

## **AGENDA**

**Special Meeting of Environmental Committee**

**16<sup>th</sup> September 2015, 9.00am**

**Fisheries Conference Room**

### **Distribution List:-**

**Hon. Mr Michael Poole, MLA**

**Hon. Mrs Jan Cheek, MLA**

**Representative, Falkland Islands Tourist Board**

**Representative, Rural Business Association**

**Representative, Department of Agriculture**

**Representative, Falkland Islands Fishing Companies Association**

**Representative, Falklands Conservation**

**Environmental Officer**

**Head of Environmental Planning**

**Representative, South Atlantic Environmental Research Institute**

**HE The Governor**

**Principal Crown Counsel**

Special Meeting of Environmental Committee

16<sup>th</sup> September 2015, 9.00am

Fisheries Conference Room

1.	<b><u>Apologies for Absence</u></b>
2.	<b><u>Declarations of Interest</u></b>
3.	<b><u>Draft Biodiversity Framework (attached)</u></b> <i>The committee is asked to endorse seeking Executive Council approval for the framework for consultation (and to advise of any changes they wish to see made prior to the consultation)</i>
4.	<b><u>Draft Strategy (to follow)</u></b> <i>The committee is asked to endorse seeking Executive Council approval for the strategy for consultation (and to advise of any changes they wish to see made prior to the consultation)</i>
5.	<b><u>Draft Action Plans (attached)</u></b> <i>The committee is asked to endorse seeking Executive Council approval for the action plans for consultation (and to advise of any changes they wish to see made prior to the consultation)</i>
5.1	Species Action Plan: Ruddy-Headed Goose
5.2	Species Action Plan: Mainland Tussac
5.3	Site Action Plan: Sealion Island
6.	<b><u>Approach to consultation</u></b> <i>The committee is asked to advise of any key consultation methods that it is considered should be used.</i>
	<b><u>Background Documents</u></b> Executive Council Report: Biodiversity Framework Scoping Report (36/15) Biodiversity Framework Workshop (May 2015) Report

Notes:

- *The minutes from the previous meeting will be considered at the next normal meeting in October.*
- *There are no exempt items for this meeting.*

# **Falkland Islands Biodiversity Framework**

**2015 - 2030**

*Draft September 2015*

FIG Environmental Planning Department

Index:

Foreword

Executive Summary

Part One: A Strategy for Falkland Islands Biodiversity

Part Two: Vision, Goals and Principles

Part Three: Ecosystems/Biomes

Part Four: Priority Biodiversity Threats and Threat-Based Strategies

Part Five: Priority Species and Habitats

Part Six: Priority Sites

Part Seven: Implementation

## Foreword

*The importance and value of the biodiversity and ecosystem processes in the Falkland Islands is clear, both economically and in the sense of national awareness and well-being. The future of the Falkland Islands hinges on the sustainable use of our resources and on our success in balancing the needs of the community, government and environment. Eleven processes threaten the biodiversity of the Falkland Islands. Some species and habitats are more threatened than others are, and as such, some mitigating actions need to be addressed more urgently than others.*

*We also receive services from the environment, yet we often take them for granted because they are provided free of charge. They include carbon recycling and climate regulation, waste decomposition and detoxification, nutrient dispersal and recycling, purification of water and air, plant pollination, seed dispersal, pest and disease control and energy from the wind and peat. The environment is also considered by many to be the centre piece of the culture of the Falkland Islands; Falkland Islanders and visitors receive cultural, intellectual and spiritual inspiration, recreational experiences and scientific discovery.*

*The development and implementation of this Biodiversity Framework will prioritise required actions to address the critical threats. These actions will both inform, and be informed by, the wider social, economic and environmental developments and policies for the Islands.*

## **Executive Summary**

### **Accompanying Document**

The Biodiversity Framework should be read in conjunction with the Falkland Islands State of the Environment Report 2008-18 (review target 2016). [Add Weblink]

### **Part One: A Strategy for Falkland Islands Biodiversity**

The quality of the Falkland Islands environment and the biodiversity it supports are important parts of the identity of the people who live in the Falkland Islands and underpin the wealth of the economy. Our land and oceanic ecosystems, habitats, wildlife and vegetation are diverse and of international importance. A Biodiversity Framework, together with other strategies and plans, will guide how the environment will be managed successfully.

### **Part Two: Vision, Goals and Principles**

The vision and goals describe the desired future for the biodiversity of the Falkland Islands and our management of it over the long term (15 years). The vision for the Biodiversity Framework is: *“We will conserve and enhance the natural diversity, ecological processes and heritage of the Falkland Islands, in harmony with sustainable economic development.”*

### **Part Three: Priority Ecosystems/Biomes**

Eleven extensive ecosystems are found in the Falkland Islands, ranging from the deep sea to montane environments. These ecosystems are at the core of better understanding the environment and identifying threats to these systems. A full description of the 11 biomes occurring in the Falkland Islands will be produced to recognise the importance of the ecosystems underpinning the wider environment.

### **Part Four: Priority Biodiversity Threats**

Eleven processes are identified as threatening the environment of the Falkland Islands. These have been prioritised in the terms of the likelihood of the threat occurring, the significance of the impact should the threat occur, the costs of mitigation actions and the likelihood of their success. Three threatening processes are recognised as being of high biodiversity priority and a further three are recognised as being of medium priority. Four processes are of low priority. Six strategies have been identified to mitigate the high and medium priority threats identified.

### **Part Five: Priority Species and Habitats**

Dedicated action is required to protect a number of threatened Species and Habitats in the Falkland Islands. The action plans will follow a basic template and be simple to use. They will identify the causes of decline, threatening processes and the specific measures needed to arrest and reverse the decline.

### **Part Six: Priority Sites**

Important biodiversity sites will be identified in a Priority Places/Species Strategy. Action plans for some particularly sensitive sites will be required. This will focus initially on designated National Nature Reserves and FIG-owned biodiversity sites.

### **Part Seven: Implementation**

How the action tasks will be implemented is described in Part Seven. The Framework is underpinned by the implementation of Strategies and Action Plans. Their undertaking and the support for their production is described in this section.

# Part 1: A strategy for Falkland Islands Biodiversity

## 1.1 A Summary of the Natural Heritage of the Falkland Islands

Biological diversity – biodiversity – is the variety of life and its processes and it includes the variety of living organisms, the genetic differences among them, and the communities and ecosystems in which they occur. The 'Falkland Islands State of the Environment 2008' report (planned for review in 2016) documents the current knowledge of the Falkland Islands environment, both on land and at sea, of the geology, meteorology, oceanography and biodiversity. It also describes the current human population, social infrastructure, and commercial and recreational activities undertaken within land and marine habitats. The report highlights processes that threaten Falkland Islands wildlife and identifies some key conservation policies required to mitigate these threats. A summary of this knowledge is presented.

### Context

The Falkland Islands lie in the south-west region of the South Atlantic Ocean, approximately 600 km east of the mainland of South America, between latitudes 51°S and 53°S, and longitudes 57°W and 62°W. There are two main islands and nearly 750 smaller islands and islets, comprising a total land area of about 12,200 square kilometres.

The Falkland Islands have a cool temperate oceanic climate, dominated by westerly winds and low annual rainfall (450 - 600 mm/year). During the last 50 years, there has been a drying and warming of the climate, both on land and at sea, but in the long-term, it is likely to be cooler, more cloudy and rainy in the Falkland Islands. There has been some recent analysis of terrestrial climate data available for the Falkland Islands. This may allow the development of predictive models in order for the Falkland Islands community to prepare for the ramifications of global climate change.

The Falkland Islands are an Overseas Territory of the United Kingdom and are self-sufficient in all areas except for defence and external relations. People first inhabited the Falkland Islands in 1764 and the current population stands at approximately 3,000 people. Most people live in the capital Stanley, with less than 400 people living in 70 settlements across the islands. The Falkland Islands Government has made significant infrastructure improvements in recent years to upgrade power, water, sewage and waste disposal services in Stanley, and these have had significant local environmental benefits.

There is a British Military base in East Falklands and the military run a joint services complex and a number of remote sites and all Ministry of Defence operations are run under British environmental legislation.

### Economic Development

The major land uses outside of Stanley are sheep and cattle farming, military defence and nature-based tourism. The farming system in the Falkland Islands is low intensity ranching of 480,000 sheep and 4,000 cattle, with only about 0.3% of the farmland under active improvement. There is a move towards different, more holistic systems of farm management and grazing, which consider the need to protect threatened species and maintain ecosystem processes and farmers increasingly focus on customers who enjoy organic products that come from a healthy and unpolluted environment.

Wildlife tourism is a well-established industry in the Falkland Islands and the cruise ship sector has grown considerably in recent years, with 67,000 visitors during the 2014/15 season. The increasingly demanding international tourist expects the green image that we advertise to be backed up by reality. The Falkland Islands Countryside Code was devised in

2001 and is included in all material produced for visitors. Some species and habitats are sensitive to visitor disturbance, physical damage and deleterious effects on breeding success, and from associated risks of invasive species and fire.

Since the late 1970s, the seas around the Falkland Islands have been an important area for commercial fisheries, although the Falkland Islands Government has only been able to regulate it since 1986. The fishery has targeted eleven species of finfish, two species of cephalopod and one bivalve, and there is a well-developed system of setting licence fees, managing stocks and patrolling the waters. Considerable work has been done to mitigate accidental seabird bycatch, with mortality much reduced. The Patagonian Toothfish longline fishery was recognised with Marine Stewardship Council certification in 2014.

The second main commercial activity in the offshore marine environment of the Falkland Islands is an exploratory petroleum programme, which commenced in the 1970s, and has included seismic surveys and three exploration and appraisal drilling rounds. An oil discovery field was declared in the North Falkland Basin in 2011. A Gap Analysis Project is underway to identify crucial gaps in knowledge in the marine environment prior to potential oil development.

These offshore activities have the potential to threaten species and habitats, not only inshore and offshore, but also on land, through unsustainable catches of target and non-target species, the provision of food that animals normally could not access (e.g. seabirds eating deep-sea fish by-caught by trawlers), physical damage to the sea bottom, oil and plastic pollution and man-made noise. A 'Marine Spatial Planning' project is underway to better coordinate the use of the marine environment in the face of these pressures. **For the purposes of planning, development of offshore hydrocarbons has not been assumed in this Framework.**

### Terrestrial Environment

The majority of Falkland Islands animals and plants show strong affinities to Patagonian South America. The Falkland Islands lie on the edge of the Patagonian shelf, where there is an abundance of demersal and pelagic marine species, which provide rich foraging for seabirds and marine mammals, which often have strong connections with the land environment.

Nineteen land habitat types are recognised in the Falkland Islands. The lower and non-vascular plants (e.g. freshwater algae, liverworts, lichens and fungi) are poorly studied in the Falkland Islands, whilst 21 species of ferns and club mosses have been recorded. The vascular flora consists of 348 species, with 171 native species and 14 endemic species. Most plant species found in the Falkland Islands, including endemic species, occur over a wide range of altitudes, soil types, habitats and exposures.

Twenty Three plant species (13% of native taxa) listed in the Falklands Red Plant List are protected by legislation. There has been little data collected on long-term habitat change, and for this reason, it is difficult to determine whether the threatened species have a naturally limited distribution or frequency, or whether there has actually been a significant change. Coastal tussock grass and boxwood/fachine scrub are recognised as having suffered major declines in the Falkland Islands.

A number of processes threaten the vegetation of the Falkland Islands. The most important threats are invasive species, livestock grazing, and climate change (particularly air temperature and rainfall).

Invertebrate life forms a very important part of the Falkland Islands ecology in a land without native trees, reptiles, amphibians or terrestrial mammals. Invertebrates perform a critical role

in the breakdown and recycling of organic matter, the formation of soil and at all stages of their life history, are important food sources for a variety of birds. Twelve species of earthworm, 43 species of spider and nearly 200 species of insect are reported for the Falkland Islands, although many collected specimens remain to be fully analysed. Thirteen terrestrial invertebrates are currently recognised as endemic.

The birdlife of the Falkland Islands are well documented, with 21 resident land birds, 18 resident water birds, 22 breeding seabirds and 18 annual non-breeding migrants recognised and about 150 species recorded as occasional visitors. The Falkland Islands support globally significant populations of a number of species, as well as two endemic species and 14 subspecies. Under IUCN classification, there are ten species of conservation concern here.

**Seven species and habitats require action plans.** Seventeen Important Plant Areas have been identified and plans for their long-term management will be developed (see Falkland Islands State of the Environment Report 2008).

All bird species, except two, are protected in the Falkland Islands. Seventeen processes threaten birds, but due to the lack of knowledge about the habitat requirements of some species, assessing the risk posed by each threat to all species is difficult. **Eleven species have been identified as requiring Action plans.** Twenty two Important Bird Areas were identified in 2006 (see Falkland Islands State of the Environment Report 2008).

#### Marine Environment

Much of the land in the Falkland Islands has a coastal and/or freshwater connection and six species of fish, including zebra trout and Falklands minnow, are found in freshwater and brackish estuaries. Freshwater invertebrates, fish and birds can be effected where there are physical changes to watercourses, invasive species and pollutants. The zebra trout is fully protected under Falkland Islands legislation and a species action plan is in place.

There is limited information on the intertidal and near shore coastal shallow marine environment (down to 30m water depth) in the Falkland Islands. Seaweeds make a major contribution to primary production, as well as providing a habitat and/or a food source for a wide range of marine fauna in the Falkland Islands, but they are not well inventoried or studied.

**Baseline surveying, habitat mapping and taxonomic identification of marine invertebrates are also a high research priority for the Falkland Islands.** This knowledge is essential, as there are a number of processes that could potentially threaten the intertidal and shallow marine environment in the Falkland Islands. These include oil spills from vessels and oil exploration, invasive species, damage to the seabed, and toxic algal blooms.

The inshore and offshore environment of the Falkland Islands support a variety of whale, dolphin, seal and sea lion species, including at least eleven species of cetaceans listed by the IUCN as being of conservation concern. However, for all marine mammals in the Falkland Islands, there are gaps in information about distribution, abundance, diet, and important foraging and breeding sites, and this hinders assessment of the effects of current and proposed activities in the marine environment.

#### **Key Biodiversity Areas (KBAs) summary and reference**

##### Invasives

Seven plants, 14 mammals, one land invertebrate and one fish species are recognised as invasive in the environment of the Falkland Islands. There is a programme of eradicating rats from islands. Three invasive plants are systematically controlled. Biological control

agents to control earwigs are to be trialled in the coming months. There are also a number of imported species in the Falkland Islands that have high commercial and social importance, such as sheep, cattle, horses, pasture grasses and sea trout. They too form part of the biodiversity of the Falkland Islands.

## **1.2 International and National Commitments**

### Our international position

The Falkland Islands has a global responsibility for the protection and well-being of a number of species and habitats, for which our islands have stronghold populations. These global responsibilities are highlighted in a number of multilateral environmental agreements that the Falkland Islands has ratified, as summarised below.

- The Convention on Wetlands of International Importance, especially as Waterfowl Habitat, known as the Ramsar Convention - to make wise use of all wetlands and to promote the conservation of wetlands through the establishment of nature reserves on wetlands
- The Convention on the Conservation of Migratory Species of Wild Animals - to protect and conserve terrestrial, marine and avian migratory species throughout their range across international boundaries
- The Agreement on the Conservation of Albatross & Petrels (ACAP) - requires countries to produce an action plan that addresses all threats relevant to albatrosses and petrels
- The Convention on International Trade in Endangered Species (CITES) - regulates, by a permit system, international trade in wild animals and plants that are listed in three appendices and the level of control and prohibition of trade is dependent upon the appendix listing of the biological material
- The Kyoto Protocol - countries that ratify this protocol must commit to reducing their emissions of carbon dioxide and five other greenhouse gases

The Convention on Biological Diversity serves to focus national efforts. The Convention's objectives are to conserve biological diversity, to use biological resources sustainably and to share equitably the benefits arising from the use of genetic resources. It is a framework agreement that puts the onus on individual parties to determine how the provisions are to be implemented but requires the development of national strategies, plans or programmes for the conservation of biodiversity and sustainable use. The Falkland Islands Government has also been invited to sign up to the Convention on Biological Diversity and has been actively working towards the CBD targets through their inclusion in the original Biodiversity Strategy (adopted 2009), although has not yet asked for the convention to be formally extended.

To guide domestic environmental policies, the UK and the Falkland Islands signed an Environment Charter in 2001. It sets out eleven key commitments, which are a range of policies and specific undertakings for both the Falkland Islands Government and the UK government.

### Our National Commitments

Strategic national direction for the medium term in the Falkland Islands is clearly laid out in the 'Islands Plan 2014/18', which has as its Mission Statement: 'To improve the quality of life of present and future generations by stimulating economic and social development, within the constraints of our limited resources and the need to protect the environment'. The Islands Plan has eight objectives in the environment section.

Islands Plan 2014/18 Environmental Objectives

- Demonstrate the Falkland Islands' commitment to responsible environmental management by upholding and implementing our commitments to international environmental agreements.
- Implement a responsible strategy to mitigate the effects of climate change, including:
  - Exploring and supporting further take-up of renewable energy in both Stanley and Camp; and
  - Implementing measures to improve the energy efficiency of existing buildings so as to reduce energy consumption.
- Agree and progress a Waste Management Strategy for the Islands for the next 10-15 years, and reduce the proportion of waste sent to landfill.
- Implement appropriate land and marine spatial planning frameworks to ensure the preservation and management of both the terrestrial and marine environments of the Falkland Islands.
- Address gaps in the Islands' environmental legislation to ensure that it is fit for purpose for future hydrocarbons production. We will continue to support joint programmes of environmental research between FIG and hydrocarbons industry.
- Progress an ecosystems services assessment of the islands so as to better understand the values of our environment, and to improve the economic, social and lifestyle benefits it provides.
- Review and update the Islands' Biodiversity Strategy, and work with partners to ensure its delivery.
- Proactively manage Stanley Common to ensure an appropriate balance between nature conservation and recreational activity.

One of the key strategies to assist with meeting the nine objectives of the Islands Plan is the Falkland Islands Development Plan 2015-2030, which was adopted in 2015. The previous 2009 Biodiversity Strategy was a daughter document of the Development Plan, however as many of the biodiversity issues, threats and opportunity go beyond the planning system, this new Biodiversity Framework flows directly from the national Islands Plan and sits alongside, not underneath, the Development Plan.

Nevertheless, the Development is a key document which provides a framework for sustainable growth throughout the Falkland Islands via controlled development in Stanley and the revitalisation and diversification of Camp. Under the Development Plan, the overall approach to land use and the management of development in the Falkland Islands will be based on the following vision, which defines how the Falklands will be sustainably developed.

*Vision: By 2030 the Falklands will continue to grow its reputation as a favourable place to do business, where the environment is respected and enhanced and where there is appropriate infrastructure.*

*Stanley will remain a single coherent settlement with substantial housing and employment growth being well related to existing areas. Within a well maintained historic core, a modern and attractive retail, office and hotel hub will respect the wider setting and facilitate a positive visitor experience to the town. Key strategic infrastructure to facilitate the development of oil/gas, tourism and fishing will be in place, alongside the utilities and social infrastructure to meet the needs of a growing population. The town will be a safe, attractive and convenient place to live, providing opportunities for healthy lifestyle and a range of recreational activities. Appropriate access to Stanley Common will be facilitated whilst maintaining a focus on nature conservation within key sites and areas.*

*Camp will be a thriving and diverse place, offering a viable alternative location to Stanley for living and working. Its diversified economy will benefit from a modern agricultural sector,*

*growth of land based tourism and fit for purpose infrastructure and services. The built and natural heritage will be respected and enhanced, including protection of our internationally important wildlife.*

### Legal Framework

There are a number of ordinances in the Falkland Islands involved in the sustainable use of natural resources and remediation when damage to the land or sea occurs.

- Conservation of Wildlife and Nature Ordinance 1999 - contains provisions for the protection of wild birds, wild animals and wild plants, introduction of new species and for the designation of National Nature Reserves
- Marine Mammals Ordinance 1992 - protects all marine mammals
- Endangered Species Ordinance 2015 - enacted in order that the Falkland Islands upholds the Convention on International Trade in Endangered Species (CITES).
- Grass Fires Ordinance 2002 - enables management of camp burning during the drier summer months
- Plant Disease Regulation Controls 1944 and Customs Ordinance 2003 - controls the import of plants and animals
- Planning Ordinance 1991 - includes provisions for the preparation of development plans, the handling of planning applications and Environmental Impact Assessments
- Planning (Environmental Impact Assessment) Regulations 2015 (SR&O No 6 of 2015) – allows for the mandatory provision of Environmental Impact Assessment of certain developments
- Marine Farming Ordinance 2006 - created to allow the licensing of farming of fish, crustaceans and molluscs
- Fisheries (Conservation and Management) Ordinance 2005 - enacted to manage commercial fisheries, with two objectives being is to maintain the potential of fisheries resources to meet the reasonably foreseeable needs of future generations and to avoid, remedy or mitigate adverse effects of fishing on the marine environment
- Offshore Minerals Ordinance 1994 (amended 1997 and 2011)- enables seismic survey work and exploratory drilling under specific licence conditions, including provision for an Environmental Impact Assessment
- Oil pollution - is managed by the Environment Protection (Overseas Territories) (Amendment) Order 1997, the Merchant Shipping (Oil Pollution) Act 1971, Merchant Shipping Act 1995 and Oil in Territorial Waters Ordinance 1987.

## **1.3 Key Organisations and Stakeholders**

### Falkland Island Government (FIG) Departments

A number of FIG Government Departments are involved in the delivery of sustainable use and development of natural resources, including the Environmental Planning Department, the Department of Agriculture, the Fisheries Department, the Department of Mineral Resources, and the Department of Public Works. Within FIG, the Biodiversity Framework will be led by the Environmental Planning Department, and reflected in the annual business plan.

### Conservation organisations

There is an active environmental network in the Falkland Islands, including non-governmental organisations, landowners and managers, businesses, associations and youth groups. The most active groups are Falklands Conservation, the South Atlantic Environmental Research Institute, the New Island Conservation Trust, the Shallow Marine Surveys Group, and the Beaver Island Landcare Group. FIG has a Memorandum of Understanding (MoU) with Falklands Conservation, which outlines obligations and financial

commitments made by both parties towards implementing various tasks outlined in the Biodiversity Framework.

*Other important organisations*

There are a number of industry-based organisations that are also important players in achieving the objectives of the Biodiversity Framework. These are the Chamber of Commerce, the Falkland Islands Development Corporation, the Falkland Islands Fishing Companies Association, the Rural Business Association and the Falkland Islands Tourist Board.

There are a number of processes that threaten the biodiversity of the Falkland Islands that are best addressed within the wider context of the Development Plan or within other FIG Department Business Plans rather than by the Biodiversity Framework. The Biodiversity Framework does not consider or address fisheries management, which falls within the remit of the Falkland Islands Fisheries Department. The Biodiversity Framework does not consider or address hydrocarbons management, which falls within the remit of the Department of Mineral Resources.

## Part Two: Vision, Goals and Principles

### 2.1 Our Vision for the Falkland Islands

#### Vision

Our vision is set out below.

*We will conserve and enhance the natural diversity, ecological processes and heritage of the Falkland Islands, in harmony with sustainable economic development.*

#### Goals

To support this vision we have developed the following goals.

- Integral to our policies will be the protection, maintenance and where possible, enhancement of our natural environment.
- We will seek to meet international standards and obligations in respect of our environment. This includes an aspiration to meet the objectives of the Convention on Biological Diversity (CBD) through adopting an ecosystems approach and making progress towards the Aichi Targets.
- We will enhance community and individual understanding about biodiversity, and inform, motivate and support widespread and coordinated community action to conserve and sustainably use biodiversity.
- We will benefit from the use of our native genetic resources.

### 2.2 Ecosystems Approach

The Conference of Parties to the Convention of Biological Diversity approved in 2000 the 'ecosystem approach' as the guide for formulating strategies and plans. The ecosystem approach is a way to integrate the management of land, water and living resources that promotes conservation and sustainable use in an equitable way. It focuses on processes, functions and interactions and recognises that humans, with their cultural diversity, are an integral component of ecosystems (Fig. 1). The ecosystem approach has 12 principles, which have been used to guide the development of the Falkland Islands Biodiversity Framework.

1. The objectives of management of land, water and living resources are a matter of societal choice.
2. Management should be decentralised to the lowest appropriate level.
3. Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.
4. Recognising potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context. Any such ecosystem-management programme should:
  - A. Reduce those market distortions that adversely affect biological diversity;
  - B. Align incentives to promote biodiversity conservation and sustainable use; and
  - C. Internalise costs and benefits in the given ecosystem to the extent feasible.
5. Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of the Ecosystem Approach.
6. Ecosystems must be managed within the limits of their functioning.
7. The Ecosystem Approach should be undertaken at the appropriate spatial and temporal scales.
8. Recognising the varying temporal scales and lag-effects that characterise ecosystem process, objectives for ecosystem management should be set for the long-term.

9. Management must recognise that change is inevitable.
10. The Ecosystem Approach should seek the appropriate balance between, and integration of, conservation and use of biological diversity.
11. The Ecosystem Approach should consider all forms of relevant information including scientific, indigenous, and local knowledge, innovations and practices.
12. The Ecosystem Approach should involve all relevant sectors of society and scientific disciplines.

Fig. 1 *The ecosystem approach*

**Insert Figure**

### 2.3 Aichi Targets

We will identify Aichi targets and objectives in strategies so as to actively identify where actions are meeting CBD objectives. The CBD Strategic Plan for Biodiversity 2011–2020 is comprised of a shared vision, a mission, strategic goals and 20 ambitious yet achievable targets, collectively known as the Aichi Targets. The Strategic Plan serves as a flexible framework for the establishment of national and regional targets and it promotes the coherent and effective implementation of the three objectives of the Convention on Biological Diversity.

The Vision set out is that, “By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.”

The Mission is to, “Take effective and urgent action to halt the loss of biodiversity in order to ensure that by 2020 ecosystems are resilient and continue to provide essential services, thereby securing the planet’s variety of life, and contributing to human well-being, and poverty eradication. To ensure this, pressures on biodiversity are reduced, ecosystems are restored, biological resources are sustainably used and benefits arising out of utilization of genetic resources are shared in a fair and equitable manner; adequate financial resources are provided, capacities are enhanced, biodiversity issues and values mainstreamed, appropriate policies are effectively implemented, and decision-making is based on sound science and the precautionary approach.”

The Aichi Biodiversity Targets to deliver the above comprise a series of strategic goals, each supported by specific targets, as set out below.

**Strategic Goal A:** Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society

- Target 1. By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.
- Target 2. By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.
- Target 3. By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.

Target 4. By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

**Strategic Goal B:** Reduce the direct pressures on biodiversity and promote sustainable use

Target 5. By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.

Target 6. By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.

Target 7. By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.

Target 8. By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

Target 9. By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

Target 10. By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

**Strategic Goal C:** Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Target 11. By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes.

Target 12. By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

Target 13. By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

**Strategic Goal D:** Enhance the benefits to all from biodiversity and ecosystem services.

Target 14. By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and wellbeing, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

Target 15. By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

Target 16. By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

**Strategic Goal E:** Enhance implementation through participatory planning, knowledge management and capacity building

Target 17. By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.

Target 18. By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.

Target 19. By 2020, knowledge, the science base and technologies relating to biodiversity, its values functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

Target 20. By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan 2011-2020 from all sources and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resources needs assessments to be developed and reported by Parties.

### **Part Three: Priority Ecosystems/Biomes**

A recognition of broad ecosystems/biomes was highlighted at the 2015 Review Workshop. Priority species and habitats are identified within these broad biomes. The following eleven ecosystems/biomes have been identified in the Falklands Islands:

- Deep Sea
- Shelf Break/Slope
- Pelagic Shelf
- Small Offshore Islands
- Near Shore Coastal (Distance/Land Class Definition required)
- Estuarine
- Fresh Water/Riverine
- Fresh Water Ponds/Lakes
- Lowlands
- Montane
- Built Environment

Ecosystems are recognised in the Framework, with priority species and habitats to be identified within the context of these ecosystems where required. A full description of the eleven biomes occurring in the Falkland Islands will be produced in the form of summary documents.

Some species or habitats are identified specifically – due to threats impacting their numbers. These species/habitats are noted in Part 6.

## Part Four: Priority Biodiversity Threats and Threat-Based Strategies

### 4.1 Priority Biodiversity Threats

The 'Falkland Islands State of the Environment 2008' report identifies our key environmental assets and the processes that threaten their integrity. The Biodiversity Framework prioritises the threats and identifies effective measures that are needed to mitigate or minimise them. The priority threats affecting ecosystems and species in the Falkland Islands were reviewed in 2015 and are summarised below in Table 1. Response strategies are noted in the summary. These are further expanded on, in relation to CBD Aitchi priorities.

*Table 1. Summary of priority threatening processes to biodiversity in the Falkland Islands, and response strategies identified:*

Priority Threats:	Response Strategy:
<b>High Priority</b>	
1. Lack of Awareness	Awareness Raising Strategy
2. Uncertainty or lack of information	Research/knowledge Gaps Strategy Habitat Assessment/Strategies
3. Invasive species and new organisms	Invasive Species and Biosecurity Strategy
<b>Medium Priority</b>	
4. Visitors/tourism	Priority Places/ Species Protected Areas Strategy/Tourism Development Strategy
5. Pollution	Sustainable Resource Use Strategy Waste Management Strategy
6. Unsustainable deliberate extraction	Sustainable Resource Use Agri-Environment Strategy
7. Unsustainable accidental bycatch	Seabird National Plan of Action
<b>Low Priority</b>	
8. Climate Change	Implications of Climate Change to run through all documents rather than one specific strategy TEFRA Outputs
9. Natural disasters	Response Planning
10. Transport	Development Plan
11. Physical landscape changes	Sustainable Resource Use Strategy Development Plan

### 4.2 Summary of Threats

#### High Priority Threats

Three biodiversity threats were rated as being of high priority because they are frequently occurring and/or are highly likely to occur and mitigation measures can be implemented that have a high or moderate rate of success and/or are cost-effective.

**1. Lack of Awareness:** In general, there is a high level of awareness of the environment among Falkland Islanders and most long-term Falkland Islands residents, but the increasingly urbanised population, as well as a large military, visitor and business population has led to a greater need for awareness raising activities. The risk associated with poor awareness is seen as high, but it is also perceived as something that is relatively

easy to remedy with a number of targeted education initiatives. One simple poster well distributed may save a hundred phone calls to a member of staff.

**2. Uncertainty or lack of information:** Uncertainty or lack of information about specific species and habitat, land-use and marine-use activities is considered a major threat to the biodiversity of the Falkland Islands, as a decision may be stalled, be poor or inappropriate. It is a high biodiversity priority because although well designed and managed targeted research projects may be high in cost, they are very cost-effective. All research, be it baseline surveying, monitoring or academic research, should be ethical, such that harmful effects on individuals, colonies and habitats are outweighed by the benefits of the new knowledge. All research requires a licence, which is issued by the Environmental Planning Department. The Environmental Planning Department welcomes input from stakeholders in carrying out this function.

Environmental information is of little use if it is not available to people who wish to use it. Environmental information is stored in the Falkland Islands in a variety of paper and electronic formats and locations by different agencies and users. The SAERI IMS data repository has been established in 2015 to collate existing and new data as it becomes available.

**3. Invasive species and Biosecurity:** A number of non-native species introduced to the Falkland Islands have environmental, social and economic costs and these are defined as invasive species. For example, the introduction of Norway (brown) rats led to huge range reductions of some bird species. The Cobb's wren is only found in the Falkland Islands, and if rats reached all of this wren's populations (about 100 islands and islets), then the species could become extinct within 20 years. Protection of the Cobb's wren is our responsibility to the international community.

The invasive plant calafate covers several hundred hectares of an area on East Falkland, yet within living memory, there were only two bushes. The invasive earwig, which was introduced into the Falkland Islands in the early 2000s, now means that Stanley Growers has to factor into its business the cost of control measures and loss of income from insect damage and crops that can no longer successfully grow.

In addition, some non-native species have the potential to become invasive due to changes in climate or species genetics. Mitigating the effects of invasive non-native species is difficult. Eradicating or even controlling well-established invasives such as thistles and Norway rats is difficult, and efforts are often best directed at partial solutions such as eradication of rats from critical offshore islands. Thus, invasives species are considered a high biodiversity threat because of the major potential impacts to ecosystems and the relatively low cost of island specific solutions.

It is much easier to prevent the introduction of an invasive species in the first place or destroy/remove it before it has become established. The process for the importation of a new organism to the Falkland Islands is via an import licence, where the associated risks and benefits are assessed. For example, applications to import outdoor ornamental fish have been denied because of the threat to the native zebra trout, whilst some new grasses and trees may have significant potential to increase agricultural productivity. In the last few years, there have been increased biosecurity controls in the Falkland Islands, but given budget constraints, it is difficult to operate a surveillance programme across all transport routes. The threat from new organisms is given a high biodiversity threat because the current mitigation measures are not considered fully effective and a more thorough surveillance programme benefit the Falkland Islands environment.

Medium Priority Threats

Three threats to biodiversity are considered to be of medium priority because they are occurring intermittently and/or have moderate impacts on habitats and species but mitigation measures can be implemented that have a moderate rate of success and/or resources needed are within the Falkland Islands budget.

**4. Visitors/tourism:** Tourism development enables the camp community to diversify their economic revenue. Camp receives over 1,300 land-based visitors staying in accommodation and almost 10,000 cruise ship passengers per annum. Some 20% of the 70 farm businesses in camp are involved in tourism.

These visitors expect a wilderness experience, but they can affect biodiversity, both directly and indirectly. Visitors can cause physical damage to soil, plants and bird nesting areas and cause wildlife to change the amount of time they spend on certain activities. Indirectly, the presence of people increases the risk of fires and the introduction of new species and diseases, as well as giving rise to infrastructure issues, such as waste disposal.

Visitors/tourism is rated as a medium biodiversity threat because the potential effects are somewhat area-specific and whilst mitigation measures are considered to have a high chance of success, some actions such as education programmes would be low cost but others, e.g. providing/adapting current infrastructure, can be expensive.

**5. Pollution:** Pollution is an all-embracing term for chemical contamination of air, land and water and on a global scale, the Falkland Islands is relatively pollution free and because this status is highly valued by Falkland Islanders, this state should be protected. Accidental pollution events, particularly oil spills, do happen in the Falkland Islands and elsewhere. Due to the high risk that some types of persistent and/or toxic pollutants pose, depending on the time of year and conditions, pollution is still rated as a high biodiversity priority.

There are already a number of initiatives to reduce the threat of pollution. A national waste management strategy is soon to be written and the National Oil Spill Contingency Plan will be reviewed during 2016. Mitigation can come in the form of established, practised, and ready to employ pollution response control measures, and, as far as possible, a clear and pre-emptive understanding of the legal and obligational roles and responsibilities in the event of a pollution incident occurring.

**6. Unsustainable deliberate extraction:** The key extractive industries in the Falkland Islands are fisheries and farming, and also potentially exploitation of offshore hydrocarbon reserves. There is a concern that the harvesting of some target species and resources has the potential to be unsustainable. However, sheep stocking rates and egg collection rates are now far lower today than during the early and mid parts of the 1900s and the fishing sector is managed by FIG according to the sustainable principles stated in the Fisheries (Conservation and Management) Ordinance 2005.

Unsustainable deliberate extraction is a medium biodiversity priority because although it has the potential to have major impacts on the ecosystems of the Falkland Islands, the costs of mitigation actions do not have the potential to be wholly successful and in some cases, may require significant capital and staff costs. The current licence systems and policies are considered to be moderately successful measures.

The economic and environmental costs and benefits of burning camp to improve grazing potential are not well understood. It should always be used as a tool not a solution and be part of a managed grazing plan. However, the greatest concern for deliberate burning is the threat of a camp fire becoming uncontrollable because deep peat fires are difficult to put out.

Birds such as upland geese, turkey vultures and striated caracaras have been shot to protect pasture grasses and livestock, although the current level of shooting is tiny compared with the early 1900s. Upland geese may be shot without a licence but for the latter species a licence must be obtained that is specific about the site and number. The sustainability of the current licence system and the exact nature of the relationship between the birds, livestock and pasture grasses are not well understood. Detailed research into the dietary requirements of geese by the Department of Agriculture carried out in the 1980s showed that the harmful effect of geese on sheep was mostly confined to newly sown pastures. Shooting to protect livestock is a medium biodiversity threat because it affects only two species, is limited to specific areas and researching the interaction would require a high degree of personnel time and resources.

**7. Unsustainable accidental bycatch:** Issues of unsustainable by-catch are understood in the Falkland Island fisheries, but the effects are only particularly well documented for seabirds and marine mammals, while little is known about the impacts on sharks, rays and finfish, and seafloor communities. In addition, little is known about the impacts of lost fishing gear, which can continue to capture wildlife (ghost fishing).

The risk of this threat to biodiversity is recognised as being high, but the potential for mitigation is only regarded as being moderate because, although mitigation practices are used within the waters of the Falkland Islands, there can be significant levels of accidental capture of non-target species in international waters and seas of other countries. Thus, unsustainable accidental by catch remains a high biodiversity priority.

#### Low Priority Threats

Five threats are considered low priority, as they are of low threat to biodiversity and mitigation actions have a low likelihood of success and/or are beyond the resources of the Falkland Islands.

**8. Climate Change:** Climate change predictions indicate an up to 2.2 °C increase in the annual mean temperature by 2100 but for no change in the annual mean rainfall. Considering that the mean annual temperature of the Falkland Islands has increased by 0.5 °C over the last century the predicted increases are dramatic. Despite a predicted lack of change in the mean annual rainfall it is likely that under a warmer climate the pattern of rainfall will be affected with more extreme weather events expected.

Due to the size of the Falkland Islands and the low lying land, it is likely that species and habitats have little room for manoeuvre in terms of latitudinal shifts and the rate of climatic change may exceed the ability of species to adapt and move. However, the threat is relegated to low biodiversity priority because although climate change is likely to lead to major ecosystem changes, it is inevitable and there is little that the Falkland Islands community can do to affect the rate and direction of change.

FIG has committed to produce an energy strategy to reduce emissions and recognise the implications of climate change in the Falkland islands.

**9. Natural disasters:** There are no fully resourced response plans in the Falkland Islands for natural disasters such as wildfires where life or infrastructure are threatened, wildlife diseases and poison events (e.g. harmful algal blooms) and the need for them should be reviewed, including considering the protection of the environment, as well as human safety, infrastructure and economic revenue.

Natural disaster is nonetheless a low biodiversity priority because it is an infrequent event and implementing a full and effective response plan would be expensive and unlikely to produce significant conservation outcomes.

**10. Transport:** The expansion of the road network has provided access to previously remote locations and this is likely to have significantly increased the amount of visitation and expanded the range of some introduced species. In addition, off road driving, regardless of how carefully and sensibly it is done, can damage habitats and watercourses. The main environmental concern associated with aircraft transport is from the noise, particularly during landing and taking off, and low level flying.

Various vessels visit the Falkland Islands, including those full of cargo and fuel as well as military, scientific, fishing and cruise vessels. Some of these vessels will discharge sewage, ballast and bilge water into the harbours they visit and there is the risk of oil pollution and rat introductions, if an accident occurs.

However, threats associated with transport are considered to have low impact on biodiversity and further controls may have significant economic and social ramifications. Therefore, transport is a low biodiversity priority.

**11. Physical landscape changes:** The wide, open landscape is important to Falkland Islanders; any physical changes may cause an unacceptable eyesore in a favourite vista. However, the threat of physical landscape changes is a low biodiversity priority because the threat is adequately controlled through legislation. Land development in the Falkland Islands, including the alteration of the physical landscape, is licensed under the Planning Ordinance, although road building out of the Stanley area does not require a specific planning application. Where a specific application is required for development, regulations requiring the consideration of Environmental Impact Assessment have been introduced. At sea, bottom trawling and drilling for oil and natural gas can significantly affect the seafloor environment but although little studied, these activities are licensed under the fisheries and mining ordinances.

**12. Addition/removal of food:** Many species of seabird, marine mammal and fish in the Falkland Islands have been documented or are suspected of exploiting fish, by catch and offal available from fishing vessels, whilst some land birds feed on improved pastures and livestock. The impact of the new prey opportunities within Falkland Islands land and marine food webs is not well understood, but is not thought to be having a negative impact on population levels or breeding success at an individual level. For this reason, the threat of addition/removal of food is a low biodiversity priority.

#### **4.3 Threat-based strategies**

The following strategies have been identified as being required in response to the local priority threats. These also meet the requirements of the CBD Aichi targets. All high and medium priority threats will be met through a planned strategy, with low priority threats noted but not identified as requiring a strategy in this Framework.

#### **Biodiversity Framework**

**Threats Addressed:** All

**Aichi Targets addressed:**

17. By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.

#### **Strategy 1: Awareness Raising/Main-streaming**

**Threats Addressed:** 1. Lack of Awareness

**Supporting Initiatives:** Mainstreaming Initiative

**Aichi Targets addressed:**

1. By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.
2. By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.
3. By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.

### **Strategy 2: Research/knowledge Gaps Strategy**

**Threats Addressed:** Uncertainty or lack of information

**Aichi Targets addressed:**

19. By 2020, knowledge, the science base and technologies relating to biodiversity, its values functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.

### **Strategy 3: Invasive species and Biosecurity Strategy**

**Threats Addressed:** Invasive species and new organisms

**Aichi Targets addressed:**

9. By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.

### **Strategy 4: Priority Places/ Species**

**Threats Addressed:** Visitors/Tourism

**Supporting Initiatives:** Tourism Development Strategy

**Aichi Targets addressed:**

11. By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscape and seascapes.

12. By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.

13. By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

15. By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.

### **Strategy 5: Sustainable Resource Use**

**Threats Addressed:** 4. Unsustainable deliberate extraction

5. Pollution

10. Physical Landscape changes

**Supporting initiatives:**

Oil: Gap Project

Fish: NPOA- Seabirds

Ag: Agri-Env't scheme

Tourism: Tourism Development Strategy

FI Development Plan  
Waste Management Plan

**Aichi Targets addressed:**

4. By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.
5. By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.
6. By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.
7. By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.
8. By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.
10. By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.
14. By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and wellbeing, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

## Part Five: Habitats and Species

Ecosystems are identified in Part Three and an ecosystem approach to conservation planning is at the core of the Framework. Some individual species are however of such importance and/or under sufficient threat to warrant an individual species or habitat action plan.

The following species will be provided for through a Species Action Plan, unless adequately covered in a relevant Biome Plan:

<p>Action Plan Required:</p> <p>Mainland tussac          Whitegrass-fachine acid grassland          Fachine scrub          Boxwood scrub          22 threatened plants*          Black-browed albatross          Striated caracara          Southern rockhopper penguin          Cobb's wren          Zebra trout</p>
---

* 22 threatened plants:		
Adder's-tongue	Hairy daisy	Skullcap
Antarctic cudweed	Leathery shield-fern	Spider-flower
Chilean tall-fern	Maidenhair-fern	Tasselweed
False-plantain	Moonwort	Yellow lady's slipper
Fir clubmoss	Moore's plantain	Patagonian hawkweed
Fuegian violet	Mudwort	Rock-cress
Fuegian whitlowgrass	Pale yellow orchid	Saxifrage
		Shrubby seablite

A formal National Redlist will be produced in due course; to be based on international criteria and best practise documents. Individual species-based actions to support priority species as identified.

## Part Six: Priority Sites

The IUCN defines a protected area as "A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values". There is an increasing recognition internationally that protected areas are a valuable tool in the fight against global biodiversity loss.

The Falkland Islands currently has 19 National Nature Reserves (NNR) (including one awaiting completion of the formal designation process). These areas have been designated in an ad-hoc fashion over a period of more than 50 years. There are currently no National Parks (NP), although legislation exists. The Falkland Islands also have 2 Ramsar sites. A number of potential NNRs, NNR and Ramsar sites have been identified but not yet designated. In all cases designations have been with land owner support. A study of the terrestrial protected areas system was carried out in 2014.

In addition to legally designated sites, a number of Important Bird Areas (IBA) and Important Plant Areas (IPA) have been identified. These are based on the presence of features of biodiversity interest (rather than land owner aspiration) and have no legal status, but are a useful tool for example when carrying out Environmental Impact Assessments. Ongoing work is being carried out by BEST to identify Key Biodiversity Areas, which may compliment IBAs and IPAs.

Legislation exists to designate Marine Protected Areas (MPAs) up to 15 nautical miles from the shore. There are no existing MPAs, although there are some seasonal fishery restrictions to protect spawning grounds and a 3 mile 'no take' zone around the shoreline for commercial fisheries. The ongoing Marine Spatial Planning Project is intended to inform discussions about how best to manage the marine environment, and whether or not MPAs provide a useful tool as part of a broader approach.

It is therefore important to have a spatial element to the delivery of the framework. This will be set out in detail within a strategy dealing with priority places and ecosystems. It is envisaged that this strategy will be guided by the following principles.

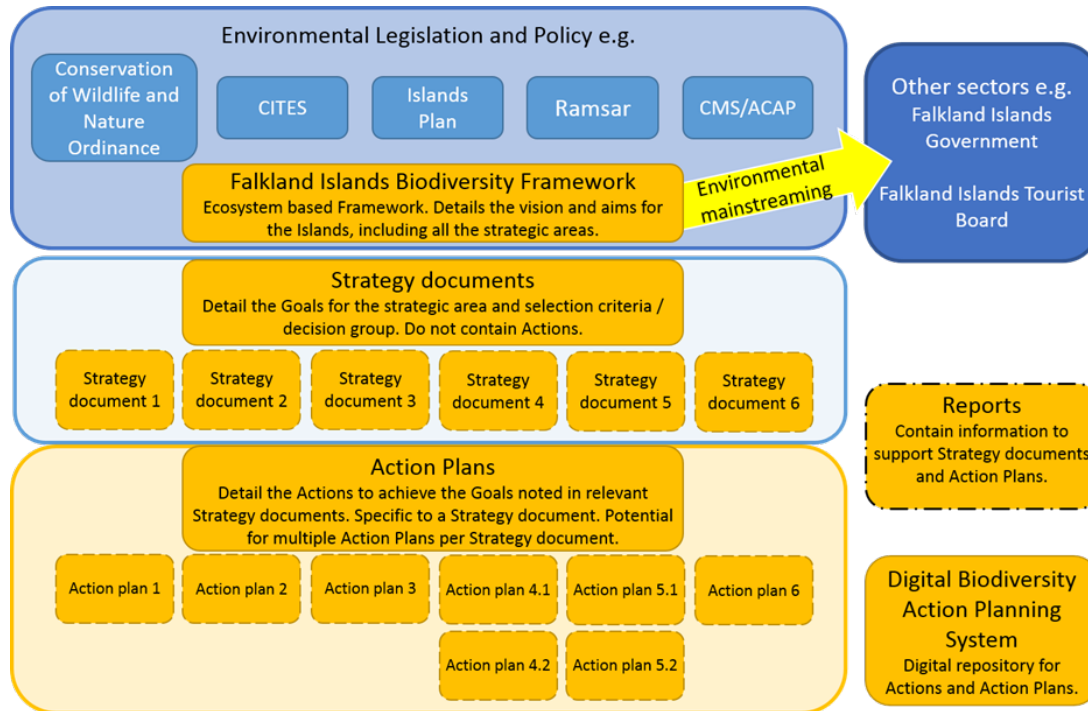
- A spatial approach is not limited to designated protected sites and could include identifying areas for prioritising action/funding which are not formally designated protected sites.
- Land owners are the custodians of terrestrial sites and the strategy will facilitate continuing and developing their proactive management of the land, as such sites will not be designated as National Nature Reserves, National Parks or Ramsar sites without landowner support
- Rather than identifying new sites for potential designation as National Nature Reserves, National Parks or Ramsar sites, the focus will be on completing the designation process for sites which have been identified and where there is landowner support.
- Action plans for some particularly sensitive sites will therefore be required. This will focus initially on designated National Nature Reserves and FIG-owned biodiversity sites.
- We will recognise Key Biodiversity Areas (KBAs) in the Framework as they are developed through the EU BEST initiative, in conjunction with the identified Important Bird Areas (IBAs) and Important Plant Areas (IPAs).
- We will consider how best to manage the marine environment in light of the findings of the ongoing Marine Spatial Planning Project.

Discussion Points: What level of detail is appropriate here? We could include a map of existing/proposed NNR/NP/IBA/IPA/Ramsar and a table showing the name/designation/area/habitat type and management plan status of each site, or should this be in the relevant strategy? (or should we include it here and then not produce a separate strategy – what else would go in such a strategy?)

## Part Seven: Implementing the Biodiversity Framework

### 7.1 Structure of the Framework

The Biodiversity Framework is a threat-based document which outlines the priorities required with regards the wider Falkland Islands environment. The Framework is underpinned by the implementation of Strategies and Action Plans, as identified in the diagram below.



### 7.2 Working Group

A **'Biodiversity Working Group'** will be established to oversee Strategy and Action Plan approval and implementation. This group will report to the Environmental Committee. We will utilise a digital biodiversity action planning system developed by Falklands Conservation as a management tool. Strategies and Action plans will be stored and be accessible on this system.

### 7.3 Availability of Resources/Implementing the Framework

A funding strategy is to be developed to drive the implementation of the Biodiversity Framework. As part of this we will restructure the Environmental Studies Budget to align with priorities in the Framework, Strategies and Action Plans.

However, a serious challenge to the rate at which the action tasks in the Biodiversity Framework and the strategies below it can be implemented is funding, both for officer time and for costs of transport, accommodation, equipment, materials, analysis and so on. FIG currently funds a variety of organisations, including government departments and nongovernment organisations, and this system makes it difficult to assess true environmental expenditure. FIG funding is allocated annually and within this financial system, it is impossible for FIG to commit to funding multi-year programmes. Most of the environmental programmes in the Falkland Islands, particularly the research and biodiversity monitoring programmes, rely on funding obtained from overseas sources, particularly

European organisations. Whilst this type of cooperation encourages international linkages, obtaining international funding is difficult, as it requires staff time and not all applications are likely to be successful.

This will contribute to Aichi Target 20, "By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan 2011-2020 from all sources and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resources needs assessments to be developed and reported by Parties".

#### **7.4 Action Tasks**

We will undertake to produce and implement the following tasks.

- Task 1: Produce 7 Threat-Based Strategies: those prioritised as high and medium priority
- Task 2: Produce Ecosystems/Biomes plans
- Task 3: Produce updated priority Species and Habitat Plans
- Task 4: Produce updated site-based plans for priority sites.
- Task 5: We will also prioritise a review of the Conservation of Wildlife and Nature Ordinance in the short term (subject to wider drafting priorities) to reflect species protection changes (i.e. plant schedule).

## Environmental Awareness Raising Strategy

### Purpose of this Document

**Lack of Awareness** is identified as the **number 1 priority** threatening Falkland Islands biodiversity in the FI Biodiversity Framework (2015-30). In general, there is a high level of awareness of the environment among Falkland Islanders and long-term Falkland Islands residents, but the increasingly urbanised population, as well as a large military, visitor and business population has led to a greater need for awareness raising activities.

This strategy is intended to guide implementation of the Biodiversity Framework by setting out the desired outcomes, activity areas and monitoring arrangements in relation to increasing environmental awareness. Projects will be developed in accordance with these activity areas and, where further detail is required to supplement the strategy, this will be set out in focused action plans.

### Desired Outcomes

The risk associated with poor awareness is seen as high, but it is also perceived as something that is relatively easy to remedy with a number of targeted education initiatives. The desired outcomes are that:

- Falkland Islanders have an enhanced appreciation of biodiversity and better understand the native species, habitats and ecosystems;
- children and adults are learning about biodiversity through school and community programmes. They know how they can contribute to the conservation and sustainable use of the environment, and are taking action within their everyday lives;
- FIG, private industry, conservation groups, the community and overseas-based organisations are working collaboratively together; and
- we have a visible and effective international role in securing the wellbeing of our native biodiversity in both the Falkland Islands and wherever these species roam.

### Activity Areas

#### 1. Environmental advisory service

Provide an appropriate and adequately resourced environmental advisory service for FIG departments, the private sector and landowners. Ensure that local Falkland Islanders can fill such posts by supporting students to gain sufficient academic and field training and experience. Environmental information will be made relevant to Falkland Islanders to enable people to make decisions and take action to support the conservation and sustainable use of biodiversity.

#### 2. Environmental Committee

Facilitate the operation of the Environmental Committee under a relevant Terms of Reference.

### 3. Formal environmental education programmes at school and with youth groups

Support and enhance the formal environmental education programmes provided at the Infant and Junior Schools in Stanley and at the Mount Pleasant Complex, the Community School in Stanley and in the camp education system, and the environmental learning experiences provided by youth groups such as Watch Group, Pathfinders, Guides, and Scouts, etc. These programmes should be supported so that they can offer outdoor educational opportunities.

### 4. Environmental information for visitors

Make general and site-specific environmental information widely available for visitors to the Falkland Islands, and ensure that people providing an information service to visitors can source the environmental knowledge they require.

### 5. Environmental volunteer strategy

Develop a strategy to support and enhance the opportunities for the public to be involved in hands-on environmental activities across the Falkland Islands. The strategy should include a system for training and providing subsistence costs for people undertaking voluntary work.

### 6. Action Tasks in FIG policies business plans

FIG will incorporate action tasks identified in the Biodiversity Strategy into its policies, and department business plans to deliver coherent policy and incentives that enhance biodiversity. This is particularly critical where FIG is involved in fisheries, farming, hydrocarbon exploration, tourism and land, air and sea transport sectors.

### 7. Financial support for NGOs to scrutinise FIG environmental performance

Encourage open government and assessment of FIG environmental performance. Scrutiny by a non-governmental environmental organisation will be financially supported, where practicable.

### 8. Sharing and learning with the international community

Encourage and support all people in the Falkland Islands to gain and share environmental knowledge and expertise internationally, through attendance at international meetings, workshops, training courses, etc.

## **Monitoring**

**Discussion Point: Should this be in the Framework rather than the strategy? Also, should the strategy contain indicators or is it right that these are left to projects/action plans?**

Where action plans or specific projects are developed to implement the above action areas, clear monitoring arrangements will be put in place. This monitoring will be used to assess whether the action tasks are achieving the goals and whether, over time, the priority status of certain tasks needs to be adapted.

All monitoring programmes for key indicators will be SMART:

- Simple – easily interpreted and monitored
- Measurable – statistically verifiable, reproducible and show trends
- Accessible – regularly monitored, cost effective and consistent
- Relevant – directly address issues or agreed objectives
- Timely – provide early warning of potential problems

Falkland Islands Species Information Sheet  
Ruddy-headed goose *Chloephaga rubidiceps*



Photo credit: A. Stanworth

Last updated: 30/06/2015

Summary

IUCN Status	Least Concern	Kingdom	Animalia
National Red List Status	Not Assessed	Phylum	Chordata
Level of endemism	Native	Class	Aves
		Order	Anseriformes
		Family	Anatidae

Description

Ruddy-headed goose, known locally as 'brent Goose', is 46-53 cm long. Both males and females have a bright chestnut head and upper neck, sharply divided from the finely barred grey and black lower neck and breast. They have a distinctive white eyering and a head colour that varies seasonally. The Falkland Islands supports the majority of the world's population of this species since significant declines in South America. They are found across the Falklands in open country near low lying coasts. Females incubate 5-8 eggs in a grass nest in September to November, usually well hidden. Goslings feed independently from the start, eating grasses and sedges (Woods and Woods, 1997, 2006). Until 1985, ruddy-headed goose was listed as a pest species and was shot on a regular basis.

Distribution

Global  
There are two well-defined populations of Ruddy-headed goose, a sedentary population restricted to the Falkland Islands, and a migratory continental population that nests in southern Patagonia (Argentina and Chile) and winters in southern Buenos Aires, Argentina.

Local  
In the Falkland Islands the Ruddy-headed Goose is sedentary and resident year-round. They are widely distributed across the islands, except on higher ground and were recorded as present in 75% of 10km survey squares (Woods and Woods, 1997).



Distribution (Woods and Woods 1995)

Status

Global  
Population estimate: 43-82,000 Individuals  
Population trend: Decreasing  
Population estimate taken from Wetlands International 2006. Population trend from IUCN. Ruddy-headed goose is only listed as NT list due to the stability of the Falkland Islands population (Birdlife International 2012).  
The continental population is estimated at <1000 individuals. This population has historically witnessed huge declines in numbers, over 50% in the past 30 years (Bulgarella et al 2013), apparently due to foxes which were introduced in the late 1940s /1950s to control an influx of rabbits (Woods and Woods 1997).

Local  
Population estimate: 27,000 Breeding Pairs  
Population trend: Probably stable  
Local population estimate from Woods and Woods 1997. There is a lack of data from which to derive a population trend.

Relevant Legislation and Policy

International  
Ruddy-headed goose is listed under Appendix I of the Convention on the Conservation of Migratory Species.  
An MOU was established between the Argentine Republic and the Republic of Chile, focussing on the protection of the mainland population on the ruddy-headed goose. Signed in 2002, entered into effect 21 November 2006.

National

All wild birds, resident or visitor, are automatically protected under the Conservation of Wildlife and Nature Ordinance. It is prohibited to deliberately:  
a) kill, injure or capture a wild bird;  
b) disturb a wild bird while it is building a nest or is in, on, or near a nest containing eggs or young;  
c) disturb dependent young of a wild bird;  
d) damage or destroy the breeding site, nest or nesting place of any wild bird; or  
e) take or destroy an egg of a wild bird.

Ecology

Habitat and Diet  
Ruddy-headed geese are found in open country, frequenting meadows and coastal grasslands, in accordance with their diet of grasses and sedges. They are often found often in association with Upland goose (*Chloephaga picta leucoptera*) and Ashy-headed goose (*C. poliocephala*) as they share a similar diet (Birdlife International 2014).

Reproduction and Life History

In the Falklands, they are found nesting from September to November. Females incubate 5-8 slightly shiny creamy-buff eggs in a grass nest lined with down. Nests are usually well hidden in long grass. The male 'waits off' by a pond, often at a distance. Goslings feed independently from the start, eating grasses and sedges. Males may perform a 'broken-wing' display and call loudly to distract predators from small goslings.

Taxonomy and Population Structure

Recent research suggests that the non-migratory Falkland Islands population is a distinct sub-species (Bulgarella et al 2013).

Local Threats

IUCN Threat Classification	Primary Scope	12. Other options	Severity	Slow	Secondary Timeframe	12.2 Unknown Status and population	Continuing Impact	SUM
	Whole							

The perception is of a stable Falkland Islands population; however, no census or monitoring has been undertaken.

IUCN Threat Classification	Primary Scope	5. Biological Resource Use	Minority	Severity	Negligible	Secondary Timeframe	12.2 Data deficiency	Continuing Impact	SUM

Ruddy-headed Geese bare some resemblance to female Upland Geese which can be legally shot at any time. It is possible some individuals may be misidentified and killed.

Additional Information

None

References / Supporting Documents

- Birdlife International. 2014. Species Factsheet: *Chloephaga rubidiceps*. Downloaded from <http://www.birdlife.org> on 20/11/2014.
- Bulgarella, M., Kopuchian, C., MacCracken, K. G. (2013) Molecular phylogeny of the South American sheldgeese with implications for conservation of Falkland Islands (Malvinas) and continental populations of the Ruddy-headed Goose *Chloephaga rubidiceps* and Upland Goose *C. picta*. Bird Conservation International, 1-13.
- Falkland Islands Government. 1999. Conservation of wildlife and nature bill. Falkland Islands Gazette Supplement 10:1-17.
- Otley, H., Munro, G., Clausen, A. & Ingham, B. 2008. Falkland Islands State of the Environment Report 2008. Falkland Islands Government and Falklands Conservation, Stanley.
- Wetland International - China Office. 2006. Relict Gull surveys in Hongjiannao, Shaanxi Province. Newsletter of China Ornithological Society 15(2): 29.
- Woods, R.W. and Woods, A. 2006. Birds and Mammals of the Falkland Islands. Wildguides Ltd., Parr House, Hampshire, U.K.
- Woods, R. W. & Woods, A. 1997. Atlas of breeding birds of the Falkland Islands. Anthony Nelson, Oswestry, U.K

Citation

Gill, F. and A. Stanworth 2015. Falklands Islands Species Information Sheet - Ruddy-headed Goose.

Contact

Falklands Conservation, [co@conservation.org.fk](mailto:co@conservation.org.fk)

# Falkland Islands Habitat Information Sheet

Habitat common name and scientific name



Photo credit: A.Stanworth Last updated: 25/05/2015

## Summary

### Description

The habitat is formed of almost pure stands of the *Poa flabellata* 'tussock' grass. Tussock grass grows in stands with stems up to 2.5m in total height and 1m or more in diameter with green, spreading leaves. It has a predicted lifespan that may reach over 300 years. The habitat is vitally important habitat for wildlife. Forty six of the bird species that breed in the Islands use tussock for feeding or nesting and there is a unique invertebrate fauna also associated with it (Fuller 1995).

## Distribution

### Global

Tussock is found naturally occurring in Antarctica, Argentina, Chile, Falkland Islands, South Georgia and the South Sandwich Islands. It was introduced to the Shetland Islands in 1844.

### Local

Albermarle has the biggest stand of mainland tussock. Other areas include Seal Point, Cape Dolphin, Black Point, Cape Pembroke, and Dunbar.



Mainland tussock locations

## Status

Global	Extent	text	Trend	Unknown
Unknown				

Local	Extent	text	Trend	Probably increasing
Broughton and McAdam (2002a) note that the Falkland Islands are likely to hold at least 20% of the world's population of <i>Poa flabellata</i> . Current areas of mainland tussock have generally persisted through exclusion of livestock, and managed grazing. This continues to be the case. These tussock stands are internationally important. Less than 1% of the original mainland cover of tussock are estimated to remain / reduction of over 80% estimated by Strange et al (1988); in 1988, c. 65ha mainland tussock remained. A number of landowners are planting up areas of tussock for winter forage or to stabilise eroded areas.				

## Relevant Legislation and Policy

### International

Not listed

### National

Falkland Islands Biodiversity Framework Priority Habitat - Mainland Tussock

Important Plant Area (IPA01) at Albermarle contains the largest stand of mainland tussock (Upson 2012)

## Characteristics

### Biological

*Poa flabellata* is a coastal perennial grass species forming the dominant cover in Tussock habitat; but also occurs in a wide range of other habitats between 0-290 m altitude. It favours organic soils and highly tolerant of sea spray and biotic disturbance (Lewis Smith 1985). Luxuriance and productivity enhanced where there are seals and seabirds that provide nutrient enrichment of the substrate. Plants commonly develop inflorescences in mid-August, with seedheads being ripe in september-October. It can reach a height of 1.5m or so in 8-10 years, but at this stage lacks pedestal formation which takes much longer with pedestals of a metre high possibly taking 200 years.

### Physical

Tussock grass grows in stands with stems up to 4m in total height and 2m or more in diameter with green, spreading leaves. The pedestal has generally a skirt of dead leaf material which as it build up forms a dense fibrous matrix which disintegrates over time and, in less open habitat, is peat forming. The habitat structure can vary from densely packed plants that are almost impenetrable with joining canopies that shade out most other vegetation to an open form with 'glades' of native and non-native vegetation.

## Local Threats

IUCN Threat Classification	Primary	2. Agriculture and aquaculture	Secondary	2.3 Livestock farming and ranching
Explanation	Scope: Minority	Severity: Negligible	Timeframe: Threat ma	Impact: SUM

A combination of burning by sealers and subsequent grazing are both likely to have contributed to the severe decline in *Poa flabellata*. Unmanaged grazing remains a threat to this habitat which will not persist if over-grazed, leading to increasing coastal erosion and loss of

IUCN Threat Classification	Primary	other problematic species, gene	Secondary	8.4 Problematic species/diseases of
Explanation	Scope: Majority	Severity: Slow	Timeframe: Continuing	Impact: SUM

Climate change is likely to provide conditions that further suit rust infestation which will weaken the plant and reduce vigour.

## Additional Information

2013: Tussock grass cultivated at Stanley Nurseries.

2007: Practical Leaflet 2: Tussock grass Planting and Management published (available free from Falklands Conservation)

## References / Supporting Documents

Lewis Smith, R. I. (1985). Antarctic nutrient cycles and food webs (ed. by W.R. Siegfried, P.R. Condy and R.M. Laws). Springer-Verlag, Berlin Heidelberg.

Fuller, J.A. (1995) Studies on the invertebrate fauna of Tussock grass communities in the Falkland Islands. Department of Applied Plant Science, The Queens University of Belfast.

McAdam, J.H. & Walton, D.W.H. (1990) Ecology and agronomy of Tussock grass. Department of Agricultural Botany, The Queens University of Belfast, Belfast.

Strange, I.J., Parry, C. J., Parry, M.C. & Woods, R.W. (1988) Tussock grass in the Falklands. Falkland Islands Foundation Report. Falkland Islands Foundation, Brighton.

## Citation

Stanworth, A. (2015) Falkland Islands Species Information Sheet - Mainland Tussock

## Contact

Falklands Conservation. co@conservation.org.fk

# Site Information Sheet

Sea Lion Island (draft)

Main Image Credit: A.N. Other

Last Update: 03/09/2015

## Summary

## Description

Sea Lion Island is made up of two rocky plateaux, well vegetated with oceanic heath and mixed grassland on their higher points, joined by a broad sandy beach. It retains, for an inhabited and previously farmed island, unusually large stands of fenced tussock grass round the coastline. The former sheep-farming operations have now ceased and the main economic activity is wildlife tourism. The Island is noted as an important Falkland breeding site for southern sea lion and southern elephant seal, but also for the range of supported bird species.

## Ownership

Currently owned by the Falkland Islands Development Corporation (FIDC), which took ownership in 1985. Previously owned by Terry Clifton from 1974 and before that (along with the other Sea Lion group Islands) by Rob McGill from 1967. FIDC commissioned the building of the Lodge in 1986. The Lodge was leased to David and Patricia Gray in 1994 for 999 years. The lease was subsequently transferred to Sea Lion Island Ltd (SLIL) in 1999 and in 2003 FIDC agreed a new lease with SLIL for a period of 125 years. FIDC currently has authority over all land use decisions with the exception of minerals extraction and development for which authority lies with the Falkland Islands Government.

## Location

The Island is located in the southeast of the Falklands archipelago being centred approximately on 52.87°S and 59.00°W covers approximately 905 ha (9.05 km<sup>2</sup>). Bull Point, East Falkland lies 17km northwest of the island. Sea Lion Island is the largest in the Sea Lion group which also comprises Rum, Brandy, Whiskey and Sea Lion Easterley.

A.N.Other

## Relevant Legislation and Policy

### Statutory

Sea Lion Island is designated as a National Nature Reserve under the Conservation of Wildlife and Nature Ordinance 1999.

Conservation of Wildlife and Nature Ordinance 1999 protects several species present.

### Non Statutory

Designated as a Ramsar site on 24 September 2001 under criteria 1, 2, 3 and 4 (JNCC 2001).

Sea Lion Island is part of the Sea Lion Islands Group Important Bird Area (IBA Code FK15) under criteria A1, A2 and A4ii.

Historically an Agreement on the Conservation of Albatrosses and Petrels (ACAP) breeding site.

Convention on Trade in Endangered Species and the Convention on the Conservation of Migratory Species species present.

Falkland Islands Biodiversity Framework Priority Species present.

## Characteristics

### Biological Characteristics

The Island is rodent free. It supports forty two breeding birds species (fifty seven regularly recorded), breeding Southern Sea Lion (*Otaria flavescens*) and the Falkland Islands' principal colony of Southern Elephant Seal (*Mirounga leonina*). Annual associations of Killer Whale (*Orcinus orca*) occur. Eighty flowering plants have been recorded of which 66 native species. The only Falklands population of Fuegian Violet (*Viola magellanica*) is found here. A range of native habitats are present.

### Physical Characteristics

The Island consists of two low sedimentary plateaux rising from 5m on the north shore to 30m cliffs at the south west. The Island is part of the Brenton Loch Formation comprising fine lithic sandstones and laminated mudstones dating back to the early Permian Period. Several small permanent pools and seasonal pools are supplied by rainwater, a spring is located north of the Lodge.

## Local Threats One

### IUCN Threat Classification

Primary	7 Natural system modifications
Secondary	Fire and fire suppression
Impact	Low Impact

Fire poses a threat to soil, flora and to a lesser degree fauna. Fire risk derives from natural events and human activities.

## Local Threats Two

### IUCN Threat Classification

Primary	8 Invasive & other problematic species, genes & diseases
Secondary	Invasive non-native/alien species/diseases
Impact	Medium Impact

Rodent introduction poses a significant threat to flora and fauna with particular significance to Cobb's wren which cannot persist in the presence of them. Invasive plant introductions can have adverse impacts on endemic species and native habitats.

#### Local Threats Three

IUCN Threat Classification	Primary	6 Human intrusions & disturbance
	Secondary	Recreational activities
	Impact	High Impact

Un-managed visitor activities can result in disturbance to fauna and degradation of habitats. This may result from access routes/transport as well as movements on-island.

#### Local Threats Four

IUCN Threat Classification	Primary	12. Other threat
	Secondary	Unknown conservation status
	Impact	Medium Impact

Lack of baseline and monitoring data will lead to unknown conservation status for key species and habitats on the Island. This may prevent necessary action to address population declines or habitat degradation.

#### Local Threats Five

IUCN Threat Classification	Primary	11 Climate change & severe weather
	Secondary	Habitat shifting & alteration
	Impact	Medium Impact

Wind erosion has resulted in the loss of habitat and continues to threaten large areas in the south-west of the Island.

#### Additional Information

Climate: Average monthly air temperature is 9<sub>o</sub> in January and 2<sub>o</sub> in July. At less than 400mm the rainfall is amongst the lowest recorded in the Islands. Persistent westerly winds average 15 knots.

#### References / Supporting Documents

BirdLife International (2015) Important Bird Areas factsheet: Sea Lion Islands Group. Downloaded from <http://www.birdlife.org> on 10/06/2015.

Sea Lion Island Information Sheet on Ramsar Wetlands (RIS) JNCC 2001. Downloaded from [http://jncc.dsfra.gov.uk/pdf/Rsummary report.IS/UK54005.pdf](http://jncc.dsfra.gov.uk/pdf/Rsummary%20report.IS/UK54005.pdf).

Falklands Conservation. Sea Lion Island National Nature Reserve Management Plan 2010-19. Falklands Conservation.

#### Citation

Stanworth, A. 2015 Sea Lion Island Information Sheet

#### Contact

FIDC

[fidc@conservation.org.fk](mailto:fidc@conservation.org.fk)