nature reserves, all of which are on off-shore islands: 20 on Crown land covering 1,692 ha; 14 on private land covering 3,400 ha; and 14 conservation reserves covering 768 ha (A. Brown *in litt.*).

Habitats of major significance

The Falklands consist of two main islands, East Falkland and West Falkland, together with over 420 associated islands and islets. They are composed of sedimentary rocks: the landscape is generally rugged and hilly, with the highest peaks being Mount Adam (700 m) on West Falkland and Mount Usborne (705 m) on East Falkland. East Falkland is divided into two large land blocks, connected by a narrow land bridge. The southern block is dominated by the Plain of Lafonia, an area of gentle relief. The coastline is deeply indented.

The climate of the islands is cool temperate oceanic, and supports a vegetation consisting of heath, grassland, bog and feldmark communities. On the main islands the vegetation has been severely degraded by burning and overgrazing. Most of the main islands are dominated by oceanic heath, with grass and small shrubs; bush and scrub

associations are found inland on well-drained slopes; bog communities are found on poorly drained areas; while feldmark vegetation occurs above 600 m, with cushion-forming vascular plants and associated mosses and lichens. Vegetation of the smaller ungrazed offshore islands is generally dominated by dense stands of tussock grass. There are no trees. Kelp beds are common around the coasts (Clark & Dingwall 1985; Oldfield 1987).

Species of major significance

Plants

The vascular plant flora consists of 169 taxa of which 15 taxa are endemic (Moore 1968, 1973; Broughton & McAdam 1999). Moore (1968, 1973) describes all known species and the main vegetation associations, but provides little information on species distributions. Inventory of lower plants is incomplete. The moss flora includes at least 168 species and subspecies of which 43 have not been recorded outside the Falklands (Greene 1983) and there are also 127 known liverworts including three endemics (Engel 1972). It is likely that further survey work and taxonomic research will uncover other endemic plant species within the Falkland Islands.

The endemic vascular plant species recorded to date are:

Falklands rock cress, *Arabis macloviana* (E);
 Felton's flower, *Calandrinia feltonii* (E);
 Barros sedge, *Carex barrosii*;
 Clubmoss cudweed, *Chevreulia lycopodioides*;
 Hairy daisy, *Erigeron incertus* (R);
 Falklands cudweed, *Gnaphalium affine*;
 Antarctic cudweed, *Gamochaeta antarctica*;
 Silver-leaved ranunculus, *Hamadryas argentea* (R);
 Falkland lilaeopsis, *Lilaeopsis macloviana*;
 Coastal nassauvia, *Nassauvia gaudichaudii*;
 snake plant, *Nassauvia serpens*;
 Falkland false plantain, *Nastanthus falklandicus* (R);
 Moore's plantain, *Plantago moorei*;
 Woolly Falkland ragwort, *Senecio littoralis*;

Smooth Falkland ragwort, *Senecio vaginatus*.

The sub-species *Sisyrinchium junceum filifolium* may be endemic to the Falkland Islands but its taxonomic status is uncertain.

Invertebrates

The invertebrate fauna of the Falkland Islands is relatively poorly known. An insect checklist was prepared for the Falklands by Robinson (1984) and references to invertebrate groups are scattered through the literature (e.g. Coleman 1982, Usher 1983, Worsfield 1991, Eason 1993, Bamber 1995, Stary & Block 1996). A high proportion (70%) of the insect species described from the Falkland Islands have not been recorded elsewhere in the world; further survey and taxonomic research in the region is needed to determine what proportion of these are true endemics (Fuller 1996).

Fish

Three species of freshwater fish have been recorded from the Islands, although only two—the native trout *Aplochiton zebra*, which also occurs in western Chile, and Falkland smelt *Galaxias maculatus* which is widely distributed in southern South America, Australia and New Zealand—have been recorded in recent times (McDowell 1971a, b). In the Falklands the native trout has been severely affected by the introduction of brown trout *Salmo trutta*, and is apparently now restricted to a few lakes.

Birds

The avifauna is well documented and the Atlas of breeding birds of the Falkland Islands, presenting the results of a survey based on a 10 km sq. grid, has recently been published (Woods & Woods 1997). One species is endemic, the Falkland steamer duck *Trachyeres brachydactyla*, and up to 16 subspecies or races may be endemic. Notes on these endemics, based on Woods & Woods (1997) are given below. The Falkland Islands are recognised as an Endemic Bird Area (EBA). Tierra del Fuego and the Falklands share another EBA as

the following species are present in both regions: tussacbird *Cinclodes antarcticus*, ruddy-headed goose *Chloephaga rubidiceps*, striated caracara *Phalacrocorax australis*, and the black-throated finch *Melanodera melanodera*. (ICBP 1992).

Endemic bird species and races

White-tufted grebe *Rollandia rolland rolland*: this race is endemic to the Falklands; further investigation is needed to establish whether it is an endemic species. White-tufted grebe is rare in the Falklands and numbers may have declined. Studies of the wetland habitats are needed to ensure its survival.

Common diving petrel *Pelecanoides (urinatrix) berard*: this race may be a full species but the intraspecific taxonomy of the species is not fully resolved. In the Falklands the common diving petrel is known from a few colonies but their distribution and size are uncertain. Investigation of islands with good tussac grass cover is needed. Predation by cats or rats is a potential threat.

Black-crowned night heron *Nycticorax nycticorax falklandicus*: this is apparently an endemic sedentary race which is widespread mainly around the coasts of the Falkland Islands. Beach pollution is a potential threat.

Upland goose *Chloephaga picta leucoptera*: widespread and abundant in the Falklands, this local race is not currently threatened. It has been viewed as a pest by sheep farmers and management issues are documented by Summers & McAdam (1993).

Kelp goose *Chloephaga hybrida malvinarum*: the Falkland race of this goose is not threatened, but is potentially vulnerable to coastal pollution as it is dependent on coastal green algae.

Falkland steamer duck *Tachyeres brachypterus*: this flightless endemic species is not currently threatened but is potentially vulnerable to pollution of coastal waters as it feeds on marine invertebrates.

Short-eared owl *Asio flammeus sanfordi*: the short-eared owl is one of the least common landbirds in the Falklands; this endemic race is found on some of the larger islands and on tussac islands where it usually breeds.

Tussacbird *Cinclodes antarcticus antarcticus*: formerly abundant around the coast, this subspecies has become rare in the Falklands where cats and rats are present. Commercial removal of kelp and coastal pollution are potential threats.

Dark-faced ground-tyrant *Muscisaxicola macloviana macloviana*: an endemic race found in a variety of habitats, it appears to co-exist with cats and rats and is not under any immediate threat.

Falkland pipit *Anthus correndera grayi*: inhabiting large areas of coarse white grass during the breeding season, feral cats and rats probably pose the greatest threat to its survival.

Falkland grass wren *Cistothorus platensis falklandicus*: an endemic race of the grass wren which seems to be widespread, but probably has a small total population as it requires a particular habitat type (wet or flooded lowland with adequate shelter).

Cobb's wren *Troglodytes aedon cobbi* (VU): this endemic wren is considered vulnerable as a result of the long-term destruction of tussac habitat, the impact of introduced mammals, and the small geographic range of its scattered population.

Falkland thrush *Turdus falcklandii falcklandii*: widespread in the Falklands, this species has adapted to a wide variety of habitats. It does not appear to be under any current threat.

Black-throated finch *Melanodora melanodora melanodora* (LRnt): there are currently no obvious threats to the black-throated finch in the Falklands.

Long-tailed meadowlark *Sturnella loyca falklandica*: this species is widespread in the Falklands and is not currently considered to be under threat.

The seabird populations of the Falklands are of international importance. The Falkland Islands have the world's largest concentration of southern rockhopper penguin *Eudyptes chrysocome chrysocome*, a quarter of the world population of gentoo penguin *Pygoscelis papua*, and a significant proportion of the world population of Magellanic penguin *Spheniscus magellanicus*, possibly up to 10% (Woods & Woods 1997). The king penguin *Aptenodytes patagonicus* is at the extremity of its global range in the Falklands, and its population is almost entirely concentrated at Volunteer Point. Information on the status of penguin populations in the Falklands is given by Bingham (1996).

The Falklands are the world's single most important breeding area for the black-browed albatross *Diomedea melanophris*, probably supporting 80% of the world population of some 682,000 pairs (Croxall et al 1984; M. Tasker *pers. comm.*). The Falkland breeding population of southern giant petrel *Macronectes giganteus* represents approximately 20% of the world population. The islands also hold a significant proportion of the world population of thin-billed prion *Pachyptila belcheri* (Woods & Woods 1997; Enticott & Tipling 1997). In response to recent oil exploration licences, studies are presently underway into the use by seabirds of the waters around the Falklands.

Other important bird species found in the Falkland Islands include the bulk of the world population of ruddy-headed goose *Chloephaga rubidiceps* (LRnt) and striated caracara *Phalacrocorax australis* (LRnt). A significant proportion of the world population of white-rumped sandpiper *Calidris fuscicollis* overwinter in the islands. The Hudsonian godwit *Limosa haemastica* (LRnt), the Feugian snipe *Gallinago stricklandii*, and the canary-winged finch *Melanodera melanodera* (LRnt) have also been recorded. The Falkland populations of the two-banded plover *Charadrius falklandicus* and the Magellanic snipe *Gallinago paraguayiae magellanica* may be distinct geographical races. The plover is not currently considered to be threatened; the snipe is fairly common and widespread in the Falklands but is apparently preyed upon by feral cats. The snipe has

been classed officially as a game bird but is not being hunted.

Mammals

Southern sea lion *Otaria flavescens*: studies of the Falkland Island population in the 1930s revealed 380,000 individuals, but this number has declined to 15,000 by the late 1980s. This decline may be due to an increase in fishing activity (Reijnders *et al.* 1993).

Southern elephant seal *Mirounga leonina*: seals breeding on the Falkland Islands form part of a distinct population which also breeds on the Valdes Peninsula on mainland South America (Reijnders *et al.* 1993).

South American fur seal *Arctocephalus australis*: two subspecies have been described – *Arctocephalus australis australis* for the Falkland population and *Arctocephalus australis gracilis* for the mainland population. The validity of these subspecies is disputed (Reijnders *et al.* 1993). In the Falkland Islands the species is now mainly found on Volunteer Rocks, Elephant Jason Island and New Island. The population of the Falkland Islands is about 5% of the world population.

Leopard seal *Hydrurga leptonyx*: this circumpolar species is occasionally present around the Falkland Islands (Clark & Dingwall 1985).

An assessment of whale numbers around the Falklands and South Georgia region has been made by the Sea Mammal Research Unit (A.R. Martin *in litt.*; M. Bingham *in litt.*). The following species are either abundant or regularly recorded in the region: sperm whale *Physeter catodon* (VU); killer whale *Orcinus orca* (LRcd); Peale's dolphin *Lagenorhynchus australis* (DD); dusky dolphin *L. obscurus* (DD) and Commerson's dolphin *Cephalorhynchus commersonii* (DD). A number of other species have been recorded but are scarce: southern right whale *Eubalaena australis* (LRcd); blue whale *Balaenoptera musculus* (EN); fin whale *Balaenoptera physalus* (EN); sei whales *Balaenoptera borealis* (EN); minke whale *Balaenoptera acutorostrata* (LRnt);

humpback whale *Megaptera novaeangliae* (VU); Cuvier's beaked whale *Ziphius cavirostris* (DD); southern bottlenosed whale *Hyperoodon planifrons* (L.Rcd); Hector's beaked whale *Mesoplodon hectori* (DD); Gray's beaked whale *M. grayi* (DD); straptoothed whale *M. layardii* (DD); southern right whale dolphin *Lissodelphis peronii* (DD) and spectacled porpoise *Australophocaena dioptrica* (DD).

Species protection

• The Wild Animals and Birds Protection

Ordinance 1964: this Ordinance makes it an offence to kill, injure, or take all species of wild animal or wild bird, excluding a number of species considered as pests. In addition to foxes *Dusicyon griseus*, rats *Rattus spp.*, mice *Mus musculus*, rabbits *Oryctolagus cuniculus* and, possibly, *Sylvilagus* sp. (Strange 1992), carachos *Caracara plancus* and turkey vultures *Cathartes aura*, these 'pests' include kelp gull *Larus dominicanus*, skua *Catharacta spp.*, house sparrow *Passer domesticus*, upland goose *Chloephaga picta leucoptera*, ruddy-headed goose *Chloephaga rubidiceps*, thin-billed prion *Pachyptila belcheri* and hare *Lepus europaeus* which are listed in Schedule I. A further five species of game birds which may be taken outside a summer close season are listed in Schedule II. Various exceptions to the general prohibitions are made for scientific studies and for instances of serious injury or damage to domestic animals, crops, fisheries or other property. The Ordinance also covers the taking of penguin and albatross eggs under licence for human consumption, but does not protect other species' eggs.

• Seal Fishery Ordinance 1921 and Seal Fishery (Amendment) Ordinance 1951:

these Ordinances were enacted to protect dwindling seal stocks, harvested for oil and skins, through the implementation of a licensing and reserve system. These industries have now ceased, although several seal reserves remain.

• The Whale Fishery Ordinance 1936 and Whale Fishery Amendment Ordinance 1964:

these have been superseded by the 1992 Sea

Mammals Protection Bill which protects all cetaceans and seals within 150 miles of the Falklands.

- **The Control of Kelp Ordinance 1970:** makes provision for the licensing of seaweed harvesting and export.

In 1986, a 150-mile Falkland Islands Interim Conservation and management Zone (FICZ) was established to regulate fishing activities; a number of countries are permitted to fish within the zone. In 1990 the Falkland Islands Outer Conservation Zone (FOCZ) was declared which extends beyond the FICZ to the north, east and south of the Falkland Islands to 200 miles, measured from coastal baselines. Further details are given in the 1996 Fisheries Statistics Report (Falkland Islands Government Fisheries Department 1997).

New conservation legislation is being drafted and is expected to be enacted at the end of 1999.

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Conservation agencies

With the exception of the Director of Fisheries, who has responsibility for the conservation of offshore fish and squid stocks, there is no professional conservation officer within the Falkland Islands Government (FIG). Access to reserves and sanctuaries on Crown land is nominally under the control of the Director of Agriculture, in his capacity as Lands Officer. In addition, a local naturalist, Ian Strange, has acted as the FIG's Honorary Conservation Adviser over the past 20 years. Recommendations that a professional conservation officer or advisor should be appointed (e.g. Shackleton 1982; Standring 1982b; Dunnet 1983; Strange 1989) have not yet been implemented.

Falklands Conservation (formally Falkland Islands Foundation) is a charitable NGO, founded in 1979, which aims to promote the protection of the Islands' natural and historic heritage. With funding assistance from the FIG and outside agencies such as WWF-UK, Falklands Conservation runs ecological research, survey and monitoring projects, provides educational materials, manages a number of small offshore island reserves and provides advice to the FIG on conservation issues.

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