

Ramsar Management Plan Status Report

- 2017-

**Marine Resources Section
Department of the Environment**



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1 - Introduction

Jersey has four designated Ramsar sites which have been in place since 2000 (Jersey South-east Coast) and 2005 (Les Écréhous, Les Minquiers and Paternosters). Each site is subject to a Ramsar Management Plan (RMP) which were devised in 2011 following consultation with the Ramsar Management Authority (RMA) which was a steering group formed from a wide range of local stakeholders. Since 2011 the Department of the Environment has worked to implement the objectives of these plans primarily through the Marine Resources Section but also with input from Environmental Protection, Natural Environment and other departmental teams. Additionally some responsibilities have been taken on by Ports of Jersey, the Department for Infrastructure and engaged stakeholder groups such as the Société Jersiaise and residents associations.

This report evaluates progress made against the original objectives of the Ramsar Management Plans, details areas that need further attention, and identifies issues that have arisen since 2011. As the four Ramsar Management Plans have aligned objectives, they will be addressed collectively in this report.

When considering a specific Ramsar site this document should be read alongside a copy of the relevant 2011 management plan to give context. In this way it is hoped this document can be kept as brief and to the point as possible without the need to cover old ground. It is, however, worth restating the four overarching objectives within the management plans and the principle of wise use before delving into the detail:

Objective 1

Integrated environmental management of the coast with monitoring of biotic indicators to ensure the sustainable, multiple use of the region; and monitoring of management performance against the plan objectives.

Objective 2

Protection of species and habitats and restoration of degraded habitats in the Ramsar area and their conservation for future generations.

Objective 3

Improved awareness among all key stakeholders, including the wider community, of the natural values of the South-east Coast wetlands and Ramsar principles expressed in the Management Plan.

Objective 4

Ongoing funds and resources to achieve the objectives of the management plan.

The Ramsar principle of '**wise use**' of wetlands is the sustainable utilisation of wetlands for the benefit of humankind. Wise use embodies the concepts of sustainable use which is in accord with the maintenance of ecological character and the resource requirements of future generations.

Under each objective exist a series of focus areas and priorities. An indication of progress for these is given below in table A1.1 for the SE coast and A1.2 for the offshore reefs following a broader update on the sites.

2 – Research Update

2.1 – Biological Recording (Marine)

Organised seashore surveys, project-based research and causal recording have continued over the last five years across all the Ramsar sites. Available references include:

South-east Coast

Marine Biology Section, Société Jersiaise (2011, 2013; South-east Coast); Bracken (2012); Chambers (2011); Bennett-Jones (2014); Le Page (2014); McClean (2015).

Les Minquiers

Mallinson (2011); Fleury and Johnson (2015); Chambers, Binney and Jeffreys (2016)

Les Écréhous

Fleury and Johnson (2015); Blampied (2015, 2016)

Paternosters

Chambers and Morel (2012)

Island wide

McIlwee (2015)

Additional research and data exists for all four sites. These are mostly coordinated through the Société Jersiaise and Jersey Seasearch with any biological data being publically available through the Jersey Biodiversity Centre and the National Biodiversity Network Gateway respectively. Table 2.1. shows the results of a census of known species (at the level of phylum) from all four Ramsar sites recorded during two time periods: (1) between about 1840 and 2010; and (2) between 2011 and 2016.

These figures show that at Les Écréhous, Minquiers and Paternosters there have been more species recorded since 2010 than had been recorded during the previous century and a half and on the South-east Ramsar site half as many species were recorded. This largely reflects the activities of the Société Jersiaise and Jersey Seasearch, both of which have undertaken specific studies of the Ramsar areas since 2010.

Phylum	Écréhous		Minquiers		Paternosters		SE Coast	
	2010	2016	2010	2016	2010	2016	2010	2016
ACOELOMORPHA	1	1		1			1	1
ANGIOSPERMOPHYTA	6	10	3	1			14	4
ANNELIDA	2	9	31	18		9	105	44
ASCOMYCOTA	3	5	5	5		4	7	6
BACILLARIOPHYTA		4		5				12
BRACHIOPODA				1				
BRYOZOA	7	10	10	14		10	21	19
CHAETOGNATHA								
CHELICERATA		2	2	1		1	9	2
CHLOROPHYCOTA	5	12	11	14		4	24	24
CHORDATA	19	49	41	55	11	30	76	73
CILIOPHORA			1				10	
CNIDARIA	5	31	10	21	7	15	26	22
CRUSTACEA	11	39	38	37	1	21	188	73
CRYPTOPHYTA							1	
DINOMASTIGOTA							2	1
ECHINODERMATA		6	4	6		5	14	12
ENTOPROCTA							2	2
FORAMINIFERA				18		5	78	2
GRACILICUTES	1	1	7	1		1	4	1
HEMICHORDATA								1
HEXAPODA		1		1				1
MOLLUSCA	91	55	126	53	1	30	187	111
MYRIAPODA		1					1	1
NEMERTEA				1			5	2
OCHROPHYTA	21	34	44	36		16	63	35
PLATYHELMINTHES		1		1		1	2	1
PORIFERA	1	26	7	28	3	19	11	25
PRIAPULIDA								1
PROTOCTISTA							4	
RHODOPHYTA	21	64	72	58		31	113	76
SARCOMASTIGOPHORA							5	
SIPUNCULA			2	2			2	3
Total	194	361	414	378	23	202	975	555

Table 2.1 – The number of species recorded from the Ramsar sites during two time periods: (1) pre-2011 (*circa* 1840 to 2010); and (2) between 2011 and 2016. (Source: Société Jersiaise/Jersey Seasearch)

2.2 - Biological Recording: Birds

Ten species of wading bird are regularly observed on Jersey's coasts, of which two (Ringed Plover and Curlew) are classed as highlighted on the Jersey Bird Red List (*Young et al. 2001*). The remainder are all considered threatened or near threatened. Locally there is significant concern for the IUCN Near Threatened Bar-Tailed Godwit, which has been in decline for several years with only 11 individuals recorded in January 2017.

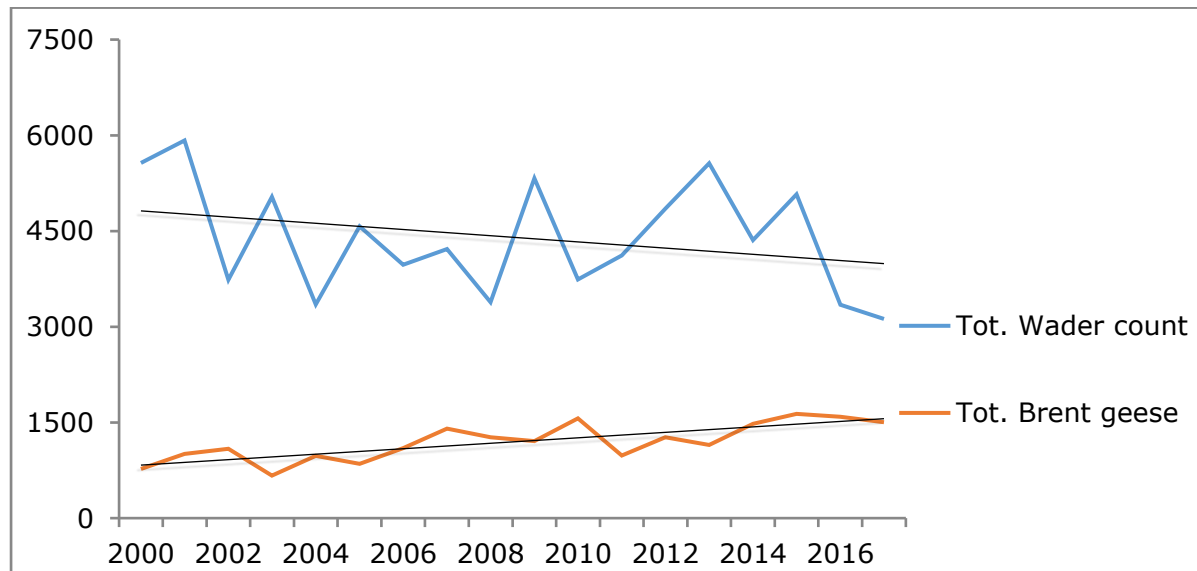


Figure 2.2 – January Bird counts 2000-2017

Accurate island-wide wading bird counts have been carried out each winter since 1987 by the Société Jersiaise Ornithology Section and overall a significant decline in wading birds has been noted (Figure 2.2). The Brent Goose, counted separately, has shown an increase over the same period. The downward trend is not unique to Jersey and falls in line with wider UK and European data. Increases in the Brent Goose and waders such as Sanderlings indicate that locally the habitat is in reasonably stable condition and may be attracting a higher proportion of the remaining regional populations.

The decline on a continental scale only goes to reinforce the importance of the principle of “wise use” of island’s Ramsar sites.

2.3 - Non-native Marine Species

The Marine Resources Section has undertaken a major revision of non-native marine species within the Channel Islands, the results from which will be released in 2017 (Marine Resources, in prep.). Their provisional data suggest that the following non-native species have been recorded from Jersey’s Ramsar sites:

Scientific Name	Common names				
		Écréhous	Minquiers	Paternosters	South-east
<i>Botrylloides violaceus</i>	N/A				X
<i>Undaria pinnatifida</i>	Wakame				X
<i>Corella eumyota</i>	Orange tipped sea squirt				X
<i>Colpomenia peregrina</i>	Oyster Thief	X	X		X
<i>Styela clava</i>	Stalked Sea Squirt	X	X		X
<i>Gracilaria vermiculophylla</i>	N/A				X
<i>Watersipora subtorquata</i>	Asian bryozoan				X
<i>Solieria chordalis</i>	String weed				X
<i>Polyopes lancifolius</i>	Furry oyster weed				X
<i>Grateloupia turuturu</i>	Devils Tongue		X		X
<i>Grateloupia subpectinata</i>	Fringe Weed	X	X		X
<i>Ruditapes philippinarum</i>	Manilla Clam	X			X
<i>Crassostrea gigas</i>	Pacific oyster	X	X		X
<i>Asparagopsis armata</i>	Harpoon Weed	X	X		X
<i>Austrominius modestus</i>	Australian barnacle		X		X
<i>Sargassum muticum</i>	Wireweed	X	X	X	X
<i>Codium fragile fragile</i>	Velvet Horn			X	X
<i>Hemigrapsus sanguineus</i>	Asian Crab				X
<i>Crepidula fornicata</i>	Slipper limpet	X	X	X	X
<i>Bonamia ostreae</i>	Oyster pathogen				X

Table 2.3 – Non-native species recorded from Jersey’s four Ramsar sites. (Source: Marine Resources /Société Jersiaise)

Historically established non-native species which affected the local environment and species include *Sargassum muticum* (Wireweed), *Crepidula fornicata* (American Slipper Limpet) and *Crassostrea gigas* (Pacific Oyster). Concern has been expressed at the recent rapid spread of the seaweeds *Undaria pinnatifida* (Wakame), *Grateloupia turuturu* (Devil’s Tongue) and *Grateloupia subpectinata* (Fringe Weed), all of which have become common within the South-east Ramsar area since 2010. Also of concern are the animal species *Watersipora subtorquata* (Asian Bryozoan) and *Hemigrapsus sanguineus* (Asian Crab) both of which have become widespread and common since 2010. Of all the non-native species associated with Jersey’s Ramsar sites, it is the Slipper Limpet (*Crepidula fornicata*) which probably has the potential to do the most environmental and economic damage due to its ability to smother and out compete other benthic communities such as maerl and scallop beds. This is something that will need to be subject to further investigation.

The offshore Ramsar sites would appear to have fewer non-native species recorded on them than the South-east Coast. This may be because they have fewer habitats or are more

exposed to high energy wind and wave action. Sub-tidally access for surveys is difficult in these areas so less data has been gathered than in more exposed sites. They may also receive far less commercial boat traffic than Jersey lessening the opportunity for animals to spread between locations.

2.4 – Updates for Key Species

Ormer (*Haliotis tuberculata*)

Since the 1993 disease the Intertidal population of Ormers has remained low with average catches of around 15 per day. In 2016 an upper limit of 20 per person per day or 100 per boat was put in place to allow for future management of the stocks. Based on historic data and casual surveys of hard to access pools it seems likely that the undisturbed ormer population might be 100 fold higher than present. However to recover to these levels would likely require a full closure for a decade or more.

Slipper Limpet (*Crepidula fornicata*)

Possibly the greatest threat to our marine environment at present is the Slipper Limpet. Its populations has seen strong growth since the 1960s and it is particularly adept at colonising disturbed ground. In other areas of Europe it has out competed and excluded Scallops, Maerl, Oysters and almost any other sort of benthic sediment based habitat within its depth range of 0-20m. Further monitoring of this species is important to establish its likely future impacts to biodiversity within the Ramsar sites and our wider seas.

5 Shilling Shell (*Mactra glauca*)

In 2015 the Marine Resources Panel was made aware that 5 Shilling Shells had been brought to a local fishmonger in significant quantity. Following an investigation by the Marine Biology Section of the Société Jersiaise it became apparent that the main known bed for this species was now empty and the species was in danger of becoming functionally extinct within the island's waters. The Marine Resources Panel therefore advised the Minister for the Environment to make the 5 Shilling Shell a protected species to prevent further exploitation. The Minister agreed to act in accordance with this advice.

Sea Bass (*Dicentrarchus labrax*)

The decline of Sea Bass in European waters has been well documented over the last decade. The scientific advice strongly advocates a much reduced bass fishery across Europe. In 2016 and 2017 Jersey has responded to this by introducing measures that will bring down bycatch and discard to very low levels and limit targeted commercial fishing to hook and line only. Recreational fishing for bass is now catch and release only and the setting of nets and trot lines on the beach is in the process of being discontinued. These measures place Jersey at the forefront of sustainable bass management in Europe.

Seagrass (*Zostera* spp.)

Recognition of the importance of Seagrass for coastal systems has grown significantly in recent years and while Jersey has always valued its seagrass resources the argument for their conservation is only becoming stronger. Fortunately the seagrass beds within the Ramsar sites are all either currently stable or actually showing signs of expansion.

Figure 2.4.1 shows the distribution of Seagrass in 1933 at the start of the wasting disease that wiped out 95% of the beds and 2.4.2 shows the situation in 2011 where recovery is at around 40%. Detailed monitoring of the Seagrass beds in Grouville bay has been undertaken since 2013 and a new sampling system to include the offshore reefs and more remote / semi subtidal beds is being devised to begin in 2017.

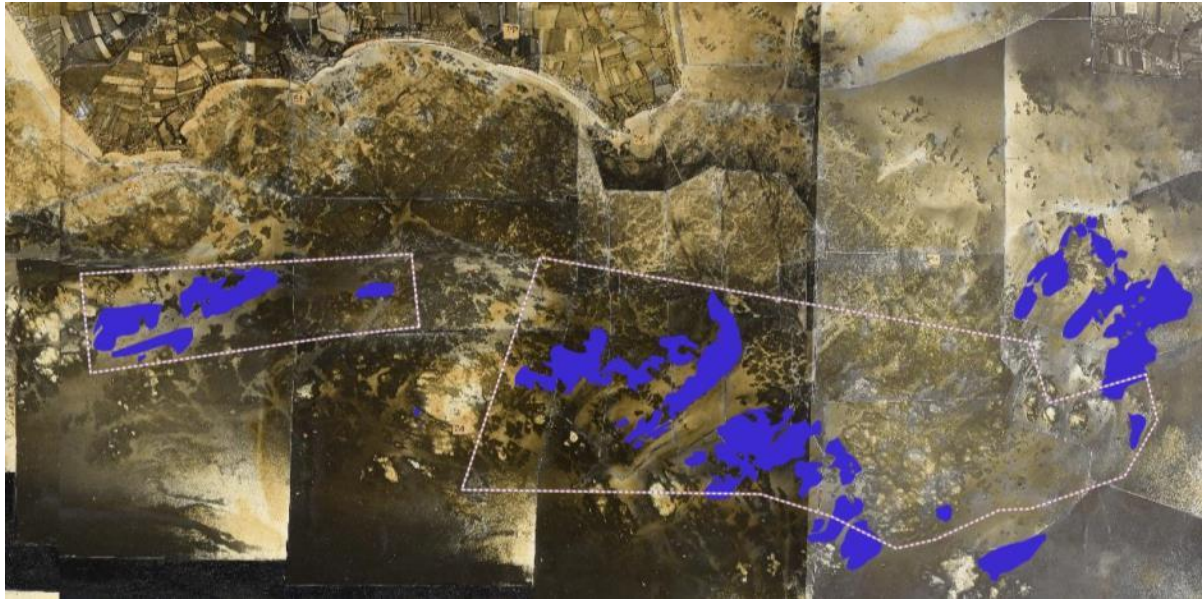


Figure 2.4.1 –South East Coast seagrass coverage in 1933. In 1944 the coverage had reduced by 97%. (Source: Société Jersiaise)



Figure 2.4.1 – South East Coast seagrass coverage in 2011 showing 40% recovery since 1944. (Source: Société Jersiaise)

Brent Goose (*Branta bernicla*)

The numbers of this species have been on the rise since the 1950s, recent data being shown in Figure 2.2 above. The progressive banning of hunting across Europe is the primary reason for this and the local population rise reflects a wider trend across Europe as goose numbers return towards the species carrying capacity – limited by food and natural predation. Locally healthy seagrass beds may be a significant factor here. The progress of the species, and sub species, will need to continue to be monitored to track future change with special attention paid to the Light-bellied population (*Branta bernicla hrota*) that are so site faithful in their overwintering grounds (West St Aubin) that the loss of the grounds would likely result in the loss of the bird.

Common Tern (*Sterna hirundo*)

The 2015 breeding-season survey reported 60 pairs at the Écréhous, 65 at the Minquiers (30 at Les Maisons and 35 at Maitresse Ile). Breeding was mixed with Les Écréhous doing badly and Maitresse Ile reasonably well. There was one pair in St Helier but they failed to breed. Overall this seems a good year for recent seasons where the Common Tern has, in general, struggled. Disturbance seems to be the biggest problem including Peregrine Falcons visiting Les Écréhous and while maybe not hunting terns certainly disturbing them. There are rarely records of birds breeding on the east coast in St Helier now unless some pairs turn up late after disturbance early in the season at one of the reef colonies. Human disturbance continues to be an issue but can't be quantified easily and food shortages may be an issue but remain unknown. The Common Tern remains (it is listed as locally red, see *Young et al.* 2011) vulnerable and needs further safeguarding through management.

Marine Mammals

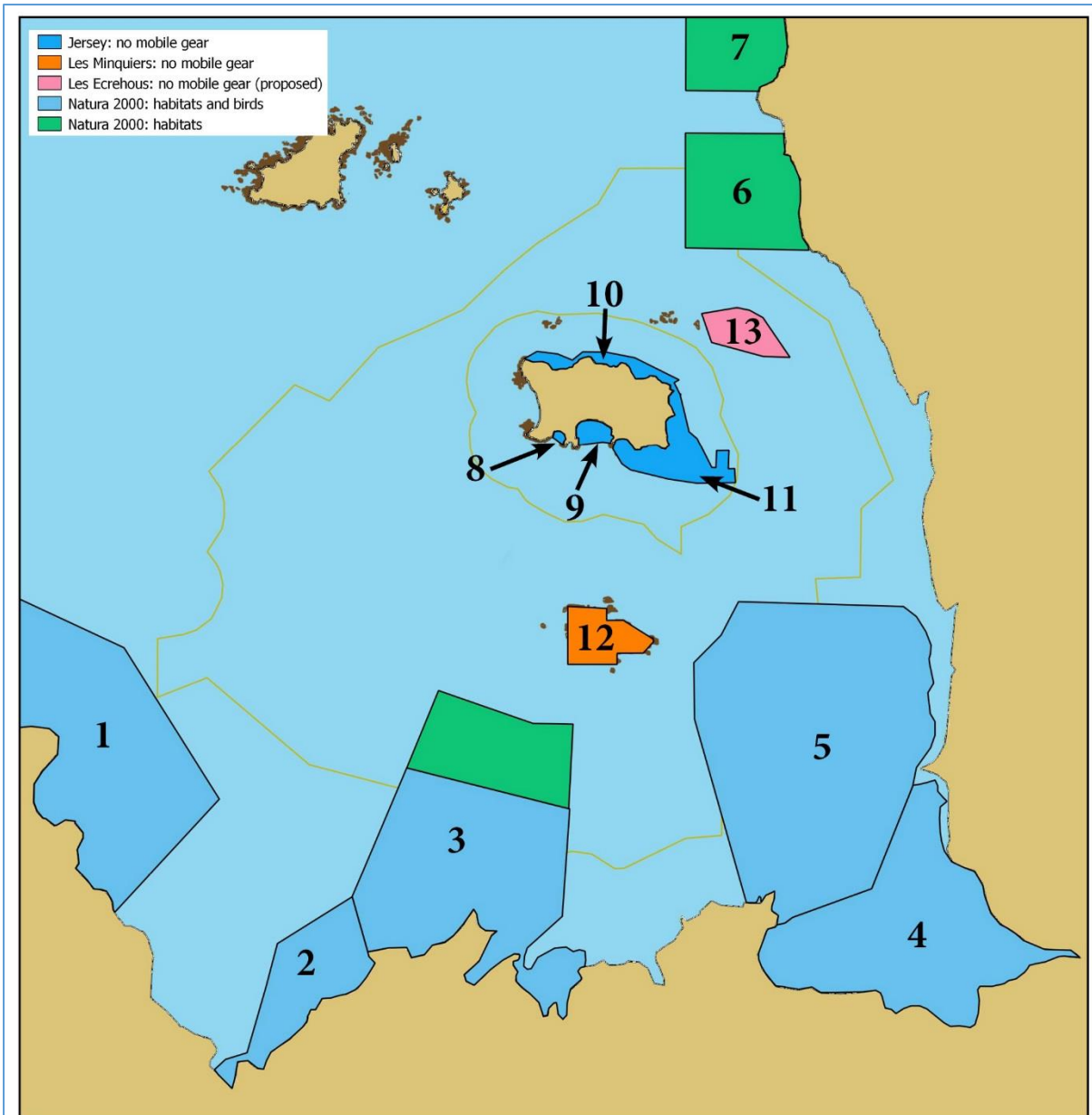
Bottlenose Dolphins make up the main cohort of marine mammals in our seas with a stable population of between 250 and 280 individuals. Extensive monitoring is carried out by a French conservation group – the GECC across the Normano-Breton gulf. Additionally, the Société Jersiaise has recently deployed C-Pod acoustic monitors to track cetacean movements in our waters.

Sightings of other marine mammals including Common Dolphins, Porpoises and Grey and Harbour seals have remained at lower but consistent levels. Dead stranded marine mammals have been at a low level although concern was raised that higher numbers might be expected during the bad winter of 2013-14 when many seabirds starved due to a prolonged period of rough weather and high water turbidity.

Maerl (*Lithothamnion* spp. and *Phymatolithon* spp.)

Significant attention has been placed on Maerl beds since 2012 when Jersey Seasearch began to champion the issue of their protection from mobile fishing gear. Updates were made to the SE coast exclusion zone for mobile gear including a large zone off the SE corner of the island, see Figure 2.4

Additional protection from mobile gear has recently been agreed for Les Écréhous and Minquiers reefs (see Figure 2.4.1 and 2.4.2) by Jersey in collaboration with the French authorities who have a stake in the management of the reefs through the Bay of Granville Treaty. Protection of the reefs will be brought in through legislation in 2017. These combined actions have brought the total area of seabed protected from mobile gear up to 6.8% of Jersey's territorial waters (about 140km²).



Protected marine areas within the Normanno-Breton Gulf shown with the principal boundaries for the Bay of Granville Treaty. The boundary of Jersey's three mile limit is shown as is the boundary of the Bay of Granville Treaty area.

French MPAs (Natura 2000): 1 = Trégor-Goëlo; 2 = Baie de St Briec-est; 3 = Cap Erquy-Cap Fréhel. 4 = Baie du Mont St Michel; 5 = Îles Chausey; 6 = Banc et récifs de Surtainville; 7 = Anse de Vauville

Jersey seabed protected areas: 8 = St Brélade's Bay; 9 = St Aubin's Bay; 10 = North Coast, Jersey; 11 = Grouville Bay and SE Coast; 12 Les Minquiers (proposed); 13 = Les Écrehous (boundary to be agreed).

Figure 2.4.1 – Marine protected areas, no mobile gear zones in the Normanno-Breton Gulf. (Source: Marine Resources)

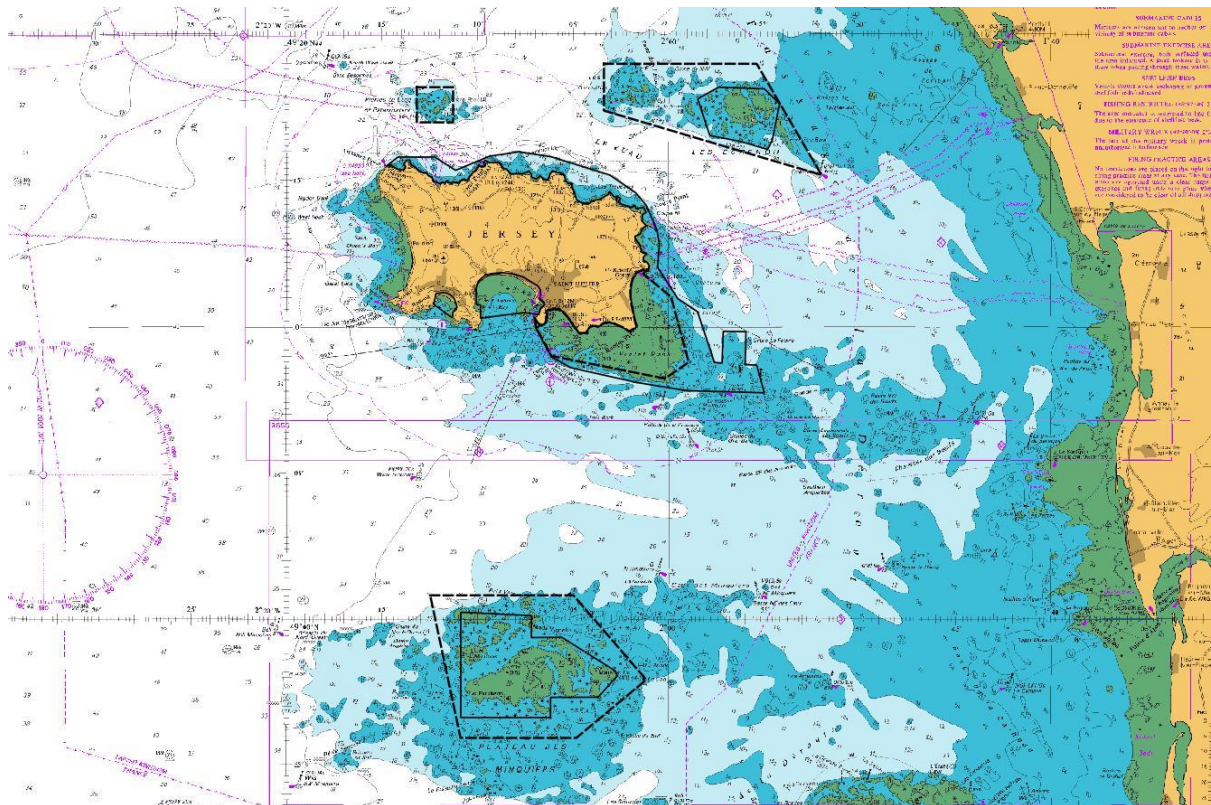


Figure 2.4.2 – No Mobile gear zones (solid lines) and Ramsar site boundaries (dotted lines).

2.5 – Habitat Recording and Mapping

Since 2011 members of the Société Jersiaise have been spatially recording habitats (using the JNCC/EUNIS classification) across all four Ramsar sites. The data from this research is being used to create maps which set out all habitat areas with a single dimension of five metres or more. Full seashore habitat maps have been created for Les Écréhous and Les Minquiers (Chambers, Binney and Jeffreys, 2016) and partial maps have been made for the Paternosters (Chambers and Morel, 2012) and Jersey's South-east Coast. It is hoped that all of Jersey's intertidal and shallow marine (<20m) marine areas will have been habitat mapped by 2020. A full terrestrial habitat map has been made of Maîtresse Île at Les Minquiers and survey work for a habitat map has been completed on the main islands at Les Écréhous.

Subtidal survey work by Jersey Seasearch has highlighted the presence of sea fans (*Eunicella verrucosa*) and cup corals (*Leptopsammia pruvoti*), both on UK protected species lists. Consideration for their conservation should be taken when the management plans are updated.

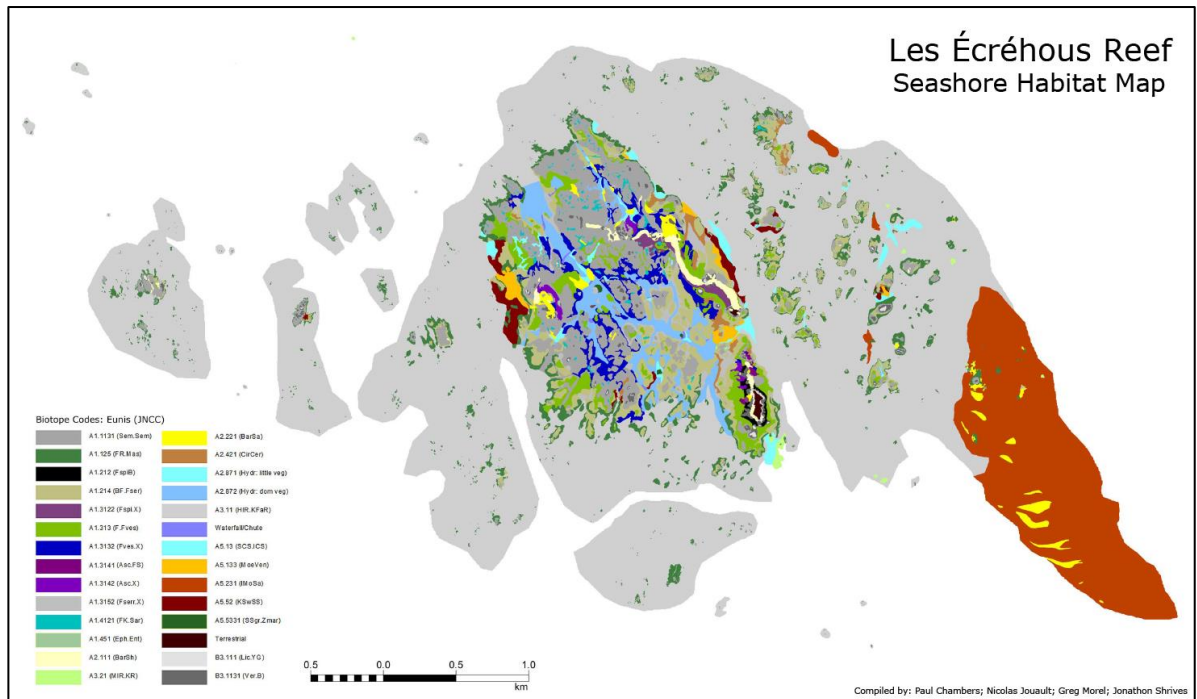


Figure 2.5.1 – A seashore habitat map for Les Écréhous. (Source: Société Jersiaise)

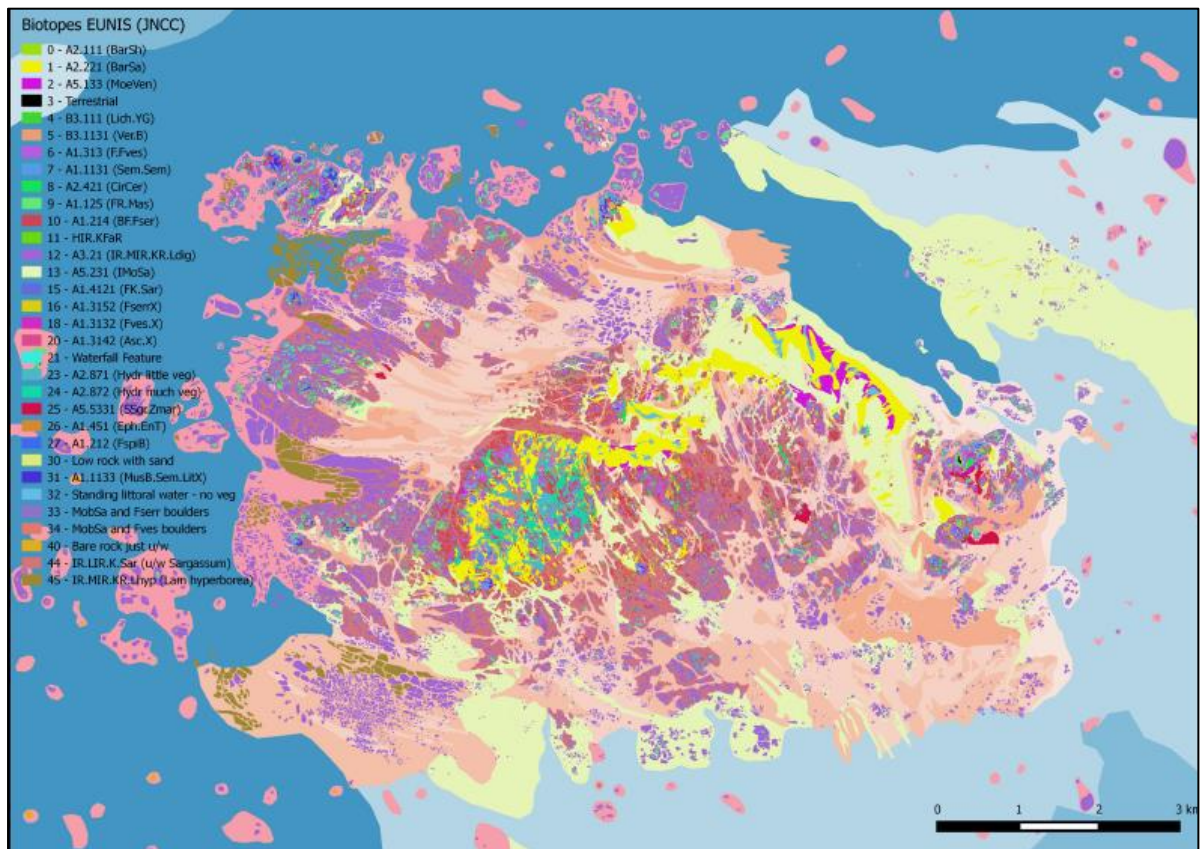


Figure 2.5.2 – A seashore habitat map for Les Minquiers. (Source: Société Jersiaise)

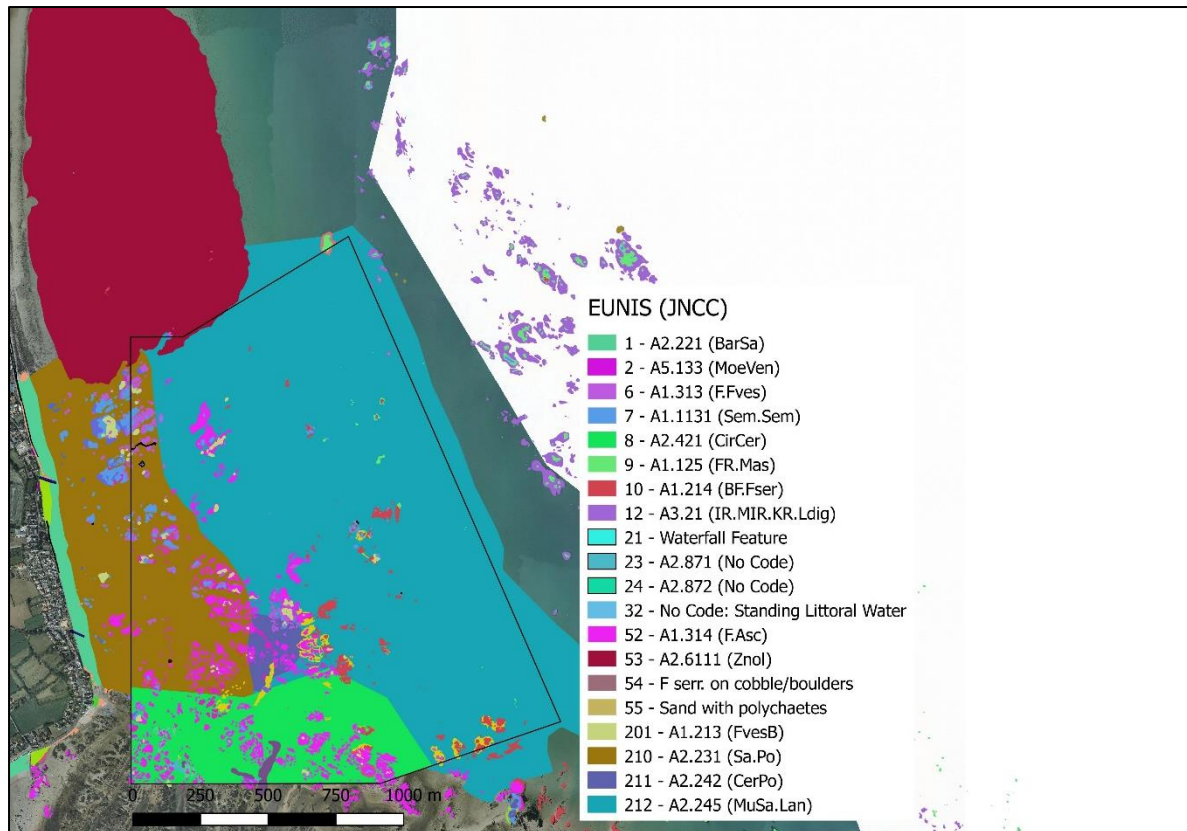


Figure 2.5.3 – A section of the draft seashore habitat map for Jersey’s south-east coast. (Source: Société Jersiaise)

2.6 – Archaeology and Geology

Since 2013 the Société Jersiaise have been making systematic studies of the geology and archaeology of Jersey’s Ramsar sites. The results for Les Minquiers have been published in Chambers, Binney and Jeffreys (2016) and includes the first comprehensive geological and archaeological studies of the reef.

Data for the other Ramsar sites is in the process of being collected/assimilated but includes studies of seashore quarrying and historic (possibly prehistoric) fishing structures as well as palaeontological studies of peats and clays.

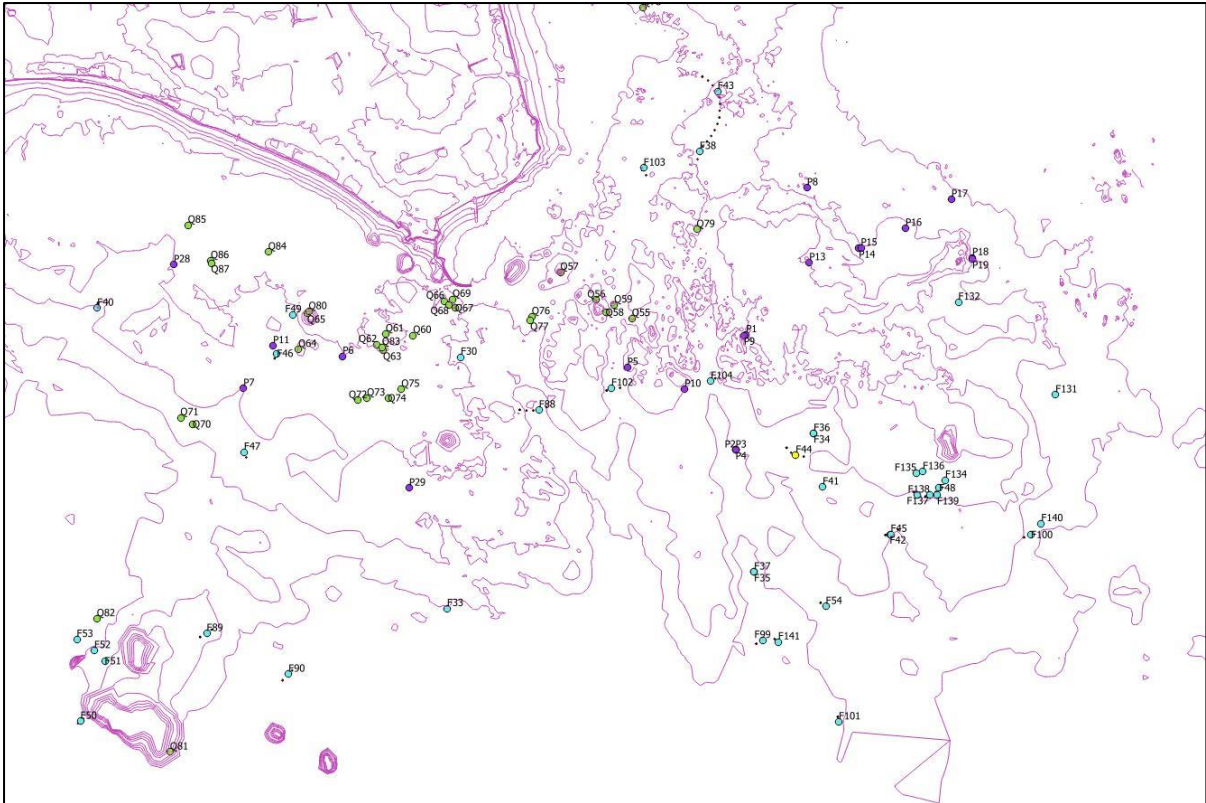


Figure 2.6.1 – Possible archaeological features identified on the South-east Coast. (Source: Société Jersiaise)

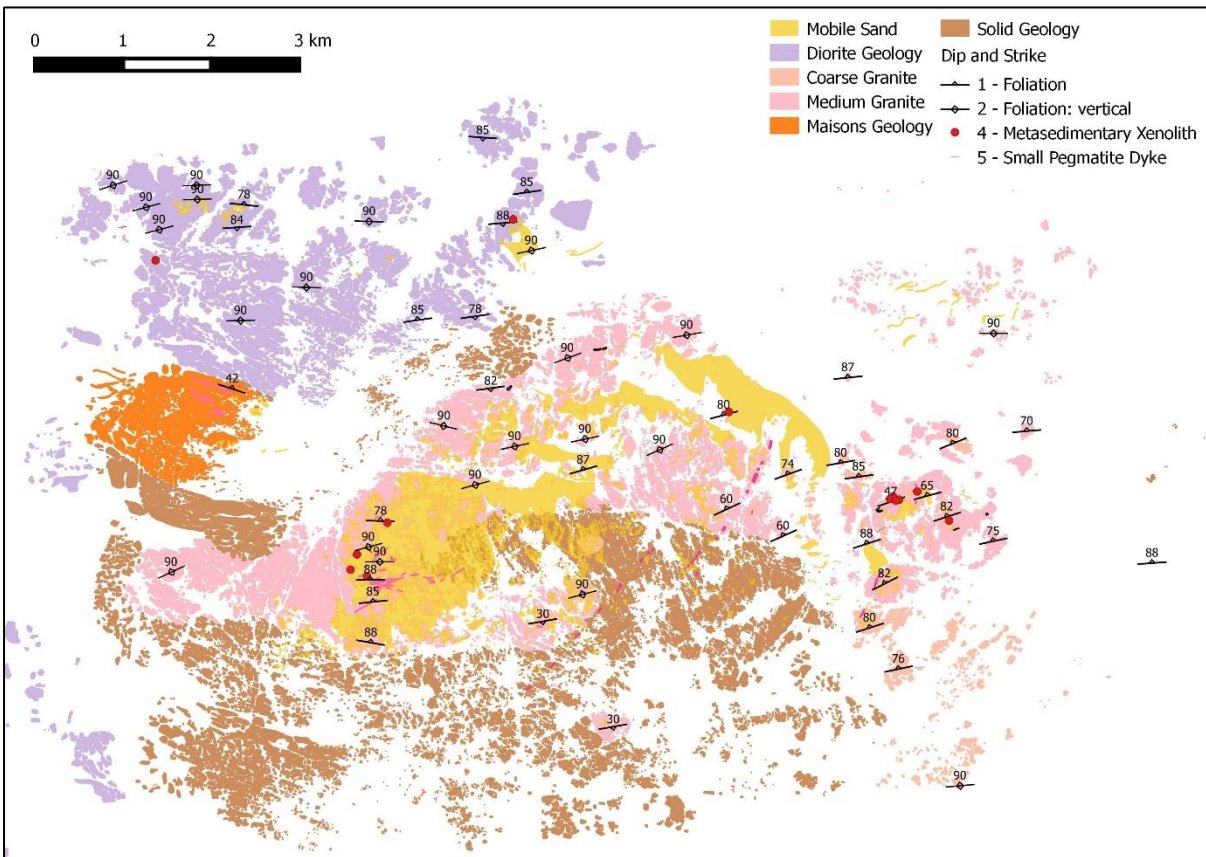


Figure 2.6.2 – A geological map of Les Minquiers. (Source: Chambers, Binney and Jeffreys, 2016)

3 – Environmental Reporting and Management

3.1 – Environmental Monitoring

Discharge from land

No significant new permits to discharge from land to the sea within the Ramsar sites have been issued since 2011. The Jersey Electricity Company are currently (2012-17) in the process of testing a new biocide for the cooling waters used in the Power station and the Energy from Waste plant. The change in biocide was prompted by improvements made by industry and European requirements.

Pollution Incidents

Four pollution incidents were recorded for the South East Coast Ramsar site over the 2011 – 2016 period:

Sewage incident reported on 23.12.2012 – St Clements

A collapsed foul line at Green Island, resulted in the discharge of sewage into the Ramsar site. To enable the pipe to be repaired pumping stations that direct sewage down this line were stopped, during this time tankers were used to transport the sewage to the treatment works, but in the end the tankers could not keep up with the effluent flow resulting in the discharge of untreated sewage to the Ramsar site at Le Hocq for 25.31 hrs. Impact to marine environment was short term and low level due to dilution / weather.

Sewage incident reported on 29.05.2014 – Grouville

The foul water at a new development had been incorrectly connected to the surface sewer, which discharged sewage onto the beach at Gorey. The owners were told not to use the system until it was redirected to foul sewer – work was complete on 29.05.14. The impact on the marine environment was considered to be minor.

Slurry spill reported on 12.01.2015 – Grouville

A slurry tank failed resulting in 900,000 litres of slurry being lost to a stream and discharging in to Grouville Bay. The local shellfish farmers were informed. Impact to marine environment was short term and limited in severity due to dilution/ weather.

Sunken boat reported on 04.12.2015 – St Clements

A boat was washed up on rocks, losing 20 litres of fuel and some lubricating oil. The impact on the marine environment was considered to be minor.

No pollution incidents reported to Environmental Protection in/around off-shore reefs

Heavy Metals

Arsenic is the only heavy metal to have shown any significant change. It is on a steady but continuous rise across the Normano-Breton gulf but a cause has not been identified. Monitoring continues on a regular basis.

Sanitary survey / monitoring

The Sanitary survey process was put in place to standardise and simplify the oyster sampling process required to allow human consumption. The areas monitored under the sanitary survey have returned consistent grade B results (using 3 year averages) for several years. The area of the sanitary survey has recently been increased to accommodate new entrants to the aquaculture industry, see section 3.2 below for details.

Habitat loss/change

The only habitat to have seen significant change in recent years are the Seagrass beds, specifically lower intertidal and subtidal. Seagrass bed expansion has been noted at various locations in recent years. Looking at the 1930's aerial photographs it appears this is actually a degree of recolonization of the plant after the loss through disease in the first half of the 20th century. A 5 year detailed monitoring of the intertidal seagrass beds has been running for 4 years and an equivalent programme for subtidal beds is being planned for 2017.

3.2 – Fishing and Aquaculture

Recreational fishing

The Recreational fishing sector has seen little change in recent years excepting the alterations detailed in section 2.4 relating to Seabass, Ormers and the five shilling shell. More data for this sector is required and Marine Resources are making this a priority in 2017.

Commercial fishing

The management of the commercial fleet is primarily done through license conditions attached to each boat. This allows the control of landing size, and quantities of fish & shellfish that are landed by the commercial sector. Details of the changes to No Mobile Gear Zones, Ormers and Seabass have been detailed above in section 2.4.

Aquaculture

The Aquaculture industry continues to focus on the pacific oyster (*Crassostrea gigas*), native oysters (*Ostrea edulis*) and the common mussel (*Mytilus edulis*). No new concessions have been granted since 2011 and a major review of the industry has been conducted by Maritech to map out its future. Following the review the decision has been made to focus the future of the industry on the main beds in Grouville bay by providing space for new entrants. This space is being created through the realignment of some current beds and a slight expansion to the NE and SE corners of the zone in which aquaculture is permitted. The scheme will allow four new entrants to the aquaculture industry on 2ha plots, details can be found in the 2017 CEFAS report and the Jersey planning application registered under p/2017/133. The process has also brought all existing aquaculture operations within this zone under a single planning consent to allow for better regulation and management of the industry.

3.3 - Building Development

On both the Écréhous and the Minquiers reefs weather stations have been installed to monitor wind speed and various other factors. These are regularly serviced and maintained outside of the bird breeding season by the department for infrastructure and the Environment Department's Meteorological Office.

In 2014 the work to install the Normandie 3 electricity cable between Grouville and France was completed. This involved excavating a strip of beach and seabed running out from Fort William in Gorey to allow the cable to be sunk below the beach. A full environmental assessment was carried out as part of the planning process and all appropriate measures were taken to ensure the environmental impacts of installation were minimised.

As of June 2017 and as described above, a planning application to cover aquaculture activities in Grouville Bay has been granted by the Department of the Environment. The application was submitted by the Marine Resources Section who manage aquaculture concessions. The objective, as outlined in section 3.2 is to bring all operatives in this part of the bay under a single planning consent that will facilitate better environmental management of the site and ensure that while there is room for new entrants to the industry the key habitats in the area are safeguarded.

Various repairs and small upgrades were made to the huts on the outer reefs.

4 – Communication and Engagement

4.1 – Ramsar Management Authority (RMA)

The RMA functioned through until 2012 when meetings became sporadic. After a stakeholder consultation in 2015 it was decided to reform the RMA with an independent chair as a smaller representative group that would look to work effectively alongside States departments and other key parties while also holding the responsibility for engaging the wider stakeholder network.

4.2 – Public Engagement

The area of least progress against plan is that of public interface. With limited resources the Department of the Environment has focused on the physical management of the Ramsar sites rather than the interface element. This said between 2014 and 2016 work was started to reformat the Ramsar Management Authority (RMA) into an independently chaired body that would be better placed to take forward the outreach element of the island's Ramsar plans. The RMA will be called together to consider this report and how best to move forward in the spring of 2017. Improving public interface will need to be one of the core objectives of the RMA.

Communications / publicity

The Ramsar sites have a dedicated page on the States of Jersey Website but do not have a social media presence as yet. With little activity of the RMA there has not been a specific publicity drive on any front. Where issues with specific species, habitats or industries have come to light the Marine Resources Section has worked alongside organisations such as the Société Jersiaise to raise public awareness.

Education

Education modules have not been developed thus far but their merit is recognised and the desire both from the Department of the Environment and groups such as Jersey Seasearch and the Société Jersiaise is still strong; the latter have been working on developing education modules for delivery in 2017 – 2018 with a trial module delivered in 2016 in partnership with two local schools. The National Trust have been active on this front taking many school groups on wetlands walks although most often on the west coast so as to make use of the Wetlands Centre.

On site interpretation

Interpretation was made available in the discovery pier facility for the years it was open. Leaflets were also printed along with some signage on the coast. This material now requires revising and republishing. In the case of the outer reefs this might be done in collaboration with the Coastal National Park that also covers these areas.

Public and commercial code of conduct

A wildlife watching code was printed into booklets by the Marine Resources section and continues to be distributed to tour operators and interested individuals to ensure best practice is maintained in areas containing nesting birds or marine mammals. WISE training was arranged for commercial operators to ensure good practice was maintained when operating in the outer reefs.

4.3 – Funding and other Resources

Without progress on the Education and communications elements of the Ramsar Management plans there has been little requirement for regular funding streams to be established and little purpose in provisioning budget with no specific spend in mind. Where funds have been required for leaflets or signage these have been covered by the Department of the Environment. Likewise facilities for meetings have been made available at Howard Davis Farm by the department and research trips enabled via use of the Norman le Brocq on several occasions.

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With thanks to:



& Maîtresse Île Residents Association

Appendix 01 – Ramsar Site Action plan objective and action plan status

- 1.1 Ensure regular Ramsar Management Authority meetings
- 1.2 Establish monitoring mechanisms to guide review of the management plan to ensure effective implementation and fulfilment of Ramsar objectives
- 1.3 Establish monitoring strategy to include biological, chemical and physical parameters.
- 1.4 Establish monitoring strategy for key habitats and species
- 1.5 Establish programme of biological habitat monitoring with NGOs
- 1.6 Ensure that legislation, strategies and policies that affect the area are consistent with the Ramsar principles of wise use and the maintenance of ecological character

- 2.1 Establish Ramsar Management Authority Technical Subgroup to assess plans and projects that have potential to impact the site.
- 2.2 Establish detailed habitat map and database
- 2.3 Ensure no new intentional imports of any non-local species.
- 2.4 Seek to reduce and remove all polluting discharges into the site
- 2.5 Ensure appropriate fisheries management is in place based on sustainability of species and the precautionary principle.
- 2.6 Establish mechanism to protect vulnerable species and habitats

- 3.1 Better communication – improved website, communication networks, blogs, social networking etc.
- 3.2 Develop schools programme to integrate into local curriculum to promote Ramsar values.
- 3.3 Ensure obligations under Ramsar ‘Communication Education Participation Awareness’ (CEPA) programme are fulfilled
- 3.4 Develop interpretation for on-site.
- 3.5 Develop information and interpretation material for tourism
- 3.6 Organise periodic forums for discussions
- 3.7 Publish Code of Conduct for users of the site
- 3.8 Provide WiSe training for commercial operators
- 3.9 Ensure representation on national and International Ramsar forum.

- 4.1 Prepare a funding and sponsorship plan which identifies key funding opportunities and obtains firm commitments from key Government Departments and other organisations for ongoing support for the South east coast Ramsar site.

RMA*	RMA-TS	DoE (P&E)	SJ	Dfl (TTS)	MRP	PoJ (JH)	JEC	JAA
1.1	2.1	1.6	1.5	2.4.2	2.3.2	2.3.1	2.4.3	2.6.1
1.2		2.4.1			2.5			
1.3		2.6.2						
1.4		3.1						
3.4		3.2						
3.5		3.8						
3.7		3.9						
4.1								

Table A1.1 – SE Coast Ramsar Plan Action point tracker

RMA*	RMA-TS	DoE (P&E)	SJ	MRP	PoJ (JH)	RA
1.1	2.1	1.4.2	1.4.3	2.5	2.4.1	3.7.1
1.2		1.6	1.5		2.4.2	
1.3		1.7			3.7.2	
1.4.1		2.2				
2.6		2.4.3				
3.4		3.1				
3.5.1		3.3				
4.1		3.5.2				
		3.8				
		3.9				

Table A1.2 – Offshore reef Ramsar Plan Action point tracker

	Not started
	Behind schedule / on hold
	On target
	Completed

Key

RMA	Ramsar Management Authority
RMA-TS	Ramsar Management Authority – Technical Subgroup
DoE	Department of the Environment (formally Planning & Environment)
MRP	Marine Resources Panel
DfI	Department for Infrastructure (formally Transport and Technical Services)
PoJ	Ports of Jersey (formally Jersey Harbours)
JAA	Jersey Aquaculture Association
SJ	Société Jersiaise
JEC	Jersey Electricity Company
RA	Residents associations (offshore reefs)

*It should be noted that in the absence of regular RMA meetings the majority of the completed tasks in column 1 have been fulfilled by the Department of the Environment.

Appendix 02 – Related reports

Several student research projects as well as a number of commissioned industry reports have been published in recent years that focus on species, habitats or activities within the Ramsar Site. The list below includes all those known to the department:

- Aquafish Solutions Limited, 2010,. Development of an aquaculture strategy for Jersey. [Available at www.gov.je]
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- Bennett-Jones, L., 2014, The Impact of a wastewater treatment works on the health of a *Zostera Noltii* bed in Jersey, Channel Islands. BSc(Hons) Plymouth University.
- Blampied, S., 2015 *Do species assemblage, richness, and abundance change between Roc, Sediment and Maerl at Les Ecrehous off Jersey?* Unpublished BSc(Hons) Thesis, University of Plymouth.
- Bracken, A., 2012. *A study of the ecology of marine algae in flooded gully habitats on Jersey's south-east coast with emphasis on the established non-native species, Sargassum muticum (Yendo) Fensholt*. Unpublished MSc Thesis, University of Reading.
- Bussy, J., 2014. *Etude de l'écologie trophique de la population de grands dauphins (Tursiops truncatus) du golfe normand-breton. Utilisation des isotopes stables du carbone, de l'azote et du soufre*. MSc Thesis, Université de Bretagne Occidentale, Brest.
- Chambault, P., 2013. *Distribution spatiale et utilisation de l'habitat de la population des grands dauphins (Tursiops truncatus) du golfe normand-breton*. MSc Thesis. Pierre et Marie Curie, Paris.
- CEFAS, 2017, extension of the La Hurel Bivalve Mollusc Production Area – Review of Sampling Plans. [Available at www.gov.je]
- Chambers, P, Binney, F and Jeffrey, G, 2016. *Les Minquiers: a natural history*. Charonia Media.
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- De Gruchy, C., 2015. *Marine Spatial Planning: an atlas and study of the ecology and human activities in Jersey Waters*. MSc Thesis, University of York, unpublished.
- Gally, F., 2014. *Les grands dauphins sédentaires Tursiops truncatus du golfe normand-breton: distribution, estimation et structure sociale de la population entre 2009 et 2013*. Diplôme de l'EPHE.
- Gally, F., 2014. *Suivi de la population des grands dauphins sédentaires du golfe normand-breton et de la baie de Seine*. GECC.
- GECC, 2014. *Les grands dauphins en mer de la Manche, synthèse des résultats de l'étude de trois ans réalisée par le GECC (2011-2013)*. GECC.
- GECC, 2013. *Structure génétique et conservation des populations de grands dauphins en Europe*. Université de la Rochelle.

Godet L, Le Mao P, Grant C and Olivier F, 2010. Marine invertebrate fauna of the Chausey Archipelago: an annotated checklist of historical data from 1828 to 2008. *Cahiers de Biologie Marine*, vol. 51: 147-165

Hooper, C., 2016, An investigation into the Asian shore crab on Jersey's east coast. Yet to be published.

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