Caribbean hub
15 EU entities (4 FR / 5 UK / 6 NL)

Fostering collaboration of nearly half of EU’s overseas entities to maintain their unique biodiversity & attractive ecosystems

Ecosystem profile for the Caribbean EU overseas entities

Amandine VASLET
SPAW-RAC / RNSM
The Caribbean: a diverse region

- 15 EU overseas entities
- 12 OCTs & 3 ORs
- Politically attached to 3 EU member states (FR-UK-NL)
- Population densities varying: 45 inhab./km² in Montserrat (UK) 1,095 inhab./km² in St.Martin (FR) / St.Maarten (NL)
Biological importance of the region

- **Contrasting ecosystems**: from rainforests and rivers to dry scrublands and coral reefs and mangroves
- Included in the Caribbean Islands Biodiversity Hotspot
- Economical importance of ecosystems for local economies

**St-Martin/ St-Maarten**
- 2 million visitors / year
- Coral reef associated recreation
  - $18 million / year (NF 2010)

**Bonaire**
- MPA surrounding the island
- Commercial and recreational reef fisheries
  - $1.1 million / year (TEEB-IVM 2012)

**Guadeloupe**
- Rivers and rainforests (National Park)
- Freshwater resources
  - 19 million € / year (Hamadé et al. – PNG 2013)

Caribbean hub
Biological importance of the region

Examples of ecosystem services

• Marine ecosystems: Mangroves - Seagrass beds - Coral reefs
  - Shelters, nurseries, feeding areas
  - Support local fisheries
  - Shoreline protection
  - Carbon sequestration and storage
  - Recreational values

• Tropical rainforests and rivers
  - Freshwater resources
  - Soil stability
  - Wood production
  - Shelters, foraging areas
  - Carbon sequestration and storage
  - Recreational values
Existing biodiversity: Endemcity

- Caribbean Islands Biodiversity Hotspot
- At least 630 species regionally restricted (Eastern Caribbean islands)
- About 460 species strictly endemic to 1 of the 15 EU islands
- Endemic species representing diverse taxa:

**Plants**
- Sebucan (VI)
- Anguilla Bush

**Amphibians**
- Mountain Chiken (Montserrat)
- Aruban Rattlesnake (Aruba)

**Reptiles**
- Lesser Antilles Iguana (LA)

**Invertebrates**
- Coleoptera (St-Martin)
- Spider “Matoutou” (Martinique)

**Fishes**
- Dutch Antillean Molly (ABC islands)

**Birds**
- Blue-headed Hummingbird (Martinique – Dominica)
- Guadeloupe Woodpecker

**Mammals**
- Antillean Fruit-eating bat (LA-PR)

Caribbean hub
Existing biodiversity: Vulnerability

• About 180 globally threatened species - IUCN Red List 2015 including 120 species endemic to the region

• 78 plant sp. and 87 vertebrates globally threatened:

<table>
<thead>
<tr>
<th>Plants</th>
<th>Amphibians</th>
<th>Reptiles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sebucan (BVI - CR)</td>
<td>Pinchon’s piping frog (Guadeloupe - EN)</td>
<td>Lesser Antilles Iguana (EN)</td>
</tr>
<tr>
<td>Lignum vitae (EN)</td>
<td></td>
<td>Green turtle (EN)</td>
</tr>
<tr>
<td>Acroporids (CR)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hieroglyphic Cone (VU)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Queen Triggerfish (VU)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow-shouldered Amazon (VU)</td>
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<td></td>
</tr>
<tr>
<td>Spermwhale (VU)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Caribbean hub
Existing biodiversity: Vulnerability

- Threat assessment for terrestrial and marine taxa

<table>
<thead>
<tr>
<th>Terrestrial &amp; Freshwater / Marine species</th>
<th>VU</th>
<th>EN</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plants</td>
<td>17</td>
<td>-</td>
<td>26</td>
</tr>
<tr>
<td>Invertebrates</td>
<td>3</td>
<td>8</td>
<td>1</td>
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<tr>
<td>Fishes, Sharks &amp; Rays</td>
<td>-</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>Amphibians</td>
<td>1</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Reptiles</td>
<td>4</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Birds</td>
<td>4</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Mammals</td>
<td>6</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>35</td>
<td>36</td>
<td>42</td>
</tr>
</tbody>
</table>
Threats and pressures on biodiversity

- Negative impacts of invasive alien species
- Threats from urbanization, land reclamation, destruction of natural habitats
- Pollution: domestic effluents, terrestrial runoff, pesticides

BEST project 2011-2012 UK OTs
RSPB / Anguilla – BVI – Cayman Isl.

Caribbean hub
The Ecosystem profile process

- **15** EU Overseas entities: 6 NL – 4 FR – 5 UK → **June 2016**
- Broad consultation process: **90** institutions/organisations, **200** persons
- Local governments, institutions, organisations, scientific experts

Caribbean hub
Key biodiversity areas (KBAs)

- KBAs identified for St-Martin (French OR)

<table>
<thead>
<tr>
<th>Network of PAs / Ramsar / IBAs…</th>
<th>Species / Sites outcomes</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simpson Bay Lagoon</td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Identified KBAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrestrial</td>
</tr>
<tr>
<td>Marine &amp; Terrestrial</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
Key biodiversity areas (KBAs)

- KBAs identified for Bonaire (Dutch OT)

<table>
<thead>
<tr>
<th>Network of PAs, IBAs... +</th>
<th>Species / Sites outcomes +</th>
<th>Threats</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>KBAs</th>
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</thead>
<tbody>
<tr>
<td>Terrestrial</td>
<td>4</td>
</tr>
<tr>
<td>Terrestrial, ponds, bays</td>
<td>1</td>
</tr>
<tr>
<td>Marine</td>
<td>1</td>
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<tr>
<td>Total</td>
<td>6</td>
</tr>
</tbody>
</table>

Caribbean hub
Key biodiversity areas (KBAs)

- KBAs identified for Anguilla (UK OT)

<table>
<thead>
<tr>
<th>Network of PAs, IBAs…</th>
<th>Species / Sites outcomes</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="sombrero.png" alt="Image" /></td>
<td><img src="anguilla.png" alt="Image" /></td>
<td><img src="ship.png" alt="Image" /></td>
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KBA Ponds network

<table>
<thead>
<tr>
<th>KBAs</th>
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<tbody>
<tr>
<td>Terrestrial</td>
<td>2</td>
</tr>
<tr>
<td>Marine &amp; terrestrial</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
</tr>
</tbody>
</table>

Caribbean hub
Key biodiversity areas (KBAs)

- KBAs identified in the 6 Dutch OCTs:

  - Aruba
  - Bonaire
  - Curaçao
  - St.Maarten
  - Saba
  - St.Eustatius

<table>
<thead>
<tr>
<th>Type</th>
<th>KBAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrestrial</td>
<td>10</td>
</tr>
<tr>
<td>Terrestrial &amp; coastal, ponds, bays</td>
<td>8</td>
</tr>
<tr>
<td>Marine</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
</tr>
</tbody>
</table>

Caribbean hub
Key biodiversity areas (KBAs)

- KBAs identified in the 4 French overseas entities
  - St. Martin
  - St. Barthélemy
  - Guadeloupe
  - Martinique

FR - 1 OT & 3 ORs
- St. Martin
- St. Barthélemy
- Guadeloupe
- Martinique

Identified KBAs

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
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<tbody>
<tr>
<td>Terrestrial</td>
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</tr>
<tr>
<td>Marine</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
</tr>
</tbody>
</table>

Caribbean hub

BEST
Voluntary Scheme for Biodiversity and Ecosystem Services in Territories of European Overseas

Reserve Naturelle Nationale de Saint-Martin
Key biodiversity areas (KBAs)

- KBAs identified in the 5 UK Overseas Territories (OTs)

- Anguilla
- Virgin Islands
- Turks and Caicos
- Montserrat
- Cayman Islands

UK - 5 OTs
- Anguilla
- Virgin Islands (BVI)
- Turks and Caicos
- Montserrat
- Cayman Islands

<table>
<thead>
<tr>
<th>Type</th>
<th>KBAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrestrial</td>
<td>13</td>
</tr>
<tr>
<td>Marine</td>
<td>3</td>
</tr>
<tr>
<td>Marine &amp; terrestrial</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
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</tbody>
</table>
## Current conservation activities

<table>
<thead>
<tr>
<th>Caribbean EU ORs &amp; OCTs</th>
<th>Protected areas (PAs)</th>
<th>Recognition of natural habitats and wildlife</th>
<th>Some projects in conservation</th>
</tr>
</thead>
</table>
| **5 UK OTs**           | - Network of terrestrial PAs and MPAs, including:  
  - 50 MPAs  
  - 36 terrestrial PAs  
  - 14 fisheries PAs | - 3 Ramsar sites  
  - 41 IBAs | **VI**: Biodiversity profile mapping  
**Anguilla**: seabird populations monitoring  
**Montserrat**: Blue Halo Initiative for sustainable ocean management  
**Cayman Isl.**: RAMSAR sites  
**TCI**: cays considered for UNESCO World Heritage Nomination |
| **6 Dutch OCTs**       | - 11 National PAs, including 5 Marine Parks and Saba Bank National Park (2680 km²) | - 10 Ramsar sites  
  - 23 IBAs  
  - 3 SPAW areas  
  - Saba Bank: Particularly Sensitive Sea Area | **Dutch OCTs**: designation of a shark and marine mammal Sanctuary (YARARI) |
| **3 French ORs & 1 OT** | - 1 National Natural Park  
- 1 Regional Natural Park  
- 6 National Natural Reserves, 1 Regional Natural Reserve  
- Coastal areas protected by CELRL  
- Forest areas protected and managed by ONF  
- AGOA marine mammals Sanctuary over all French Antilles EEZ (143 256 km²) | - 3 Ramsar sites  
  - 25 IBAs  
  - 1 Man and Biosphere reserve (UNESCO)  
  - 155 ZNIEFF  
  - 5 SPAW areas | **Martinique**: sites considered for UNESCO World Heritage Nomination.  
**St.Martin**: transboundary conservation projects  
**St-Barthélemy**: terrestrial fauna and flora mapping  
**Guadeloupe**: manatee reintroduction project (PNG) |
Current conservation activities

• 4 BEST projects funded in the Caribbean region (2011-2012)

Project CARIPES - Quantification of MPAs ecosystem services - Université des Antilles - Centre de recherche sur les pouvoirs locaux de la Caraïbe

Project EcoServPlantain - Quantification of Ecosystem Services in Agroecosystems, case of Plantain banana in Martinique CIRAD (Centre de Coopération internationale en recherche agronomique pour le développement)

Project Conserving Species and Sites of International Importance by the Eradication of Invasive Alien Species in the Caribbean UK OTs - Royal Society for the Protection of Birds - (Anguilla, Cayman Islands, Virgin Islands)

Project MANG - Giving impetus to a collective movement in favour of coastal wetlands preservation in EU OTs Atelier Technique des Espaces Naturels

• Some current conservation projects
# Some current investments in conservation

<table>
<thead>
<tr>
<th>European level</th>
<th>5 UK OTs</th>
<th>6 Dutch OCTs</th>
<th>3 French ORs &amp; 1 OT</th>
</tr>
</thead>
<tbody>
<tr>
<td>• BEST Initiative (ORs &amp; OCTs)</td>
<td>• BEST Initiative (ORs &amp; OCTs)</td>
<td>• BEST Initiative (ORs &amp; OCTs)</td>
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<td>• EDF (OCTs)</td>
<td>• EDF (OCTs)</td>
<td>• EDRF (ORs)</td>
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<td>• LIFE +, LIFE Environment</td>
<td>• EDF (OCTs)</td>
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<td>• INTERREG Caraïbes</td>
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<td>• LIFE +, LIFE Environment</td>
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<td>• INTERREG Caraïbes</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>National &amp; Regional level</th>
<th>5 UK OTs</th>
<th>6 Dutch OCTs</th>
<th>3 French ORs &amp; 1 OT</th>
</tr>
</thead>
<tbody>
<tr>
<td>• DEFRA UK- Darwin Initiative</td>
<td>• DCNA Trust fund (Dutch Gvt, National Lottery, IUCN, WWF)</td>
<td>• Ministère de l'Ecologie, du Développement durable et de l'Energie (DEAL)</td>
<td></td>
</tr>
<tr>
<td>• Flagship Species Fund (Defra, FFI)</td>
<td>• Dutch Parliament (BES islands)</td>
<td>• Ministère de l’Outre-Mer (IFRECOR)</td>
<td></td>
</tr>
<tr>
<td>• Local Governments</td>
<td>• Local Governments</td>
<td>• Conseils Régional et Général, Overseas Collectivities (COM)</td>
<td></td>
</tr>
<tr>
<td>• Royal Society for the Protection of Birds (RSPB)</td>
<td>• Dutch Postcode Lottery</td>
<td>• Agence des Aires Marines Protégées (AAMP)</td>
<td></td>
</tr>
<tr>
<td>• UK Joint Nature Conservation Committee (JNCC)</td>
<td>• Prince Bernhard Culture Fund (Educational programs – NGOs)</td>
<td>• Conservatoire du Littoral et des Espaces Lacustres (CELRL)</td>
<td></td>
</tr>
<tr>
<td>• Association of EU OCTs (OCTA)</td>
<td>• Association of EU OCTs (OCTA)</td>
<td>• Association of EU OCTs (OCTA)</td>
<td></td>
</tr>
<tr>
<td>• Overseas Territories Environment Project (OTEP) – not available anymore</td>
<td>• BirdLife International : Vogelbescherming Nederland</td>
<td>• Caribbean Trust Fund – UNEP-CEP/SPAW Protocol</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Caribbean Trust Fund – UNEP-CEP/SPAW Protocol</td>
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<tr>
<td></td>
<td></td>
<td>• SPAW-RAC</td>
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</tr>
</tbody>
</table>

**Caribbean hub**
Critical areas for action & investment needs

• Conservation and sustainable use of terrestrial and marine environments
  - Promote ecosystem management approach
  - Mitigating urbanization and land reclamation
  - Integrate biodiversity conservation into landscape and development planning
  - Build or strengthen local capacities

• An outstanding biodiversity highly vulnerable to Invasive Alien Species (IAS)

IAS eradication: proven strategy to prevent decline or extinction of native species

BEST project 2011-2012 UK OTs
RSPB / Anguilla – BVI – Cayman Isl.

Dog Island in Anguilla is declared rat-free

Caribbean hub
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Caribbean Hub
Ecosystem Profile
Expert
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Thank you for your attention

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DV Denis Vaslet
FD Frantz Delcroix
FM Fränck Mazéas
GG Géraldo Garcia
HL Hans Leijnse
JC Julien Chalifour
JMG JM Garg
LJ Laurent Juhel
LS Lawrence Scott
MY Mark Yokoyama
RNSM Réserve Naturelle St Martin
RTMG Réseau Tortues Marines Guadeloupe
SW Sam Williams
TB Tadzio Bervoets