ENVIRONMENT
A STATES OF GUERNSEY GOVERNMENT DEPARTMENT

SAFEGUARDING GUERNSEY'S WILDLIFE
A Biodiversity Strategy for Guernsey

August 2015

Contents

FRONT COVER PHOTOS
1 Top ½ page: Barn owl. Under threat from habitat loss.
2 Bottom ½ page: Oystercatcher. Under threat from declining food sources &
disturbance

Executive Summary

A Biodiversity Strategy was commissioned by the Environment Department and prepared in consultation with the Biodiversity Project Group (BPG) in order to provide the means to consider and where necessary, implement conservation legislation and to formalise and structure the Island's commitment to protecting its diverse and treasured natural environment. The Strategy appraises the current state of Guernsey's ecosystems and identifies the principal threats to its native flora and fauna before outlining a framework for the conservation and enhancement of the island's biodiversity. A summary of the Strategy's components is listed below:

The Ecosystem Approach to a Biodiversity Strategy: 1.2.1 Page 9

The Biodiversity Strategy will, where appropriate, take account of the principles of an Ecosystem Services approach to managing biodiversity. This approach acknowledges that humans are an intergral element in most ecosystems and attempts to integrate the management of land, water and living resources in a way which maxismises the benefits arising from natural resources.

The Elements of a Biodiversity Strategy: 2.3 Page 14

The following elements will form the basis for the Strategy:

- Vision Statement – Aims, objectives and key actions;
- A review of wildlife resource and habitats of the island;
- The threats to the island's biodiversity;
- A system to assess the relative importance of threats identified and a system to prioritise approaches to their removal or mitigation;
- Identification of priority species and habitats;
- An "Agenda for Action" for Action Plans under the following themes:
  - Conservation;
  - Policy & Legislation;
  - Education;
  - Community Participation;
  - Monitoring & Review
- Implementation & Accountability.

Measuring Threats & Prioritising Approaches to Mitigation: 2.3.4 Page 24

The Strategy will first prioritise threats to biodiversity by assessing both the significance of impact and the likelihood of the threat occurring. Threats and their mitigation will be ranked so that limited resources can be used wisely and in the most effective way.

Identification of the priority species and habitats requiring protection: 2.3.5 Page 26

The Strategy will identify priority species and habitats using criteria drawn up locally and informed by a number of other sources including international conventions, global and national conservation status, local changes in population and distribution, and the risk of specific threats.

Agenda for Action: 2.3.6 Page 27

The Biodiversity Strategy will be the framework to enable an "Agenda for Action" to be prepared. This will comprise a set of Action Plans that together, will form a prioritised and costed programme to meet set objectives.

The Agenda will be based on five main themes:

Conservation: To arrest and reverse the decline in biodiversity and would include Species and Habitat Action Plans tailored and targeted at specific sites, particular species, or both.

Policy & Legislation: Review existing legislation and review the need for amended or new laws. Identify and develop suitable policy instruments to help deliver a strategy.

Education: to improve knowledge on and communication of the importance of conservation and biodiversity.

Community Participation: To maintain and further develop the resources of volunteer and community support to help deliver the objectives set.

Monitoring & Review: to measure the effectiveness of a strategy.

A Framework for the Development of Action Plans for Species & Habitat: 2.3.7 Page 30

Species & Habitat Action Plans will be drawn up under the following framework:

Current Status: The reasons for current status. To what extent are the limiting factors known;
Current Factors Causing Loss or Decline: A brief review of the historic and known threats;
Current Action: A resume of what conservation action is presently underway;
Action Plan with Objectives and Targets: To include targets for maintaining or increasing the populations and range (species) or size (habitats).

Driving & Implementing the Strategy – Options: 2.4 Page 32

The Environment Department has considered a number of options for implementation including the setting up of a commission. It is the firm belief of the Department that the most effective and cost-efficient approach to delivering a strategy would be to appoint a coordinator. The coordinator would be someone with a sound background in ecology (especially local ecology) and strong communication and people skills. The coordinator could be embedded within the Department or the Guernsey Biological Records Centre (GBRC) whose own role would be extended beyond recording to include monitoring target species as well.

Convention on Biological Diversity (CBD): 3 Page 33

The commitment to a Biodiversity Strategy for Guernsey should be recognised by extending the Convention on Biological Diversity to the Bailiwick. By doing so not only shows that Guernsey means to play its part globally and will reinforce the actions taken by multiple jurisdictions at a regional level to protect and enhance biodiversity; it also provides a high level of access to a wealth of specialist knowledge, greater opportunities for dialogues with other Parties, in particular those with similar circumstances and enhanced opportunities to access capacity building initiatives.

Resourcing a Strategy: 4 Page 36

The resources required for a Biodiversity Strategy are dependent upon the objectives set, actions and programmes to be completed and the timescales for those programmes. Once a prioritised programme of Action Plans is agreed (Agenda for Action), estimates of costs and human resources against various options can be developed. Alternatively if it is decided to start implementation with a fixed level of resources – because of limited finances and competing demands – it will be possible to estimate what can be done within that resource cap and the likely timescales for a deliverable programme of action plans.

A value to provide a minimum level of extra resource (including value of time above and beyond what is already delivered) is considered to be £80,000 per annum.

1.   Introduction

1.1.   What is Biodiversity?

Biodiversity means the diversity of life. It can be further defined as the totality of genes, species, and ecosystems and includes the variety of life forms found at all levels of biological systems i.e. molecular, organismic, population, species and ecosystem.

1.2.   Why conserve biodiversity?

The arguments for conserving biodiversity are compelling and are summarised below[1]:

Because our survival depends upon it (life support services): Living things, the rocks and soils, water and air interact in a myriad of complex and inter-related ways to provide a range of conditions that favour life on Earth. Removing components from this web-of-life is akin to taking out the rivets from a flying aircraft – it should cause us to worry!

If the ecological systems that support life on Earth collapse or radically change, our very existence is threatened.

Because our economy and lifestyles depend upon it (products and regulation services): Biodiversity underpins the living fabric of our countryside which itself is a crucial component of what makes Guernsey attractive to locals and visitors as well as to those who wish to invest in our island.

Our marine ecosystem is fundamental to supporting a viable fishing industry worth £4 million annually as well as providing us with one of Guernsey's best loved traditional pursuits, ormer gathering.

At the larger ecosystem scale, biodiversity plays a critical role in regulation of the atmosphere, of the water cycle and the nutrient cycles of the soil. From flood control to soil conservation, the global annual contribution of these services runs to many trillions of pounds.

Because to do otherwise is wrong (moral/ethical/philosophical):
Many people think it is wrong to let, or worse force, species go extinct and to treat nature as if it has been designed for our convenience and abuse. Conserving nature for the benefit of future generations is seen as important for our continuity.

Because it inspires and enriches our lives (aesthetic/spiritual/cultural services): We are uplifted by nature and our spirit is renewed by contact with it. It provides endless motivation for enquiry, from schoolchildren to scientists.

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1 Adapted from: Conserving Biodiversity – The UK Approach October 2007. Defra on behalf of the UK Biodiversity Partnership

1.3.   Why Have a Strategy?

Over time species do become extinct naturally and new species also evolve. However, human activities have caused extinction rates to increase by 100-1,000 times the background rates typical over Earth's history, and these rates are predicted to increase another ten-fold during the 21st century.[2] Globally twelve per cent of birds, 25% of mammals and 32% of amphibians are threatened with extinction over the next century.[3] Guernsey is not immune to this. In the last 100 years 80 species of animal and plant had been lost from the Island mainly as a direct result of habitat destruction and to a lesser extent, changing management regimes.

The "State of Nature" report published in May 2013, by a collective of 25 conservation and research organizations in the UK, has drawn sobering conclusions. Whilst these findings reflect the UK position Guernsey, where similar declines are reported, is faring no better and is subject to similar threats. The State of Nature report has found that:

- 60% of the 3,148 UK species assessed have declined over the last 50 years and 31% have declined strongly.

- Half of the species assessed have shown strong changes in their numbers or range indicating that recent environmental changes are having a dramatic impact on nature. Species with specific habitat requirements seem to be faring worse than generalist species.

- Of more than 6,000 species that have been assessed using modern Red List criteria, more than one in 10 are thought to be under threat of extinction.

- There is a lack of knowledge on the trends of most of the UK's species. As a result quantitative trends are given for only 5% of the 59,000 or so terrestrial and freshwater species and for very few of the 8,500 marine species. Much more needs to be done to improve our knowledge.

- The threats to wildlife are many and varied, the most severe acting either to destroy valuable habitat or degrade the quality and value of what remains.

- Climate change is having an increasing impact on nature. Rising average temperatures are known to be driving a shift in the range of some species, but evidence for harmful impacts is also mounting. **Supporting biodiversity is an integral part of a considered response to climate change and should also be seen as an important form of**

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[2] Rockstrom *et al.,* 2009
[3] Millennium Ecosystem Assessment 2005

adaptation, increasing or preserving stocks of natural capital which in turn strengthen the Island's resilience.

If the habitats and species of Guernsey are to be protected now and over the long term a strategy is essential to give direction and impetus to meet and mitigate the threats posed.

1.4 The Ecosystem Approach to a Biodiversity Strategy

An ecosystem can be defined as "**a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit**".[4] Ecosystems and the species and habitats that make them up are natural assets. Natural assets like other assets provide benefits that can enhance economic performance, offer new opportunities for investment and employment, and improve living standards and quality of life. Like other assets enhancing or diminishing the condition of environmental assets increases or reduces the stream of benefits available to future generations. [5]

The benefits provided by ecosystems that contribute to making human life both possible and worth living are described as **ecosystem services.** Treating ecosystems as a service effectively recognises them as fundamental components which underpins social wellbeing, economic prosperity and environmental sustainability. The Principles of the Ecosystem Approach can be found in **Appendix 4.**

However there are limitations to the use of an ecosystem services approach and it should be recognised that this approach does not provide a comprehensive method of conservation. An exclusive reliance on ecosystem services to conserve would not support species that do not hold utilitarian or economic value; ecological processes that do not directly benefit people; and critical ecological functions that may be undermined in attempts to optimize a target service.

Understanding the benefits and limitations of using ecosystem services approaches for achieving biodiversity conservation will help ensure that the finite resources available for biodiversity conservation and sustainable development are used as strategically and effectively as possible to maintain the multiple components of biodiversity and to support human well-being[6]

A basic assessment of ecosystem services can be made by following these five steps**:**

1. Establish base line – ecosystem value and health

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4 Convention on Biological Diversity (CBD) and the Millennium Ecosystem Assessment (MA)

5 Richard Price, Chief Economist DEFRA

6 Applying Ecosystem Services Approaches for Biodiversity Conservation: Benefits and Challenges (2012) Ingram, Redford & Watson

2. Qualitative assessment of policy impacts on ecosystem services
3. Quantitative analysis of impacts on ecosystem services
4. Assess effects on human welfare
5. Value changes to ecosystem services

Fig 1: Inter-relationship between economic prosperity, social wellbeing and environmental sustainability which underpin an integrated approach to a Biodiversity Strategy. An integrated approach comprises of conserving biodiversity as so that it is only used in a sustainable way and the benefits adhered from such use are shared in an equitable manner.

Economic Prosperity

Sustainable Use

Equitable Sharing

Integrated Approach

Environmental Sustainability

Conserving Biodiversity

Social well-being
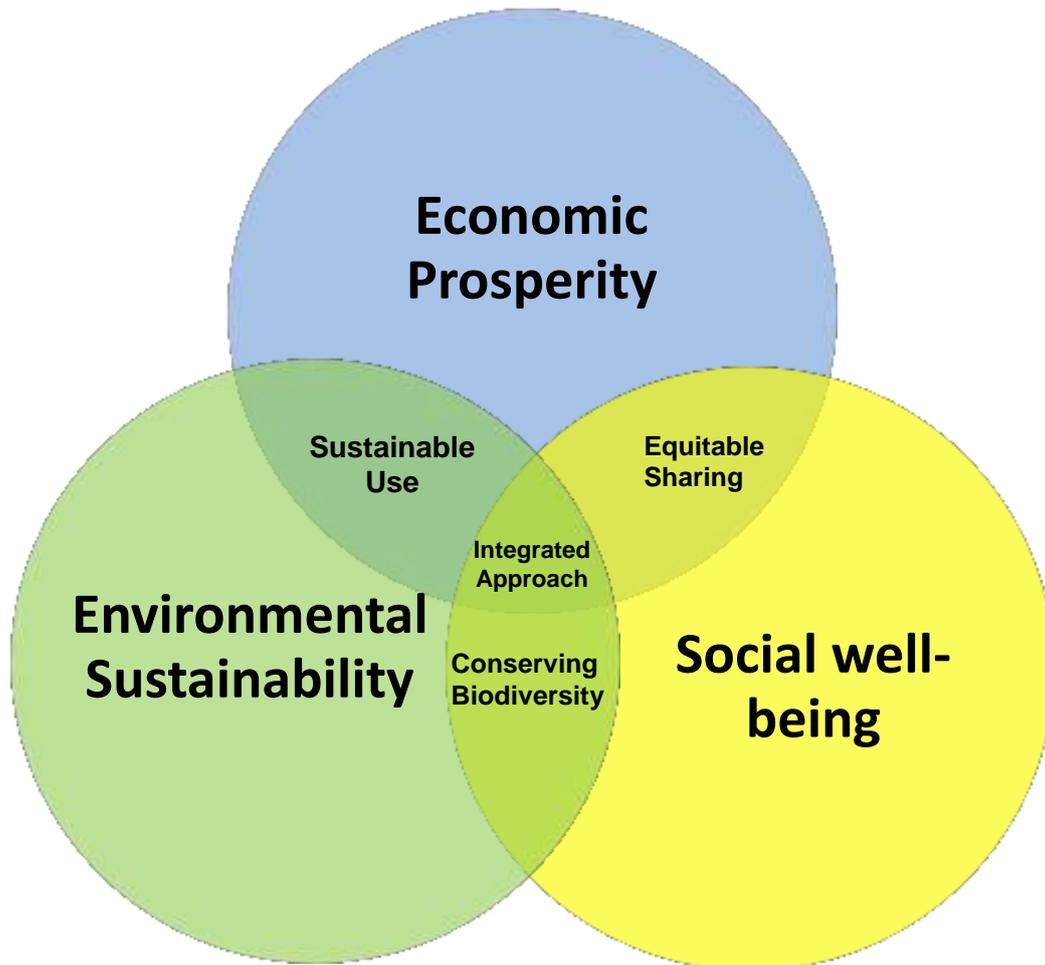
Risk of having / not having a Biodiversity Strategy on Ecosystem Services

The management of risk is increasingly becoming embedded into policy development and implementation. Understanding and managing risk is important when introducing any new strategy and to achieve this it is first necessary to identify & quantify all known risks in terms of their probability and impact.

Table 1(below) provides a qualitative analysis of relative impact on a range of ecosystem services by comparing a do nothing baseline with a fully deployed Biodiversity Strategy. The "do nothing" option assumes no controls are in

place e.g. for fresh water it assumes no controls on pollution or catchment management and for regulation of pest and disease it assumes no border controls for the movement of plants and animals into the island.

Table 1: Summary impact assessment of a Biodiversity Strategy on Ecosystem Services

CATEGORY	DO NOTHING OPTION/BASELINE	DEPLOY STRATEGY
Provisioning services		
Food	-	+/-
Fibre and Fuel	0	0
Genetic resources	--	+
Biochemicals, natural	0	0
Medicines, pharmaceuticals	0	0
Ornamental resources	-	+
Fresh water	--	+
Regulating services		
Air-quality regulation	-	+
Climate regulation	-	+
Water regulation	-	+
Natural hazard regulation	-	+
Pest regulation	--	+
Disease regulation	--	+
Erosion regulation	-	+
Water purification	--	+
Waste treatment	0	0
Pollination	-	+
Cultural services		
Cultural heritage	-	+
Recreation & tourism	-	++
Aesthetic value	-	+
Supporting Services		
Soil formation	-	+
Primary production	--	+/-
Nutrient cycling	-	+
Water cycling	-	+
Photosynthesis	-	0

Score	Assessment of effect
++	Potential significant positive effect
+	Potential positive effect
0	Negligible effect
-	Potential negative effect
--	Potential significant negative effect

> **1   The Ecosystem Services Approach**
>
> The Biodiversity Strategy will, where appropriate, take account of the principles of the ecosystem services approach to managing biodiversity.

2.   A Biodiversity Strategy

2.1. Current position

A lot of work has already been done in the past toward the development of a Strategy and a number of components have already been identified and acted upon, for example the setting up of a Biological Records Centre. Following this exercise it is clear that there is already a significant amount of data available and work already done that can be used as the foundation for the strategy. This has been presented in 2.1.1 below as a series of bullet points:

2.1.1. What we already have

- An agreed broad vision that represents a statement of the way we want things to be for the Island's environment including its biodiversity. (States Strategic Plan 2013-2017- see Appendix 1)
- A Strategic Land Use Plan (SLUP) which sets out the spatial framework for Guernsey over a 20 year and which provides general and more specific policy guidance to the Environment Department e.g. Policy SLP30 Requiring the Department (in preparing Development Plans) to provide measures to maintain biodiversity through the protection and enhancement of key habitats and landscapes. See Section 2.2 P.16
- A Draft Island Development Plan published in 2015 which includes proposals to designate areas regarded as important for biodiversity (Areas of Biodiversity Importance – ABIs) and which provides a level of protection from specific activities toSites of Special Significance (SSSs).
- Two island wide Habitat Surveys (1999 & 2010).
- A Biological Records Centre which holds a comprehensive collection of relevant data that is available to all.
- A Red Data Book (in preparation) which lists species for which there is cause for concern on an island, regional and national basis.
- A preliminary report on a Biodiversity Strategy for Guernsey (1995).
- Large amounts of knowledge held in the community including a number of knowledgeable, amateur societies with interest in specific areas of wildlife and the countryside of the Bailiwick.
- An enthusiastic "natural history society", La Société Guernesiaise.

- Limited legislation to protect and conserve wildlife and habitats – see Appendix 2.
- Extension of, or signatories to, a number of International Conventions that place some obligations upon us – see Appendix 3.
- A set of Farm & Countryside (Biodiversity) Plans prepared as a part of the Commerce & Employment Department's integrated milk production, marketing and environment policy.
- A number of "charismatic" sites managed under contract by the Environment Department (including shingle banks, sand dunes, wetlands, reed beds etc).
- A number of sites managed by voluntary groups/societies (eg. La Société, National Trust of Guernsey).
- A designated Ramsar site which includes Lihou Island and surrounding headland and wetland which enjoys international recognition. A proposal for a second Ramsar site comprising Herm, Jethou & The Humps has also been submitted for consideration.
- Numerous bodies, including States Departments, with an interest in biodiversity including experienced staff notably, but not limited to: the Environment Services Unit & Landscape and Countryside Officer of the Environment Department and a client services team at the Commerce & Employment Department with specialisms in plant health fisheries agriculture, plant pathology & legislation.

2.1.2. What has been absent

- An agreed plan of action; in essence a Strategy to drive and direct change in an agreed way to achieve defined outcomes.
- A comprehensive system of monitoring priority species & habitats which would be the subject of Action Plans.
- An agreed "structure" or body that represents the interested and knowledgeable parties to approve and/or guide and/or audit the work of developing and driving a Biodiversity Strategy.
- Full comprehensive costs for a strategy and its implementation.
- A comprehensive wildlife and countryside law (or the equivalent).

2.2. How the Biodiversity Strategy links into the States Strategic Plan (SSP) and the Strategic Land Use Plan (SLUP)

The States of Guernsey Environmental Plan is one of three high level strategic documents that support the States Strategic Plan (SSP). This Plan was prepared with a view to setting the direction for environmental policy and actions over a 20 to 25 year time frame.

Linked into the SSP is the Strategic Land Use Plan (SLUP) which sets out the spatial framework for Guernsey for a 20 year timeframe. It provides both

general guidance and more specific directions to the Environment Department in preparing the Development Plans and exercising its other planning functions in order to achieve the States' agreed economic, social and environmental objectives set out within the SSP. The SLUP is a key instrument in identifying the best way to achieve these States objectives through land use and spatial planning.

The core objective of the SLUP is to improve the quality of life of Islanders and to support a successful economy while protecting the Island's environment, unique cultural identity and rich heritage through spatial planning policies that enable (amongst other things) the protection of local biodiversity and the countryside.

The Biodiversity Strategy will set the framework, approach and direction which will identify the guiding principles and from which an Agenda for Action, comprising a set of aims and objectives, can be drawn up. The Agenda for Action will comprise of a set of prioritised and costed Action Plans and will form the backbone of the Strategy.
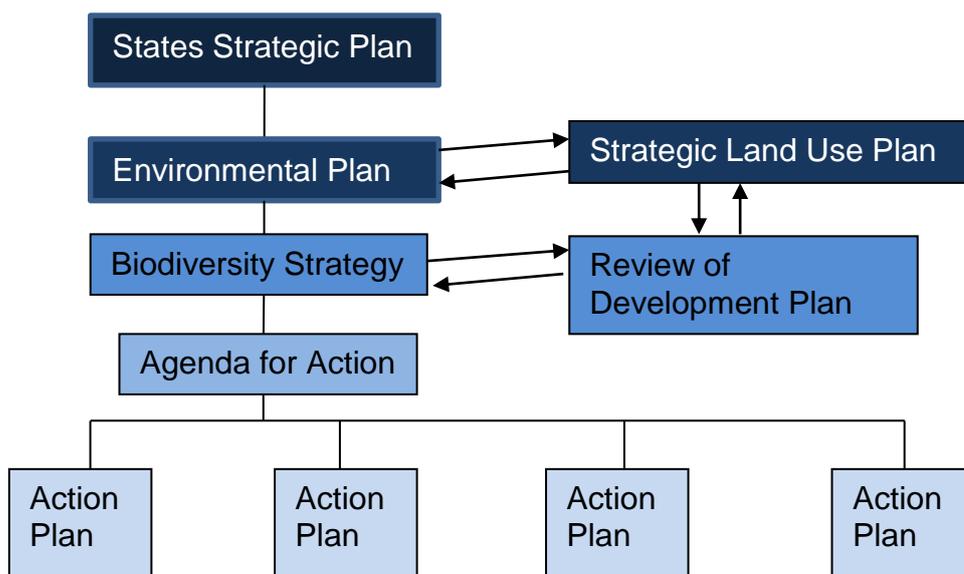
2.3. The Elements of a Biodiversity Strategy

A recent review of biodiversity strategies from a number of different territories (including Jersey, The Falkland Islands & Northern Ireland) shows that whilst the layouts vary they each contain elements which are common to all.

The **BPG** took the view that the following elements should together, form the basis for a strategy.

2.3.1. Vision Statement – Aims, Objectives & Key Actions

The Strategy has a clearly understood title: "Safeguarding Guernsey's Wildlife" and includes broad objectives. The overarching purpose is to conserve and enhance biological diversity in Guernsey.

Overall Goal

To conserve and enhance biological diversity in Guernsey using, where appropriate an approach based on ecosystems services.

Aims

- To conserve and enhance key local, regional and internationally important species, habitats and sites;
- To ensure that biodiversity objectives and considerations are integral to all states policy, programmes and action;
- To increase public awareness and encourage communities and individuals to be involved in the conservation of local biodiversity;
- To monitor and review biodiversity in Guernsey;

Key Actions

- Identify, protect and, where necessary, enhance key habitats, species and sites through Action Plans;
- Identify the key threats to biodiversity and introduce Action Plans to mitigate these threats.
- Introduce a monitoring programme for key habitats, species and sites.
- Introduce a community awareness/involvement programme for local biodiversity.
- Review the need for changing existing legislation or the introduction of new laws based on actions plans identified for species and habitat.
- House all the above Key Actions into an "Agenda for Action"

2 Elements of a Strategy

The following elements will form the basis for this strategy.

- Vision Statement – Draft aims, objectives and key actions
- A review of wildlife resource and habitats of the island
- The threats to the island's biodiversity
- A system to assess the relative importance of threats identified and a system to prioritise approaches to their removal or mitigation
- Identify priority species and habitats
- An "Agenda for Action" for Action Plans under the following headings:
  - Conservation
  - Policy & Legislation
  - Education
  - Community Participation
  - Monitoring & Review

- Implementation & Accountability

2.3.2. Review of Wildlife Resource and Habitats of the Island

A significant amount of work has already been done on the identification and assessment of habitats. Terrestrial habitats have been identified and comprehensively mapped under previous surveys published in 1999 and 2010. Marine habitats have also been partially mapped as part of a Regional Environmental Assessment for marine renewable energy using a towed camera system. However the data is limited and mostly confined to areas around Alderney.

Although we know more about our terrestrial biodiversity than our marine equivalent, which is reflected in the greater management and control of land which is absent in the marine environment, significant gaps exist in our knowledge of both. For example although we know a lot about our terrestrial habitats information on populations of species and their trends, which can give a measure of the health of ecosystems is scant.

Aspects of both terrestrial and marine biodiversity are considered below in more detail with an analysis of how this might influence approaches to the development of strategies for these two very distinct ecosystems.

Terrestrial Biodiversity

Guernsey sits within the North Temperate Zone and has a total area of 6,492 hectares of land (including Herm and Lihou) plus an intertidal zone of 1,240 hectares. Being part of a set of islands which are the furthest south in the British Isles Guernsey has a different set of species from most of the UK with some species that are not found in the UK. The terrestrial species found are effectively a subset of those in North West France.

A total of 42 different phase 1 habitats[7] have been identified in the 2010 Habitat Survey. The island is characterised by a matrix of cliffs, with plateaus at about 100 metres above sea level together with sand dune and coastal grassland areas around the remainder of the coast. Guernsey has important areas of wetland habitat ranging from reed beds to unimproved marshy grassland with a very rich flora and fauna. One habitat, dune heath, appears to have been lost from the islands since the 1999 survey was conducted.

Excluding marine and intertidal areas, the 1996 UCL Baseline Study of Guernsey identified nine general terrestrial habitats of significance:

- Wet grassland
- Running water (douits and streams) and standing water (freshwater)
- Other wetlands (marshes, reed-swamps and fen)
- Woodland
- Boundaries (hedgerows, dry grassland banks and stone walls)
- Cliffs (including maritime heath) and rocky shores
- Coastal lagoons and brackish habitats
- Dunes, dune-slacks and shingle-banks

The BPG have recommended the addition of undisturbed or infrequently disturbed natural and semi-natural grasslands to the 1996 list of "terrestrial habitats of significance". In particular unimproved and semi improved dry and coastal grasslands. These grasslands are very diverse and can be considered the local equivalent of tropical rainforests.

Although these types of grassland habitats are more abundant than the nine listed habitats above they are under considerable threat from wide scale changes in their use and management.

Over 13,000 species of plants, animals and fungi have been recorded from the Channel Islands (not counting single celled organisms such as algae). Some species hold cultural significance as they are named after the islands such as Guernsey vole, Guernsey centaury and Guernsey elm.

Significant areas of the island have been recognized as Sites of Nature Conservation Importance[8] (SNCIs) because of the important ecological

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[7] Using the classification system published by the Nature Conservancy Council in 1990 and reprinted with minor revisions by the Joint Nature Conservation Committee
[8] Described as Sites of Conservation Interest in the Urban Area Plan

habitats they provide but they currently have little legal protection other than by policy under Planning Law.

With 40% of Guernsey's land surface (38,600 vergees) classed as available to agriculture, including farming practices and rural land management techniques is an essential part of any strategy to conserve biodiversity. The Guernsey Countryside management scheme was implemented in 2001 to address this and underwent revision in 2009. Under the scheme the Commerce and Employment Department has developed farm biodiversity action plans in conjunction with dairy farmers in the island, and there is potential to extend these to other farming enterprises and landowners, such as large areas of land devoted to 'horsiculture'. Through working with farmers there is the potential to promote 'land sharing' whereby utilising the land for its economic value is acknowledged to not necessarily be at odds with conserving biodiversity, and techniques are promoted which adhere to the 'integrated approach' outlined in Figure 1.

Successfully incorporating agricultural land uses into the Biodiversity Strategy will also facilitate increased connectivity between habitats for terrestrial species, rather than fragmented and increasingly isolated pockets of land, which are unable to support the same range of species and make populations within these areas highly vulnerable to local changes. Furthermore in relation to agriculture it should also be noted that the Guernsey Cow is itself an example of an important species which plays a pivotal role in agro-ecosystems as well as forming a key part of the Islands cultural heritage.

Guernsey is a relatively densely populated island with 13% of its area developed[9]. The remainder of the land is, in general, highly managed including a high proportion of farmland. The island's affluence is reflected by high car ownership levels, strong demand for development and leisure activities which all have an impact on the natural environment.

Juvenile Kestrels   © Paul Hillion   Golden-eyed Wolf Lichen © Family of Charles David

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[9] Source: Environment Department

Speckled Wood Butterfly   © Martin Gavet   Linnet   © Rod Ferbrache

Marine Biodiversity

The marine ecology of the Bailiwick is rich and diverse. Guernsey's geographic location and large tidal differences create and support a diverse range of habitats. The convergence of cold (boreal) and warm (Lusitanean) bio-geographic regions support an array of species which include rich plankton "rivers" which flow eastward from the Atlantic to the North sea. Guernsey has an exceptionally large tidal range, up to 10m in the south of the Island where the inter-tidal zone is particularly large and bio diverse.

Several habitats regarded as a priority for conservation may be found around the islands including Eelgrass beds (which provide spawning grounds for species such as Sea bass and Black sea bream), Maerl beds and tidal rapids. The coastlines and islets of Guernsey, Herm and Sark provide the breeding sites for thirteen species of seabird, regarded as important indicator species for the health of marine ecosystems. Certain species such as Lesser Black-Backed Gull hold international importance because local populations represent a significant proportion of the regional populations.

Marine mammals such as Grey seal are also found on the Humps and various whale and dolphin species have also been recorded in Bailiwick waters.

Sea slug   © Michelle Hooper   Minke Whale   © Vic Froome

Atlantic Puffin   © Paul Hillion   Northern Fulmar   © Michelle Hooper

Three main elements make up the biological marine environment are:

- Sea bed - (Benthic zone)
- Open seas – (Pelagic zone)
- Intertidal zone

Many species are adapted to living in one specific habitat. Whereas others utilise more than one, e.g. shore and wading birds which may use more than one habitat for nesting and feeding.

A healthy benthic ecosystem is important to support shell fish and flat fish populations. Pelagic systems support a wide range of fish and mammal populations. Healthy and well managed intertidal areas are essential to support mariculture and Ormer gathering which is part of a firmly established tradition of shore gathering in the island.

Up until relatively recent times humanity's impact on the marine environment has been minimal compared to our impact on land. Concern has grown in recent years however over the impact of overfishing, disturbance, more intensive shore gathering, pollution, spread of invasive non-natives and the potential impacts of offshore development.

Globally fishing provides an important source of protein as well as underpinning an industry (worth £4 million in Guernsey in 2012) which is wholly reliant on a healthy marine ecosystem.
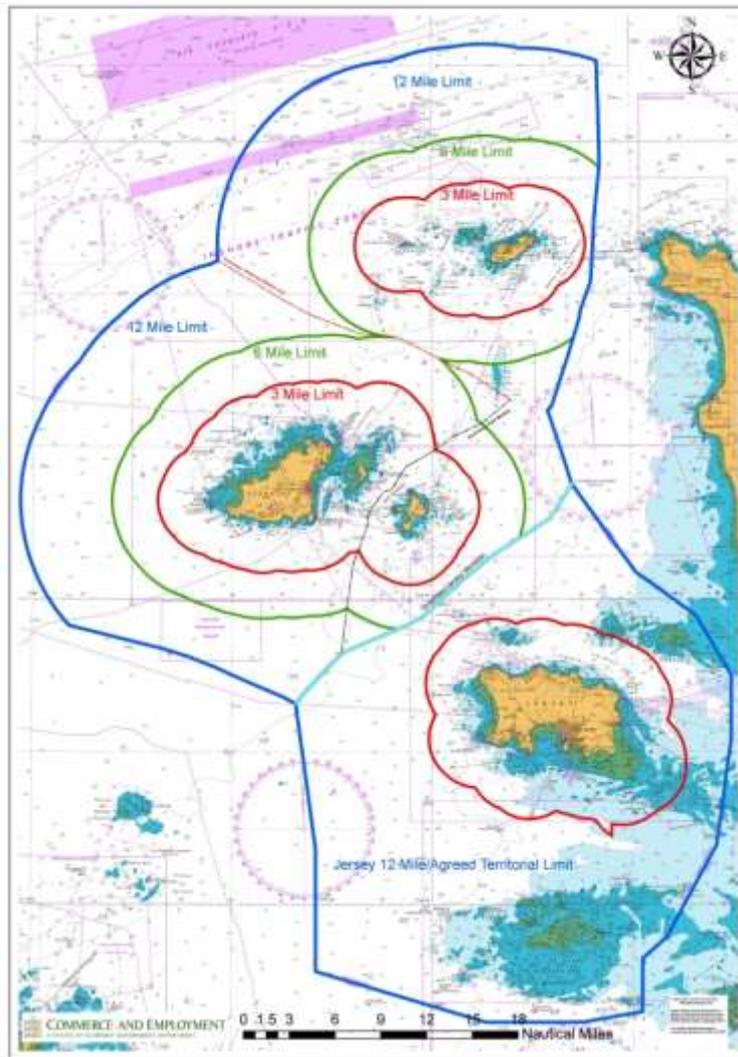
Fig 2: Three, six and 12 mile limits for Guernsey, Alderney & Jersey

There are elements of a Biodiversity Strategy which are common to both the terrestrial and marine environments. However three main factors distinguish marine from terrestrial environments when considering strategies for protection:

- Connectivity & Interdependency
- Relative paucity of data on ecosystems compared to terrestrial systems
- Absence of legal or policy frameworks which seek to conserve & enhance marine biodiversity

Whilst soil and air connect up terrestrial habitats water, moved by oceanic currents and tidal flow, is the universal connector for all marine ecosystems. This contributes a degree of robustness to marine ecosystems by connecting up populations of the same species but at the same time makes it a system vulnerable to pollution which occurs elsewhere.

The general approach for developing a biodiversity strategy for the marine environment will be similar to that for a strategy for terrestrial areas. That is

identifying what there is, assessing and ranking threats then implementing actions to mitigate those threats.

However, recognising that there are distinct features and factors which characterise the marine environment, the strategy will aim to be compatible with and integrate into a Bailiwick wide approach and be consistent with any regional and national workstreams which impact upon Guernsey's marine environment.

Principles which support a marine strategy

- Cross boundary sharing of knowledge and data
- Inter-island, regional & national co-operation as well as intra-island cooperation between Departments, agencies, non-government organisations and others

These principles will be applied to help achieve the following aims:

- Conservation & management of fish stocks
- Development of legal and policy frameworks to control development
- Minimising risks of pollution to the minimum
- Ensuring the future of shore gathering
- Protection against marine invasives
- Marine Spatial Planning (MSP) & Integrated Coastal Zone Management (ICZM)

Currently planning law applies to land only in Guernsey which includes the foreshore to the mean low water mark and any land reclaimed from the sea[10]. Few controls are placed on the use of the marine environment in general apart from controls over shipping (preventing pollution), smaller craft (eg leisure craft and speed limit zones) and fishing which is controlled out to a 12 mile limit.

In March 2013 the European Union (EU) released a draft Directive entitled "Establishing a Framework for Maritime Spatial Planning (MSP) and Integrated Coastal Zone Management (ICZM)". The draft sets out the EU's objective to become a smart, sustainable and inclusive economy by 2020 with a focus on developing the "Blue Economy". The report recognises that the increased use of coastal and maritime areas as well as the effects of climate change, natural hazards and erosion also put pressure on coastal and marine resources.

MSPs will map existing human activities and identify their most effective future spatial development, while ICZM strategies ensure the integrated

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[10] Land protected by Planning Law in this context also includes all islands, islets and rocks lying adjacent to the island of Guernsey whether or not they are connected at any state of tide to it. Planning law makes provision by Ordinance to extend controls on development to Herm & Jethou, the territorial waters adjacent to the island of Guernsey, Herm & Jethou and the seabed beneath.

management

of these human activities. Applied jointly, they both improve sea-land interface planning and management.

The key point to note is the Directive would require member states to engage with bordering member states and third countries. The Channel Islands are clearly in the middle of such discussions between the UK and France and will be regarded as third parties. The development of any Biodiversity Strategy for the marine environment will take into account any discussions and any outcomes from those discussions. Any Strategy will also feed into and inform any processes which may lead to the development of MSP and ICZM in the Bailiwick.

The benefits of MSP/ICZM include reduced conflicts between sectors, encouraging investment and critically, protection of the environment through early identification of impacts on and opportunities for, multiple use of space. However if the protection of marine ecosystem is to be achieved it is vital that a Biodiversity Strategy identifies the key components of that ecosystem and identifies the key actions required to protect them.

2.3.3. Threats to the Island's Biodiversity

The threats to Guernsey's biodiversity are many and varied. Several threats are already well known such as climate change and changes to management of the land. The Strategy will identify the key threats and the extent to which they will affect biodiversity both now and in the future.

In the report entitled "A Biodiversity Strategy for Guernsey – Part 1, Sites, Habitats and Species" (1995) it states that 80 species of animal and plant have been lost from the Island in the last 100 years – the majority being lost as a direct result of habitat destruction on the Island, and to a lesser extent, changing management regimes. These threats are current, ongoing and increasing.

Some such as climate change are locally beyond our control whilst others have emerged as a consequence of population growth which has led to a loss of habitat resulting from development. Changes in the management of remaining habitats had led to loss of biodiversity from lack of management of marginal land and intensification of remaining farm or amenity land all of which have contributed to marked reductions in floral and invertebrate biodiversity and creating so called "Green deserts".

Establishment of invasive species (for example Carpobrotus fig, Japanese knotweed and German ivy) can out compete native flora and reduce the habitat available to support other native species. On the horizon there are new threats such as Chalara ash dieback, Oak processionary moth and Asian hornet which should be considered as candidates for inclusion in an Agenda for Action for dealing with invasives.

Disturbance is another threat which is on the increase due, in part, as a result of the upward trend in leisure activities especially around the coast.

Urbanisation has had significant impacts on habitat both from development of greenfield sites especially prior to the 1990s when greater controls were introduced and urban intensification of already developed areas e.g. (paving, tarmacking and paving over of front gardens or parts of gardens within already developed areas). Reducing disturbance is also of mutual benefit and can avoid further potential conflicts between conservation and development. An example of this can be seen in the relatively recent prevalence of Herring Gull's nesting in urban and sub-urban areas in Jersey any many other parts of the region due to persistent disturbance of their historic nesting sites.

Perhaps the two most important threats, identified in other strategies, are firstly a lack of awareness amongst individuals and organisations about the importance of biodiversity and how it can be conserved, and secondly uncertainty in and lack of information. In particular the effects of climate change, data on marine and coastal ecosystems, lower orders of plants and the diversity and ecological role of microorganisms especially in soils.

The Strategy will identify and assess all these threats using mechanisms that prioritise the threats so that limited resources can be used wisely – see 2.3.4 below, "Measuring Threats & Prioritising Approaches to Mitigation".

The following is a summary list of threats to biodiversity which are expanded on in the Policy Letter on Biodiversity.

- Climate change
- Development
- Disturbance
- Ignorance
- Invasive non-native species
- Land use change and management of land and marine environment
- Overfishing & Shore gathering
- Policy conflicts
- Pollution

A comprehensive list of threats, specific to particular habitat groups, is given in Appendix 6 of this Strategy.

2.3.4. *Measuring Threats & Prioritising Approaches to Mitigation*

Not all threats can be dealt with at once and some may not be able to be mitigated at all. A Biodiversity Strategy which seeks to deal with all threats in one go and assumes no limit to resources is unrealistic. Resources are limited so threats need to be assessed, prioritised according to their importance and ranked based on the cost effectiveness of the mitigation strategies available.

Using a modification of the model developed for the Biodiversity Strategy for the Falkland Islands a system to measure the risk of a threat and its impact is proposed. Table 2 below illustrates a method of prioritising threats so, for example a threat to biodiversity which would have major impact and a high likelihood of happening would be given a high priority. Arguably climate change falls into this category as does (again arguably) the introduction of new pests, diseases or weeds. Pollution of the sea can have a major impact but arguably, with the advent of International Conventions and policing now has a lower risk of occurring.

Table 2 - Determining the priority of a threat based on its likelihood & impact

Likelihood of threat occurring	Significance of impact		
	Major	Medium	Minor
High risk	High	High	Medium
Medium risk	High	Medium	Low
Low risk	Medium	Low	Low

Priority level

▨	High
▦	Medium
▥	Low

Once threats have been prioritised the costs of mitigating those threats can be identified and compared against the impact of mitigation to determine value for money – see Table 3 below.

Using the examples above the mitigation of climate change is likely to have a very high cost and be limited in impact (carbon emissions to date have locked in another 50 years of global warming even if we stop emitting CO_2 today). Resources used on attempting to mitigate climate change would therefore represent poor value for money.

Table 3 - Assessing Value for Money – comparing impact of mitigation with cost

Cost of Mitigating Threat	Impact of Mitigating Threat		
	Major	Medium	Minor
£££	Good	Poor	Poor
££	Good	Medium	Medium
£	Good	Good	Good

Value for Money

▨	Good
▦	Medium
▥	Poor

By comparison action to prevent the introduction of a new pest, disease or weed is likely to be cheaper and give a better return on the effort and resource

expended. This is an example of an action with a medium to good value for money, based on the premise that prevention is cheaper than cure. For example inspection and import controls are cheaper than the combined cost of eradication and damage which would have been caused.   A comparative example is Asian Longhorn Beetle, a new pest of trees which has so far been kept out through diligent plant health controls and Japanese Knotweed (a deliberate introduction made in the 19th century) which is now proving to be a costly problem on some sites requiring extensive treatments to eradicate the plant.

By comparing the priorities of the various threats with the value for money (for their mitigation) all threats can be ranked and this can be used to develop a more cohesive and realistic strategy because it takes account of the available resources.

Table 4 - Ranking Threats based on Priority of Threat against Value for Money of Mitigating Threat (1 = highest ranking 8 = lowest)

		Value for money of mitigating threats		
		Good	Medium	Poor
Priority of threat	High	1	2	5
	Medium	3	4	6
	Low	7	8	

3   Prioritising Threats & Effective Use of Limited Resources

The Biodiversity Strategy will first prioritise threats to biodiversity by assessing both the significance of impact and the likelihood of the threat occurring. Value for money of mitigating each threat will be determined by measuring the impact of mitigation against its cost. Threats and their mitigation may then be ranked so that limited resources can be used wisely and in the most effective way.

2.3.5. Identification of the priority species and habitats requiring protection

The Biodiversity Strategy for Guernsey will identify priority species and habitats using criteria drawn up locally and informed by a number of other sources including international conventions, global and national conservation status, changes in population and distribution, and the impact of specific threats.

The 1995 publication "Biodiversity Strategy for Guernsey – Part 1, Sites, Habitats and Species" provides a framework to develop Species and Habitat Action Plans.   Criteria for habitat and species are considered separately below:

Identifying Priority Habitats

To identify priority habitats it was recommended the following two principal criteria are used:

- Threatened or have reduced in area over the last century;
- Supporting priority species

Identifying Priority Species

Species will be prioritised using the following two principal criteria:

- Degree of threat: the extent to which a species has declined, or is declining at all scales, regardless of conservation status;
- Conservation 'importance': the status of a species at all scales as defined by its inclusion in the International Union for the Conservation of Nature (IUCN) or Guernsey Red Data Book (in preparation), European listings or its categorisation as an annexed/scheduled species (European directives, UK statutes, International Conventions) in need of special protection.

A third criterion – conservation potential (the ease with which a species can be conserved or recovered) – is also recommended to further select species for specific conservation action. This effectively represents a "value for money" approach and accords with the approach recommended to prioritising threats to biodiversity in general in section 2.3.4 above.

The 1995 report concluded that whilst habitat management should remain the main focus of conservation efforts in the short term, in some cases it was more appropriate to complement this approach with management plans for individual species. It was noted that there were at least 40 red and amber list species in Guernsey for which Species Action Plans were needed if the populations of these species were to be maintained or increased e.g. Puffin and Oystercatcher.

> **4   Identifying Priority Species & Habitats**
>
> The Biodiversity Strategy for Guernsey will identify priority species and habitats using criteria drawn up locally and informed by a number of other sources including International Conventions, global and national conservation status, changes in population and distribution, and the risk of specific threats.

2.3.6. Agenda for Action

An "Agenda for Action" is proposed which would be based on five principal themes as listed below. Each theme would set out the desired outcomes and

the actions required to achieve those outcomes to meet the vision and goals as set out in section 2.3.1 above.

The themes are not listed in any particular order of importance but aim to show the range of approaches that can be taken to protect and enhance the island's biodiversity. The themes are not separate from each other, rather they are interlinked so, for example, an Action Plan to support a species of bat could be delivered by a specific Action (Conservation) which involves a programme to raise awareness (Education) and would need monitoring (Monitoring & Review) using the help of volunteers (Community participation).

Theme1: Conservation

Conservation includes all those measures aimed at arresting and reversing the decline in biodiversity and would include **Species and Habitat Action Plans** tailored and targeted at specific sites or particular species or both. Each plan would contain specific measures which would aim to conserve species and habitats.

Theme 2: Policy & legislation

Current legislative controls to protect wildlife and habitat are regarded as limited and weak and it is proposed that they are reviewed. More details are given under Section 2.5 Legislation.

Changes to existing legislation or the introduction of new legislation are generally time consuming to prepare and can take a long time to introduce. The formation and development of policies can provide alternative mechanism to deliver change. One example of this is a suggestion that the States adopts a policy of protecting and enhancing biodiversity as part of its capital programme of works to refurbish existing buildings in its portfolio as well as new builds. Installing bird and bat boxes could be done for a cost which would be a very small fraction of the cost of works.

Theme 3: Education

Measures to improve knowledge on and communication of the importance of conservation and biodiversity are regarded as essential to help deliver the aims of any strategy. This principle applies as much to adults as it does to children.

An educated population is more likely to not just accept but to embrace projects and initiatives which aim to protect and conserve habitats and species. Furthermore an educated population is an engaged population which can support the delivery of Action Plans through volunteering, sharing, networking with others and enthusing others to join in.

Theme 4: Community participation

Biodiversity Strategies from other jurisdictions underline the importance of volunteer and community support to help deliver the objectives set. Guernsey

has a strong history of voluntary support and many initiatives which have been launched in the past have relied heavily on the good will and knowledge made available through organisations such as La Société Guernesiaise.

Many of the projects delivered on the ground have benefitted from the resources offered by organisations such as La Société Guernesiaise, Guernsey Conservation Volunteers and initiatives such as the Community Environment Projects Scheme and the Community Service Offenders Scheme.

Parish Douzaines have provided strong support to various initiatives including Britain in Bloom through Floral Guernsey and the opportunity exists to extend this to projects relating to biodiversity.

Work teams offered by various businesses which have a policy of corporate social responsibility can provide assistance for both the delivery of conservation projects, as well as providing resource to monitor particular species, habitat or the success of a particular initiative.

The Biodiversity Strategy would seek to maintain and further develop these partnerships to help resource a cost effective delivery of any Action Plans.

Theme 5: Monitoring & review

No strategy can succeed or be improved without knowing the current status (of a particular species or habitat) and what the end result of an Action Plan has been. A monitoring and review process is therefore essential to measure the effectiveness of any plan. Section 2.4 below gives more details on how the Strategy will be implemented.

Currently the Guernsey Biological Records Centre (GBRC) acts as a repository for the records of all biodiversity in Guernsey, including both its terrestrial and marine habitats. To meet the requirements of the Strategy the Centre's role should be developed beyond a simple records centre to include monitoring of key indicator species and habitat.

5   Agenda for Action

The Biodiversity Strategy will form the basis for an "Agenda for Action" to comprise a set of Action Plans that, together, will form a prioritised and costed programme to meet set objectives.

The Agenda will be based on five main themes:

Conservation: to arrest and reverse the decline in biodiversity and would include Species and Habitat Action Plans tailored and targeted at specific sites or particular species or both.

Policy & Legislation: Review existing legislation to identify the need for new laws. Identify and develop suitable policy instruments to help deliver a strategy.

Education: to improve knowledge on and communication of the importance of conservation and biodiversity.

Community Participation: To maintain and further develop the resources of volunteer and community support to help deliver the objectives set.

Monitoring & Review: to measure the effectiveness of a strategy.

2.3.7. A Framework for the Development of Action Plans for Species & Habitat[11]

The following elements will be included in a framework for Species & Habitat Action Plans:

- Current Status: The reasons for current status. To what extent are the limiting factors known.

- Current Factors Causing Loss or Decline: A brief review of the historic and known threats.

- Current Action: A résumé of what conservation action is presently underway.

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[11] Adapted From Volume 1 of *Biodiversity: The UK Steering Group Report*

- Action Plan Objectives and Targets: Targets for maintaining or increasing the populations and range (species) or size (habitats).

- Proposed Action: Actions needed to support the targets under the following categories:

  o Safeguarding the site and its management;
  o Species management and protection;
  o Advisory;
  o Future research and monitoring;
  o Communications and publicity
  o Policy and legislation

Drawing on the analysis of risk and value for money the Strategy can focus on:

- Action Plans for rarer habitats outlining the threats to each habitat;
- Actions that the States will support to lessen the risks to the habitat;
- Species which can be monitored to assess the health of the habitat;
- Other measures that will be undertaken to stop the contraction of the habitat and if possible to reverse or extend it.

The Strategy will also develop plans for those threatened species which are not bound to a particular habitat, such as birds and marine species that forage over a wide area and those that need a range of habitats to survive.

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6   Framework for Species & Habitat Action Plans

Species & Habitat Action Plans should be drawn up under the following framework:

- **Current Status:** The reasons for current status. To what extent are the limiting factors known.

- **Current Factors Causing Loss or Decline:** A brief review of the historic and known threats.

- **Current Action:** A résumé of what conservation action is presently underway.

- **Action Plan with Objectives and Targets:** To include targets for maintaining or increasing the populations and range (species) or size (habitats).

2.4. Driving & Implementing the Strategy

Effective implementation of the Strategy relies on developing and strengthening partnerships between Government, NGOs, business and the public if it is to be successfully delivered. That delivery should be underpinned by an approach based on sound ecological principles which at the same time recognises and balances the needs of the community.

The Environment Department believes that the most cost effective approach to delivering a strategy would be to appoint a coordinator. The coordinator would be someone with a sound background in ecology (especially local ecology) and have strong communication and people skills. The coordinator could be embedded within the Department or the Guernsey Biological Records Centre (GBRC) which would have its role extended beyond recording to include monitoring target species and habitats as well.

Working in partnership with the wider community will, in itself, contribute to achieving the Strategy's aims. This could be achieved, for example, through the creation of a "Biodiversity Partnership", to create a multiplier effect by increasing capacity and enabling workstreams such as the implementation of ongoing monitoring and survey work of target species and habitat, raising awareness and knowledge, initiating and delivering specific action plans and where appropriate, raising funds to augment any provided through the public purse.

To ensure that the Strategy delivers in the most effective and efficient way and meets the targets it is set the coordinator, whether embedded with the Department or an external agency, would be directly accountable to the Environment Department.

> **7 Implementing the Biodiversity Strategy**
>
> It is proposed that a coordinator, with a sound background in ecology (especially local ecology), strong communication and people skills, is appointed to deliver the Strategy. Key to effective implementation is the development of a partnership approach to delivery and the coordinator would play a principal role in achieving this. The coordinator could be embedded within the Environment Department or the Guernsey Biological Records Centre (GBRC) whose own role, in any event, would be extended beyond recording to include monitoring target species and habitats as well.

2.5. Legislation

Limited local legislation is in place to protect wild birds and wild flowers. The current planning laws contain enabling powers which allow for the control of development on land and there is also provision in the main Planning Law to

designate Sites of Special Significance (**SSSs**) to protect areas that are particularly rich in biodiversity.

However, it should be recognised that Planning Laws in general are limited in their protection of biodiversity since they only seek to control development as defined in law. There are currently no comprehensive and over-arching laws which specifically seek to protect wildlife or habitat in the Bailiwick.

Until now the need for legislation has been tempered by the fact that a large proportion of publicly accessible and managed land is in public ownership or owned by organisations that are well disposed toward the protection of the natural environment. This has often been backed by specific management policies which seek to enhance biodiversity.

In the short term the development and implementation of a Biodiversity Strategy provides the best way forward to achieving the goals of conserving and enhancing biodiversity. It is recognised that a very significant amount of resource would be required to develop and draft what would be a large piece of legislation that may well take several years to come to fruition. The Strategy will achieve more in the short term but as part of an ongoing strategy it is recommended that a comprehensive review be done of current legislation and its impact on biodiversity. The review process would be used to identify any gaps in current protection and to highlight areas where introducing a legal framework would provide significant benefits.

3. Convention on Biological Diversity (CBD)

The Convention on Biological Diversity (CBD) is an international environment agreement, established in 1992 at the United Nations Conference on Environment and Development 'The Rio Earth Summit'. 195 countries and the EU are currently Parties to the CBD. The only two countries that are not Parties are the USA and the Holy See, both of which attend as observers.

The Conventions three objectives are:

- The conservation of biological diversity;
- The sustainable use of components of biological diversity;
- Fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.

3.1. What would Extension mean for Guernsey?

Membership offers a range of benefits in terms of attaining a high level of access to a wealth of specialist knowledge, greater opportunities for dialogues with other Parties, in particular those with similar circumstances and enhanced opportunities to access capacity building initiatives. In light of the Strategy's outlined objectives, this may be of particular pertinence in protecting the islands' marine biodiversity considering the connectivity of marine ecosystems and the salience of transboundary cooperation. The

Convention further allows a territory to gain international recognition for its efforts in sustaining biodiversity.

3.2. What would Guernsey need to do for the CBD to be extended?

For extension to take place a territory must be able to demonstrate its commitment to meet the obligations under the CBD and to work towards achievement of its Strategic Plan, which incorporates 20 global targets to be met by 2020.

Article 6 of the Convention text sets out that: Each contracting party shall, in accordance with its particular conditions and capabilities:

a) Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programs which shall reflect, inter alia, the measures set out in the Convention relevant to the Contracting Party concerned; and
b) Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross sectoral plans, programs and policies.

3.3. Summary of Commitments

Once a territory has had the CBD extended to them they need to work towards a set of strategic goals, including the following:

- Write and implement a workable **Biodiversity Strategy and Action Plan. (Aichi Target 17)**

- Carry out **baseline studies** or a **biodiversity data audit** to ensure the territory knows the abundance and distribution of existing biodiversity.

- **Identify and address threats to biodiversity**, primarily habitat loss, climate change, invasive alien species and pollution.

- **Data-sharing**: ensuring evidence-based policies and decisions.

- **Spread the knowledge**: educate about the value of local biodiversity and its sustainable use;

- **Government must lead on Biodiversity**: respect biodiversity and ecosystem services in policy and decision-making;

- **Incentivise conservation** and encourage sustainable use of biodiversity and natural resources.

- **Protection** of habitats and species, ecosystem services and genetic diversity

- **Sustainable use of biodiversity**: support biodiversity objectives and preserve ecosystem services.

> **Aichi 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.*

Nagoya protocol

The Nagoya protocol is a supplementary agreement and forms part of the Convention on Biological Diversity. The protocol governs the access to and sharing of benefits derived from local genetic material through its requirement that genetic resources derived from the biodiversity from a territory should be used appropriately. Any benefits a company derives from the use of genetic material must be shared equitably with the territory, whether this is for medicinal, horticultural or industrial application. For example this could include locally distinctive genetic breeds such as the Guernsey cow and Golden Guernsey goat.

The Nagoya protocol requires separate ratification and the UK is currently in the process of ratifying the protocol which is due to come into force in the UK in autumn 2015 (to be confirmed). Any extension of CBD will not automatically include an extension of the protocol and it is the intention of the UK to gauge interest from individual Crown Dependencies and Overseas Territories to gauge their interest in having the Nagoya Protocol extended and investigate ways of doing this.

3.4. Conclusions

Ecosystems are interdependent on a global scale. Whatever the extent and impact of humanity's actions to protect and enhance those ecosystems they can only ever be delivered at the local level. That makes any contribution Guernsey can make to protecting biodiversity as valuable as that made by any other community

By committing to a Biodiversity Strategy Guernsey can show it is committed to protecting biodiversity. If this is the case then that commitment should be recognised by extending the Convention on Biological Diversity. By doing so shows that Guernsey means to play its part globally and will reinforce the actions taken at a regional level to protect and enhance biodiversity.

> **7 Convention on Biological Diversity**
>
> By committing to a Biodiversity Strategy it demonstrates that Guernsey is committed to protecting biodiversity. Extending the Convention on Biological Diversity would show that Guernsey intends to play its part globally and will reinforce the actions taken at a regional level to protect and enhance biodiversity.

4. Resourcing a Strategy

The resources required for a Biodiversity Strategy are dependent upon the objectives set, actions and programmes to be completed and the timescales for those programmes. Once a prioritised programme of Action Plans is agreed (Agenda for Action), estimates of costs and human resources against various options can be developed. It is proposed to start implementation with a fixed level of resources. Within this resource cap it will be possible to estimate what can be done and the likely timescales for a deliverable programme of action plans once a prioritised programme of Action Plans is identified.

A minimum level of extra resource required is considered to be in the order of £80,000 per annum including labour and non labour costs. A significant proportion of this amount would go toward the employment of, or contracting in of, a coordinator.

Sustainable resourcing should not just rely on the States alone but should be broadly based on a strong partnership approach. As well as monitoring/survey work there will also be a need to promote to and engage with the community as a whole to both raise awareness and knowledge and to work in partnership with volunteers and NGOs as well as parish Douzaines to help meet set objectives including the implementation of action plans and monitoring the effectiveness of such plans.

In conclusion a range of specialist inputs including the disciplines of ecology, land management, botany, zoology, education and communication will be required. Other skills will also be required for encouraging community participation such as leadership & networking skills and fund raising for specific projects or initiatives.

Measuring success – Monitoring & Assessment

Baseline and subsequent data comparisons vary greatly in cost depending on what it is being done. For example marine surveys to assess population distribution of species will cost much more than simple point photography of a terrestrial habitat. What needs measuring and monitoring will be determined by the Agenda for Action so, at this stage, it is not possible to quantify costs in any detail.

The elements of this work include drafting communications with the Law Officers, preparing submission, consultation/verification time, publicity and follow up.

Legislation

Estimating the cost of the drafting and implementation of any new and specific protection laws is difficult to make. However a realistic timescale for the drafting and consultation process together with submission to the States for a comprehensive wildlife, countryside and marine protection law could be 5 – 10 years in the gestation.

5. Timetable for Development, Implementation & Review (Past, Current & Future)

July 2012   **Biodiversity Project Group (BPG)** set up

Autumn 2012   **Background Data Gathering**
Review of information.

Summer 2013   **Identify & agree principal elements which form the Strategy** which include the main issues, challenges and opportunities.

Winter 2013/14   **Draft Biodiversity Strategy**
Based on the principles agreed by **BPG** submit this strategy for approval to the Board

Sept-Oct 2014   **Consultation on Approved Draft Strategy.**

August 2015   **Approve final version & Draft Policy Letter**

Nov 2015   **Strategy submitted to the States**

Jan 2016   **Prepare Agenda for Action** to achieve short & longer term objectives

     Begin Implementation of Biodiversity Strategy subject to availability of resource

Spring 2016   Prepare the groundwork to enable extension of the **Convention on Biological Diversity** to the Bailiwick of Guernsey

2017   **1st Annual Review of Strategy**

2018	**3rd Habitat Survey**
2021	**Comprehensive quinquennial review of Strategy**

2018   **3rd Habitat Survey**

2021   **Comprehensive quinquennial review of Strategy**

Appendix 1:   States Strategic Plan – Environmental policy elements 26th March 2013 Billet V and VI

Statement of Aims

The government of Guernsey aims to protect and improve:

- The quality of life of Islanders.
- The Island's economic future.
- The Island's environment, unique cultural identity and rich heritage.

It recognises that this requires:

- Maintenance and enhancement of Guernsey's standing in the global community.
- Sustainable economic growth and effective public services without increasing population to the detriment of our environment and way of life.
- Conditions that encourage enterprise and successful business.
- Wise long-term management of Island resources including the maintenance of a highly skilled and well-educated workforce.
- Efficient transport and communication systems, including digital connectivity.
- Good governance and public engagement.
- Co-ordinated and cost-effective delivery of public services through cooperative working and transformation change management.
- Improved awareness of the culture and identity of Guernsey both internally (within the Island) and externally
- All people having opportunities and support where needed, to enable them to reach their full potential.
- Policies which protect the natural environment and its biodiversity by accounting for the wider impacts that human activity has on it.

The States Strategic Plan
A Family of Related Plans

Fiscal & Economic Policy Plan — **Social Policy Plan** — **Environmental Policy Plan** — **Dept. & Cttee. Policy Plans**

Financial performance Monitoring (PAC and Audit) — **What we are going to do** — **Service Delivery Monitoring (States Strategic Monitoring Report) & Scrutiny Committee**

Population Management — **Energy** — **Strategic Land Planning** — **Infrastructure**

Executive Summary

The States of Guernsey Environmental Plan is one of three high level strategic documents that support the States Strategic Plan (SSP). This Plan was prepared with a view to setting the direction for environmental policy and actions over a 20 to 25 year time frame. The purpose of the plan is to provide the direction and framework under which an environment that is sustainable, biologically diverse and protective of Guernsey's traditional culture and values can be delivered.

The Environment Department have set objectives to deliver the Environmental Plan
by setting policies and policy decisions that are consistent with the SSP and actions being demonstrable of working towards those objectives. As an employer the Department have stated that they will, amongst their staff, promote education on environmental issues and require Non-Governmental

Organisations to do likewise. They will require that environmental audit and consideration are given the same prominence as financial audit and corporate governance. They will adopt green procurement policies and environmentally supportive practices and procedures.

OUTCOMES INDICATORS

1 The States of Guernsey will provide clear leadership through education, information and action on environmental issues and challenges	Adoption and application of accredited Environmental Management Systems. Action plans will be regularly reviewed and incrementally progress the objectives set out in this plan
2 The States will demonstrate delivery of its environmental priorities	Sustainable Guernsey reporting Ecological footprint

Biodiversity, Countryside, Marine and Coastal Protection
The natural development of our planet and the evolution of species, and hence habitats dictate that ecosystems will develop and change. Whilst some species will survive and thrive, others will be lost and replaced by genetically "fitter" additions. Man is part of these ecosystems, not ruler of them, and it should not be our function to fight the plans of "mother nature". However, man's intervention in terms of land take and especially in respect of climate change impacts has been so severe that we have a duty to correct the pace of change and to support species and habitats giving them the time needed to adapt and evolve. Global biodiversity is being lost at an alarming pace and this biodiversity loss is reflected in Guernsey. Some of our native species are suffering due to fragmentation of habitats and the loss of salt marshes, soft coastal defences, unimproved land and wetlands. In addition, several species that are threatened are visitors to our shores, taking on food and resting before continuing their annual journey.

Guernsey's natural biodiversity is perhaps more evident and prevalent in the marine environment. This is particularly so within the intertidal zone where, to date, man's intervention has been largely restricted to replacing natural coastal defences with hard boulder, and concrete defences, along with some reclamation. Conversely the countryside that Guernsey cherishes and the biodiversity it supports is, in the main, a managed countryside. It is recognised, therefore, that the policies and actions set out in this chapter are not restricted to solely protecting indigenous species. They are also intended to deliver a rich biodiversity whilst at the same time supporting the appearance, character and traditions that make up our countryside and marine heritage.

OUTCOMES INDICATORS

- o Our biodiversity will be healthier
- o Specific species and habitats requiring targeted action will have been identified and supported
- o Our farming and countryside heritage will retain its distinctive character

Appendix 2: Existing Legislation which relates in whole or in part to the protection of the natural environment

Planning
The Land Planning & Development (Guernsey) Law, 2005 and which came into force on 6th April 2009. The law has changed the way most planning applications are dealt with, and requires EIAs for important projects. The law also allows for the designation of Sites of Special Significance (**SSS**s).

Coast and beaches
Ordonnance relative au depot de carrière sur les Côtes, 1932
The Coast Protection Ordinance, 1949
The Foreshore (Riding and Driving) Ordinance, 1951
The Control of Dogs Ordinance, 1992
The Boats and Vessels (Speed Limits, etc) Ordinance, 1970

Land
The Places of Recreation Ordinance, 1975. Helps control such activities as mountain biking on cliff paths.
Places of Recreation (Amendment) Ordinance, 1996
La Loi Relative aux Douits 1928
The Environmental Pollution (Guernsey) Law, 2004

Fauna
The Protection of Wild Birds Ordinance, 1949 (as amended)
The Control of Birds Ordinance, 1985. (Only certain species of game birds and a few 'pest' species may be shot.)

Flora
The Wild Plants Protection Ordinance, 1950. (Prohibits the sale of wild plants without the permission of the Environment Department.)
The Cutting of Hedges Ordinance, 1953 (Covers the mandatory cutting of roadside hedges and the cleaning of controlled streams twice yearly.)
The Noxious Weeds (Guernsey) Law. 1952 as amended by The Noxious Weeds (Amendment) Ordinance, 2001 (It is illegal for landowners to allow certain species of plants to flower and set seed. Currently these are: Ragwort, Senecio jacobaea, Hemlock Water Dropwort, Oenanthe crocata, and the thistles Cirsium vulgare and Cirsium arvense.)

Trees
The Land Planning & Development (Guernsey) Law, 2005. Enables the protection of trees and woodland by the application of Tree Protection Orders (TPOs)

Import/export
The Import and Export (Control) (Guernsey) Law, 1946

Marine environment
Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, 1976
Convention on the Dumping of Wastes at Sea, 1976

Convention for the Protection of Marine Pollution by Land-Based Sources, 1978
The Dumping at Sea Act 1974 (Guernsey) Order 1975
The Food and Environment Protection Act 1985 (Guernsey) Order 1987
The Merchant Shipping (Oil Pollution) Act 1971 (Guernsey) Order, 1981
The Oil in Navigable Waters (Guernsey) Order 1966
The Fishing (Bailiwick of Guernsey) Law 1989 – some protection to ormers, size limits etc for certain species
Boats and Vessels Speed Limits 1970.

Waste & Water
The Refuse Disposal Ordinance, 1959
The Sewerage (Guernsey) Law, 1974
The Water Byelaws (Guernsey) Ordinance, 2003 (made under the Loi ayant rapport à la Fourniture d'Eau par les États de cette Île aux Habitants de la dite Île" 1927)[12]

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[12] New legislation pending under Environmental Pollution (Guernsey) Law, 2004, Part VI - Water Pollution

Appendix 3: International Conventions – signed up or extended and those that are not

International obligations relevant to nature conservation

The following International agreements have been extended to the Bailiwick.

Convention on International Trade in Endangered Species of Wild Fauna and Flora ~ CITES

Marine Pollution Conventions.

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.

Convention on Environmental Impact in a Transboundary Context.

UN Framework Convention on Climatic Change.

Montreal Protocol on Substances that Deplete the Ozone Layer.

Convention on the Conservation of Migratory Species of Wild Animals. ~ The Bonn Convention. effective in 1985, with the
Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) extended and effective from January 1999 and the
Eurobats Agreement extended and effective from June 1999.
The Agreement on the Conservation of Cetaceans of the Black & Mediterranean Seas (ASCOBANS) was extended in 1993.

Convention on Wetlands of International Importance especially as Waterfowl Habitat - The 'Ramsar Convention'

The following international agreements and directives have <u>not</u> been extended to the Bailiwick.

Convention on Biological Diversity ~ The Rio Convention.

Convention on the Conservation of European Wildlife and Natural Habitats ~ the Berne Convention

European Council Directive on the Conservation of Wild Birds.

Appendix 4:   12 principles of the ecosystem approach

Adopted by The Conference Of The Parties to the Convention On Biological Diversity at its 5th Meeting, Nairobi, May 2000

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:

5. Reduce those market distortions that adversely affect biological diversity; Align incentives to promote biodiversity conservation and sustainable use; Internalise costs and benefits in the given ecosystem to the extent feasible.

6. Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of the Ecosystem Approach.

7. Ecosystems must be managed within the limits of their functioning.

8. The Ecosystem Approach should be undertaken at the appropriate spatial and temporal scales.

9. Recognising the varying temporal scales and lag-effects that characterise ecosystem processes, objectives for ecosystem management should be set for the long term. 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 and indigenous and local knowledge, innovations and practices.

12. The Ecosystem Approach should involve all relevant sectors of society and scientific disciplines.

The services that are provided can be classified into the following groups:

Supporting services
Ecosystem services that are necessary for the production of all other ecosystem services. For example:

- soil formation
- nutrient cycling
- water cycling
- primary production

Provisioning services
The products obtained from ecosystems. For example,

- food
- fibre
- fresh water
- genetic resources

Cultural services
The non-material benefits people obtain from ecosystems. For example, through:
- spiritual or religious enrichment
- cultural heritage
- recreation and tourism
- aesthetic experience

Regulating services

The benefits obtained from the regulation of ecosystem processes. For example:

- climate regulation
- hazard regulation
- noise regulation
- pollination
- disease and pest regulation
- regulation of water, air and soil quality

Appendix 5:   *Summary of findings from 2010 Habitat Survey*

A Habitat Survey of Guernsey, Herm & Jethou was conducted in spring and summer 2010 and by comparing with the previous 1999 survey has indicated the following changes:

- o An increase in woodland on Guernsey from 216ha to 379ha. 60ha (366v) have changed classification following the succession of Dense Scrub to semi-natural Broadleaved Woodland, and 51ha (311v) have been planted with broadleaved trees; the States of Guernsey Rural Tree Planting Scheme is largely responsible for this.

- o Scrub on Guernsey has increased from 234ha (1,428v) to 314ha (1,916v). This is following the abandonment of marginal land and the spread of scrub along the cliffs, the scrub replacing species-rich grasslands and heath.

- o Semi-Improved Grassland has decreased by 45% (a loss of 160ha (976v), mainly due to the more strict classification definitions as opposed to their having been a marked increase in fertilizer use or ploughing of the land. However, this does mean that the previous data illustrating the proportion of Semi-improved Grassland were over-estimates, and so the abundance of semi-natural land is much lower than previously thought.

- o The abundance of other, rarer habitats, has also decreased, especially species-rich dry grasslands contributing to an overall decline in Guernsey's biodiversity.

- o Many of these changes are caused by differences in land-management practices in the island over the last 100 years due to the changing economic circumstances.

- o 134ha (822v) of agricultural land which has been re-seeded or mown in order to extend domestic curtilage has been identified. This land is currently lost from use as farmland.

- o Land used for horses has been recorded for the first time as 234ha (1,428v). Generally horses are not employed in the agricultural industry, so this land is currently lost from farming use

Appendix 5 (continued)

Summary Table of the change in the habitats located on Guernsey and Lihou between the 1999 and 2010. Where % of land refers to the proportion of Guernsey's and Lihou's total terrestrial land area (6, 359ha) (38,802v)

Habitat Classification	1999		2010			Change in % of GSY's land
	Area (ha)	%of land	Area (ha)	% of land	Change in Area	
Semi Natural Broadleaved Woodland	131.38	2.07	197.58	3.11	66.20	1.04
Planted Broadleaved Woodland (+orchards)	56.17	0.88	120.92	1.90	64.75	1.02
Planted Coniferous Woodland	20.93	0.33	26.05	0.41	5.12	0.08
Planted Mixed Woodland	8.44	0.13	34.88	0.55	26.44	0.42
Parkland	19.54	0.31	55.94	0.88	36.40	0.57
Dense Scrub	234.53	3.69	314.74	4.95	80.21	1.26
Unimproved Grassland	3.11	0.05	2.05	0.03	-1.05	-0.02
Semi-improved Grassland	351.81	5.53	192.30	3.02	-159.51	-2.51
Improved Grassland	1531.35	24.08	1138.08	17.90	-393.26	-6.18
Marshy Grassland	90.74	1.43	60.95	0.96	-29.79	-0.47
Continuous Bracken	103.63	1.63	101.42	1.59	-2.21	-0.03
Tall Ruderal	54.10	0.85	32.05	0.50	-22.05	-0.35
Swamp	14.54	0.23	15.24	0.24	0.70	0.01
Standing Water (+Brackish)	41.62	0.65	50.26	0.79	8.64	0.14
Saltmarsh	0.45	0.01	1.55	0.02	1.10	0.02
Shingle	13.45	0.21	16.31	0.26	2.86	0.04
Rock	15.97	0.25	11.99	0.19	-3.98	-0.06
Dune Slack	2.86	0.05	0.47	0.01	-2.39	-0.04
Dune Grassland	74.29	1.17	84.36	1.33	10.08	0.16
Dune Heath	1.27	0.02	0.00	0.00	-1.27	-0.02
Dune Scrub	27.28	0.43	27.37	0.43	0.09	0.00
Open Dune	1.29	0.02	1.36	0.02	0.07	0.00
Hard Cliff	27.57	0.43	58.50	0.92	30.93	0.49
Soft Cliff	5.02	0.08	2.57	0.04	-2.45	-0.04
Coastal Grassland	61.60	0.97	74.03	1.16	12.43	0.20
Quarry	23.22	0.37	5.83	0.09	-17.39	-0.27
Coastal Heathland	2.70	0.04	1.57	0.02	-1.12	-0.02
Arable Land (+ley)	388.81	6.11	888.29	13.97	499.48	7.86
Amenity Grassland	564.74	8.88	687.18	10.81	122.44	1.93
Bare Ground	47.39	0.75	41.48	0.65	-5.90	-0.09
Sand / Mud	0.00	0.00	4.25	0.07	4.25	0.07
Hottentot Fig	0.00	0.00	4.13	0.07	4.13	0.07
Brownfield	0.00	0.00	32.33	0.51	32.33	0.51
Marginal Vegetation	0.00	0.00	0.66	0.01	0.66	0.01
Total	3919	61.64	4287	67.42	475.03	5.77

Appendix 6:   Threats to Biodiversity specific to major habitat groups

Threats to Marine Biodiversity

- Over-fishing – needs controls to prevent collapse of fish stocks
- Damaging types of fishing –e.g. pair-trawlers & scallop-dredgers – effect not just fish, but marine mammals, diverse habitats such as maerl beds
- Noise pollution – effect on marine animals e.g. cetaceans
- Chemical pollution – wide range of effects
- Coastal & offshore development
- Dredging
- Climate change:
- loss of cooler-water species leading to wholesale changes in marine food-webs
- loss of birds at the southern edge of their range e.g. puffins

Threats to Foreshore, cliff & headland Biodiversity

- Development
- Rock-armouring
- Chemical pollution
- Dogs and people disturbing birds (e.g. dog-walking, coasteering, hang-gliding in important feeding and breeding areas for birds at critical times)
- Motorbike scrambling and 4x4 vehicles on beaches damaging wildlife on the rocks as well as disturbing birds
- Sand-racing and ploughing competitions compacting sand and damaging sand dwelling wildlife
- Uncontrolled exploitation of shell-fish (a newly emerging threat to species such as razor shells)
- Stone-turning without replacement during ormering
- Excessive and/or extensive bait-digging
- Climate change:
- sea level rise will affect all beaches;
- cooler-water species will die off
- possible problems with invasive non-natives

Threats to Terrestrial Biodiversity

- Development, especially on highly-diverse or scarce habitats
- Building
- Tarmacking/concreting
- Land-raising (often carried out to gain income from tipping/ avoid tipping charges)
- Tipping
- Drainage - loss of wetlands

- Intensive agriculture- wide range of effects
- Loss of traditional management:
- Lack of grazing – loss of important, diverse habitats & associated wildlife & effects on range of other species – loss of food sources, nesting sites & materials – much of these areas have become unmanaged scrub or poorly managed grassland that are mown either too much or too late
- Lack of traditional arable practices- loss of weed flowers & seeds
- Lack of scrub management – loss of diverse structure
- Recreational uses where they:
- involve using fertilisers, pesticides & herbicides; and/or
- take over parts of valuable habitats and reduce their diversity
- Over-management, e.g. mowing grassland as lawns, extension of curtilage
- Tree-planting on unimproved or semi-improved grassland
- Clearing or weed-killing of species-rich walls or re-pointing with cement-mortar
- Climate change leading to:
- The spread of invasive non-natives e.g. Hottentot Fig, but more are emerging all the time, such as Pampas Grass, emerging possibilities include Gazania, Bermuda Buttercup, Fuchsia, Dimorphotheca

Appendix 7: ***An example of Statutory Duty on UK & Northern Ireland Public Authorities to conserve Biodiversity***

In the UK various statutes have been introduced by the devolved administrations which place a statutory duty upon all government departments and public bodies to further the conservation of biological diversity when carrying out their functions

In the places a general statutory duty upon all government departments and public bodies to further the conservation of biological diversity when carrying out their functions. The Biodiversity Duty applies to all government departments and public bodies, including non-departmental public bodies and local authorities.

One outcome of that review is the decision to place a statutory duty upon public bodies to conserve biodiversity and to underpin the key mechanisms established. This statutory duty is contained in the Wildlife and Natural Environment Act (Northern Ireland) 2011.

The Biodiversity Duty – What does it Mean?

The conservation of biodiversity is an essential part of the Government's commitment to sustainable development contained in the Sustainable Development Strategy launched on 9 May 2006. The new biodiversity duty further demonstrates the Northern Ireland Executive's commitment to biodiversity conservation and is consistent with EU aims to halt biodiversity loss.

The biodiversity duty extends beyond current legislative requirements for protected sites and species and requires all public bodies to further biodiversity in ways that are consistent with carrying out their main functions. The duty does not require public bodies to go over and beyond their existing duties e.g. duplicating the work of the NIEA. However, as public bodies carry out their main functions, there is now a requirement for them to protect and maintain biodiversity on their own lands and those they have influence over; and to look for opportunities to enhance or restore biodiversity, or provide an educational input to others about biodiversity. The duty also extends to all activities carried out by a public body including undertaking regulatory function and the provision of grant aid to other bodies and/or individuals where there is a relevance to biodiversity. There is much that can be achieved without incurring significant additional costs that can minimise damage, conserve existing features and enhance other features.

In meeting this statutory duty, public bodies must take account of the Northern Ireland Biodiversity Strategy published by the Northern Ireland Executive; the lists of priority species and habitats published and maintained by NIEA; and The lists of species and habitats published as a result of the Wildlife and Natural Environment Act (Northern Ireland) 2011.

<u>Extracted from Guidance Notes prepared by the Northern Ireland Executive</u>

<u>Who is This Guidance For?</u>

This guidance document has been developed to assist government departments, non-departmental public bodies and local authorities meet their statutory duty. It aims to assist public bodies through their work in developing policies and strategies and carrying out their functions; administering the planning system; managing publicly owned land and buildings; developing infrastructure; engaging with business and the public; conducting research and managing information; making decisions about procurement; and implementing economic, environmental and social programmes.

<u>How Does the Guidance Work?</u>

Many public bodies do not yet see biodiversity conservation and promotion as an important part of their function even though the work of every public body impacts biodiversity to a greater or lesser degree. The guidance outlines the requirements and benefits of incorporating biodiversity into service delivery. Through the use of a range of examples from Northern Ireland and further afield, the guidance aims to assist public bodies identify ways in which they can meet their statutory duty while continuing to deliver their core activities. The guidance does not, however, provide a definitive interpretation of legislation or provide exhaustive recommendations for conserving biodiversity. It is intended to review the guidance from time to time to ensure that it reflects new thinking and or/ideas and continues to meet the needs of public bodies.

<u>The Role of Public Bodies</u>

Public Bodies have a key role to play. The new biodiversity duty means that public bodies can no longer say that biodiversity issues are not part of their responsibilities. While some departments or business units within departments may need to take only very broad, general actions on biodiversity when carrying out their functions, others will need to be more specific to ensure that biodiversity actions are thoroughly incorporated into work areas. Most importantly, this means not impacting negatively on any area that is rich in biodiversity, whether or not it is subject to a designation. It is about ensuring that where important habitats and species are present on lands owned or managed by public bodies, appropriate management practice is in place to protect and maintain them. Positive activities for biodiversity may also include restoring or enhancing a species of flora or fauna, or restoring or enhancing the habitat affected by the work that a public body carries out. By incorporating biodiversity conservation into service delivery, public bodies will not only be fulfilling the requirement to deliver the objectives, actions and targets in the Northern Ireland Executive's Programme for Government, they will also be setting an important example to the private sector.

IMPLEMENTING THE BIODIVERSITY DUTY IN PUBLIC BODIES

The introduction of the statutory biodiversity duty means that public bodies are required to identify appropriate measures relating to biodiversity conservation. The recommendations below aim to assist public bodies with implementation. They are not exhaustive and should be read in conjunction with the public bodies' own interpretation of its statutory requirements under the duty.

Statutory Compliance

Public bodies need to be aware of current national and international biodiversity legislation, policies and strategies and also keep abreast of any changes to national (and UK) biodiversity conservation policy to ensure that their ongoing performance is relevant to current legislation and guidance and avoids the risk of non-compliance. To help achieve compliance, public bodies should:
identify appropriate opportunities to implement all relevant statutory duties and powers relating to biodiversity conservation.
include mechanisms for scrutiny of the delivery of biodiversity conservation objectives in assessment of performance in relation to best value.

Commitment to Conserving Biodiversity

Public bodies should identify an individual at a high level within their organisation to be responsible and accountable for and to oversee implementation of the biodiversity duty in relation to all of the organisation's activities. This individual or "Biodiversity Champion" would have responsibility for ensuring:
detailed planning is delegated to business areas to enable development of an overarching biodiversity implementation plan (see template at Annex 4) for the organisation with clear objectives related to the organisation's functions; biodiversity conservation is incorporated into the development of new strategies and policies; a review is undertaken of all existing policies and strategies to ensure they are consistent with the biodiversity duty; and good communication to promote cultural change within the organisation towards protecting biodiversity and encouraging all staff to "think biodiversity" across all duties and functions.

This does not always have to be at increased cost to the organisation as improvements in biodiversity can often be achieved by introducing changes to how things are currently being delivered rather than by implementing new or additional projects.

Key Aspects of Biodiversity

For all public bodies there are five key aspects of biodiversity that need to be taken into account. These are:

Protecting Biodiversity by ensuring that any operation undertaken on the public body's own lands, or those it has influence over, includes a requirement to protect biodiversity from removal, damage, and disturbance consistent with

the body's main functions. For all new projects or programmes, protection of existing biodiversity must be taken into account as part of the initial appraisal and appropriate action incorporated into BIPs. Existing projects and programmes should be reviewed to establish their impact on biodiversity and appropriate action taken to mitigate adverse impact which should also be recorded in the BIP.

Maintaining Biodiversity by ensuring that any operation undertaken on lands owned or managed by the public body includes a requirement to maintain biodiversity, e.g. maintaining water levels, appropriate grazing or cutting regimes, removing invasive alien species, or avoiding over-fertilisation. Land management practices should be reviewed regularly to ensure that they are appropriate to maintain existing biodiversity. Actions to be taken should be incorporated into the BIP.

Enhancing Biodiversity, where possible, by seeking opportunities to enhance biodiversity on the public bodies own lands or property as they deliver their functions. This could include for example, planting native broadleaves, converting amenity grassland to wildflower meadow, provision of bat boxes and other homes for wildlife, creating new ponds and wetlands etc. Actions taken should be incorporated into the BIP.

Restoring Biodiversity by undertaking actions that restore former natural biodiversity previously lost from a site within the public body's ownership or influence, e.g. restoration of woodlands, wetlands or hedgerows; reintroduction of species such as grey partridge, or extending existing habitats for priority species. Actions taken should be incorporated into the BIP.

Raising Awareness of Biodiversity and Its Importance both within and outside the organisation. All public bodies have a role to play in raising awareness of biodiversity both within and outside their organisations. In doing so, public bodies can help further the cause of biodiversity conservation specifically and environmental issues more generally. This can often be taken forward in conjunction with other public, private, community and charitable sector interests and action taken should be incorporated into the BIP.

Planning for Biodiversity Conservation to clearly demonstrate how the statutory biodiversity duty is being met, public bodies should include delivery of biodiversity conservation in their business planning process with actions and targets that can be easily monitored. This may require management of conflicting priorities and co-operation by different business units within the organisation and with other public bodies where appropriate. Actions and targets should be recorded in a BIP and the progress and effectiveness of these should be monitored and evaluated on at least annually.

Appendix 8:   Aichi Biodiversity Targets[13]

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.

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[13] Adopted at the tenth meeting of the Conference of the Parties, to the Convention on Biological Diversity: Nagoya, October 2010

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: To 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 landscapes 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 well-being, 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 for Biodiversity 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 resource needs assessments to be developed and reported by Parties

Appendix 9:   List of Consultees

States Departments (Business Units/Sections)

Commerce and Employment (Sea Fisheries, Agriculture & Plant Health)
Education
Environment Department (Forward Planning, Conservation and Design, Development Control & Building Control)
HSSD
Housing
Public Services (Guernsey Water, Guernsey Harbours, Guernsey Airport, States Works)
Treasury & Resources (Policy Council, States Property Services)

Other Jurisdictions

Island of Sark
States of Alderney
States of Jersey (Environment Department)

Non Government Organisations

Alderney Wildlife Trust
Bumble Bee Boat Cruises
Environment Guernsey
La Société / Environment Guernsey
Guernsey Conservation Volunteers
Guernsey Fisherman's Association
Guernsey Housing Association
Guernsey Men of the Trees
Insurance Corporation (Conservation Awards)
Island Rib Voyages Guernsey
National Trust of Guernsey
Outdoor Guernsey
Parish Douzaines
RSPB
Tenant Management Herm Island
Tenant Management Island of Jethou
Vale Commons Council

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