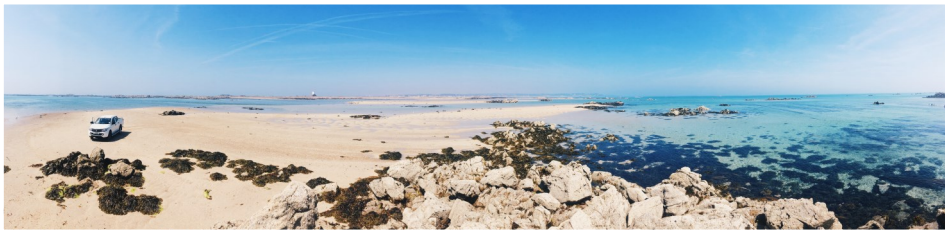
States of Jersey

MARINE RESOURCES ANNUAL REPORT 2017



DEPARTMENT OF THE ENVIRONMENT

MARINE RESOURCES SECTION

HOWARD DAVIS FARM

TRINITY, JERSEY, JE3 5JP

PREFACE

2017 was an extremely busy year. The Marine Resources section of the Department of the Environment continued to deliver meaningful management based on the interlinked principles of robust scientific data and evidence, coherent policy development and implementation, backed up with appropriate control, compliance and enforcement.

Landings of commercially important stocks by the capture fisheries sector varied significantly with some species (e.g. lobster, spider crab) increasing whilst others (e.g. brown crab, bass) decreased. Fluctuations in commercial landings can be due to natural and human actions but they highlight the need for information and data so that stock can be exploited in a sustainable way. To this end, under the auspices of the Granville Bay Agreement, working groups of both French and Jersey fishermen and scientists were established in 2017 to look at both crustacean and mollusc stocks. Going forward the requirement for ever improving data and evidence to drive management decisions will only increase and it is paramount all stakeholders work together to provide that knowledge base.

The request to review the Granville Bay Agreement was, perhaps, the most important development for the industry as the Agreement covers the access to French Waters by Jersey vessels and Jersey Waters by French vessels. It also provides the mechanism to agree joint measures that cover the Bay of Granville. The outcome of the review will set the framework for the future management of stocks and so it was important that the review of the Agreement was requested.

Whilst there was a decrease in production in 2017 aquaculture continues to be a major sector in the marine economy. The granting of an overarching planning permit covering a significant part of Grouville Bay was of major benefit to the industry as it simplifies the application process for new concessions within the Bay.

After considerable work new entrant schemes for both the capture fisheries and aquaculture sectors were established, whereby support could be given to new entrants to make full time long term commitments to the fishing and aquaculture industries.

The section, together with colleagues inside and outside of government, have undertaken a wide range of monitoring throughout the year. The monitoring programme of non-native species culminated in the publication of a review and assessment of non-native marine species in the Channel Islands, giving a comprehensive audit that can, going forward, be incorporated into a wider non-native strategy covering marine and terrestrial species.

Extensive monitoring and assessment programmes of key habitats, namely seagrass and maerl, lead to

the creation of protected areas at the offshore reefs of Les Écréhous and Les Minquiers. This project has been ongoing since 2013. The contribution of the Jersey Fishermen's Association must be acknowledged, who worked together with French fishermen in the Granville Bay Agreement meetings, to reach this hugely important outcome.

With Ministerial and Assembly support the section has delivered amendments to primary and secondary legislation, enabling improved management of our marine resources. The amendment to the Sea Fisheries (Jersey) Law was particularly important as it demonstrated the nature of the relationship in place between the Island and the UK. Compliance remains a key function of Marine Resources and this new legislation, together with all that previously existing, has been and will continue to be enforced by Officers. The combination of technology, routine patrols and intelligence led policing provide a comprehensive framework to safeguard marine resources and other stakeholders from illegal activities.

As with many sectors of the economy, but perhaps more so in the fisheries and aquaculture sectors, the decision of the UK to leave the EU was and remains the major issue. The falling away of Protocol 3, the part of the UK's Accession Agreement, that covers the Crown Dependencies has led to uncertainty as to the trading relationship with the EU. This is further complicated by the impact on the Common Fisheries Policy and access to, until this time, common waters. To address this government established a detailed BREXIT strategy and agreed a key workstream would cover Agriculture and Fisheries. Extensive discussions were held on Island culminating in a report, detailing the potential impacts of BREXIT of fisheries, being submitted to the BREXIT Ministerial Group for consideration. BREXIT will remain a key issue throughout 2018.

2017 has been a challenging year for Marine Resources both in terms of work load and complexity of issues. It is unlikely 2018 will be different. However, by acknowledging the work done so far and by developing and fostering partnerships between government and industry, recreational stakeholders, NGOs and with administrations and scientists on and off Island we can continue to conserve, protect, enhance and sustainably exploit the marine resources that surround Jersey.

Greg Morel - Assistant Director, Marine Resources

CONTENTS

JERSEY'S TERRITORIAL WATERS

Jersey's territorial waters stretch from the island's coastline up to 12 nautical miles offshore and cover almost 2,500 square kilometres. This is over twenty times greater than the island's land mass which is just 117 square kilometres. Our marine and coastal areas have a scenic, historic and cultural value that boosts Jersey's image at home and abroad and which influences Island life in almost every way.

Jersey's coastline is 90 km long at high water mark, not including the offshore reefs. The length of sea edge is an important influence on the Island's character and perceptions of character. On spring tides the difference between low and high tide can be as much as 12 metres. The south, south-east and west coast have a very shallow, gently sloping shore profile which means that a very large intertidal area is exposed at low tide and the Island almost doubles in size to about 200 square kilometres. By contrast the north and south west coasts are characterised by steep granite cliffs and coastal heath. Both the inland character of Jersey and its marine environment are very much influenced by the great variation in aspect and exposure of its coastal edges.

Jersey's coastal zone is an area of increasingly intense activity, where complex interactions take place between physical, biological, social, cultural and economic activities. Jersey's location at the confluence of the cold and warm temperature marine biogeographical region together with the warming influence of the Gulf Stream results in important groups of animal and plants associated with the warmer waters of southern Europe, as well as species associated with the cold, northern waters of the UK.

The overall extent and character of the rocky reefs and intertidal sediment flats on the south east coast is not found anywhere else in Europe. At low tide an extensive and biologically rich area of 3,210 hectares is exposed. The steep rocky coast, granite rocky platform and beach coast comprise the Jersey shoreline and are equally important, although better studied than the subtidal environment of predominantly tideswept sands and gravels. Large reef systems surround Les Écréhous and the Paternosters and extensive areas of shallow water with mixed sediment habitat stretch southeast from the Violet Bank. Of special interest is the submerged Plateau des Minquiers, an area of water shallower than 10m covering 100 square kilometres.

The international importance of Jersey's coastal waters is recognised by the fact that almost 190 square kilometres of inter-tidal habitat, spread across Jersey's south-east coast and offshore reefs, are designated as wetlands of international importance under the Ramsar Convention.

The seas around Jersey are very productive. This is reflected in the economic importance of fishing and aquaculture. The fishing industry plays a significant role in Island life and the maintenance of the marine habitat is vital in safeguarding nursery grounds and feeding areas for commercial species. Whilst on a different scale to the finance industry our marine and coastal areas support approximately 180 jobs directly related to fishing and aquaculture activities and more in associated industries.

Jersey is also rich in coastal and marine sites of cultural, archaeological and historical significance including one of the most important Palaeolithic sites in the British Isles at La Cotte de St Brelade; peat beds and remains of a Neolithic forest sealed beneath inter-tidal sands; and a rich density and diversity of coastal fortifications with excellent examples of Tudor, Napoleonic and Second World War structures.

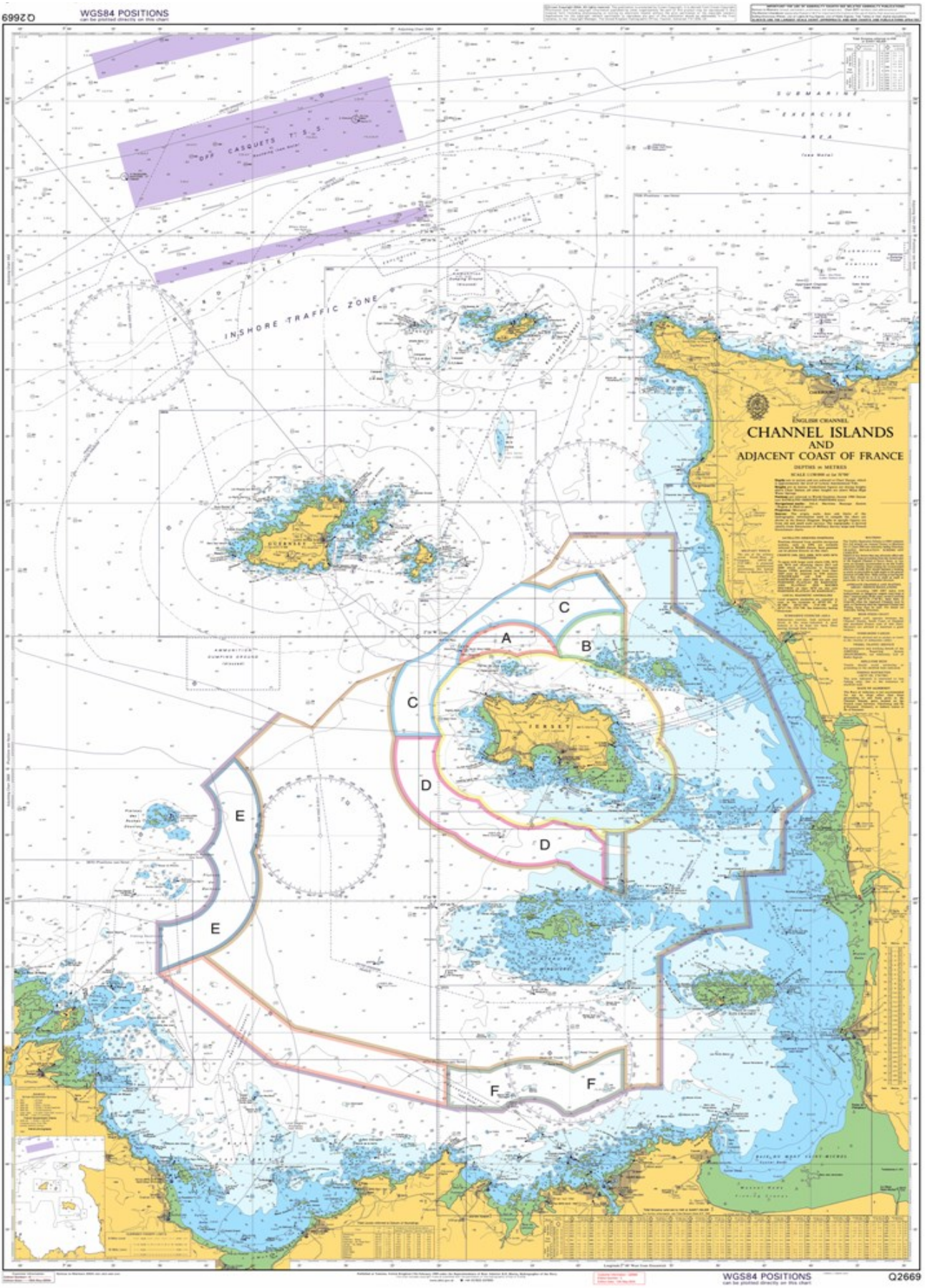


Fig. 1. Normano-Breton Gulf, including fishing zones (not for navigation)

JERSEY'S MARINE RESOURCES

COMMERCIAL CAPTURE FISHERIES

LICENCED VESSELS

JERSEY'S FISHING FLEET. Any fishing vessel exploiting stocks in local waters on a commercial basis requires a fishing licence. The Jersey fishing vessel licensing system is aligned directly with that of the UK and as such contributes to the stabilisation of fishing effort at a European wide level.

IN NUMBERS.

This year saw a decrease in licenced fishing vessels:

There was a decrease of three over 10m boat, and no change to the overall number of under 10m boats.

29 licences opened, and 32 closed — an overall decrease of three since 2016.

The number of shellfish entitled boats remained the same.

This brings the capacity for Kw down to 11,600, and the Tonnage down to 546.

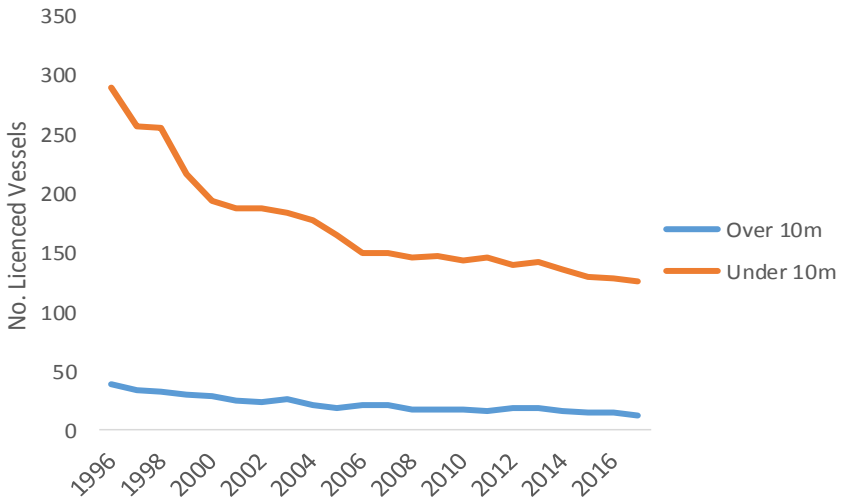


Fig. 2 The number of licenced vessels as of 31st December 2017

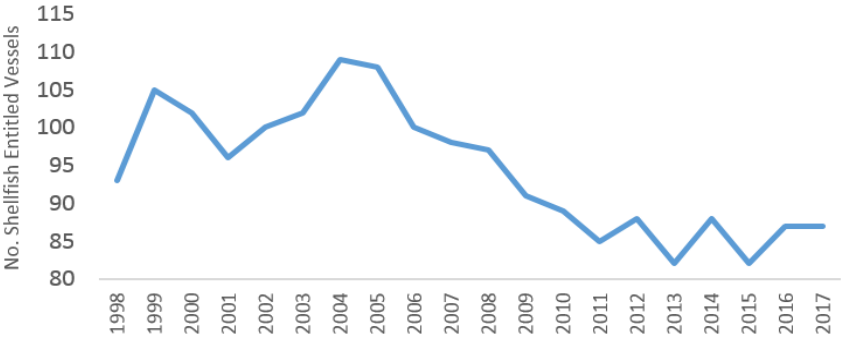


Fig. 3. The number of shellfish entitled boats as of 31st December 2017

THE NEW ENTRANT SCHEME. In 2017 a licence scheme was brought in to assist new entrants by creating an incentive to make a tangible and long term commitment to the fishing industry. A small pool of State owned licences were made available to lease out to new entrants in the industry under set criteria agreed by Government and the Jersey Fisherman's Association. As of December 31st 2017, three licenses had been approved as a result of this scheme.

JERSEY'S MARINE RESOURCES

COMMERCIAL CAPTURE FISHERIES

COMMERCIAL LANDINGS - SHELLFISH

Fig. 4. Landed quantity (Kg). A) Brown crab, B) Whelk, C) Scallop, D) Lobster, E) Spider crab, F) Annual commercial pot lifts relating to lobsters and crabs (creels, D-pots, inkwells, parlour pots).

A CLOSER LOOK. Jersey's commercial fishery is dominated by shellfish with the principal five species being lobster, brown crab, spider crab, whelks and scallops. The lobster, crabs and whelks are usually caught in baited pots while the scallops are caught by dredging or scuba diving.

Trends between the species are mixed. Annual landings for lobsters and spider crabs have been increasing while brown crab and scallops are decreasing. Whelk landings are variable. The number of pots lifts recorded against lobster and brown crab has increased. Lobsters, brown crab, spider crab, and whelks are discussed in more detail in **Section 4 (Research and Development).**

Other shellfish landed by Jersey boats includes: cuttlefish; cockles; lady crab; squid; ormers; queen scallops; crayfish; praires; and prawns. See Appendix 1 for more details.

JERSEY'S MARINE RESOURCES

COMMERCIAL CAPTURE FISHERIES

COMMERCIAL LANDINGS - WETFISH

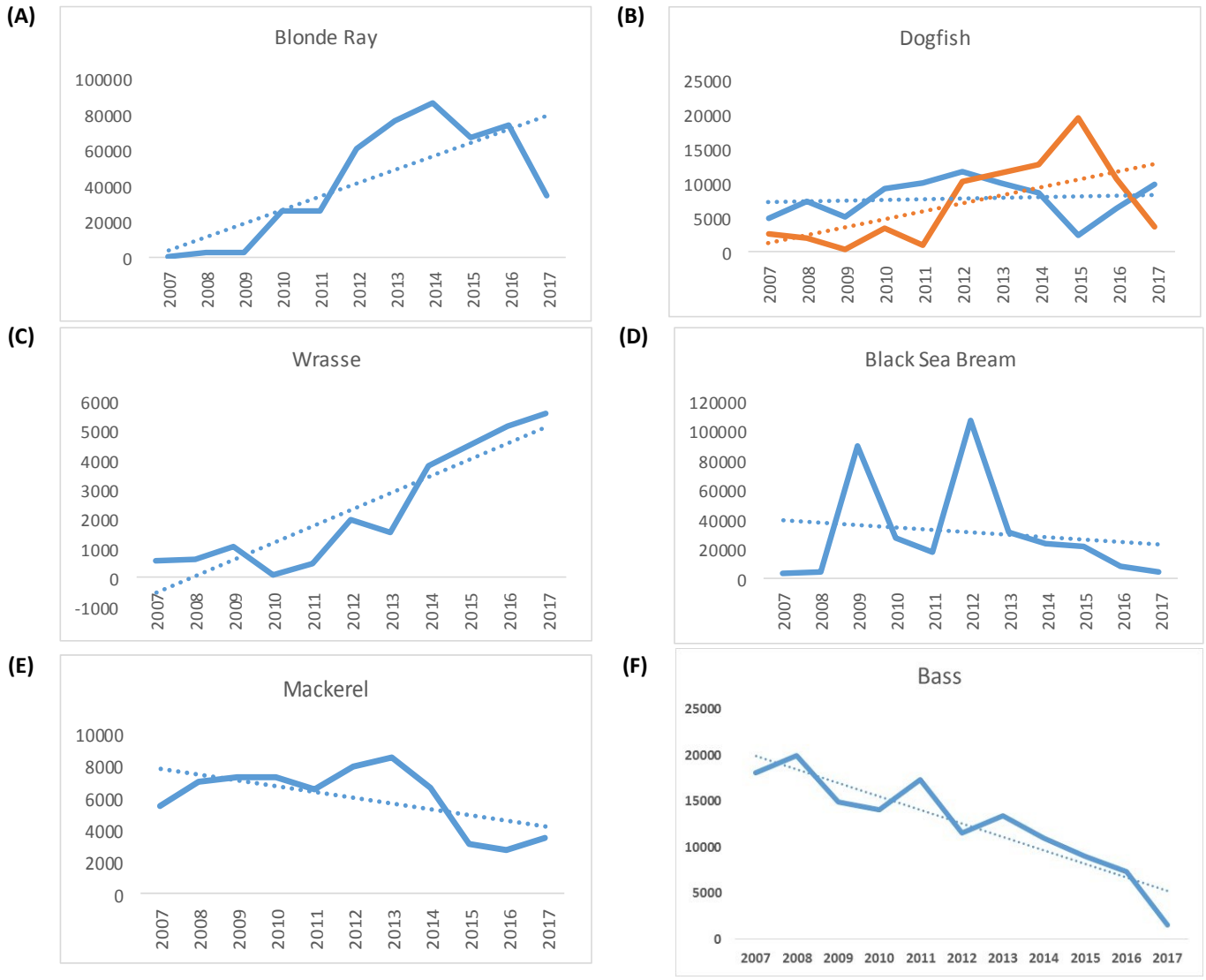


Fig. 5 Landed quantity (Kg) from 2007 to 2017. A) Blonde Ray, B) Dogfish (Blue = dogfish, orange = Lesser Spotted Dogfish), C) Wrasse, D) Black Sea Bream, E) Mackerel, F) Bass.

A CLOSER LOOK. Jersey's commercial wetfish industry is secondary to shellfish in terms of economic importance to the island's fishing fleet. This is for several reasons related to logistics, markets and quota arrangements. A range of species is caught but often in relatively low numbers (see Appendix 2). The annual landed quantity (Kg) for a selection of commercially important species is shown in Figure 5.

There is considerable variability between individual species which is often difficult to interpret in a local context especially as declines or rises in catches may be related to factors that are operating on a regional basis rather than just in Jersey waters. This external influence is more of a feature in wetfish than shellfish because of their mobility, migration patterns and reproductive habitats. While local wetfish landing levels and trends are monitored by Marine Resources, the island will generally (or is sometimes obliged to) follow guidance and advice issued from external research organisations such as ICES, EU and UK.

Some wetfish species have been subject to local research, usually by members of the Marine Resources team. This includes a ray-tagging project, a commercial recording scheme for bass (see page 23) and the acoustic tagging of wrasse. In 2017 several fish species were subject to a scientific literature review as part of a regional examination of Jersey's recreational fished species.

JERSEY'S MARINE RESOURCES

AQUACULTURE

FARMED SHELLFISH PRODUCTION

JERSEY'S AQUACULTURE INDUSTRY. Production remains focused on the Pacific oyster with interest in mussel and flat oyster growing. The main beds in Grouville Bay are now all under a single planning consent held by the Department of the Environment. This has helped to improve consistency of license conditions & has also paved the way for a new entrants scheme to be established. 2017 saw the three main farms in Grouville renew their licenses for a further 9 year period. Additionally, one new entrant has been established on a 2 hectare strip at the northern end of the concession area. The new concession was granted in the autumn and is expected to go into production in 2018.

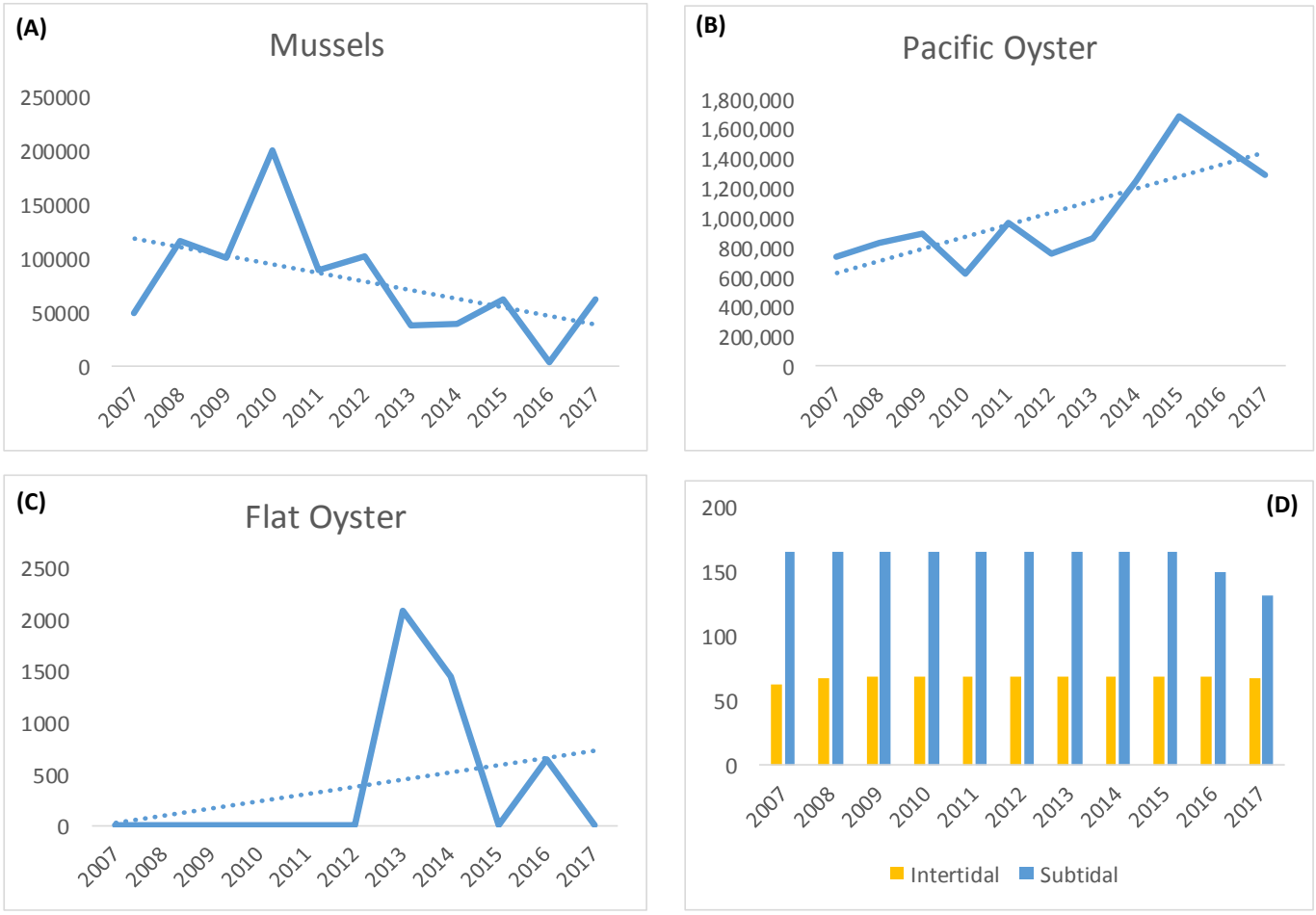


Fig. 6. Weight (KGs) of farmed shellfish. A) Pacific Oyster. B) Mussles. C) Flat Oyster , D) Intertidal and subtidal areas (Hectares)


Oyster beds in Grouville Bay

JERSEY'S MARINE RESOURCES

AQUACULTURE

MICROBIAL CONTAMINATION RESULTS

SHELLFISH PRODUCTION CLASSIFICATION AREAS. Bivalve mollusc production areas are classified as A, B or C according to bacteriological criteria (levels of E.coli found in samples from the site). This is in accordance with the requirements in EC Regulation 854/2004, Annex II, Chapter II, A.

BED NAME	PRODUCTION AREA	SPECIES	GRADE
Holding Bed, Grouville	6, 27, and 29	*C. gigas*	B
	27	*M. edulis*	B
Main Bed South, Grouville	1 and 21	*C. gigas*	B
Main Bed North, Grouville	24 and 28	*C. gigas*	B
		M. edulis	B
La Hocq	8 and 25	*C. gigas*	B
Green Island	12	*O. edulis*	B
Seymour Tower A	26	*C. gigas*	A
Seymour Tower B	20	*C. gigas*	Seasonal B June to October. A at all other times.

WHAT DO THESE GRADES MEAN?

A = Can be harvested for direct human consumption. 80% of samples collected must not exceed 230 E. coli per 100 g of flesh and intravalvular liquid. The remaining 20% of samples must not exceed 700 E. coli per 100 g of flesh and intravalvular liquid.

B = Can go for human consumption after purification in an approved plant or after relaying in an approved Class A relaying area or after an EC approved heat treatment process. 90% of sampled molluscs must contain less than 4,600 *E. coli* per 100 grams of flesh; 10% of samples must not exceed 46,000 *E. coli* per 100 grams of flesh.

C = **Can go for human consumption only after relaying for at least two months in an approved relaying area followed, where necessary, by treatment in a purification centre, or after an EC approved heat treatment process.** Molluscs must contain less than 46,000 *E. coli* per 100 grams of flesh.

Shellfish sampling in Grouville Bay

JERSEY'S MARINE RESOURCES

OTHER USES

FEPA - DEPOSITS AT SEA

Anyone wishing to deposit material at sea or in the intertidal area below the mean high water mark may need to apply for a licence under the FEPA (Food and Environment Protection Act) 1985 (Jersey) Order 1987. Applications for a FEPA licence are assessed by Marine Resources in conjunction with a panel of local representatives from the States of Jersey. Some activities are exempted from the FEPA licencing process but anyone who needs to deposit material on the beach (including natural materials such as seaweed) or who is to be engaged in construction works in or adjacent to the coast, should check with Marine Resources to see whether a licence is required. Details concerning issued FEPA licences are submitted annually to DEFRA as part of Jersey's commitment to the OSPAR Convention.

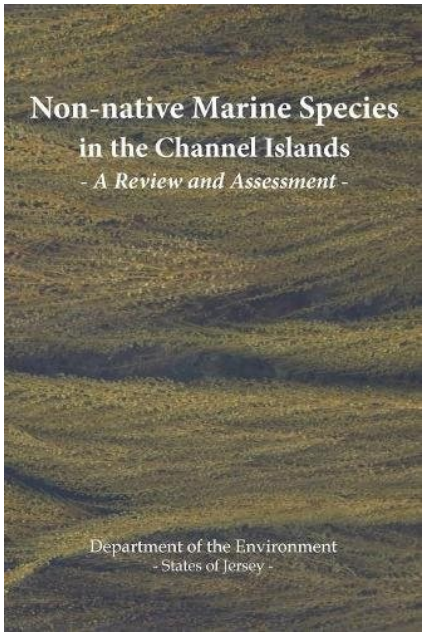
The following FEPA licences were issued during 2017:

LICENCE NO.	APPLICANT	PROJECT	DATE OF ISSUE	DATE OF EXPIRY
2017/01	Department of Infrastructure	Trial deposit of green seaweed (*Ulva* spp.) from St Aubin's Bay into the sea at the 'foul ground' off the south coast on the ebb tide.	10/04/2017	09/04/2017
2017/02	Jersey Harbours	Removal of material at the south side of the entrance to St Aubin's harbour and subsequent deposit to the south of the southern wall of the harbour for a two year period	10/03/2017	31/12/2018
2017/03	Jersey Oyster Company	Deposit of oyster bag washings	24/05/2017	23/05/2019
2017/04	Department of Infrastructure	Deposit of green seaweed (*Ulva rigida*) on intertidal zone.	01/06/2017	31/05/2018
2017/05	Pitcher and Le Quesne	Burial at Sea	14/11/2017	04/12/2018

ENVIRONMENTAL MONITORING

NON-NATIVE SPECIES

Non-native species can have significant impacts on marine ecosystems, from competition to biodiversity loss. Entry routes include ballast waters, fouling on ships hulls and aquaculture. Eradication of non-indigenous species in the marine environment, once established, is considered virtually impossible due to logistic and resource issues. During 2017 the Marine Resources Section undertook a full review of the non-native marine species situation in Cannel Island waters. A total of 43 non-native species have been reported from the islands with another 25 probably being present but not yet recorded. Regionally there are possibly 134 species which have the potential to reach the islands within the next twenty years. Almost all non-native marine species are transported to Jersey via shipping or are carried here from other parts of the English Channel via tidal currents. A threat assessment made for each non-native species highlights several that are or have the potential to cause problems in local waters. The highest ranking species include the American Slipper Limpet (*Crepidula fornicata*), and Wireweed (*Sargassum muticum*).



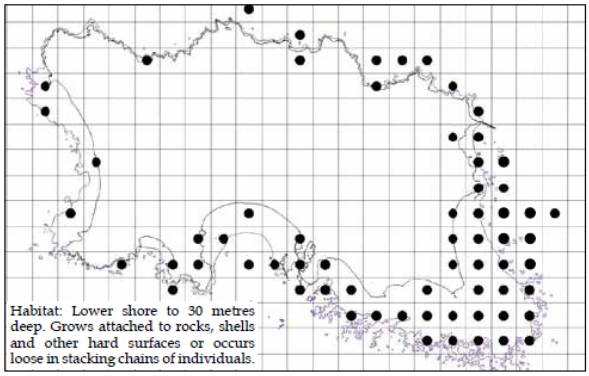
For more information see the following report which available on the SoJ website:

Non-native Marine Species in the Channel Islands. **Department of the Environment, 2017.**

Crepidula fornicata
American Slipper Limpet

Threat score: 125

ES	Hab	Tox	Econ
5	5	1	5



Habitat: Lower shore to 30 metres deep. Grows attached to rocks, shells and other hard surfaces or occurs loose in stacking chains of individuals.

The Slipper Limpet presents probably the greatest threat to the marine environment within the Normano-Breton Gulf. It has been introduced into Europe from the USA on at least two occasions; the first into the UK in the nineteenth century and the second into France in the 1970s. On both occasions the importation of oyster seed was the transport vector. Once introduced, the Slipper Limpet spread rapidly to many other areas via the movement of aquaculture stock, ships' hulls, etc.

The first record of Slipper Limpets in the Normano-Breton Gulf come from the Brest area of Brittany in 1949 but it is not until the mid-1970s that it started to occur in the Channel Islands area probably as a consequence of the movement of aquaculture stock. The first Channel Islands records were in 1975 from the area of seabed just north of Les Écréhous (Rètiere, 1979) and by the 1980s it was common on the seashore. A seabed survey in 1996 found large numbers of Slipper Limpets in the Bay of Granville region including off the east and south coasts of Jersey. The biomass of Slipper Limpets in 1996 was estimated at 107 tonnes with seabed coverage reaching 100% in some areas. This raised serious concerns about the effect that Slipper Limpets were having on the local environment. The seabed area was resurveyed in 2004 revealing the density and coverage had increased three-fold and the biomass had risen to 149 tonnes (Blanchard, 2009).

By this time the Slipper Limpet had begun to impact severely on the aquaculture industry within the Bay of Mont St Michel and there were

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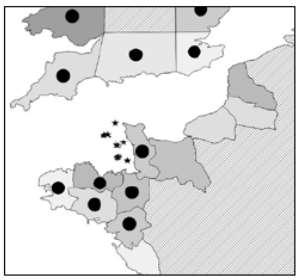

suggestions that this was affecting offshore scallop dredging. Areas of seabed with a density of Slipper Limpets >50% were found to be functionally barren. Within the Bay of Mont St Michel around 25 km^2 was in this state, affecting aquaculture and all fishing methodologies.

Recent surveys using video cameras have revealed large areas of seabed off Jersey's east and south coasts where Slipper Limpet coverage is >50%. There is currently serious concern about the rapid geographic spread and increasing density of Slipper Limpets in Jersey's shallow marine zone and the potential severe environmental and economic threats.

The Slipper Limpet situation requires urgent assessment and study to quantify the problem, predict its ultimate and decide what actions can be taken to mitigate the environmental and social impacts.

TL: *A stacking of chain of Slipper Limpets at La Collette, Jersey.* TR: *Slipper Limpets attached to a rock in Grouville, Jersey.* BL: *Seabed off the east coast of Jersey with 100% coverage of Slipper Limpets.* BR: *Slipper Limpets attached to Great Scallop and Dog Cockle shells dredged off Jersey's east coast.*

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Fig. 7. An example page (American Slipper Limpet *Crepidula fornicata*) from the publication.

ENVIRONMENTAL MONITORING

NON-NATIVE SPECIES

Below is a list of known non-native marine species from Channel Island waters and the locations from they've been reported. (Source: *Non-native Marine Species in the Channel Islands.* DoE, 2017.)

Scientific Name	Je	Ecr	Min	Pat	Gu	Al	Sk	He	Li
Bonamia ostreae	X								
Pileolaria berkeleyana	X								
Potamopyrgus antipodarum	X				X				
Coscinodiscus wailesii	X								
Crepidula fornicata	X	X	X		X	X	X		X
Dasysiphonia japonica	X								
Neosiphonia harveyi	X								
Corethron pennatum	X								
Hemigrapsus sanguineus	X				X				
Odontella sinensis	X				X				
Monocorophium sextonae	X								
Codium fragile fragile	X			X	X	X			
Sargassum muticum	X	X	X	X	X	X	X	X	X
Austrominius modestus	X		X		X	X		X	
Hesperibalanus fallax					X				
Amphibalanus improvisus					X			X	
Diadumene lineata					X				
Oncorhynchus kisutch					X				
Asparagopsis armata	X	X	X		X	X	X	X	X
Crassostrea gigas	X	X	X		X	X	X		
Mercenaria mercenaria	X								
Ruditapes philippinarum	X	X							
Mya arenaria					X				
Urosalpinx cinerea	X								
Grateloupia subpectinata	X	X	X		X	X			
Grateloupia turuturu	X								
Polyopes lancifolius	X								
Bonnemaisonia hamifera	X				X	X			
Solieria chordalis	X								
Tricellaria inopinata	X								
Watersipora subtorquata	X				X				
Perophora japonica	X				X				
Gracilaria vermiculophylla	X								
Styela clava	X	X	X		X			X	
Colpomenia peregrina	X	X	X		X	X	X	X	
Lyrodus pedicellatus	X				X	X		X	
Antithamnionella ternifolia	X				X	X			
Teredo navalis	X				X	X			
Bugula neritina	X				X				
Bugulina stolonifera	X								
Corella eumyota	X				X				
Undaria pinnatifida	X				X				
Botrylloides violaceus	X								

Key: Je = Jersey; Ecr = Les Écréhous; Min = Les Minquiers, Pat = Paternosters; Gu = Guernsey; Al = Alderney; Sk = Sark; He = Herm; Li = Lihou.

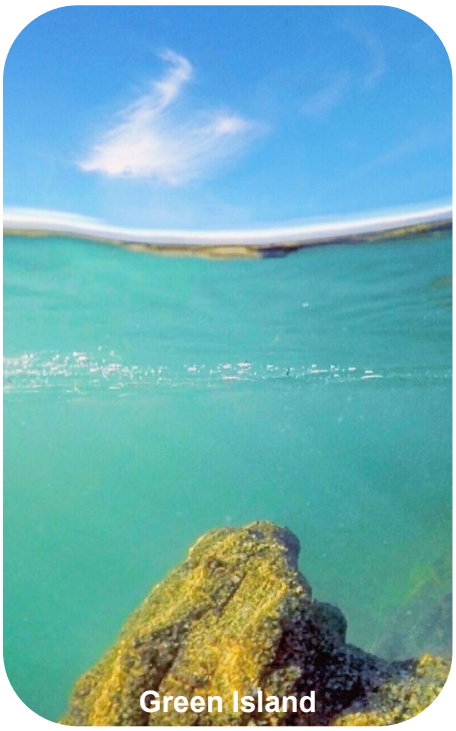
ENVIRONMENTAL MONITORING

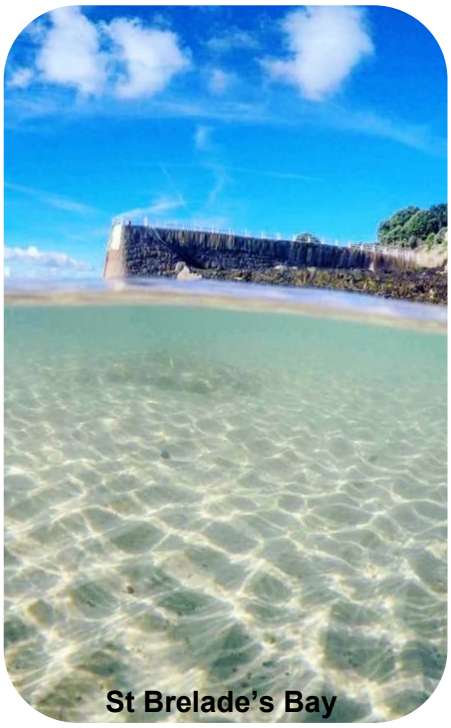
BATHING WATER

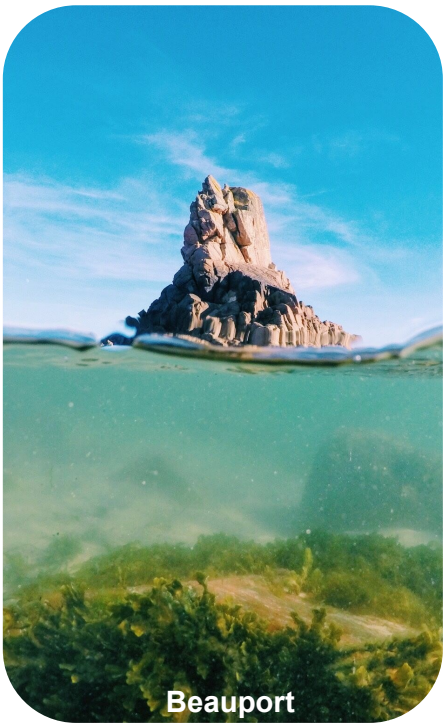
Monitoring of bathing water quality started in 1992, with 14 of the most popular beaches monitored weekly between May and September. The two main parameters for analysis are intestinal *Enterococci* and *Escherichia coli*, however other parameters such as the presence of cyanobacteria or microalgae can also be taken into account. The 2006 Bathing Water Directive has four standards for classification: Excellent, Good, Sufficient and Poor. The standards for this new Directive are approximately twice as strict as they were for the old 1976 directive. From 2015, bathing water compliance assessment changed from a classification based on water samples collected in one season to four years data. So, for 2017, results are based on 2014—2017 data. The results are forwarded to The Marine Conservation Society (MCS) for inclusion in the UK Good Beach Guide.

RESULTS. Last year's results identified 11 of the 16 beaches as having 'excellent' water quality, with two beaches falling into the 'good' classification. Only one beach was classed as 'sufficient', and no beaches fell into the 'poor' category.

EXCELLENT	GOOD	SUFFICIENT	POOR
Victoria Pool	Bouley Bay	La Haule	
Grouville	St Brelade's Bay		
Archirondel			
Harve des Pas			
Green Island			
Beauport			
Portelet			
Le Braye			
Plemont			
Grève de Lecq			
Watersplash			


Green Island


St Brelade's Bay


Beauport

ENVIRONMENTAL MONITORING

HAZARDOUS SUBSTANCES

HEAVY METALS

Since 1993 monitoring has been conducted to assess heavy metal concentrations within key marine species both onshore and offshore. The common limpet (*Patella vulgata)*, the slipper limpet (*Crepidula fornicata),* and a serrated seaweed (*Fucus serratus)* are used as bio-monitors. The limpet and seaweed samples are taken from five locations around Jersey's coast and slipper limpet samples from four locations. The programme has recently been extended to also include a full suite of samples from all the offshore reefs. Samples are taken quarterly but the Department is awaiting laboratory results data for all samples submitted after 2015.

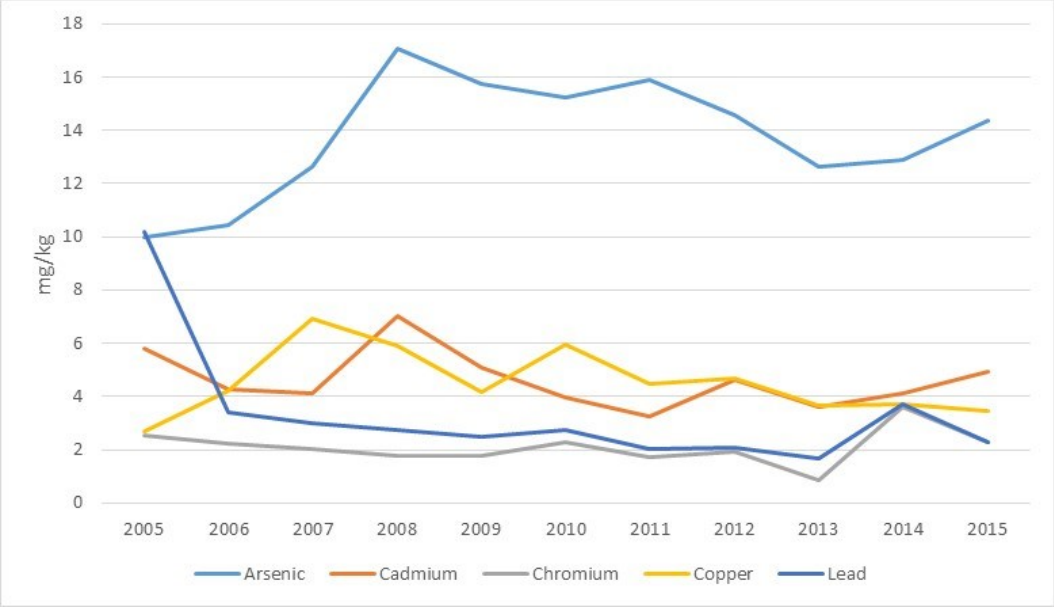


Fig. 8. Average annual heavy metal concentrations in seaweed samples taken from Havre des Pas.

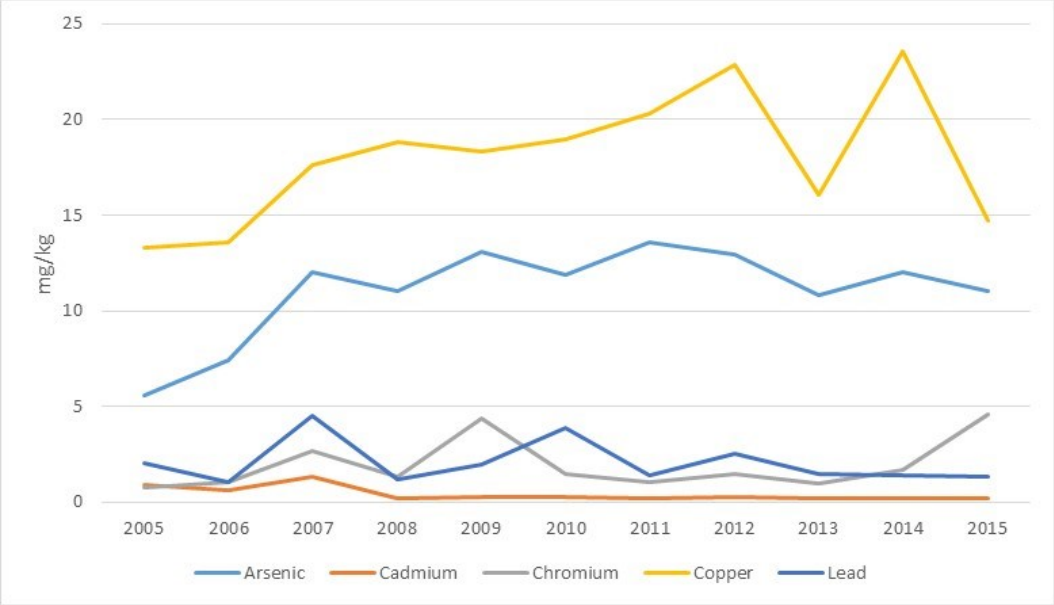


Fig. 9. Average heavy metal concentrations in subtidal slipper limpet samples taken from Les Écréhous.

RESULTS. While there is variation between metals, analysis shows that there is a general correlation between sites indicating that trends are consistent around the locations sampled and therefore not indicative of a point source of these metals.

ENVIRONMENTAL MONITORING

HAZARDOUS SUBSTANCES

HARMFUL ALGAL BLOOMS

Shellfish and seawater samples are collected and analysed monthly from November to April and bi-monthly from May to October, and analysed for three algal biotoxins. Below are the results for the past 10 years. For results dating back further please contact the Environment Department.

Paralytic Shellfish Poisoning

YEAR	SHELLFISH	SEAWATER
2009	Not Detected	Below Trigger Point for Additional Sampling
2010	Not Detected	Below Trigger Point for Additional Sampling
2011	Not Detected	Below Trigger Point for Additional Sampling
2012	Not Detected	Below Trigger Point for Additional Sampling
2013	Not Detected	Below Trigger Point for Additional Sampling
2014	Not Detected	Below Trigger Point for Additional Sampling
2015	Not Detected	Below Trigger Point for Additional Sampling
2016	Not Detected	Below Trigger Point for Additional Sampling
2017	Not Detected	Below Trigger Point for Additional Sampling

Diarrhetic Shellfish Poisoning

YEAR	SHELLFISH	SEAWATER
2009	Negative	Below Trigger Point for Additional Sampling
2010	Negative	Below Trigger Point for Additional Sampling
2011	Below Reporting Limit	Below Trigger Point for Additional Sampling
2012	Below Reporting Limit	Below Trigger Point for Additional Sampling
2013	Below Reporting Limit	Below Trigger Point for Additional Sampling
2014	Below Reporting Limit	Below Trigger Point for Additional Sampling
2015	Below Reporting Limit	Below Trigger Point for Additional Sampling
2016	Below Reporting Limit	Below Trigger Point for Additional Sampling
2017	Below Reporting Limit	Below Trigger Point for Additional Sampling

Amnesic Shellfish Poisoning

YEAR	SHELLFISH	SEAWATER
2009	Below Limit of Quantitation	Below Trigger Point for Additional Sampling
2010	Below Limit of Quantitation	Below Trigger Point for Additional Sampling
2011	Below Limit of Quantitation	Below Trigger Point for Additional Sampling
2012	Below Limit of Quantitation	Below Trigger Point for Additional Sampling
2013	Below Limit of Quantitation	Below Trigger Point for Additional Sampling
2014	Below Limit of Quantitation	Below Trigger Point for Additional Sampling
2015	Below Limit of Quantitation	Below Trigger Point for Additional Sampling
2016	Below Limit of Quantitation	Below Trigger Point for Additional Sampling
2017	Below Limit of Quantitation	Below Trigger Point for Additional Sampling

ENVIRONMENTAL MONITORING

HAZARDOUS SUBSTANCES

RADIOACTIVE SUBSTANCES

Samples of marine environmental materials are analysed annually by the Environment Agency (UK) for levels of radioactivity to monitors the effect of radioactive discharges from the French reprocessing plant at La Hague and the power station at Flamanville as well as historical disposals of radioactive waste in the Hurd Deep. Fish and shellfish are monitored to determine exposure from the internal radiation pathway; sediment is analysed for external exposures. Seawater and seaweeds are sampled as environmental indicator materials and, in the latter case, because of their use as agricultural fertilisers.

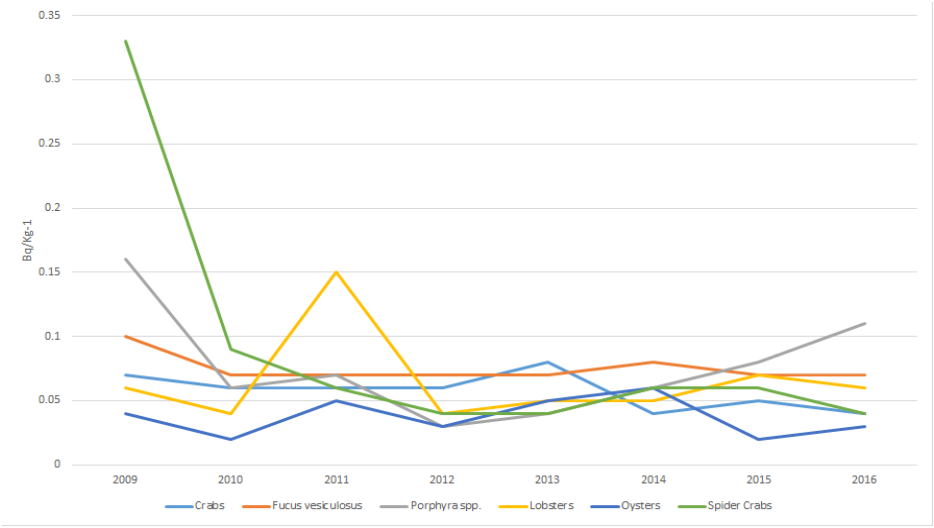


Fig. 10. Maximum levels for cobalt-60 as measured in a range of marine species from Jersey. This radionuclide is associated with nuclear facilities but in Jersey concentrations are considered to be low.

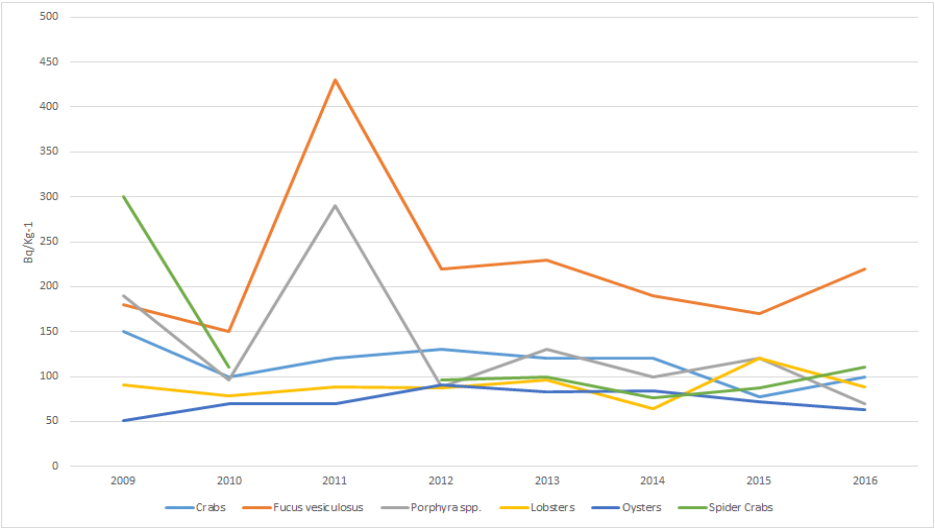


Fig. 11. Maximum levels for gross beta particles as measured in a range of marine species from Jersey. This helps assess general radiation exposure levels with concentrations being at or near background levels in Jersey.

RESULTS. 'In 2016 there was evidence of routine releases from the nuclear industry in some food and environmental samples (e.g. cobalt-60, strontium-90, technetium-99 and iodine-129). However, activity concentrations in fish and shellfish were low and similar to those in previous years. It is generally difficult to attribute the results to different sources, including fallout from weapon testing, due to the low levels detected. No evidence for significant releases of activity from the Hurd Deep site was found. An assessment of the dose to a representative person who consumes large amounts of fish and shellfish was carried out. In 2016, the representative person was estimated to receive less than 0.005 mSv, which is less than 0.5 per cent of the dose limit for members of the public.' (Source: *Radioactivity in Food and the Environment, 2016*. Environment Agency, 2017.)

RESEARCH & DEVELOPMENT

WHELKS

THE PROJECT. The annual study of whelk (*Buccinum undatum*) catch per unit effort (CPUE) was conducted in February. Fishing gear consisted of strings of baited whelk pots, that are specifically designed for whelks, set for 24 hours. When the pots were hauled the whelks were graded, separating 'small' and 'large' for weighing. Further to this, 2017 saw an additional measure added to the protocol. A 1Kg subsample of both small and large whelks from each site were taken ashore and measured, to gain a more detailed insight into the size structure of Jersey's whelk population.

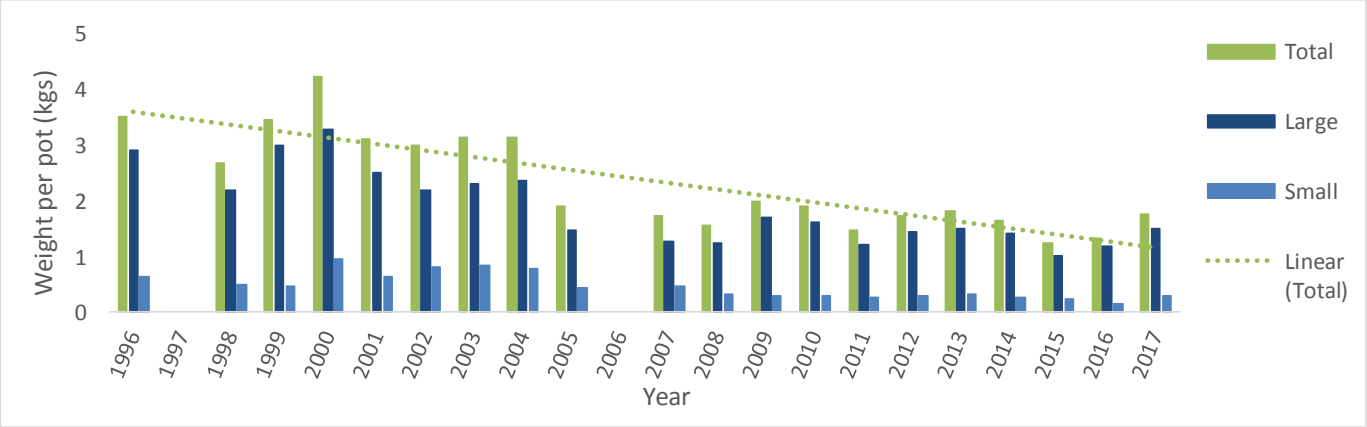


Fig. 12. Kg of whelks per pot. 1996 to 2017. Results for Total, Large (above 50mm MLS) and Small (below 50mm MLS). Trend line for Total.

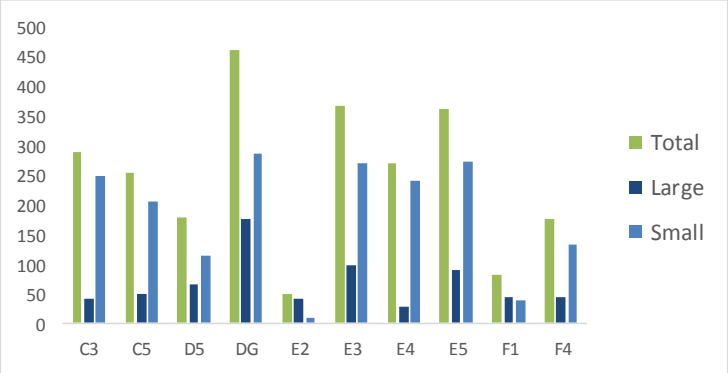


Fig. 13. Kg of whelks per pot, 2017. Results for Total, Large (above 50mm MLS) and Small (below 50mm MLS).

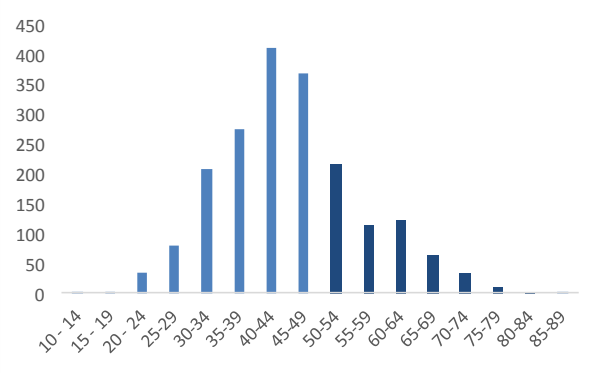


Fig. 14. Size frequency distribution of the additional 1Kg sub sample of whelks collected in 2017

RESULTS. Overall, the CPUE in 2017 was 1.77 kg per pot. This was an increase on the CPUE recorded in 2015 and 2016, returning to the levels seen in 2012 and 2013. The 'large' size group in 2017 was the highest in 7 years, with a CPUE of 1.49 kg, although still significantly below the 1998 – 2002 average of 2.64 kg. The 'small' size group remains low at 0.28 kg per pot.

A CLOSER LOOK. Overall there is still a trend of decline in the stock, with no significant improvement on catches from the last 10 years, with notably low catches of 'small' whelks, suggesting low recruitment to the fishery. There are however some sites showing more positive results to the North and East of the island and off the West of Les Minquiers reef.

Whelks ready for measuring

RESEARCH & DEVELOPMENT

CRABS

THE PROJECT. During the annual lobster trials, details and measurements are also taken of any crab species caught, primarily brown crab (*Cancer pagurus*) and spider crab (*Maja brachydactyla*). Additionally, commercial fishermen are required to submit their catches via logsheets.

BROWN CRAB

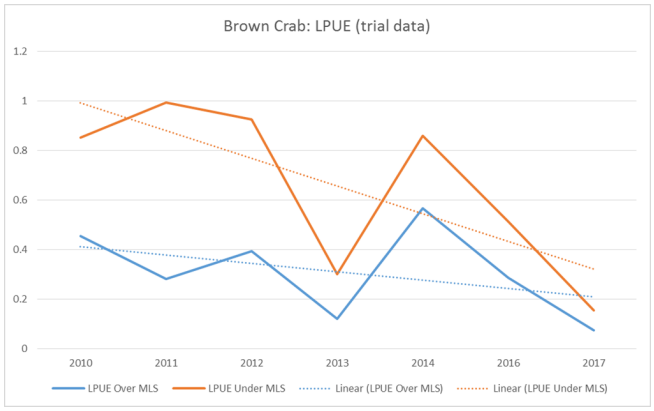


Fig. 19. Trial data—LPUE . See Section 2.1. Commercial Capture Fisheries for commercial landing data.

A CLOSER LOOK. The commercial fishery for brown crab has seen landings decrease severely since 2012. This has also been reflected in trial data since 2014. This decline has been seen in French and UK landing data also and is being investigated by Jersey and France. Additional commercial management measures, such as new no parlour pot zones, are being considered by the JFA and Bay of Granville Agreement and this situation is also being studied by Ifremer and Jersey scientists. In 2018 Jersey will host the ICES WGCRAB meeting at which this issue will be discussed.

The popularity of the brown crab is also reflected in the recreational sector. Recreational bag limits for brown crab exist in France and southern England and these measures are under review as Jersey and Guernsey are the only areas in the English Channel not to have recreational bag limits for brown crab, something that was noted as being a regulatory deficiency in the sustainability of our management of crab and lobster by the Marine Stewardship Council in 2018 and at the ICES WGCRAB meeting in 2017.

SPIDER CRAB

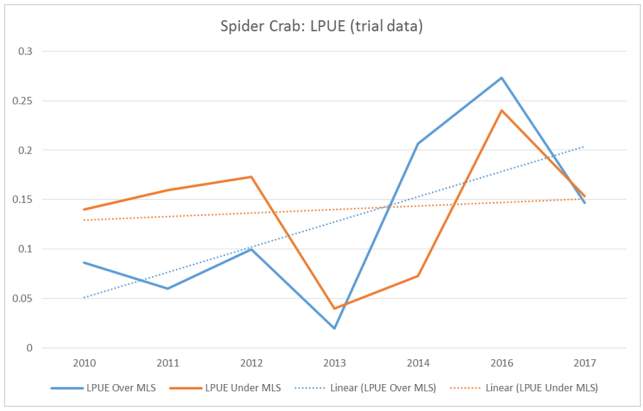


Fig. 20. Trial data - LPUE. See Section 2.1. Commercial Capture Fisheries for commercial landing data.

A CLOSER LOOK. The Jersey spider crab fishery is highly variable reaching a low of 81 tonnes in 2013 with annual landings then increasing to reach a record high of 208 tonnes in 2017. A majority of spider crab (around 75%) are caught in lobster pots with the rest being taken by netting or in whelk pots. The Bay of Granville is important and produces over half of all European spider crab landings most of which is caught by netting from French vessels.

The spider crab has a complex life cycle which includes an annual migration into shallow water during the spring and summer months. The English Channel is near the northern edge of its range and it is thought that cold winters, such as in 1962-3, can markedly affect the population.

The cause of the recent increase in spider crab landings is not known but a succession of milder winters since 2013 may have increased the local population. Concern has been expressed about a spider crab increase as they are not worth as much as lobster and yet will occupy the same pots and eat the bait. However, a study of historical data suggests that there is no inverse correlation between spider crab and lobster catches.

RESEARCH & DEVELOPMENT

LOBSTER

THE PROJECT. Since 2004 an annual study has been conducted to monitor changes in the number and structure of the lobster population in Jersey waters. The trials are conducted in May and June, at three different locations, using parlour pots without escape gaps to ensure juveniles are caught. The equipment used and sites sampled remain the same, allowing comparison over time. Commercial data is also collected from local fishermen through submission of catch logsheets.

RESULTS. In 2017 150 pot hauls were conducted, giving a total of 392 lobsters caught - the highest number of lobsters caught since the project began. This equated to an average of 2.61 lobsters per pot.

When broken down into above and below MLS, the 2017 above MLS results ranked 8th highest out of the 13 years the project has run, with 40 being above the minimum landing size (MLS) of 87mm. Results for below MLS were the highest ever recorded.

The largest lobster landed measured 101mm carapace length, with an average size of 77.8mm.

A total of 243,150 Kg of lobster was landed commercially. When number of pot lifts (1,912,318* for 2017) is taken into account, this equates to 12.71 Kg of sized lobster per 100 pots.*

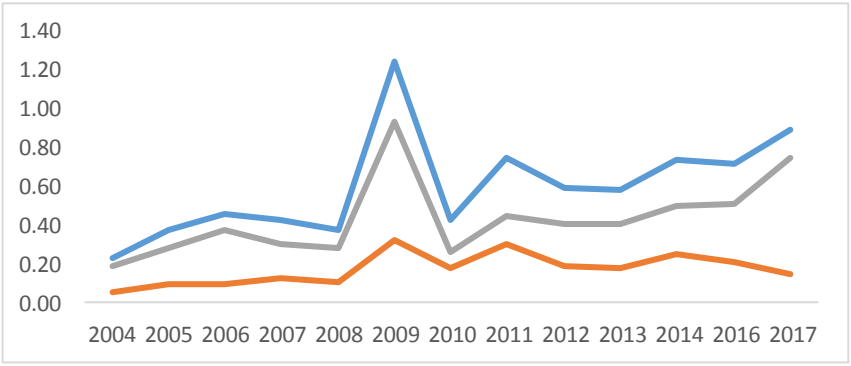


Fig. 15. Blue = total. Grey = above MLS. Orange = below MLS.

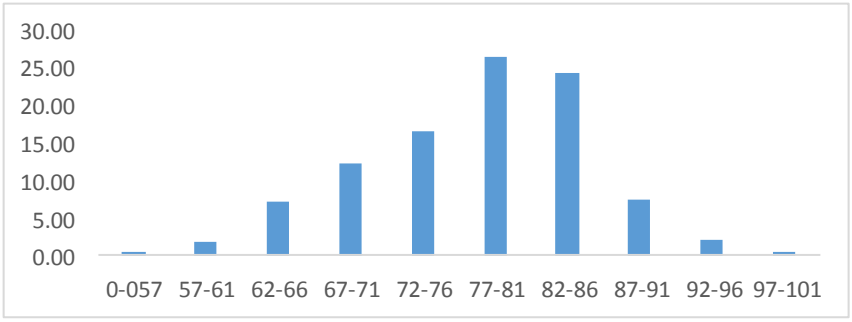


Fig. 16. 2017 carapace length frequency distribution

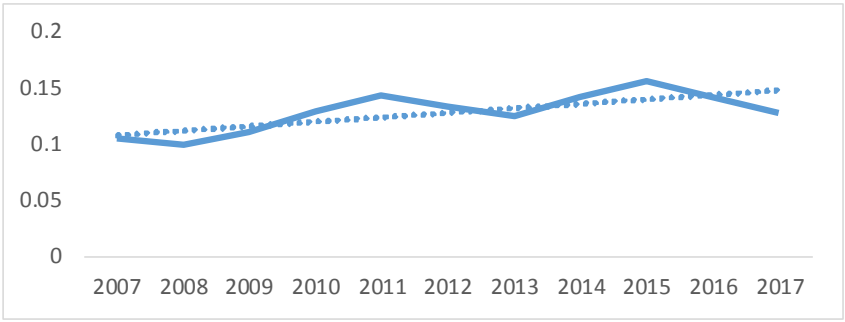


Fig. 17. Commercial CPUE (kg/pot) . Includes creels, D-Pots, parlour pots and inkwells.

A CLOSER LOOK. Current data suggest that there is pressure on the lobster population and that management measures will be needed across the board. On a commercial level these are being considered by the JFA and French authorities. In the meantime Marine Resources are gathering detailed biological data to try and model the lobster population better and understand the potential impact of certain measures such as the creation of no parlour pots zones. On a recreational level the simplest and most effective action is the creation of a bag limit. This is seen as a priority by the Marine Stewardship Council and the Marine Resources section.

Measuring a lobster

RESEARCH & DEVELOPMENT

LOBSTER

THE MARINE STEWARDSHIP COUNCIL (MSC) was founded by the World Wildlife Fund in 1996 following the collapse in cod stocks off the Canadian Grand Banks. Its aim was to encourage sustainable fishing and to raise the general awareness and standards in relation to fisheries and environmental management. Since 1999 the MSC has been run as a financially independent organisation.

The MSC managed a certification system which assesses individual fisheries using scientific criteria against criteria relating to general management, traceability and sustainability. Compliant fisheries have the right to use the MSC's ecolabel which certifies that the seafood can be traced back to a fishery that is sustainable.

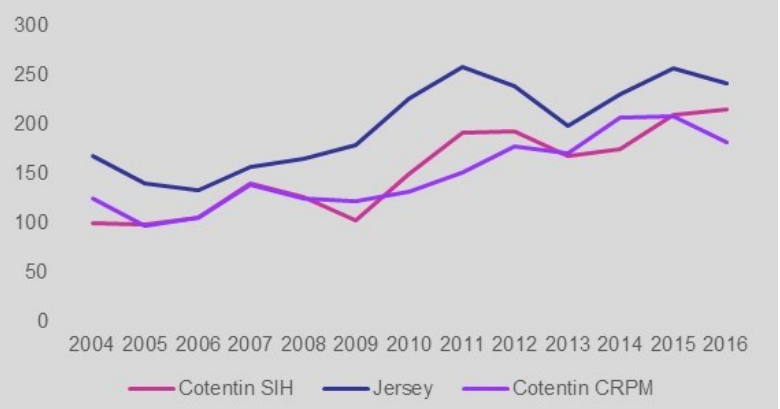
In 2009 Jersey and Normandy applied to the MSC to have its lobster fishery assessed and, in 2011, it was certified as being sustainable. The MSC heralded the Jersey-Normandy lobster fishery as:

'… a great example of collaborative management of a shared resource. Achieving MSC certification for the fishery recognizes that management and ensures continued improvement for the future. The lobster from Granville Bay, already renowned for its high quality, can now also be proudly recognized for its sustainability.'

Since the initial certification the joint lobster fishery has undergone five reassessments (audits) all of which it has passed allowing local fishermen, merchants and restaurants to display the MSC ecolabel on locally sources lobsters. The fishery was recertified in November 2016 and during 2017 was assessed for its first annual surveillance report by the MSC, the results of which will be known in 2018. The fishery is assessed on three principles concerning: 1) harvest strategy; 2) impact on other species; and 3) research and compliance. Within each principle are several conditions which both Jersey and Normandy have to provide data and evidence to demonstrate that they are meeting with the MSC's standards.

Meetings are held regularly (usually annually) which bring together the MSC assessors with the managers from Jersey and Normandy fisheries. These meetings are used to share data, discuss current and future stock management and highlight any perceived issues . The MSC's certification and standards are continually evolving and it is likely that additional conditions will be added to the lobster fishery in future years.

MSC certification is a significant achievement for the Jersey-Normandy lobster fishery as this places it is a small (but growing) group of officially recognised sustainable fisheries. However, the MSC's ecolabel has yet to gain wide usage within either Jersey or Normandy and, given that is has potential marketing and other benefits, this is something that could be looked at further.



For more information and the audit reports search for 'Jersey lobster' on the MSC website.

Fig. 18. Landings of lobsters in Normandie and Jersey from 2004 to 2016 as used in the MSC audit. (Source: Ifremer, CRPM, Jersey Marine Resources).

RESEARCH & DEVELOPMENT

BASS

EUROPE. For several years the International Council for the Exploration of the Seas (ICES) had been warning of a Europe-wide decline in Bass stocks. Over recent years increasingly stringent measures have been put in place by the EU following scientific recommendations. These ranged from winter pelagic trawling bans to bag limits for anglers. In 2017 ICES advised that the stock was reaching its biomass limit, i.e. the point at which any future stock recovery is likely to be impaired due to low overall numbers. ICES therefore advised that no wild bass should be targeted and only a small bycatch allowed for certain fisheries. Based on this advice, together with considerations for the commercial and recreational fishing sectors, the European Union has proposed various measures to its member states.

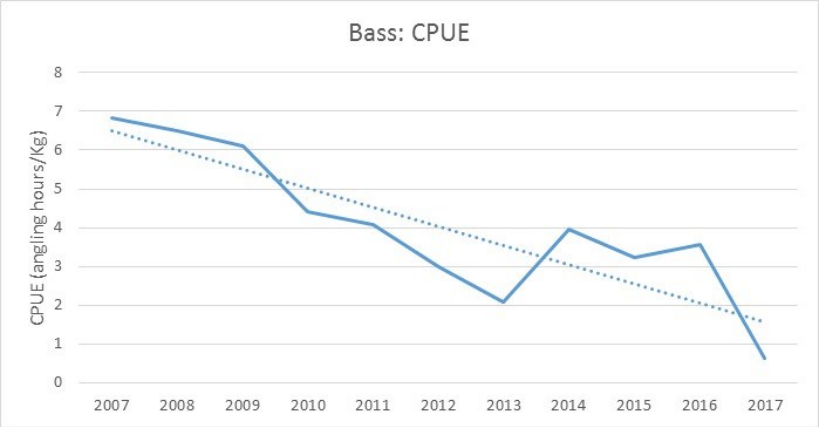


Fig. 21. The CPUE trend for Jersey bass. The index data used was the annual weight of commercially landed bass caught by angling divided by the number of angling hours recorded. The downward trend suggests it currently takes several times longer to catch a Kg of landable bass than it did a decade ago.

JERSEY. In Jersey commercial bass landings fell from 18 tonnes in 2007 to 7 tonnes in 2016, a decline of 61%. An index (CPUE) using commercial angling hours divided by the landed weight of bass caught by angling suggests that it requires several times longer to catch a prescribed quantity bass now than it did in 2007 (Fig. 21).

Bass is one of the few local species where landings by the recreational sector are thought to equal or exceed those of the commercial sector. With bass stocks threatened, the local stakeholder group (the Marine Resources Panel) and the Minister for the Environment followed the ICES recommendations and, in 2017, imposed the following restrictions:

- A closed season in February and March;
- A trawling bycatch of 3%;
- A netting bycatch of 3%;
- Recreational catch and release fishery only with a bag limit of zero fish for the full year.

Twelve commercial bass fishing licences were issued on condition that the fish were caught using rods and hooks, that every bass caught is measured and recorded and that special Genuine Jersey tags are used that allow the fish to be traced to an individual boat. These measures have been unpopular across much of the fishing sector but with both local and international data suggesting that the bass population is at risk of irreversible collapse, pressure must be eased to allow the species' stock time to recover.

RESEARCH & DEVELOPMENT

BASS

THE PROJECT. As mentioned on the previous page, a targeted commercial hook and line fishery was permitted for 12 boats with qualifying track records of over 250kg catch in any given year between 2014 and 2016 (based on logbook records submitted to Marine Resources). Refocusing the bass fishery onto hook and line allowed for a small targeted commercial effort to supply the local market while at the same time vastly reducing the bycatch and dead discard of undersize bass and other species from the current gill net fishery. Data returns were required as part of the permit conditions, which included size information for both above and below minimum size fish, in addition to date and location of catches. The results are displayed below.

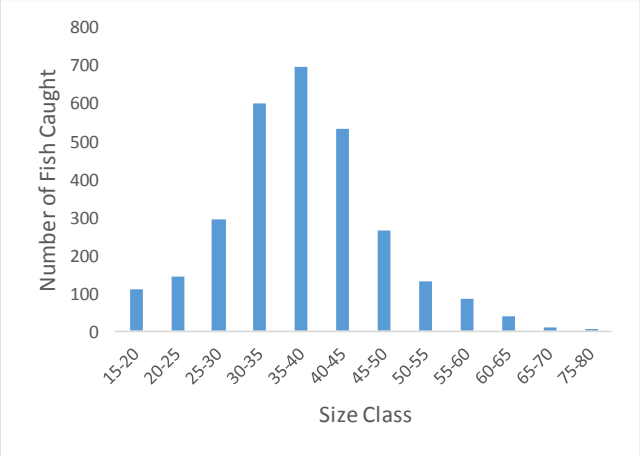


Fig. 23. Size distribution of bass caught by commercially licenced fishermen in 2017

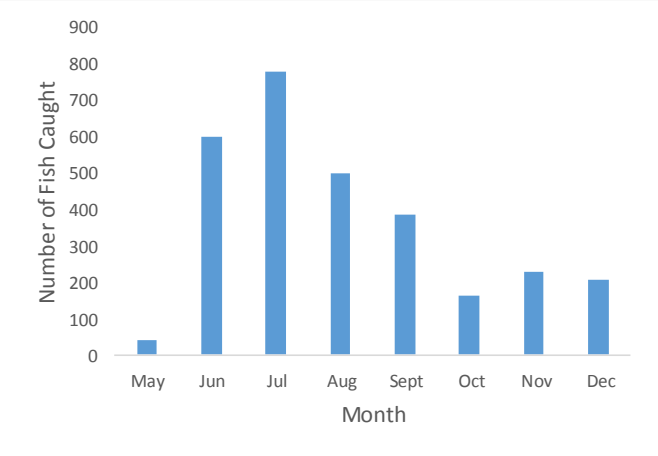


Fig. 24. Number of fish caught per month by commercially licenced fishermen in 2017. *Fishing did occur prior to May but the data return scheme had not been set up.*

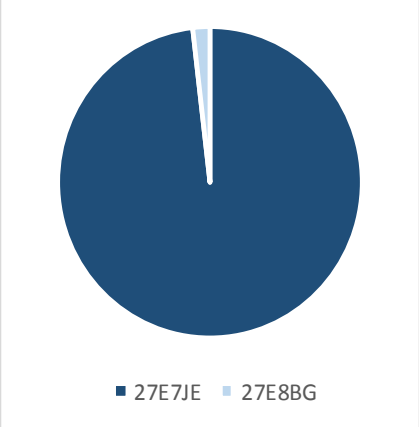


Fig. 25. Fishing locations

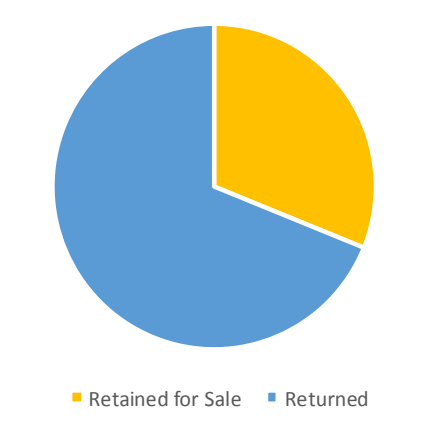


Fig. 26. Number of fish retained for sale, and number of fish returned,

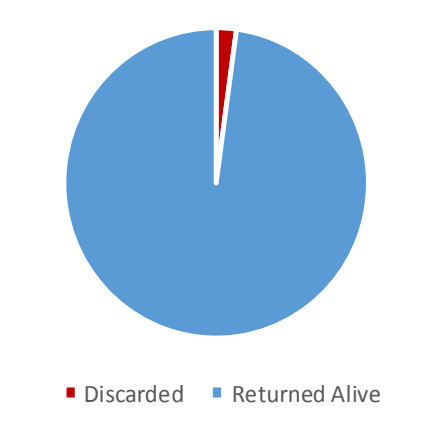


Fig. 27. Discards and successful returns

RESULTS. Almost 3,000 bass were caught commercially throughout 2017 by 10 licenced and permitted fishermen (out of 12 holding licences). The majority of fishing occurred during the summer months of June, July, and August. 30% of the fish caught were retained for sale, whilst the remainder, being below the minimum landing size, were returned. Of those returned 98% were done so successfully, highlighting the low discard rate of hook and line fishing.

ENVIRONMENTAL MANAGEMENT

MARINE PROTECTED AREAS

AN OVERVIEW. Jersey's current Marine Protected Areas (MPAs) network consists of sites designated under the Ramsar Convention and sites protected under the Fisheries Law, the most important of those covered by restrictions on certain types of fishing activity. From 2001 to 2014 the Marine Resources Section established several no mobile gear zones within Jerseys three mile territorial limit, protecting 88.3 km^2 (3.8%) of Jersey's territorial seabed, stretching along the north, east, and south coasts.

2017. Seabed areas within three miles of Jersey's coast can be protected by altering the licence conditions of commercial fishermen. The situation for the offshore reefs is more complex, as Jersey shares these waters with neighbouring French fishermen. In order to make changes within these waters Jersey is obliged to consult with French fishing associations under the terms of the Bay of Granville Agreement.

The consultation process began in 2013, driven by the Marine Resources team and the Jersey Fisherman's Association. Representatives for the French fishermen and the French administrations were consulted over the plans, and the boundaries for the new zones were debated. A final agreement was reached in Granville in February 2017.

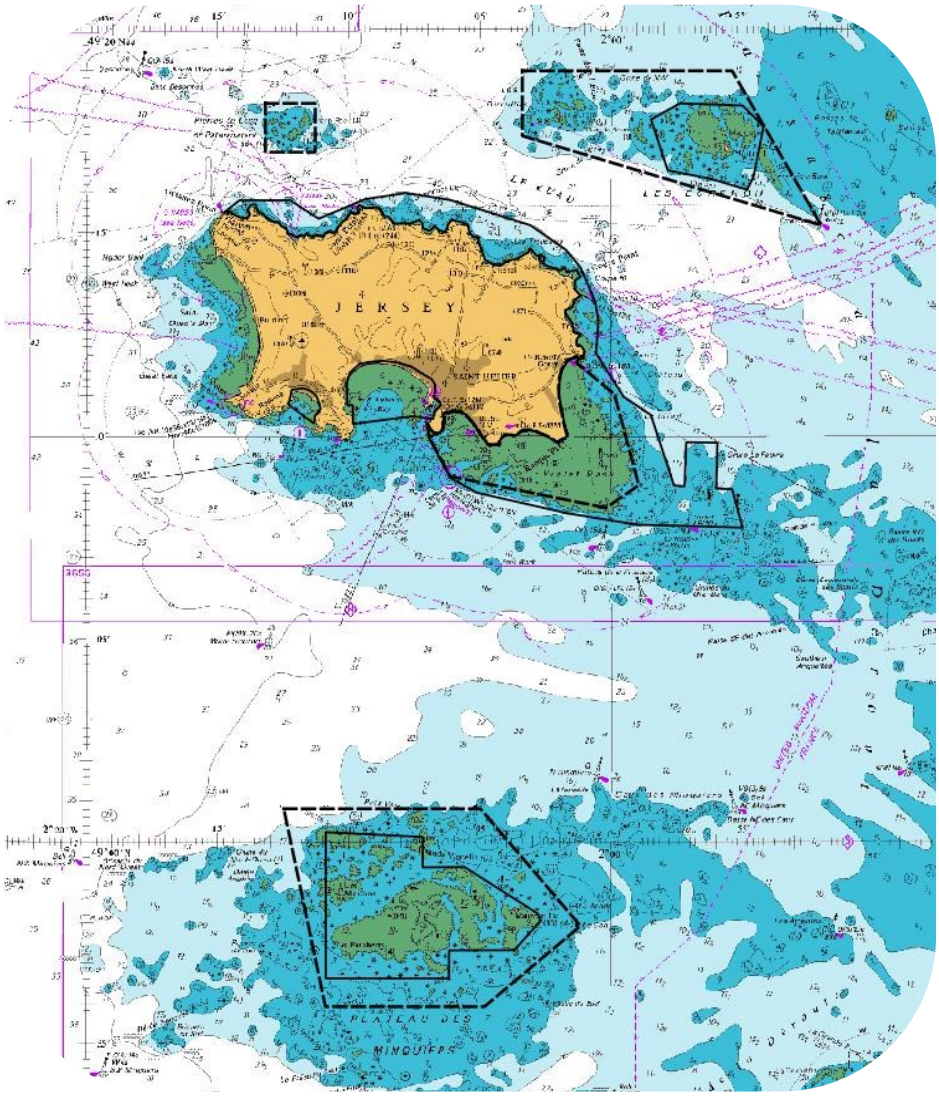


Fig. 28. No mobile gear zones (solid lines) and Ramsar site boundaries (dotted lines)

A CLOSER LOOK. Les Écréhous and Les Minquiers are home to extensive areas of seagrass, maerl and kelp. These are important nursery grounds for fish and shellfish, including many commercial species, so the protection will benefit the local marine environment and the fishing industries by increasing the stock of marine life in local waters. In total an area of 62 km^2 is now protected from mobile fishing gear. The ban on dredgers and trawlers around Les Écréhous and Les Minquiers brings the total area of seabed protected from the use of what's known as 'mobile fishing gear' to 150 km2. or 6.5 per cent of the Island's territorial waters.

ENVIRONMENTAL MANAGEMENT

RAMSAR

CONVENTION ON WETLANDS
(Ramsar, Iran, 1971)

AN OVERVIEW. The Ramsar Convention is an intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources. Jersey has four designated Ramsar sites which have been in place since 2000 (Jersey South-east Coast) and 2005 (Les Écréhous, Les Minquiers and the Paternosters). Each site is subject to a Ramsar Management Plan (RMP) which were devised in 2011 following consultation with the Ramsar Management Authority (RMA) - a steering group formed from a range of local stakeholders.

2017. A comprehensive assessment of Jersey's four Ramsar sites was conducted in 2017 examining the progress against the Ramsar Management Plans produced in 2011. Key highlights include:

- Stable marine biodiversity across the sites, higher species numbers where targeted surveys were conducted showing there are more species to be recorded especially in terms of crypto fauna.
- Variable annual wading bird counts but with an overall downward trend.
- Marine invasive species assessed, greatest number at in the south east coast Ramsar site and increasing with new arrivals every 1-2 years.
- Seagrass beds have shown roughly 40% recovery since 1933 when disease destroyed 95% of the beds.
- Habitat maps progressing well with most of the Ramsar sites now digitised and plotted (Fig. 29).
- Several archaeological features including fish traps and standing stones identified and mapped.
- Ramsar Management Authority (RMA) reformed and meetings set for early 2018. Collaboration with Jersey National Park explored.
- Offshore No Mobile Gear zones established at both Les Minquiers and Les Ecrehous.

It is hoped that the RMA will be the driver for the next generation of Ramsar Management Plans in 2018 leading into the next island plan in 2021.

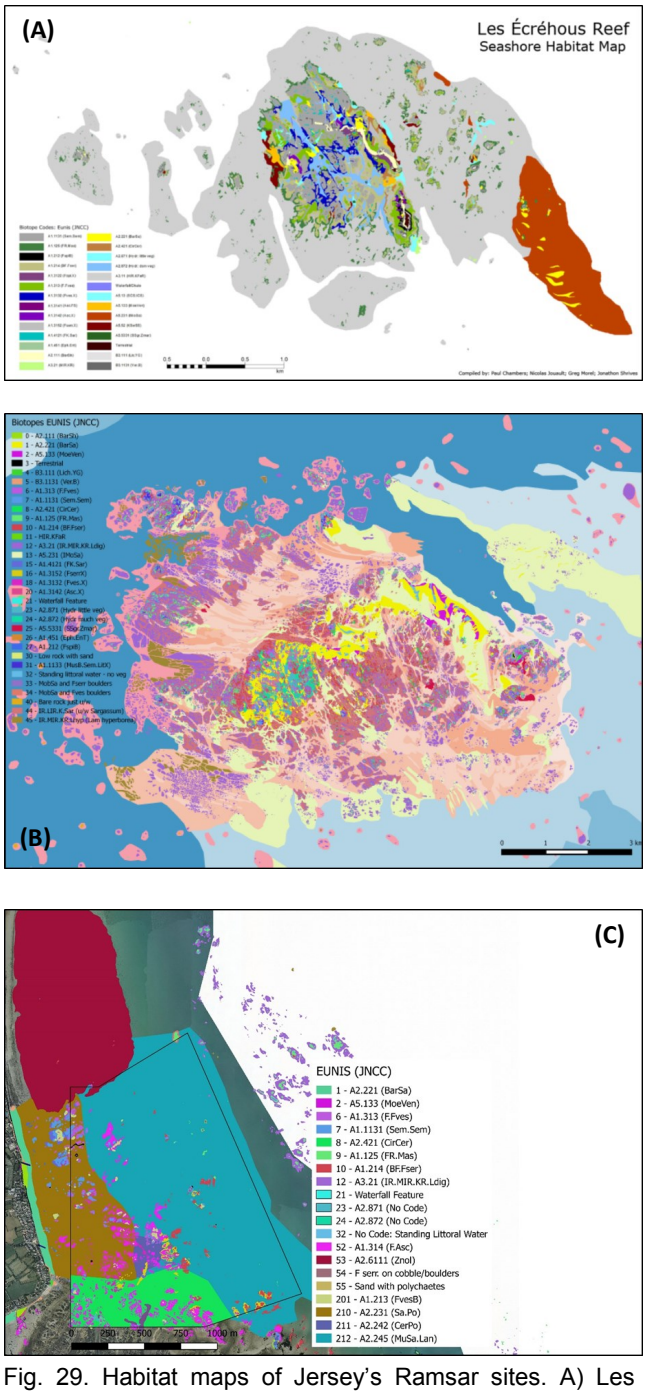


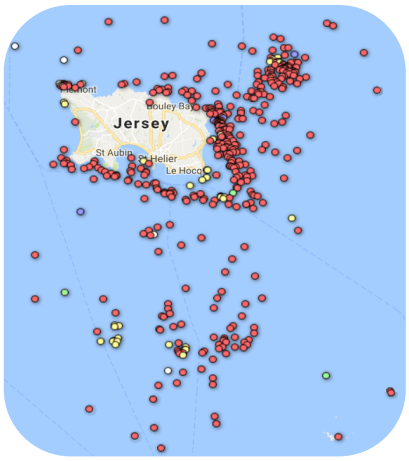
Fig. 29. Habitat maps of Jersey's Ramsar sites. A) Les Ecrehous. B) Les Minquiers, C) South East coast

ENVIRONMENTAL MANAGEMENT

MARINE MAMMALS

AN OVERVIEW. Jersey is home to large resident pods of bottle-nosed dolphins as well as colonies of grey seals, and other rarer visitors such as common dolphins and even whales. The Environment Department, in conjunction with the Societe Jersiase Marine Biology Section, now has several different projects which aim to document and better understand the nature of our marine mammals.

DOLPHIN SIGHTINGS



All marine mammal sightings are recorded through 'Dolphin Watch' which is a smartphone app, hosted on Epicollect5. The app is open to the public and is used in the field while the encounter is happening. As such it is aimed primarily at boat owners. All records submitted are then publicly accessible via the Epicollect5 and Société Jersiaise websites. Since launching in April 2017 over 400 dolphin sightings were made via the app. This dataset has yet to be analysed but it is already providing a much greater understanding on the abundance and distribution of our dolphin, porpise and seal species.

Fig. 30. Map showing location of marine mammal sightings since Jan 2017 using Epicollect app. Available online at: **www.jerseycoast.co.uk/dolphin-map.html**

C-POD

Fig. 31. Fisheries Officers exchanging batteries and SD card of a C-Pod after a successful 3 month deployment.

C-PODs are passive acoustic monitoring instruments that detect toothed whales, dolphins, and porpoises by identifying echo-location sounds that they produce. Together with the Societe Jersiaise Marine Biology Section, there are now two C-PODs deployed along Jersey's east coast. Having two or more allows a greater understanding about direction and speed of movement for dolphins. As of the start of 2018 we will have a full year's worth of data, giving over 230 encounters. This dataset is due to be analysed and written up into a more formal report in 2019.

STRANDINGS

Species	Number
Bottle-nose Dolphin	4
Common Dolphin	5
Porpoise	1
Unidentified Dolphin	1
Sperm Whale	1
Grey Seal	2

Fig. 32. Species and number of marine mammal strandings in Jersey in 2017.

Measurement data and other information (such as species, location, etc.) are taken from stranded dead marine mammals. To get these data Marine Resources team coordinates with others such as British Divers Marine Life Rescue, Department for Infrastructure, Société Jersiaise and Jersey Coastguard. In 2017 there were 14 marine mammals stranded, mostly in the autumn and winter months. This is not an unusual total with the commonest species being the Bottle-nose and Common Dolphins, both of which are resident in local waters. More unusual was the stranding of a very decomposed Sperm Whale carcass at Corbière. In most instances the cause of death is difficult to ascertain but illness or starvation may be significant factors. Our data is shared with the Natural History Museum (London).

ENVIRONMENTAL MANAGEMENT

KEY HABITATS

AN OVERVIEW. Under various International Agreements, Jersey is obliged to monitor and assess the status of critical marine habitats and species. For certain species, specific monitoring programmes are well established (e.g. cetaceans) or part of wider reporting obligations (e.g. fishing vessel logsheets and landing declarations). Monitoring of critical habitats is undertaken as part as other programmes such as Ramsar monitoring plans or as specific assessments (e.g. seagrass and maerl).

SEAGRASS

Seagrass fulfils an important ecological function in the marine environment. It is associated with high faunal biodiversity, acting as a nursery area for commercial species, and as an important food source for wading birds. However, it is vulnerable to disease, pollution and disturbance and as such all European seagrass beds are considered 'threatened' by anthropogenic activities. Jersey is home to two seagrass species, the subtidal *Zostera marina* and the intertidal *Zostera noltii.*

In response to concerns raised about the health of the *Z. noltii* beds within Jersey's inshore waters a research project was set up in 2013. It aimed to provide baseline information regarding the ecology and health of Jersey's intertidal seagrass populations, particularly in St Aubin's Bay, Grouville Bay, and St Catherine's Bay. This project has since been run each summer and, now that five years of data has been collected, a report of the findings is to be collated in 2018.

Offshore seagrass (*Z. marina*) is monitored by the Marine Biology Section (Société Jersiaise). Their data suggest that the beds are in good health and that, since 2006, the area of seagrass on the SE coast has been expanding rapidly. In 2017 samples were taken from all Channel Island seagrass beds and chemically analysed. The results should be available in 2018.

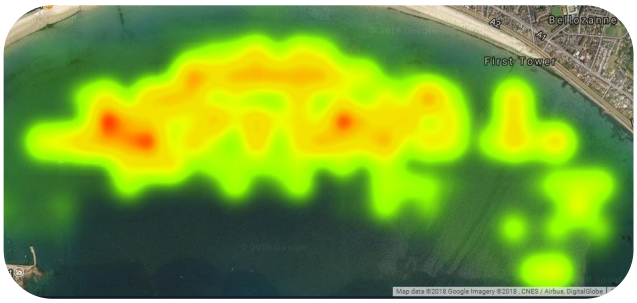


Fig. 33. Seagrass density, St Aubin's Bay, in 2017.

MAERL

Maerl is the collective name for a large group of calcareous seaweeds that grow loose on the shallow marine seabed. Maerl has a colourful, coral-like look to it and can accumulate into thick deposits that contain the highest diversity of species (up to 173 per m^2) for any local marine habitat. Recent carbon-dating suggests that some local maerl areas are over 2,000 years old.

Maerl is also a known nursery habitat for a variety of commercial species and for these reasons, it is regarded internationally as a vulnerable habitat with a high ecosystem service value. Under the OSPAR convention Jersey is obliged to assess maerl areas and protect/restore them. This assessment has taken place over several years with help from Plymouth University and the Société Jersiaise.

In 2017, based on this assessment, a no mobile fishing gear zone was created around the maerl beds south of Les Écréhous. This was achieved with the consent of Jersey fishing boats and via negotiations through the Bay of Granville Agreement. Jerseys studies of maerl and seagrass areas is continuing.

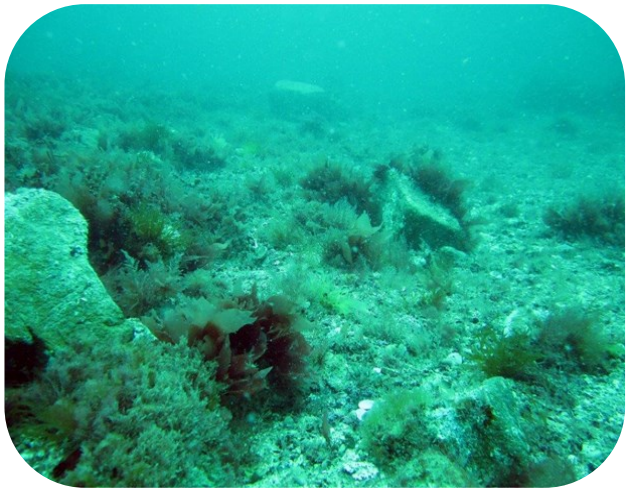


Fig. 34. Maerl area at Les Écréhous.

ENFORCEMENT

INSPECTION & OFFENCE SUMMARY

OUR ROLE. Fisheries officers carry out routine inspection checks along our island's coast, from piers and low water areas on-island, to offshore reefs, and to the limits of our shared fishing zones. Officers regularly board local and French vessels, both recreational and commercial. Checks are conducted to ensure fishing regulations are adhered to, such as minimum landing sizes, open/closed seasons, and compliance with fishing zones. (See also 'Offences'.)

In 2017 inspection recording moved from a paper-based system to the use of smartphone apps. This increased the accuracy of inspection records (especially location data, which is taken using GPS) and removed the need to type in paper records. A review of all historical inspection records was undertaken so that Marine Resources now has a single continuous database of inspections back to the start of 1997. This dataset provides otherwise difficult to obtain information such as catches from recreational fishers and foreign vessels.

Officers boarding Cap Pillar

IN NUMBERS. In 2017 a total of 530 inspection checks were conducted by Marine Resources officers. This is above average and possibly reflects the new electronic recording system and the recruitment of additional Officers. Of these inspections, 317 were shore based, including angling inspections and low-water checks on the beach. 205 boardings at sea were conducted, with 75 being conducted on foreign vessels. A majority of our checks were conducted during work hours but 18% occurred on weekend days and 21% took place outside of States of Jersey core work hours.

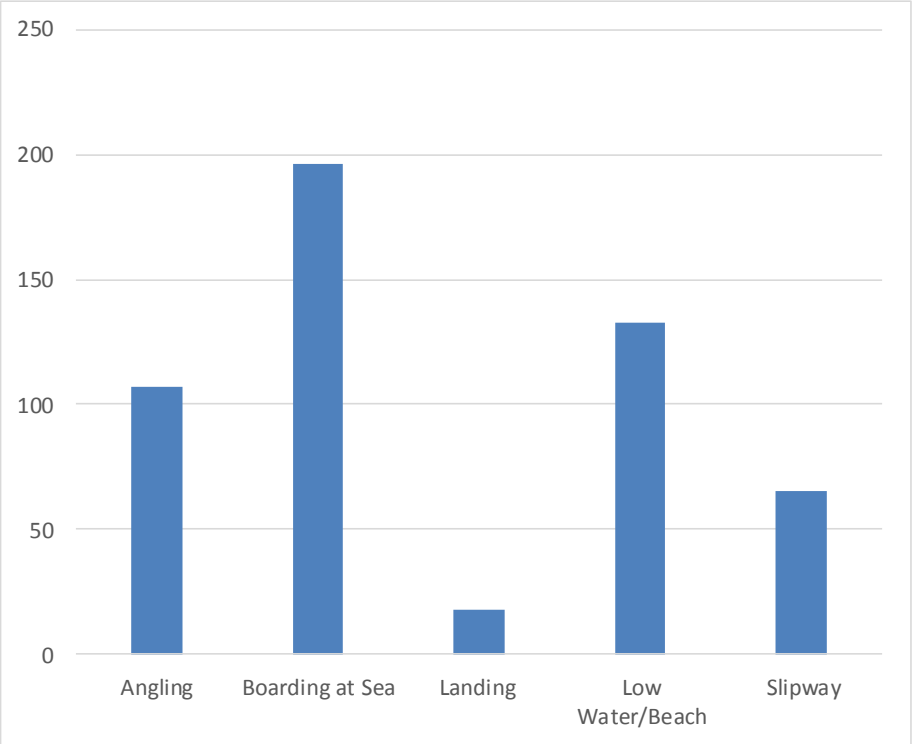


Fig. 35. The number of inspection checks broken down by location/ activity. The checks are dominated by boardings at sea, low water and slipway checks and angling checks, usually on piers or headlands. Landing checks were low in comparison with previous years and this is an issue that will be addressed in 2018.

OFFENCES. 2017 saw a total of 25 offences, concerning both local and French fishermen. Offences ranged from undersized catch, to breaches of licence conditions. Outcomes varied from simple verbal advice, to letters, and Parish Hall enquiries. Several investigations are still ongoing into 2018.

LEGISLATION

LAWS & REGULATIONS

BEACH SET NETS

Sea Fisheries (Inshore Trawling Netting and Dredging) (Jersey) Regulations 2001

Management of bass stocks has been the subject to local and international debate, and has intensified recently on the back of scientific advice concerning the state of the stock. Since 2015 the EU have implemented a number of measures that seek to protect stocks, covering both commercial and recreational sectors. Following discussions at the Marine Resources Panel the Minister proposed to adopt a range of measures that included changes to the number of fish that could be retained by recreational anglers, initially to 1 fish per person per day, and then to a catch and release fishery only.

In light of this a limit on the length of net set on the beach was proposed. The restrictions on setting a beach net are set out in regulation 6, 6A and 7 of the Sea Fisheries (Inshore Trawling, Netting and Dredging) (Jersey) Regulations 2001. The Sea Fisheries (Inshore Trawling, Netting and Dredging) (Amendment No. 3) Regulation 2016 came into force in November 2016 and allowed the Minister to specify the length of net by Order. Given the evidence concerning the stock, the Minister set the limit at zero (0), i.e. a prohibition on the setting of beach nets.

Beach Set Nets

GROUNDLINES

Stones laid out for trot lines

Sea Fisheries (Inshore Waters) (Jersey) Regulations 1998

For reasons as stated above, an amendment was approved by the States to allow the Minister to set the maximum number of hooks by Order. The restrictions on setting a ground line are set out in regulation 3 of the Sea Fisheries (Inshore Waters) (Jersey) Regulations 1998. The Sea Fisheries (Inshore Waters) (Amendment No. 2) Regulation 2016 came into force in November 2016 and allowed the Minister to specify the number of hooks by Order. Given the evidence concerning the stock, the Minister stated his intension to set the limit at zero (0), i.e. a prohibition on the setting of groundlines.

LEGISLATION

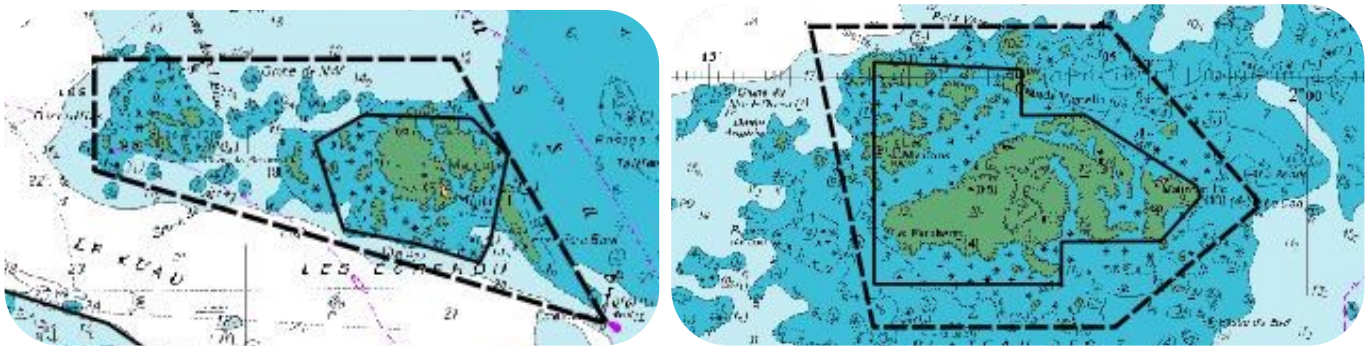
LAWS & REGULATIONS

NO MOBILE GEAR ZONES

Sea Fisheries (Trawling Netting and Dredging) (Jersey) Regulations 2001

Jersey is a signatory to several International Agreements relating to the marine environment that require parties to put in place appropriate management and conservation of key habitats and species. Recent assessments of seagrass and maerl identified significant populations occur at the offshore reefs of Les Minquiers and Les Écréhous, and an impact assessment showed the most significant threat was from mobile fishing gear. It was proposed that these activities should be restricted in these locations, however both reefs are located in areas that are covered by the Granville Bay Agreement. Under this Agreement, proposals that impact on fishing activity must be considered and discussed by both joint committees. In February 2017 the Joint Advisory Committee agreed to recommend the implementation and definition of two areas where mobile fishing gear would be restricted. This recommendation was subsequently endorsed and approved by the Joint Management Committee.

In order to implement this decision an amendment defining these areas and the restricted activities was required to the Sea Fisheries (Trawling, Netting, and Dredging)(Jersey) Regulations 2001. It was the intention of this amendment to prohibit the use of mobile fishing gear, namely trawl net or dredge in defined restricted areas.



Les Ecrehous and Les Minquiers no mobile gear zones

SPIDER CRAB FISHERY

Sea Fisheries (Miscellaneous Provisions) (Amendment No. 6) (Jersey) Regulations 2014

In the past a range of measures were recommended by the Joint Management Committee, established under the terms of the Agreement relating to fishing in the Bay of Granville. One such measure related to the introduction of a ban on netting in an area to the south west of Jersey during the annual spider crab closure. An amendment to the Sea Fisheries (Jersey) Law 1994 was approved in 2012 and the Sea Fisheries (Miscellaneous Provisions) (Amendment No. 6) (Jersey) Regulations 2014 were approved and became active in 2014.

Spider crab

At Granville Bay Meetings held on 6 and 7 July 2016 the dates for the closure and the area to be closed to netting in the following year were confirmed and the Minister produced a Ministerial Order to make the necessary restrictions for 2017. There was a degree of urgency associated with the production of the Order, as the closure needed to take effect from 1st September and fishermen need at least two weeks warning before that date. An Order was required to close the fishery in accordance with Regulation 5(2) from 0001 hours on Friday 1st September 2017 until 2359 hours on Sunday 15th October 2017. An area in which "passive gear" cannot be used was defined in this Order as described in Regulation 5A.

LEGISLATION

LAWS & REGULATIONS

REMOVAL OF REQUIREMENT TO OBTAIN CONCURRENCE FROM UK SECRETARY OF STATE

Sea Fisheries (Amendment No. 3)(Jersey) Law 2017

The Sea Fisheries (Jersey) Law 1994 is the overarching Law that makes provision for the regulation of sea fishing and conservation of fish, licensing of fishing boats and connected matters. One Article had the requirement to obtain the concurrence from the UK Secretary of State for Jersey fisheries legislation that applies to the extended territorial sea. This requirement was part of the original Fisheries Management Agreement (FMA) with the UK. The Agreement was signed in 1996 and was a prerequisite to the extension of territorial waters. It has been agreed with both DEFRA and the MoJ that this concurrence is no longer appropriate or required and should be removed. The States approved the amendment in January 2017 and Privy Council in May.

BAG LIMITS

Sea Fisheries (Bag Limits) (Jersey) Order 2016

The Sea Fisheries (Bag Limits) (Jersey) Regulations and Order 2016 provided a mechanism whereby the catch of a named species could be limited for management purposes. In 2017 the Order was amended to reflect the latest stock assessment advice. The bag limit for bass (*Dicentrarchus labrax*) was set at zero. The bag limit for tope (*Galeorhinus galeus*) was also set at zero.

JERSEY'S MARINE RESOURCES

COMMERCIAL CAPTURE FISHERIES

COMMERCIAL LANDINGS—SHELLFISH

Appendix 1

SPECIES	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Amandes / Dog cockles	0	733	885	1830	1610	1395	1370	1338	0	0	0
Brown Crab	412572	480844	360872	408880	478533	507056	436120	386031	305807	348500	310353
Crayfish	170	142	138	0	5	47	7	33	46	121	2
Cuttlefish	1444	1038	1405	2090	3772	5989	2689	2065	5773	6053	4372
Lady / Velvet Crab	119	198	185	837	296	247	319	297	258	218	296
Lobster	154834	162572	177087	225536	268218	249163	225994	237229	256921	241460	243150
Octopus	0	0	4	7	0	0	0	0	0	22	2
Ormer	0	0	9	941	242	230	89	10	23	277	0
Praires	125	304	58	0	0	0	0	0	0	210	0
Prawns	135	40	41	0	63	69	1	116	0	26	3
Queen Scallops	0	0	20	1020	0	0	0	0	0	300	150
Scallops [1, 2]	372153	330997	362528	404552	349658	342786	335332	387331	280018	319731	302339
Spider Crab	105784	178692	177158	173289	148556	110298	81645	87727	95519	121751	208828
Squid	224	127	35	50	123	63	421	239	631	480	498
Whelks	545395	297742	104995	497410	377622	430368	512058	303701	268921	544237	345980

Notes

1. 2007 onwards includes dredged and commercial dived.
2. 2010 contained 1,020 kg of Queen Scallops.

JERSEY'S MARINE RESOURCES

COMMERCIAL CAPTURE FISHERIES

COMMERCIAL LANDINGS—WETFISH

Appendix 2

Species	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Blonde Ray	49	2300	2380	25593	25573	60657	76488	86747	66848	74170	34370
Dogfish	4801	7303	5062	9225	10126	11761	10104	8525	2367	6354	9730
Wrasse	557	605	1073	100	454	1957	1543	3823	4485	5169	5588
Black Sea Bream	3066	4215	90089	26856	17954	107173	31253	23141	21858	7869	3823
Lesser Spotted Dogfish	2480	2030	335	3430	800	10258	11443	12796	19494	10735	3600
Mackerel	5516	7004	7264	7351	6550	7945	8564	6639	3077	2714	3476
Conger Eels	17314	7179	3730	3578	3276	2093	1979	1635	1075	2550	2753
Pollack	2690	7334	8933	8771	21059	9227	8445	6327	4663	2452	2300
Smooth Hound	870	1010	1865	3132	612	14636	17587	10927	25200	8280	1803
Whiting	243	910	22	2762	117	252	495	3024	2804	1012	1624
Brill	2435	2997	2956	3928	6610	2336	3414	4172	3971	1843	1584
Bass	18089	19915	14919	14077	17324	11537	13366	10929	8960	7306	1483
Bull Huss / Greater Spotted Dogfish	0	0	1308	2623	1445	139	46	426	223	1042	1323
Plaice	930	2722	3579	2951	5016	2421	2702	2159	2156	1427	1245
Turbot	436	400	684	896	3029	2070	2468	2035	2331	924	1186
Grey Mullet	561	1470	1274	2529	2202	1527	2552	2378	2199	2416	789
Dover Sole	1807	2194	1489	1585	1768	1279	2382	1093	1007	951	755
Angler Fish / Monkfish	262	240	418	153	1170	41	348	844	1226	576	477
Red Gurnard	914	210	89	0	855	2707	2839	2899	2683	2866	438
Sand Sole	210	165	0	245	910	706	595	1052	1192	831	434
Tope	1593	747	237	30	270	660	429	290	345	2599	280
Pouting	755	875	644	1604	1150	1085	1480	850	1100	910	261
Red Mullet	900	372	266	195	430	698	323	235	128	182	194
Snipe / Garfish	6	0	12	1	1	1	100	4	13	35	138
Horse Mackerel	63	3	2286	3	0	185	190	148	269	0	114
Undulate Ray	26	117	3639	2183	0	0	0	0	0	40	65
Lemon Sole	0	0	0	0	0	11	0	1	0	0	61
Grey Gurnard	656	1875	1020	783	85	0	0	0	0	26	46
Trigger Fish	10	6	75	8	0	1	0	5	3	3	43
Ling	176	159	15	209	478	572	374	331	184	37	30
Sand Eels	11	15	1966	311	15	13	19	17	5	30	22
Cod	46	198	200	251	302	8	2	459	28	55	20
Gilt-head Bream	0	0	250	60	0	550	7	0	0	120	18
Thornback Ray	0	167	50	104	62	238	25	13	10	190	10
Sea Trout	39	0	0	1	0	2	0	6	0	1	1
Historic - Skate/Ray	49726	77704	19691	10448	14594	0	0	13	0	0	0
Small-eyed Ray	0	193	998	4582	1071	1478	823	489	1187	0	0
Porbeagle Shark	95	0	0	300	0	0	0	0	0	0	0
John Dory	14	9	43	9	11	5	65	5	6	28	0
Shad	0	0	0	6	0	0	0	0	0	135	0
Spurdog	0	0	4	0	37	0	8	5	0	0	0
Herring	0	0	1	0	0	40	0	0	0	0	0
Flounder	28	0	0	0	0	3	0	0	0	2	0
Haddock	0	0	13	0	0	0	0	0	0	0	0
Saithe	0	0	0	2	0	0	0	0	0	0	0