# Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8<sup>th</sup> Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX. 22 of the 9<sup>th</sup> Conference of the Contracting Parties (2005).

#### Notes 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. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
- 3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1.	Name and address of the Official Responde	For office use only.	
	Joint Nature Conservation Committee	DD MM YY	<del></del>
	Monkstone House		
	City Road		
	Peterborough	Designation date	Site Reference Number
	Cambridgeshire PE1 1JY		
	UK		
	Telephone/Fax: $+44 (0)1733 - 562 626 / -$	+44 (0)1733 – 555 948	
	Email: <u>RIS@JNCC.gov.uk</u>		
	Name and address of the compiler of this	form:	
	UK Overseas Territories Conservation Fo	orum,	
	102 Broadway, Peterborough, PE1 4DG,	UK	
2.	Date this sheet was completed/updated:		
	Designated: 25 September 2000		
3.	Country:		
	UK (Jersey)		
4.	Name of the Ramsar site:		
	South East Coast of Jersey, Channel Is	slands	
5.	Designation of new Ramsar site or update	of existing site:	

This RIS is for: Updated information on an existing Ramsar site

# 6. For RIS updates only, changes to the site since its designation or earlier update:a) Site boundary and area:

\*\* Important note: If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

## b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

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		Islands

## 7. Map of site included:

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

a) A map of the site, with clearly delineated boundaries, is included as:

i) hard copy (required for inclusion of site in the Ramsar List): yes ✓ -or- no □;

ii) an electronic format (e.g. a JPEG or ArcView image)

iii) a GIS file providing geo-referenced site boundary vectors and attribute tables yes  $\checkmark$  -orno  $\Box$ ;

## b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The site boundary is the same as, or falls within, an existing protected area.

For precise boundary details, please refer to paper map provided at designation

8. Geographical coordinates (latitude/longitude):			
049 09 00 N	002 02 00 W		

## 9. General location:

Include in which part of the country and which large administrative region(s), and the location of the nearest large town. The site is adjacent to the capital of Jersey, St. Helier, which holds a population of 27,523 (1996 Census).

Located on the south and east coasts of the Channel Island of Jersey. Situated in Le Golfe Normano-Breton, 22.4 km west of Normandy (France), 48 km north of Brittany (France) and 136 km south of Weymouth (England).

The site extends from the port of St Helier on the south coast, to Gorey Harbour on the east coast, encompassing the south-east corner of the Island.

Bailiwick of Jersey

Administrative region: Jersey

10.	Elevation	(average and/or max. & min.) (metres):	11.	Area (hectares):	3210.5
	Min.	-14.58			
	Max.	14.12			
	Mean	No information available			

## 12. General overview of the site:

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

The site comprises various habitats; reefs, boulder fields, mud, sandy and shingle shores not covered by water at low tide, combined with shallow tidal lagoons, seagrass beds and a constellation of outlying reefs. Amongst the largest intertidal reef sites in Europe. A maximum spring tide range of 12 metres exposes in excess of 17.5 sq km of wave-cut rock platforms, extensive areas of reef at varying elevations, expansive rocky shores and a complex system of soft substrate gullies. The area also features a large, shallow, depositing, soft sediment bay, containing seagrass meadows, which provide important winter habitat for nationally important populations of waders and wildfowl. These factors, combined with Jersey's biogeographical position produce great biodiversity, a rich and diverse range of biotopes and some uncommon species assemblages. The flora and fauna is characterised by limitof-range species at the northern and southern margins of their distributions that are not present on shores either to the north or south respectively. Fishing within the site, is of great cultural, social and traditional importance to the population of Jersey. To the north of the site lies Gorey Harbour, a small port used principally for recreational boating. To the west of the site lies St Helier, Jersey's capital and principal port with associated facilities and shoreline development.

## 13. 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, 4, 7, 8

## 14. Justification for the application of each Criterion listed in 13 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).

## Ramsar Criterion 1.

The site has the one of the largest tidal ranges in the world, that can exceed 12 metres, a shallow sloping shore profile, a wide range of substrata and wave exposure. Its shallow waters are relatively warm due to the influence of the Gulf Stream and surrounding oceanographic conditions. These factors combine to produce a site considered to have great ecological value due to the diverse range of habitats, communities and species found in a comparatively small area. Within the site, the Violet Bank is one of the largest igneous intertidal reef sites in Europe, comprising approximately 8 sq km of rocky shore exposed at low water on spring tides divided by an extensive network of gullies and separated in places by mud and sand flats. Grouville Bay is a large shallow bay containing mudflats and sandflats that are exposed at low water and contain *Zostera* beds.

## Ramsar Criterion 2.

The extensive rocky shores found within the site are identified as being of priority for conservation at an international level due to the rarity and perceived threat to this type of habitat and its associated faunal and floral communities. The extensive mudflats and sandflats found in the site are likewise considered of significant value at a European level. *Zostera* beds found in the embayed shallow waters are of great importance to a wide range of vulnerable species in their early life stages and thus merit the highest level of protection available. Adjacent to the Baie de Mont St Michel (62,000 ha designated in 1994), the site represents the last vestiges of a former land bridge to continental Europe and plays a major role in the continued ecological functioning of the Golfe Normano-Breton with many species of wintering shorebirds visiting the area during annual migration passages. One of the largest breeding groups of bottlenose dolphins *Tursiops truncatus* in the British Isles is regularly sited within the boundaries of the site.

## Criterion 3.

Jersey is situated in Le Golfe Normano-Breton between England and France, on the convergence of Boreal (cold temperate) and Lusitanean (warm temperate) marine biogeographical regions. Overlap of these regions promotes increased species richness and allows species to exist at the northern and southern limits of their distributions. This enables the site to support some species which are rare or absent from British coasts as they are normally associated with the warmer waters of southern Europe, e.g. ormer *Haliotis tuberculata*, as well as species that are normally associated with the colder northern waters of the United Kingdom, e.g. beadlet anemone *Actinia equina*. The overlap of the Boreal and Lusitanean biogeographical regions, produces many limit-of-range populations. It has been hypothesised that such limit-of-range populations contain unique alleles or a combination of alleles arisen though adaptation to local, more extreme environmental conditions than core populations. Monitoring of these habitats for environmental change is crucial.

## Ramsar Criterion 4.

The Baie de St Malo experiences huge movements of water diurnally with a relatively closed anticlockwise current around Jersey. This factor, when combined with the warming influence of the Gulf Stream and the physical characteristics of the site assists in enhancing the local recruitment and subsequent offshore migration of many animals that have planktonic early life stages, especially commercially important Crustacea. The large areas of rocky shore are important to many species, providing shelter, protection and food for both larval and adult stages. Similarly the rich infaunal communities of the sand and mudflats are important for their range of mollusc and worm species. These areas are important nurseries for a wide variety of organisms. *Zostera* beds and wide, shallow gullies dividing the rocky platforms also provide critical habitat for many other forms and stages of life, as do the extensive and diverse algal communities found within the site.

## Ramsar Criterion 7.

The extensive areas of shallow water and huge number of intertidal pools found within the site provide habitat for many species of fish. To date 107 species of fish have been recorded from the site and adjacent waters. The enormous water exchanges and consequent strong tidal streams combined with high and low energy wave conditions and substrate variability mean a wide diversity of species and life history stages are present. The biogeographic location of the site allied with the surrounding oceanographic circulation and physical features serve to enhance species variety and abundance. The site contributes much to the continued viability of the Golfe Normano Breton ecosystem, which undoubtedly plays a major role in the functioning of English Channel fisheries and biodiversity.

## Ramsar Criterion 8.

On the south coast, several headlands of varying elevation extend into the residual inshore anticlockwise current, creating sheltered areas in their western lee. Here, recruitment of planktonic larvae onto extensive areas of rocky shore and water-filled soft sediment gullies occurs. Many species of fish take advantage of elevated summer water temperatures to feed and grow on the rich food supply in fertile, shallow waters before making an Autumn migration to spawn in offshore waters. Conversely, other species are absent in summer but present in winter for similar reasons. A range of small fish species spend their entire life within the site. Adjacent to the site is a sandbank known as the Banc du Chateau where large rafts of seabirds and the bottlenose dolphins *Tursiops truncatus* often feed on a plentiful supply of sand-eels *Ammodytes* sp. and other pelagic fish.

See Sections 21/22 for details of noteworthy species

**15. 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: Atlantic

**b) biogeographic regionalisation scheme** (include reference citation): EU Habitats Directive 92/43/EEC (as amended)

## **16.** 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	acidic, basic, clay, alluvium, peat, nutrient-rich, igneous,
	sedimentary, metamorphic, granite, slate/shale,
	sandstone/mudstone, maerl, mud, sand, gravel, shingle,
	pebble, cobble, boulder
Geomorphology and landscape	lowland, coastal, crags/ledges, subtidal rock (including
	rocky reefs), shingle bar, subtidal sediments (including
	sandbank/mudbank), intertidal sediments (including
	sandflat/mudflat), open coast (including bay), enclosed
	coast (including embayment), islan
Nutrient status	mesotrophic
pH	circumneutral
Salinity	saline / euhaline
Soil	
Water permanence	
Summary of main climatic features	Annual averages (Jersey, 1961–90) (www.gov.je/faqs.asp)
	Max. daily temperature: 17° C
	Min. daily temperature: 6° C
	Rainfall: 860 mm
	Hrs. of sunshine: 1915.0
	The climate of the region is temperate oceanic.

## General description of the Physical Features:

No information available

## 17. 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).

No information available

## 18. Hydrological values:

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

Shoreline stabilisation and dissipation of erosive forces, Sediment trapping

#### **19. Wetland types:**

Marine/coastal wetland

Code	Name	% Area
E	Sand / shingle shores (including dune systems)	37.5
А	Shallow marine waters	33.4
D	Rocky shores	25.3
В	Marine beds (e.g. sea grass beds)	2.3
Other	Other	1.4

#### 20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

The site contains a diverse array of habitats and micro-habitats. Extensive mud sand flats and pools stretching into shallow waters support extensive beds of eelgrasses *Zostera noltei* and *Zostera marina*. Intertidal rocky platforms bear luxuriant growth of fucoid species. Low tide levels reveal large stands of *Laminaria* species. All of these communities also support rich epiphytic growth. The shallow

water-filled gullies and intertidal rockpools contain dense colonies of the non-native alga *Sargassum muticum*, first recorded in Jersey in 1980. At times *Ulva lactuca* is abundant.

Ecosystem services

#### 21. 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*.

Internationally important species occurring on the site: Habitat Type Zostera beds Higher Plants Zostera marina, Zostera noltei Nationally important species occurring on the site Habitat Type Ascophyllum nodosum colonies Lower plants Bifurcaria bifurcata, Codium fragile subsp. tomentosoides, Codium tomentosum, Cystoseira baccata, Cystoseira foeniculaceus, Cystoseira nodicaulis, Cystoseira tamariskolia, Halopteris scoparia, Stilophora tenella, Calliblepharis jubata, Choreocolax polysiphoniae, Falkenbergia rufolansa, Gigartina teedei, Gracilaria bursa-pastoris, Grateloupia filicina var. filicina, Griffithsia corallinoides, Halopithys incurvus, Halurus equisetifolius, Kallymenia reniformis, Lomentaria

## clavellosa, Mesophyllum lichenoides, Polysiphonia nigrescens.

### 22. 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*.

#### Birds

#### **Species Information**

Hippocampus hippocampus, Gobius cobitis Molluscs Modiolus modiolus, Ostrea edulis, Haliotis tuberculata, Gibbula pennanti, Mactra glauca, Ocinebrina aciculata, Rissoa guernei Crustaceans

Pisa tetraodon, Thia scutellata

#### 23. Social and cultural values:

Describe if the site has any general social and/or 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.

Aesthetic Aquatic vegetation (e.g. reeds, willows, seaweed) Archaeological/historical site Environmental education/ interpretation Fisheries production Non-consumptive recreation Scientific research Sport fishing Subsistence fishing

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## Tourism Traditional cultural Transportation/navigation

**b)** Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? No

If Yes, describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

## 24. Land tenure/ownership:

Ownership category	On-site	Off-site
Non-governmental organisation	+	+
(NGO)		
Local authority, municipality etc.	+	+
National/Crown Estate	+	+
Private		+
Public/communal		+

## 25. Current land (including water) use:

Activity	On-site	Off-site
Nature conservation	+	+
Tourism	+	+
Recreation	+	+
Current scientific research	+	+
Collection of non-timber natural	+	
products: (unspecified)		
Fishing: (unspecified)	+	
Fishing: commercial	+	+
Fishing: recreational/sport	+	+
Fishing: subsistence	+	+
Marine/saltwater aquaculture	+	+
Gathering of shellfish	+	+
Shell collection	+	+
Bait collection	+	+
Permanent arable agriculture		+
Grazing (unspecified)		+
Rough or shifting grazing		+
Industrial water supply	+	

Industry		+
Sewage treatment/disposal		+
Harbour/port	+	+
Mineral exploration (excl.	+	+
hydrocarbons)		
Transport route	+	+
Urban development	+	+
Military activities		+
Other	+	+

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

Explanation of reporting category:

- 1. Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.
- 2. Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.
- NA = Not Applicable because no factors have been reported.

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
No factors reported	NA				

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?

Is the site subject to adverse ecological change? NO

#### 27. 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
Other	+	+
Management plan in preparation	+	

b) Describe any other current management practices:

Other - Policy M1 of the Jersey Island Plan 2003 ensures the sustainable use of the Island's marine environment by the designation of a Marine Protection Zone extending from Mean High Water to the territorial limits, as designated on the Island and Town Proposals Maps.

Within this zone there is a presumption against all developments except those which are essential for navigation, access to water, fishing and fish farming and coastal defence.

## 28. Conservation measures proposed but not yet implemented:

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

## **29.** Current scientific research and facilities:

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

• Sea temperature is monitored from an automated station at St Helier Harbour and at another location east of the site.

• Tides from two gauges, recording date, time and height (m), to gather real time data to measure tidal surges for flood warnings.

## MONTHLY

• The States of Jersey's Agriculture and Fisheries and Public Health Departments monitor fish farm concession areas, i.e., oysters and clams for *Escherichia coli*, presumptive coliforms and *Salmonella*.

• Société Jersiaise Ornithology Section conduct shorebird counts within specific sectors of the site. Undertaken at least once a month, with up to 3 counts per month during the winter (from December through to March).

## QUARTERLY.

• Common limpet *Patella vulgata* and serrated wrack *Fucus serratus* are tested for Cd, Pb, Cu, Cr, Zn, As and Hg. Samples collected in January, April, July and October from La Collette/ Havre des Pas and Gorey since July 1996.

• Beach profiles taken Feb/May/Aug/Nov. 20 profiles taken at 20 metre intervals from MHW to MLW across the site.

## BIANNUALLY.

• Slipper limpet *Crepidula fornicata* tested since July 1996 for heavy metal content in January and July. Sites east of St Helier Harbour and in Grouville Bay.

• Pollack *Pollachius pollachius* tested for radioactivity (Gross Beta and Gamma scan) spring and autumn.

## ANNUALLY

• Seawater tested for radioactivity (Caesium 134 and 137, plus Tritium).

• Oyster *Crassostrea gigas* tested for radioactivity - Total beta, Gamma spectrometry and transuranics: Pu-238, Pu-239+240, Am-241 + where detected Cm-242 and Cm-243 + 244.

• Sediment (inshore and fine 200 u sieve) tested for radioactivity - Total beta, Gamma spectrometry and transuranics: Pu-238, Pu-239+240, Am-241 + where detected Cm-242 and Cm-243

## + 244.

SEASONAL.

• Société Jersiaise Ornithology Section conduct monthly brent goose *Branta bernicla* counts during the winter from November through to April.

• Société Jersiaise Ornithology Section conduct fortnightly wader counts during the winter from November through to April.

• Bathing waters are monitored for a period of 20 weeks over the main tourist bathing season. Total coliform, faecal coliform and faecal *streptoccoci*, plus other physical and chemical parameters in compliance with EC Bathing Water Directive. CONTINUOUS.

• Jersey's Department of Agriculture and Fisheries monitor usage of the site, commercial fisheries landings, recreational activity, farmed shellfish production, all imports and exports of farmed shellfish, occurrence and frequency of rare fish sightings and occurrence and frequency of fish kills.

• Sightings and mortalities of marine mammals recorded by the Zoology Section of the Société Jersiaise and the States of Jersey Department of Agriculture and Fisheries.

• Société Jersiaise Ornithology Section bird ringing project ongoing.

CURRENT STUDIES BEING UNDERTAKEN

• 3 year study on the importance of *Zostera* habitats to fisheries. Focussing on Jersey shores and funded by the States of Jersey Department of Agriculture and Fisheries.

• 3 year study on sediment dynamics and physical oceanography of Jersey's coastal waters. Funded by the States of Jersey Environmental Services Unit.

• Monitoring of populations of the ormer *Haliotis tuberculata* following significant mortality in 1999.

• Trials underway in an attempt to enhance populations of scallop *Pecten maximus* within the site.

• Marine Conservation Society sublittoral biotope survey - Sea Search.

UNDERTAKEN AND COMPLETED: Pollution.

• University of Wales. Laser ablation study of a collection of historic to modern limpet shells for 11 elements, including Zn, Cu, Cd, Pb and As.

• Non-marine waters of south-east coast monitored monthly between January 1995 and November 1997. Outfalls at Le Hurel Slipway and La Rocque monitored since January 1994. Other sites - Le Bourg, Grouville Bay, Le Hurel and Gorey Harbour. Bacterial analysis occurred from January 1995 and full analysis for: NH3, NO3-, NO2-, Na, K, Ca, Mg, P, SO4, Cl, COD, BOD, suspended solids, total coliform, faecal coliform, faecal *streptoccoci*, from July 1995.

• CREH. (1995). Further Assessment of Non-outfall Sources of Bacterial Indicator Organisms to the Coastal Zone of the Island of Jersey.

UNDERTAKEN AND COMPLETED: Physical aspects -

• Various hydraulic studies have been carried out on the area surrounding St Helier. For example:

1. Coode & Partners (1980) *St Helier Harbour land reclamation west of Albert Pier. Report on tidal model studies.* Surrey, Harbours Office, Jersey.

2. Coode & Partners (1981) *St Helier harbour roll on roll off harbour and land reclamation. Report on wave model tests.* Surrey, Harbours Office, Jersey.

3. HR Wallingford (December 1989) St Helier Hydraulic Studies. 3 studies included sediment samples, beach profiles, waves, seasonal wave height exceedence, tidal flow measurements, suspended solids and bed sampling.

• Various reports describing Anneport Bay and Fauvic (Grouville Bay). (1991 – 1997). Examining wave regime, turbidity, pre and post recharge beach profiles, sediment transport patterns and an assessment of coastal protection options. For example:

4. HR Wallingford (December 1991) Jersey Coastal Management Study.

5. Bird, ECF (GeoStudies) (July 1995) *Report on survey of the Jersey Coast with reference to erosive problems*. (Includes studies on beach erosion problems at Fauvic and Anneport.)

• Various studies on coastal protection. For example:

6. Thorton, VA (September 1993) Coast protection study. (Baseline survey on the seawalls around the island.)

7. Young, J (March 1996) *Report on coastal protection and management*. Public Services Committee.

• Various inshore bathymetry studies have been carried out on the east of the Island.

8. Navy. UK Admiralty (November 1963) Report of Survey Jersey, St Helier.

9. Navy. UK Admiralty (April 1973) Survey of North and East Coast, Jersey.

10. HMS HECATE. BFPO Ships. UK Admiralty. (October 1983). Report of Survey - Jersey East Coast Grouville Bay Shoal Investigation.

11. Naval party 1016, MV *Proud Seahorse*. UK and French Admiralty. (December 1997). Passage De La Deroute.

• Le Hir, PBP *et al.* (October 1987) Golfe Normano-Breton, Etude Regionale Integree. IFREMER: 269. Studied hydrodynamics and sedimentology, deep water pelagic, sub-tidal biology, foreshore and wet zones, socio-economic aspects and a particular study of the Bay of Mont St Michel.

• HR Wallingford (December 1997 – June 1998). Wave buoy deployed off east coast to monitor height and period.

• Arup Economics and Planning (1998) Jersey Mineral Study. Investigated marine mineral resources.

• Turbidity monitored at 5 stations weekly during development of the St Helier Marina.

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UNDERTAKEN AND COMPLETED: Flora and fauna.

A number of studies have been undertaken examining the biodiversity of Jerseys coastal zone. Some areas of the south-east coast have been studied in detail:

1. Thomas, NS & Culley, MB (1988) *The macroinvertebrate fauna of the sandy shores adjacent to La Collette, Jersey*. Portsmouth Polytechnic, Marine Laboratory, unpublished report to States of Jersey

2. Culley, MB & English, P (1992) *A preliminary investigation into the macroinvertebrates of the soft sediments at La Rocque, Jersey, October 1990.* University of Portsmouth, Marine Laboratory, unpublished report to the States of Jersey

3. Save our Shoreline (1994) A case for preserving the shoreline and Bay of Havre des Pas from any further development (landfill, reclamation schemes or marina) and a recommendation for making 'La Carriere' and associated causeway a Site of Special Interest. (Presentation to Members of the States of Jersey). Save our Shoreline, St Helier

4. Culley, M, Farnham, W & Thorp, C (1996) *An assessment of the marine communities present on the south coast of Jersey from St Helier to La Rocque, July, 1994.* University of Portsmouth, Marine Laboratory, unpublished report to States of Jersey

5. Culley, MB, Thorp, CH, Farnham, WF & Romeril, MG (1996) *Proposal for the designation of the southern shore of Jersey from La Collette to La Rocque as a Site of Special Interest*. University of Portsmouth, Marine Laboratory, unpublished report to States of Jersey

6. Culley, MB & Thorp, CH (1996) *An Investigation of the macroinvertebrate communities inhabiting the sediments of the shore of Jersey from La Collette to La Rocque, April 1995*. University of Portsmouth, Marine Laboratory, unpublished report to States of Jersey

7. Mercer, T (1998) Intertidal survey La Collette to Le Dicq, south-east coast of Jersey. Volume 1 – main report Wildfowl and Wetlands Trust, Wetlands Advisory Service, Slimbridge, report to States of Jersey

8. Bruce, J (1998) *Assessment of wintering waterfowl populations, La Collette to Le Dicq, Jersey, Channel Islands.* Wildfowl and Wetlands Trust, Wetlands Advisory Service, Slimbridge, report to States of Jersey

• Kindleysides, D (1995) *Conserving the intertidal biodiversity of Jersey: a strategy.* Unpublished MSc dissertation, University College London.

• Crutchley, S (1997) *Designation of a Marine Protected Area in Jersey: Recommendations with special reference to molluscs*. Unpublished MSc dissertation, University College London

• Jewell, S (1995) An identification and analysis of key criteria for the sustainable development of Jersey's coastal zone. Unpublished MSc dissertation, Heriot-Watt University, Institute of Offshore Engineering, Edinburgh

• Southampton University study on radionucleides in molluscs and algae. Samples taken from St Helier and La Rocque.

• Short report completed following significant mortality of razor shells *Ensis arcuatus* within site in 1998

# **30.** Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

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

A small range of published material is available on Jersey's wider marine environments. Several information panels are situated within the site. The States of Jersey and various NGO's organise regular guided walks across the site for all ages and abilities from infant to postgraduate level. Visiting groups of students regularly use the site for field studies. Fisheries regulations are explained in several information leaflets. A publication focused on the site, its value and future management is planned.

## **31.** Current recreation and tourism:

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

Non-exploitive recreational activity is very important within the site. A wide range of activities take place, including for example: Walking (also with dogs), bird watching, horse-riding, sunbathing and beach games. Exploitive recreational activities centre on low water fishing for crustaceans, molluscs

and fish, recreational angling, bait collection, spear-fishing and algae collection. Watersports are important within the site with water skiing, jet-skiing, windsurfing, canoeing, sailing, rowing, swimming all popular. Facilities within the site include non-marina boat moorings, a tidal swimming pool, beach kiosks, cafes and associated retail outlets. Piers, jetties and slipways are also found spread along the entire landward boundary of the site. On the whole there is currently little conflict within user groups; bar overfishing and threats from coastal development, the site suffers relatively little activity of major environmental consequence. Most activities run throughout the year depending on weather and tides, but activity tends to peak in the summer months. The main tourist season is April to October. The estimated number of visitors to Jersey from 1994-1997 was 663,250. Some directed fisheries are subject to seasonal closures: *Maja squinado* and *Haliotis tuberculata*. There is a strong cultural attachment to the site within a significant proportion of Island residents - the continued ecological health of the site is held as sacrosanct by many.

#### 32. Jurisdiction:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept. of Agriculture/Dept. of Environment, etc. States of Jersey, Policy and Resources Department

South Hill, St Helier, Jersey JE2 4US

#### **33.** 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.

Environment Department, Howard Davis Farm, La Route de la Trinite, Jersey, C.I. JE3 5JP

#### 34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see **15** above), list full reference citation for the scheme.

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