

**UK Overseas Territories and Crown Dependencies: 2011 Biodiversity snapshot.**

**Montserrat : Appendices.**

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This section includes a series of appendices that provide additional information relating to that provided in the Montserrat chapter of the publication: UK Overseas Territories and Crown Dependencies: 2011 Biodiversity snapshot.

All information relating to Jersey is available at <http://jncc.defra.gov.uk/page-5751>

The entire publication is available for download at <http://jncc.defra.gov.uk/page-5821>

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## Appendix 1: National Environmental Legislation

Legal Instrument	Objectives	Responsible Agency
Endangered Animals and Plants Act (1982)	To restrict the importation, exportation and re-exportation of certain animals, plants and articles	Dept. of Environment
Montserrat National Trust Act (1970)	For incorporating the Montserrat National Trust in this island with limited liability	Montserrat National Trust
Forestry, Wildlife, National Parks and Protected Areas Act (1996)	For the conservation and proper use of forests, the management of wildlife, and the establishment and management of national parks and protected areas	Dept. of Environment
Beach Protection Act (1980)	To regulate the removal of sand, stones, shingle or gravel from beaches and foreshore and to prohibit the fouling thereof	Ministry of Agriculture
Convention of Migratory Species of Wild Animals Act (1985)	To provide for the implementation of the Convention on the Conservation of Migratory Species of Wild Animals	Dept. of Environment
Turtles Act (1952)	To regulate the hunting of sea or river turtles and the taking of their eggs	Dept. of Agriculture & Royal Montserrat Police Force
Fisheries Act (2000)	For the promotion, management and conservation of fisheries resources	Dept. of Agriculture
Plant Protection Act (1941)	To prohibit or restrict the transportation, cultivation or harvesting of any diseased plant or anything likely to infect any plant with any pest or disease	Dept. of Agriculture
Revised Animals (Trespass and Pound) Act (1999)	To make provisions for impounding and disposing of straying and trespassing livestock and poultry	Dept. of Agriculture & Dept. of Environment
Agricultural Act (1958)	To manage and farm agricultural land so as to prevent erosion and ruination of the soil	Dept. of Agriculture

<b>Legal Instrument</b>	<b>Objectives</b>	<b>Responsible Agency</b>
Wrecks Inquiries Act (1966)	To investigate loss, abandonment, damage or stranding of ships or other casualties on or near the coasts of Montserrat	Governor's Office
Revised Port Authority Act (2003)	To establish a port authority to provide and administer a coordinated and integrated system of port facilities and services	Montserrat Port Authority
Piers and wharves Act (1941)	To designate and delimit any wharf, pier or jetty as a public shipping place	Governor's Office
Registered Land Act (1988)	To provide for a comprehensive system of land registration and other dealings in land based on cadastral survey	Land and Surveys Department
Physical Planning Act (1996)	For the orderly and progressive development of land, the acquisition, preservation and management of historical buildings and sites and for restricting the exports of artefacts	Physical Planning Unit & Montserrat National Trust
Montserrat Land Development Authority (1999)	Establishment of a land development authority to promote efficient and economic utilization of land	Land Development Authority & Ministry of Agriculture
Crown Title Act (2000)	To provide for the vesting of title of all unclaimed land in the Crown	Land & Surveys Dept.
Minerals (Vesting) Act (1966)	To vest all minerals in the Crown	Governor's Office
Disaster Preparedness and Response Act (1999)	For the effective management and control of disaster and related matters	Disaster Management Coordination Agency & Governor's Office
Insurance Act (1995)	To make provisions for regulating the carrying on of insurance business	Financial Services Centre
Cooperative Societies Act (1959)	To promote economic interests in accordance with cooperative principles	Ministry of Finance
Eastern Caribbean Home Mortgage Agreement Act (1996)	To develop a secondary market for residential mortgages and a system of housing finance	Ministry of Finance
Caribbean Development Bank	To accelerate the economic development of member states and to improve the	Ministry of Finance

<b>Legal Instrument</b>	<b>Objectives</b>	<b>Responsible Agency</b>
Act (1970)	standard of living	
Caribbean Environmental Health Institute (1982)	To provide technical and advisory services to member states in all areas of environmental management	Ministry of Health
Caribbean Meteorological Organisation (1979)	The promotion and coordination of regional activities in the field of meteorology and allied sciences	J A Osborne Airport
Public Health Act (1988)	To promote and preserve the health of the inhabitants of Montserrat	Ministry of Health
Pesticides Control Act (1975)	For the control of importation, sale, storage and use of pesticides	Dept. of Agriculture
Underground Water Act (1967)	To provide for the ownership, control and exploitation of underground water	Ministry of Communications and Works
Radioactive Minerals Act (1949)	Authorises exploration and mining	Governor's Office
Burial Grounds Act (1944)	Stipulates conditions for the interment of cadavers	Ministry of Health
Hotels Aid Act (1982)	To provide incentives for the construction or extension of hotels	Ministry of Finance
Water Authority Act (2003)	To establish a water authority, to provide a portable water supply and address the conservation of water resources	Ministry of Communications and Works
Tourist Board Act (1993)	To establish a tourist board to develop the tourism industry and promote its efficiency	Office of the Chief Minister
Montserrat Utilities Limited Act (2007)	To consolidate the operations of the Montserrat Water Authority and Montserrat Electricity Services Ltd	Montserrat Utilities Ltd. & Ministry of Communications and Works

## Appendix 2: Institutional Arrangements

A number of Government agencies and NGOs have responsibility for environmental and coastal management; see Tables below.

### Government

#	Government Ministry	Agency Responsible	Responsibilities
1.	Ministry of Agriculture, Land, Housing and the Environment (MALHE)	Physical Planning Unit (directed by Planning and Development Authority (PDA))	<ul style="list-style-type: none"> <li>▪ Development control islandwide</li> <li>▪ Enforcement of building code &amp; electrical standards</li> </ul>
		PDA	<ul style="list-style-type: none"> <li>▪ Planning and development islandwide</li> </ul>
		Department of Agriculture (Fisheries)	<ul style="list-style-type: none"> <li>▪ Protection/management of coral reefs, seagrasses and mangroves</li> <li>▪ Support to regulate sport fishing, dive establishments &amp; water sports</li> </ul>
		Department of Environment	<ul style="list-style-type: none"> <li>▪ Direction &amp; implementation of environmental policy</li> <li>▪ Biodiversity conservation and research</li> <li>▪ Protected areas (terrestrial &amp; marine) management</li> <li>▪ Multilateral Environmental Agreements</li> <li>▪ Provision of advice on environmental matters</li> <li>▪ Climate change adaptation</li> <li>▪ Provision of support, coordination and facilitation to organisations and agencies across the private, public and civil society sectors</li> <li>▪ Sustainable forestry and watershed management</li> <li>▪ Invasive species management</li> <li>▪ Public education and outreach</li> <li>▪ Collection and management of environmental data</li> </ul>
		MALHE Headquarters	<ul style="list-style-type: none"> <li>▪ Sand mining and mineral extraction</li> </ul>

#	Government Ministry	Agency Responsible	Responsibilities
2.	Ministry of Communications and Works	Public Works Dept (Engineering Section)	<ul style="list-style-type: none"> <li>▪ Regulation/design/construction of civil works</li> </ul>
		Montserrat Utilities Ltd Water Division*	<ul style="list-style-type: none"> <li>▪ Water quality monitoring</li> </ul>
		Port Authority*	<ul style="list-style-type: none"> <li>▪ Establishment of infrastructure in the marine environment</li> <li>▪ Management of port facilities</li> <li>▪ Harbour master and receiver of wrecks</li> </ul>
3.	Ministry of Education, Health & Community Services	Environmental Health Dept.	<ul style="list-style-type: none"> <li>▪ Water quality monitoring</li> <li>▪ Setting of coastal water quality standards</li> <li>▪ Management of solid and liquid waste</li> </ul>
4.	Governor's Office	Royal Montserrat Police Force (Marine Division)	<ul style="list-style-type: none"> <li>▪ Enforcement /marine surveillance</li> <li>▪ Enforcement of environmental and coastal laws and regulations</li> </ul>
		Attorney General's Chambers	<ul style="list-style-type: none"> <li>▪ Legal support</li> </ul>
		Disaster Management Coordination Agency	<ul style="list-style-type: none"> <li>▪ Disaster prevention and management</li> <li>▪ Oil spill management</li> </ul>
5.	Office of the Chief Minister	Montserrat Tourist Board	<ul style="list-style-type: none"> <li>▪ Tourism product development</li> <li>▪ Support to regulate sport fishing, dive establishments &amp; water sports</li> </ul>
6.	Ministry of Economic Development & Trade	Montserrat Development Corporation*	<ul style="list-style-type: none"> <li>▪ Development of the new town centre at Little Bay</li> <li>▪ Financing infrastructure projects and business enterprises</li> </ul>

\* Statutory bodies

Source: Gray 2010

## Non-Governmental Organisations

#	Agency	Responsibility
1.	Montserrat National Trust	<ul style="list-style-type: none"> <li>▪ Conserve and/or rehabilitate the natural and cultural heritage to include historical sites, artefacts, documents, biodiversity and aesthetics</li> <li>▪ Public awareness and outreach</li> <li>▪ Acquisition of property for the benefit of the island</li> <li>▪ Fund-raising in support of programmes</li> <li>▪ Provision of advice</li> </ul>
2.	Montserrat Fishermen's Cooperative	<ul style="list-style-type: none"> <li>▪ Represent concerns of membership</li> <li>▪ Procure equipment for members</li> <li>▪ Oversee fisheries activities of members</li> <li>▪ Access project funding</li> </ul>
3.	Montserrat Farmers Association	<ul style="list-style-type: none"> <li>▪ Represent concerns of farmers</li> <li>▪ Source agricultural inputs for resale at competitive prices</li> <li>▪ Access project funding to address priorities</li> </ul>
4.	Green Monkey Dive Shop	<ul style="list-style-type: none"> <li>▪ Dive operation</li> <li>▪ Coastal and marine conservation</li> </ul>
5.	Scuba Montserrat	<ul style="list-style-type: none"> <li>▪ Dive operation</li> <li>▪ Coastal and marine conservation</li> <li>▪ Caribbean Marine Projects (executant)</li> </ul>

Source: Gray 2010

Appendix 3: Ecosystems and habitats

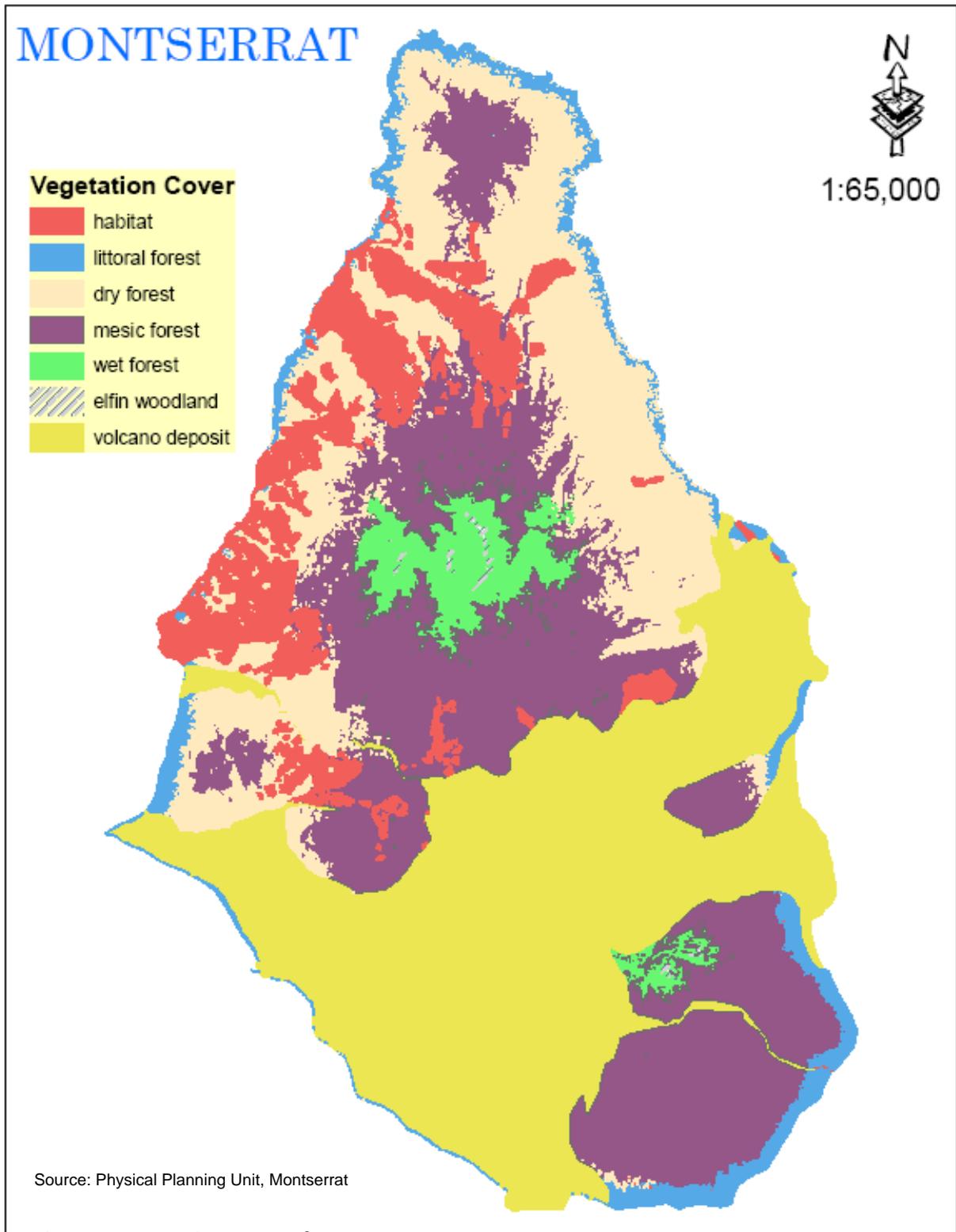


Figure 1: Vegetation Cover of Montserrat

## **Habitats.**

### **Wetlands**

Because of Montserrat's topography and geology, the extent of its wetlands is relatively small. Steep slopes coupled with very narrow to non-existent coastal plains allow precipitation to rush overland into the sea; this situation is exacerbated by the widespread occurrence of the volcanic deposit known as glacia, which precludes deep percolation and supports runoff. Wetlands are being severely impacted by ongoing volcanic eruptions. For example, the total area covered by wetlands is estimated to be about 65 acres (26 ha) approximately 50% of which has been destroyed by volcanic eruptions.

### **Coastline**

The island's steep topography extends to its submarine environments where a relatively narrow coastal shelf drops off rapidly to 100 fathoms (180 m) less than 1 mi (2 km) from shore in the south and about 2 mi (4 km) elsewhere. The result is a high energy, erosion-prone coastline that consists mainly of cliffs, beaches and rocky shores. The weathering of basaltic rock has produced primarily black volcanic beaches along the western coast, except for Rendezvous Bay which is a white sand beach. There are no natural harbours or barrier reefs which normally provide shelter from storm waves and swells (Brosnan *et al.*, n.a.).

There are significant marine resources within the coastal shelf of the island. Some reefs on the west coast are of particular value, forming major dive areas and major fish breeding grounds. According to the National Physical Development Plan (2000), the coastal and marine environment around Montserrat is of exceptional value both as a natural resource and for tourism and recreation development and should be protected.

### **Coral Reefs**

Montserrat's marine habitats consist of small patch and fringing coral reefs scattered around the island, in many cases close to shore, along with pockets of seagrass, sand and sediment on the seabed.

In 1995, 37 true coral species, 3 seagrass species, 37 algal species, and 67 fish species were recorded on the reefs of Montserrat. Of the coral species found, there was a greater abundance of corals with a higher tolerance for sediment smothering and/or reduced light levels. These included branching forms, sea whips and other gorgonians. However, platelike corals with lower tolerance for sediment smothering and reduced light levels were also common.

There are two major sources of impact on the marine resources of Montserrat: sediments and coastal currents. There are three sources of sediment impact: airborne volcanic ash, ash and debris runoff from the land and resuspension of benthic sediments. The range of sediment impacts includes reduction in the number and abundance of coral species, stress (including bleaching), and changes in species dominance (i.e., greater abundance of species with a high tolerance for sediment loading and reduced light). These impacts are most severe on corals in

the southern coastal zone. In heavily sedimented areas in the south, turbidity levels are high, visibility low and the eutrophic zone (area which below which photosynthesis does not occur) is now higher in relation to sea level. In the north, the main sources of sediment are from land runoff and from resuspension and redeposition of benthic sediments.

### **Seagrass Beds**

Seagrasses occur in shallow, sheltered habitats associated with Montserrat's reef ecosystems and are important habitats for marine fish and conch. On Montserrat the presence of turtles is related to the quantity and quality of seagrass beds available, as these form their main feeding habitat. Loss of seagrass beds during the 1995 hurricane season has had a significant effect on the turtle population in the north of the island. Recent increased sightings of turtles may be an indication of the recovery of the seagrass beds.

### **Turtles**

Four species of marine turtles forage and nest on Montserrat namely: Hawksbill (*Eretmochelys imbricata*), Green (*Chelonia mydas mydas*), Leatherback (*Dermochelys coriacea*) and Loggerhead (*Caretta caretta*). All of the island's western beaches are significant nesting sites; however, nesting has occurred on eastern beaches. Predation of nests by dogs and feral pigs has been reported. Heavy deposition of volcanic ash has prevented nesting on some beaches.

### **Mangroves**

Because of its steep topography and relatively unbroken coastline, Montserrat has not been blessed with extensive mangrove assets. Over recent decades, most of the island's mangroves have been lost to overexploitation, poor land use practices and severe siltation from volcanic activity and associated mudflows during severe rainfall events. The remaining mangroves provide services such as coastal or beachfront protection, wildlife habitat and nutrient sinks, and support ecotourism activities.

## Appendix 4: Species<sup>1</sup>

### Key Ecological/Biological Attributes

Despite its small size, the ecological/biological resources of Montserrat are of national, regional and global conservation importance because they support *inter alia*, assemblages of single-island and regional endemic species of fauna and flora, as well as eight globally threatened vertebrate and plant species. These resources also provide environmental goods and services that are important to sustainable livelihoods and quality of life (Gray, 2008).

### Fauna and Flora

#### Fauna

##### Invertebrates

The number of invertebrate species known to exist on Montserrat is 1,241, including an increase in the number of known beetle species from 94 to an incredible 718 species from 63 families. The majority of these invertebrate species are probably only found in the Centre Hills forest of Montserrat. About 120 invertebrate species have been identified as being possibly endemic to Montserrat and these should be afforded the highest invertebrate conservation priorities.

##### Amphibians and Reptiles

There are 3 species of amphibians and 11 species of reptiles reported for Montserrat (Blankenship, 1990; Schwartz & Henderson, 1991; Malhotra & Thorpe, 1999), five of which are thought to be human introductions. The native species include 2 species of frog, 2 species of snake and 5 species of lizard. Six island endemics at the species or sub-species level occur, including a tree lizard (*Anolis lividus*), ground lizard (*Ameiva pluvianotata pluvianotata*), dwarf gecko (*Sphaerodactylus fantasticus ligniservulus*), galliwasp (*Diploglossus montisserrati*), black snake (*Alsophis antillensis manselli*) and blind snake (*Typhlops monastus monastus*). The regionally endemic Mountain Chicken (*Leptodactylus fallax*) and a tree frog (*Eleuthero dactylus johnstonei*) also occur on Montserrat. The final native species is the turnip-tailed gecko (*Thecadactylus rapicauda*) which has a widespread range in Central and South America. The number of species is higher than expected given the small size of the island. Montserrat can therefore be considered to have high herptile species richness (Ricklefs & Lovette, 1999). The Montserrat mountain chicken population was infected by Chytrid fungus in February 2009, as was the Dominica population several years earlier. Many frogs have died. Local and international conservationists are working together to save this animal from extinction. The species thought to be human introductions include Marine toad (*Bufo marinus*), Red-footed tortoise (*Geochelone carbonaria*), Common wood slave (*Hemidactylus mabouia*) Green iguana (*Iguana iguana*) and South American skink (*Mabuya bistrata*).

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<sup>1</sup> Information for this appendix is taken in its entirety from Gray, A.L. G. 2010. *National Climate Change Issues Paper: Towards the Formulation of a National Climate Change (Adaptation) Policy and Action Plan*. Department of Environment, Ministry of Agriculture, Land, Housing and the Environment

## Birds

There are 102 species of birds recorded for Montserrat including 34 breeding species, 90 regular migrants and 11 restricted range species. Among these are 3 globally threatened species: the Montserrat Oriole (*Icterus oberi*), the Forest Thrush (*Cichlherminia lherminieri*) and the Bridled Quail Dove (*Geotrygon mystacea*). The Montserrat Oriole is critically endangered; it is the National Bird, an icon for environmental education and the only single island endemic bird found on Montserrat. Both the Forest Thrush and the Bridled Quail Dove have been classified as vulnerable.

## Bats

There are 10 species of bats known on Montserrat (Table 1). Recent captures of single lactating females of the two most endangered bats, Yellow-shouldered bat (*Sturnira thomasi vulcanensis*) and White-lined bat (*Chiroderma improvisum*), which had been feared extinct are encouraging.

**Table 1: Checklist of the bats of Montserrat**

No.	Scientific Name	Common Name	Diet
1.	<i>Ardops nichollsi montserratensis</i>	Tree bat	Frugivore
2.	<i>Artibeus jamaicensis</i>	Jamaican fruit bat	Frugivore
3.	<i>Brachyphylla cavernarum</i>	Lesser Antillean fruit bat	Nectivore
4.	<i>Chiroderma improvisum*</i>	White-lined bat	Frugivore
5.	<i>Molossus molossus</i>	Velvety free-tailed bat	Insectivore
6.	<i>Monophyllus plethodon</i>	Long-tongued bat	Nectivore
7.	<i>Natalus stramineus</i>	Funnel-eared bat	Insectivore
8.	<i>Noctilio leporinus</i>	Bulldog bat	Carnivore
9.	<i>Sturnira thomasi vulcanensis*</i>	Yellow-shouldered bat	Frugivore
10.	<i>Tadarida brasiliensis</i>	Brazilian free-tailed bat	Insectivore

\* Endangered

## Flora

Montserrat lost approximately 45% of its forest to volcanic activity. Presently the area of forest is 13,965 ac (5,656 ha) broken down as follows: wet forest 1,084 ac (439 ha), mesic forest 7,474

ac (3,027 ha), littoral forest 1,195 ac (484 ha), dry forest 4,187 ac (1,696 ha) and elfin woodland 23 ac (9.3 ha). The distribution of forest types is shown in Figure 3.

Eleven distinct vegetation types have been described for Montserrat, namely: mangrove, littoral woodland, thorny woodland, deciduous seasonal forest, semi-evergreen seasonal forest, tree fern break, fumaroles vegetation, rain forest, palm break, lower montane rain forest and cloud forest or elfin woodland (Gray, 1996).

The Montserrat plant checklist records 795 known native species; of these, 78 are of restricted-range and therefore represent the highest priority plant species for conservation action (Young, 2008). Three endemic plants have been listed for Montserrat. Two of these plants, Pribby (*Rondeletia buxifolia*) and the Montserrat Orchid (*Epidendrum montserratense*) have extremely restricted distributions, the vast majority of which are not protected. The third endemic plant, *Xylosma serratum*, has not been found recently and is believed to be extinct.

## Appendix 5 : Invasive species

Invasive Species	Rank
Rats ( <i>Rattus rattus</i> , <i>Rattus norvegicus</i> and <i>Mus musculus</i> )	1
Chytrid fungus ( <i>Batrachochytrium dendrobatidis</i> )	1
Feral pigs	2
Other feral livestock (cattle, goat, sheep, donkey and chicken)	3
Agricultural pests (e.g. pink mealy bug, tropical bont tick and mole cricket)	3
Purple Allamanda ( <i>Cryptostegia madagascariensis</i> )	4
Mimosa sp	4
Cats ( <i>Felis catus</i> )	5

Note - The rank is a reflection of the severity of the impact of the species on biodiversity: 1 being most severe and 5 being least.

**Appendix 6: Projects Undertaken by the DOE for the past 4 Years**

Project date	Project name	Funded by	Main Outputs
2007-08	Montserrat Environmental Education Project	OTEP	<ol style="list-style-type: none"> <li>1. Radio and TV messages, jingle and theme song</li> <li>2. Multimedia DVDs on topics such as local turtles, bats and birds</li> <li>3. How-to booklets with guidelines on planning regulations, erosion control, and environmental impact appraisals</li> <li>4. Brochures on composting, recycling and proper waste disposal</li> <li>5. Teacher packages for schools on local species, global warming, alternative energy, and Multilateral Environmental Agreements</li> <li>6. A Montserrat Green Map project for schoolchildren</li> <li>7. A new website with environmental information</li> <li>8. Publicity materials such as T-shirts, hats, pens, etc.</li> </ol>
2007-09	Strengthening capacity for Species Action Planning in Montserrat	OTEP	<ol style="list-style-type: none"> <li>1. Capacity in Montserrat is strengthened for Species Action Planning:               <ol style="list-style-type: none"> <li>i. A minimum of 3 Montserratians trained in skills needed for Species Action Planning</li> <li>ii. Five Species Action Plans published and adopted by national Government as a formal tool for biodiversity conservation</li> <li>iii. Five Species Interest Groups of relevant stakeholders, led by an on-island Chair established to</li> </ol> </li> </ol>

Project date	Project name	Funded by	Main Outputs
			<p>implement the SAPs</p> <p>iv. Funding proposals for implementation of actions identified in Plans produced</p> <p>2. A customised user-friendly database, linked to a GIS, established in MALHE to manage and interpret scientific data on the status and ecology of five key species, and other biodiversity data</p> <p>3. Urgent conservation actions implemented to start the recovery of the most endangered species, including <i>ex situ</i> conservation of 2 endemic plants and advocacy for changes in legislation and land-use planning to protect key species and sites.</p>
2008-09	Enhancing CITES implementation in Montserrat	OTEP	<p>1. A report (internal to Montserrat government) providing a critical and expert review of CITES implementation in Montserrat with identification of strengths and weaknesses, areas where support is needed and practical measures to address any deficiencies.</p> <p>2. An assessment of current CITES trade to and from Montserrat, including any trade probably going unreported and unregulated, and a risk assessment of those species most likely to be in trade which should be the focus of attention by the authorities.</p> <p>3. An action plan, developed at a stakeholder workshop, to identify practical measures necessary and/or desirable to enhance</p>

Project date	Project name	Funded by	Main Outputs
			<p>Montserrat's implementation of CITES.</p> <ol style="list-style-type: none"> <li>4. Basic CITES training provided at workshop provided to 30 participants derived from all key government agencies: Customs and Excise Department, Legal Department, Department of Agriculture, Port Authority and Department of Environment; as well as the Montserrat National Trust.</li> <li>5. Revised CITES legislation for Montserrat (by the deadline set by CITES Standing Committee) which will meet category 1 of the CITES legislation project and so contribute to the UK's implementation of the Convention (and avoid any potential sanctions).</li> <li>6. A follow up assessment (&gt;6 months) of the implementation of the action plan and post-project support from UK CITES authorities.</li> </ol>
2008-09	Enabling Montserrat to implement the Conservation and Environmental Management Act (CEMA)	OTEP	<ol style="list-style-type: none"> <li>1. Revised draft CEMA</li> <li>2. Regulations are developed to: <ol style="list-style-type: none"> <li>i. Review and revise the NEMS</li> <li>ii. Assist with the effective management of the Environment Fund</li> <li>iii. Set fines</li> <li>iv. Control hunting of wildlife</li> <li>v. Manage protected areas</li> <li>vi. Create tree preservation orders</li> <li>vii. Establish co-management</li> </ol> </li> </ol>

Project date	Project name	Funded by	Main Outputs
			<p>arrangements between Government of Montserrat and landowners or users of resources</p> <ul style="list-style-type: none"> <li>viii. Establish interdepartmental agreements</li> <li>ix. Determine pollution standards</li> <li>x. Replace the existing Turtles Act</li> <li>xi. Prepare research protocols</li> </ul> <p>3. Awareness is raised amongst the general public so they adhere to the regulations.</p> <p>4. Law enforcement officers are trained to ensure compliance with the law.</p>
2009	<i>Leptodactylus fallax</i> in Montserrat as a model to investigate the possibility of <i>in situ</i> treatment for chytridiomycosis as a tool for amphibian conservation	Durrell Wildlife Conservation Trust, Zoological Society of London	<ul style="list-style-type: none"> <li>1. Provision of data on the feasibility and methodology of <i>in situ</i> treatment as an amphibian conservation tool in the face of chytridiomycosis</li> <li>2. Authorities encouraged to engage with amphibian species conservation and to address conservation problems</li> <li>3. Dissemination of information</li> </ul>
2009-11	Reducing the impact of feral livestock in and around the Centre Hills	Darwin Initiative	<ul style="list-style-type: none"> <li>1. Knowledge of existing feral livestock in and around the Centre Hills boundary is increased</li> <li>2. Technical expertise is enhanced and new skills developed in the monitoring and control of feral livestock</li> <li>3. Options to control feral livestock in and around the Centre Hills are</li> </ul>

Project date	Project name	Funded by	Main Outputs
			<p>assessed</p> <ol style="list-style-type: none"> <li>4. Actions to control feral livestock in and around the Centre Hills are improved</li> <li>5. Policies on livestock management are strengthened</li> <li>6. Awareness is raised on Montserrat and in the Caribbean about the impacts of feral livestock on biodiversity and livelihoods</li> </ol>
2010	Revising the Montserrat Oriole Species Action Plan	RSPB	<ol style="list-style-type: none"> <li>1. Revised Species Action Plan for 2010 – 2014</li> <li>2. Survey of the Montserrat Oriole</li> </ol>
2010-11	Integrated Management of the Invasive Red Fire Ants ( <i>Solenopsis invicta</i> )	JNCC & DEFRA	<ol style="list-style-type: none"> <li>1. A project management strategy</li> <li>2. An assessment of the scale and distribution of infestation</li> <li>3. A long-term management strategy and action plan</li> <li>4. Reduced incidence of Red Fire Ants</li> <li>5. A Communication Strategy to raise public awareness</li> </ol>
2010-13	Enabling Montserrat to save the Critically Endangered mountain chicken	Darwin Initiative	<ol style="list-style-type: none"> <li>1. The evidence base for the restoration of the mountain chicken and mitigation of the impacts of chytrid is established.</li> <li>2. Trial re-introduction of mountain chickens into Montserrat completed.</li> <li>3. Long term restoration strategy for the mountain chicken established and agreed with regional partners.</li> <li>4. The restoration of the mountain chicken is a source of national pride</li> </ol>

Project date	Project name	Funded by	Main Outputs
			and benefits from long-term collaboration between national, regional and international partners.
2011-13	Conserving the Centre Hills in Montserrat through effective control of feral livestock populations	OTEP	<ol style="list-style-type: none"> <li>1. The populations of feral livestock are reduced to a level where they do not have a significant negative impact on the values of the Centre Hills</li> <li>2. Loose (farmed) livestock do not significantly contribute to feral animal populations</li> <li>3. The national capacity to effectively implement a feral animal management programme is increased</li> <li>4. The feral animal management programme becomes a best practice model for the UKOTs and the Caribbean region</li> </ol>

## **Appendix 7: Bibliography**

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