

Organisation of Eastern
Caribbean States (OECS) Gap
analysis report for the
Biodiversity and Ecosystems
Management Framework and
associated Strategic Action Plans



Document submitted to:

The Environment and Sustainable Development Cluster (ESC)
OECS Commission Morne Fortune
P.O. Box 1383, Castries, Saint Lucia

by:

The Caribbean Natural Resources Institute (CANARI)
105 Twelfth Street, (Corner of 8th Avenue and 12th Street)
Barataria, Trinidad and Tobago
☎ 868 638 6062/ 868 674 1558 | 📠 868 674 1788
🌐 www.canari.org

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Contents

Acknowledgements	ii
List of Tables.....	iv
Acronyms and Abbreviations	v
Executive Summary	7
1. Introduction	8
1.1 Project Background	8
1.2 Focus of this report	8
2. Socio-economic, geographic and political context of the OECS region	10
2.1. Structure and governance of the OECS.....	10
2.2 Geographic and biodiversity overview of the OECS region	10
2.3 Socio-economic conditions in the OECS region	12
2.4 Environmental challenges impacting on the OECS region’s biodiversity.....	13
3. Key elements for consideration for the OECS- BEF from national, international and regional biodiversity frameworks	14
3.1 National frameworks.	14
3.2 OECS specific and international biodiversity relevant frameworks.	15
3.3 Perspectives from the OECS BEMC.....	16
3.4 International agreements	17
3.5 Caribbean/CARICOM Biodiversity Strategy	20
3.6 Survey on recent biodiversity initiatives in the OECS.	21
4. Proposed priorities for the OECS-BEF	27
5. References	31
Annex 1: Summaries of the OECS Member State NAPS and NBSAPs	33
Annex 2: Summaries of key biodiversity issues from OECS Overseas Territories	40
Annex 3: Survey on current and recent biodiversity initiatives	43

List of Tables

Table 2.1: Abundance of Plants and Birds in the OECS Member States.....	11
Table 2.2 Caribbean Biodiversity/Environmental Trust Funds (UN Environment 2019).....	13
Table 3.1 Priority Biodiversity concerns of OECS Members	14
Table 3.2 Biodiversity issues highlighted in select OECS frameworks.....	15
Table 3.3 Biodiversity related MEAs that Members the OECS are party to.....	17
Table 3.4 Summary of relevant Biodiversity relevant SDGs and key biodiversity issues highlighted in the SAMOA Pathway.....	18
Table 3.5 Goals and objectives from the draft Caribbean/CARICOM Biodiversity Strategy.....	19
Table 3.6 Focal areas recommended by respondents for the OECS-BEF	21
Table 3.7 Project topics and themes from the online survey on recent and current biodiversity initiatives in the OECS	23
Table 4.1 CBS Goals and objectives aligned with priority themes highlighted by the OCES BEMC and in the survey results	24

Acronyms and Abbreviations

ABS	Access and Benefit-sharing
ACP	African, Caribbean, and Pacific Group of States
BEMC	Biodiversity and Ecosystems Management Committee
BVI	British Virgin Islands
CANARI	Caribbean Natural Resources Institute
Caribbean SEA	Caribbean Student Environmental Alliance
CARICOM	Caribbean Community
Cartagena	Convention for the Protection and Development of the Marine Environment in the
CBD	Convention on Biological Diversity
CBS	Caribbean Biodiversity Strategy
CEPF	Critical Ecosystem Partnership Fund
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CLME+ SAP	Strategic Action Programme for the Sustainable Management of the Shared
CMS	Convention on the Conservation of Migratory Species of Wild Animals
CNA	Competent National Authority
CRFM	Caribbean Regional Fisheries Mechanism
CSO	Civil Society Organisation
EbA	Ecosystem-based Approaches
ECROP	Eastern Caribbean Regional Ocean Policy
ESC	Environment and Sustainability Cluster
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross domestic product
GIS	Geographic Information System
GCCA	Global Climate Change Alliance
IAS	Invasive Alien Species
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unreported and Unregulated
LBS Protocol	Protocol Concerning Pollution from Land-Based Sources and Activities Cartagena
MEA	Multilateral Environmental Agreement
NAPs	National Action Plans
NBSAPs	National Biodiversity Strategies and Action Plans
NCM	National Coordinating Mechanism
NGO	Non-governmental organisation
ODA	Official Development Assistance
OECS	Organisation of Eastern Caribbean States
OECS-BEF	OECS Biodiversity and Ecosystems Management Framework
OGDS-e	OECS Growth and Development Strategy
OTs	Overseas Territories
SAMOA Pathway	Small Island Developing States Accelerated Modalities of Action Pathway
SCBD	Secretariat of the Convention on Biological Diversity
SIDS	Small Island Developing States
SPAW Protocol	Protocol Concerning Specially Protected Areas and Wildlife Region to the Cartagena

SDGs Sustainable Development Goals
UN Environment United Nations Environment Programme Regional Office for Latin America and the
UNEP-CAR/RCU UNEP Caribbean Regional Coordinating Unit

Executive Summary

The Organisation of Eastern Caribbean States (OECS) is developing the OECS Biodiversity and Ecosystem Framework (BEF) to guide the management of biodiversity in the region. The framework addresses regional biodiversity needs and gaps in addition to commitments under regional and international frameworks. In particular the OECS-BEF focuses on the OECS-specific areas of the draft CARICOM Biodiversity Strategy (CBS), which the OECS Commission and Member States played a critical role in developing.

This gap analysis report derives priority themes and focal areas for the OECS-BEF based primarily on:

- A review of the regional and international frameworks e.g. the St. Georges Declaration and draft CBS, the Sustainable Development Goals (SDGs) and the SIDS Accelerated Modalities of Action (SAMOA) Pathway
- A review of OECS Member States' national biodiversity strategies (NBSAPs) and reports (NAPs)
- Input from the OECS Biodiversity and Ecosystems Management Committee
- Results of an online survey on recent and current biodiversity initiatives in the OECS Region

The aforementioned data sources pointed to the following themes as priorities for the OECS-BEF

- Protecting, maintaining and restoring ecosystems
- Invasive species management, biosafety, biosecurity
- Climate and disaster resilience
- Fair and equitable access to and sharing of benefits from biodiversity resources
- Assessing and integrating biodiversity and ecosystems into national development processes.

The gap analysis also identified a number of cross-cutting issues, which the OECS-BEF will also be designed to mitigate or facilitate. These include coordination among Member States, resource mobilisation, and knowledge generation and dissemination. Specific focal areas within the technical themes included the promotion and use of ecosystem valuations, facilitation of the ratification of key international frameworks such as the Nagoya Protocol and advancing existing regional plans and guidelines pertaining to invasive species. With regards to the cross cutting issues the gap analysis highlighted a need to focus on the generation of basic inventory data as well as coordination to access funding at the regional level.

The priority themes, cross cutting issues and focal areas identified will be further rationalised and incorporated into the final OECS-BEF.

1. Introduction

1.1 Project Background

The Organisation of Eastern Caribbean States (OECS) is a regional governance body for a group of islands in the Eastern Caribbean. There are seven founding members; Antigua and Barbuda, Dominica, Grenada,



Figure 1: OECS Member States (Source OECS Commission 2019)

Montserrat, St. Kitts and Nevis, Saint Lucia and St. Vincent and the Grenadines; and four associate members, Anguilla, The British Virgin Islands, Guadeloupe and Martinique. St. Martin has observer status within the OECS. (Organisation of Eastern Caribbean States, 2016).

The OECS countries are home to an estimated one million residents within a land area of 4,300 km² and marine space of 126,000 km² (Organisation of Eastern Caribbean States 2019). Like most islands of the Caribbean, OECS economies and general way of life are dependent on ecosystems and the biodiversity they contain. These resources are particularly important for the tourism, fisheries and agriculture sectors. OECS ecosystems and biodiversity are also strongly linked to national and regional cultural identities as well as being important for local recreational activities (Organisation of Eastern Caribbean States, 2016).

The management of the OECS biodiversity and ecosystems is also vital to building climate resilience in these countries (Organisation of Eastern Caribbean States, 2016). Climate change has had increasingly greater impacts on the Caribbean, which has been identified as medium to high risk for climate vulnerability. The islands are feeling the effects of slow onset climate-related events such as increased sea surface temperatures and sea level rise, which has led to greater intensity of storms, hurricanes, coastal erosion and other physical and ecological impacts. Climate change is also exacerbating the impacts of unsustainable human activity such as habitat loss, land degradation and pollution, damaging ecosystems and their ability to provide their vital services. Moreover, OECS governments and people are faced with the challenge of repeatedly managing and recovering from extreme weather events (Organisation of Eastern Caribbean States, 2019).

Understanding the OECS vulnerability to climate change and climate variability, and the dependence of these Small Island Developing States (SIDS) on their natural capital, it is imperative that there be protection, conservation and sustainable use of these resources through holistic management mechanisms. The OECS also recognises the need for innovation and the creation of economic opportunities and sustainable livelihoods especially for those associated with key biodiversity areas and ecologically sensitive areas. To achieve this, the Caribbean Natural Resources Institute (CANARI) has been asked to provide technical assistance to the OECS Commission in developing the OECS Biodiversity and Ecosystems Management Framework and Strategic Action Plans (OECS-BEF). The Framework and Action Plans will be informed by country national biodiversity priorities, as well as regional and international commitments.

1.2 Focus of this report

The objective of the overall technical assistance project is to develop an OECS-BEF and associated Strategic Action Plans for implementing the framework and other regional and international agreements. The OECS

was highly engaged in the development of the draft Caribbean Biodiversity Strategy (CBS) in 2018, which covers the Member States of the Caribbean Community (CARICOM) in addition to Cuba and the Dominican Republic. Development of the OECS-BEF is the next logical step. The OECS-BEF attempts to hone in on the OECS specific priority areas for implementation from the wider CBS. The OECS-BEF also further responds to OECS specific regional plans and strategies, international treaties and commitments, for example those under the Sustainable Development Goals (SDGs) and the SIDS Accelerated Modalities of Action (SAMOA) Pathway. The development of the OECS-BEF will be based on stakeholder priorities identified through literature review and stakeholder consultations, cross referenced against other relevant OECS frameworks and projects to create synergies, build on existing successes, address gaps and avoid duplication. Like the CBS, the OECS-BEF is focused on issues that are best addressed through a regional lens rather than those for which national level interventions are more effective.

This report provides the literature review referenced above, specifically a rapid assessment of: a) national biodiversity reports and strategies; b) OECS regional reports and OECS biodiversity-related frameworks (strategies, policies, model legislation); c) wider Caribbean biodiversity-related frameworks; and d) international commitments. This is a rapid assessment only, as extensive documentation of the above information has already been captured under other gap analysis reports to identify regional biodiversity priorities including technical and cross cutting needs. These include the gap analysis reports for the following frameworks recently developed or in development by CANARI:

- Draft Caribbean Biodiversity Strategy (completed 2018)
- Draft Caribbean Critical Ecosystem Profile (completed 2018)
- Draft Report on the State of Marine Ecosystems and shared Living Marine Resource in the Wider Caribbean (CLME+ and Gulf of Mexico) (in development 2019)

The gap analysis report for the Draft Caribbean Biodiversity Strategy in particular summarised the country National Reports to the Convention on Biodiversity (NAPs) and their corresponding National Biodiversity Strategy and Action Plans (NBSAPs) (CARICOM 2018) (See Annex 1). It also summarised pertinent elements of a number of regional and international frameworks. Thus, in identifying national and regional priorities, heavy reference is made to these documents, and their corresponding OECS-BEF elements have been extracted, synthesised and condensed into a series of tables and/or boxes in the following sections of the report. Biodiversity priorities for Martinique, Guadeloupe and the Overseas Territories (OTs) within the OECS are drawn from the Draft Critical Ecosystem Profile (CEPF) (2018) as well as additional relevant national documentation also summarised in Annex 1.

The next section of the report (Section 2) provides an overarching geographic, political and socio-economic context of the OECS region, serving as the widest scale filter for the development of the OECS-BEF. Key elements from this section are extracted and showcased in a series of boxes. Section three of the report is presented as a series of tables and boxes highlighting priorities from national, regional and international biodiversity frameworks. Section four of the document analyses these priorities against the draft CBS, providing suggestions as to what issues might be addressed within the wider CBS framework and what should be zeroed in on for the OECS-BEF. Finally, Section five proposes initial elements of the OECS-BEF, as per the literature reviewed, recognising that this is only a first step, to be followed by wider regional consultation.

2. Socio-economic, geographic and political context of the OECS region

2.1. Structure and governance of the OECS

The OECS was commissioned in 1981 by the Treaty of Basseterre. In 2010, the Revised Treaty of Basseterre established the Economic Union wherein the OECS was recognised as an international inter-governmental organisation. The overarching role of the OECS is to encourage and facilitate economic coordination, good governance and human rights in the islands of the Eastern Caribbean. The OECS Commission is the administrative body of the OECS and includes a Social and Sustainable Development Division, to which the Environmental and Sustainability Cluster (ESC) belongs. The ESC is responsible for environmental and sustainable management programmes of the OECS and is governed by the Council of Ministers for Environmental Sustainability. As of March 2019, OECS Member States and the Commission established an OECS Biodiversity and Ecosystems Management Committee (BEMC), to provide regional technical, legal, and institutional guidance for the protection of biodiversity and ecosystems (Organisation of Eastern Caribbean States, 2019).

2.2 Geographic and biodiversity overview of the OECS region

OECS Member States are all SIDs. The most northerly Member State (Associate), the British Virgin Islands (BVI), is located a latitude of 18.4207° N while the most southerly Member State (Grenada) is located at 12.1165° N. The islands experience similar climatic conditions. Grenada for example has average daily temperatures ranging from 24°C to 30°C while rainfall ranges from 1,125mm annually in coastal areas to 3,880 mm in mountainous regions (Government of Grenada, 2014). All the OECS islands experience a distinct dry and wet season with the wet season lasting from May/June to November/December and the dry season extending for the rest of the year. During the wet season, the high levels of humidity increases heat stress experienced in the islands (Stephenson et al., 2014).

OECS Member States like Dominica and Montserrat each comprise one main island whereas others like the BVI and Saint Vincent and the Grenadines consist of multiple islands, cays and rocks. The islands are generally volcanic in origin (Beard, 1949) with some like Montserrat having active volcanic eruptions as recently as 1995. Some islands are quite mountainous like Dominica which has a maximum elevation of 1447m in height (The Commonwealth of Dominica, 2014), while others like Anguilla are relatively flat with a maximum height of 73m (Hodge, 2011).

Beard (1949) noted that typically the vegetation of the Lesser Antilles including those islands comprising the OECS is comprised of rain forest, semi-evergreen forests, montane forests, deciduous forests and littoral woodlands. All the islands share similar marine ecosystems including coral reefs and sea grass beds. These rich ecosystems support diverse populations of turtles, marine mammals, pelagic and reef fish, conch, lobsters and migratory birds. The OECS Member states also have lakes and rivers which provide shelter for migratory bird species CEPF (2018). The CEPF (2018) also highlights the presence of an important biodiversity corridor in the OECS region located in St. Vincent and the Grenadines. These corridors are crucial to ecosystem and species proliferation and health, and it is necessary to manage them sustainably, particularly in light of the effects and impacts of climate change.

The OECS islands have a relatively rich biodiversity with most islands being home to endemics. In the case of Anguilla, for example, the island has two endemic species of lizards and one endemic plant species. Overall, the OECS Member States are within the Caribbean Biodiversity Hotspot, one of 36 global

biodiversity hotspots (i.e. an area with at least 1,500 endemic plant species but also an area which has lost more than 70% of their original habitat) (CEPF, 2018). The high endemism in the Caribbean and specifically the OECS is due to the region's climactic history specifically sea level rise during the early Holocene which isolated the islands within the OECS, after the cool dry Pleistocene Epoch where flora and fauna had previously spread across the islands (Woods & Sergile, 2001). A snapshot of the OECS region's lifeform abundance is provided in Table 2.1 below.

Table 2.1: Abundance of plants and birds in the OECS Member States

*data pending

Country	Lifeform	Species abundance (no. of species)
Anguilla	Plants	321
	Birds	130
Antigua and Barbuda	Plants	1,165
	Avifauna	182
British Virgin Islands	Plants	484 (Tortola)
	Birds	210
Dominica	Plants	>1060 (flowering plants and trees)
	Avifauna	179
Grenada	Plants	1,068
	Avifauna	150
Guadeloupe	Plants	*
	Avifauna	251
Martinique	Plants	396 tree species
	Birds	180
Montserrat	Plants	795
	Birds	102
St. Martin	Plants	*
	Birds	*
St Kitts and Nevis	Plants	*
	Birds	130
St. Lucia	Plants	1,958
	Birds	>150
St. Vincent and the Grenadines	Plants	1,150
	Avifauna	170

References: Hodge (2011); Government of Antigua and Barbuda (2014); IUCN, (2018); Petrovic, Georges, & Pascoe, Bird Life International (2008); Dominica Ministry Of Environment, Natural Resources, Physical Planning And Fisheries (2013); FAO (2008); Government of Grenada (2014); Region Guadeloupe, 2011.) Regional Activity Centre for the SPAW Protocol & Réserve Naturelle Nationale de Saint-Martin, 2016. St. Kitts and Nevis (Ministry of Sustainable Development, July 2014) St. Lucia (AGRICO Ltd., 2014) (Simmons and Associates, 2015) British Virgin Islands (Conservation and Fisheries Department, 2011).

2.3 Socio-economic conditions in the OECS region

Although the OECS has a total population of around 950,000 and an estimated gross domestic product (GDP) of USD \$19.7 billion, there are notable differences in the economies among the island states. Martinique, by itself, accounts for more than half of the combined GDP of the OECS, while Anguilla accounts for only 0.5% of the total GDP.

All the OECS islands and their economies are at risk of the compounding impacts of climate change, with issues such as social inequality leaving some residents or islands more vulnerable to climate change than others. Presently, policies targeting the valuation of natural capital are largely non-existent in the OECS and the rest of the Caribbean, and there is little scope for civil society to participate in the development of these (Andrew, 2018).

For the OECS, tourism, fisheries and agriculture all play an important economic role. In agriculture, the region's history has led to the practice of monoculture, which has over the years greatly impacted the region's biodiversity and encouraged unsustainable practices such as deforestation. The region is also highly dependent on natural resources for its tourism products (Wood, 2000), such as the cruise industry which makes up 37.3% of the global cruise tours, playing a significant economic role in OECS countries (Andrew, 2018).

Ecosystems and their services are especially important for rural communities, which they depend on for food shelter and livelihoods. However, overuse has led to grave deterioration of the ecosystems and loss of the functions they provide. This leads to the continued cycle of poverty and other social problems (such as unemployment) and increases the vulnerability of rural communities to natural hazards and climate change (CANARI, 2019). It is an ongoing challenge for OECS governments to protect and conserve the pristine ecosystems of their islands while providing accessible and efficient amenities such as electricity, proper road networks, telecommunications and other services. Although conservation and awareness building efforts are taking place, a lot more still needs to be done to mitigate against human pressures and climate change impacts on these invaluable ecosystems (OECS, 2009). Other issues affecting Caribbean biodiversity include lack of data, lack of proper land use and agricultural planning, land tenure and lack of participatory decision-making processes (CANARI, 2019).

There is also an ongoing economic downturn in the region which has slowed economic progress, and many OECS Members are now dealing with high debt (Caribbean Development Bank, 2016). Due to this high public debt, there is less funding available for conservation and protection of biodiversity. Further, there has been decreased official development assistance (ODA) coming into the region, due in part to the classification of Caribbean countries as middle-income, limiting access to concessional funding.

Despite the lack of funding for conservation, and the many other pressures placed on ecosystems, some conservation efforts are taking place in the region. For example, the OECS countries of St. Vincent and the Grenadines, Saint Lucia and Dominica are all giving high priority to the conservation of their endemic parrot species - the St. Vincent parrot (*Amazona guildingii*), the Saint Lucia parrot (*Amazona versicolor*), and the Dominican Imperial parrot (*Amazona imperialis*). Significant conservation efforts are also seen for globally

Box 2.1 Key Socio-economic elements for consideration in the development of the OECS-BEF

- Islands have a legacy of mono-cultural agricultural systems
- Tourism, agriculture and fisheries are important sectors
- Few natural resources valuation exercises have been conducted and there is limited mainstreaming of natural capital accounting

protected and endangered species such as the Leatherback turtles (*Dermochelys coriacea*) and other marine turtle species, with civil society organisations (CSOs) such as community conservation groups, playing a leading role in their protection. For example, groups such as Ocean Spirits, YWF-Kido Foundation Inc. and SPECTO involved in marine turtle conservation in Grenada (Buckmire, 2012). It also important to note that a number of OECS islands have established national trust funds to facilitate biodiversity conservation (See Table 2.2 below).

Table 2.2 Caribbean biodiversity/environmental trust funds (UN Environment, 2019)

Country	Fund
Antigua and Barbuda	Marine Ecosystems Protected Areas (MEPA) Trust Fund
Grenada	Grenada Sustainable Development Trust Fund (GSDTF)
St. Kitts and Nevis	St. Christopher and Nevis Conservation Fund (SCNCF)
Saint Lucia	Saint Lucia National Conservation Fund (SLUNCF)
St. Vincent and the Grenadines	St. Vincent and the Grenadines Conservation Fund

2.4 Environmental challenges impacting on the OECS region’s biodiversity

The OECS and the Wider Caribbean region, though known for its rich biodiversity, face many environmental challenges. These challenges are well documented in other gap analysis reports referenced in section 1.2; thus, a summary list is provided below as derived from the literature review. The main threats to OECS biodiversity and ecosystems are:

- **Development and urbanisation.** The competing uses for limited land space, particularly along the coast, often result in direct damage or destruction of habitats and ecosystems. This has been identified as a key issue for OECS islands, especially islands such as Grenada and Montserrat. There is a recognised need to improve the region’s physical development, ensuring proper use planning of land and marine space, that is conducive to sustainable growth while preserving the islands ecosystems.
- **Pollution.** Land and marine pollution also lead to direct and indirect decline of habitats. Marine pollution from land-based sources such as agriculture and sewage has led to increased nutrient levels in nearshore ecosystems. Nutrient loads in the Caribbean Sea has been identified as one of the drivers of recent Sargassum blooms, a critical problem across the OECS. Marine litter is also a growing concern in the region and internationally.
- **Overfishing and Illegal, Unreported and Unregulated (IUU) fishing.** Unsustainable fishing practices continue to be an issue in the region. These are further exacerbated by damage to coral reefs, seagrass beds and mangrove forests, and the added overarching pressure of climate change effects.
- **Deforestation and illegal wildlife trade.** Small islands with limited land space are often faced with the dilemma of competing uses, resulting in removal of forests for agriculture and housing. Overhunting of wildlife to support the pet trade and for consumption also has large implications on animal populations and ecosystem functioning. In many instances habitat loss and habitat fragmentation has led to the reduced wildlife populations.
- **Climate change and associated effects and impacts.** Apart from intensifying the impacts of negative human pressures on the environment, climate change effects such as rises in sea temperature and level as well as ocean acidification can lead to increased mortality of coral reefs, affecting its biodiversity and the food it provides. There will be impacts on climate variability, drought, animal migration (Lugo, 2008) spread of invasive species, pests and diseases (CEPF, 2018). The way of life for Caribbean nations is already changing in light of the climate change, with more frequent and intense storms and hurricanes, coastal erosion and variable rainfall. Countries take years to recover after extreme events, and with more intense hurricane seasons, recovery can be a

long process, with a large financial cost to the country. One such example is Grenada after Hurricane Ivan. Recovery costs were approximately USD \$900 million which was more than twice the country's GDP. All of these will no doubt affect livelihoods, food security and well-being of the island states (World Bank, 2009).

3. Key elements for consideration for the OECS- BEF from national, international and regional biodiversity frameworks.

3.1 National frameworks.

The OECS-BEF represents a regional approach and therefore should focus on aspects that are better addressed collectively by countries at the OECS level rather than aspects that a national approach would be more suited to. Thus, shared OECS regional priorities are more apt for inclusion in the OECS-BEF rather than issues that are priority for only one or a few OECS members. With this in mind, a very rudimentary exercise was conducted using the tables presented in Annex 1, which summarise OECS Member and Associate Member Biodiversity NAPs, NBSAPs and other relevant national documentation. These have been abstracted directly from the draft CBS with further tables added to include the OECS Overseas Territories (OTs). The exercise consisted of reviewing the documents and tabulating the number of OECS members which highlighted a particular biodiversity issue or concern. The inherent biases in this approach are acknowledged, but the rough patterns that emerged can prove useful. The results of this exercise are presented in Table 3.1 below.

Table 3.1 Priority biodiversity concerns of OECS Member States

Issue/concern highlighted by many OECS members (i.e. highlighted in 5 or more country summary tables in descending order of occurrence)	Issue/concern highlighted by few OECS members (i.e. highlighted in less than 5 country summary tables)
Climate change and natural disasters	Ecosystem services, ecosystem restoration and species recovery
Invasive species management	Overgrazing
Habitat loss/deforestation/wildfires	Legislation/policy harmonisation
Pollution especially coastal/land- based sources of marine pollution	Natural Capital valuation/mainstreaming
Land management	Sand mining
Legislation (development and enforcement)	Genetic diversity
Unsustainable resource harvesting/Livelihoods especially in the fisheries sector	Impact of tourism
Traditional knowledge, role of civil society; awareness, availability of data and information	Transboundary issues/conservation corridors
Protected area management	

The patterns that emerged from this rough exercise mirror those found during the development of the draft CBS. In other words, the OECS subset of Member states and territories mirrors the wider CARICOM/Caribbean pattern. For example, the issues of climate change and natural disasters and invasive species management are uppermost in terms of concerns documented. This is expected given that, unlike continental CARICOM countries like Guyana and Suriname which were also included in the draft CBS, the

OECS members are in the hurricane belt. Similarly, the number of endemics in the OECS members would be proportionally higher and of greater concern, as would land management and habitat loss given the limited land areas of the OECS Member States. The high dependence of OECS economies on coastal ecosystems would also give prominence to coastal related issues including pollution.

3.2 OECS specific and international biodiversity relevant frameworks.

While a number of OECS framework documents were reviewed in the development of documents such as the draft CBS, given the OECS focus of this exercise, documents such as the St. Georges Declaration were re-reviewed and newer frameworks like the Eastern Caribbean Regional Ocean Policy (ECROP) and the OECS Growth and Development Strategy for the Environment (OGDS–e) were examined for this exercise.

Table 3.2 Biodiversity issues highlighted in select OECS frameworks

Environmental framework	Key directives of relevance to the OECS-BEF
St. George's Declaration	Advocates for: <ul style="list-style-type: none"> • Healthy ecosystems and sustainable use of biodiversity • Long-term protection of ecosystems and ecosystem services
OECS Growth and Development Strategy for the Environment (OGDS–e)	<ul style="list-style-type: none"> • Protect environment while creating new economic opportunities • Conserve ecosystem services • Rehabilitation/ restoration of ecosystems/habitats • Emphasise Ecosystem-based approaches (EbA) • Manage invasive species • Address biodiversity including access and benefit sharing (ABS) • Support ecosystems valuation and mainstreaming • Support biosafety interventions
Eastern Caribbean Regional Ocean Policy (ECROP)	Key marine issues highlighted for the OECS region include: <ul style="list-style-type: none"> • Climate change • Unsustainable fishing practices • Pollution from land based and marine activities • Marine invasive species • Degradation of coastal and marine habitats. Relevant biodiversity goals from the ECROP include: <ul style="list-style-type: none"> • Formalisation of marine boundaries and protection of marine resources • Protecting the quality of the marine environment and associated biodiversity • Sustainably using marine resources including a focus on underutilised resources • Facilitating marine spatial planning • Ensuring access to information and sound decision-making processes. • Incorporating adaptation and resilience building into marine biodiversity conservation
Draft Action Plan for Addressing Invasive Alien Species (IAS) in the OECS Region	Key goals include to: <ul style="list-style-type: none"> • Provide a regional framework for invasive species management • Strengthen OECS participation in regional and international efforts at invasive species • Prevent introduction of further IAS • Prevent the establishment of further IAS following incursion • Reduce the impacts of invasive species already present • Ensure IAS knowledge management within OECS

OECS strategy for Sustainable Tourism and Common Tourism Policy	<ul style="list-style-type: none"> • Strategy seeks to promote and facilitate the application of environmentally sustainable principles and practices across the tourism industry • Policy advocates for the adoption of the Convention on Biodiversity • Suggests the need for guidelines on Biodiversity and Tourism Development for regional application
OECS Regional Agricultural Policy	<ul style="list-style-type: none"> • Calls for the formulation of policy for the protection of biodiversity and coastal marine resources • Speaks to the protection and restoration of forests to safeguard biodiversity inclusive of the development of the forestry management and planning programmes

3.3 Perspectives from the OECS BEMC

Priority biodiversity concerns for the OECS region were presented by the OECS BEMC at the OECS Sixth Council of Ministers: Environment Sustainability meeting held in May 2019. Issues highlighted included the impact of invasive alien species, bio-piracy and the presence of genetically modified and living modified organisms in the region (OECS Commission, 2019). With regards to invasive species, the BEMC highlighted the need to prevent their entry into the region including through relevant risk assessments, surveillance systems and databases. Capacity to detect and detain invasive species at the point of entry was also highlighted as a need. A specific recommendation was to update the existing OECS Regional Invasive Alien Species Strategy and Action Plan.

The BEMC further recommended to the Council of Ministers that those countries which had not yet signed the Nagoya Protocol should be encouraged to do so, to further the fair and equitable sharing of the benefits of genetic resources in the region. This included Cannabis resources given the number of varieties present in the region. On a related note, the BEMC encouraged the development of regional Access and Benefits Sharing Guidelines (ABS) to support the OECS advancement of actions under the Nagoya Protocol. Similarly, the BEMC recommended the development of a regional biosafety policy as well as model biosafety and biotechnology legislation to manage the influx of genetically modified organisms and living modified organisms into the region (OECS Commission, 2019). In terms of cross-cutting issues, the BEMC highlighted a specific concern *vis a vis* the varying degrees of eligibility for funding for different OECS Members depending on the funding source, which challenges intra-regional coordination mechanisms and collaborative action.

The OECS BEMC views presented at the OECS Sixth Council of Ministers Meeting were further elaborated and debated by the OECS BEMC at a regional webinar conducted by CANARI in July 2019. The main output of that webinar was the OECS BEMC recommendation for the following subject focal areas for the OECS BEF:

- Protecting, maintaining and restoring ecosystems
- Invasive species, biosafety and biosecurity management
- Climate and disaster resilience
- Fair and equitable access to and sharing of benefits from biodiversity resources
- Assessing and integrating biodiversity and ecosystems into national development processes

These recommendations were based on the fact that these were strong needs for the region and areas that countries were struggling with at the national level and thus regional support would be welcomed. These were also articulated as themes which recent and current, regional and national projects and programmes have not addressed adequately. These recommended focal areas were also in line with needs expressed by a wide range of OECS stakeholders at an OECS Global Climate Change Alliance Island Resilience project closure conference in April 2019. In particular, towards the end of that workshop, participants were asked to

identify priority areas for upcoming projects under development. Key biodiversity issues that were identified included ecosystem restoration and invasive species management.

3.4 International agreements

An in-depth treatment of the Multilateral Environmental Agreements (MEAs) is not provided here, having already been reviewed extensively for the CBS. A summary of key MEAs is provided, however, in Table 3.3 below. A more in-depth treatment of the relevant SDGs and the SAMOA Pathway is provided in Table 3.4.

Table 3.3 Biodiversity related MEAs that Members the OECS are party to (table taken from the Draft State of Biodiversity in the Caribbean Community: A Review of Progress towards the Aichi Biodiversity Targets (CARICOM, 2018) and supplemented with information on the OTs).

Country	CBD ¹	CBD-Nagoya Protocol ²	CBD-Biosafety Protocol ³	CITES ⁴	CMS ⁵	Ramsar Convention ⁶	Cartagena Convention ⁷	Cartagena Convention-SPAW Protocol	Cartagena Convention-LBS Protocol	World Heritage Convention ⁸
Antigua and Barbuda	✓	✓	✓	✓	✓	✓	✓	X	✓	✓
Dominica	✓	X	✓	✓	X	X	✓	X	X	✓
Grenada	✓	X	✓	✓	X	✓	✓	✓	✓	✓
St. Kitts/Nevis	✓	✓	✓	✓	X	X	✓	X	X	✓
Saint Lucia	✓	X	✓	✓	X	✓	✓	✓	✓	✓
St. Vincent/Grenadines	✓	X	✓	✓	X	X	✓	✓	X	✓
Anguilla ⁹	X	✓	✓	X	✓	✓	✓	X	X	✓
British Virgin Islands	✓	✓	✓	✓	✓	✓	✓	X	X	✓
Montserrat	X	✓	✓	✓	✓	✓	✓	X	X	✓
Martinique	X	X	X	✓	✓	✓	✓	✓	✓	✓
Guadeloupe	X	X	X	✓	✓	✓	✓	✓	✓	✓
St. Martin	X	X	X	✓	✓	✓	✓	✓	✓	

Table 3.4 Summary of relevant biodiversity relevant SDGs and key biodiversity issues highlighted in the SAMOA Pathway

¹ Reference: <https://www.cbd.int/information/parties.shtml>

² Reference: <https://www.cbd.int/abs/nagoya-protocol/signatories/default.shtml>

³ Reference: <https://whc.unesco.org/en/statesparties/>

⁴ Reference: https://www.cites.org/eng/disc/parties/chronolo.php?order=field_country_official_name&sort=asc

⁵ Reference: <https://www.cms.int/en/parties-range-states>

⁶ Reference: http://archive.ramsar.org/cda/en/ramsar-about-parties-parties/main/ramsar/1-36-123%5E23808_4000_o__

⁷ Reference: Parties to the Cartagena Convention, Oil Spill Protocol, SPAW Protocol, LBS Protocol derived from <http://www.cep.unep.org/cartagena-convention>

⁸ Reference: <https://www.cbd.int/doc/lists/cpb-ratifications.pdf>

⁹ Reference: UK Overseas Territories and Crown Dependencies: 2011 Biodiversity snapshot

International Framework	Key targets or elements for consideration for the OECS-BEF
SDG 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development¹⁰	<ul style="list-style-type: none"> • By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans • By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics • By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information
SDG 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	<ul style="list-style-type: none"> • By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreement • By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally • Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species • Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed • Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products • By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species • By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts
SAMOA pathway.¹¹	<ul style="list-style-type: none"> • To conserve by 2020 at least 10 per cent of coastal and marine areas in small island developing States, especially areas of particular importance for biodiversity and for ecosystem services, through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures in order to reduce the rate of biodiversity loss in the marine environment • Promote international cooperation and partnerships, as appropriate, and

¹⁰ Reference: <https://sustainabledevelopment.un.org>

¹¹ Reference: https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/69/15&Lang=E

information exchange... for the purpose of encouraging the active involvement of all stakeholders in the conservation and sustainable use of biodiversity, as well as access to and the fair and equitable sharing of benefits arising from the utilization of genetic resources, with the vision of living in harmony with nature.

3.5 Caribbean/CARICOM Biodiversity Strategy

The OECS-BEF uses the CBS as its launching pad, thus some consideration of the most pertinent elements of the Strategy is needed. The CBS was developed under the Caribbean Hub sub-component of Phase II of the Programme for Capacity-Building related to Multilateral Environmental Agreements (MEAs) in African, Caribbean and Pacific (ACP) countries. Funding was provided by the European Union (EU) with the overall objective of supporting CARICOM countries in their implementation of MEAs. The CBS was intended to serve as the framework for regional level assistance to Members of CARICOM¹² in their implementation of the Convention on Biological Diversity's (CBD) Global Strategic Plan for Biodiversity (2011-2020).

Geographically, the plan also covers Cuba and the Dominican Republic. The CBS covers the five-year period 2018-2022, but it also provides a longer-term perspective given that the global plan is to be revised in 2020.

The CBS's overarching vision is that "the Caribbean's rich biodiversity and natural heritage is conserved and used sustainably to support economic development and sustainable livelihoods for the well-being and benefit of Caribbean people". The Strategy has been organised into four goals and 12 objectives, along with concurrent targets and actions which serve as the Caribbean region's response to the CBD Global Strategic Plan. The goals and objectives are given in Table 3.5.

Table 3.5 Goals and objectives from the draft Caribbean/CARICOM Biodiversity Strategy (abstracted in its entirety from the CBS)

Goal	Objectives
Goal 1: To conserve biodiversity to protect natural heritage and assets.	Objective 1: To conserve species, particularly endangered and endemic species, and maintain and bolster genetic diversity including agricultural diversity throughout the region.
	Objective 2: To secure ecosystem goods and services, protecting, maintaining or restoring key ecosystems, within national or across transboundary landscapes and seascapes, including using spatial planning approaches.
Goal 2: To sustainably use ecosystem goods and services for national and regional development.	Objective 3: To support sustainable biodiversity-based sectors, livelihoods and enterprises focusing on the management of shared regional resources.
	Objective 4: To mainstream biodiversity within sectoral, national and regional plans as well as national budgets, accounting and reporting systems.
Goal 3: To address biodiversity threats from intra-Caribbean transboundary issues and external sources.	Objective 5: To build the resilience of the region's biodiversity to climate change and natural hazards.
	Objective 6: To protect the region against invasive alien species as well as biosafety and biosecurity threats.

¹² Members of CARICOM - Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines, Suriname, Trinidad and Tobago. Associate Members of CARICOM - Anguilla, Bermuda, British Virgin Islands, Cayman Islands, Turks and Caicos Islands.

Goal 4: To build an enabling regional environment to manage biodiversity.	Objective 7: To ensure generation, storage and use of current, multi-source biodiversity information by Caribbean biodiversity managers, using accessible mechanisms in suitable formats for decision making.
	Objective 8: To develop and implement a coordinated regional approach to the implementation of the CBS through partnerships among governments, academia, civil society, private sector, regional and global agencies.
	Objective 9: To equip Caribbean stakeholders with the capacity, entry points and mechanisms for participatory management of biodiversity while protecting their rights and benefits.
	Objective 10: To enhance regional resource mobilisation for biodiversity conservation.
	Objective 11: To harmonise regional and national legal, policy, regulatory and fiscal frameworks to promote the sustainable use of Caribbean biodiversity.
	Objective 12: To establish coordinated planning, monitoring, evaluation, learning and reporting systems for biodiversity conservation.

3.6 Survey on recent biodiversity initiatives in the OECS.

To assist in determining priorities for the OECS-BEF, an online survey on current and recent biodiversity initiatives in the OECS was conducted during August to September 2019. The goal of the survey was to map regional biodiversity initiatives, in so doing identifying subject areas which were not receiving enough attention within current and recent initiatives and thus were possible priorities for the OECS-BEF. The survey also served as an additional channel to identify the needs and priorities of a wide base of OECS biodiversity stakeholders. The survey was disseminated by both the OECS Commission and CANARI using email listservs and social media channels. The OECS Commission also emailed the surveys directly to the OECS Government biodiversity focal points.

A total of 54 persons responded to the survey, however 18 persons did not complete the surveys and 12 respondents described initiatives that were in countries and territories outside of the OECS region. Thus, only the remaining surveys from 24 persons were analysed. Of these responses, a number were incomplete and some were from the same person who elected to fill out multiple surveys to reflect multiple projects. Also, as per the survey format, one person could fill out information on multiple initiatives within one survey form. Based on all of the above, the total number of initiatives reviewed was 29.

Respondents included biodiversity focal points in relevant Government Ministries, project/programme managers and officers, CSO representatives, officers from regional and international organisations and academia. Most of the projects described spanned the period of 2014 to 2023, with some projects extending as far back as 2011.

The first section of the survey collected general participant information including contact details for the respondents and their organisations. This was followed by sections which collected project specific information including project summaries, goals, objectives, respective donor agencies and project timelines. Questions then focused on specific gaps and recommendations arising out of each project. Following this, the participants were asked to cross reference the topics their projects addressed against the OECS BEMC priorities identified in section 3.3. Finally, the respondents were asked to identify additional subject areas that the projects addressed. The results of the survey are analysed below focusing on the questions where the responses showcased discernible patterns. A full list of survey questions is provided in Annex 3.

Comparison of project focal areas with OECS-BEF priorities identified by the OECS BEMC

As a first tier of analysis, the initiatives surveyed were compared against the OECS-BEF priorities articulated

by the OECS BEMC. This analysis used the results of question 14 of the survey (seen in Annex 3) which asked respondents to note which of the OECS-BEF priorities their project/s addressed. The results are shown in Figure 3.1 below noting that respondents had the option of selecting more than one priority area for each project described. Figure 3.1 shows that the number of biodiversity projects addressing invasive species management was the lowest, suggesting that the OECS- BEF should indeed focus on this theme as suggested by the OECS-BEMC. In particular, not only is it a strong regional need, the survey showed that too few projects are being developed and implemented to address this topic. A similar situation was observed with the theme “fair and equitable access to and sharing of benefits from biodiversity resources” which had the third lowest number of projects. Also, the number of biodiversity projects with strong climate resilience aspects was low, suggesting that this too was an area of focus to address. It appears that while climate change is a strong priority for the region, it may be that the climate and biodiversity nexus is not being addressed adequately. In general, however it was noted that projects did cover the range of priorities identified by the OECS BEMC.

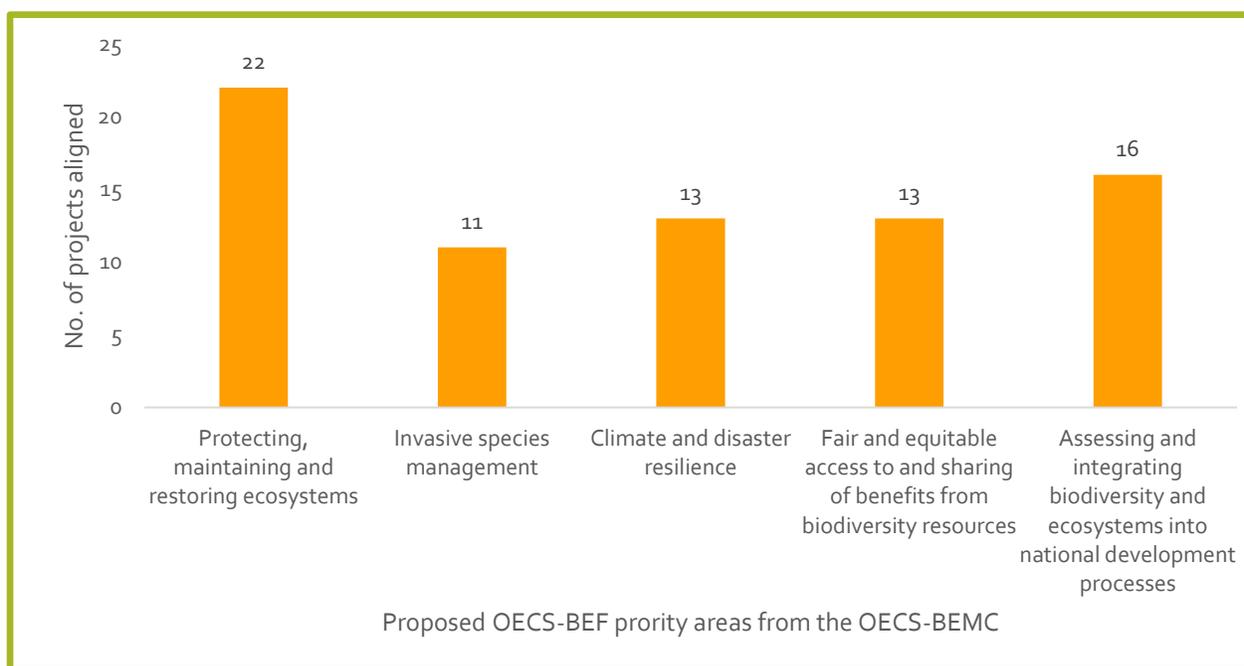


Figure 3.1: Alignment of projects to proposed priority areas of the OECS-BEMC.

Gaps, needs and activities suggested for the OECS-BEF by respondents

Respondents were also asked what they felt were the gaps and needs which should be addressed in the OECS-BEF (Question 16 of the survey). These are listed and grouped according to the themes in the table below. It is acknowledged that themes were chosen subjectively by the report’s authors, but it was felt that the emerging patterns would be useful despite the subjectivity in thematic choices.

Table 1.6 Focal areas recommended by respondents for the OECS-BEF

Theme	Focal areas that respondents suggested should be addressed in the OECS-BEF
Capacity building, tools and equipment	<ul style="list-style-type: none"> Stakeholder and institutional accredited capacity building Regional capacity building and information exchange on coastal ecosystems

	<ul style="list-style-type: none"> • Relevant tools and equipment
Institutional frameworks	<ul style="list-style-type: none"> • Inadequate policies and laws (especially marine) • Weak governance frameworks (especially as it pertains to ocean governance and management)
Sustainable livelihoods and sustainable financing	<ul style="list-style-type: none"> • Economic benefits to local stakeholders • Sustainable financing for biodiversity initiatives
Knowledge generation and dissemination	<ul style="list-style-type: none"> • Enhanced national and regional research agendas in particular to guide marine spatial planning. • Basic inventories of biodiverse groups like the terrestrial invertebrates • Environmental databases to aid in the implementation and effective enforcement of sustainability-based policies. These databases should include information on the location and spatial extent of biodiversity resources. • Improved awareness and dissemination of existing knowledge e.g. existing databases and information sources on invasive species. • Evidence-based and scientific information • Closer collaboration in knowledge sharing within the region using the political endorsement of the OECS-BEF • Ecosystem valuations
Access and benefits sharing	<ul style="list-style-type: none"> • Consultation with governmental and nongovernmental stakeholders on ABS issues and the provisions of the Nagoya Protocol. • Drafting/revision and enactment of ABS legislation and/or regulations. • Development of an ABS operational policy including guidelines for operation, duties and responsibilities of the Competent National Authorities (CNAs) and checkpoints • Revision and updating of national environmental management strategies, national environment policies, and NBSAPs to include ABS provisions • Development of capacity to make fair, clear, transparent and informed decisions on granting access to genetic resources. • Conservation of genetic resources
Invasive species management	<ul style="list-style-type: none"> • Facilitation of the uptake and implementation of the regional IAS strategy • Maximum uptake of the recommendations to improve the regions bio-security procedures and infrastructure. • Regional measures to ensure that all reconditioned vehicles (cars, trucks, garbage trucks, sewage holding trucks etc.) are sanitized before entering the region.

	<ul style="list-style-type: none"> • Implementation of the Invasive Alien Species (IAS) Action Plan
Climate change	<ul style="list-style-type: none"> • Initiatives to address sea level rise and ocean acidification
Other	<ul style="list-style-type: none"> • Waste and pollution management

Most of the responses to this question focused on cross cutting issues or what may also be considered implementation aspects. These included calls for the OECS-BEF to focus on capacity building, knowledge generation and dissemination and financing. In particular there was a strong focus on knowledge generation and dissemination such as the need for basic inventory information as well as accessible databases and knowledge sharing. These topics were also key priorities identified and addressed in the CARICOM Biodiversity Strategy. While there is a strong call for knowledge generation and dissemination, an appropriate question to consider is, at what scale should this topic be addressed? It may be that while it is an important gap within the OECS region, certain aspects can be better addressed at a larger scale e.g. at the CARICOM level through the CARICOM Biodiversity Strategy implementation rather than the narrower OECS focus. On the other hand, given the strong call for this to be a focus of the OECS-BEF one approach could be to generate the data sought at the OECS scale e.g. inventory and valuation data but integrate these data into larger scale, regional and international databases.

Apart from these implementation aspects highlighted above, the specific call for ecosystem valuations is noted as is the specific reference to sea level rise and ocean acidification. Historically there is a lack of data in the region on natural capital and attributing dollar value to the existence and services of ecosystems, which can be particularly helpful in decision-making processes. This is an area for consideration for the OECS-BEF. The management of biodiversity in response to ocean acidification was also a specific area flagged. Waste pollution and management was also noted as a need.

Interestingly, survey participants went into great detail on needs and gaps which were subsequently filed in the table under “access and benefits sharing” and “invasive species” in the table above. These specific aspects that survey participants highlighted will be assessed and incorporated as needed as potential activities under specific themes in the final framework. One example of this was the need to update and implement existing regional frameworks that address these topics.

General summary of biodiversity project themes

Apart from the specific analyses above, attempts were made to detect any general patterns from the project descriptions provided in response to question 13 of the survey. The topics highlighted in the project descriptions are listed and grouped by themes in Table 3.7, noting however that one topic may be applicable to more than one theme. The themes were chosen subjectively by the report’s authors, but it was felt that number of projects per theme would provide some insight as to what topics were receiving more attention than others by donors, regional and national agencies (see Figure 3.2).

Table 3.7 Project topics and themes from the online survey on recent and current biodiversity initiatives in the OECS

Topics addressed	Theme
<ul style="list-style-type: none"> • Marine management through marine spatial planning • Sea bed mapping • Coral reefs • Coastal protection and rehabilitation • Protected areas and marine protected areas 	Marine/Coastal biodiversity conservation

<ul style="list-style-type: none"> • Ecosystem based management and ecosystem approach to fisheries • Ocean governance 	
<ul style="list-style-type: none"> • Integrated water resources and land management • Sustainable forest management • Conservation of threatened species and species biodiversity (such as beetles) 	Terrestrial biodiversity conservation
<ul style="list-style-type: none"> • Biodiversity data collection • Information management knowledge and data sharing, warehousing, ICTs, satellite data and imagery 	Knowledge generation and dissemination
<ul style="list-style-type: none"> • Invasive alien species-policy and management of impacts and biosafety 	Invasive species
<ul style="list-style-type: none"> • Habitat degradation • Ecosystem services, land use planning and landscape management • Ecosystem based management and ecosystem approach to fisheries 	Ecosystem/landscape approaches/Ecosystem services
<ul style="list-style-type: none"> • Coastal protection and rehabilitation 	Ecosystem restoration
<ul style="list-style-type: none"> • International protocols, access and benefits sharing (to genetic resources) • Projects addressing commitments to the Nagoya Protocol, Aichi Targets, Cartagena protocol on biosafety 	Genetic resources/Access and benefits sharing
<ul style="list-style-type: none"> • Climate change in tourism and agriculture • Climate change adaptation, climate resilience and disaster risk financing 	Climate Change
<ul style="list-style-type: none"> • Ocean governance 	Institutional frameworks
<ul style="list-style-type: none"> • Human and institutional capacity 	Capacity building
<ul style="list-style-type: none"> • Community based conservation management • Outreach and advocacy 	Stakeholder engagement
<ul style="list-style-type: none"> • Environmental Impact Assessments (EIAs) • Sustainable use • Waste management-plastic reduction • Alternative livelihoods 	Other

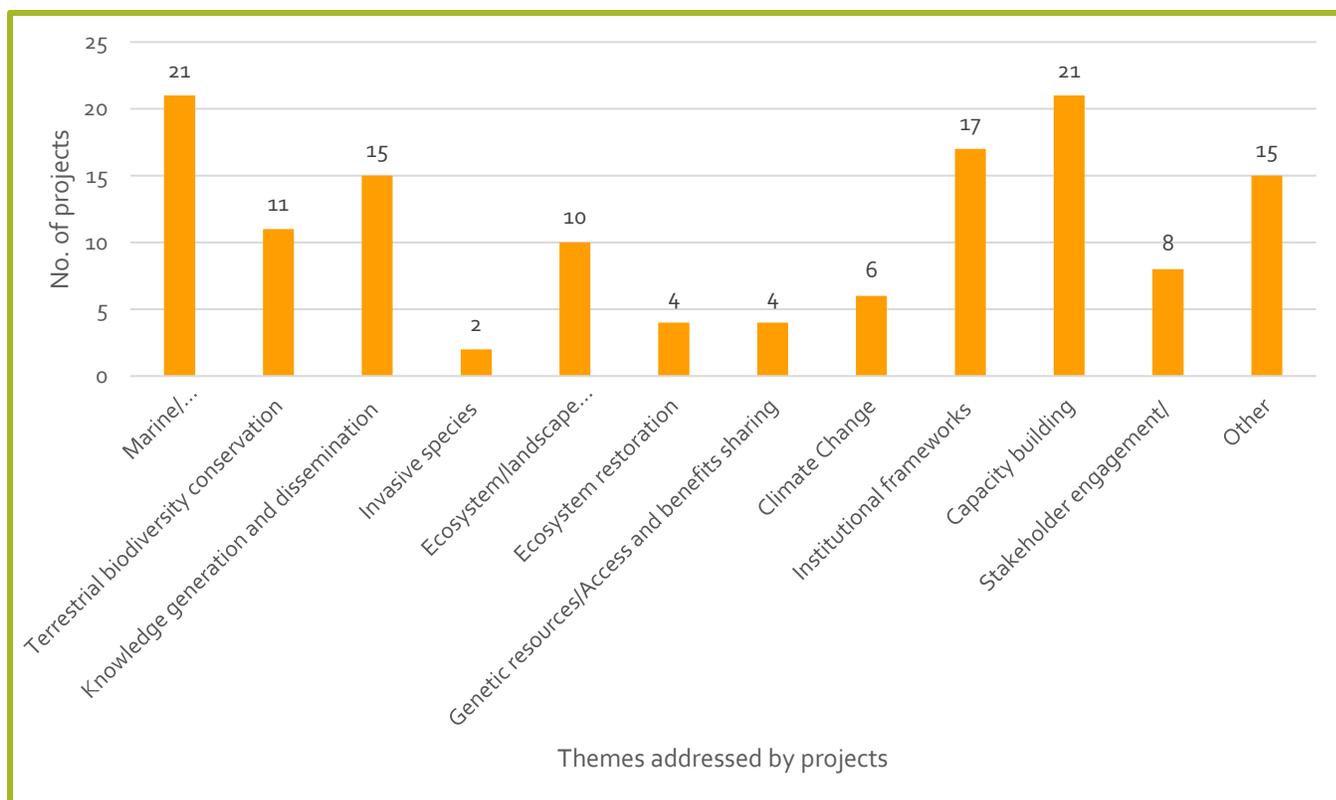


Figure 3.2: Distribution of projects by themes in Table 3.7

Figure 3.2 shows that there are at least twice as many marine/coastal projects as compared to terrestrial. Thus, an initial recommendation for the content and structure of the OECS-BEF is to focus more heavily on terrestrial initiatives, considering the positive impact that successful terrestrial biodiversity management can have on marine and coastal biodiversity management. For example, given ridge to reef effects, biodiversity projects which include reforestation can reduce soil erosion and subsequent marine sedimentation. This in turn can foster better marine ecosystem health and enhance marine biodiversity conservation. This approach is in synergy with the OECS focus on islands system management (ISM). An ISM approach emphasises the interlinkages and connectivity among ecosystem types within Caribbean islands (Nichols and Chase 1996).

As was already determined earlier in the analysis, Figure 3.2 shows that there are only a few projects which address invasive species and genetic resources/access and benefits sharing. Thus, the responses to this question also support the need to focus on these topics in the OECS-BEF. Similarly, as also suggested earlier, there does not seem to be a wealth of biodiversity projects that specifically incorporate climate resilience aspects. This therefore a possible area of focus for the OECS-BEF including management of species and ecosystem responses to climate change and climate variability like:

- Changes in animal reproduction and migration patterns
- Plant phenological changes
- Shifts in species' geographic range
- Reduced habitat and subsequent animal clustering.
- Loss of calcifying species due to ocean acidification
- An increase in the number of generations per year especially among insect populations

In analysing the results of question 13 however it was also noted that there were few projects that specifically addressed ecosystem restoration suggesting that this too should be a specific focus of the OECS-BEF. It is noted however that the responses to question 14, described earlier in the analysis, showed a relatively high number of projects on the topic “protecting, maintaining and restoring ecosystems”. Therefore, it would appear that recent and current biodiversity projects in the OECS do address the protection and maintenance of ecosystems but not restoration. Restoration therefore may be a high priority for the OECS-BEF.

The topics that showed good coverage in current and recent projects (i.e. 15 or more projects which addressed this topic) were marine biodiversity conservation, knowledge generation and dissemination, institutional frameworks, capacity building and the category “other”. With regards to knowledge generation and dissemination, it is noted that despite the fact that 15 projects addressed this topic (responses to question 13), this was still a gap identified by the survey participants (responses to question 16). Specific inventory data seems to be an issue. As discussed above, the OECS-BEF could support generation of country inventory level data, but perhaps for best coordination and access, the data could be funnelled into databases which cover a wider scale than the OECS region.

4. Proposed priorities for the OECS-BEF

The OECS earlier this year established the OECS-BEMC as the body to guide the management of biodiversity in the region. The BEMC through a paper presented at the 2019 COMES meeting and a subsequent webinar under this project in July has articulated the follow technical areas as priorities for the OECS-BEF.

- Protecting, maintaining and restoring ecosystems
- Invasive species management, biosafety, biosecurity
- Climate and disaster resilience
- Fair and equitable access to and sharing of benefits from biodiversity resources
- Assessing and integrating biodiversity and ecosystems into national development processes

These technical priorities were in synergy with the views of stakeholders at the April OECS GCCA meeting, in particular the focus on invasive species management and ecosystem restoration. These priorities are also aligned with the survey results which identify these topics as priority needs. The priorities are also supported by the survey in that there are few current and recent projects addressing the five themes i.e. more work in these areas are needed. In advancing work on these themes however the following caveats should be noted:

- There are a number of projects on protecting and maintain ecosystems but few on restoration i.e. restoration should be emphasised.
- While there are many current and recent climate change projects in the region, there seem to be few climate and disaster projects which specifically address the climate change/biodiversity nexus. For example there do not appear to be many initiatives supporting management regime changes in response to climate change induced changes in species distribution etc.

Some of the aforementioned themes are also evident from a review of national level priorities derived from NBSAPs and NAPS (see Section 3.4). These NBSAP/NAP priorities can be summarised as:

- Climate change and natural disasters
- Invasive species management
- Habitat loss/deforestation/wildfires

- Pollution especially coastal/land- based sources of marine pollution,
- Land management
- Legislation (development and enforcement)
- Unsustainable resource harvesting/livelihoods especially in the fisheries sector
- Traditional knowledge, role of civil society; awareness, availability of data and information
- Protected area management

Thus, the NBSAP/NAP data source supports climate change and natural disasters and invasive species management as OECS-BEF priorities. NBSAP/NAP priorities listed above like protected area management and habitat loss/deforestation/wildfires are elements of the larger theme above on protecting, maintaining and restoring ecosystems which the survey and the OECS-BEMC indicated as critical issues. The topics that the NBSAPs/NAPs do not share in common with the other data sources are resource harvesting, land management, legislation and pollution.

The five themes emerging from the OECS BEMC feedback and survey results are well aligned with the first three goals of the CBS (objectives 1, 2, 4, 5, 6), zoning in on specific aspects of each objective (See table 4.1). For example, with regards to objective one on species conservation, the specific area of concern is fair and equitable access to and sharing of benefits of biodiversity resources.

One objective from the CBS which was not highlighted by the OECS BEMC nor was a strong element from the survey results was the Objective 4 – “To support sustainable biodiversity-based sectors, livelihoods and enterprises focusing on the management of shared regional resources”. However, this objective is a key aspect of the OECS Green-Blue Economy Strategy and Action Plan currently in development. It could be that the OECS-BEF could reference the activities and directions under this plan. Overall, in examining existing OECS frameworks relevant to biodiversity, consideration should be given to avoiding duplication; thus, it may simply be that an action point under the OECS-BEF is to support or fund various action plans already in existence. These include the OECS Green- Blue Economy Strategy and Draft Action Plan as well as the Action Plan Addressing Invasive Alien Species (IAS) in the OECS Region. Thus, where relevant frameworks exist for the OECS-BEF themes, the OECS-BEF could focus on the mobilisation of resources to implement these frameworks.

In terms of the Goal 4 of the CBS which focuses on cross-cutting issues and enabling environment, there is alignment with all the objectives with a likely OECS-BEF focus on inventory data (objective 7), regional coordination for funding (objectives 8 and 10) and frameworks specifically pertaining to ABS and invasive species, biosafety and biosecurity (objective 11).

The aforementioned priorities and focal areas for the OECS-BEF are summarised in the table below referenced against the CBS goals and objectives. Also included are suggestions for where the OECS-BEF can support existing regional frameworks and activities, rather than duplication of ongoing work. Overall

Table 4.1 CBS Goals and objectives aligned with priority themes, focal areas and activities suggested for the OECS-BEF

CBS Goal	CBS objective	Corresponding themes, specific areas of focus and initial activities suggested for the OECS-BEF
<p>Goal 1: To conserve biodiversity to protect natural heritage and assets.</p>	<p>Objective 1: To conserve species, particularly endangered and endemic species, and maintain and bolster genetic diversity including agricultural diversity throughout the region.</p>	<p>Fair and equitable access to and sharing of benefits from biodiversity resources</p> <p>Specific areas of focus include: Ratification of the Nagoya protocol, development of relevant ABS guidelines, management of genetic resources of key species e.g. <i>Cannabis</i> sp.</p>
	<p>Objective 2: To secure ecosystem goods and services, protecting, maintaining or restoring key ecosystems, within national or across transboundary landscapes and seascapes, including using spatial planning approaches.</p>	<p>Protecting, maintaining and restoring ecosystems</p> <p>This theme should focus most heavily on ecosystem restoration. Overall there should be a greater emphasis on terrestrial ecosystems within an island systems approach. For coastal and marine ecosystems, the OECS-BEF could focus specifically on maintaining or restoring key systems across transboundary seascapes within a marine planning framework.</p>
<p>Goal 2: To sustainably use ecosystem goods and services for national and regional development.</p>	<p>Objective 3: To support sustainable biodiversity-based sectors, livelihoods and enterprises focusing on the management of shared regional resources.</p>	<p>This did not emerge as a strong priority/focus for the OECS-BEF however it could be that the OECS-BEF could support the actions for frameworks such as the OECS Green-Blue Economy Strategy and Action Plan (in development) and existing OGDS-e.</p>
	<p>Objective 4: To mainstream biodiversity within sectoral, national and regional plans as well as national budgets, accounting and reporting systems.</p>	<p>Assessing and integrating biodiversity and ecosystems into national development processes</p> <p>Specific areas of focus include: ecosystem valuations and the subsequent incorporation of the information into national budgets accounting and reporting systems.</p>
<p>Goal 3: To address biodiversity threats from</p>	<p>Objective 5: To build the resilience of the region's biodiversity to climate change and natural hazards.</p>	<p>Climate and disaster resilience</p> <p>This theme should emphasise management shifts to factor in climate and disaster induced</p>

intra-Caribbean transboundary issues and external sources.		changes to species populations, geographic range etc.
	Objective 6: To protect the region against invasive alien species as well as biosafety and biosecurity threats.	Invasive species management, biosafety, biosecurity Specific areas of focus include: development of a regional biosafety policy, model biosafety and biotechnology legislation. The OECS-BEF could also advance actions and mobilise resources to support the Draft Action Plan for Addressing Invasive Alien Species (IAS) in the OECS Region.
Goal 4: To build an enabling regional environment to manage biodiversity.	Objective 7: To ensure generation, storage and use of current, multi-source biodiversity information by Caribbean biodiversity managers, using accessible mechanisms in suitable formats for decision making.	A specific emphasis on inventory data was noted
	Objective 8: To develop and implement a coordinated regional approach to the implementation of the CBS through partnerships among governments, academia, civil society, private sector, regional and global agencies.	Regional coordination with regards to funding was noted as a concern, given that the OECS includes a number of OTS
	Objective 9: To equip Caribbean stakeholders with the capacity, entry points and mechanisms for participatory management of biodiversity while protecting their rights and benefits.	Not a strong priority/focus- described in general terms only.
	Objective 10: To enhance regional resource mobilisation for biodiversity conservation.	Regional coordination with regards to funding was noted as a challenge given that the OECS includes a number of OTS
	Objective 11: To harmonise regional and national legal, policy, regulatory and fiscal frameworks to promote the sustainable use of Caribbean biodiversity.	Frameworks on ABS, invasive species, biosafety and biosecurity were priorities.
	Objective 12: To establish coordinated planning, monitoring, evaluation, learning and reporting systems for biodiversity conservation.	A corresponding OECS-BEF system will have to be established.

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Annex 1: Summaries of the OECS Member State NAPS and NBSAPs

*Note, All tables have been abstracted directly from the draft CBS (CARICOM 2018).

Most recent NBSAP and NAP	Key biodiversity issues	Select country priorities, responses and needs for consideration during the development of the CBS (e.g. needs which can benefit from a regional approach or approaches which can be replicated and scaled up)
Antigua and Barbuda		
1 st NBSAP- 2014 5 th NAP- 2014	<ul style="list-style-type: none"> • Habitat loss and fragmentation • Poor land use planning and management • Invasive species • Deforestation • Overgrazing • Unsustainable fishing practices • Coastal development • Sand mining 	<ul style="list-style-type: none"> • Most recent NBSAP has four main objectives: (1) develop and establish a national system, including protected areas, for the management and conservation of biodiversity conservation; (2) strengthen the capacity of governmental natural resources management institutions, as well as non-governmental organisations, to support the objectives and achieve the overall aim of the NBSAP; (3) develop, improve, enact and enforce ecological legislation that provides adequate protection (4) strengthen public awareness of environmental issues, ecological education and public participation in decision-making. • Country has adopted the twenty Aichi Biodiversity Targets as national targets.

		<ul style="list-style-type: none">• The Environment Protection and Management Bill (2014) and associated National Coordinating Mechanism (NCM) for Environment Conventions allow for greater coherence biodiversity conservation.• Target 2: Economic measures in support of biodiversity protection considered advanced in Antigua and Barbuda.• Target 11: Some legislative gaps exist with regards to the management of protected areas.• Target 17: Country's National Environmental Management Strategy used as the main policy document for the biodiversity cluster of MEAs.• Target 19: Establishment of Sustainable Island Resource Fund for among other matters management of protected areas.
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Most recent NBSAP and NAP	Key biodiversity issues	Select country priorities, responses and needs for consideration during the development of the CBS (e.g. needs which can benefit from a regional approach or approaches which can be replicated and scaled up)
Dominica		
<p>2nd NBSAP- 2013</p> <p>5th NAP- 2014</p>	<ul style="list-style-type: none"> • Climate change • Deforestation • Overexploitation of specific plant and animal species. • Poor land use planning and management • Unsustainable tourism practices e.g. exceedance of carrying capacity • Invasive species • Chemical pollution: pesticides • Natural disasters • Mining • Loss of traditional knowledge • Inadequate legal and institutional frameworks 	<p>Dominica’s most recent NBSAP focuses on five targets as follows:</p> <p>“By 2020 at the latest, all residents of the Commonwealth of Dominica will be aware of the value of biodiversity, and the steps they can take to conserve and use it sustainably.</p> <p>By 2020, at least 15% of areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.</p> <p>By 2020, pollution, including from excess nutrient, has been brought to levels that are not detrimental to ecosystem function and biodiversity.</p> <p>By 2020, at least 20% of terrestrial, inland water and 15% of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem service, are conserved through comprehensive ecologically representative and well-connected systems of effectively managed, protected areas and other means, and integrated into the wider land and seascape.</p> <p>By 2020, ecosystem resilience and the contribution of biodiversity to carbon stock has been enhanced, through conservation and restoration, including restoration of at least 15% of degraded ecosystems, thereby contributing to climate change mitigation and adaptation, and to combating desertification.”</p>

Most recent NBSAP and NAP	Key biodiversity issues	Select country priorities, responses and needs for consideration during the development of the CBS (e.g. needs which can benefit from a regional approach or approaches which can be replicated and scaled up)
Grenada		
2 nd NBSAP - 2016 5 th NAP- 2014	<ul style="list-style-type: none"> • Natural disasters • Pollution: agrochemicals • Invasive species • Overgrazing • Deforestation due to housing, infrastructure and agriculture • Habitat destruction • Low capacity for public education, enforcement and monitoring • Inadequate legislation • Unsustainable fishing practices • Sand mining • Land based sources of marine pollution 	Priority focal areas in the NBSAP include: <ul style="list-style-type: none"> • Institutional frameworks; • Sustainable land management; and • Climate change.

Most recent NBSAP and NAP	Key biodiversity issues	Select country priorities, responses and needs for consideration during the development of the CBS (e.g. needs which can benefit from a regional approach or approaches which can be replicated and scaled up)
Saint Lucia		
1 st NBSAP- 2000 5 th NAP - 2014	<ul style="list-style-type: none"> • Climate change: sea level rise • Land based sources of marine pollution • Habitat loss and fragmentation due in part to tourism activities • Invasive species 	<p>SCBD (2018a) notes that 19 national targets have been developed for Saint Lucia under four goals:</p> <ul style="list-style-type: none"> • To internalise and integrate biodiversity values into decision making and national accounting to stimulate/advance national development; • To generate benefits for all citizens from biodiversity and ecosystem services for improved human wellbeing; • To encourage and effect sustainable management and use of biodiversity and genetic resources; and • To engender behavioural change through knowledge management and capacity building for sustained implementation.

Most recent NBSAP/ NAP	Key biodiversity issues	Select country priorities, responses and needs for consideration during the development of the CBS (e.g. needs which can benefit from a regional approach or approaches which can be replicated and scaled up)
St. Kitts and Nevis		
<p>2nd NBSAP - 2014 5th NAP- 2014</p>	<ul style="list-style-type: none"> • Climate change: sea level rise • Invasive species • Pollution • Land degradation • Land tenure • Wildfires • Development related to tourism 	<p>Targets under the 2nd NBSAP include:</p> <ul style="list-style-type: none"> • By 2020, an increased percentage of Kittitians and Nevisians are aware of the values of biodiversity and understand the steps they can take to conserve and use biodiversity sustainably. • By 2020, St. Kitts and Nevis would have completed an evaluation of its biodiversity resources. • By 2020, the Ministry of Sustainable Development will have an increased role in the granting of incentives to activities based on biodiversity related sustainability principles. • By 2020, fish and invertebrate stocks and aquatic plants are managed, harvested sustainably and the Marine Management Area has been formally declared. • By 2020, areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation. • By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity and appropriate Waste Management Plans are developed. • By 2020, invasive alien species and pathways are identified and prioritised and measures are in place to manage pathways to prevent their introduction. • By 2020, the anthropogenic pressures on coral reefs and other vulnerable coastal ecosystems impacted by climate change are minimised. • By 2020, at least one marine and one additional terrestrial area will be formally declared, and appropriate management plans are operationalised. • By 2016, St. Kitts and Nevis would have signed on to the Nagoya Protocol on "Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization". • By 2015, the revised National Biodiversity Strategy and Action Plan (NBSAP) has been completed and adopted as a policy instrument and is been implemented with broad sectoral participation. • By 2015, the financial resources for supporting the revised NBSAP implementation have been identified including direct budgetary allocations.

Most recent NBSAP and NAP	Key biodiversity issues	Select country priorities, responses and needs for consideration during the development of the CBS (e.g. needs which can benefit from a regional approach or approaches which can be replicated and scaled up)
St Vincent and the Grenadines		
<p>1st NBSAP- 2008 5th NAP- 2015</p>	<ul style="list-style-type: none"> • Climate change: coral bleaching, storms • Natural disasters • Poor land use planning and management • Habitat loss and fragmentation • Chemical pollution: agrochemicals • Wildfires • Sand mining • Invasive species • Unsustainable fishing practices • Land based sources of marine pollution: sediment, sewage, solid waste 	<p>SCBD (2018a) notes the following national targets:</p> <ul style="list-style-type: none"> • By 2020, at least 50% of the population of St. Vincent and the Grenadines is knowledge-able about the values of biodiversity and the steps they can take to conserve and use it sustainably. • By 2020, St. Vincent would have completed studies to quantitatively establish the status of all-natural habitats and the rate of habitat loss, including forest, and would have developed and in the process a strategy to reduce the rate of habitat loss. • By 2020, invasive alien species and pathways are identified and prioritised, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment. • 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. • 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.

Annex 2: Summaries of key biodiversity issues from OECS Overseas Territories

Relevant Biodiversity Reports and Frameworks	Key biodiversity issues	Select OTS priorities, responses and needs for consideration (e.g. needs which can benefit from a regional approach)
British Overseas Territories		
Anguilla (Homer, 2005)		
<p>CBD fifth national report- UK Territories</p> <p>Anguilla National Environmental Management Strategy and Action Plan 2005-2009</p>	<ul style="list-style-type: none"> • Invasive species e.g. Lionfish, Cuban Tree Frog and the Giant African Snail. • Climate Change- rising sea temperatures and more frequent and intense hurricanes leading to degradation of coral reef health and mangroves • Land use and human impacts- growing pressure from physical development, impacting terrestrial and marine ecosystems. Dry scrub and mangroves have been particularly vulnerable to habitat fragmentation and loss. • Near shore reefs are endangered and may even become extinct by 2050. Pollution is a growing concern. 	<p>The National Environmental Strategy and Action Plan speaks to the following principles relevant to biodiversity:</p> <ul style="list-style-type: none"> • PRINCIPLE 8: Address the Causes and Impacts of Climate Change • PRINCIPLE 9: Minimize and Manage the Causes and Impacts of Disaster • PRINCIPLE 10: Prevent and Control Pollution and Manage Waste • PRINCIPLE 11: Ensure the Sustainable Use of Natural Resources • PRINCIPLE 12: Protect Cultural and Natural Heritage • PRINCIPLE 13: Protect and Conserve Biological Diversity <p>*Also has 48 targets under all of the principles of the strategy. (Homer, 2005). The biodiversity needs and priorities illustrated by these targets include:</p> <ul style="list-style-type: none"> • Prevention of over fishing • Mapping, data collection and eradication of invasives from the island • Conservation of threatened species e.g. sea turtles and the native iguana
British Virgin Islands (JNCC , 2014)		
<p>CBD fifth national report- UK Territories</p>	<ul style="list-style-type: none"> • Governance issues- The BVI does not currently have a National Biodiversity Strategy and Action Plan. A National Environmental Action Plan was created but was never finalized and implemented. • Invasive Species which threaten the growth and survival of native species- Cuban tree 	<p>Key focal areas under various Aichi Targets</p> <ul style="list-style-type: none"> • Biodiversity awareness • Species recovery plans • Enforcement of legislation to reduce overfishing

	<p>frog, mongoose, feral rats and cats, and lionfish</p> <ul style="list-style-type: none"> • Climate change- expected increase in temperature, hurricanes and flood events. Increased temperatures will also cause a 20-30 % increase risk of extinction and bleaching of coral reefs. • Habitat loss / fragmentation- increasing development resulting in habitat loss and fragmentation 	<ul style="list-style-type: none"> • Establishment/management of Protected Areas especially mangrove areas • Traditional knowledge and information sharing especially GIS information • Lionfish and mongoose invasive species management
Montserrat		
<p>CBD fifth national report- UK Territories</p> <p>Montserrat Sustainable Development Plan 2008-2020 (Ministry of Economic Development and Trade , 2010)</p>	<ul style="list-style-type: none"> • Capacity development of the Disaster Management & Coordination Agency and the Department of Environment • Threats from invasive species • Vulnerability to natural hazards • Inadequate regulatory framework 	<ul style="list-style-type: none"> • Strategic Goal 3: Environmental Management and Disaster Mitigation <p>Targets:</p> <ul style="list-style-type: none"> • 10% growth in the population of endangered/protected species • Consistent enforcement of key elements of the environmental management strategy, policy and legislation • Damage caused by disasters minimized to less than 2% of GDP
French Overseas Territories		
Martinique, Guadeloupe and St. Martin (Vaslet and Renoux 2016)		
<p>National Biodiversity Strategy of France (NBS) (2011-2020) (Stratégie Nationale pour la Biodiversité - SNB).</p>	<ul style="list-style-type: none"> • Resource exploitation • Urbanisation • Fires • Invasive species e.g. the snail <i>Melanoides tuberculata</i> • Climate change 	<ul style="list-style-type: none"> • Generation and dissemination of information on species status, distribution and life cycles • Research on animal migration patterns in particular transboundary migration to facilitate suitable regional management interventions • Early detection and rapid eradication of invasive species • Integration of biodiversity conservation into policy development and land use planning • Ecosystem restoration • Ecosystem valuation • Ecotourism promotion and support. • Strengthen EIA processes and use of EIA information to support biodiversity conservation • Provide support to CSO and other local stakeholders in the management of biodiversity

Annex 3: Survey on current and recent biodiversity initiatives



OECS-Biodiversity and Ecosystems Framework and Strategic Action Plans- Survey on recent and current biodiversity related initiatives within the OECS Region

Background: Biodiversity and ecosystems provide critical natural resources which are important for the ecosystem services, livelihoods, economies and way of life in the Eastern Caribbean. Recognising this, the Organisation of Eastern Caribbean States (OECS) was heavily engaged in the development of the draft Caribbean Biodiversity Strategy (CBS) in 2018 and is now looking to further advance the management of the region's natural resources through the development of the [OECS Biodiversity and Ecosystems Management Framework and Strategic Action Plans \(OECS-BEF\)](#). The Caribbean Natural Resources Institute (CANARI) has been engaged by the OECS Commission to lead on the development of the OECS-BEF.

Survey objective: This survey is intended to collect up to date information on the biodiversity-related initiatives within the OECS region to identify regional biodiversity management gaps and needs and thus priority actions for the OECS-BEF.

Target Audience: OECS Commission Staff, OECS Member State Government biodiversity focal points, project managers for biodiversity-related projects, civil society organisations (including non-governmental organisations and community-based organisations), academia and the private sector.

Instructions: Please describe recent and current national or regional biodiversity and ecosystem projects that your organisation is participating in or executing filling in each field below that you have information for. Please add a new page for each project. You can include as many projects that you wish.

Participant Details

1. Name

2. Organisation

3. Title/Position

4. Email address

5. Telephone number

6. Project/Initiative title

7. Project timeline (please only include projects which were implemented in the last 5 years or project which are currently being implemented).

8. Project implementing agency(ies)

9. Project executing agency(ies) (if different from implementing agency(ies) above).

10. Project partner(s)

11. Project webpage

12. Target country(ies)

13. Brief description of project including goals and objectives.

14. In July 2019, the OECS Commission and CANARI hosted an OECS-BEF webinar with country biodiversity focal points to begin to identify priority areas which should be addressed in the OECS-BEF. These initial priority areas suggested are listed below. Does your project address any of these priority areas? Select all that apply.

- Protecting, maintaining and restoring ecosystems
- Invasive species management
- Climate and disaster resilience
- Fair and equitable access to and sharing of benefits from biodiversity resources
- Assessing and integrating biodiversity and ecosystems into national development processes

15. Are there other topics, not listed above, which the project addresses?

16. Are there any gaps, needs or recommendations coming out of the initiative that should be addressed in the OECS-BEF?

17. Please share any relevant references and/or links for this project.

Link 1

Link 2

Link 3

Link 4

Link 5

19. Do you have another project to add?

Thank you for participating in the survey. If you have more projects to submit, please do so by starting a new survey using the following link.

https://www.surveymonkey.com/r/OECS-BEF_survey

If you have any questions about the project and/or any further references and documents to share on the projects listed, please contact Technical Officer for the project, Neema Ramlogan, at neema@canari.org or +1-868-638-6062.