Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

1. Name and address of the compiler of this form:

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DD MM YY

Designation date | Site Reference Number

2. Date this sheet was completed/updated:
11 November 2004

3. Country:
UK (St Helena)

4. Name of the Ramsar site:
St Helena Central Peaks

5. Map of site included:

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps.

a) hard copy (required for inclusion of site in the Ramsar List): *yes* ✓ -or- *no* ☐

b) digital (electronic) format (optional): Yes

6. Geographical coordinates (latitude/longitude)**:**
15°58'S 05°42'W

7. General location:

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

St Helena lies in the South Atlantic Ocean, east of the mid-Atlantic Ridge, 1,913 km west of Angola and 3,284 km east to southeast of Brazil. The nearest islands are Ascension, 1,296 km northwest, the Martin Vas Rocks, about 2,410 km west-southwest, and Tristan da Cunha, 2,435 km southwest.

The site includes the central peak area, including High Peak, Diana's Peak and intervening & surrounding areas.

Administrative region: St Helena

8. Elevation (average and/or max. & min.) (metres)**:**
Min. ?
Max. 823m
Mean No information available

9. Area (hectares)**:** [island is 12170]

10. Overview:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The upland central ridge of St Helena (broadly defined as the area lying above the 600 m contour to 820m) is frequently shrouded in mist and receives the highest amounts of rainfall than elsewhere on the island. This zone – containing fragments of the original cloud forest – is extraordinarily rich biologically and desperately endangered. Pasture, New Zealand flax and forestry plantation extend up the slope in many places, eliminating the native vegetation, but small areas of the endemics have survived. Successful attempts are in progress to re-establish endemic vegetation.

The central ridge is a vital watercatchment for the Island; almost all of the water supplies for the Island are taken from the streams, or guts and high-level springs that have their sources within the upland area.

11. Ramsar Criteria:

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

1, 2, 3

12. Justification for the application of each Criterion listed in 11. above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

1 The Central Ridge of St Helena is a cloud forest ecosystem originally consisting of numerous endemic genera and species, in some cases related to an ancient African flora long since displaced in Africa itself. The St Helena cloud forest has been severely damaged by grazing by invasive animals and replacement by invasive plants (including wet grassland). Nevertheless important remnants remain and re-establishment activities are proving successful.

2 The native flora consists of about 80 species, 50 of which are endemic (37 species of flowering plants including ten endemic genera and thirteen species of fern). (Ashmole, P & M, 2000; Cronk, 2000). Of the endemic plant species known to have existed, six are now extinct with possibly one other, 2 are extinct in the wild, 8 are classified as critically endangered (CR), a further 9 are endangered (EN), 12 are vulnerable (VU) and 6 are rare. The historical and or current range of occurrence of all but one of the thirteen species of endemic fern and thirteen species of endemic flowering plants, representing 8 endemic genera are restricted to the central Peaks. Of the thirteen flowering plants 1 is extinct in the wild, 4 are critically endangered, 6 are endangered and two are vulnerable.

3 The total number of terrestrial faunal species on the Island is about 1130; of these there are about 420 species endemic to St Helena. These have evolved in isolation on St Helena and because they are so distinctive they include representatives of between 84-89 endemic genera. Of the 420 species, seven are birds, although only one species of land bird *Charadrius sanctae-helenae*, survives today, the remaining species are invertebrates: 13-18 Hymenoptera, 20 Gastropoda, 5 Pseudoscorpions, 45-46 Araneae, 2 Neuroptera, 1 Thysanura, 2 Thysanoptera, 5 Psocoptera, one Nematoda?, three Turbellaria, , 42 Acari, 6-10 Crustacea, 2-3 Chilopoda, 5-6 Orthoptera, 1 Dermaptera, 20-21 Heteroptera, 18-19 Homoptera, c. 148 Coleoptera, 2 Neuroptera, 51-53 Lepidoptera, 16 Diptera and 1 Odonata. Many species may be facing extinction. The best known are the giant earwig *Labidura herculeana* and giant ground beetle *Aplothorax burchelli*, last seen in the northeast in the mid-1960s. A variety of endemic marine invertebrates requires intensive further study. An endemic shore crab, *Platypodiella georgei*, was discovered only in 1983.

St Helena has a rich and complex weevil fauna with a total of 77 endemic species, grouped in 17 endemic genera and one genus represented in South Africa, which represent the most remarkable

adaptation that has occurred during the evolution of the fauna on St Helena. All the weevils are eaters of dead or decaying wood and many are closely linked to particular endemic species. About 62 species from thirteen of the eighteen genera of weevils found on St Helena have been found on the endemic plants of the central Peaks. It is not known how many still survive today. The survival of fragments of the native cloud forest vegetation compared to the almost complete destruction of all other historical vegetation zones: saline semi-desert, Scrubwood scrub, Ebony/Gumwood thicket, dry Gumwood woodland, moist Gumwood woodland and Cabbage tree woodland which now equate to the current vegetation zones: eroded desert, creeper waste, Lantana scrub, Opuntia scrub, Chrysanthemoides Diospyrus scub, intermediate pasture and upland pastures, could mean many may still be found when an intensive study of the invertebrates of the central Peaks goes ahead in 2005.

Almost all of the 20 species of Gastropoda are considered to be extinct. The only successful survivor *Succinea sanctea-helenae* is the most conspicuous member of the Peaks fauna which has probably benefited from the extinction of some of its endemic competitors. In the drier areas of the Island where it also survives, although populations are very different in shell shape, size, colour and aperture size, it has presumably suffered from reduction in vegetation. It is possible that the 3 other species of snail, 2 of which form part of the endemic genus *Chilonopsis*, recorded from the Peaks which have not been seen for many years will be found when a serious search for surviving groups of these species will be undertaken in 2005 as part of an invertebrate survey of the Peaks.

High Peak, 798m, and also the nearby Peaks of Mt Vesey, the Depot and nr Coles Rock on the western end of the Central Ridge are desperately endangered and isolated from the main fragments of native forest within the Diana's Peak National Park by pasture, forestry and former flax plantation. Despite their small size they remain rich in biodiversity but alien invaders, including flax are eliminating what remains of these unique ecosystems. The tiny fragment of forest at High Peak supports a surprising number of endemic invertebrates species, including 3 species of woodlice and a Linyphiidae spider, that have never been recorded from anywhere else on the Island and at least a further 15 endemic species (representing 12 distinct genera) that have been recorded at High Peak and either on the central ridges or in one other site elsewhere but of which little further is known.

Until further study is carried out we do not know how many species described from the central ridge in the past still survive today nor is there any way of knowing how many more species have still to be described.

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13. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

South Atlantic Islands

b) biogeographic regionalisation scheme (include reference citation):

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14. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	More or less rectangular in plan, the island is an extinct composite volcano system, largely made up of basalt and associated extrusive rocks. It was formed 14.5 to 7.5 million years ago by the coalescence of two broad shield volcanoes, with centres of activity in the northeast in the Flagstaff Hill – Knotty Ridge area and in the Sandy Bay area to the southwest. A third and more recent minor centre is located in the east. Several streams or steep sided, usually dry,valleys called 'guts' drain the central ridge. A large quantitiy of the water is now taken for domestic use and so flow in many of these guts is reduced. Soil formation in St Helena is principally influenced by parent rock (cation supply), rainfall (leaching, biological activitiy) and slope (erosion and drainage). Nitrogen is the major plant nutrient often most limiting. Rainfall is the most important influence. Following the FAO system Brown (1981) identified two soil types of the central uplands: 1) deep humus deposits over leached mineral soils on the central ridge (Dystric Histosol) 2) brown earth of the uplands (cambisols, humic, eutric and dystric phases). High rainfall and high relief of the central ridge leads to strong leaching and so to the development of extremely acid peaty soils. A thick mor humus builds up under established tree ferns upon which neither the tree ferns nor the other species can regenerate. Ephyphitic growth of cabbage tree seedlings along the trunks of the tree fern plays an important role in natural regeneration. When the established seedlings cause the tree fern trunk to fall they can put own roots through the mor humus. Once individuals of Black Cabbage, Dogwood and Whitewood are established a mull humus begins to form. In this the leaves are decomposed mainly by animals and the crumbly residue becomes mixed with the mineral soil, with no clear boundary. This is the medium into which seedlings and sporelings can develop. This situation leads to a highly dynamic and patchy community in which both soil type and vegetation are continually changing.
Geomorphology and landscape	Now geologically extinct (6.8 million years ago), the island rises from a depth of 4,224 m to 823 m above sea level at Diana's Peak. Mount Actaeon at 818 m is the second highest point. The topography is dominated by a high central ridge, occupying the major axis. Radiating out from the ridge, gorge-like valleys or 'guts', many deep and precipitous, are incised to depths of up to 300 m, providing a dramatic landscape. These valleys commonly drop 700 m in 3 – 4 km. They are narrow, steep-sided and generally drained by intermittent streams in ephemeral channels that meander across poorly-developed flood plains. There are five perennial streams -– James, Lemon, Sharks, Fisher's and Sandy Bay Valleys. Natural standing water is rare, due to porosity of the rocks, pyroclastic deposits, and high rates of evapotranspiration. The coast is dominated by imposing sea cliffs. These range from 80 m to 570 m in height, but most are 300 m or more.
Nutrient status	Deep mor humus over leached mineral soils
pH	Acid peaty soils of the tree fern thicket

Salinity	Below 400 m water flowing to the sea is usually brackish
Soil	described above
Water permanence	described above
Summary of main climatic features	The climate is controlled by the South Atlantic High Pressure Cell and the Equatorial Trough. Although St Helena lies north of the Tropic of Capricorn, the climate is subtropical, with temperatures influenced by the southeast trade winds and ocean currents from the Antarctic. At Jamestown, the average maximum and minimum temperature in summer (March, warmest) is 29.2ºC and 24.5ºC respectively, and the corresponding winter temperatures (September, coolest) are 23.8ºC and 19.6ºC. Inland temperatures are 7 – 8ºC cooler than at the coast, with an average drop of about 1.3ºC per 100 m rise in elevation. Rainfall is caused principally by orographic disturbance of the flow of the trade winds, but is also influenced by frontal activity in high southern latitudes. In the 1980s total annual rainfall in Jamestown averaged 209 mm and in the central hills ranged between 477 mm (in 1984) and 1,130 mm (1982), with over 900 mm in the vicinity of the peaks. Dominated by the southeast trades (blowing 70 – 80% of days in all months), wind direction is uniform, almost entirely within the 90 – 150º range. The winds are usually strong, Force 4-5. Gales and calms are virtually absent. Orographic cloud cover at higher altitudes averages over 80% (Hutt's Gate), and at Jamestown 46 – 74%. Relative humidity is typically 75 – 85%, but below 600 m (900 mm isohyet) evapotranspiration generally exceeds rainfall. In the surrounding seas, surface waters cool to 19.5 – 21.5ºC by the end of winter (September-October) and warm to 24.5 – 25.0ºC by the end of summer (March). The 23ºC isotherm lies south of St Helena only during part of the summer, December-May. The arrival of the warm water brings flying fish to the inshore waters. One, *Exocoetus volitans*, is a principal prey of *Sula* spp., *Fregata aquila* and *Sterna fuscata*.

15. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

St Helena is an isolated mountainous island covering 121.7 km². It lies in the South Atlantic Ocean, east of the mid-Atlantic Ridge, 1,913 km west of Angola and 3,284 km east to southeast of Brazil. The nearest islands are Ascension, 1,296 km northwest, the Martin Vas Rocks, about 2,410 km west-southwest, and Tristan da Cunha, 2,435 km southwest. Its longest axis, from South West Point to Barn Long Point in the northeast, is 17.7 km, and its maximum width is 10.4 km. Only four plains extend for any distance.

More or less rectangular in plan, the island is an extinct composite volcano system, largely made up of basalt and associated extrusive rocks. It was formed 14.5 to 7.5 million years ago by the coalescence of two broad shield volcanoes, with centres of activity in the northeast in the Flagstaff Hill – Knotty Ridge area and in the Sandy Bay area to the southwest. A third and more recent minor centre is located in the east. Now geologically extinct (6.8 million years ago), the island rises from a depth of 4,224 m to 823 m above sea level at Diana's Peak. Mount Actaeon at 818 m is the second highest point. The topography is dominated by a high central ridge, occupying the major axis. Radiating out from the ridge, gorge-like valleys or 'guts', many deep and precipitous, are incised to depths of up to 300 m, providing a dramatic landscape. These valleys commonly drop 700 m in 3 – 4 km. They are narrow, steep-sided and generally drained by intermittent streams in ephemeral channels that meander across poorly-developed flood plains.

There are five perennial streams –-James, Lemon, Sharks, Fisher's and Sandy Bay Valleys.

There are three vegetation zones. Below 350 m, *c*.25% of the area, the landscape is arid with large scale erosion, dominated by *Suaeda*, *Lantana* and *Carpobrotus*. This gives way, up to 500 m, to pasture and non-indigenous woodland dominated by *Pennisetum*, *Cynodon* and *Digitaria*, with *Acacia* and *Pinus*. Above 500 m lies 'moist' and 'semi-moist' grassland, woodland (dominants include *Agrostis*, *Pennisetum* and *Stenotaphrum*, with *Podocarpus*, *Acacia* and *Pinus*), and flax *Phormium tenax* plantations.

Diana's Peak National Park, which includes the three tallest Peaks Cuckhold's Point, Diana's Peak and Mount Actaeon, was established on the 14th March 1996 to protect the largest remaining fragments of endemic cloud forest ecosystem on the eastern end of the Island's central ridge. At High Peak on the western part of the ridge is another much smaller remnant.

The action that has been taken by the Agriculture and Natural Resources Department to reduce the threat of alien weeds within the Diana's Peak National Park since 1995 is exemplary. Continuity of weed control has been maintained, together with replanting programmes and the results are clear to see, the flora and fauna now has a chance of survival.

16. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

The central ridge is a vital water-catchment for the Island, almost all of the water supplies for the Island are taken from the streams, or guts and high-level springs that have their sources within the upland area.

The endemic vegetation of upland St Helena has developed in a climate where mists have been a regular occurrence, they have evolved to become well adapted to intercepting water from mists as well as rainfall. Their value in terms of ground water recharge was demonstrated in the St Helena catchment management study (Gunston & Rosier, 2002) which showed that the water content of soil profiles are less depleted under tree fern thicket, controlled natural regeneration or planted endemics than under other vegetation types, including flax.

17. Wetland types

Code	Name	% Area
Xf	Freshwater, tree-dominated wetlands	
4	Seaonally flooded agricultural land	

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

The majority of the original vegetation has been almost entirely destroyed, with over 60% of the island now made up of eroded, degraded land. Semi-natural forest covers less than 1% and is found in isolated patches on the central ridge and on steep, inaccessible cliffs at lower altitudes. These remnants are of immense biological value, as they harbour the relict fragments of the island's endemic biota.

Eight recognized plant communities are here simplified into four altitudinal – climatic zones. From sea level to 350 m is an arid zone (annual rainfall 200 – 500 mm), known as the 'Crown Wastes', that covers 25% of the surface. There is large scale erosion. On the eastern (windward) side is a semi-desert, where the dominant shrub is *Suaeda helenae* and large tracts of 'creeper' *Carpobrotus edulis* occur In the west is a scrub in which *Lantana camara* or *Opuntia vulgare* dominates. Between 350 m and 500 m (annual rainfall 400 – 600 mm), there is pastureland and non-indigenous woodland. The main pasture grasses are *Pennisetum clandestinum*, *Cynodon dactylon* and *Digitaria ciliaris*. The woods are predominantly of

Acacia longifolia, *A. melanoxylon* and *Pinus pinaster*. On the steeper slopes above 500 m (annual rainfall 600 – 1,000 mm), 'moist' and 'semi-moist' grassland types are recognized. The former, where the rainfall exceeds 900 mm, is dominated by *Agrostis tenuis* and *Pennisetum clandestinium*, while in the latter *Stenotaphrum secundatum* is co-dominant with *P. clandestinium*. This zone includes higher altitude plantations, where *Podocarpus elongata* is a major tree species; other important trees are *Acacia melanoxylon* and *Pinus pinaster*. Between the central ridge and cliffs, the intervening downland pastures are interspersed with remnant tracts of flax *Phormium tenax* and mixed species woodland. In the upper zone (where the Ramsar site is essentially situated), around Diana's Peak and on the east side of High Peak (annual rainfall 1,200 mm), several endemic trees occur, the dominants being *Dicksonia arborescens* and *Melanodendron integrifolium*. During the 20th century and since, this zone has been heavily invaded by *Phormium tenax*.

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19. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in **12**. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

The native plant communities which have evolved on the highest part of the central ridge have survived more intact than any at lower altitudes, largely due to the poor soils and slopes that were too steep for agricultural development. However almost all of the endemic species are endangered because of the relentless invasion of this relict habitat by New Zealand flax and other introduced plants.

The flora of the central ridge and their attendant invertebrates, unique to St Helena are part of a heritage not just for St Helenians but for all humans for we shall all be the poorer if they cannot be saved. The establishment of a protected area plan for the central peaks together with recovery plants for the critically endangered plant species and intensive invertebrate and lower plants studies planned for 2005 will provide a strong basis upon which recovery and conservation will take place.

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20. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in **12**. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

On the Island as a whole:

There are no indigenous or endemic terrestrial mammals, reptiles, amphibians or freshwater fish. The one introduced amphibian is the grass frog *Rana grayi*, brought in sometime in the late 19th Century. Besides tortoises (*Dipsochelys elephantina*, *Asterochelys radiata*, *Chersina angulata*, *Geochelone pardalis babcocki* and *Kinixys belliana*) brought in between 1776 and 1988, the one alien terrestrial reptile is an Asian gecko, *Hemidactylus frenatus*. Other than livestock, the introduced mammals include cats *Felis catus*, rats *Rattus rattus* and *R. norvegicus*, mice *Mus musculus* and rabbits *Oryctolagus cuniculus*.

The avifauna of St Helena includes eight species of resident breeding seabird (two of which are known as breeders only from the late 1980s, and are possibly recolonisations) and two other naturally occurring species, the endemic *Charadrius sanctaehelenae* and *Gallinula chloropus*, which reached the island, of its own accord, after the arrival of man. In addtion, at least 41 species have been recorded as vagrants, summer visitors and passage migrants, some probably ship-assisted. The southeast trade winds create favourable conditions for a crossing from southern Africa, which would explain the occurrence on St Helena of non-breeding Afrotropical landbirds.

There are also a number of non-native species, introduced mainly as sources of food, but later were used in agriculture, to control insect pests, and for ornamental purposes. Of these, only the following nine

survive as residents*: Alectoris chukar* (introduced *c*.1531), *Phasianus colchicus* (introduced *c*.1531), *Columba livia* (introduced before 1578), *Geopelia striata* (introduced before 1775), *Acridotheres tristis* (introduced *c*.1815 and again in 1885), *Foudia madagascariensis* (introduced by 1776, possibly in 1765), *Padda oryzivora* (introduced before 1775), *Estrilda astrild* (introduced probably in the 1770s, certainly by 1813) and *Serinus flaviventris* (introduced probably in 1776).

In addition, the fossil record is well represented. This includes evidence of at least four endemic landbirds (two flightless rails, a cuckoo and a hoopoe), and two endemic seabirds (petrels), which were probably present when the island was discovered in 1502, after which they quickly succumbed to the effects of predation by man and his commensal animals and deforestation. Three other species are found only in Pleistocene deposits.

Of the central peaks:

A great many endemic invertebrates inhabit the highest parts of the central ridge. These include the Blushing Snail (*Succinea sanctae-helenae*), the Spiky Yellow Woodlouse (*Pseudolaureola atlantica*) and the Golden Sail Spider (*Argyrodes mellissi*). These are generalists, typical of the humid habitat of the central ridge but not tied to particular plants. There are also a great many more less well known species many of which have evolved in parallel with particular plant species or groups of related species on which they feed, so that each of the endemc plants has a set of herbirvous endemic inseceds associated with it. In some cases, the plants also have associated insect pollinators which depend on them. Exinction of a plant species may therefore cause the extinction or serious threat to the survival of a numbers of endemic insects.

21. Social and cultural values:

e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

St Helena is only accessible by sea, the regular ship being the RMS *St Helena*, currently operating between Ascension, St Helena, Namibia and Cape Town.. St Helena has about 97 km of narrow winding roads, most covered with a bitumen surface, many with steep gradients and hairpin bends. A public transport system has been newly introduced. There are taxis but private motor vehicles remains the most popular mode of transport.

In February 1987 the human population was 5,644, including 85 expatriates, of whom 24% (1,332) lived in the capital, Jamestown, the other main centres population being Longwood (1,243), and Half Tree Hollow (1,085) near Jamestown. The remainder is settled mainly in areas receiving rainfall adequate for agriculture, a large proportion living in scattered cottages and smallholdings. In 2004 the population is less than 4,000 which is a reflection of the economic decline of the Island. Skilled individuals (especially the young) are having to leave the Island in pursuit of higher wages offshore. In order to secure a prosperous future in the long-term, St. Helena needs to make the most of the resources and opportunities it has. This includes inward investment arising from tourism and commerce.

Built-up areas account for less than 2% of the land surface. The island, lacking in substantial manufacturing industries, now relies on British development aid. The local economy is centred mainly on agriculture and fishing. The largest income is received from fishing licences sold to foreign fleets. Cottage industry products, which include lace, decorative woodwork and beadwork are exported. Philately is a major income and information generator.

22. Land tenure/ownership:

Ownership category	On-site	Off-site

Government owned and managed	+	+
Government owned and leased to the private sector	+	+
Solomon & Co St Helena Plc (majority Government-owned)	+	+
Privately owned	+	+

23. Current land (including water) use:

Activity	On-site	Off-site	Scale
Water catchment	+	+	large
Nature conservation	+	+	Large
Forestry	+	+	large
Redundant Flax Plantation	+	+	large
Recreation (picnic areas, footpaths, beauty spots)	+	+	small
Housing & Gardens		+	
Pasture	+	+	
Roads		+	

24. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

Activity	On-site	Off-site	Scale

25. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Diana's Peak and other nature reserves designated The High Peak – Peak Dale Forest Reserve (in the south, 6.4 ha), proclaimed in 1995, includes not only the native tree fern thicket, but also the largest remaining population of Gumwoods.		
These and other areas proposed for listing under new legislation		
New management Plan for area being developed with funding assistance from FCO/DFID. The project will result in the formulation of a protected area plan for the central Peaks. The protected area plan will considerably increase the area of land under protection. Currently parts of the area are managed by the Agriculture and Natural Resources Department as Diana's Peak National Park and The High Peak-Peak Dale Forest Reserve. These areas are separated by New Zealand Flax Plantation, forestry and pasture land, and inbetween remnants of the endemic vegetation survive on cliff ledges or wherever they can find space. Diana's Peak National There is no buffer zone between the endemic vegetation of the cloud forest and other land uses and along most of the boundary there is an immediate and abrupt change. The management of land has a significant impact on the National Park but there has until now been no interaction in terms of management practises between land-owners. The project will seek to address this and has already brought the major land-owners and stakeholders together to form the project working group. The boundaries for the proposed central peaks protected area are the same as that proposed for the Ramsar site.		

26. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

Currently there are only designated Protected Areas within the existing Strategic Land Use Planning Document for the Island. Protected Areas Legislation has been enacted although further public consultation is needed before the Regulations will be brought into force. To date no Protected Area has a management plan.

The Island is currently in the process of producing a new Strategic Land Use Plan to be called the Land Development Control Plan (LDCP). The first draft has been received and public consultation is planned to take place in November 2004. Currently part of the area proposed as the Ramsar site are protected as Diana's Peak National Park and the Sandy Bay National Park (proposed). However further protection will be afforded to the whole area proposed for the Ramsar site as it lies within the land area proposed to be set aside as the 'Green heartland' where development will be strongly discouraged to preserve its attraction.

In addition the Protected Areas are being reviewed and a system of National Protected Areas is being developed concomitantly with the LDCP. When the protected area plan for the Central Peaks is completed in 2006 it is expected that the Central Peaks will be included within one protected area (and not split between several as it is now) and that this new designation will be included in the LDCP when it comes up for review.

27. Current scientific research and facilities:

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

1. A database is currently being set up ahead of an intensive survey of the invertebrates of the Peaks to take place in 2005. The data input is initially based on a literature review of invertebrates of the central uplands (previously found at 600 m and above). The literature review involves collection sites surveyed by a Belgian entomological team who visited the Island in 1960s and Wollaston's data on beetles from the 19th century which can be extracted from the Belgians' accounts. The availability of Wollaston's and the Belgians' data provides a very unusual opportunity for assessing changes over 140 and the last 40 years respectively. An analysis of these data and comparison with the results of a new survey should produce a long term view of any trends, and will be far more valuable than year to year monitoring for anything other than the very easily identified things.
2. Surveying of invertebrates. Primary aim to demonstrate the presence (or implied absence) of endemic species and assessment of their ranges. Indiscriminate collecting would not be involved. It may also be possible to make a serious attempt to find out how many of the endemic beetles and other invertebrates specific to the Peaks are still present on the island. Demonstration (hopefully) that many of them are still present would immeasurably increase the strength of the case for long-term conservation efforts.
3. Survey of lower plants planned for 2005.

28. Current conservation education:

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

Diana's Peak National Park leaflet which was produced in 1996 is available for sale at the National Trust Office and Post Office. It provides details of the three main trails in the National Park (Snail trail, Weevil walk and Spider Sprint). The paths are maintained by the Environmental Conservation Section of the Agriculture and Natural Resources Department as part of their management of the National Park.

Three information boards are currently erected, two within Diana's Peak National Park and one at Casons George Benjamin Arboretum.

A trail guide around High Peak has been produced by the Nature Conservation Group and is just one of their 20 Post Box walks around the Island. The guides are available at the Tourism Office and the path is maintained by the Environmental Conservation Section of the Agriculture and Natural Resources Department.

The Island's schools visit the Peaks to support national curricula programmes.

The Cason's Nature Trail follows a trail through part of Cason's National Forest which is rich in native ferns and includes the George Benjamin Arboretum planted with endemic trees. The trail and arboretum which are popular for educational and recreational use are included in a leaflet produced by the Tourism Office.

The Peaks Project will produce further promotional material to raise awareness of the Peaks. This will include more on site information boards, nature trail walkers guides, children's activity walk guides which young people will be involved in developing through community programmes with the Secondary School and New Horizons youth project.

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29. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

The Peaks are an increasingly popular venue for locals and tourists alike. Intensity is low whilst the tourism industry is small (on average 1,000 tourist visitors a year). There is potential for it to increase should the island develop air access in the future and investigation of carry capacity will be made as part of the Peaks project.

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30. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Agriculture & Natural Resources Department, St Helena Government, Scotland, St Helena Island, South Atlantic Ocean STHL 1ZZ

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31. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Chief Agriculture and Natural Resources Officer
Agriculture and Natural Resources Department
Scotland
St Helena Island
South Atlantic Ocean
STHL 1ZZ

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32. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see **13** above), list full reference citation for the scheme.

Site-relevant references

ASHMOLE, N.P. (1963) The extinct avifauna of St Helena Island. *Ibis* 103b: 390-408.
ASHMOLE, N.P. AND ASHMOLE, M. (2000) *St Helena and Ascension Island: A Natural History.* Anthony Nelson, Oswestry.
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MELLISS, J.C. (1875) *St Helena: a physical, historical and topographical description of the island including its geology, fauna, flora and meteorology*. London: L. Reeve & Co.
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OLSON, S.L. (1975) Paleornithology of St Helena Island, South Atlantic Ocean. *Smithsonian Contr. Palebiol*. 23: 1-49.
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ROWLANDS, B.W. (1992) Seabird observations between Ascension, St Helena and Tristan da Cunha in the central South Atlantic. *Marine Ornithology* 20: 25-42.
ROWLANDS, B.W. (2001) St Helena and the Dependencies of Ascension Island and Tristan da Cunha, including Gough Island. In *Important Bird Areas in Africa and Associated Islands – priority sites for conservation.*
ROWLANDS, B.W., TRUEMAN, T., OLSON, S.L., McCULLOCH, M.N. AND BROOKE, R.K. (1998) *The Birds of St Helena*. BOU Checklist No. 16. Tring: British Ornithologists' Union.
WETMORE, A. (1963) An extinct rail from the island of St Helena. *Ibis* 103b: 379-381.

Please return to: **Ramsar Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**
Telephone**: +41 22 999 0170** • Fax: **+41 22 999 0169** • email: **ramsar@ramsar.org**

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

1. Name and address of the compiler of this form:

UK Overseas Territories Conservation Forum
102 Broadway
Peterborough PE1 1JY
UK
Email: pienkowski@cix.co.uk

FOR OFFICE USE ONLY.

DD MM YY

Designation date | Site Reference Number

2. Date this sheet was completed/updated:
11 November 2004

3. Country:
UK (St Helena)

4. Name of the Ramsar site:
St Helena inshore waters, stacks and cliffs

5. Map of site included:
Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps.

a) hard copy (required for inclusion of site in the Ramsar List): *yes* ✓ -or- *no* ☐

b) digital (electronic) format (optional): Yes

6. Geographical coordinates (latitude/longitude)**:**
15°58'S 05°42'W

7. General location:
Include in which part of the country and which large administrative region(s), and the location of the nearest large town.
St Helena lies in the South Atlantic Ocean, east of the mid-Atlantic Ridge, 1,913 km west of Angola and 3,284 km east to southeast of Brazil. The nearest islands are Ascension, 1,296 km northwest, the Martin Vas Rocks, about 2,410 km west-southwest, and Tristan da Cunha, 2,435 km southwest.

The site comprises: offshore stacks and other seabird cliffs, including Gill Point; coastal waters for endemic and characteristic fish and other marine life, including marine nature reserve and wider area if to be marine nature reserve or national park; beaches if likely to be turtle-used.

Administrative region: St Helena

8. Elevation (average and/or max. & min.) (metres)**:**
Min. 0
Max. ?
Mean No information available

9. Area (hectares)**:** [island is 12170]

Blank form produced by JNCC: Version 3.0; content collated by UKOTCF, 13/11/2004

10. Overview:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The coastal waters of St Helena support 10 endemic fish species, a further 16 shared only with Ascension, and several cropped stocks of other species. There are probably also numerous endemic invertebrates but further data are required. There is a resident population of dolphins as well as other cetaceans. Green turtles use these waters and formerly nested, but current nesting is not confirmed. The offshore stacks and some inaccessible cliffs on the mainland support a number of breeding seabird species. These are the remnants of large populations which nested on the mainland prior to exploitation by humans and eradication by introduced animals. They are important as one of the few seabird breeding stations in the tropical South Atlantic, and could provide the basis for recolonisation of the main island.

11. Ramsar Criteria:

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

1, 2, 3, 7, 8

12. Justification for the application of each Criterion listed in 11. above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

1 The coastal waters and stacks provide a rare ecosystem in the tropics of the central South Atlantic. Offshore are at least 24 islets, stacks and rocks. The coast is dominated by imposing sea cliffs. These range from 80 m to 570 m in height, but most are 300 m or more. Some of the bays have pebble or boulder beaches that are generally narrow. Only Rupert's Bay has a small strip of truly volcanic sand, with Sandy Bay having a small amount of sand depending on sea conditions.

2 Two marine turtles are known, *Chelonia midas* and *Eretmochelys imbricata*, which are seen periodically throughout the year.

3 A variety of endemic marine invertebrates requires intensive further study. There was a study done in 1933 by the Danish naturalist Theodor Mortensen on the echinoderms and Gislen (1933) on the crinoids. Out of these studies, they identified 26 species of echimoderm, of whi two are endemic to St Helena, four endemic to St Helena and Ascension, and three subspecies endemic to St Helena and Ascesion. An endemic shore crab, *Platypodiella georgei*, was discovered only in 1983.

There are at least four species of dolphin, i.e. *Stenella attenuata*, *S. longirostri*s and *Tursiops truncatus and Steno bredanensis* and two species of whale *Megaptera novaeangliae* and *Physter macrocephalus*.

The offshore stacks and some inaccessible cliffs on the mainland support 8 breeding seabird species:
Masked Booby *Sula datylatra*
Brown Booby *Sula leucogaster*
Black Noddy *Anous minutus*
Brown Noddy *Anous stolidus*
Sooty Tern *Sterna fuscata*
White Tern *Gygis alba*
Madeiran Storm Petrel *Oceanodroma castro*
Red-billed Tropic Bird *Phaethon aethereus*

These are the remnants of large populations which nested on the mainland prior to exploitation by humans and eradication by introduced mammals. They are important as one of the few seabird

breeding stations in the tropical South Atlantic, and could provide the basis for recolonisation of the main island.

7 Ten endemic species of St Helena in-shore fishes are known:

Greenfish	*Thalassoma sanctaehelenae*
Bastard Cavalley Pilot	*Stegastes sanctaehelenae*
Springers Blenny	*Scartella springeri*
Skulpin	*Physiculus helenaensis*
St Helena Dragonet	*Callionymus sanctaehelenae*
Deepwater Greenfish	*Holanthias fronticinctus*
Deepwater Gurnard	*Scorpaena mellissi*
Silver Eel	*Ariosoma mellissi*
Deepwater Jack	*Pontinus nigropunctatus*
Bastard Fivefinger	*Chromis sanctaehelenae*

16 further species of fish confined to St Helena and Ascension:

Short-maned Sand Eel	*Phaenomonas longissimus*
Red Scorpionfish	*Scorpaenodes insularis*
Deepwater Brown Mullet	*Serranus sanctaehelenae*
Red Mullet	*Apogon axillaries*
Cunningfish	*Chaetodon sanctaehelenae*
Bastard Cunningfish	*Chaetodon dichrous*
Parrotfish	*Bodianus insularis*
Marmalade Razorfish	*Xyrichtys blanchardi*
Sand Greenfish	*Xyrichtys sanctaehelenae*
Rockfish	*Sparisoma strigatum*
Ascension Triplefin	*Helcogramma ascensionis*
Textile Blenny	*Entomacrodus textilis*
Ascension Goby	*Priolepis ascensionis*
Solefish	*Bothus mellissi*
Hogfish	*Acanthostracion notacanthus*
Bastard Hogfish	*Canthigaster sanctaehelenae*

8 Most commonly caught fish species:

Yellowfin Tuna	*Thunnus albacares*
Bigeye Tuna	*Thunnus obesus*
Longfin Tuna	*Thunnus alalunga*
Skipjack	*Katsuwonus pelamis*
Wahoo	*Acanthocybium solandri*
Mackerel	*Scomber japonicus*
Grouper	*Epinephelis adscensionis*
Conger (Eel)	mainly *Gymnothorax moringa*

Occasionally caught species (when above species not plentiful)

Marlin	*Makaira indica, Makaira nigricans*
Yellowtail Amberjack	*Seriola lalandi*
Shark (many species)	
Dorado	*Coryphaena equiselis*
Cavalley	*Pseudocaranx dentex*
Deepwater Bullseye	*Cookeolus japonicus*
Old Wife	*Diplodus sargus helenae*
Hardback Soldier	*Holocentrus adscensionis*
Deepwater Jack	*Pontinus nigropunctattus*

13. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation)**:**

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

South Atlantic Islands

b) biogeographic regionalisation scheme (include reference citation):

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14. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	More or less rectangular in plan, the island is an extinct composite volcano system, largely made up of basalt and associated extrusive rocks. It was formed 14.5 to 7.5 million years ago by the coalescence of two broad shield volcanoes, with centres of activity in the northeast in the Flagstaff Hill – Knotty Ridge area and in the Sandy Bay area to the southwest. A third and more recent minor centre is located in the east.
Geomorphology and landscape	Now geologically extinct (6.8 million years ago), the island rises from a depth of 4,224 m to 823 m above sea level at Diana's Peak. Mount Actaeon at 818 m is the second highest point. The topography is dominated by a high central ridge, occupying the major axis. Radiating out from the ridge, gorge-like valleys or 'guts', many deep and precipitous, are incised to depths of up to 300 m, providing a dramatic landscape. These valleys commonly drop 700 m in 3 – 4 km. They are narrow, steep-sided and generally drained by intermittent streams in ephemeral channels that meander across poorly-developed flood plains. There are five perennial streams -–James, Lemon, Sharks, Fisher's and Sandy Bay Valleys. Natural standing water is rare, due to porosity of the rocks, pyroclastic deposits, and high rates of evapotranspiration. The coast is dominated by imposing sea cliffs. These range from 80 m to 570 m in height, but most are 300 m or more.
Nutrient status	
pH	
Salinity	Marine
Soil	
Water permanence	Tidal variations is only around a metre or so. (Data are supplied by Proudman Oceanographic Laboratory (POL). Plymouth University)

Summary of main climatic features	The climate is controlled by the South Atlantic High Pressure Cell and the Equatorial Trough. Although St Helena lies north of the Tropic of Capricorn, the climate is subtropical, with temperatures influenced by the southeast trade winds and Benguela ocean current from the Antarctic. At Jamestown, the average maximum and minimum temperature in summer (March, warmest) is 29.2ºC and 24.5ºC respectively, and the corresponding winter temperatures (September, coolest) are 23.8ºC and 19.6ºC. Inland temperatures are 7 – 8ºC cooler than at the coast, with an average drop of about 1.3ºC per 100 m rise in elevation. Rainfall is caused principally by orographic disturbance of the flow of the trade winds, but is also influenced by frontal activity in high southern latitudes. In the 1980s total annual rainfall in Jamestown averaged 209 mm and in the central hills ranged between 477 mm (in 1984) and 1,130 mm (1982), with over 900 mm in the vicinity of the peaks. Dominated by the southeast trades (blowing 70 – 80% of days in all months), wind direction is uniform, almost entirely within the 90 – 150º range. The winds are usually strong, Force 4-5. Gales and calms are virtually absent. Orographic cloud cover at higher altitudes averages over 80% (Hutt's Gate), and at Jamestown 46 – 74%. Relative humidity is typically 75 – 85%, but below 600 m (900 mm isohyet) evapotranspiration generally exceeds rainfall. In the surrounding seas, surface waters cool to 19.5 – 21.5ºC by the end of winter (September-October) and warm to 24.5 – 25.0ºC by the end of summer (March). The 23ºC isotherm lies south of St Helena only during part of the summer, December-May. The arrival of the warm water brings flying fish to the inshore waters. One, *Exocoetus volitans*, is a principal prey of *Sula* spp., *Fregata aquila* and *Sterna fuscata*. Also, in June-Septmeber (winter months), Bottlenose dolphins chase flyingfish into the Wharf steps at night.

15. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

St Helena is an isolated mountainous island covering 121.7 km². It lies in the South Atlantic Ocean, east of the mid-Atlantic Ridge, 1,913 km west of Angola and 3,284 km east to southeast of Brazil. The nearest islands are Ascension, 1,296 km northwest, the Martin Vas Rocks, about 2,410 km west-southwest, and Tristan da Cunha, 2,435 km southwest. Its longest axis, from South West Point to Barn Long Point in the northeast, is 17.7 km, and its maximum width is 10.4 km. Only four plains extend for any distance.

More or less rectangular in plan, the island is an extinct composite volcano system, largely made up of basalt and associated extrusive rocks. It was formed 14.5 to 7.5 million years ago by the coalescence of two broad shield volcanoes, with centres of activity in the northeast in the Flagstaff Hill – Knotty Ridge area and in the Sandy Bay area to the southwest. A third and more recent minor centre is located in the east. Now geologically extinct (6.8 million years ago), the island rises from a depth of 4,224 m to 823 m above sea level at Diana's Peak. Mount Actaeon at 818 m is the second highest point. The topography is dominated by a high central ridge, occupying the major axis. Radiating out from the ridge, gorge-like valleys or 'guts', many deep and precipitous, are incised to depths of up to 300 m, providing a dramatic landscape. These valleys commonly drop 700 m in 3 – 4 km. They are narrow, steep-sided and generally drained by intermittent streams in ephemeral channels that meander across poorly-developed flood plains. There are five perennial streams –-James, Lemon, Sharks, Fisher's and Sandy Bay Valleys. Natural standing water is rare, due to porosity of the rocks, pyroclastic deposits, and high rates of evapotranspiration. The coast is dominated by imposing sea cliffs. These range from 80 m to 570 m in

height, but most are 300 m or more. Access to the sea by vehicle is possible only in three places – James Bay, Rupert's Bay and Sandy Bay. Some of the bays have pebble or boulder beaches that are generally narrow. Only Rupert's Bay has a small strip of truly littoral (volcanic) sand. Offshore are at least 24 islets, stacks and rocks, of which the outermost is George Island, lying 1.3 km from Gill Point in the northeast. Clockwise from Jamestown, those supporting breeding seabirds, with heights, are Shore Island (68 m), George Island (32 m), Salt Rock (40 m), Speery Island (120 m), The Needle (78 m), Lower Black Rock (67 m), Upper Black Rock (88 m), Thompson's Valley island (21 m), Peaked Island (32 m), Egg Island (79 m), and Lighter Rock (13 m). An inshore swell is felt severely on all coasts except for the northwest.

The coast is dominated by imposing sea cliffs, rising mainly to between 300 m and 570 m. The Barn (616 m), in the far northeast, is the highest point, but the elevation is almost the same at Hutt's Gate (609 m). Shore Island is a large steep basaltic stack, whereas George island, also basaltic, is shoe-shaped, less steep, its 'toe' pointing into the southeasterly swell. Encircled by breakers, with landing difficult, both islets are barren, with heavy guano deposits at upper levels.

Egg Island, Speery Island and all other offshore islets, stacks and rocks are also included. Egg Island, off the northwest lee side, is a mass of pale bedded lavas with an apparent dip towards the southwest, while nearby Peaked Island is a sharp pyramid of scoriaceous slag. Speery Island is a spectacular steep-sided jointed monolithic pipe of paler alkaline trachyte, whilst neighbouring Salt Rock is a remnant of a wide basaltic dyke. The remaining islets and stacks are basaltic. Vegetation (shrubs, grasses, weeds) has been noted only on Lighter Rock, Ladies Chair, Peaked Island and Thompson's Valley Island, all in the lee, and lichens have been found at the summit of Egg Island. The heaviest guano deposits are on Egg, Peaked and Speery Islands. In the south, the Speery Island group of outliers is much more exposed and, but for Speery Island itself, has not been visited by ornithologists and may therefore harbour unrecorded seabirds

16. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

17. Wetland types

Code	Name	% Area
A	Permanent shallow marine waters	
D	Rocky matine shores	
E	Sand, shingle or pebble shores	

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

The coastal waters of St Helena support 10 endemic fish species, a further 16 shared only with Ascension, and several cropped stocks of other species. There are probably also numerous endemic invertebrates but further data are required. There is a resident population of dolphins as well as other cetaceans. Green turtles use these waters and formerly nested, but current nesting is not confirmed. The offshore stacks and some inaccessible cliffs on the mainland support a number of breeding seabird species. These are the remnants of large populations which nested on the mainland prior to exploitation by humans and eradication by introduced mammals. They are important as one of the few seabird breeding stations in the tropical South Atlantic, and could provide the basis for recolonisation of the main island.

19. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in **12**. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

20. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in **12**. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Two marine turtles are known, *Chelonia midas* and *Eretmochelys imbricata*, and are periodically seen throughout the year. The elephant seal *Mirounga leonina* that once occurred occasionally may return following a substantial recovery at South Georgia and other southern breeding grounds. Two whales, *Megaptera novaeangliae* and *Physeter macrocephalus*, are known to occur off shore, but information remains sketchy. There are at least four species of dolphin, i.e. *Stenella attenuata*, *S. longirostri*s, *Tursiops truncates* and *Steno bredanensis*. Ten endemic species of shore fishes are known.

A variety of endemic marine invertebrates requires intensive further study. An endemic shore crab, *Platypodiella georgei*, was discovered only in 1983.

The avifauna of St Helena includes eight species of resident breeding seabird (two of which are known as breeders only from the late 1980s, and are possibly recolonisations). In addition, the fossil record is well represented. This includes evidence of at least four endemic landbirds (two flightless rails, a cuckoo and a hoopoe), and two endemic seabirds (petrels), which were probably present when the island was discovered in 1502, after which they quickly succumbed to the effects of predation by man and his commensal animals and deforestation. Three other species are found only in Pleistocene deposits. Also lost from the island were five other breeding seabirds – a shearwater, a storm-petrel, and a booby, now known only as vagrants, and two frigatebirds. An unidentified *Pterodroma* petrel has since occurred, at Hooper's Ridge in the south of the island, and it is possible that with effective conservation management of the island's endemic habitats, and controls of feral cats and rats, former breeding seabirds would be induced to recolonise.

Although as many as 45 bird taxa have been recorded, there are now only eight known species of breeding seabirds and 11 species of resident landbirds, i.e. *Oceanodroma castro*, *Phaethon aethereus*, *Sula dactylatra*, *S. leucogaster*, *Alectoris chukar*, *Phasianus colchicus*, *Gallinula chloropus*, *Charadrius sanctaehelenae*, *Sterna fuscata*, *Anous stolidus*, *A. minutus*, *Gygis alba*, *Columba livia*, *Geopelia striata*, *Acridotheres tristis*, *Foudia madagascariensis*, *Padda oryzivora*, *Estrilda astrild* and *Serinus flaviventris*. *Bulweria bulwerii* may also breed. Shore Island has the highest seabird breeding diversity in St Helena, with seven species. There are also records from the site of non-breeding visitors, and vagrants with fewer than five records. The former include *Diomedea exulans*, *Pterodroma mollis*, *Oceanites oceanicus*, *Fregetta grallaria*, *Fregata* sp., *Ardea cinerea*, *Bubulcus ibis*, *Ciconia ciconia*, *Calidris alba*, *Stercorarius parasiticus* and *Sterna paradisaea*. The site requires further study. Newly funded OTEP bid to monitor the seabirds and turtles for 2 years.

21. Social and cultural values:

e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

St Helena is only accessible by sea, the regular ship being the RMS *St Helena*, operating between Cape Town, St Helena and Ascension, previously with occasional visits to UK, but currently with calls at Namibian ports. St Helena has about 97 km of narrow winding roads, most covered with a bitumen

surface, many with steep gradients and hairpin bends. Taxis provide the only public transport.

In February 1987 the human population was 5,644, in 1998 5,157, and in 2004 reduced even more to around 3,900, of whom 24% (1,332) lived in the capital, Jamestown, the other main centres population being Longwood (1,243), and Half Tree Hollow (1,085) near Jamestown. (The 1987 figure included 85 expatriates.) The remainder is settled mainly in areas receiving rainfall adequate for agriculture, a large proportion living in scattered cottages and smallholdings. Built-up areas account for less than 2% of the land surface. The island, lacking in substantial manufacturing industries, now relies on British development aid. The local economy in 1987 wass centred mainly on agriculture and fishing. The largest income was then received from fishing licences sold to foreign fleets. This is no longer the case, as the number of fishing licenses receieved has decreased dramatically over the last few year, probably associated with the lack of policing measures). Cottage industry products, which include lace, decorative woodwork and beadwork are exported. Philately is a major income and information generator.

22. Land tenure/ownership:

Ownership category	On-site	Off-site
Crown	+	+

23. Current land (including water) use:

Activity	On-site	Off-site	Scale
Fishing	+	+	
Recreation	+	+	

24. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

Activity	On-site	Off-site	Scale

25. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
A Marine Protected Area (MPA) is in the process of being designated		
The Endangered, Endemic and Indigienous Species Protection Ordiance (1996) includes the Turtles, Dolphins and seabirds.		

26. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

A management plan is in the process of being developed for implementation once the protected areas policy is drawn up and made law.

27. Current scientific research and facilities:

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Current research includes:

1. Cetaceans – weekly monitoring of cetaceans including land and sea surveys (alternate weeks)
2. Fish – conduct weekly fish length-weight monitoring from randomly selected caught fish species. Also, conduct once every 6 months an underwater fish survey at 18 sites on the leeward side of the island. This is done by estimating the length of target species and then abundance counts of common and endemic species.
3. Collection of speciemens – to send to international scientists to determine what species are around the island (at present only collected a few mollusc specimens)
4. New – will begin to research the seabirds and turtles – to determine population status and breeding season

28. Current conservation education:

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

- Conservation personnel go into schools periodically to do talks on conservation of the sea.
- Have an annual awareness week
- Hope to do a nature trail with Duke of Edinburgh students
- Through OTEP bid will do a leaflet on the seabirds and turtles.

29. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

- Recreation – sometimes, on a very small scale there are water sports such as skiing and kneeboarding. Diving takes place frequently, but there is no major impact from this. There is some spear-fishing that takes place (in some cases taken to the extreme) and this needs to be addressed, as it could have impacts on the fish stocks inshore that are targeted.
- Tourism – dolphin trips are conducted, (on an infrequent time scale, say about once every week or other week), and the boat only stays with dolphins for no more than and hour, aswell as around the island trips – quite infrequent

30. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Fisheries Section, Agriculture & Natural Resources Department (ANRD), St Helena Government, St Helena Island

31. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Fisheries Section, Agriculture & Natural Resources Department (ANRD), St Helena Government, St Helena Island

32. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see **13** above), list full reference citation for the scheme.

Site-relevant references

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Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

1. Name and address of the compiler of this form:

UK Overseas Territories Conservation Forum
102 Broadway
Peterborough PE1 1JY
UK
Email: pienkowski@cix.co.uk

FOR OFFICE USE ONLY.

DD MM YY

Designation date | Site Reference Number

2. Date this sheet was completed/updated:

11 November 2004

3. Country:

UK (St Helena)

4. Name of the Ramsar site:

Fisher's Valley

5. Map of site included:

Refer to Annex III of the *Explanatory Notes and Guidelines*, for detailed guidance on provision of suitable maps.

a) hard copy (required for inclusion of site in the Ramsar List): *yes* ✓ -or- *no* ☐

b) digital (electronic) format (optional): Yes

6. Geographical coordinates (latitude/longitude)**:**

° 'S ° 'W

7. General location:

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

St Helena lies in the South Atlantic Ocean, east of the mid-Atlantic Ridge, 1,913 km west of Angola and 3,284 km east to southeast of Brazil. The nearest islands are Ascension, 1,296 km northwest, the Martin Vas Rocks, about 2,410 km west-southwest, and Tristan da Cunha, 2,435 km southwest.

[The site should run from Winegrove to the sea. Draft boundary run from the sea between this stream and the next (i.e. Battery area), then follows the top of the cliff line from Holdfast Tom, picking up a suitable contour (300m), then transferring up the track below the garage to the 350 m contour. Then, up the track W of garage to 400m contour, and follow that inland and back along S side until it crosses Woody Ridge Mill to Prosperous Bay Plain track. Then follow track and its left fork. Then pick up 300m contour (or 250 if 300 gets into runway complications) to cliff line N of point 71/21 318. Then to Bay Point, but may need to take complications into account there.]

Administrative region: St Helena

8. Elevation (average and/or max. & min.) (metres)**:**

Min. 0
Max. 350

9. Area (hectares)**:**

Mean No information available

10. Overview:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

Fisher's Valley is virtually the only stream valley in St Helena which retains wet conditions and green vegetation throughout its length. In addition to the wet grassland and other marsh habitats, the valley provides an important drinking and bathing area for birds, including the endemic Wirebird, indigenous moorhen and other species such as the naturalised partridges. The stream has eroded the most spectacular canyon on the Island, with columnar jointing in the younger basalt and trachyandesite lava which poured out from vents in the north eastern flanks south west volcano about eight and a half million years ago. Waterfalls through the surrounding desert habitat has some characteristics of an oasis. The large area of irregular drainage around the permanent stream has impressive coloured and patterned rock and soil features. The lowest part of the valley consists of eroding river deposits which contain sub-fossil beds holding large numbers of birds, many of species now extinct or extirpated on the Island. The water flows through a sandy marshland before reaching a boulder beach and the sea. This whole area is home to endemic invertebrates, adapted to arid land the myriad of endemic invertebrates found in the surrounding long-established desert which is the most important place on the Island for dry land species. .

11. Ramsar Criteria:

Circle or underline each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11).

1, 2, 3

12. Justification for the application of each Criterion listed in 11. above:

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

1 Fisher's Valley is virtually the only stream valley in St Helena which retains wet conditions and green vegetation throughout its length. It is one of only five perennial streams, radiating out from the high central ridge the ridge, gorge-like valleys or 'guts', many deep and precipitous, and incised to depths of up to 300 m, providing a dramatic landscape. They are narrow, steep-sided and generally drained by intermittent streams in ephemeral channels that meander across poorly-developed flood plains.

2 The site is probably the most important drinking and bathing area for the Endangered endemic Wirebird (or St Helena Plover) *Charadrius sanctaehelenae.*

The dry, rocky slopes are largely barren, vegetation growing where seasonal water run off is available or in the damp valley bottom. In this harsh arid environment it is likely that invertebrates provide the greatest interest biologically. A species of Ctenolepisma (silverfish) which is new to science was recently discovered at the back of Prosperous Bay Plain beach. It is possible that this new species is characteristic of the coastal cliffs and beaches. Very little sampling of these habitats has been done and more species may yet be discovered.

3 The area is important also for the Island's second naturally occurring bird species, the Moorhen *Gallinula chloropus.*

The damp gut bottom is dominated by thatching grass, *Pennisetum macrourum* and other moisture loving species which have become naturalised, including wild celery *Apium graveolens,* which is a reversion from the celery cultivated by early settlers, which escaped before 1771.
The dry rocky valley slopes are largely barren but introduced species are spreading into the area. Indigenous *Suaeda fruticosa* and *Portulaca oleracea* are present and the annual *Euphorbia heleniana* (considered to be endemic by the Ashmoles (Ashmole & Ashmole, 2000) and perhaps

endemic by Cronk (Cronk, 2000)) grows as scattered individuals.

The cliffs are refuge for the White tern *Gygis alba* known locally as the Fairy tern.

Two marine turtles are known, *Chelonia midas* and *Eretmochelys imbricata*, neither of which is common. Turtles have been seen breeding off the beach. It is possible that they might breed there. Evidence for this will be collected as part of a current OTEP funded project to monitor seabirds and turtles.

Rocks and pools provide habitats for a variety of endemic fish and crustaceans. A variety of endemic marine invertebrates requires intensive further study. An endemic shore crab *Platypodiella georgei* was discovered only in 1983.

13. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

South Atlantic Islands

b) biogeographic regionalisation scheme (include reference citation):

14. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Soil & geology	More or less rectangular in plan, the island is an extinct composite volcano system, largely made up of basalt and associated extrusive rocks. It was formed 14.5 to 7.5 million years ago by the coalescence of two broad shield volcanoes, with centres of activity in the northeast in the Flagstaff Hill – Knotty Ridge area and in the Sandy Bay area to the southwest. A third and more recent minor centre is located in the east. The lowest part of the valley consists of eroding river deposits which contain sub-fossil beds holding large numbers of birds, many of species now extinct or extirpated on the Island. The surrounding long-established desert holds several hundred endemic invertebrates.
Geomorphology and landscape	Now geologically extinct (6.8 million years ago), the island rises from a depth of 4,224 m to 823 m above sea level at Diana's Peak. Mount Actaeon at 818 m is the second highest point. The topography is dominated by a high central ridge, occupying the major axis. Radiating out from the ridge, gorge-like valleys or 'guts', many deep and precipitous, are incised to depths of up to 300 m, providing a dramatic landscape. These valleys commonly drop 700 m in 3 – 4 km. They are narrow, steep-sided and generally drained by intermittent streams in ephemeral channels that meander across poorly-developed flood plains. There are five perennial streams -–James, Lemon, Sharks, Fisher's and Sandy Bay Valleys. Natural standing water is rare, due to porosity of the rocks, pyroclastic deposits, and high rates of evapotranspiration. The coast is dominated by imposing sea cliffs. These range from 80 m to 570 m in height, but most are 300 m or more.

Nutrient status	
pH	
Salinity	
Soil	
Water permanence	
Summary of main climatic features	The climate is controlled by the South Atlantic High Pressure Cell and the Equatorial Trough. Although St Helena lies north of the Tropic of Capricorn, the climate is subtropical, with temperatures influenced by the southeast trade winds and ocean currents from the Antarctic. At Jamestown, the average maximum and minimum temperature in summer (March, warmest) is 29.2ºC and 24.5ºC respectively, and the corresponding winter temperatures (September, coolest) are 23.8ºC and 19.6ºC. Inland temperatures are 7 – 8ºC cooler than at the coast, with an average drop of about 1.3ºC per 100 m rise in elevation. Rainfall is caused principally by orographic disturbance of the flow of the trade winds, but is also influenced by frontal activity in high southern latitudes. In the 1980s total annual rainfall in Jamestown averaged 209 mm and in the central hills ranged between 477 mm (in 1984) and 1,130 mm (1982), with over 900 mm in the vicinity of the peaks. Dominated by the southeast trades (blowing 70 – 80% of days in all months), wind direction is uniform, almost entirely within the 90 – 150º range. The winds are usually strong, Force 4-5. Gales and calms are virtually absent. Orographic cloud cover at higher altitudes averages over 80% (Hutt's Gate), and at Jamestown 46 – 74%. Relative humidity is typically 75 – 85%, but below 600 m (900 mm isohyet) evapotranspiration generally exceeds rainfall. In the surrounding seas, surface waters cool to 19.5 – 21.5ºC by the end of winter (September-October) and warm to 24.5 – 25.0ºC by the end of summer (March). The 23ºC isotherm lies south of St Helena only during part of the summer, December-May. The arrival of the warm water brings flying fish to the inshore waters. One, *Exocoetus volitans*, is a principal prey of *Sula* spp., *Fregata aquila* and *Sterna fuscata*.

15. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, general land use, and climate (including climate type).

St Helena is an isolated mountainous island covering 121.7 km². It lies in the South Atlantic Ocean, east of the mid-Atlantic Ridge, 1,913 km west of Angola and 3,284 km east to southeast of Brazil. The nearest islands are Ascension, 1,296 km northwest, the Martin Vas Rocks, about 2,410 km west-southwest, and Tristan da Cunha, 2,435 km southwest. Its longest axis, from South West Point to Barn Long Point in the northeast, is 17.7 km, and its maximum width is 10.4 km. Only four plains extend for any distance.

More or less rectangular in plan, the island is an extinct composite volcano system, largely made up of basalt and associated extrusive rocks. It was formed 14.5 to 7.5 million years ago by the coalescence of two broad shield volcanoes, with centres of activity in the northeast in the Flagstaff Hill – Knotty Ridge area and in the Sandy Bay area to the southwest. A third and more recent minor centre is located in the east. Now geologically extinct (6.8 million years ago), the island rises from a depth of 4,224 m to 823 m above sea level at Diana's Peak. Mount Actaeon at 818 m is the second highest point. The topography is dominated by a high central ridge, occupying the major axis. Radiating out from the ridge, gorge-like valleys or 'guts', many deep and precipitous, are incised to depths of up to 300 m, providing a dramatic landscape. These valleys commonly drop 700 m in 3 – 4 km. They are narrow, steep-sided and generally drained by intermittent streams in ephemeral channels that meander across poorly-developed flood plains.

There are five perennial streams -–James, Lemon, Sharks, Fisher's and Sandy Bay Valleys.

16. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

17. Wetland types

Code	Name	% Area
E	Sand, shingle or pebble shores	
M	Permanent rivers/streams/creaks	
N	Seasonal/intermittent/irregular rivers/streams/creeks	
Tp	Permanent freshwater marshes/pools	
Ts	Seasonal/intermittent freshwater marshes/pools	
4	Seaonally flooded agricultural land	

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

Fisher's Valley is virtually the only stream valley in St Helena which retains wet conditions and green vegetation throughout its length. In addition to the wet grassland and other marsh habitats, the valley provides a drinking and bathing area for the endemic wirebird. The stream has eroded a spectacular canyon, with waterfalls through the surrounding desert habitat and has some characteristics of an oasis. The large area of irregular drainage around the permanent stream has impressive coloured and patterned rock and soil features. The lowest part of the valley consists of eroding river deposits which contain sub-fossil beds holding large numbers of birds, many of species now extinct or extirpated on the Island. The surrounding long-established desert holds several hundred endemic invertebrates. The site lies within the arid zone. From sea level to 350 m is an arid zone (annual rainfall 200 – 500 mm), known as the 'Crown Wastes', that covers 25% of the surface. There is large scale erosion.

19. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in **12**. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

20. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in **12**. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

In addition, the fossil record is well represented. This includes evidence of at least four endemic landbirds (two flightless rails, a cuckoo and a hoopoe), and two endemic seabirds (petrels), which were probably present when the island was discovered in 1502, after which they quickly succumbed to the effects of predation by man and his commensal animals and deforestation. Three other species are found only in Pleistocene deposits, notably within the site.

21. Social and cultural values:

e.g. fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values.

22. Land tenure/ownership:

Ownership category	On-site	Off-site
Crown	+	+

23. Current land (including water) use:

Activity	On-site	Off-site	Scale
Nature conservation	+	+	Large
Redundant agriculture	+	+	large
Recreation	+	+	
Potential airport	?	+	large

24. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

Activity	On-site	Off-site	Scale

25. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site

26. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

Control of thatching grass, *Pennisetum macrourum* and wild mango *Schinus terebinthifolius*, at Cook's Bridge was set out in the Environmental Conservation Section business plan to maintain open waterways for the Wirebird, moorhen and other species of birds.

27. Current scientific research and facilities:

e.g. details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

28. Current conservation education:

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

A descriptive guide is available for walkers. The guide gives a detailed description of the walk and describes some of the key features of the walk.

29. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

The Nature Conservation Group of the St Helena National Trust manages a series of 20 post box walks around the Island. The walk down the side of Fisher's Valley, past the series of picturesque waterfalls into the huge 'hidden' valley near the top, then on to the broad beach at the bottom with pools for swimming and some interesting old military buildings is one of the most popular and rewarding walks on the Island for locals and visitors alike.

The coastal area is however perhaps more popular with local fishermen who frequent the rocky shoreline catching fish providing supplementary protein for their families.

30. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc.

Agriculture & Natural Resources Department, St Helena Government

31. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

32. Bibliographical references:

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