Marine Stewardship Council (MSC) Reduced Re-Assessment Public Comment Draft Report

Normandy and Jersey lobster fishery

On behalf of the Comité Régional des Pêches Maritimes de Basse Normandie and the States of Jersey Department of Planning and Environment

Prepared by ME Certification Ltd

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Glossary

Term / acronym	Definition
AAMP	Agence des Aires Marines Protégées
BN	Basse-Normandie
LPUE	Landing per unit effort (kg per 100 pots)
CRPMEM	Comité Régional des Pêches Maritimes et des Elevages Marins
CRPMEM-BN	Comité Régional des Pêches Maritimes et des Elevages Marins de Basse-Normandie
DDTM	Direction Départementale des Territoires et de la mer
DIRM MEMN	Direction Interrégionale de la Mer - Manche Est Mer du Nord
DML50	Délégation à la mer et au littoral (of DDTM) Dept. Manche (50)
DPMA	Direction des pêches maritimes et de l'aquaculture (of French Ministry)
EC	European Community
EU	European Union
ETP	Endangered Threatened or Protected species
EUNIS	European Nature Information System
FMRAP	Fisheries and Marine Resources Advisory Panel (replaced by MRP)
HCR	Harvest control rule
JAC	Granville Bay Joint Advisory Committee
JMC	Granville Bay Joint Management Council
MLS	Minimum landing size
MP	Management Plan
MRP	Marine Resources Panel (replaces FMRAP since 2013)
MSDF	Marine Strategy Framework Directive
NFM	Normandie Fraîcheur Mer
PI	Performance Indicator
SAC	Special Area of Conservation (under EC Habitats Directive)
SICA	Scale Intensity Consequence Analysis
SMEL	Synergie Mer et Littoral
SSB	Spawning Stock Biomass

Executive Summary

This report is the Public Comment Draft Report for the reduced re-assessment of the Basse Normandie and Jersey lobster (*Homarus gammarus*) fishery. There have been no changes to the Unit of Certification and no significant changes in the operation of the fishery since the initial certification in 2011.

In relation to Principle 1, the management of the stock has been more formalised since the previous assessment, in which the Risk-Based Framework was used: reference points have been defined in the form of a 'seuil d'alerte' (alert or trigger threshold) and a 'seuil d'alarme' (limit reference point); the harvest control rules have been formalised in relation to the reference points and the stock is tracked via a standardised abundance index.

In relation to Principle 2, there were no changes to the species identified as 'main' retained and bycatch or ETP species, or habitats or ecosystems. Likewise in relation to Principle 3 there have been no significant changes to the management framework.

The previous assessment resulted in four conditions, all of which were closed at the Year 3 surveillance audit or before. This assessment results in three new conditions. Two of these (on Principle 1) arise from the fact that the RBF was not used in this assessment and one from a slightly different interpretation of the situation by the assessment team.

The overall scores for each Principle are as follows: Principle 1 – 82.5; Principle 2 – 89.7; Principle 3 – 92.1. Three conditions are raised as follows:

- PI 1.1.2 reference points (score 75): The team would like to see more evidence that the value selected for the 'seuil d'alerte' (trigger reference point) means that the management system is highly likely to maintain the stock at a level consistent with B_{msy} or a surrogate with similar intent or outcome.

- PI 1.2.4 stock assessment (score 75): The stock assessment should be peer reviewed.

- 2.1.3 retained species information (score 75): For spider crab, the fishery should ensure that sufficient information is gathered so that any increase in risk to the stock status of spider crab from this fishery can be detected.

Because the aggregate scores for each Principle are >80, and no PI scored <60, the determination of the team is that the fishery should be re-certified.

Résumé Exécutif

Ce rapport est le 'Client Draft Report' pour la réévaluation réduite de la pêcherie de homard (*Homarus gammarus*) de Basse Normandie et de Jersey. Il n'y a pas eu de changements, ni dans l'Unité de Certification, ni dans l'opération de la pêcherie, depuis la certification initiale en 2011.

Au niveau du Principe 1, la gestion du stock a été formalisée davantage depuis la première évaluation, qui a du se servir du 'RBF' (cadre d'analyse de risque). Les points de référence ont été définis: un 'seuil d'alerte' et un 'seuil d'alarme'. Les règles de contrôle des captures par rapport aux points de référence ont été formalisées et un indice standardisé a été développé pour le suivi du stock.

Pour le Principe 2, les espèces identifiées comme 'principales' (main) dans les prises accessoires retenues ou rejetées et les espèces en danger/menacées ou protégées (DMP) sont les mêmes, ainsi que les habitats et l'écosystème. Pour Principe 3 également, le cadre de gestion n'a pas changé.

La première évaluation a mené à quatre conditions, qui étaient tous fermée dans l'audit d'Année 3, ou avant. Cette évaluation mène à trois nouvelles conditions. Deux conditions sur Principe 1 sont liées au fait que le RBF était remplacé par une évaluation 'normale', et une (sur Principe 2) à une interprétation légèrement différente de la situation par l'équipe d'évaluation.

Les scores pour chaque Principe sont comme suite: Principe 1 – 82.5; Principe 2 – 89.7; Principe 3 – 92.1. Les conditions sont comme suite:

- IP 1.1.2 points de référence (score 75): L'équipe veut voir davantage d'évidence que le niveau du seuil d'alerte a été sélectionné tel que le stock est maintenu au niveau de bonne productivité (c.à.d. autour de Bmsy ou une autre mesure de la productivité du stock)

- IP 1.2.4 évaluation du stock (score 75): L'évaluation devrait être soumise à une revue par les experts tiers

- IP 2.1.3 espèces retenues information (score 75): Pour l'araignée, la pêcherie devrait s'assurer que l'information est suffisante pour la détection d'une augmentation de risque à l'état du stock par la pêcherie.

Les score préliminaires pour chaque Principe sont >80, et aucun IP n'a été noté à <60, la détermination préliminaire de l'équipe est pour la ré-certification de la pêcherie.

1. Authorship and Peer Reviewers

The team for the completion of this reassessment consisted of Dr Jo Gascoigne, Dr Julian Addison and Dr Sophie des Clers.

Dr Jo Gascoigne

Dr Joanna Gascoigne is a former research lecturer in marine biology at Bangor University, Wales and a shellfisheries expert, with over 20 years' experience working in the fisheries sector. Dr Gascoigne is has a PhD from the Virginia Institute of Marine Science in the USA, which was completed on the Allee effects of the queen conch, *Strombus gigas*. She is a fully qualified MSC Team Leader and has been involved as expert and lead auditor in over 15 MSC pre- and full assessments. She is currently involved in a number of ongoing full assessments including the FROM Nord North Sea and Eastern Channel pelagic trawl herring fishery and the Granville Bay Basse Normandie whelk fishery. She therefore has an in-depth understanding of the MSC fisheries standard and MSC fisheries certification requirements. During her experience as an MSC auditor, Jo has gained a great deal of experience in interviewing and facilitation techniques. She has also been involved in the use of the RBF on a number of occasions, having completed the required training, and this has also furthered her experience in specific stakeholder interview. Dr Gascoigne has recently completed the required Fishery Team Leader MSC training modules for the new V2.0 Fisheries Certification Requirements. Jo speaks fluent French and was involved in the previous certification cycle of this fishery and is therefore very familiar with the fishery.

Dr Julian Addison

Dr Julian Addison is an independent fisheries consultant with 30 years' experience of stock assessment and provision of management advice on shellfish fisheries, and a background of scientific research on shellfish biology and population dynamics and inshore fisheries. Until December 2010 he worked at the Centre for Environment, Fisheries and Aquaculture Science (CEFAS) in Lowestoft, England where he was Senior Shellfish Advisor to Government policy makers, which involved working closely with marine managers, legislators and stakeholders, Government Statutory Nature Conservation Organisations and environmental NGOs. He has also worked as a visiting scientist at DFO in Halifax, Nova Scotia and at NMFS in Woods Hole, Massachusetts where he experienced shellfish management approaches in North America. For four years he was a member of the Scientific Committee and the UK delegation to the International Whaling Commission providing scientific advice to the UK Commissioner. He has worked extensively with ICES and most recently was Chair of the Working Group on the Biology and Life History of Crabs, a member of the Working Group on Crangon Fisheries and Life History and a member of the Steering Group on Ecosystems Function. He has extensive experience of the MSC certification process primarily as a P1 team member but also as a P2 team member and team leader, undertaking MSC full assessments for the Newfoundland and Labrador snow crab fishery, the Ireland and Northern Ireland bottom grown mussel fisheries, both the Estonia and Faroe Islands Barents Sea cold water prawn fisheries, the Nephrops fishery in the Skagerrak and Kattegat, separate assessments for the Swedish, Danish and Norwegian Skagerrak and Norwegian Deep cold water prawn fisheries, the Eastern Canada offshore lobster fishery and the Limfjord mussel and cockle fisheries. He has also undertaken MSC pre-assessments, numerous annual surveillance audits and has carried out peer reviews of MSC assessments in both Europe and North America of lobster, cold water prawn, razorfish,

cockle and scallop fisheries. Other recent work includes a review of the stock assessment model for blue crabs in Chesapeake Bay, USA, and an assessment of three Alaskan crab fisheries under the FAO-based Responsible Fisheries Management scheme.

Dr Sophie des Clers

Dr Sophie des Clers is an independent expert in fisheries management and socioeconomics, as well as an honorary research fellow of University College London. She has been involved in a number of previous MSC assessments including UK Fisheries Ltd cod, haddock and saithe, Biscay sardine seine fishing, Normandy-Jersey lobster and Euronor/Comapêche cod and haddock. Sophie is an expert in fisheries management and legislation at a regional, national and international level but with particular focus on the EU. Sophie speaks fluent French and was involved in the previous certification cycle and subsequent surveillances of this fishery and is therefore very familiar with the fishery.

The peer reviewer for this fishery was Dr Mike Bell:

Dr Bell has 24 years' experience as a research scientist, including 17 years in fisheries, where his research has focused on assessment, monitoring and management of sustainable fisheries and the ecological consequences of marine fisheries. Mike is currently Research Associate at the International Centre for Island Technology at the Heriot-Watt University in Orkney providing research, teaching and consultancy on sustainable fisheries.

Previous professional experience includes various shellfish projects, stock assessment peer reviews, MSC assessments, Chair of the ICES Working Group on Nephrops Stocks and Scientific Advisor for Orkney Sustainable Fisheries, developing stock assessments and Fishery Improvement Projects for brown crab and researching crustacean and scallop fishery dynamics. Mike has also provided workshops on generalized linear modelling techniques, age-based stock assessments and mark-recapture modelling techniques.

2. Changes since Initial Assessment

2.1 Scope and other criteria

This fishery remains in conformity with the MSC scope requirements (FCR 7.4):

- The fishery does not target amphibians, birds, reptiles or mammals;

- The fishery does not use poisons or explosives;

- The fishery does not operate under a controversial unilateral exemption to an international agreement;

- The client group does not include an entity that has been successfully prosecuted for a forced labour violation in the last 2 years;

- The fishery management framework includes a mechanism for resolving disputes and the fishery is not overwhelmed by disputes.

Furthermore, no inseparable or practically inseparable (IPI) stocks are caught in this fishery.

The fishery is not an Introduced Species Based Fishery as per the MSC FCR 7.4.4.

2.2 Changes to the Unit of Assessment since the initial assessment

There have been no changes to the definition of the UoA since certification, but the list of vessels eligible to be part of the UoA has changed slightly. A vessel list is available from MEC on request. The Unit of Assessment is as follows:

Table 1. Unit of Assessment

Species and stock	European lobster (*Homarus gammarus*)
Geographical range	North and West Cotentin (Basse Normandie, France), Jersey (UK Crown Dependency) and Granville Bay (shared fishery between Basse Normandie and Jersey).
Method of capture	Pots
Management System/s	Basse Normandie and Jersey individual management systems plus cross-border cooperation via the Granville Bay Treaty
Client group	Commercial fishermen (West and North Cotentin and Jersey) licensed by the Comité Régional des Pêches Maritimes de Basse Normandie and the Jersey Department of Planning and Environment fishing for lobster (*H. gammarus*) with pots in the Granville Bay Treaty area and associated Basse Normandy and Jersey territorial waters.

2.3   Criteria for reduced re-assessment

According to the Certification Requirements (version 2.0, paragraph 7.24.6), a fishery is eligible for reduced re-assessment if:

- the fishery was covered under the previous certification or scope extension;
- the fishery had no conditions remaining after the 3rd surveillance audit, and;
- the CAB confirms that all standard-related stakeholder comments have been addressed by the 3rd surveillance audit.

The fishery was covered under the previous assessment in its entirety, since there have been no changes to the UoA (see MEP, 2011).

The fishery was certified with four conditions (Table 2).

Table 2. Conditions on the previous assessment of this fishery, and their outcomes.

Condition	PI	Requirement	When closed
1	1.1.1 (RBF)	Take action to ensure that the exploitation rate is such that several year classes are represented in the fishery and hence that recruitment overfishing is avoided	Year 3
2	1.2.2	Put in place reference points and agreed decision rules	Year 3
3	2.1.3	Periodically analyse available data on velvet swimming crab to monitor the stock status	Year 3
4	3.2.4	Provide a research plan	Year 3

No written comments or MSC TO were received on the PCDR or any of the surveillance audits.

2.4   Harmonisation

This fishery overlaps with the Basse Normandie whelk fishery (https://www.msc.org/track-a-fishery/fisheries-in-the-program/in-assessment/north-east-atlantic/basse-normandy-granville-bay-whelks), which is in assessment, as it relates to Principle 3 for Basse Normandie. The same team member is responsible for Principle 3 in both assessments, which are proceeding simultaneously.

2.5   TAC and catch data

The fishery is not managed via a TAC. Catch data for the two most recent years are given in Table 3.

Table 3. Lobster catch by Basse Normandie and Jersey fishers, 2013-2014 (tonnes)

Year	Basse Normandie	Jersey	Total
2013	169	197	366
2014	205	229	434

2.6 Specific Changes since Initial Assessment

2.6.1 Overall

Overall, the fishery has remained as it was when first assessed five years ago. Changes and updates specific to the scoring of Performance Indicators are detailed for Principles 1 to 3 below.

- <u>Management operation</u>: There has been no change in the management system since the initial certification, which is shared between France and Jersey, and coordinated between the two through the Granville Bay Treaty.

- <u>Species types</u>: No significant change in landings composition or bait

- <u>Fishing practices</u>: A new type of pot, the soft-eye creel pot (Jersey) came to the attention of the MEP team during surveillance audit Year 2 (MEP, 2013). The Jersey Department of Environment conducted a survey and established that the use of these pots is, however, very rare in the fishery. Full details are given in the third surveillance audit report (MEP, 2014).

- <u>Legal / administrative status</u>: The French legal and administrative framework has been reformed (underway during the first assessment); those in Jersey and the Granville Bay Treaty have not changed.

- <u>Involvement of other entities</u>: No change

- <u>Harmonisation</u>: No change (see also Section 2.4 above)

The team notes that Jersey boats, which have traditionally landed in Granville to obtain higher prices did not do so for the same extent in 2013 and 2014 because of declining prices and fuel costs, which did not make up for the 7% import duty applicable to them at French ports. Declining sterling equivalent prices for Jersey fishermen were reported to be linked to some increase in French landings and a lower £/euro exchange rate. In 2013, there was a period when Jersey lobster boats stopped fishing because the price was too low.

2.6.2 Principle 1

2.6.2.1 <u>Stock structure</u>

The Unit of Assessment is the lobster fishery in the Granville Bay Treaty area and associated Basse Normandie and Jersey territorial waters exploited by commercial fishermen from Basse Normandie (West and North Cotentin) and Jersey. The population structure of *Homarus gammarus* is not well known, since in common with most invertebrate fisheries, not much research has been done into larval connectivity or genetics. However, evidence from genetics studies in *Homarus gammarus* elsewhere (Jørstad and Farestveit, 1999), spatial structure and resilience of populations of *Homarus americanus* (Fogarty, 1998), the likelihood that tidal gyres centred on the Minquiers and Jersey are likely to retain larvae in Granville Bay (Bertrand, 1982; Bossy and Morel, 2001), and because Jersey is oceanographically isolated from Guernsey and points northwest by a strong tidal front with different water masses on either side (Pingree and Mardell, 1987), all suggest that the Granville Bay stock might be a defined (sub)-population, albeit probably linked to others via larval transport: Although the geographic and genetic delineation of the lobster stock in this region is far from clear, the best information available suggests therefore that Granville Bay is a rational management unit from the biological point of view.

2.6.2.2 Fishing gear

Lobsters are fished primarily by pots or traps, but may occasionally be also caught in trawls, trammel nets or by hand by divers. In the Normandy and Jersey fishery, vessels fish for lobster using two types of pots - inkwell pots (casiers classiques) and parlour pots (casiers pièges) (Figure 1). Inkwell pots are a simple round or square pot with an opening at the top through which lobsters may enter and exit at will. Parlour pots are rectangular with two chambers, and trap the lobster inside. Parlour pots are strictly restricted on the French side, less so on the Jersey side (more details on regulations are given below), and in all cases are required to have an escape gap to allow undersized lobsters to escape. Pots are deployed in strings of 12–50 pots (depending on vessel size – a typical 10m vessel would have pots in strings of ~25). Strings of pots are not generally anchored, but rely on a heavier pot at each end of the string to remain in place. Both types of pot target both lobster and brown crab (*Cancer pagurus*) in a mixed fishery. Basse Normandie vessels may have a maximum of 1000 pots, while Jersey vessels may have up to 1500 – most vessels have fewer, however (details of the regulations controlling pots per vessels are given below).

During the surveillance process for the previous certification, the team noted that there is an additional type of gear potentially used in the fishery – soft-eyed creels. The use of this gear was evaluated and found to be negligible – details are given in the surveillance reports.

Figure 1. The types of lobster traps used in this fishery: left = inkwell pot (casier classique) (as suggested by the name, this can also be round); right = parlour pot (casier piège). The lobster can exit at will from the inkwell pot but becomes trapped in the parlour pot, which is divided into two 'rooms'.

2.6.2.3 Fishing effort and landings

Various indices of fishing effort are available for both the Basse-Normandie and Jersey fisheries which allows evaluation of the development of the fisheries over time.

Vessel numbers (Basse Normandie and Jersey)

The numbers of vessels specifically targeting lobster for Basse Normandy and for Jersey are shown in Figure 2 and Figure 3. Note that vessel numbers are an imprecise proxy of fishing effort in the lobster fishery because not all vessels that are licensed to catch shellfish target lobster full time in either Basse Normandie or Jersey. Vessel numbers are estimated as a proportion of those eligible to do so. In Basse Normandie, this is based on Ifremer surveys where shellfish ("Gros Crustacés" GC) licensed boats landing over 200 kg lobster per year are classified as "lobster-targeting vessels". In Basse Normandie, the total number of licenses has declined steadily over the last ten years (Figure 2). This is related to the "plan de diminution de pêche" - a fisheries exit plan, in force since 2009, which aims to reduce fishing capacity by gradually reducing the number of licenses: out of 2 or 3 licenses that are returned on retirement, only 1 or 2 are re-allocated. However the number of vessels actively targeting lobsters has remained fairly stable since 2009 (Figure 2).
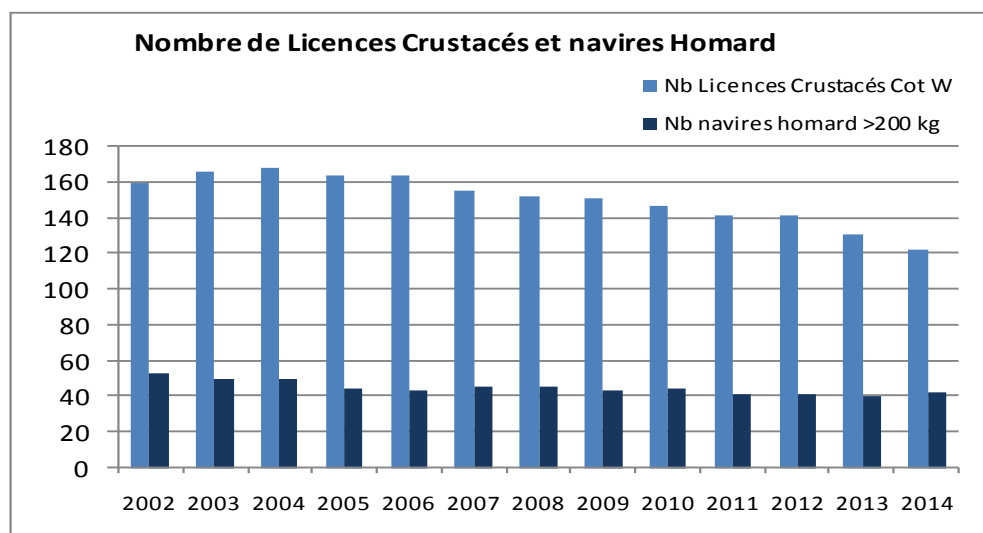
Figure 2. Number of vessels with a "Gros Crustacés" licence (large crustaceans - light blue) and those actively targeting lobster on a regular basis (dark blue) for Basse Normandy (data from CRPMBN)

In 2014, Jersey had 152 licensed vessels, of which 87 had a shellfish entitlement. In 2013, an estimated 68 of these vessels targeted lobster on the basis of an annual catch in excess of 200 kg (Figure 3) (this figure has not been updated but is thought not to have changed much). Jersey Fisheries Department staff report that the long-term trend has been for the 6-10m fleet (accounting for most of the landings) to remain relatively stable, while the >10m and <6m fleets have both declined, most likely due to increased administrative and regulatory requirements. The large decline in the total number of registered vessels over the last 20 years has been due to the reduction in the number of very small, part-time vessels primarily because it has now become significantly more onerous to operate a small commercial fishing vessel on a 'hobby' basis.
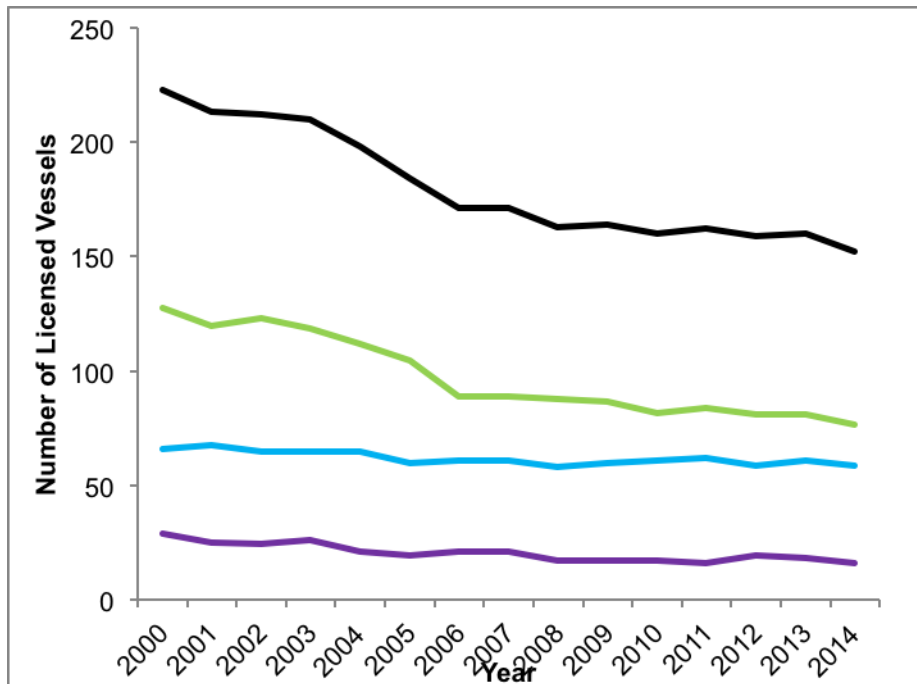
Figure 3. Jersey registered fishing vessels under 6m (green), 6-10m (light blue), >10m (purple) and total (dark blue) (data from Jersey Fisheries and Marine Resources)

Vessel months (Basse Normandie)

In Basse Normandie, fishing effort is also estimated in more detail using vessel-months for two segments of the fleet, giving a more nuanced picture of fishing effort in the lobster fishery (Figure 4). Overall fishing effort for vessels holding a Gros Crustacés licence declined in the early 2000s up until 2007 after which fishing effort increased to a peak in 2012. However fishing effort of these vessels has declined a little over the last two or three years. Vessel months for vessels specifically targeting lobsters has remained stable. CRPM staff note that fluctuations in fishing effort targeted at lobsters are often related to fluctuations in price, which determines the relative level of fishing effort targeted at lobster in comparison with other shellfish species such as brown crabs and whelks.

Figure 4. Fishing effort (vessel months) over time for Basse Normandy for shellfish licensed vessels (GC) (in green) and those actively targeting lobster (in red) categorised for vessel sizes below and above 8m (data from Ifremer).

Licensed pots (Basse Normandie) and pot lifts (Jersey)

A better index of fishing effort than vessel numbers is the number of pots used to target lobsters. In Basse Normandie information is available on the numbers of licensed inkwell pots (casiers classiques; CL) and parlour pots (casiers pièges; CP) (Figure 5). The long-term trend has been for a gradual increase in the number of licenced parlour pots at the expense of more traditional inkwell pots. However, parlour pots are restricted in Basse Normandie to half the total number of pots per vessel and no parlour pots are permitted in Basse Normandie territorial waters, including around Chausey. The levelling-off of parlour pot numbers observed in 2014 suggests that Basse Normandie fishermen are reaching their regulatory limit.
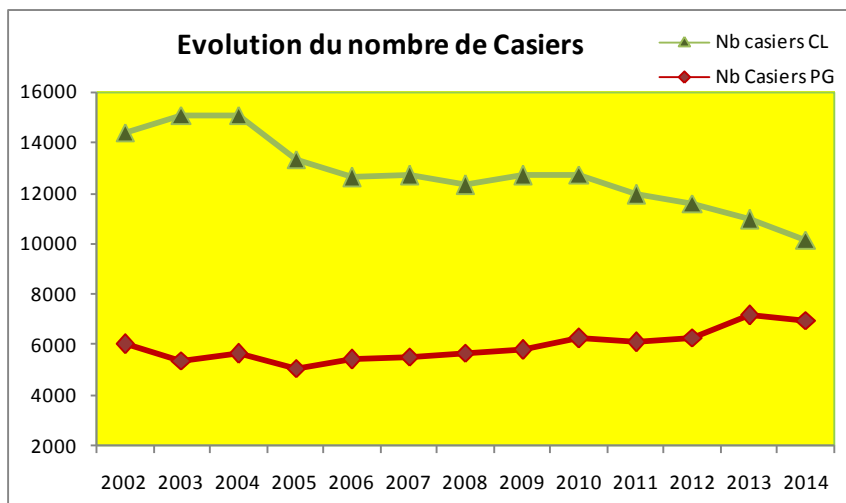
Figure 5. Number of licensed pots for Basse Normandy. Parlour pots (casiers PG) are in red (bottom) and inkwell pots (casiers CL) in green (top) (data from CRPMBN)

For Jersey, the number of pot lifts per day is considered to be the most suitable proxy for effort (instead of the number of pots licensed). The total number of pot lifts per year by the Jersey fleet has remained relatively stable over the last five years with 1.64 million recorded in 2014 (Figure 6), corresponding to an estimated 27,000 pots currently in use in the fishery.
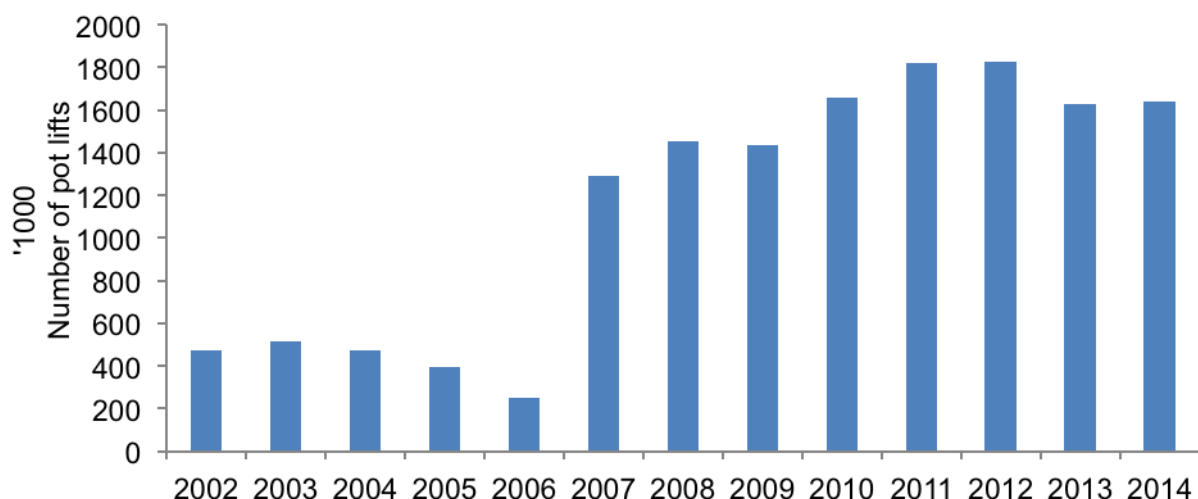
Figure 6. Number of pot lifts by Jersey vessels, including pot lifts for the lobster and brown crab fisheries together

Ghost fishing

In pot fisheries there is the potential for additional unobserved fishing effort to occur through lost pots continuing to fish despite not being hauled ("ghost fishing"). Pots may be lost from strings through storms or by being dragged along the seabed by mobile fishing gear, although the latter is now a rare occurrence due to a 'cohabitation' agreement within the Granville Bay system. All pots must be tagged and loss of pots must be reported in order for new tags to be dispensed. In practice few lost pots are reported within this fishery, possibly because most vessels are working below their allocation (suggesting that more gear is lost than reported). Any additional fishing mortality generated by ghost fishing can be mitigated against by the use of biodegradable panels, but presently no one in the lobster fishery is using biodegradable panels, although research on panels is starting within the research institute Synergie Mer et Littoral (SMEL). Discussions on ghost fishing have taken place within the Joint Advisory Committee (JAC) which concluded that gear may be lost in the high energy environment and that damaged non-lost gear has to be repaired regularly. During the stormy winter of 2014 many vessels lost some gear. A Jersey fisheries officer noted that if you find lost gear, for example through diving, the lost pot generally 'looks like a tank has driven over it'. The general consensus is that ghost fishing is not an important issue in this fishery and that there is little unobserved fishing effort.

2.6.2.4 <u>Trends in landings</u>

Basse Normandie

Landings data for Basse Normandie are obtained by CRPM based on three types of data: declared landings and effort data (from logbooks/fiches de pêche), auction data and reference fleet data. From 2012, all datasets for fisheries production and effort in France were combined by Ifremer under the programme SACROIS. Production data from SACROIS is given in Table 4, along with CRPM data (for the purpose of comparability with previous assessments). The minor differences between the two sets of data come from different methodologies for estimating total production. The SACROIS data are thought to be more reliable and are used for the harvest strategy and harvest control rule, but Ifremer are still working to reconstruct a full time series from 2007.

Table 4. Cotentin lobster production, 2010-2014 (t). Data from Ifremer SACROIS project and from CRPM-BN

Year	Estimated Cotentin lobster production (t)	
	SACROIS	**CRPM**
2010	149	140
2011	190	150
2012	191	176
2013	166	169
2014	174	205

Detailed landings data from the Granville auction for both Basse Normandie and Jersey vessels were used as a proxy for overall lobster landing trends. Landings from Basse Normandie vessels have been stable in recent years, while landings by Jersey vessels have decreased somewhat (Figure 7). (Note that Jersey landings to Granville may be less

representative of overall Jersey trends since only a few Jersey boats sell to the Granville auction, depending to a large extent on the price[1].)
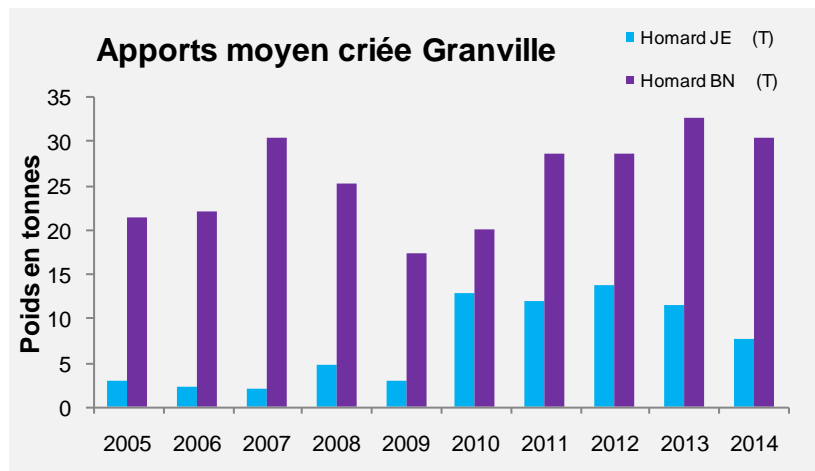
Figure 7. Landings by Basse Normandy (BN dark purple) and by Jersey vessels (JE light blue) to the Granville auction (data from CRPMBN)

Jersey

Lobster landings based on logbook data are available for the entire Jersey fleet (all gear). Jersey lobster landings have been high relative to recent historic levels and have been fluctuating without trend around 220-230 tonnes for the last 5 years (Figure 8).
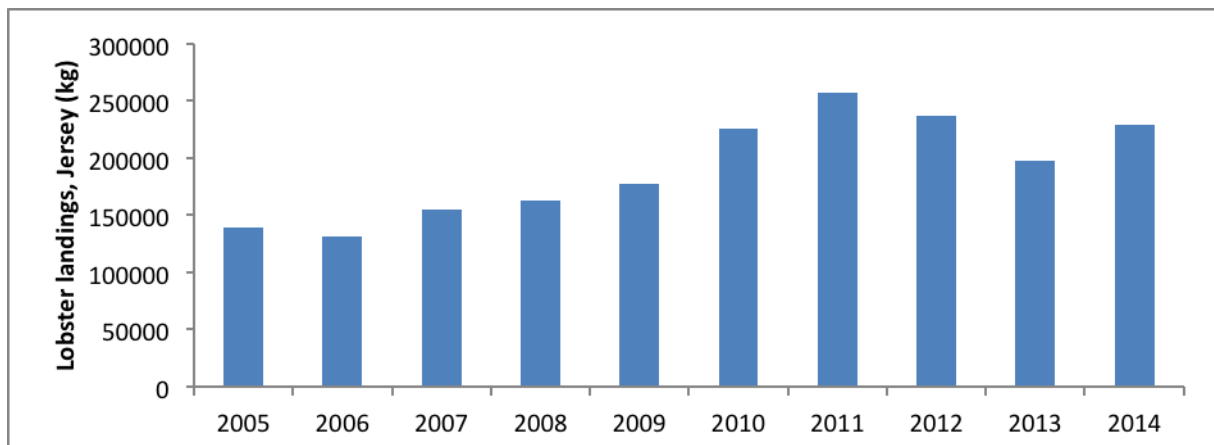
Figure 8. Lobster landings by Jersey fisheries from logbook data (from Jersey Fisheries and Marine Resources)

All other landings

There is also potential for lobsters to be landed within the Granville Bay by vessels from Brittany and Guernsey, through recreational fishing and as bycatch in other fishing gears. There are some landings of lobsters by Brittany vessels within the Granville Bay area

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[1] Two factors: firstly, it costs Jersey vessels time and fuel to land at Granville rather than in Jersey, so the price difference has to make it worthwhile; secondly, significant landings from Jersey all at once can have the effect of lowering the auction price, potentially causing friction with Granville fishermen – generally, relations are good and efforts are made on both sides not to cause this kind of problem.

(according to France AgriMer (2015) 7t of lobster were landed to the auction at Erquy and <1t to the auction in St. Malo). Not all landings in Brittany (as in Basse Normandie) will be to auction, but conversely not all of the auction landings will come from Granville Bay. Overall, assuming similar proportions landed to auction vs. direct sale in Brittany as in Basse Normandie, these figures suggest that the Breton fishery is not significant compared to the UoC). There are no Guernsey vessels with a potting licence in the area.

There is some recreational fishing within Jersey, mainly low water fishing on foot. There are no recreational bag limits in Jersey but estimates of lobster landings from enforcement activities suggest that the overall landings of lobsters by recreational fisheries is very small. Within Basse Normandie there is more recreational fishing than in Jersey, but it is more controlled. Estimates of landings of lobsters by recreational fishers in Basse Normandie are around 2 tonnes annually from the Cotentin coast (Véronique Legrand, CRPMEM Basse Normandie, pers. comm.). Bycatch of lobsters landed by trawlers at Granville are estimated at around 0.5 tonnes per annum (V. Legrand, CRPM, pers. comm.). There are no reports of lobsters being caught in spider crab nets, but there may be some lobsters caught by fish netters around St. Malo. Overall, total landings by vessels outside the UoC are expected to be small in relation to the total landed by UoC vessels from Basse Normandie and Jersey.

2.6.2.5 Harvest strategy

The overall harvest strategy for the lobster fishery is underpinned by the Agreement concerning the Fishing in the Bay of Granville, signed in 2000 between Great Britain and France (Granville Bay Treaty, 2000). The broad scope of the agreement is to " […] conserve fisheries resource in the seas situated in the region of the Island of Jersey and the neighbouring coast of France" and to […] contribute to the prosperity of the local communities which depend […] on the fisheries resources of those seas". The regulations implemented under the Agreement should be set on the basis of the precautionary approach, but with regard to socio-economic factors. To meet those objectives, a Joint Advisory Committee (JAC) was implemented with the mandate to 'ensure the conservation and effective management of the fishery resources in the area covered by the Agreement', conservation meaning 'the rational use and the maintenance or re-establishment of stock of species at levels which ensure constant maximum yield'. The JAC facilitates scientific research, gathers statistical data on catch and fishing effort and shares the information with stakeholders. It has the mandate to make recommendations on:

- The management of fishing effort by introducing fishing permits, which may if necessary be capped at a certain number

- Setting TACs, minimum sizes or weights and other regulations for the control of harvest

- The designation of fishing sectors, and their open and closed seasons

- The opening and closures of permitted catch seasons

- The regulation of catch methods.

The JAC holds three meetings a year, at which management and conservation issues are discussed allowing the system to react relatively quickly to emerging situations. The JAC makes recommendations to the Joint Management Committee (JMC). In addition to the JAC, the Granville Bay Shellfish/Crustacea Working Group (Shellfish WG) was set up in 2012 to focus on data validation and analysis, to provide input for the MSC programme and to address the whelk fisheries and French lobster fisheries in general. Stakeholders from both Basse Normandie and Jersey, including scientists, government representatives and

fishermen, attend the working group meetings which are usually held immediately prior to the quarterly JAC meetings. The Shellfish WG therefore provides a forum for regular internal review of the fishery's management system including the harvest strategy.

The harvest strategy includes licensing requirements, controls on fishing effort, technical conservation measures, regulations on gear type and closed areas, but currently there is no TAC for this fishery. Regulations that are applicable to both Basse Normandie and Jersey vessels include:

- Maximum number of pots per vessels on a sliding scale according to vessel length (Jersey) or crew number (Normandy). In Normandy vessels are permitted 200 pots per crew member up to a maximum of 1000; in Jersey a linear formula is used to calculate pot allocation in relation to vessel length, with a maximum of 1500 within the fishery

- A minimum landing size of 87 mm carapace length (CL)

- Restrictions on parlour pots in the joint zone: these are prohibited in Les Minquiers, and in all areas must incorporate escape gaps

Currently there is no regulation prohibiting the landing of egg-bearing (berried) females or V-notched females.

In addition in Normandy, licences for fishing are continually being reduced through the "plan de diminution de pêche", whereby no more than 50% of returned licences are re-allocated, no more than 50% of the total pots can be parlour pots, a further prohibition of the use of parlour pots in areas totalling 55,000 ha (Figure 9) and the implementation of 5 closed areas (cantonnements) along the west Cotentin coastline totalling 2000 ha (at Blainville, Pirou, Saint Germain-sur-Ay, Dielette and Chausey).

In Jersey all parlour pots must be fitted with escape gaps which allow the escape of undersized lobsters (and crabs). Gaps must be 79x100x44mm if on the side of the trap; this size has been carefully calculated to allow escape of lobsters under the minimum landing size of 87 mm CL without allowing commercial sized lobsters to escape through the escape gap. Biodegradable panels are not currently required in the fishery.
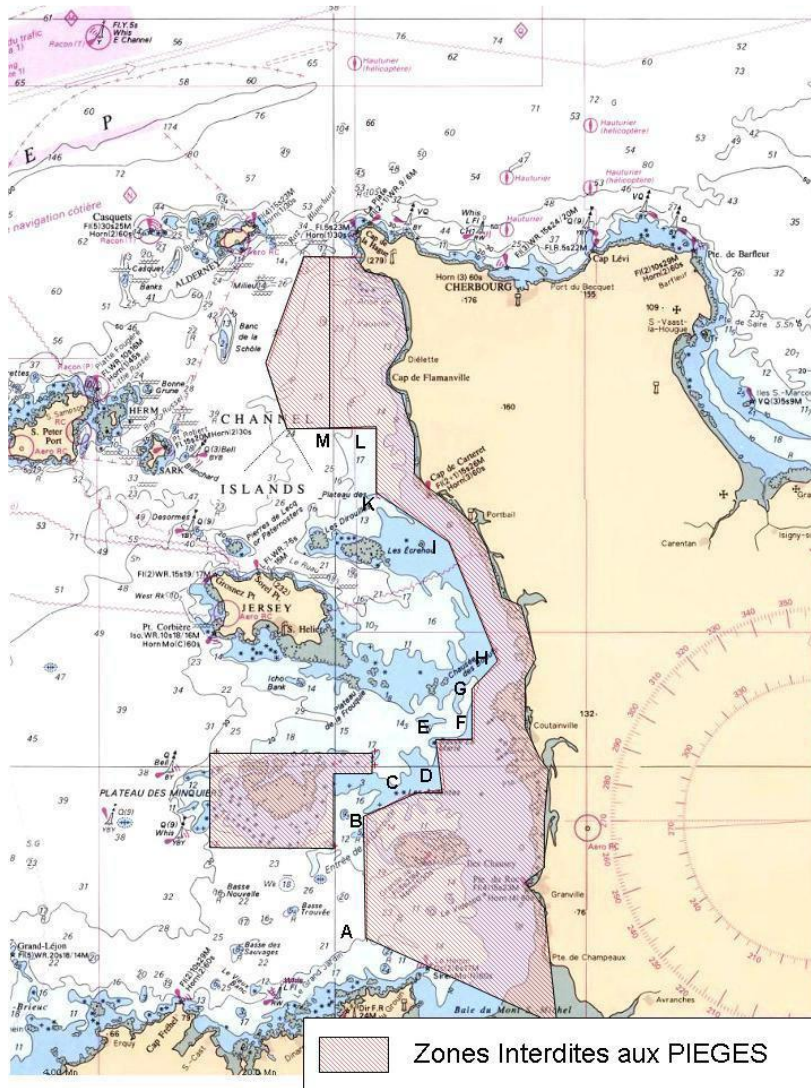
Figure 9. Map of the area in which parlour pots are prohibited. Source: CRPM

2.6.2.6 Monitoring and Stock Assessment

The fishery is monitored through a series of fishery-dependent and fishery-independent stock indicators – landings per unit effort (LPUE) from the commercial fishery, catch per unit effort (CPUE) from surveys, size structure from surveys and landings, the characteristics of reproductive females, and indices of recruitment (the size class just below the minimum landing size) from surveys.

Landings per unit effort (LPUE)

LPUE data are collected from landings and logbooks / fiches de pêche in both Basse Normandie and Jersey and have been used in both their raw and standardised form to set reference points and harvest control rules based on the assessment of the status of the stock in relation to those reference points. LPUE data are provided to IFREMER who have developed a standardised index of abundance / indice d'abondance standardisé (IAS) for the fishery as a whole using the most detailed available data from both Basse Normandie and Jersey, namely:

- Jersey logbook LPUE data;

- Basse Normandy logbook and 'fiche de pêche' LPUE data;

- LPUE data from a French 'reference fleet' ('flottille de référence') operating along the west Cotentin coast (since 2004).

A global index has been defined for both Basse Normandie and Jersey using 2007 as a common reference year:

IAS = index of abundance year n / index of abundance in 2007 (reference year)

The index was standardised to 2007 ($IAS_{2007}=1$) because 2007 was the year in which the Jersey time series starts (in useable form) because reporting requirements for <10m vessels were tightened up in 2007. Previously LPUE data were reported without sufficient resolution.

The index is based on reference vessels ('flotille de référence') selected on various criteria. Vessels were chosen on the basis that they had previously provided good data by completing logsheets correctly and reliably without errors and the skippers were known to officials. If the skipper changes vessel, then the reference fleet follows the skipper and not the vessel. Vessels were also chosen to ensure coverage of the whole fishing area and for this purpose the area was divided into four 'MSC' zones (Figure 10):

1 – North Cotentin
2 – West Cotentin
3 – Jersey and Ecrehous
4 – Minquiers

Zones were chosen because of the different types of habitats in these four zones, and hence there may be different trends in the abundance index in these zones. For the Jersey zone, the 6-10 m fleet was used because this component is considered to be the most representative of the whole fleet. A total of 9 Jersey vessels was used as the reference fleet. For the Basse Normandie fleet, around 25 vessels are used as the reference fleet, equating to approximately 40% of the fleet who target lobster. All data are checked and validated, and vessels are removed from the analysis if confounding factors are identified. For example, some Basse Normandie vessels fish for both lobsters and whelks, and it was sometimes unclear when reporting the number of pots on log sheets whether the pots were lobster pots or whelk pots. As a result these data were removed from the analysis in 2013 and 2014.

Homard Cotentin Jersey - 4 zones de pêche
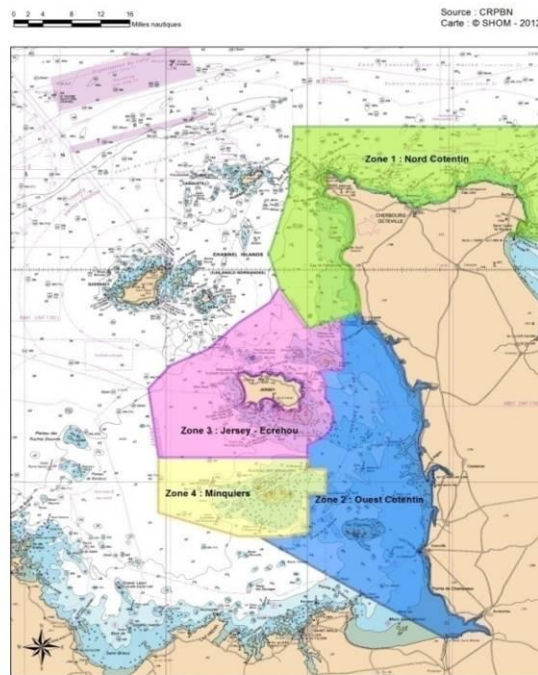
Figure 10. Fishery assessment Zones ('MSC Zones') for Granville Bay: Zone 1 = North Cotentin (green), Zone 2 = West Cotentin, including Chausey (blue), Zone 3 = Jersey (purple), Zone 4 = Minquiers (yellow).

Both Basse Normandie and Jersey data are analysed with a General Linear Model (GLM) using kgs/100 pots as the dependent variable and year, month and zone as explanatory variables amounting to between 3000 and 4000 data points per year. Initially 'vessel' was included in the explanatory variables but no significant vessel effect has been observed in any year, and so 'vessel' has been removed from the analysis. The model provides an analysis of abundance and an estimated index of abundance for the year just finished. The model results bring together individual data analyses of landings and fishing effort presented above, and demonstrated that there is a very strong seasonality in abundance, and that there were no significant differences between Zones 1, 2 and 4 for the French vessels, and little significant difference from Jersey vessels in the same zones. The zones can therefore be considered as a single Bay of Granville area for management purposes

Reference points and harvest control rules based on LPUE / IAS data

The fishery has defined limit and trigger reference points based upon observed catch rates which are a proxy for stock abundance. A limit reference point (LRP) has been set as an LPUE of 6 kg / 100 pots. This is based upon the catch rate observed in 1996 which was the lowest ever catch rate recorded within the recent history of the fishery. The fishery has since recovered to much higher levels of catch rate, which provides sufficient justification for using the 1996 catch rate as the LRP on the basis that recruitment will not be impaired at catch rates higher than 6 kgs / 100 pots. It should be noted that this LRP is based on unstandardised data from the Jersey fishery and has not been converted into a standardised index of abundance (IAS). This LRP forms the basis of the harvest control rules described below, although it should be noted that fishing will become uneconomic before catch rates decline to that level.

In addition to the LRP there is also a trigger reference point of IAS = 1 (2007 level), which forms an upper reference point for the harvest control rules (Figure 11), although this trigger reference point is not specifically linked to an estimation of Bmsy. The management strategy for the lobster fishery is determined by the state of the stock in relation to the observed index of abundance (IAS) and the raw LPUE, i.e. dependent on whether the fishery is in the "green, "orange" or "red" zone. The overall management strategy is to ensure that IAS is greater than 1, so that the fishery remains in the green zone. Harvest control rules for the fishery based on the reference points have been agreed by the JMC as follows:

Green zone – IAS>1

If the fishery is in the green zone, current management regulations are maintained. However the management strategy in the Basse Normandie area of the fishery includes a fisheries exit plan ("plan de diminution de pêche") which aims to continually reduce the number of licences by reallocating fewer licences than become available through retirement or other means. This is a precautionary strategy which reduces the level of latent fishing effort. If a systematic decline in IAS is observed, without dropping below the trigger reference point of IAS=1, then precautionary management measures will be taken.

Orange zone – IAS < 1, but LPUE >6 kg/100 pots

If IAS falls below 1 and therefore the fishery drops into the orange zone, then the management authorities will immediately review other indices of stock status - catch per unit effort (CPUE) from surveys, size structure from surveys and landings, the characteristics of reproductive females, and indices of recruitment from surveys (see below for details of these other indices). If the other indices also raise concerns about the state of the stock, then management action is taken immediately. If there are no problems identified with these other indices, then the management strategy is to maintain the current management regime for one year and then to observe if the downward trend in IAS continues. If the decline continues (or other indices have already demonstrated a decline in stock status) then various management actions are taken to reduce the level of fishing effort. Management actions will depend on a review of the other indicators, but may include a reduction in the number of pots potentially by pot type or by fishing zone, changes in the proportion of parlour pots permitted in the fishery, a reduction in the number of licences, the introduction of measures against 'ghost fishing', and potentially limitations on the vessels which fish with pots for both whelks and lobsters. If necessary, other biological management measures will also be taken (see management action within the red zone for details of these other biological measures).

Red zone – LPUE < 6 kgs / 100 pots

If the fishery drops into the red zone, then in addition to actions described above to reduce fishing effort, a range of 'biological' management actions will be implemented. The actions will depend on the status of the various stock indicators (LPUE from the commercial fishery, CPUE from surveys, size structure, reproductive characteristics, recruitment index), but may include an increase in the minimum landing size from 87 to 90 mm carapace length, increase in the size of escape gaps, introduction of a maximum size (potentially of 120 mm CL), a ban on the landing of lobsters with no claws, a ban on the landing of berried females, closed seasons, a ban on the landing of V-notched lobsters and additional closed areas.

All management actions described above within the harvest control rules may be taken either in a coordinated way between Basse Normandie and Jersey authorities or separately in the two fisheries dependent on any local differences in stock indicators. Whilst the pre-defined harvest control rules are triggered primarily by changes in IAS and raw LPUE for the whole fishery, management authorities keep a close watch on other indicators. For example, whilst Jersey now only report amalgamated LPUE for all vessels in annual reports, internally they still review a set of more detailed 'key performance indicators' for each fishery, which includes LPUE in each vessel size category (i.e. <6m, 6-10m, >10m) so monitoring is more detailed than simply observing changes in catch rates for the whole fishery.

Bon état	**Indice > 1**
	Mesures actuelles en cours
	Amélioration de la connaissance grâce aux pêcheurs (autoechantillonnage …)
	Analyse prospective des tendances
	Anticipation sur mesures à prendre si indice baisse régulièrement
Niveau d'alerte	**Indice = 1 => Mesures d'effort de pêche complétées si besoin par mesures biologiques**
Diminution de l'effort de pêche	Diminution du nombre de casiers globalement, éventuellement en fonction du type de casiers (classique ou piège) et de zones de pêche particulièrement affectées
	Diminution du nombre de licences
	Détermination d'une proportion de casiers piège / casiers classiques
	Adoption de mesures spécifiques pour la lutte contre la pêche fantôme des casiers perdus
	….limitation de la polyvalence (bulot/homard) etc….
Niveau de danger	**6 kg/100 cas - Mesures biologiques complémentaires des autres**
Augmentation de la production d'œufs + autres	Augmentation taille de capture minimale progressive (87 à 90 mm)
	Augmentation des dimensions de la trappe d'échappement
	Adoption d'une taille de capture maximale (120 mm) ?
	Interdiction de débarquement des homards épatés
	Interdiction de débarque des femelles grainées toute l'année ou à une période
	Interdiction de débarque totale sur une période de l'année
	Adoption de la pratique du V-notching
	Création de nouveaux cantonnements
	…

Figure 11. Harvest Control Rules for the Basse Normandie and Jersey lobster fisheries in relation to green zone / bon état, orange zone / niveau d'alerte and red zone / niveau de danger.

2.6.2.7 Stock status and assessment in relation to reference points

Status of the Basse Normandie and Jersey lobster stocks is assessed annually through evaluation of trends in commercial LPUE and standardised indices in relation to reference points. Commercial landings per unit of effort (LPUE) data, based on logbook data for Jersey, from all boats landing lobster (not just those actively targeting it) have been relatively stable for the last 5 years between 20 and 25 kgs / 100 pots, well above the limit reference point of 6 kgs / 100 pots (Figure 12). LPUE for 2014 did not change much from 2013, and both these years were a little down on recent historical LPUE levels, although probably not significantly.
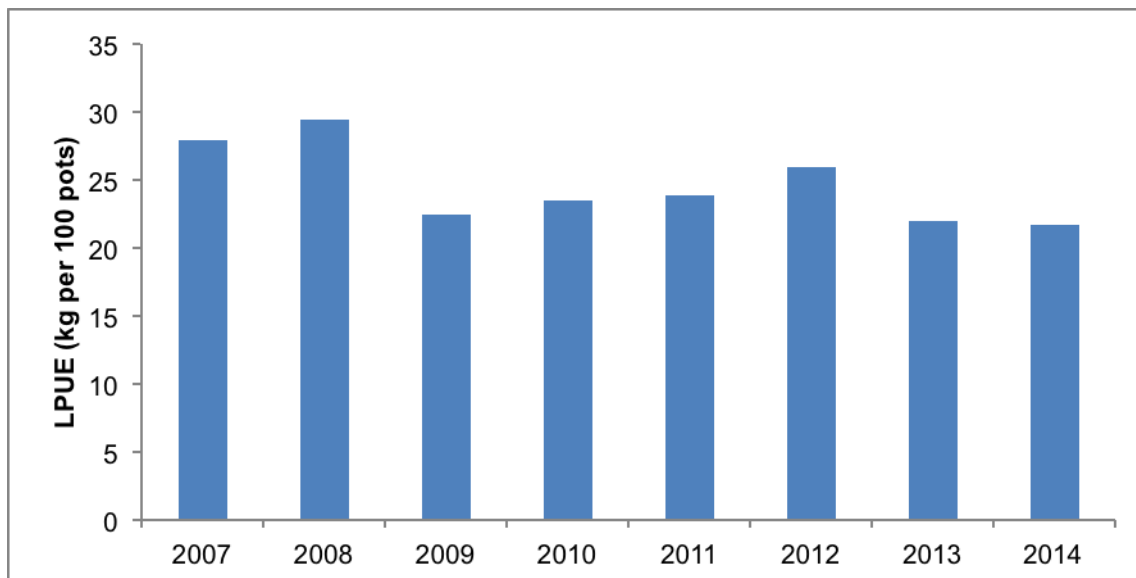
Figure 12. Annual nominal LPUE data based on logbooks of all Jersey vessels with shellfish licenses (from Jersey Fisheries and Marine Resources)

Ifremer provides a standardised index of abundance ('indice d'abondance standardisé – IAS), which is essentially an annual standardised LPUE index relativised to 2007. For the Basse Normandie component of the fishery, IAS has been increasing continuously in recent years and is well above the trigger reference point of IAS=1 (Figure 13). For the purpose of evaluating the fishery with some spatial detail, the Granville Bay area has been divided into four assessment zones ('MSC zones'): North Cotentin, West Cotentin, Jersey and Ecrehous, and Minquiers (Figure 10), and Figure 13 also shows the unstandardised LPUE data for zones 1, 2 and 4 (Basse Normandie vessels do not fish in zone 3) and the mean LPUE, all of which show similar trends to the standardised index (IAS). Figure 14 shows the IAS for Basse Normandie and for Jersey (zone 3). As can be seen from the raw LPUE data, the trends for Jersey and Basse Normandie are somewhat divergent in recent years, although IAS for both fisheries is well above the trigger reference point of IAS = 1. Ifremer noted that the Jersey IAS data are based on only 9 vessels and the fishing activity of two of those 9 vessels appears to have changed significantly recently and so there may be a significant vessel effect in this standardised index. The Basse Normandie data series are therefore considered to be more indicative of trends in abundance (M. Laurans, pers. comm.). In the future an effort will be made to increase the sample size for the Jersey fishery.
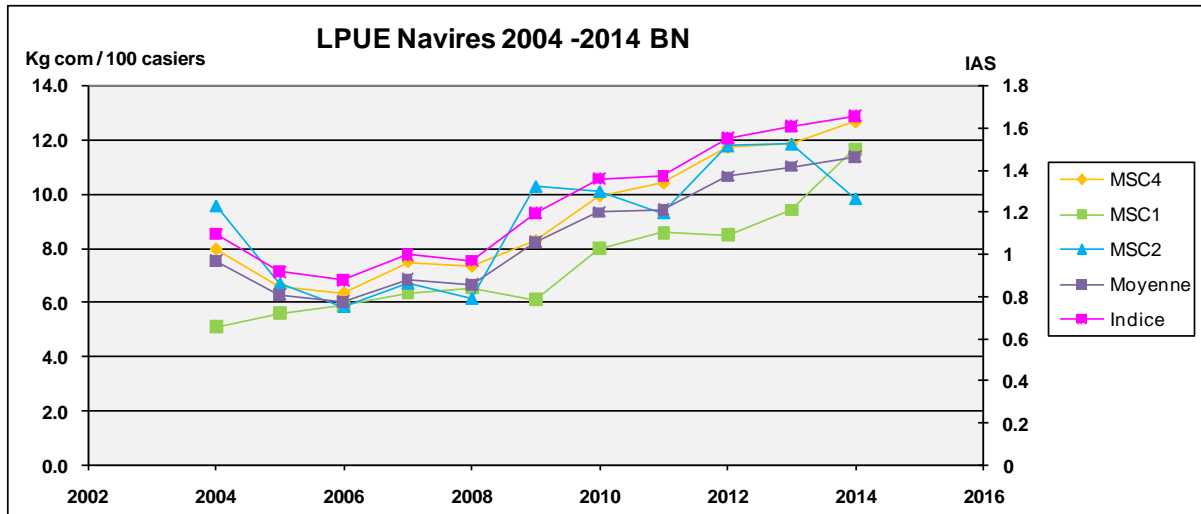
Figure 13. Standardised index of abundance (IAS) for Basse Normandy (BN 2004 – 2012) (pink – right y-axis) along with unstandardised LPUE for zone 1 (north Cotentin – green), zone 2 (west Cotentin – blue), zone 4 (Minquiers – yellow) and the mean (grey).
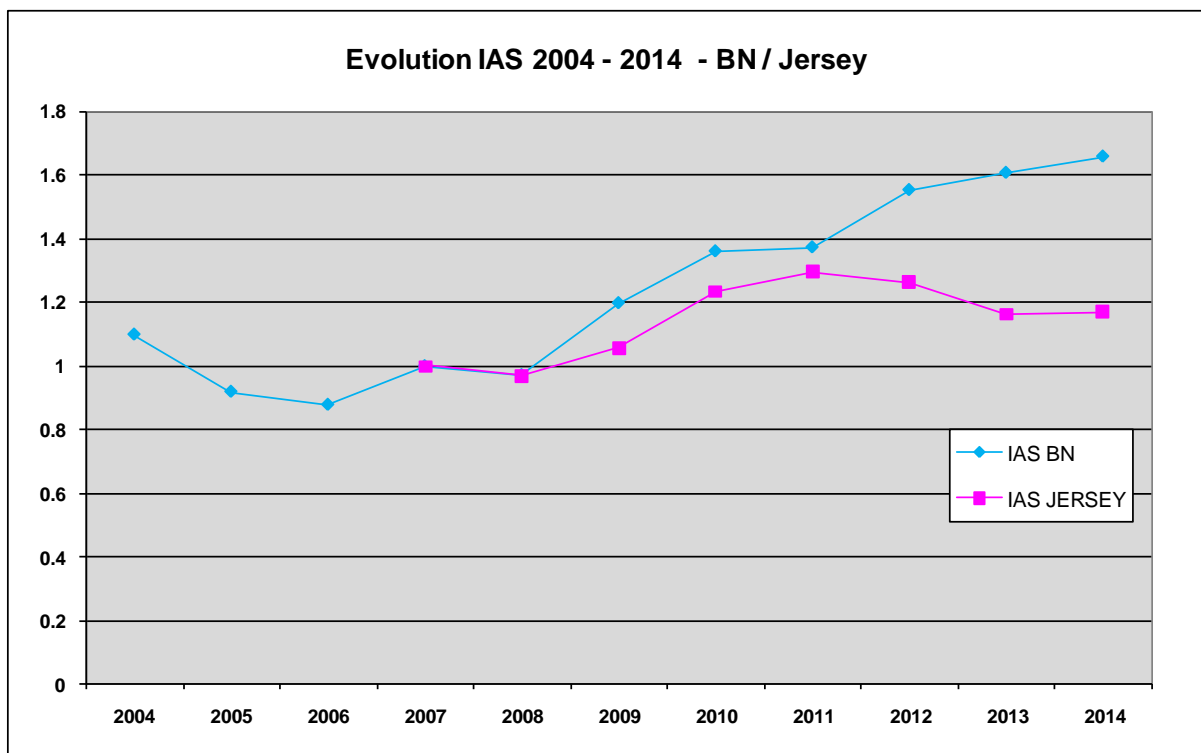
Figure 14. Standardised index of abundance (IAS) for Basse Normandy (BN 2004 – 2014) and Jersey (JE from 2007) (Data provided by IFREMER). Abundance levels in 2007 provide reference values set to 1.

2.6.2.8 Fisheries-independent data (and additional self-sampling of commercial catches)

In addition to catch rate data from the commercial fishery, fishery-independent data are also collected for both the Jersey and Basse Normandie components of the fishery, and some additional self-sampling of commercial catches are also available. For Jersey, fisheries-independent information have been collected though an annual research survey carried out by the Jersey Fisheries during May-July since 2004, using a standardized protocol and parlour pots with the escape gaps blocked up to sample juvenile as well as legal sized lobsters and other species. This survey visits the same fixed stations, designed to be in areas of high catch because the objective was also to get sufficient samples for size-frequency analysis. The survey shows a gradual increase in LPUE for both legal and sub-legal sized lobsters, and stability in recent years – a pattern more or less consistent with trends in commercial LPUE and the IAS for Jersey (Figure 15). (Note that the peak in 2009 is probably an artefact of problems with the survey in that year.) In 2015 the survey could not be carried out due to staff and resource shortages, and the future of this survey will be kept under review.
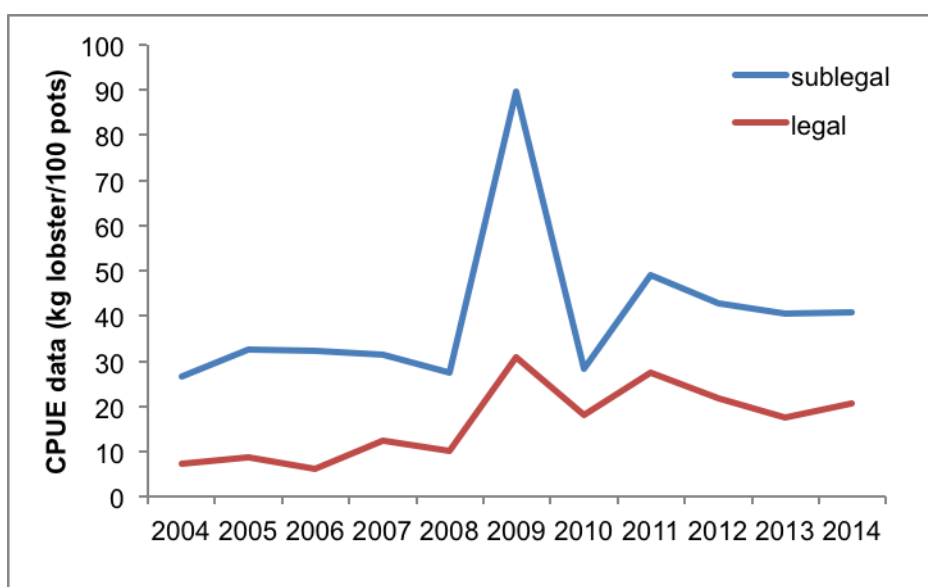
Figure 15. Fisheries-independent CPUE data from Jersey, for sublegal (<87mm CL – blue) and legal-sized lobster (>87mm CL – red); the 2009 spike in CPUE should be treated with caution as the survey was truncated due to logistical problems (from Jersey Fisheries and Marine Resources)

Details of the length frequency distributions collected by Jersey in its annual research surveys from 2004 to 2014 data are given in Figure 16. The size distribution shows a change in the structure of the sampled population around the minimum landings size (MLS) of 87 mm carapace length, but no longer shows the abrupt decrease apparent during the initial assessment (2004 to 2009 data), now attributed to Jersey's research sampling protocol, which catches mostly small sizes.
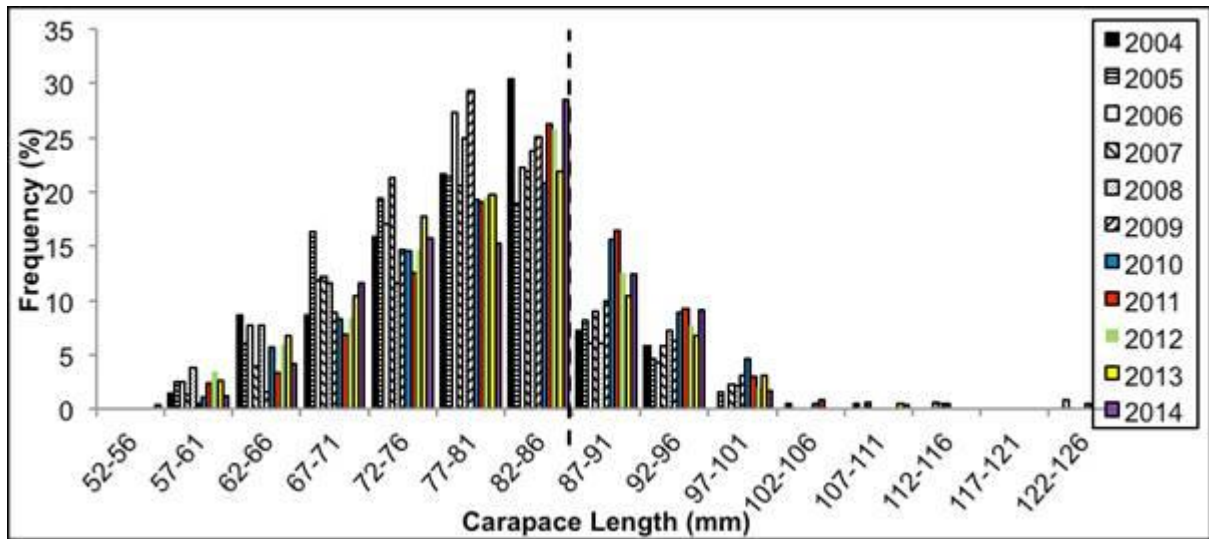
Figure 16. Lobster size distribution in research survey using Parlour Pots without escape gaps (from Jersey Fisheries and Marine Resources)

The size distributions in research surveys was investigated in detail by Jersey Fisheries and Marine Resources in 2013, in cooperation with local fishermen by collecting size data for all lobsters on a number of pots in a string for both inkwell and parlour pots. The results showed that the size distribution of lobsters caught in parlour pots with blocked escape gaps in annual research surveys is similar to lobsters caught in inkwell pots, and significantly smaller than lobsters caught in parlour pots. In terms of size frequency distribution (Figure 17), this reflects the escape of small lobsters through the gaps, and low frequency of large lobsters that either crawl out of inkwell pots or do not enter parlour pots with escape gaps blocked because of the large number of small lobsters having either eaten the bait or blocking entry. On the basis of their investigation, the Jersey Fisheries and Marine Resources concluded that their annual survey programme monitors mostly juvenile lobsters and will now be complemented by a survey of the size distribution of commercial catches (through 'Obsbain', see below) to provide a more balanced snapshot across the entire size range.
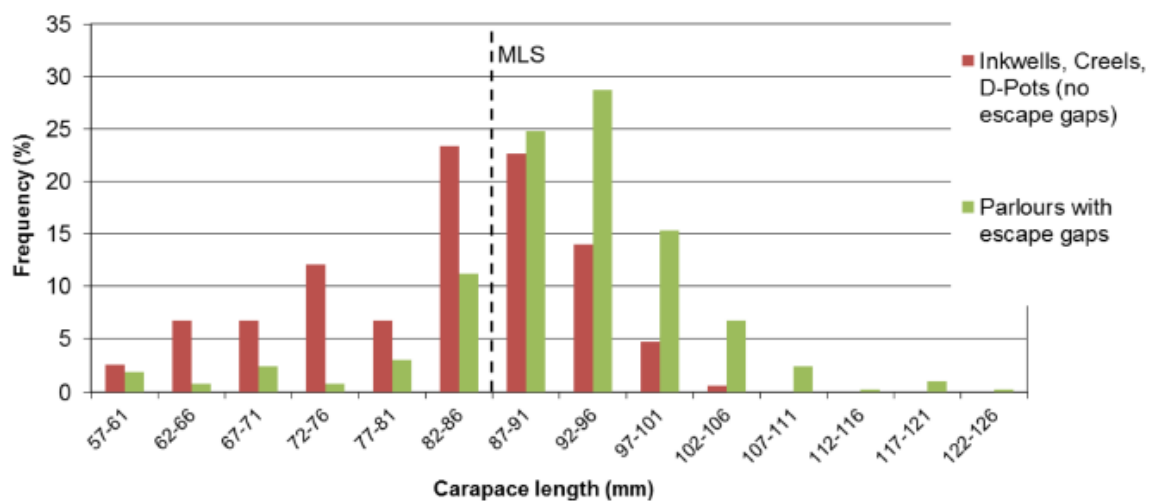
Figure 17. Lobster size distributions in commercial catches using pots without escape gaps (red bars) and parlour pots with escape gaps (green bars). Source: Jersey Fisheries and Marine Resources).

In Basse Normandy, fisheries-independent surveys are carried out during one week in June and one week in September in the fisheries closed areas (cantonnements) of Blainville, Chausey and Diélette under the HEIMA programme. Size distribution data are available for the Chausey closed area in Zone 2 (West Cotentin) from 2010 to 2013 (Figure 18 and Figure 19). The survey uses inkwell pots, lifted on a daily basis. The results are therefore not directly comparable with Jersey research surveys using parlour pots with escape gaps (Figure 16) or with Jersey commercial catches (Figure 17). In comparison with the previous 3 years, the 2013 survey shows a significant peak of juveniles (carapace length <87 mm) indicating good recruitment, with a relatively flat distribution across a very wide range of sizes (Figure 18). Higher relative catches of new recruit and "medium" sized (75-105 mm) lobsters in 2013 in the protected area are also clearly illustrated in Figure 19. At the site visit, the assessment team were informed that 2014 data have been collected, but not yet fully worked up. The assessment team also noted that there is potentially much more information on catch rates and size distributions of lobsters collected from these research surveys in closed areas, but which is not currently available, and that there is also a longer time series of data available from the CRUSTAFLAM project in Flamanville.
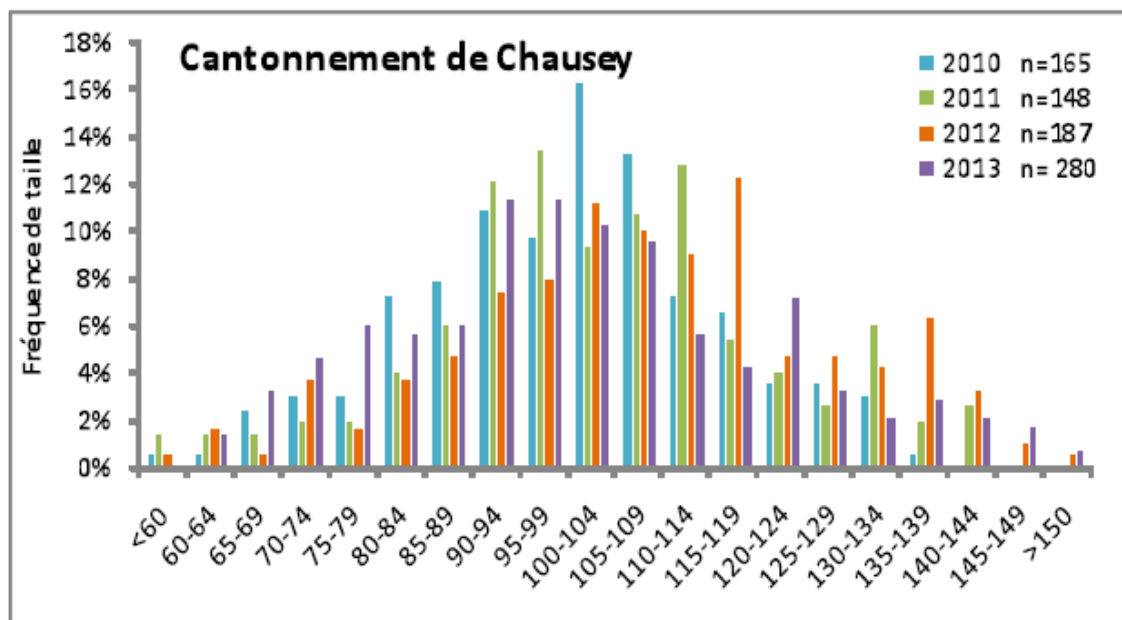
Figure 18.   Lobster size distribution (carapace length) in annual research surveys using inkwell pots in the Chausey fisheries closed area (cantonnement Zone 2 West Cotentin) surveys between 2010 and 2013. (source: CRPMBN)
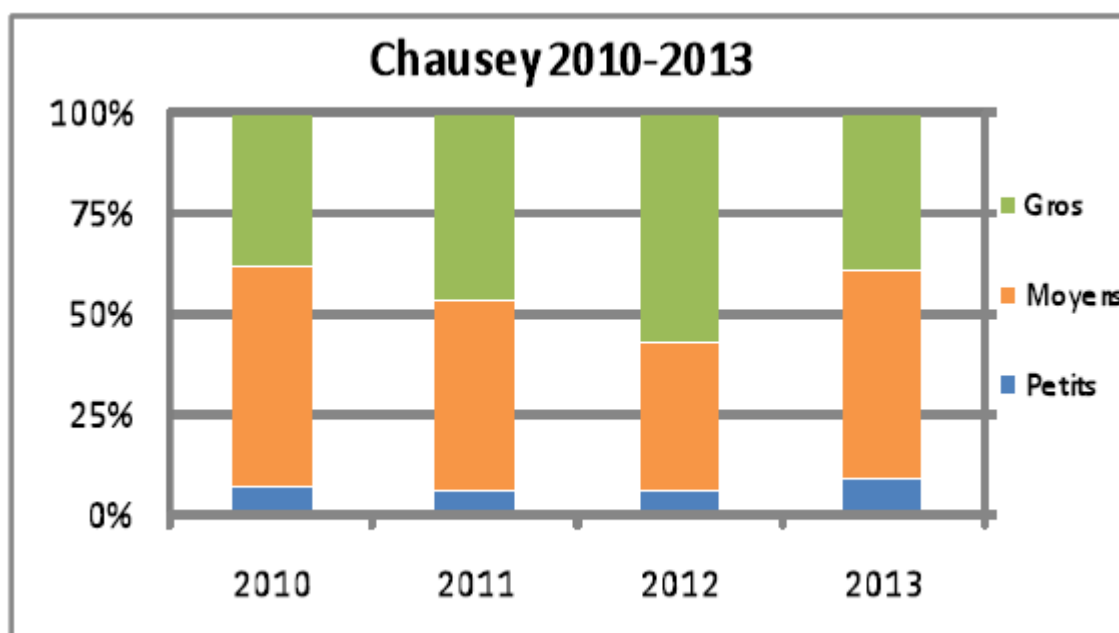
Figure 19. Lobster size distribution from June survey in Chausey closed area from 2010 to 2013. The relative frequency of small (Petits, <75mm), medium (Moyens, 75-105mm) and large (Gros, >105 mm) lobsters. (source: CRPMBN)

Size distribution data are also available from various other sources. Data collected by observers on board commercial Basse Normandie vessels in 2014 through the official Ifremer observer programme ("Obsmer") show that there is a relatively large range of sizes in the population above the minimum landing size of 87 mm CL (Figure 20).
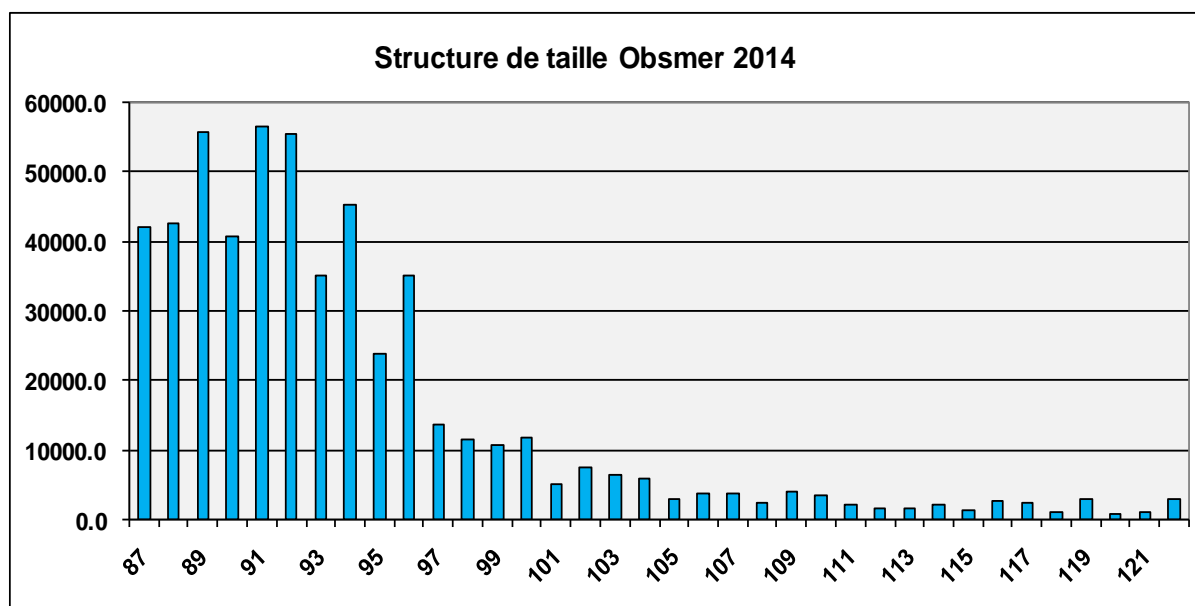
Figure 20. Size distribution from observers on commercial Basse Normandie vessels in 2014

In addition to the official observer programme, Obsmer, there is also a self-sampling programme on both Basse Normandie and Jersey vessels ('Obsbain'). Volunteer fishers measure lobsters from one string of pots, and record carapace length, sex, whether the female is berried, and also provide information on pot type and number and location of the string. This programme commenced in 2012 in Basse Normandie and 2013 in Jersey, although at the site visit the assessment team were informed that 2014 data from both

components of the fishery was less good. Overall, ~9000 lobsters have been measured to date; the reproductive status of females is also evaluated. Information from the self-sampling suggests that larger lobsters are more prevalent in deeper waters.

Information on the reproductive status of female lobsters has been obtained both from the fishery-independent surveys for 2011-2103 and from the self-sampling programme (Obsbain) for 2011-2014. The aim is to keep a direct watch on the reproductive females in the population providing information that may be critical to determining the nature of management action taken within the agreed harvest control rules if the fishery drops into the red zone. Within Obsbain, fishers have estimated the percentage of berried females by size by time period, sampling 7700 females over the period 2011-2104. Figure 21 shows the data from Obsbain for 2013, although it should be noted that the winter of 2013 was very cold and these data may not be representative of all years. The study shows that the highest proportion of berried females is found in the months from January to March and that by June, most females have released their eggs. The fishery for lobsters operates primarily between May and October and so most berried females are protected from capture, although the larger females may release their eggs later than the smaller females. Size at 50% maturity varies across the years from around 92 to 100 mm CL.
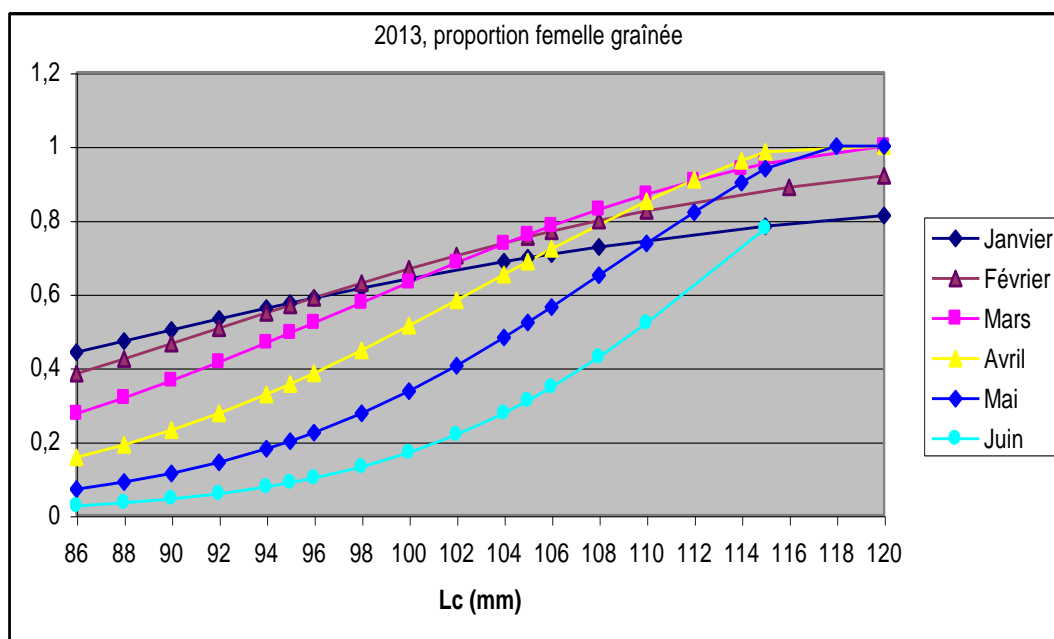
Figure 21. Proportion of female lobsters that are berried in relation to carapace length for 2013 by month.

The stock assessment also considers an index of recruitment from the long time series of data available from the CRUSTAFLAM project, which monitors lobster catch rates in the closed area around the power station at Flamanville. The study monitors catch rates of size classes before and after lobsters recruit to the fishery at the MLS of 87 mm CL. Catch rates of pre-recruits to the lobster fishery (81-86mm CL) have been steadily increasing over the last 5 years and catch rates of lobsters that have recruited to the fishery (87-96 mm CL) are also at higher levels than those observed historically (Figure 22), suggesting that the stock is in a healthy state. These data mirror the steady increase in catch rates of legal and sub-legal lobsters observed in the Jersey fishery survey (Figure 15).
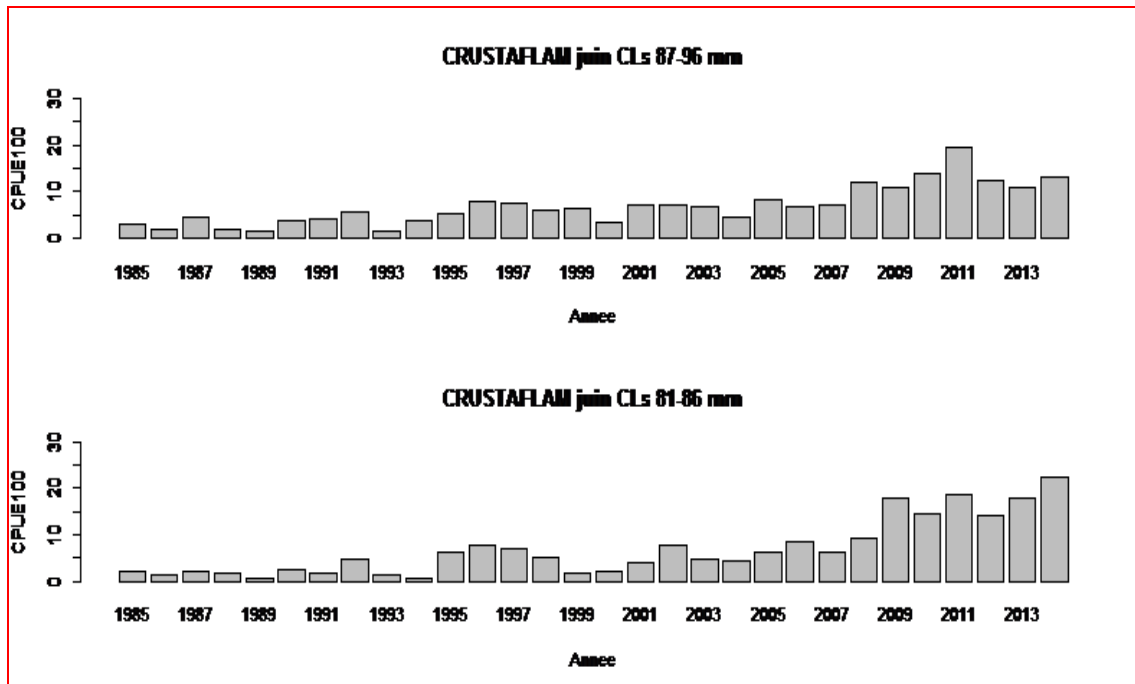
Figure 22. Catch rates of pre-recruit (81-86 mm CL) and newly-recruited (87-96 mm CL) lobsters for 1985 to 2014 from the CRUSTAFLAM project in Basse Normandie.

In conclusion, stock assessment of lobsters in Basse Normandie and Jersey is based upon an evaluation of a time series of stock indicators. The key stock indicator is commercial catch rates as these data are used to define reference points and the associated harvest control rules, but as the assessment also considers CPUE data from fishery-independent surveys, size distribution data, reproductive characteristics of the stock and recruitment indices, the assessment uses essentially a multiple stock indicator approach to assessing stock status.

As with many crustacean fisheries there is no analytical stock assessment currently which would permit an estimation of conventional reference points such as Bmsy and Fmsy. French and Jersey scientists informed the assessment team that the next stage would be the development of a size-structured model, but at present this approach is constrained by the short time series of size distribution data (from 2011 only). Similarly, there is insufficient data to assess the relationship between stock and recruitment.

The overall harvest strategy for the fishery is agreed by the JAC and JMC within the Granville Bay agreement, and the Shellfish Working Group focusses on data validation and analysis and provides input for the MSC programme. Stakeholders from both Basse Normandie and Jersey, including scientists, government representatives and fishermen, attend the Shellfish Working Group meetings, but the stock assessment does not appear to be regularly peer-reviewed through, for example, an ICES Working Group, and the assessment team found no evidence that the assessment undergoes occasional external peer review.

2.6.3 Principle 2

2.6.3.1 <u>Principle 2 species designations</u>

Table 5. Summary of species identified as 'main' components for Principle 2, with reasons for differences from the previous assessment (MEP, 2011).

Component	MEP (2011)	Re-assessment 2015	Reason for designation as main	Reason for differences
Main retained	brown crab, spider crab, velvet swimming crab	brown crab, spider crab red gurnard, horse mackerel	mixed fishery bait	Data provided under Condition 3 shows very low catches of velvet swimming crab. New rules require bait to be evaluated as a retained species.
Main discarded	red gurnard, horse mackerel, redfish, Ballan wrasse	none	bait	New rules require bait to be evaluated as a retained species. Redfish and Ballan wrasse rarely used.
ETP	none identified as interacting with the fishery	none identified as interacting with the fishery	n/a	n/a

2.6.3.2 <u>Retained species</u>

This fishery is a mixed fishery for lobster, brown crab (edible crab) and spider crab. Landings from Jersey and Basse Normandie in 2014 are given in Table 6. Note that some spider crab landings in Basse Normandie come from netting - this is a completely different métier which does not take any lobster as bycatch (different habitat). Spider crab netting has reportedly declined in recent years, with about 3-4 vessels remaining in Basse Normandie (BN) and none in Jersey; most remaining vessels are based in St. Malo. Likewise, some of the pot-caught spider crab may come from differently-designed pots (enlarged entrances in particular) specific to spider crabs when in season, however, the extent of this cannot be determined. In Jersey, it is reported that some spider crab bycatch may be discarded (alive), depending on the price - in BN, it would normally all be retained. For the purposes of this assessment, it is assumed that all the spider crab catch is from this fishery, since it is impossible to separate it out with the data provided – this makes no difference, however, to the evaluation of 'main' retained species.

In the previous assessment, velvet swimming crab was considered a main retained species and a condition was raised to track a proxy for stock status in some way. In Jersey this is done by tracking LPUE (kgs per pot lift), although in Jersey, velvet swimming crab landings are very low because the species is usually discarded (alive). In BN, it has been done by tracking landings at the Granville auction and other landings sites (Diélette, Blainville), which has shown i) that landings are low (ranging between 5-15 t per year at Granville in the period

2010-2013) and ii) that the summer (the main period for lobster) coincides with the velvet swimming crab moult period when very few are caught. For the purposes of estimating landings of velvet swimming crab as a percentage of the total landings for BN, the most recent figure for landings from the Granville auction (15 t) has been used, and the assumption made that this represents ~half of total landings, as it does for lobster, which is reasonable given that we are interested in velvet swimming crab taken as bycatch in the lobster fishery (Table 6).

Based on a consensus among stakeholders present at one of the site visits, bait use is ~150g bait per pot for approx 500g total catch per pot - i.e. ~30% of the quantity of total catch. This is estimated by CRPMBN to be made up of red gurnard (grondin rouge) (70%), horse mackerel (25%) and other (5%). These figures have been used to estimate the total bait use in the fishery; making two assumptions: i) spider crab catch in pots taken to be ~~equal to lobster catch (with Jersey landings under-estimating catch because of discarding and BN landings over-estimating catch because of the net fishery); and ii) bait species are used in the same proportion in Jersey as in BN. This gives an estimate of total bait used at 475 t (~330 t red gurnard, ~120 t horse mackerel and ~25 t other). It also agrees reasonably well with an estimate by CRPM of 300 t total bait use for the BN fishery (which would suggest ~1.5 t per tonne of lobster) or a total annual use of 450 t of red gurnard and 160 t horse mackerel (Table 6).

Table 6. Landings of retained species in the fishery for 2014, and use of bait (estimated as per the text).

Species		Quantity (t) 2014*		% of total catch (excluding bait for bycatch species)		'Main' retained species?	
		Jersey	BN	Jersey	BN	Jersey	BN
Lobster		230	205	34	20	target	target
Brown crab	*Cancer pagurus*	355	350	53	34	yes	yes
Spider crab	*Maja squinado*	87	450	13	44	yes	yes
Velvet swimming crab*	*Necora puber*	0.3	30	0.04	2.9	no	no
Red gurnard	*Chelidonichthys cuculus*	330-450		21-26		yes	yes
Horse mackerel	*Trachurus trachurus*	120-160		7-9		yes	yes

* most recent data for velvet swimming crab from 2013

Brown crab stock status and management

The 2013 report of the ICES working group on the biology and life history of crabs (WGCRAB, formerly SGCRAB) (ICES, 2013) summarises the data available from the French crab fishery and assessments; WGCRAB 2014 and 2015 (ICES, 2014, 2015a) does not provide much additional information.

Ifremer considers based on genetics and tagging studies that the western Channel and the Bay of Biscay are part of the same stock. WGCRAB has defined 'assessment units' for brown crab as shown in Figure 23; this fishery operates on the Western Channel assessment unit.
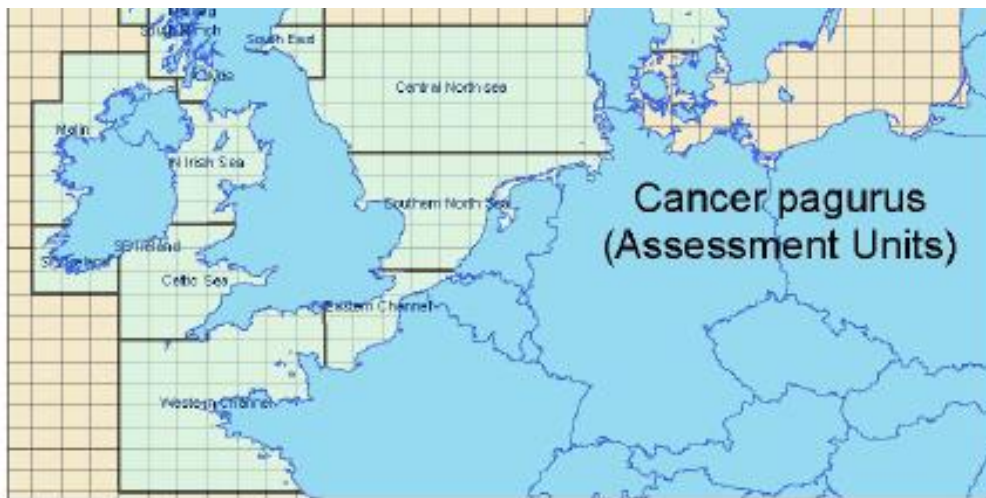
Figure 23. Assessment units for brown crab, as defined by WGCRAB (ICES, 2014).

French brown crab landings by gear and area are shown in Figure 24 and Figure 25; pot fisheries, including this fishery, are responsible for most landings, although there is a small contribution from gillnetting. Landings from the western Channel are ~a quarter of the total landings.
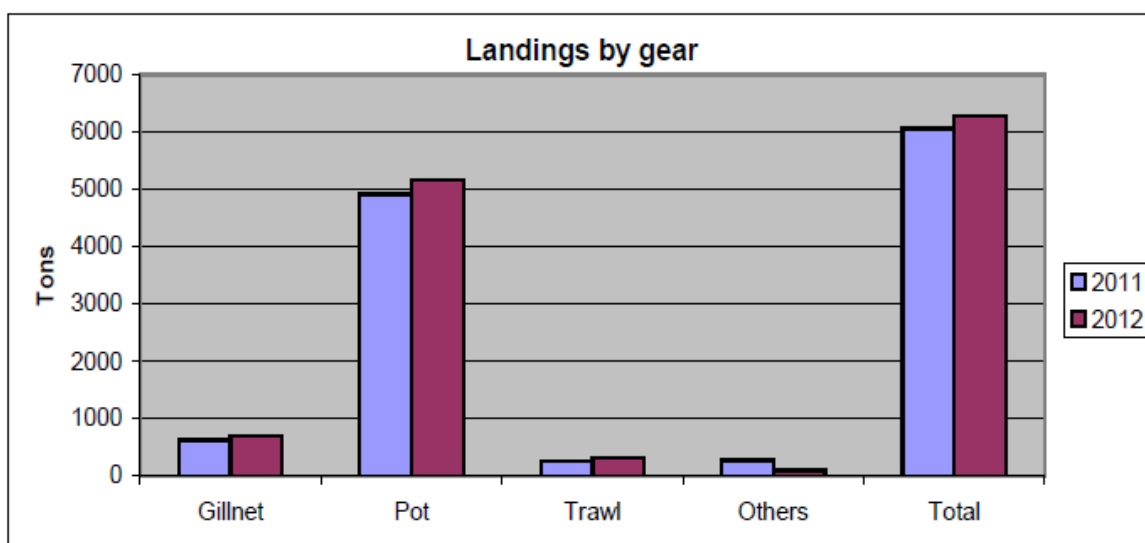
Figure 24. Landings by gear, brown crab, France (ICES, 2013)
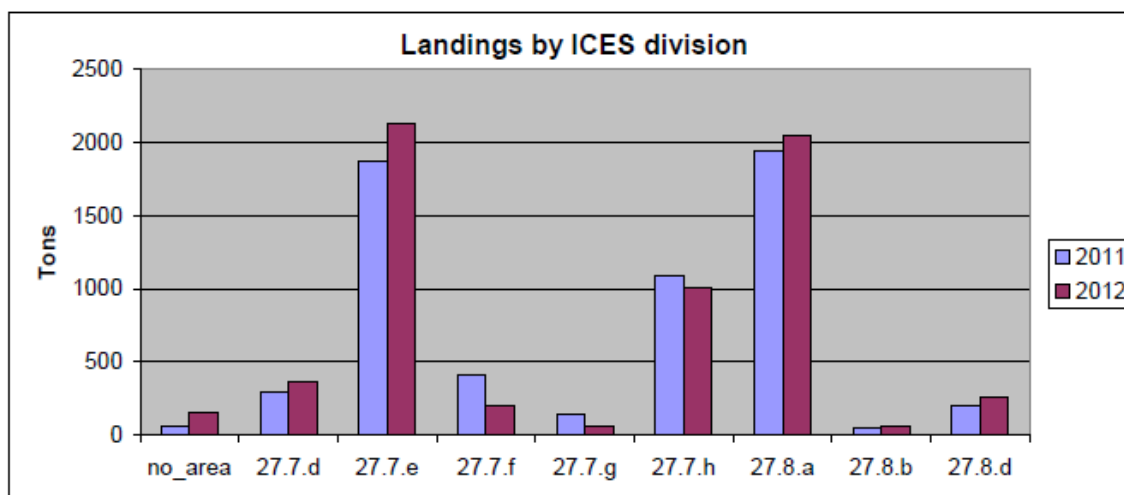
Figure 25. French landings of brown crab by fishing area (ICES 2013b); this fishery operates in the Western Channel - ICES Division 27.7.e (VIIe) (ICES, 2013)

Ifremer have tracked crab stocks in the western Channel and northern Bay of Biscay for ~30 years (Martial Laurans, Ifremer, pers. comm.). They use the SACROIS model (as for lobster) to develop an accurate and robust data set of landings and effort for brown crab. This involves cross-references of different sources of data: i.e. the fishing fleet register, logbooks (or 'fiches de pêche' for the smaller vessels), sales notes, VMS and fishing activity calendars. For crabs, Ifremer use data from logbooks / fiches de pêche and landings declarations from the offshore potter fleet (not part of this fishery), verified against the other data sets, and with information about the vessel type (size, gear) and area included. They focus on the data from the offshore potting vessels, because they represent a large proportion of the landings and they target crab all year; also, since crab is mainly a bycatch for the other gear types, estimates of effort are difficult for other fleets.

Ifremer has a SACROIS time series for members of the offshore potting fleet from 1985-2012 (as of 2013), during which time the number of vessels halved from 26 to 13, but the effort (as measured in pot lifts) has stayed ~stable because the remaining vessels are larger, use more pots and have longer trips. The data are analysed using a GLM model including year, month, day, area (ICES rectangle and ICES division), vessel and trip as factors and LPUE as the dependent variable. The trend over this time period is stable or perhaps slightly increasing (Figure 26), and the model fits the data well (R^2>0.9) (ICES, 2013).
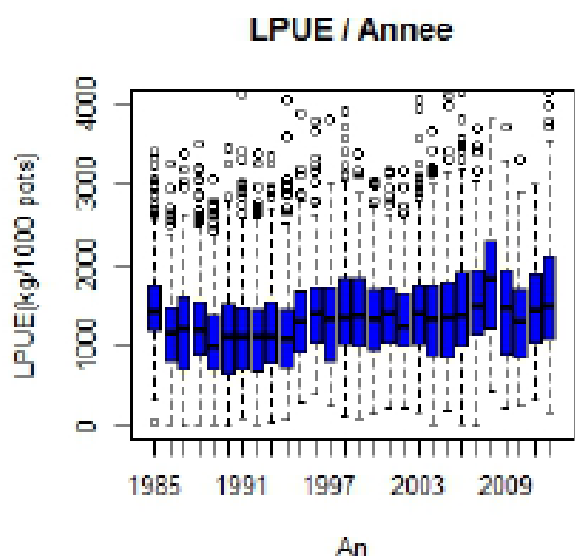
Figure 26. Landings per unit of effort (kg/1000 pots) by the offshore pot fishery in ICES Divisions VIIe and VIIIa (western Channel and north Bay of Biscay), 1985-2012, from Ifremer (ICES, 2013).

In Jersey, conversely, non-standardised LPUE (kg landed per 100 pot lifts) has declined slightly since 2007 (Figure 27). It is not clear what is driving this change, but Ifremer (M. Laurans, pers. comm.) is of the opinion that LPUE is not a good proxy for brown crab biomass in this fishery, since the fishery is targeting lobster (as opposed to the offshore potting fishery used in the analyses above, which is targeting brown crab directly).
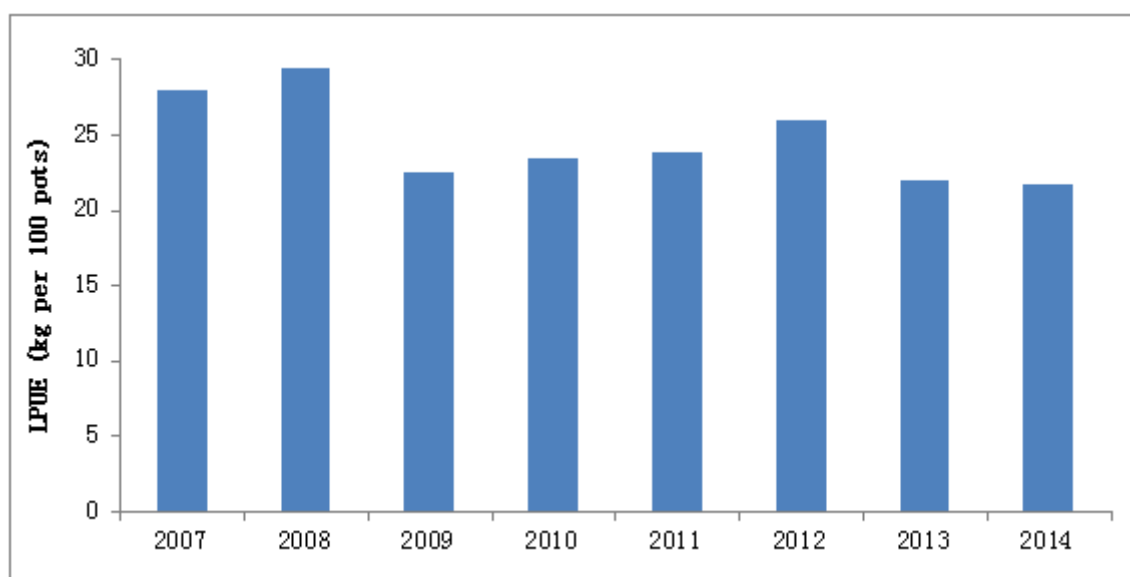
Figure 27. Non-standardised LPUE for brown crab (kgs / 100 pot lifts) from Jersey landings, 2007-2014. Data from Jersey Department of Environment.

In terms of management, the main measure for brown crab specifically is an MLS of 14 cm carapace width (CW). This unit of measurement does not correspond to the unit used by Ifremer to estimate size at 50% maturity (CL; ICES, 2013), so direct comparison is difficult, but they report that the size at 50% maturity is 7cm CL, while the 14cm CW MLS

corresponds to a measurement of 8.5cm CL. This disjunction between different methods of measuring brown crabs is not very satisfactory, but it nevertheless appears that the MLS is precautionary.

Spider crab status and management

Spider crab is fished in the southern UK and in France in the Channel and northern Bay of Biscay, with the highest landings coming from Brittany and Normandy - in particular, St. Malo. Overall French landings are not well estimated: official landings in 2014 were 4552 t (ICES, 2015a), but Ifremer estimates that real landings are likely to be higher (ICES, 2013). Landing figures may underestimate total catches as recreational fishers do not have to submit a landing declaration, although they have to respect the minimum size (12cm CL) and a closed season (between 1st September and 15th October in the Channel) and they are regularly checked by DML as part of general fisheries surveillance at sea and along the coast. Small, artisanal potting vessels (including from this fishery) often sell direct and not through auctions, but they have to hold a "gros crustacés" licence and submit monthly landing reports that are also checked by the enforcement teams from France and Jersey. In part, according to Ifremer (as reported in ICES, 2013) the problem is that trawlers are not permitted to land more than 10% of their catch as spider crabs - and larger landings may go undeclared as a result (although it is getting harder to get away with black landings, in France as elsewhere in the EU). Landings reportedly fluctuate a lot from year to year, and Ifremer believe that recruitment is highly variable.

Official French landings by gear are given in Figure 28 - netting is the most important spider crab gear overall, followed by potting and then trawling, although as noted above, these latter two are probably underestimated. Netting was previously a significant activity in BN, but as noted above is now limited to 3-4 vessels. Potting accounts for about 13% of (declared) landings.

The key management measures for spider crab, like brown crab, are an MLS (12cm CL), and a closed season (1 September to 15 October in Basse-Normandie and Brittany). Spider crabs (unlike brown crab and lobster) have a terminal moult – i.e. they stop growing once mature, and it appears that size at maturity (i.e. terminal size) is extremely variable, with mature adults in the size range 8-20 cm – hence a proportion of mature individuals will never reach the minimum size for the fishery (although this will be the least productive individuals in terms of reproductive output, presumably) (Woolmer et al., 2013).

In France, the ban on landing undulate ray in VIIe (under EU fisheries regulations) has had a big impact on the spider crab fishery, since undulate ray is also an important target species for the net fishery. (Ifremer report that in general terms, the rays paid the expenses and the spider crabs provided the profit.) Although in 2015 the ban was changed to a bycatch quota, it is still reportedly too small to make the fishery worthwhile.

Spider crab overlap with the lobster fishery mainly in spring/early summer. They migrate into Granville Bay from offshore areas in ~April, and are susceptible to capture in pots until ~June, when they moult. After this, they migrate back offshore, and are not present in the area of the fishery during the autumn and winter.
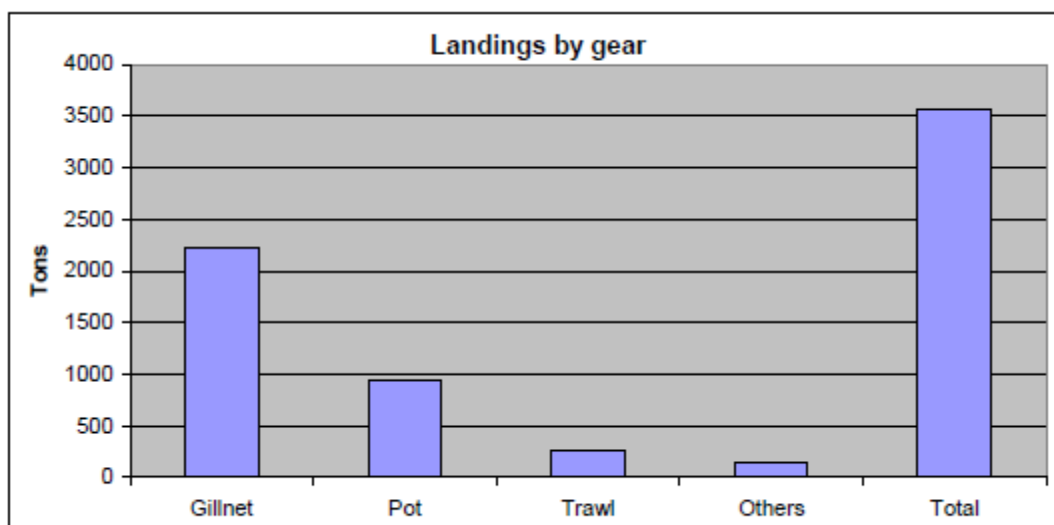
Figure 28. France spider crab landings 2012 by gear type (ICES, 2013).

Bait

The two species used as bait by the commercial fishery are red gurnard and horse mackerel. The previous assessment also identified redfish and Ballan wrasse, but it appears that redfish is no longer used, while Ballan wrasse was only used by recreational potters. The bait comes from human consumption fisheries (i.e. it is not fished specifically for bait) but is product which is poor quality, damaged in fishing or in freezing or otherwise unsold.

The Jersey fleet imports the bait mainly from Irish demersal trawl fisheries, while the BN fishermen buy it at auction – the source of this latter may be anywhere in northern Europe depending on availability and price.

Red gurnard status and management

ICES provide advice on the stock status and management of red gurnard in the Northeast Atlantic based on a survey index from the Celtic Sea (Subarea VII) and Bay of Biscay (Subarea VIII) (Figure 29; ICES, 2012). The data given below only extends to 2011; ICES advice since then (up to 2015) has been that an update of the survey index 'does not change the perception of the stock'. The overall impression of long-term trends from these indices is relatively positive – the stock appears to be fluctuating without trend in the Celtic Sea and expanding in the Bay of Biscay. ICES does not provide any management advice on the basis that landings data are not sufficiently reliable to provide any estimate of fishing mortality – a particular problem is that until 2010 gurnards were not required to be identified to species in landings declarations and logbooks; there is also a more or less unknown level of discarding. There are no specific management measures in place for red gurnard in the EU.
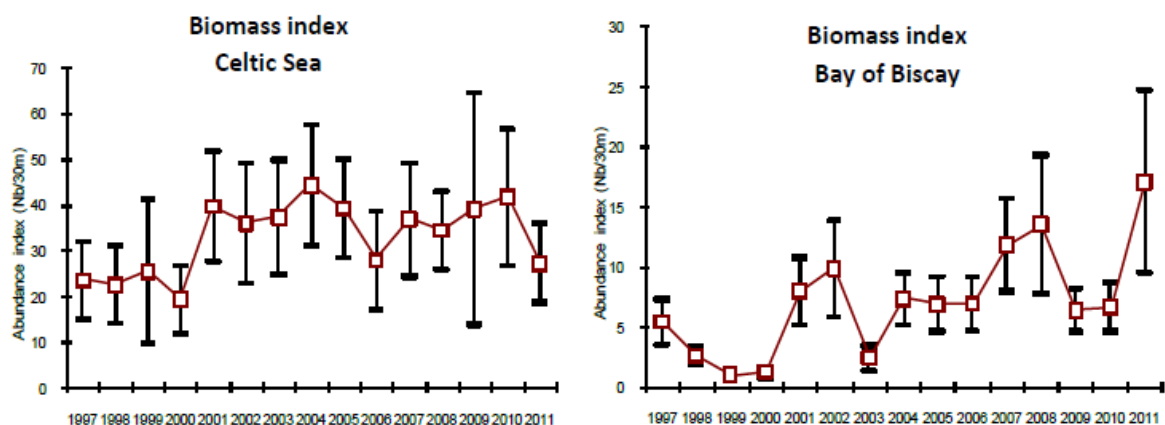
Figure 29. Red gurnard biomass indices from demersal trawl surveys in the Celtic Sea (left) and Bay of Biscay (right) (ICES, 2012).

Horse mackerel status and management

ICES evaluate horse mackerel stock status based on a quantitative assessment model. The estimates of trends in fishing mortality and spawning stock biomass, as well as a summary of the assessment, is given in Figure 30. Management is via a TAC which is set based on ICES' advice, following the MSY approach.
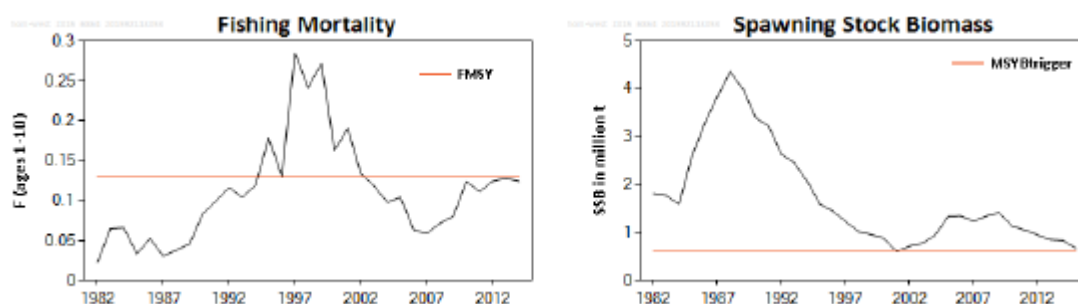
Table 9.3.18.1 Horse mackerel in Subarea VIII and Divisions IIa, IVa, Vb, VIa, and VIIa–c, e–k. State of the stock and fishery relative to reference points.

		Fishing pressure				Stock size		
		2012	2013	2014		2013	2014	2015
Maximum sustainable yield	F_{MSY}	✓	✓	✓ Below	MSY $B_{trigger}$	✓	✓	✓ Above
Precautionary approach	F_{pa}, F_{lim}	?	?	? Undefined	B_{pa}, B_{lim}	?	?	? Undefined
Management plan	F_{MGT}	-	-	- Not applicable	SSB_{MGT}	-	-	- Not applicable

Figure 30. Summary of ICES' 2015 stock assessment for horse mackerel: top left: trends in fishing mortality; top right: trends in spawning stock biomass; bottom: summary of stock status in relation to MSY reference points (ICES, 2015b).

2.6.3.3 ETP species, habitats and ecosystem

No change.

2.6.4 Principle 3

2.6.4.1 <u>Governance and policies</u>

France and Jersey are closely involved in the management of the fishery and cooperate through the Granville Bay Treaty process, which also includes the United Kingdom for Jersey's international representation. The European Common Fisheries Policy (CFP) frames France's fisheries policy, and by association through the UK, it also frames Jersey's Fisheries Policy. The fisheries governance and policy framework provided by the Granville Bay Treaty hasn't changed since the initial certification, but the EU-CFP has been reformed, and the French and Jersey legislation have been updated as summarised in Table 7. Updated references for the legal framework

Table 7. Updated references for the legal framework

<u>European</u> CFP Regulation	Règlement (UE) no 1380/2013 du Parlement européen et du Conseil du 11 décembre 2013 relatif à la politique commune de la pêche, modifiant les règlements (CE) no 1954/2003 et (CE) no 1224/2009 du Conseil et abrogeant les règlements (CE) no 2371/2002 et (CE) no 639/2004 du Conseil et la décision 2004/585/CE du Conseil
<u>France</u> Revision of primary and secondary legislation Setting up 'inter-region' government services DIRM; Re-organising CRPMEM into 'region' Région Basse Normandie crustacean potting effort	Code rural et de la pêche maritime, notamment livre IX Décret n° 2014-1608 du 26 décembre 2014 relatif à la codification de la partie réglementaire du livre IX du code rural et de la pêche maritime Décret no 2010-130 du 11 février 2010 relatif à l'organisation et aux missions des directions interrégionales de la mer Décret no 2011-776 du 28 juin 2011 fixant les règles d'organisation et de fonctionnement du Comité national des pêches maritimes et des élevages marins ainsi que des comités régionaux et départementaux et interdépartementaux des pêches maritimes et des élevages marins Délibération du Bureau N°B76/2013 Relative aux conditions d'exercice de la pêche des crustacés CNPMEM Arrêté n°186/2013 DIRM MEMN et avenant n°1 Délibération n°EXP/CR15-ME/2013 limiting maximum crustacean pot number to 200 per on-board crew and 800 per vessel.
<u>Granville Bay</u> (no change):	Agreement between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the French Republic concerning Fishing in the Bay of Granville, with Exchanges of Notes and Declaration, St Helier, 4 July 2000; Also an agreement establishing the maritime boundary between Jersey and France, both came into force through national legislation 1 January 2004
<u>Jersey</u> (revised edition 1st January 2015):	Sea Fisheries (Jersey) Law 1994 revised 2015, and as necessary given effect by Regulations made under Article 2 of the European Union Legislation (Implementation) (Jersey) Law 2014

The European CFP Regulation[2] takes direct effect in EU member states (MS) legal systems that prevail with the Granville Bay Treaty process (France and UK), with provision for some transposition into the Jersey Sea Fisheries Law.

Institutions involved in the management system reflect recent policy reforms, but have in essence remained the same, with a strong co-management component

Table 8. Institutions of in the Bay of Granville lobster fishery management system

Granville Bay Treaty	
Joint Management Committee (JMC)	Committee made up of management authorities from Jersey, Basse-Normandie and Brittany (CRPM from Basse-Normandie and Brittany, and Jersey Department of Fisheries). Take decisions at Granville Bay Treaty level – Includes representatives of sub-national and local levels.
Joint Advisory Committee (JAC)	Committee made up of four fishermen from each of Jersey, Basse-Normandie and Brittany, Jersey and French government representatives, and Ifremer – to debate and propose management measures to JMC for decision-making.
French National level	
Ministère de l'Écologie, du Développement Durable et de l'Énergie (DPMA)	Direction des pêches maritimes et de l'aquaculture – DPMA Central government legislative level also on the basis of the EU Common Fisheries Policy Regulations.
Comité National des Pêches maritimes et des élevages marins (CNPMEM)	- Policy and regulatory recommendations for national-level licence and conservation measures - Licensing and other bylaws; - Represents BN at national fisheries level and on JMC; - Undertakes some scientific research projects; - National Commission Crustacés: obtains and provides expert advice to regional committees
French Sub-national 'région' level	
Préfecture de Région (DIRM), based in Cherbourg	Direction inter-régionale de la mer (DIRM) Manche Est-Mer du Nord represents the wider regional (Haute+Basse-Normandie) coastal jurisdiction (formerly the DRAM). - Executes ministerial instructions (from DPMA) and CFP measures. - Its Unité Ressources Réglementation publishes Departmental bylaws ('arrêtés') from CRPM proposals ('délibérations') - Coordinates enforcement on the quayside and at sea - Regional pole (formerly DRAM Direction Régionale des Affaires Maritimes).
Comité Régional des Pêches Maritimes de Basse-Normandie (CRPM-BN)	Regional Committee, its BN "crustacés" regional committee makes management recommendations for the CRPM to draft bylaws (déliberation), initiates data collection and research

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[2] Regulation (EU) No 1380/2013 of the European Parliament and the Council of 11 December 2013 on the Common Fisheries Policy

	projects
Ifremer	Scientific research and stock assessment – a national organisation with headquarters in Brest (Brittany) but with various regional offices dealing with locally-relevant issues, including one in Port-en-Bessin, Basse-Normandie.
French Local level 'Manche (50) département'	
Délégation Départemental des Territoires Marins (DDTM/ DML50)	Direction Départementale des Territoires et de la Mer (formerly the DDAM): Délégation de la Mer et du Littoral, Département Manche (50). The DML50 is in charge of monitoring and control.
Syndicat Mixte pour l'Equipement du Littoral (SMEL)	Local partner and sponsor of scientific research into coastal marine environmental issues.
Normandie Fraîcheur Mer (NFM)	• Promotes and supports Normandy seafood production, including quality and geographical origin ("Bulots de la Baie de Granville") standards; • Project managers for this assessment
Jersey	
Department of Fisheries and Marine Resources	Implementation of fisheries management, enforcement, scientific research; represents Jersey on JMC
Marine Resources Panel - MRP	Decision-making body for fisheries management in Jersey – includes stakeholders and politicians
Jersey Fishermen's Association	Represents commercial fishermen in Jersey – member of MRP
Jersey Inshore Fishermen' s	Represents small-scale fishermen – member of MRP

The European CFP Conservation policy area commits France and the UK to the provision of international conventions and agreements, in particular with regards to MSC Principles 1 and 2:

- Exploitation of marine biological resources that restores and maintains populations of harvested stocks above levels that can produce the maximum sustainable yield by 2015 or no later than 2020;

- Coherence with the fisheries targets laid down in the Decision by the Conference of the Parties to the Convention on Biological Diversity on the Strategic Plan for Biodiversity 2011 – 2020, and with the biodiversity targets adopted by the European Council of 25 and 26 March 2010;

- Base the sustainable exploitation of marine biological resources on the precautionary approach, which derives from the precautionary principle referred to in the first subparagraph of Article 191(2) of the (European) Treaty, taking into account available scientific data;

- Contribute to the protection of the marine environment and in particular to the achievement of good environmental status by 2020, as set out in Article 1 of the Marine Strategy Framework Directive (MSFD[3]); and

- Implement an ecosystem-based approach to fisheries management, limit environmental impacts of fishing activities, avoid and reduce unwanted catches as far as possible, including through the landing obligation[4] that is progressively coming into from 1st January 2015.

The CFP has a comprehensive and explicit set of objectives consistent with MSC Principles 1, 2 and 3 that is required by the management system regarding, for example, use of the precautionary approach (required by the European Treaty), protection of the marine environment, ecosystem-based approach to fisheries management, guided by principles of good governance including decision-making based on best available scientific advice, broad stakeholder involvement and a long-term perspective.

For <u>France</u>, the legal framework given by the Code rural et de la pêche maritime Livre IX and the Code de l'environnement, is implemented by the central (DPMA) and devolved administrations (DIRM and DDTM-DML), and the fishing industry co-management committee – CRPMEM (loi n°2010-874 du 27 juillet 2010). Local management measures (CRPMEM délibérations et décisions) become bylaws upon agreement of the government representative (Préfet de region, or DIRM by delegation) and concern licence numbers, vessel catch limits, closed areas and closed seasons and other conservation measures for the target and retained species. The French primary legislation revision in 2010, introduced a reorganisation of government services, which is now complete. Organisations involved in the management system have kept the similar responsibilities, although some local levels have disappeared and the law making 'préfecture' for Basse Normandie has merged with Haute Normandie. Only the data entry system for the French fisheries seems to have lost out in the reform. Presently logbooks for vessels greater than 10m (including e-logbooks), are inputted centrally by FranceAgriMer, while data from the fiches de pêche of the smaller vessels are entered locally by the DDTM. However, data that go directly to FranceAgrimer may take a long time to be available locally and are often also entered locally by the DDTM (for MCS) and by CRPM for the purpose of data analyses. As the data are analysed, they are verified by Ifremer and by SMEL - CRPM BN, and any errors corrected, although not directly in the national database.

The objectives of the French fisheries policy are clearly set out in the Code Rural et de la Pêche, and the Code de l'Environnement (in conformity with the CFP and international obligations), to exploit fisheries sustainably. The French Ministry website refers to the 'transition écologique' (ecological transition), which includes among its objectives the preservation and restoration of ecosystems. In addition, the Natura 2000 framework (under the Habitats and Birds Directives) aims to protect ETP species and habitats, and the MSFD sets out the objective for the Manche-Mer du Nord marine sub-region fisheries to reach Good Environmental Status by 2015, 2020 at the latest.

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3 Directive 2008/56/EC of the European Parliament and of the Council

4 see Commission Delegated Regulation (EU) No 1393/2014 of 20 October 2014 establishing a discard plan for certain pelagic fisheries in north-western waters and Commission Delegated Regulation (EU) No 1394/2014 of 20 October 2014 establishing a discard plan for certain pelagic fisheries in south-western waters

Jersey also commits to the key CFP provisions in order to comply with the Granville Bay Treaty provisions and for its fishermen to fish outside Jersey territorial waters in French and UK waters (see Figure 31) and revised its Fisheries Law to that effect (see Table 7). The Department of the Environment administers obligations with respect to numerous EU Directives and Multi-Lateral Environmental Agreements (see Jersey DoE, 2014), including Convention of Biological Diversity (CBD), Agreement on the Conservation of small cetaceans of the Baltic, North East Atlantic, Irish and North Seas (ASCOBANS), the Convention on International Trade in Endangered Species (CITES), and the Convention for the Protection of the Marine Environment of the North East Atlantic (OSPAR).

Work continues on drafting a law to manage aquatic resources not already covered by the Sea Fisheries (Jersey) Law 1994, and regulations to introduce new requirements on the electronic reporting of fisheries activities. Jersey (2013) consulted on a forthcoming Marine Resources Strategy, its draft is available online.
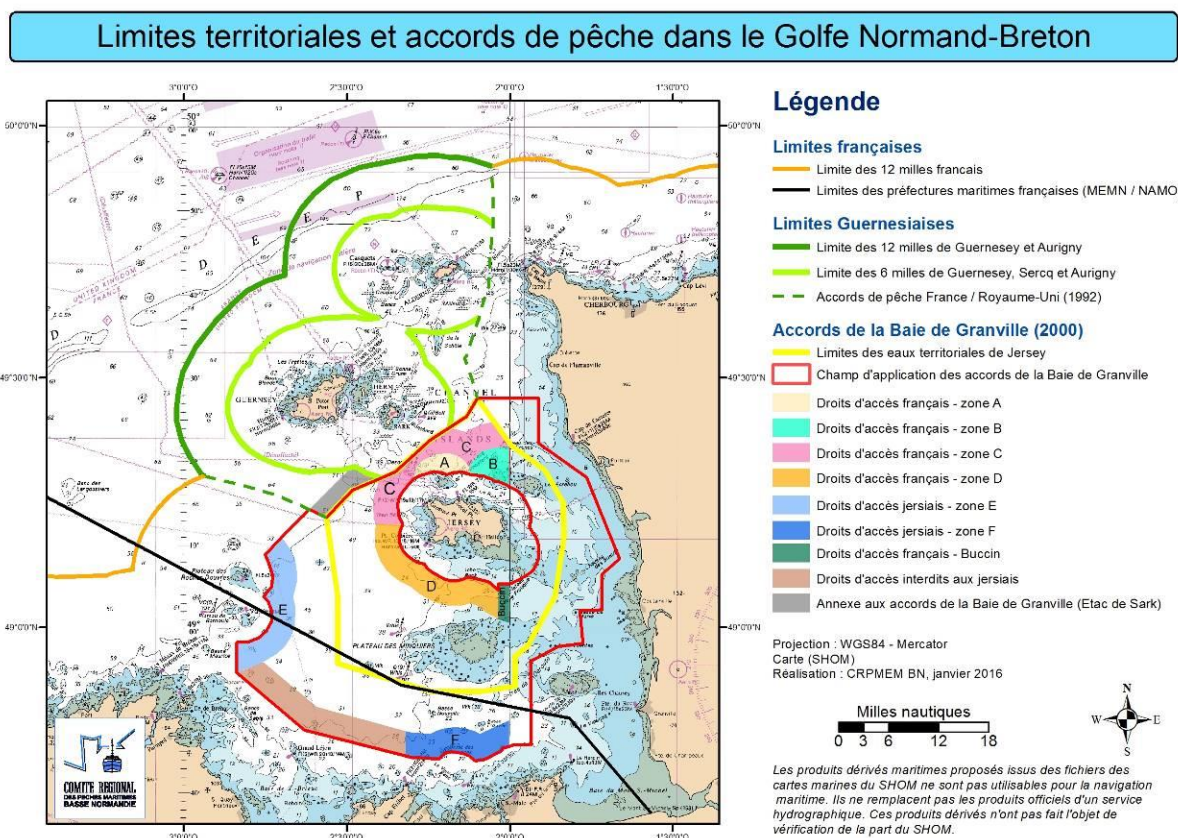
Figure 31. Fisheries Agreements in the Bay of Granville (from http://www.crpbn.fr/international/baie-de-granville/)

2.6.4.2 Fishery-specific management system

The co-management arrangements for the fishery are the same as for the original certification, through the Granville Bay Treaty JAC and nationally/locally in France (CRPM BN) and Jersey (MRP).

Some changes have been introduced to facilitate the MSC certification process and to comply with the standard requirements set in the certification conditions, in particular:

Bay of Granville Treaty

- A Shellfish (crustaceans) working group has been set up to sit ahead of the Bay of Granville JAC, which meets as required with membership as relevant to topics in hand. The Brittany CRPM has participated in 2015 for the first time regarding the management of the langouste rouge (spiny lobster, *Palinurus elephas*)[5].

- JAC-JMC has reduced by 15% number of Granville Bay permits in order to reduce the number of latent (existing but not active) permits; CRPM-BN is still reducing its licence numbers by activating fewer licences than become available from retirements;

France

No change

Jersey

- On 23 November 2012, the Sea Fisheries (Amendment No. 2) (Jersey) Law 2012 became effective. This amendment effectively allows the Minister to introduce fisheries management measures with less delay than previously and is an important first step in implementing the request by French and Jersey fishermen to restrict netting at Les Minquiers during the spider crab closure.

- Jersey has made a small change to the licensing system to simplify interactions with the UK. If a vessel with a UK licence wishes to move to Jersey (and are eligible), they can now have a Jersey licence piggybacked on to the UK licence, rather than replacing it. Note that these vessels still require a Jersey shellfish entitlement to land lobster above the limit for non-shellfish vessels;

- Key provisions are therefore integrated into Jersey's legislation, such as regarding pot identification tags (JAC, 23 June 2013 and Jersey legislation includes numerous provisions introduced by the CFP such as the mandatory use of tags for to identify recreational and professional potting gear (see FMRAP-65, 2011 and Jersey 2015: art.10).

There has been no change to the lobster ('gros crustacés') licensing regulations in France or Jersey, and no change to the sanction system. Both French and Jersey control and surveillance systems (MCS) note good compliance records from the commercial lobster fleet, and a focus of their information and control activities on recreational fishers catching lobsters from the shore or a boat (size limits, bag limits). Jersey noted that inspections at sea

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[5] see http://www.bretagne-peches.org/?titre=programme-langouste-rouge-reconquete&mode=peche-embarquee&id=877

have declined because lack of resources (it takes 5 to operate boat and they are reduced to 5 staff), but inspections are more targeted than before with VMS and AIS.

Specific management measures for the lobster fishery have been agreed with green (no change), orange (some measures) or red (more drastic measures) zones defined on the basis of biomass indicators agreed JAC/JMC (see CRPM and MRP minutes). The stock is currently is the green.

A Research Plan has also been agreed, that involves the regular collection of new information and its analysis (see Principle 1 and Principle 2 sections). Jersey notes that it may have to reduce some of its commitments to the Research Plan in the future because of lack of human resources.

2.7 Previous assessments

The fishery was previously assessed in 2010-11 of which full details are available in MEP (2011). The outcome was as given below (Table 9, Table 10, Table 11, Table 12). Conditions and their outcome are given in Table 13.

Table 9. Scores for each Principle for the previous Normandy-Jersey lobster fishery assessment.

Principle	Aggregate score
Principle 1	80
Principle 2	88.7
Principle 3	87.8 (BN); 91 (Jersey)

Table 10. Scores for each PI, and aggregate scores for each component for Principle 1 for the previous Normandy-Jersey lobster fishery.

Component	PI	Score
Outcome	Stock status	75
	Reference points	80
	Stock rebuilding	n/a
Management	Harvest strategy	90
	Harvest control rules and tools	75
	Information/monitoring	85
	Assessment of stock status	80

Table 11. Scores for each PI, and aggregate scores for each component for Principle 2 for the previous Normandy-Jersey lobster fishery.

Component	PI	Score
Retained species	Outcome	90
	Management	85

	Information	75
Bycatch species	Outcome	100
	Management	100
	Information	100
ETP species	Outcome	100
	Management	100
	Information	100
Habitats	Outcome	80
	Management	80
	Information	80
Ecosystem	Outcome	80
	Management	80
	Information	80

Table 12. Scores for each PI, and aggregate scores for each component for Principle 3 for the previous Normandy-Jersey lobster fishery.

Component	PI	Score BN	Score Jersey
Governance and policy	Legal and/or customary framework	100	100
	Consultation, roles and responsibilities	100	100
	Long term objectives	90	90
	Incentives for sustainable fishing	80	90
Fishery-specific management system	Fishery-specific objectives	80	80
	Decision-making process	100	100
	Compliance and enforcement	80	100
	Research plan	75	75
	Monitoring and management performance evaluation	80	80

Table 13. Summary of Previous Assessment Conditions

	Condition	PI	Year closed	Justification
1	Design and implement an action plan that will result in the long-term in an expansion of the size structure of the harvested stock, or will allow a higher proportion of individuals to survive over the minimum size or for a longer reproductive period, in order to minimise the risk of recruitment overfishing.	1.1.1	Year 3	There has been quite extensive research on lobster abundance and size distribution in Jersey and Basse Normandie to address this condition and the one below. In relation to size distribution, comparison of the size distribution as sampled by different types of gear suggests that parlour pots (casiers pièges) sample a wider range of sizes above the minimum size than inkwell pots (caisers classiques) as well as parlour pots with blocked escaped gaps, as used by the Jersey fishery-independent survey. This is likely because larger lobsters do not enter the pot if it is full of smaller lobsters, and/or if the bait is eaten rapidly. The concern regarding the truncation in the size distribution at the MLS (87mm CL), which arose mainly from the Jersey survey, was therefore at least partially an artefact of the sampling method. According to data collected by Jersey, the size distribution in the survey and in commercial catches by inkwell pots peaks at ~MLS or just below, but catches by parlour pots with escape gaps peak in the 92-96mm CL size range. Sampling data from the closed area (cantonnement) at Chausey show a peak in the size distribution in the 100-110mm CL size range, suggesting that the fishery does have an effect on the abundance of larger size classes in fished areas, as would be expected. Nevertheless, the research has demonstrated that a significant proportion of the biomass present is above the MLS. The two surveys also show that there have been no significant changes in recruitment over recent years. The size distribution continues to monitored via the two surveys and in landings, by both Jersey and Basse Normandie. In terms of actions agreed to avoid a risk of overfishing, these are discussed under Condition 2 below. The datasets described above are provided in the Year 3 surveillance report (MEP, 2014).
2	The management system needs to develop harvest control measures that will elicit a clear response in the face of a decline in stock size that threatens the future productivity of the stock. Reference points and pre-agreed decisions rules	1.2.2	Year 3	The joint management system has agreed a common standardised abundance index (IAS), which is described in detail in Section 2.6.2 above. The index is calculated relative to the 2007 level, which has been set as the trigger reference point (seuil d'alerte). The limit reference point (seuil d'alarme) has been set as the lowest point in the time series (1996). A suite of management actions have been agreed for each reference point, with Basse Normandie and Jersey able to decide (either together or separately) which actions would be effective, depending, for example, on whether there are concerns about particular size classes. Full details are given in Section 2.6.2 and in MEP (2014).

	Condition	PI	Year closed	Justification
	to limit fishing mortality in response to decreased stock abundance or increased fishing mortality (as measured directly or by suitable proxies) should be agreed and implemented			
3	The existing information on catch and effort in the velvet swimming crab fishery (e.g. from reference vessels) and/or another source of proxy information on biomass (e.g. from surveys in the cantonnements) should be analysed and reviewed on a periodic basis by an appropriate body within the Granville Bay Treaty system, to ensure that no negative trends are apparent.	2.1.3	Year 3	Nearly all landings of velvet swimming crab are by Basse Normandy vessels – there is no significant fishery on the Jersey side. Landings are monitored in Jersey via logbooks and in BN via the auction at Granville as well as landings at other sites (Dielette, Blainville). Figures are given in MEP (2014). A re-evaluation of landings of velvet swimming crab shows that it does not meet the criteria for a 'main' retained species in this fishery (see analysis above).
4	Based on existing research and perceived research needs, develop and agree a strategy to guide research on the lobster fishery at the Granville Bay Treaty level.	3.2.4	Year 3	A research plan has been developed and validated by the JAC, who have created a 'task force' to oversee implementation. The research plan is provided in MEP (2014). The improved plan is being implemented by both as resources allow.

2.8   Changes to the Reporting Template that require an update

Version 1.3 of the CR

Principle One: Target Species Background (Full Assessment Reporting Template (FA Template) v.1.3, Section 3.1)

The target species (lobster *Homarus gammarus*) is not a key LTL species.

Principle Three: Management System Background (FA Template v.1.3, Section 3.5)

The stock is a shared stock, with shared management arrangements between Jersey and France (Basse Normandy and Brittany) via the Granville Bay Treaty.

3. Evaluation Procedure

3.1 Assessment Methodologies

<u>FCR version</u>: The fishery is assessed under version 1.3 but using the process requirements set out in version 2.0.

<u>Template</u>: This report follows the 'MSC Reduced Re-Assessment Reporting Template' version 1.0.

The risk-based framework was not used in this assessment.

3.2 Evaluation Processes & Techniques

3.2.1 Site Visits

The fishery entered re-assessment on the 23rd June 2015. The site visit took place on the 24th July 2015 at Quai Ouest 50400 Granville, France with Jo Gascoigne as the on-site team member.

3.2.2 Consultations

The following stakeholders were consulted with:

- Béatrice Harmel (CRPM – Client representative)

- Véronique Legrand (CRPM - Client representative)

- Dominique Lamort (NFM - Client representative)

- Greg Morel (Department of the Environment, Jersey - Client representative)

- Jonathan Shrives (Department of the Environment, Jersey)

- Don Thompson (Jersey Fishermen's Association - JFA)

- Martial Laurens (Ifremer)

- Mirielle Amat (independent translator / advisor)

- Jo Gascoigne (MEC Team Leader)

<u>Client representatives</u>: Presented data from the fishery and explained the details of day-to-day management and in the case of Jersey, enforcement.

<u>Ifremer</u>: Explained the stock assessment data and model and how reference points were selected.

<u>Fishermen's representatives</u>: Gave details of the operation of the fishery as well as providing some information on landings and markets.

3.2.3 Evaluation Techniques

a) Media announcements: The re-assessment was completed under Version 2.0 process requirements. The use of media announcements is therefore not required.

b) Methodology for information gathering: Review of data and documentation, interview of stakeholders.

c) Scoring process: Scoring was completed during a remote scoring meeting held on the 15th October 2015.

The scores were decided as follows:

How many scoring issues met?	SG60	SG80	SG100
All	60	80	100
Half	FAIL	70	90
Less than half	FAIL	65	85
More than half	FAIL	75	95

Note that where there is only one scoring issue in the SG, the issue can be partially scored – In this case the team used their judgement to determine what proportion of it was met, e.g. at the 100 level, a small part met = 85, about half met = 90, nearly all met = 95.

d) Decision rule for reaching the final recommendation:

A UoA cannot be certified if:

- the weighted average score for all PIs under each Principle is less than 80 for any of the three Principles

- any individual scoring issue is not met at the SG60 level, contributing to a score of less than 60 on any PI.

The aggregate score for each Principle is calculated by taking the average score for each Component (e.g. 1.1 – Principle 1 Outcome), followed by the average of all the Component scores (see Section 5.2).

e) Scoring elements

The scoring elements are detailed in Table 14.

Table 14. Scoring elements

Component	Scoring elements	Main/not main	Data-deficient or not
Target species	lobster *Homarus*	N/a	no

	gammarus		
Retained species	Brown crab, spider crab, red gurnard, horse mackerel	main	no
Retained species	Velvet swimming crab	not main	no
Bycatch species	none	-	-
ETP species	none	-	-

4. Traceability

4.1 Eligibility Date

The assessment represents a re-assessment of the existing fishery certificates (MEP-F-013 and MEP-F-014), which expire on the 1st December 2016. It is intended that the re-assessment process will be completed prior to this date (meaning no eligibility date will be required for this assessment).

Should the existing fishery certificate expire prior to the completion of this reassessment the eligibility date shall be the date of issue of the new certificate (pending successful reassessment).

4.2 Traceability within the Fishery

The vessels forming part of the Unit of Assessment are those with licences to fish lobster either i) in Jersey coastal waters only (a Jersey fishing licence with shellfish attachment); ii) in Basse Normandie coastal waters only (a Basse Normandie 'crustacés' licence); or iii) in the Granville Bay Treaty co-management area (a Granville Bay licence in addition to one of the two former licences). A full list of the licensed vessels is presented in Appendix 6. Vessels from outside the UoA would not have the required licenses and would therefore not be permitted to fish for lobster in these waters.

Vessels from Jersey land mainly at St. Helier, with small amounts landed at a few other small ports around the island. Only Jersey lobster fishermen land lobster in Jersey and therefore all commercially caught lobster landed in Jersey would be MSC; however one or two Jersey fishermen land habitually into France – usually Granville or Carteret. The most important landing points for fishermen from Basse Normandie are the Granville, Carteret and (to a lesser extent) Cherbourg auctions. Norman fishermen may also land into St. Malo. However, there are a large number of small ports and other landing sites along the west coast of the Cotentin peninsula – probably the majority of the Basse Normandie catch is dispersed among these small landing sites where catch is landed to private buyers. An additional risk is that fishers from outside the UoA (e.g. Britanny) may occasionally choose to land their catch into Granville.

There is no processing on board – lobsters are landed live with banded claws.

During the initial assessment (MEP, 2011), the traceability in this fishery (particularly the Basse Normandie side) was deemed too high-risk for any lobster landed in Basse Normandie to be sold with the MSC logo. A risk assessment was therefore carried out after the initial certification to determine whether elastic claw bands bearing the MSC logo could be used as consumer-ready tamper-proof packaging (see Figure 32). Following this risk assessment (available on request), it was concluded that these MSC-labelled elastic claw bands did indeed constitute consumer-ready tamper-proof packaging and as such, CoC certification is no longer required for organisations trading or handling these products (see MSC Chain of Custody Certification Requirements v2.0). MEC notes that there is a requirement for the client group to trace the elastic bands issued to and used by the fishermen.

Figure 32. Normandie Fraicheur Mer claw bands in use (Left) and tool used for putting the claw bands on to the lobsters (Right)

2013 was the first year during which lobsters were sold as MSC certified. Normandie Fraîcheur Mer (NFM) operates a partnership with CRPMBN (subject to a mutual agreement – see Annex 4 in MEP, 2014) which provides a list of BN licensed vessels that want to be included in the scheme. Those vessels also sign up to a 'Cahier des Charges" or Terms and conditions (Annex 5 in MEP, 2014) in which they allow CRPMBN to transmit their MSC lobster production data to NFM. By signing the code of conduct, the vessels also agree to – *inter alia* - not provide elastic bands to other vessels and not apply the bands to lobsters caught by other vessels. NFM then carries out a check in which the reported MSC production is compared with the volume of elastic bands used by the vessels. This check was carried out for the 2013 to 2015 period by NFM who reported no significant inconsistencies between the numbers of elastic bands used and declared catch for the BN fleet. One issue did arise in 2013 with a Jersey-based boat that also has French nationality. Under these exceptional circumstances NFM (rather than the Jersey State Department) issued the elastic bands to the vessel and was in charge of verifying the volumes sold. The check by NFM revealed that the vessel had been providing a small number of elastic bands to other lobster vessels. While this occurred within the UoC and as such posed no threat to the overall traceability of the MSC product, this activity was found to be outside the rules of the code of conduct and the vessel is no longer part of the UoC.

On the Jersey side, there have sadly not been any sales of MSC lobster due to difficulties with gaining access to the MSC bands from both a cost and licensing perspective. Should the situation change and Jersey vessels do start using the MSC bands, the distribution of the bands and monitoring of MSC sales will be the responsibility of the Jersey Inshore Fishermen's Association.

Table 15. Traceability Factors within the Fishery

Traceability Factor	Description of risk factor if present.
Potential for non-certified gears to be used within the fishery	No – the vessels in the UoC only target lobster using pots. **Not a relevant risk factor for fishery**

Traceability Factor	Description of risk factor if present.
Potential for vessels from the UoC to fish outside the UoC or in different geographical areas (on the same trips or different trips)	The risk of vessels from the UoC to fish outside the UoC area is minimal on the basis of the following: - The vessels especially on the French side have limited sea-going capacity which reduces the distance they are able to travel. The boats are less than 12 m in length doing daily trips. Leaving the UoC area would imply a lengthier trip which the boats are not designed for. - The only area outside the UoC that is accessible on the French side is just off the Calvados coast; however the substrate there is sandy making the area an unlikely fishing ground for lobster. - While Jersey vessels could theoretically fish outside the UoC, they would need a licence issued by the Bailiwick Fisheries Commission, headed by Guernsey and there have been very few successful applications for potting vessels registered in Jersey. In the event an application is granted, any request for MSC bands would be denied (Don Thomson, JFA, pers. comm,.).
Potential for vessels outside of the UoC or client group fishing the same stock	The vessels forming part of the Unit of Certification are those with licences to fish lobster either i) in Jersey coastal waters only (a Jersey fishing licence with shellfish attachment); ii) in Basse Normandie coastal waters only (a Basse Normandie 'crustacés' licence); or iii) in the Granville Bay Treaty co-management area (a Granville Bay licence in addition to one of the two former licences). Vessels from outside the UoC would not have the required licenses and would therefore not be permitted to fish for lobster in these waters. **Not a relevant risk factor for fishery**
Risks of mixing between certified and non-certified catch during storage, transport, or handling activities (including transport at sea and on land, points of landing, and sales at auction)	The risk of certified and non-certified lobster being on-board at the same time is minimal, based on the above analysis. After the pots are hauled, the lobsters are equipped with claw bands which constitute consumer-ready tamper-proof packaging. **This is not a relevant risk factor for this fishery.**
Risks of mixing between certified and non-certified catch during processing activities (at-sea and/or before subsequent Chain of Custody)	No processing is completed by the client, either at sea or upon landing. **Not a relevant risk factor for fishery**
Risks of mixing between certified and non-certified catch during transhipment	There is no transhipment in this fishery. **Not a relevant risk factor for fishery**

Traceability Factor	Description of risk factor if present.
Any other risks of substitution between fish from the UoC (certified catch) and fish from outside this unit (non-certified catch) before subsequent Chain of Custody is required	None identified as the lobster is equipped with consumer-ready tamper-proof packaging as soon as it comes on-board the vessel. **Not a relevant risk factor for fishery**

4.3 Eligibility to Enter Further Chains of Custody

In conclusion, MEC determines that European lobster (*Homarus gammarus*) caught by commercial fishermen licensed by the Comité Régional des Pêches Maritimes de Basse Normandie and the Jersey Department of Planning and Environment with pots in the Granville Bay Treaty area and associated Basse Normandy and Jersey territorial waters and equipped with MSC-labelled elastic claw bands are eligible to enter further chain of custody. On the basis that the MSC-labelled elastic claw bands are considered consumer-ready tamper-proof packaging, CoC certification is not required for organisations trading or handling these products (see MSC Chain of Custody Certification Requirements v2.0).

A complete list of vessels that are included in the UoC is presented in Appendix 6.

4.4 Eligibility of Inseparable or Practicably Inseparable (IPI) stock(s) to Enter Further Chains of Custody

There are no IPI stocks in this fishery.

5. Evaluation Results

5.1 Principle Level Scores

Table 16. Final Principle Scores

Final Principle Scores	
Principle	**Score**
Principle 1 – Target Species	82.5
Principle 2 – Ecosystem	89.7
Principle 3 – Management System	92.1

5.2 Summary of Scores

Principle	Component	Weighting	PI number	Performance Indicator	Score
1	Outcome	0.5	1.1.1	Stock status	90
			1.1.2	Reference points	75
			1.1.3	Stock rebuilding	-
	Management	0.5	1.2.1	Harvest Strategy	85
			1.2.2	Harvest control rules and tools	90
			1.2.3	Information and monitoring	80
			1.2.4	Assessment of stock status	75
2	Retained species	0.2	2.1.1	Outcome	85
			2.1.2	Management	95
			2.1.3	Information	75
	Bycatch species	0.2	2.2.1	Outcome	100
			2.2.2	Management	100
			2.2.3	Information	100
	ETP species	0.2	2.3.1	Outcome	95
			2.3.2	Management	100
			2.3.3	Information	85
	Habitats	0.2	2.4.1	Outcome	90
			2.4.2	Management	85
			2.4.3	Information	80

	Ecosystem	0.2	2.5.1	Outcome	90
			2.5.2	Management	85
			2.5.3	Information	80
3	Governance and Policy	0.5	3.1.1	Legal and customary framework	100
			3.1.2	Consultation, roles and responsibilities	95
			3.1.3	Long term objectives	90
			3.1.4	Incentives for sustainability	100
	Fishery-specific management system	0.5	3.2.1	Fishery specific objectives	80
			3.2.2	Decision making processes	100
			3.2.3	Compliance and enforcement	100
			3.2.4	Research plan	80
			3.2.5	Management performance evaluation	80

5.3   Summary of Conditions

A summary of the conditions is provided in the table below. For more details, please see Appendix 1.2.

Table 17. Summary of Conditions

Condition number	Condition	Performance Indicator	Related to previously raised condition? (Y/N/ NA)
1	By the end of year 3 the fishery should show that the seuil d'alerte has been selected such that a target of maintaining the fishery above this level will maintain the stock at a level consistent with Bmsy or some measure with a similar intent or outcome. The team appreciates that it is very difficult to estimate MSY reference points analytically for crustacean fisheries, and that this has been attempted already for this fishery without success. The fishery may consider options for MSY-proxies, which would give confidence that the target is set at a level which is consistent with maintaining the productivity of the stock as well as reducing the risk of stock decline.	**1.1.2**	**N (RBF used previously)**
2	By the end of year 2, the fishery should demonstrate that there has been a peer review of the stock assessment	**1.2.4**	**N (RBF used previously)**

3	By the end of year 4 the fishery should demonstrate that sufficient data are collected on spider crab such that any increase in risk to the stock from this fishery could be detected. This may take the form of a periodic evaluation of existing data, or, if suitable data do not exist, the development of some kind of monitoring, or some other appropriate procedure.	2.1.3	N

5.4 Recommendations

The team proposes four non-binding recommendations

1. The limit reference point should be standardized for vessel, season and area effects to allow for more consistent comparison with standardized abundance indices.

2. Uncertainty around annual IAS values should be evaluated using either standard statistical methods or through computer-intensive methods such as boot-strapping.

3. Information on the fishery, particularly relating to stock status and other P1 issues, should be easier to access: The assessment team noted that there were a number of ongoing monitoring programmes for which data are regularly analysed but are not necessarily easily available, particularly if detailed figures (as opposed to a general summary) are required. The team recommend that data are synthesised regularly (e.g. annually) and made available to interested parties in the form of a fishery report or similar.

4. The research plan should be updated and made available on a suitable website.

5.5 Determination, Formal Conclusion and Agreement

(REQUIRED FOR FR AND PCR)

1. The report shall include a formal statement as to the certification determination recommendation reached by the assessment team about whether or not the fishery should be certified.

(Reference: FCR 7.16)

(REQUIRED FOR PCR)

2. The report shall include a formal statement as to the certification action taken by the CAB's official decision-makers in response to the Determination recommendation.

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Appendices

Appendix 1 Scoring and Rationales

Appendix 1.1 Performance Indicator Scores and Rationale

Evaluation table 1 - PI 1.1.1

PI 1.1.1		The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	It is likely that the stock is above the point where recruitment would be impaired.	It is highly likely that the stock is above the point where recruitment would be impaired.	There is a high degree of certainty that the stock is above the point where recruitment would be impaired.
	Met?	Y	Y	Y
	Justification	For Jersey analysis of catch rates over the last five years shows that the annual LPUE index for all shellfish vessels has been stable around 20-25 kg / 100 pots, significantly above the LRP of 6 kg / 100 pots and the standardised abundance index (IAS) has been above the upper trigger reference point of 1.0. For Basse Normandie the annual LPUE index has been increasing continuously over the last few years and is currently around 12 kg /100 pots, well above the LRP of 6 kg / 100 pots, and the IAS is significantly higher than the upper trigger reference point of IAS = 1.0. (See Figure 14 and Figure 15 above.) Other indices confirm that the stock is in good health. Catch rates of both commercial sized and sub-legal lobsters have increased continuously in the fishery-independent stock survey in Jersey (Figure 15), size distribution analysis and monitoring of trends in recruitment and the reproductive characteristics of the lobsters all suggest that there has been no decline in recruitment to the fishery. In particular the monitoring of size distributions in the CRUSTAFLAM project show that there has been a major increase in abundance in recent years of both pre-recruit (81-86 mm CL) and newly-recruited lobsters (87-96 mm CL) (Figure 16, Figure 17, Figure 18, Figure 19, Figure 20). All of the available evidence suggests therefore that there is a high degree of certainty that the stock is above the point where recruitment would be impaired, so the SG100 is met.		

b	Guide post		The stock is at or fluctuating around its target reference point.	There is a high degree of certainty that the stock has been fluctuating around its target reference point, or has been above its target reference point, over recent years.
	Met?		Y	N
	Justifi cation	For both Jersey and Basse Normandie the standardised index of abundance has been above the upper reference point of IAS=1 for the last few years. Whilst this upper reference point should be considered as a trigger reference point, rather than a target reference point, the implicit harvest strategy for the fishery is to ensure that the stock remains within the target range above the upper reference point. All other stock productivity indicators also suggest that the stock is in a healthy state (see scoring issue a). It is reasonable to conclude therefore that the stock is at or fluctuating around its target reference point and SG80 is met. In the absence of either an explicit value for a target reference point or an estimate of the probability that an annual IAS value is above the trigger reference point, it cannot be concluded that there is a high degree of certainty that the stock has been fluctuating around its target reference point, or has been above its target reference point, over recent years. The SG100 is not met therefore. The fulfilment of actions to meet Condition 1 raised against PI 1.1.2 should help to provide a more objective assessment of stock status against a target value. (See scoring for 1.1.2c on the trigger reference point for more details on its definition and use)		

References	Information provided by CRPM-BN, Jersey Dept. of Environment and Ifremer – see figures provided in main report as referenced above

Stock Status relative to Reference Points

	Type of reference point	Value of reference point	Current stock status relative to reference point
Target reference point	Trigger reference point (seuil d'alerte)	Standardised index of abundance (IAS) = 1.0	The latest stock assessments showed that IAS for Basse Normandie and Jersey were 1.65 and 1.18 respectively.
Limit reference point	Limit reference point (seuil d'alarme)	Commercial LPUE 6kg/100 pots (based on Jersey >10m logbook data)	LPUE for Jersey in 2014 = 21.66 kg / 100 pots LPUE for Basse Normandie in 2014 = 11.5 kg /100 pots

OVERALL PERFORMANCE INDICATOR SCORE:	90
CONDITION NUMBER (if relevant):	N/A

Evaluation table 2 - PI 1.1.2

PI 1.1.2		Limit and target reference points are appropriate for the stock		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	Generic limit and target reference points are based on justifiable and reasonable practice appropriate for the species category.	Reference points are appropriate for the stock and can be estimated.	
	Met?	Y	Y	
	Justifi cation	Currently there is no analytical assessment for the Basse Normandie and Jersey lobster fisheries and so formal reference points have been formulated in terms of a standardised index of abundance based on catch rates in the commercial fishery rather than on conventional estimates of biomass (Bmsy) and fishing mortality (Fmsy) at maximum sustainable yield (MSY). The Guidance to MSC Certification Requirements v1.3 GCB2.3.9 states that "*Writing the PISGs in terms of biomass and fishing rate metrics creates an appearance that the MSC Principles and Criteria are not well suited for other than large industrial fisheries with formalised stock assessments and biomass based reference points. This is not the intent. Examples of quantitative interpretation include the use of measured data from the relevant fishery*" and that surrogate measures for reference points are acceptable and that "*in some crustacean species, fishery management strategies might seek to protect from harvest the complete female reproductive capacity in the population (i.e. single sex harvest). The trigger or reference points involved could relate to metrics such as per cent fertilised eggs and or other female population indicators that are evaluating the management system's effectiveness at achieving its goal.*" In most crustacean species, direct estimates of biomass are not possible due to the cryptic nature of the animals, and so it is conventional to use proxies for stock abundance in terms of catch rates in the commercial fishery. In the Basse Normandie and Jersey fisheries, reference points have been based upon historical time series of catch rates observed in the fisheries as a proxy for stock abundance. A limit reference point has been set at an LPUE of 6 kg / 100 pots, the lowest observed value in the time series for the Jersey fleet, and a trigger reference point has been set at a standardised index of abundance (IAS) of 1, based upon the standardised catch rate observed in 2007. The implicit management strategy is to maintain the stock at a level above this trigger reference point, i.e. within a target range above the trigger reference point. Management action triggered by the harvest control rules for the fishery is formulated in relation to these reference points. Reference points are therefore considered to be appropriate for the stock and are estimated on an annual basis. The SG80 is met therefore.		

b	Guide post		The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity.	The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity following consideration of precautionary issues.
	Met?		Y	N
	Justification	The limit reference point for this stock has been defined as an LPUE of 6 kg /100 pots, which is based on Jersey quarterly monitoring from 1980s and 1990s. The stock has since demonstrably recovered from this low level of abundance, and could be expected to do so again in the future if the stock declined to that level. It can be concluded therefore that there is no appreciable risk of impairing reproductive capacity at observed catch rates above the limit reference point and that the SG80 is met therefore. The LRP is based upon raw catch rates and has not been standardised to take into account year, month, fishing zone or vessel effects, and it can be concluded that the setting of the LRP has not fully taken into account precautionary issues, and so the SG100 is not met. The assessment team **recommends** therefore that the limit reference point should be standardized for vessel, season and area effects to allow more consistent comparison with standardized abundance indices.		
c	Guide post		The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome.	The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome, or a higher level, and takes into account relevant precautionary issues such as the ecological role of the stock with a high degree of certainty.
	Met?		N	N
	Justification	The lobster fishery has an upper reference point (seuil d'alerte – alert threshold) (IAS=1) which acts as a trigger reference point (below which additional harvest or effort control rules are implemented) rather than as a target reference point. However the implicit management strategy is that the stock should be kept within the 'target range' which is defined as above this trigger reference point, and effort reduction continues within the Basse Normandie fishery at stock levels above this trigger reference point. Hence this reference point is similar in intent to, for example, the ICES reference point 'MSY Btrigger'. No attempt has been made to estimate MSY and associated MSY-based reference points for this fishery because there are insufficient data currently to develop a robust analytical assessment (which is often the case for crustacean fisheries). MSC Certification Requirements v1.3 paragraph CB2.3.1.1 state that the target reference point should be "*consistent with Bmsy*" or "*some other measure or surrogate with similar intent or outcome, which maintains a high productivity of the stock and is a level well above the point at which recruitment might be impaired*". Whilst the intent of this reference point is to maintain the stock at high productivity and well above the formal LRP, there is no clear rationale for choosing the observed value of IAS in 2007 as the trigger reference point, and how this might be		

consistent with Bmsy or be a measure or surrogate with similar outcome or intent. Similar approaches have been taken in other crustacean fisheries where the upper reference point has been fixed at a level consistent with the median observed level over a long time period during which stock abundance indices have been stable. This does not appear to be the case for this fishery, where the biological justification for selecting the value of the upper reference point (seuil d'alerte) remains somewhat unclear. In addition the assessment team notes that the trigger value of IAS=1 is very different between Jersey and Basse Normandie in terms of absolute LPUE. The assessment team considered that the SG80 was not met and that a condition should be raised.

d	Guide post		For key low trophic level stocks, the target reference point takes into account the ecological role of the stock.	
	Met?		Not relevant	
	Justification	Lobster does not meet the criteria for low trophic level species as set out in paragraph CB2.3.13 of the MSC Certification Requirements v1.3 (MSC 2013a). As such, this SI is not scored.		
References		Information provided by CRPM-BN, Jersey Dept. of Environment and Ifremer – details given in Section 2.6.2		

OVERALL PERFORMANCE INDICATOR SCORE:	75
CONDITION NUMBER (if relevant):	1

Evaluation Table for PI 1.1.3 – not applicable, only scored if PI 1.1.1 60-80

Evaluation table 3 - PI 1.2.1

PI 1.2.1		There is a robust and precautionary harvest strategy in place		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guidepost**	The harvest strategy is expected to achieve stock management objectives reflected in the target and limit reference points.	The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy work together towards achieving management objectives reflected in the target and limit reference points.	The harvest strategy is responsive to the state of the stock and is designed to achieve stock management objectives reflected in the target and limit reference points.
	Met?	Y	Y	N
	Justification	The overall harvest strategy for the lobster fishery is underpinned by the Granville Bay Agreement. The broad scope of the agreement is to " […] conserve fisheries resource in the seas situated in the region of the Island of Jersey and the neighbouring coast of France" and to […] contribute to the prosperity of the local communities which depend […] on the fisheries resources of those seas". The regulations implemented under the Agreement should be set on the basis of the precautionary approach, but with regard to socio-economic factors. To meet those objectives, a Joint Advisory Committee (JAC) was implemented with the mandate to 'ensure the conservation and effective management of the fishery resources in the area covered by the Agreement', conservation meaning 'the rational use and the maintenance or re-establishment of stock of species at levels which ensure constant maximum yield'. The JAC facilitates scientific research, gathers statistical data on catch and fishing effort and shares the information with stakeholders. It has the mandate to make recommendations on:		

- The management of fishing effort by introducing fishing permits, which may if necessary be capped at a certain number

- Setting TACs, minimum sizes or weights and other regulations for the control of harvest

- The designation of fishing sectors, and their open and closed seasons

- The opening and closures of permitted catch seasons

- The regulation of catch methods.

The JAC holds three meetings a year, at which management and conservation issues are discussed allowing the system to react relatively quickly to emerging situations. The JAC makes recommendations to the Joint Management Committee (JMC). In addition to the JAC, a Shellfish Working Group has been set up to focus on data validation and analysis, and provides a forum for regular internal review of the fishery's management system including the harvest strategy. Stakeholders from both Basse Normandie and

Jersey, including scientists, government representatives and fishermen, attend the working group meetings which are usually held immediately prior to the quarterly JAC meetings.

The harvest strategy includes licensing requirements, controls on fishing effort, technical conservation measures, regulations on gear type and closed areas, but currently there is no TAC for this fishery. Regulations that are applicable to both Basse Normandie and Jersey vessels include maximum number of pots per vessels, a minimum landing size of 87 mm carapace length (CL) , restrictions in the joint zone on parlour pots, which should incorporate escape gaps. Biodegradable panels are not currently required in the fishery. In addition in Normandy, licences for fishing are continually being reduced through the "plan de diminution de pêche", whereby no more than 50% of returned licences are re-allocated, no more than 50% of the total pots can be parlour pots, a further prohibition of the use of parlour pots in areas totalling 55,000 ha and the implementation of 5 closed areas (cantonnements) along the Normandy coastline totalling 2000 ha. Currently there is no regulation prohibiting the landing of egg-bearing (berried) females or V-notched females, but evidence exists that the main fishing season does not overlap with the peak period of egg-bearing (berried) females.

The overall harvest strategy is responsive to the state of the stock, as shown in Figure 11 (see also 1.2.2 below), and the various elements including the harvest control rules and effective monitoring work together towards achieving management objectives reflected in the target and limit reference points. The SG80 is met therefore. Although the harvest strategy is discussed within the management framework of the Granville Bay agreement, there is currently no formal fisheries management plan (FMP), and most of the elements of the harvest strategy have been built up over time (in particular the reference points and harvest control rules which have only recently been agreed), and so it cannot be concluded that the harvest strategy has been <u>designed</u> to achieve stock management objectives reflected in the target and limit reference points. The SG100 is not met therefore.

b	Guidepost	The harvest strategy is likely to work based on prior experience or plausible argument.	The harvest strategy may not have been fully tested but evidence exists that it is achieving its objectives.	The performance of the harvest strategy has been fully evaluated and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.
	Met?	Y	Y	N
	Justification	The lobster stock in the Granville Bay area has rebuilt over a long period of time, reference points appear to be set at a precautionary level, the key stock indicator from commercial catch rates is currently well above the upper trigger reference point (le seuil d'alerte), and all other recent stock indicators suggest that stock abundance is high, that there is a relatively large range of sizes in the population above the MLS, and that recruitment levels are high (see 1.1.1). All evidence suggests that the harvest strategy is meeting its objectives and the SG80 is met therefore. The performance of the harvest strategy has not been fully evaluated through, for example, a Management Strategy Evaluation (MSE), so SG100 is not met.		

c	**Guidepost**	Monitoring is in place that is expected to determine whether the harvest strategy is working.			
	Met?	Y			
	Justification	There is a system in place for monitoring LPUE from the commercial fishery through logbooks on a continuous basis providing indices of abundance to evaluate the status of the stock in relation to reference points. Other fishery-dependent and fishery-independent indicators of stock productivity are monitored regularly to provide evidence of whether the harvest strategy is working. In addition, enforcement activity at both sea and on the quayside ensures that all fisheries regulations including pot limits, MLS and closed areas are observed. Annual information on infractions is provided by the management authorities.			
d	**Guidepost**			The harvest strategy is periodically reviewed and improved as necessary.	
	Met?			Y	
	Justification	The Joint Advisory Committee (JAC) for the Granville Bay agreement and the Shellfish Working Group meet regularly to discuss data from the fishery, review all elements of the harvest strategy and make recommendations to the Joint Management Committee (JMC) on changes to the current harvest strategy. The system allows therefore for the harvest strategy to be reviewed relatively quickly in response to emerging issues. The SG100 is met therefore.			
e	**Guidepost**	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.	
	Met?	Not relevant	Not relevant	Not relevant	
	Justification	Sharks are not a target species in this fishery.			
References		Granville Bay Treaty – GBT 2000			
		Sea Fisheries (Jersey) Law 1994, consolidated to 1st January 2015			
		JAC and Crustacean working group minutes			
		CRPMEM-BN Délibérations			
		Jersey Marine Resources Panel minutes;			

https://www.gov.je/Government/Departments/PlanningEnvironment/AdvisoryGroups/Pages/index.aspx;	
OVERALL PERFORMANCE INDICATOR SCORE:	**85**
CONDITION NUMBER (if relevant):	**N/A**

Evaluation table 4 - PI 1.2.2

PI 1.2.2		There are well defined and effective harvest control rules in place		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	Generally understood harvest rules are in place that are consistent with the harvest strategy and which act to reduce the exploitation rate as limit reference points are approached.	Well defined harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.	
	Met?	Y	Y	
	Justification	Harvest control rules for the Basse Normandie and Jersey fishery based on the reference points have been agreed under the Granville Bay agreement by the Joint Management Committee (JMC) as follows (see also Figure 11): <u>Green zone – IAS>1</u> If the fishery is in the green zone, current management regulations are maintained. However the management strategy in the Basse Normandie area of the fishery includes a fisheries effort reduction plan ("plan de diminution de pêche") which aims to continually reduce the number of licences by reallocating fewer licences than become available through retirement or other means. This is a precautionary strategy which reduces the level of latent fishing effort. If a systematic decline in IAS is observed, without dropping below the trigger reference point of IAS=1, then precautionary management measures will be taken. <u>Orange zone – IAS < 1, but LPUE >6 kg/100 pots</u> If IAS falls below 1 and therefore the fishery drops into the orange zone, then the management authorities will immediately review other indices of stock status - catch per unit effort (CPUE) from surveys, size structure from surveys and landings, the characteristics of reproductive females, and indices of recruitment from surveys (see below for details of these other indices). If the other indices also raise concerns about the state of the stock, then management action is taken immediately. If there are no problems identified with these other indices, then the management strategy is to maintain the current management regime for one year and then to observe if the downward trend in IAS continues. If the decline continues (or other indices have already demonstrated a decline in stock status) then various management actions are taken to reduce the level of fishing effort. Management actions will depend on a review of the other indicators, but may include a reduction in the number of pots potentially by pot type or by fishing zone, changes in the proportion of parlour pots permitted in the fishery, a reduction in the number of licences, the introduction of measures against 'ghost fishing', and potentially limitations on the vessels which fish with pots for both whelks and lobsters. If necessary, other biological management measures will also be taken (see management action within the red zone for details of these other biological measures).		

		Red zone – LPUE < 6 kgs / 100 pots		
		If the fishery drops into the red zone, then in addition to actions described above to reduce fishing effort, a range of 'biological' management actions will be implemented. The actions will depend on the status of the various stock indicators (LPUE from the commercial fishery, CPUE from surveys, size structure, reproductive characteristics, recruitment index), but may include an increase in the minimum landing size from 87 to 90 mm carapace length, increase in the size of escape gaps, introduction of a maximum size (potentially of 120 mm CL), a ban on the landing of lobsters with no claws, a ban on the landing of berried females, closed seasons, a ban on the landing of V-notched lobsters and additional closed areas.		
		All management actions described above within the harvest control rules may be taken either in a coordinated way between Basse Normandie and Jersey authorities or separately in the two fisheries dependent on any local differences in stock indicators.		
		These harvest control rules are well-defined (see Figure 11), have been implemented, are consistent with the overall harvest strategy and should ensure that the exploitation rate is reduced as limit reference points are approached. The SG80 is met therefore.		
b	Guide post		The selection of the harvest control rules takes into account the main uncertainties.	The design of the harvest control rules takes into account a wide range of uncertainties.
	Met?		Y	Y
	Justification	The harvest control rules are implemented when there is an observed change in the standardised index of abundance (IAS), but falling into the cautious (orange) zone requires other indicators of stock productivity to be reviewed, not just commercial LPUE data. This approach recognises that that there may be significant uncertainties underlying any single indicator and therefore considers a multi-indicator approach. In addition even when the stock is in the green zone, precautionary management measures may be taken if a systematic decline in the standardised index of abundance is observed. Whilst the pre-defined harvest control rules are triggered primarily by changes in IAS and raw LPUE for the whole fishery, management authorities keep a close watch on other indicators. For example, whilst Jersey now only report amalgamated LPUE for all vessels in annual reports, internally they still review a set of more detailed 'key performance indicators' for each fishery, which includes LPUE in each vessel size category (i.e. <6m, 6-10m, >10m) so monitoring is more detailed than simply observing changes in catch rates for the whole fishery. The design of the harvest control rules therefore takes into account a wide range of uncertainties, and so the SG100 is met.		
c	Guide post	There is some evidence that tools used to implement harvest control rules are appropriate and effective in controlling exploitation.	Available evidence indicates that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules.	Evidence clearly shows that the tools in use are effective in achieving the exploitation levels required under the harvest control rules.
	Met?	Y	Y	N

	Justification	Available evidence from a wide range of crustacean fisheries indicates that effort reduction (e.g. through limiting the number of licences, and implementing more restrictive pot limits) and biological measures (e.g. increasing MLS, introducing a maximum size limit, prohibiting the landing of berried females) are appropriate tools for reducing exploitation rate and increasing stock productivity and therefore the SG80 is met. The harvest control rules have been adopted only recently, so a decline of the fishery such that indicators drop into the cautious (orange) or critical (red) zones has not been experienced, so there is no direct evidence that the tools in use are effective in reducing exploitation rates in this fishery in line with the harvest control rules. The SG100 is not met therefore.
References		JAC and Crustacean working group minutes
		CRPMEM-BN Délibérations
		Jersey Marine Resources Panel minutes

OVERALL PERFORMANCE INDICATOR SCORE:	**90**
CONDITION NUMBER (if relevant):	**N/A**

Evaluation table 5 - PI 1.2.3

PI 1.2.3		Relevant information is collected to support the harvest strategy		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	Some relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy.	Sufficient relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy.	A comprehensive range of information (on stock structure, stock productivity, fleet composition, stock abundance, fishery removals and other information such as environmental information), including some that may not be directly related to the current harvest strategy, is available.
	Met?	Y	Y	N
	Justification	Although lobster population structure is not well known, evidence from genetics studies elsewhere, the likelihood that tidal gyres centred on the Minquiers and Jersey are likely to retain larvae in Granville Bay, and because Jersey is oceanographically isolated from Guernsey and points northwest by a strong tidal front with different water masses on either side, all suggest that the Granville Bay stock might be a rational management unit from the biological point of view. The fishery is monitored through a series of fishery-dependent and fishery-independent stock indicators – landings per unit effort (LPUE) from the commercial fishery log books, catch per unit effort (CPUE) from surveys, size structure from surveys and landings, the characteristics of reproductive females, and indices of recruitment (the size class just below the minimum landing size) from surveys. Fleet composition is clearly documented for both the Basse Normandie and Jersey fisheries, and various indices of fishing effort are available (see for example Figure 13 and Figure 14). Sufficient information is available therefore to support the harvest strategy, but it cannot be considered to be comprehensive (e.g. landings from Basse Normandie have to be pieced together from various sources) and so SG100 is not met. {br} The assessment team noted that there were a number of ongoing monitoring programmes for which data are not regularly analysed and made available and recommend that data from all stock monitoring programmes should be analysed in a timely manner and made available to scientists, fishery managers and other interested parties.		
b	**Guide post**	Stock abundance and fishery removals are monitored and at least one indicator is available and monitored with sufficient frequency to support the harvest control rule.	Stock abundance and fishery removals are regularly monitored at a level of accuracy and coverage consistent with the harvest control rule, and one or more indicators are available and monitored with sufficient frequency to support the harvest control rule.	All information required by the harvest control rule is monitored with high frequency and a high degree of certainty, and there is a good understanding of inherent uncertainties in the information [data] and the robustness of assessment and management to this uncertainty.

	Met?	Y	Y	N
	Justification	There is good information on stock abundance from both fishery-dependent and fishery-independent sources. Fishery removals are closely monitored through landings declarations and log books and are used to provide both raw LPUE data and standardised indices of abundance which are used annually to assess stock status in relation to agreed reference points which form the basis of the harvest control rules. Additional indicators of stock productivity (size structure, the characteristics of reproductive females, and indices of recruitment) are evaluated annually to assist in determining overall stock status and in determining the management actions triggered by the harvest control rules. The SG80 is met therefore. Currently, there is not a good understanding of the inherent uncertainties in the data used in the assessments and there is no evidence that the assessment and management are robust to this uncertainty. The SG100 is not met therefore.		
c	Guide post		There is good information on all other fishery removals from the stock.	
	Met?		Y	
	Justification	There are some limited landings of lobsters by Brittany vessels within the Granville Bay area, but there are no Guernsey vessels with a potting licence in the area. There is some recreational fishing within Jersey, mainly low water fishing on foot. There are no "bag limits" for recreational fishing in Jersey but estimates of lobster landings from enforcement activities suggest that the overall landings of lobsters by recreational fisheries is very small. Within Basse Normandie recreational fishing is controlled, with estimates of landings of lobsters by recreational fishers of around 2 tonnes annually from the Cotentin coast. Bycatch of lobsters landed by trawlers at Granville are estimated at around 0.5 tonnes per annum, but much of the fishery area is not considered to be trawlable. There are no reports of lobsters being caught in spider crab nets, but there may be some lobsters caught by fish netters around St. Malo. Total landings by vessels outside the UoC are expected to be small in relation to the total landed by UoC vessels from Basse Normandie and Jersey.		
References		Jersey Marine Resources annual report 2013 Information provided by CRPM-BN, Jersey Dept. of Environment and Ifremer France AgriMer 2015		
OVERALL PERFORMANCE INDICATOR SCORE:				**80**
CONDITION NUMBER (if relevant):				**N/A**

Evaluation table 6 - PI 1.2.4

PI 1.2.4		There is an adequate assessment of the stock status		
Scoring Issue		SG 60	SG 80	SG 100
a	Guide post		The assessment is appropriate for the stock and for the harvest control rule.	The assessment is appropriate for the stock and for the harvest control rule and takes into account the major features relevant to the biology of the species and the nature of the fishery.
	Met?		Y	Y
	Justification	As with all fisheries for European lobster, there are no direct estimates of biomass of lobsters in the Basse Normandie and Jersey fisheries, and therefore a stock indicator approach to stock assessment is highly appropriate given the nature of the fishery and the biology of the target species. IFRFEMER has considered the development of an analytical sized-based assessment approach but concluded that there were currently insufficient data to use such an approach. An indicator approach to stock assessment is the standard approach used in other pot fisheries when no analytical assessment is available. Assessing absolute stock abundance of lobsters directly from fisheries data is very difficult as catch per unit effort from pot fisheries may not necessarily be directly related to stock abundance because of gear selectivity and behavioural interactions between animals around pots. It is highly appropriate therefore that the assessment uses other fishery-independent indicators (CPUE from surveys, size distribution information, reproductive characteristics and recruitment indices) to provide a full description of stock status, and these additional stock indicators are used with the primary stock indicator, the standardised index of abundance (IAS), within the harvest control rules which form part of the harvest strategy. The SG100 is met therefore.		
b	Guide post	The assessment estimates stock status relative to reference points.		
	Met?	Y		
	Justification	The stock assessment evaluates stock status through the annual update of the key stock indicators of raw commercial LPUE data and the standardised index of abundance (IAS) in relation to a pre-defined limit reference point and a trigger reference point, above which the management strategy aims to maintain the stock. The SG60 is met therefore.		

c	Guide post	The assessment identifies major sources of uncertainty.	The assessment takes uncertainty into account.	The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way.
	Met?	Y	Y	N
	Justification	The key stock indicator in the stock assessment is the standardised index of abundance (IAS), which is based on LPUE data from logbooks in Jersey and Basse Normandie. The index is based upon a reference fleet in the two components of the fishery using only vessels for which there is evidence that logsheets are correctly and reliably completed and which cover all four main fishing areas, ensuring that the index takes into account any variability in stock trends across different habitats. All data are checked and validated, and vessels are removed from the analysis if confounding factors are identified. The LPUE data are standardised using a General Linear Model (GLM) with year, month and zone as explanatory variables amounting to between 3 000 and 4000 data points per year. As with all commercial LPUE data, there will be some uncertainties surrounding the accurate recording of landings, and so the assessment also considers a series of fishery-independent indices (CPUE from surveys, size distribution information, reproductive characteristics and recruitment indices). The assessment team concluded that the use of a multiple indicator approach to the assessment of stock status implicitly takes uncertainty into account. The harvest control rules are based primarily on the standardised index of abundance (IAS), but also recognise that other stock indicators provide valuable additional information on stock status and may therefore influence the type of management action that is implemented if the stock falls into the orange or red zones. The SG80 is met therefore. Stock status is not evaluated in relation to reference points in a probabilistic way, so the SG 100 level of performance is not met. In order to meet SG100c, the assessment team **recommends** that uncertainty around annual IAS values should be evaluated using either standard statistical methods or through computer-intensive methods such as boot-strapping.		
d	Guide post			The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.
	Met?			N
	Justification	The assessment approach using the key stock indicator of commercial catch rates and a review of secondary stock indicators has not been fully tested and shown to be robust through a Management Strategy Evaluation (MSE) or similar approach. The lack of an appropriate time series of stock data has precluded the use of size-structured assessment models or other assessment approaches and therefore it cannot be concluded that alternative hypotheses and assessment approaches have been rigorously explored. The SG100 is not met therefore.		

e	Guide post		The assessment of stock status is subject to peer review.	The assessment has been internally and externally peer reviewed.
	Met?		N	N
	Justification	The overall harvest strategy for the fishery is continuously reviewed by the Joint Advisory Committee (JAC) and Joint Management Committee (JMC) within the Granville Bay agreement, and the JAC will gather statistical data and make management recommendations to the JMC. The Shellfish Working Group focusses on data validation and analysis and provides input for the MSC programme. Whilst stakeholders from both Basse Normandie and Jersey, including scientists, government representatives and fishermen, attend the Shellfish Working Group meetings, the assessment team concluded that the Shellfish Working Group could not be considered to provide a peer review of the annual assessment of the status of the stock based on trends in LPUE and IAS. The development of the IAS does not appear to have been published in a peer-reviewed publication. The stock assessment does not appear to be regularly peer-reviewed through, for example, an ICES Working Group, A summary of the stock assessment was presented at the 2015 meeting of the ICES Working Group on the Biology and Life History of Crabs (WGCRAB), but currently this working group does not provide a peer review of stock assessments. The assessment team found no evidence that the assessment undergoes occasional or regular internal and external peer review and therefore the SG80 is not met and a condition is raised.		
References		Information provided by Ifremer ICES, 2015a		
OVERALL PERFORMANCE INDICATOR SCORE:				75
CONDITION NUMBER (if relevant):				2

Evaluation table 7 - PI 2.1.1

PI 2.1.1		The fishery does not pose a risk of serious or irreversible harm to the retained species and does not hinder recovery of depleted retained species		
Scoring Issue		SG 60	SG 80	SG 100
a	Guide post	Main retained species are likely to be within biologically based limits (if not, go to scoring issue c below).	Main retained species are highly likely to be within biologically based limits (if not, go to scoring issue c below).	There is a high degree of certainty that retained species are within biologically based limits and fluctuating around their target reference points.
	Met?	Y – brown crab, horse mackerel go to c – spider crab, red gurnard	Y - brown crab, horse mackerel go to c – spider crab, red gurnard	Y – horse mackerel N – the other species, minor species
	Justification	Main retained species: brown crab, spider crab, red gurnard, horse mackerel Brown crab: Brown crab was considered to be highly likely within biologically-based limits (see Ifremer data presented in main text Section 1.1.1 and Figure 26). SG80 is met. SG100 is not met because there is no defined target reference point. Spider crab: iIt is not highly likely that the stock is within biologically-based limits – see scoring issue c. Red gurnard: Although trends appear to be positive, there is limited information about appropriate biologically-based limits, hence it is not necessarily 'likely that the stock is within biologically-based limits – see scoring issue c. Horse mackerel: According to 2015 ICES advice, the stock is highly likely to be above the MSY reference points (see Figure 30). SG100 is met. Minor retained species: Minor retained species are velvet swimming crab, plus some undefined bait. There are no biologically-based limits for these species so SG100 is not met.		
b	Guide post			Target reference points are defined for retained species.
	Met?			Y – horse mackerel N – the other species, minor species
	Justification	Target reference points (F_{MSY}, B_{MSY}) are defined for horse mackerel (see Figure 30) but not any of the other retained species (see Section 1.1.1).		

c	Guide post	If main retained species are outside the limits there are measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding of the depleted species.	If main retained species are outside the limits there is a partial strategy of demonstrably effective management measures in place such that the fishery does not hinder recovery and rebuilding.	
	Met?	Y	Y	
	Justification	This scoring issue applies to main retained species and specifically to spider crab and red gurnard. Spider crab: Stock status is unknown and most likely highly variable. Potting accounts for a relatively small proportion of landings in France (~13%), and the overlap with this fishery (i.e. the proportion taken as bycatch in lobster pots) is likely to be lower than this. In addition, the minimum size of 12cm protects a proportion of the mature stock from the fishery since some individuals stop growing at well below this size. Discards from this fishery are likely to have high survival. The team considered that overall, it was highly unlikely on this basis that this fishery would hinder recovery and rebuilding of the spider crab stock in the Granville Bay area (where they are only present for a few months a year). The team therefore considered that the measures in place (i.e. a low proportion of the total landings, the minimum size and high discard survival) make this fishery highly unlikely to have any impact on the stock of spider crab in this area. They therefore constitute a 'demonstrably effective partial strategy' for spider crab. SG80 is met. Red gurnard: Survey indices (see Figure 29) do not give cause from concern about the stock status, but in any case, this fishery is buying damaged or unsold product so is not having any impact on stock status. SG80 is met.		
d	Guide post	If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the retained species to be outside biologically based limits or hindering recovery.		
	Met?	Y		
	Justification	This scoring issue applies to main retained species and specifically to spider crab and red gurnard, with the same argument given as above.		
References		ICES, 2012, 2013, 2014, 2015b Le Foll, 1993 Woolmer et al., 2013		

Score brown crab	80
Score horse mackerel	100
Score spider crab	80
Score red gurnard	80
Score minor retained species	85
OVERALL PERFORMANCE INDICATOR SCORE:	85
CONDITION NUMBER (if relevant):	N/A

Evaluation table 8 - PI 2.1.2

PI 2.1.2		There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	There are measures in place, if necessary, that are expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.	There is a partial strategy in place, if necessary, that is expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.	There is a strategy in place for managing retained species.
	Met?	Y – all species	Y – all species	Y – all species
	Justification	Main retained species: brown crab, spider crab, red gurnard, horse mackerel Brown crab: The stock is tracked by Ifremer (see Figure 26). Management measures in place include limited effort and a minimum size, which the team considered constituted a partial strategy which appears to be successfully maintaining the stock status (see rationale for PI 2.1.1). SG80 is met. Spider crab: The limits to effort in this fishery likewise apply to spider crab (effort is also limited in the net fishery, and is reducing), and the MLS keeps a proportion of the reproductive stock unfished. SG80 is met. Red gurnard: The general measures which limit effort in groundfish fisheries apply to red gurnard, i.e. days at sea, mesh size limits etc. This fishery specifically is buying otherwise unsold stock, and hence is not overall affecting the amount of effort on red gurnard. On this basis, SG80 is met. Horse mackerel: Managed via a TAC. For this fishery, the same argument applies as for red gurnard above. SG80 is met. SG100: Overall, the measures in place to manage lobster also apply to retained species, since they control effort – this would also apply to minor retained species such as velvet swimming crab. This would therefore constitute a strategy for these species. For bait, it is clear that this fishery is not having any impact on fishing mortality or stock status – since this is the desired outcome, the team concluded that bait purchasing could be characterised as a 'strategy' for these species. SG100 is met.		

b	Guide post	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/species).	There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or species involved.	Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or species involved.
	Met?	Y	Y	Y – red gurnard, horse mackerel N – brown crab, spider crab, minor retained
	Justification	Brown crab: There is an objective basis for evaluating the stock status overall (Ifremer monitoring – see Figure 26). For this fishery specifically, LPUE is monitored by Jersey (Figure 27). SG80 is met. There is not, however, enough data to provide 'high confidence' as required by SG100, which is not met. Spider crab: The relatively low proportion of total landings taken by this fishery, and the conservative MLS, provides an objective basis for considering that management will work. SG80 is met, but SG100 is not met for the same reasons as brown crab. Red gurnard: Survey index trends are positive, providing an objective basis for confidence that management is working. Purchases of bait by this fishery is not likely to have any impact on fishing effort overall. On this basis, there is no possibility of any impact and the team considered on this basis that the intent of SG100 is met. Horse mackerel: There is a stock assessment by ICES. Purchases of bait by this fishery is not likely to have any impact on fishing effort overall. SG100 is met. Minor species: For velvet swimming crab there has been some monitoring which suggests that the 'strategy' is working. The other minor species (bait) are not identified, however, so overall SG100 cannot be met for minor species.		
c	Guide post		There is some evidence that the partial strategy is being implemented successfully.	There is clear evidence that the strategy is being implemented successfully.
	Met?		Y – all species	Y – all species
	Justification	Effort limitations and MLS are enforced on landing and at sea, with violations reported to be low (see rationale for PI 3.2.3), hence SG100 is met for brown and spider crab, as well as minor retained species (velvet swimming crab). For the bait species, the 'strategy' is to buy damaged or unsold product, and it is clear that this is done, because (apart from anything else) it is cheap. SG100 is met.		

d	Guide post			There is some evidence that the strategy is achieving its overall objective.
	Met?			Y – red gurnard, horse mackerel N – brown crab, spider crab, minor retained
	Justification	For brown crab and spider crab, the team considered that this requires better monitoring of stock status in Granville Bay than is available, particularly for spider crab. SG100 is not met for these species. For red gurnard and horse mackerel, it is obvious that this fishery will not have an impact on stock status, so SG100 is met. In relation to minor species, since some are not identified, SG100 cannot be met.		
e	Guide post	It is likely that shark finning is not taking place.	It is highly likely that shark finning is not taking place.	There is a high degree of certainty that shark finning is not taking place.
	Met?	N/a	N/a	N/a
	Justification	None of these species are sharks. This scoring issue is therefore not applicable.		
References		ICES 2012, 2013, 2014, 2015b		

Score brown crab	90
Score horse mackerel	100
Score spider crab	90
Score red gurnard	100
Score minor retained species	90
OVERALL PERFORMANCE INDICATOR SCORE:	95
CONDITION NUMBER (if relevant):	N/A

Evaluation table 9 - PI 2.1.3

PI 2.1.3		Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	Qualitative information is available on the amount of main retained species taken by the fishery.	Qualitative information and some quantitative information are available on the amount of main retained species taken by the fishery.	Accurate and verifiable information is available on the catch of all retained species and the consequences for the status of affected populations.
	Met?	Y – all species	Y – all species	N – all species
	Justification	For the brown and spider crabs, landings are known for Jersey and estimated for BN. SG80 is met, but SG100 is not met. Bait quantity (horse mackerel and red gurnard) is estimated, but minor bait species are not fully identified. SG80 is met, but SG100 is not met. See Table 6.		
b	**Guide post**	Information is adequate to qualitatively assess outcome status with respect to biologically based limits.	Information is sufficient to estimate outcome status with respect to biologically based limits.	Information is sufficient to quantitatively estimate outcome status with a high degree of certainty.
	Met?	Y – all species	Y – all species	Y – red gurnard, horse mackerel N – brown crab, spider crab, minor species
	Justification	Brown crab: Stock status is tracked by Ifremer (see Figure 26). SG80 is met, but since the assessment is relative rather than absolute, and reference points are not estimated, SG100 is not met. Spider crab and bait species: The basis for estimating the outcome status for these stocks in relation to this fishery is to make the argument that this fishery is likely to have a small (spider crab) or negligible (bait species) impact on the stock status. The information available (relative landings or purchases) is sufficient to make that argument convincingly (see Section 1.1.1). On this basis, SG80 is met for these species. For the main bait species, there is a high degree of certainty that this fishery is not having any impact on the stocks, so SG100 is met, but for spider crab there is not, so SG100 is not met for spider crab. Minor bait species are not fully identified so SG100 cannot be met for minor species.		

c	Guide post	Information is adequate to support measures to manage main retained species.	Information is adequate to support a partial strategy to manage main retained species.	Information is adequate to support a strategy to manage retained species, and evaluate with a high degree of certainty whether the strategy is achieving its objective.
	Met?	Y – all species	Y – all species	Y – red gurnard, horse mackerel N – brown crab, spider crab, minor species
	Justification	As argued in 2.1.2, there is a strategy in place for retained species (effort limitation for bycatch species and the purchasing strategy and quantities for bait species). The team considered that for the bait species, there is a 'high degree of certainty' that the objectives are being achieved (i.e. that the fishery is not impacting on the stock), so SG100 is met for these species. For brown crab and spider crab (as well as velvet swimming crab – minor retained species) the team considered that stock monitoring in Granville Bay, while adequate for the strategy (which is based on effort control) is not sufficiently good to constitute 'a high degree of certainty'. SG80 is met for these species but SG100 is not met. Minor bait species are not fully identified so SG100 is not met.		
d	Guide post		Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator score or the operation of the fishery or the effectiveness of the strategy)	Monitoring of retained species is conducted in sufficient detail to assess ongoing mortalities to all retained species.
	Met?		Y – red gurnard, horse mackerel, brown crab N – spider crab	N
	Justification	Brown crab stock status is monitored by Ifremer via LPUE, red gurnard via a survey index and horse mackerel via a stock assessment (see Section 1.1.1). Landings from this fishery or purchases of bait are estimated. SG80 is met for these species, but SG100 is not met because landings/purchases are estimated. The team was, however, concerned about landings of spider crab from this fishery, which are not convincingly estimated by Basse Normandie – the overall tonnage is uncertain and it is also not clear what proportion comes from this fishery vs other pot fisheries vs netting. Although the WGCRAB report for 2014 notes that Ifremer monitor the stock, no data on stock status trends could be found. For this fishery specifically, Jersey keep track of trends in LPUE (given in annual reports)), but there is no monitoring on the Basse Normandie side that the team could find. On this basis, the team considered that SG80 is not met in full for spider crab.		
References		ICES 2012, 2013, 2014, 2015b Jersey Marine Resources annual report, 2013		

Score brown crab	**80**
Score horse mackerel	**90**
Score spider crab	**75**
Score red gurnard	**90**
Score minor retained species	**80**
OVERALL PERFORMANCE INDICATOR SCORE:	**75**
CONDITION NUMBER (if relevant):	**3**

Evaluation table 10 - PI 2.2.1

PI 2.2.1		The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	Main bycatch species are likely to be within biologically based limits (if not, go to scoring issue b below).	Main bycatch species are highly likely to be within biologically based limits (if not, go to scoring issue b below).	There is a high degree of certainty that bycatch species are within biologically based limits.
	Met?	Y	Y	Y
	Justification	There are no main or minor bycatch species, so SG100 is met by default.		
b	**Guide post**	If main bycatch species are outside biologically based limits there are mitigation measures in place that are expected to ensure that the fishery does not hinder recovery and rebuilding.	If main bycatch species are outside biologically based limits there is a partial strategy of demonstrably effective mitigation measures in place such that the fishery does not hinder recovery and rebuilding.	
	Met?	Y	Y	
	Justification	There are no main bycatch species, so this is met by default.		
c	**Guide post**	If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the bycatch species to be outside biologically based limits or hindering recovery.		
	Met?	Y		
	Justification	Met by default		

References	
OVERALL PERFORMANCE INDICATOR SCORE:	**100**
CONDITION NUMBER (if relevant):	**N/A**

Evaluation table 11 - PI 2.2.2

PI 2.2.2		There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	There are measures in place, if necessary, that are expected to maintain the main bycatch species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.	There is a partial strategy in place, if necessary, that is expected to maintain the main bycatch species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.	There is a strategy in place for managing and minimizing bycatch.
	Met?	Y	Y	Y
	Justification	Since there is no bycatch, the fishing method can be considered to constitute a successful 'strategy' to minimise bycatch. SG100 is met.		
b	**Guide post**	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/species).	There is some objective basis for confidence that the partial strategy will work, based on some information directly about the fishery and/or species involved.	Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or species involved.
	Met?	Y	Y	Y
	Justification	Since there is no bycatch, there is high confidence that the strategy is working. SG100 is met.		
c	**Guide post**		There is some evidence that the partial strategy is being implemented successfully.	There is clear evidence that the strategy is being implemented successfully.
	Met?		Y	Y
	Justification	Since there is no bycatch, the strategy is being implemented successfully.		
d	**Guide post**			There is some evidence that the strategy is achieving its overall objective.

	Met?		Y
	Justification	Since there is no bycatch, the strategy is clearly achieving its objective.	
References			

OVERALL PERFORMANCE INDICATOR SCORE:	**100**
CONDITION NUMBER (if relevant):	**N/A**

Evaluation table 12 - PI 2.2.3

PI 2.2.3		Information on the nature and the amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	Qualitative information is available on the amount of main bycatch species taken by the fishery.	Qualitative information and some quantitative information are available on the amount of main bycatch species taken by the fishery.	Accurate and verifiable information is available on the catch of all bycatch species and the consequences for the status of affected populations.
	Met?	Y	Y	Y
	Justification	Since there is no bycatch, this is met by default.		
b	**Guide post**	Information is adequate to broadly understand outcome status with respect to biologically based limits	Information is sufficient to estimate outcome status with respect to biologically based limits.	Information is sufficient to quantitatively estimate outcome status with respect to biologically based limits with a high degree of certainty.
	Met?	Y	Y	Y
	Justification	Since there is no bycatch, this is met by default.		
c	**Guide post**	Information is adequate to support measures to manage bycatch.	Information is adequate to support a partial strategy to manage main bycatch species.	Information is adequate to support a strategy to manage retained species, and evaluate with a high degree of certainty whether the strategy is achieving its objective.
	Met?	Y	Y	Y
	Justification	As argued above, there is a 'strategy' which is achieving its objective with a high degree of certainty.		

d	Guide post		Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectively of the strategy).	Monitoring of bycatch data is conducted in sufficient detail to assess ongoing mortalities to all bycatch species.
	Met?		Y	Y
	Justifi cation	Since there is no bycatch, this is met by default for the existing situation. There is at-sea monitoring (observers) which would identify new bycatch species coming into the fishery. SG100 is met.		
References				

OVERALL PERFORMANCE INDICATOR SCORE:	100
CONDITION NUMBER (if relevant):	N/A

Evaluation table 13 - PI 2.3.1

PI 2.3.1		The fishery meets national and international requirements for the protection of ETP species The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guidepost**	Known effects of the fishery are likely to be within limits of national and international requirements for protection of ETP species.	The effects of the fishery are known and are highly likely to be within limits of national and international requirements for protection of ETP species.	There is a high degree of certainty that the effects of the fishery are within limits of national and international requirements for protection of ETP species.
	Met?	Y	Y	Y
	Justification	No ETP species have been identified as having any interactions with this fishery which would breach protection regulations (see previous PCR – MEP, 2011). SG100 is met.		
b	**Guidepost**	Known direct effects are unlikely to create unacceptable impacts to ETP species.	Direct effects are highly unlikely to create unacceptable impacts to ETP species.	There is a high degree of confidence that there are no significant detrimental direct effects of the fishery on ETP species.
	Met?	Y	Y	Y
	Justification	No ETP species have been identified as having any direct interactions with this fishery. SG100 is met.		
c	**Guidepost**		Indirect effects have been considered and are thought to be unlikely to create unacceptable impacts.	There is a high degree of confidence that there are no significant detrimental indirect effects of the fishery on ETP species.
	Met?		Y	N
	Justification	Possible indirect effects include disturbance by fishing vessels and pot entanglement, which is most likely to apply to marine mammals (noting that there is also a great deal of recreational vessel and ferry traffic in Granville Bay). Sightings of marine mammals are monitored in a semi-quantitative way by the Jersey fisheries patrol vessel, which records sightings per trip by species. The most common ETP species seen by far is the bottlenose dolphin, for which sightings per trip have increased over the last 20 years (see figure below). Other cetacean species are also sighted (Risso's and common dolphin, harbour porpoise, minke whale) but too rarely to be able to evaluate trends. Nevertheless, it is reasonable to assume that since there is clearly not an unacceptable level of disturbance for the most common species, this would most likely apply to other, rarer species. In		

relation to seals, the Jersey patrol vessel reported a few sightings of grey seals (which do not breed in the area), but there is also a small breeding colony of common seals (~90 individuals according to the 2014 census) which is monitored by the Syndicat Mixte Baie du Mont Saint-Michel. This colony has been gradually increasing since common seals first arrived back in the area, with 5 seals present in 1986 and the first successful birth in 1997.

There is no evidence of any incident of entanglement in pot strings by any marine mammal. Larger cetaceans (such as minke whales) for which this is a recognised problem, are rare in these waters, as noted above.

Overall, there is no evidence that the fishery is having any indirect effects on these species, which are generally tending to increase despite significant shipping in the area (mainly recreational / ferries). SG80 is met. There is not however, a high degree of confidence, so SG100 is not met.
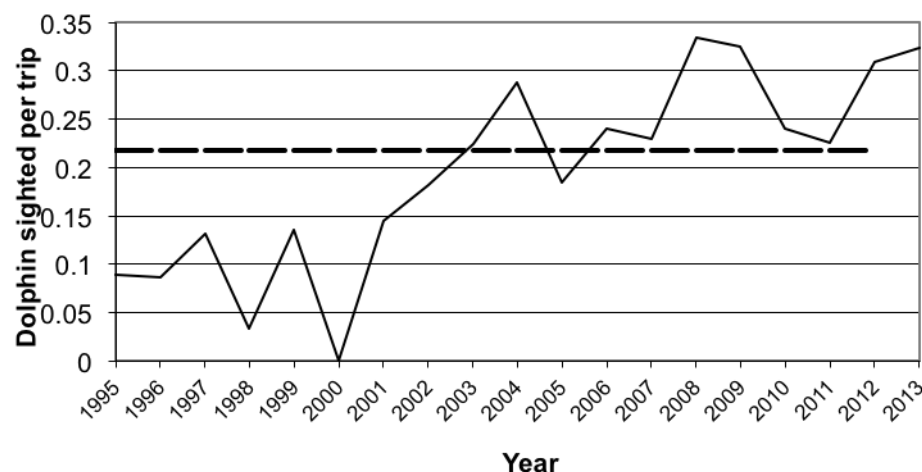
Figure: Sightings per trip of bottlenose dolphins by the Jersey fisheries patrol vessel (from Jersey Marine Resources annual report 2013).

References	MEP, 2011
	Le Fur, 2010
	Jersey Marine Resources annual report, 2013
	Cetacean sightings in the Channel: see http://seawatchfoundation.org.uk/legacy_tools/region.php?output_region=9
	Evans (no date given)

	Fiche de synthèse: suivi de la colonie des phoques de la Baie de Mont Saint-Michel, 2015. Annual summaries of monitoring results available here: http://www.projetmontsaintmichel.fr/les_travaux/environnement.html#160	
	History of re-arrival of common seals: http://www.patrimoine-normand.com/index-fiche-30425.html	
OVERALL PERFORMANCE INDICATOR SCORE:		**95**
CONDITION NUMBER (if relevant):		**N/A**

Evaluation table 14 - PI 2.3.2

<table>
<tr>
<td rowspan="2">PI 2.3.2</td>
<td colspan="3">The fishery has in place precautionary management strategies designed to:
• Meet national and international requirements;
• Ensure the fishery does not pose a risk of serious harm to ETP species;
• Ensure the fishery does not hinder recovery of ETP species; and
• Minimise mortality of ETP species.</td>
</tr>
<tr>
<td>Scoring Issue</td>
<td>SG 60</td>
<td>SG 80</td>
<td>SG 100</td>
</tr>
</table>

<table>
<tr>
<td>Scoring Issue</td>
<td></td>
<td>SG 60</td>
<td>SG 80</td>
<td>SG 100</td>
</tr>
<tr>
<td rowspan="3">a</td>
<td>Guide post</td>
<td>There are measures in place that minimise mortality of ETP species, and are expected to be highly likely to achieve national and international requirements for the protection of ETP species.</td>
<td>There is a strategy in place for managing the fishery's impact on ETP species, including measures to minimise mortality, which is designed to be highly likely to achieve national and international requirements for the protection of ETP species.</td>
<td>There is a comprehensive strategy in place for managing the fishery's impact on ETP species, including measures to minimise mortality, which is designed to achieve above national and international requirements for the protection of ETP species.</td>
</tr>
<tr>
<td>Met?</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Justifi cation</td>
<td colspan="3">Since there are no records of any ETP species interacting with the fishery, the team considered that the fishing method could constitute a 'comprehensive strategy' which has achieved above the requirements for protection of these species.</td>
</tr>
<tr>
<td rowspan="3">b</td>
<td>Guide post</td>
<td>The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/species).</td>
<td>There is an objective basis for confidence that the strategy will work, based on information directly about the fishery and/or the species involved.</td>
<td>The strategy is mainly based on information directly about the fishery and/or species involved, and a quantitative analysis supports high confidence that the strategy will work.</td>
</tr>
<tr>
<td>Met?</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Justifi cation</td>
<td colspan="3">Since there are no interactions, there is 'high confidence' that the strategy is working, as required by SG100.</td>
</tr>
<tr>
<td rowspan="2">c</td>
<td>Guide post</td>
<td></td>
<td>There is evidence that the strategy is being implemented successfully.</td>
<td>There is clear evidence that the strategy is being implemented successfully.</td>
</tr>
<tr>
<td>Met?</td>
<td></td>
<td>Y</td>
<td>Y</td>
</tr>
</table>

	Justification	The absence of interactions constitutes clear evidence that it is being implemented successfully.		
d	Guide post			There is evidence that the strategy is achieving its objective.
	Met?			Y
	Justification	The absence of interactions constitutes evidence that it is achieving its objective.		
References		See 2.3.1		

OVERALL PERFORMANCE INDICATOR SCORE:	100
CONDITION NUMBER (if relevant):	N/A

Evaluation table 15 - PI 2.3.3

PI 2.3.3		Relevant information is collected to support the management of fishery impacts on ETP species, including: • Information for the development of the management strategy; • Information to assess the effectiveness of the management strategy; and • Information to determine the outcome status of ETP species.		
Scoring Issue		SG 60	SG 80	SG 100
a	Guide post	Information is sufficient to qualitatively estimate the fishery related mortality of ETP species.	Sufficient information is available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species.	Information is sufficient to quantitatively estimate outcome status of ETP species with a high degree of certainty.
	Met?	Y	Y	N
	Justification	Although this fishery is not a priority for the French fisheries observer programme (ObsMer), there were some observer trips in this fishery in the period 2012-15 (~24 trips per year). There is also the self-reporting programme (ObsBain) and inspections at sea by the Jersey fisheries patrol vessel. Overall, however, the fishing method is the main reassurance that there are no significant interactions with ETP species – although some mortality of marine mammals (whales) via entanglement has been reported in other pot fisheries (e.g. in Canada), this has reportedly never occurred in this fishery, perhaps because of differences in the species occurring in the area (only small cetaceans and grey seals). In terms of information about population trends in ETP species, only bottlenose dolphins and seals appear to be monitored consistently – but other marine mammals are apparently rare in the area. Overall, SG80 is met since the team was confident that the fishery is having no impact. In relation to SG100, the team considered that monitoring is sufficient (bottlenose dolphin) or comprehensive for at least part of the area (seals) to be fairly certain about the status of populations, but this does not apply to all ETP species (albeit that these do not interact with the fishery) so SG100 is not met.		
b	Guide post	Information is adequate to broadly understand the impact of the fishery on ETP species.	Information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species.	Accurate and verifiable information is available on the magnitude of all impacts, mortalities and injuries and the consequences for the status of ETP species.
	Met?	Y	Y	N
	Justification	As noted above, it is clear that the fishery is not a threat to ETP species, hence SG80 is met. SG100 requires accurate and verifiable information on the status of ETP species populations, which is not available in all cases, so is not met in full.		

c	Guide post	Information is adequate to support measures to manage the impacts on ETP species.	Information is sufficient to measure trends and support a full strategy to manage impacts on ETP species.	Information is adequate to support a comprehensive strategy to manage impacts, minimize mortality and injury of ETP species, and evaluate with a high degree of certainty whether a strategy is achieving its objectives.
	Met?	Y	Y	Y
	Justification	As noted in the rationale for PI 2.3.2, the team considered that the fishing method constituted a 'comprehensive strategy' to eliminate mortality on ETP species. It is clear that the strategy is achieving its objectives (no recorded interactions). SG100 is met.		
References		Jersey Marine Resources annual report, 2013 Cetacean sightings in the Channel: see http://seawatchfoundation.org.uk/legacy_tools/region.php?output_region=9 Fiche de synthèse: suivi de la colonie des phoques de la Baie de Mont Saint-Michel, 2015. Annual summaries of monitoring results available here: http://www.projetmontsaintmichel.fr/les_travaux/environnement.html#160		

OVERALL PERFORMANCE INDICATOR SCORE:	85
CONDITION NUMBER (if relevant):	N/A

Evaluation table 16 - PI 2.4.1

PI 2.4.1		The fishery does not cause serious or irreversible harm to habitat structure, considered on a regional or bioregional basis, and function		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	The fishery is unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.	The fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.	There is evidence that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.
	Met?	Y	Y	P
	Justification	The previous assessment (MEP, 2011) describes the gear and deployment in detail in the rationale for this PI – this is not repeated here. The habitat for lobster fishing is rocky and relatively shallow, with seaweed (*Fucus* and kelp) and sponges and ascidians. The whole environment of Granville Bay is high energy because of a large tidal range (maximum tidal range at St Helier 11.9m – one of the largest in the world), meaning that the benthos is generally resilient to physical disturbance. Le Fur (2010) evaluated the interactions of various gear types with the qualifying habitats of designated protected sites based on available literature. For pot fisheries, it was concluded that this gear type has a low physical impact on the benthic features they encounter. Overall, the team concluded that given this is a static gear fishery in a naturally high-energy and productive environment, it is reasonable to say that the fishery is highly unlikely to cause serious or irreversible harm to habitats, so SG80 is met. There is some evidence that potting does not have a significant impact on benthos, including sponges, soft corals, bryozoans, tube worms, ascidians and gorgonians, at least in the short term, but the impact of these pots in this environment has not been investigated directly. SG100 is partially met.		
References		Tide predictions for St. Helier: http://www.tide-forecast.com/locations/Saint-Helier-Jersey-Channel-Islands/tides/latest le Fur, 2010 Eno et al., 2001		
OVERALL PERFORMANCE INDICATOR SCORE:				90
CONDITION NUMBER (if relevant):				N/A

Evaluation table 17 - PI 2.4.2

PI 2.4.2		There is a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	There are measures in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.	There is a partial strategy in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.	There is a strategy in place for managing the impact of the fishery on habitat types.
	Met?	Y	Y	Y
	Justification	On the same basis as for 2.3, the team argues that the fishing method constitutes a strategy which is meeting the habitat outcome 80 level (see 2.4.1 above). SG80 is met. In relation to SG100, the team noted that there is also a wider strategy for the protection of important habitats used by the fishery – for example, the Ecrehous and Minquiers are Ramsar sites. Jersey also has areas where mobile gear is banned to protect habitats, although this does not apply to this fishery. On the French side, the Agence des Aires Marines Protégées (AAMP) has conducted a review of impacts from pot fisheries (Le Fur, 2010) which concluded that there is no need to put other specific measures in place. Overall, the team concluded that SG100 is met on this basis.		
b	**Guide post**	The measures are considered likely to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/habitats).	There is some objective basis for confidence that the partial strategy will work, based on information directly about the fishery and/or habitats involved.	Testing supports high confidence that the strategy will work, based on information directly about the fishery and/or habitats involved.
	Met?	Y	Y	N
	Justification	The fishing gear, areas and means of deployment are well known, and there is also information on the habitats (see rationale for 2.4.3). Existing scientific information about the impacts of pot fisheries on habitats (reviewed in Le Fur, 2010) suggests that their impacts are not significant. This means that there is in the team's view an objective basis for confidence that the fishery will not damage habitats, based on information directly about the fishery and habitats in question. SG80 is met. There has not, however, been any direct measurements of the impact of these pots on various habitats in the area (as implied by 'testing' at SG100), as far as the team is aware. SG100 is not met.		
c	**Guide post**		There is some evidence that the partial strategy is being implemented successfully.	There is clear evidence that the strategy is being implemented successfully.

	Met?		Y	N
	Justifi cation	Taking the fishing method as the main strategy for avoiding habitat impacts, it is clear that it is being implemented successfully. The wider strategy for habitat protection (e.g. Ramsar sites in Jersey waters, work undertaken by the AAMP in Normandy) is taken very seriously. It is complicated, however, by the shared status of the fishing zone; for example, although the Ramsar sites are in Jersey waters, they are outside 3 miles and therefore management measures relating to the fishery must be agreed by all Granville Bay parties. The team noted that the most recent Jersey Marine Resources annual report expressed some (small) concern about the management of these sites in relation to the fishery, although it is clear that there are no major issues. Nevertheless, the team concluded that on balance SG100 is not fully met.		
d	**Guide post**			There is some evidence that the strategy is achieving its objective.
	Met?			N
	Justifi cation	There are periodic habitat surveys but nothing that compiles the information into an analysis of trends over time. While there is no particular reason to think that there is any cause for concern, this is not met.		
References		Jersey Marine Resources annual report 2013 Le Fur, 2010		

OVERALL PERFORMANCE INDICATOR SCORE:	**85**
CONDITION NUMBER (if relevant):	**N/A**

Evaluation table 18 - PI 2.4.3

PI 2.4.3		Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	There is basic understanding of the types and distribution of main habitats in the area of the fishery.	The nature, distribution and vulnerability of all main habitat types in the fishery are known at a level of detail relevant to the scale and intensity of the fishery.	The distribution of habitat types is known over their range, with particular attention to the occurrence of vulnerable habitat types.
	Met?	Y	Y	N
	Justification	The AAMP provides habitat maps for the Granville Bay area, including the distribution of vulnerable habitats. The full distribution, or changes in the distribution, of some vulnerable habitats, is, however, a bit uncertain in some areas (e.g. see in relation to maerl beds in the bottom part of the figure). SG80 is met but SG100 is not met.		
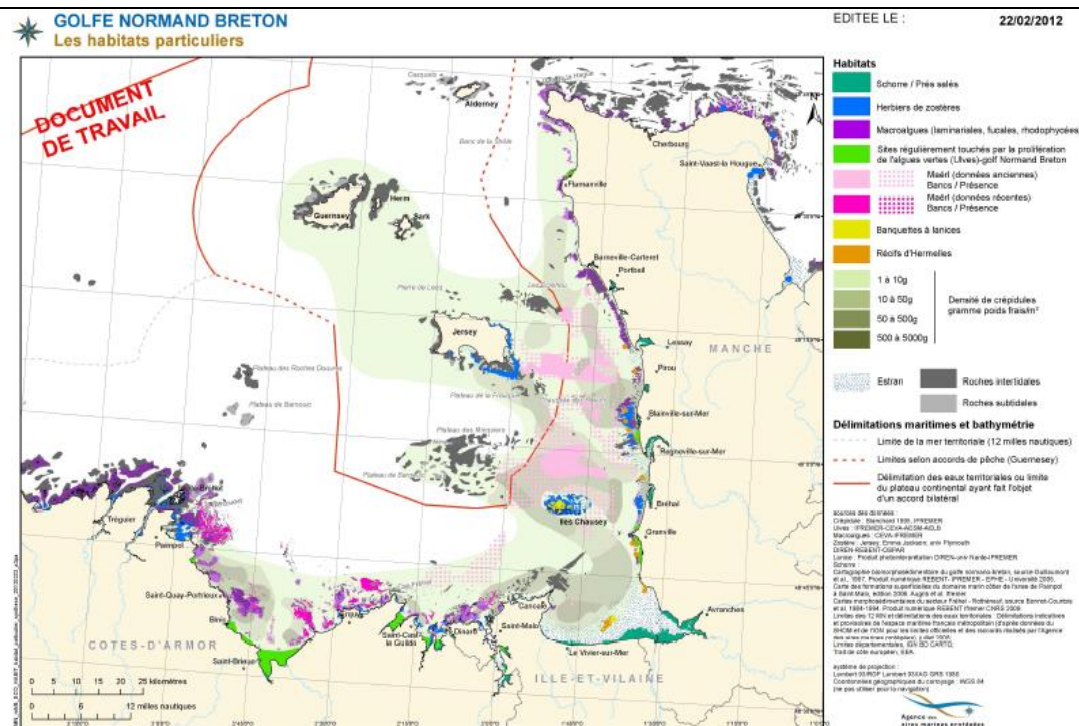
Top: Distribution of habitats according to EUNIS classification. <u>Dark grey and black</u>: subtidal and intertidal rocks; <u>dark brown</u>: coarse sediments; <u>light brown</u>: heterogeneous sediment; <u>beige and yellow</u>: sand; <u>green</u>: mud. Bottom: Sensitive habitats in Granville Bay. <u>Blue</u>: *Zostera* fields, <u>light pink</u>: maerl beds (old data); <u>dark pink</u>: maerl beds (recent data); <u>yellow</u>: sand mason (*Lanice conchilega*) banks; <u>orange</u>: *Sabellaria* reefs (source: AAMP)

b	Guide post	Information is adequate to broadly understand the nature of the main impacts of gear use on the main habitats, including spatial overlap of habitat with fishing gear.	Sufficient data are available to allow the nature of the impacts of the fishery on habitat types to be identified and there is reliable information on the spatial extent of interaction, and the timing and location of use of the fishing gear.	The physical impacts of the gear on the habitat types have been quantified fully.

	Met?	Y	Y	N
	Justifi cation	The distribution of vulnerable habitats and the spatial and temporal footprint of the fishery are known and are sufficient for any overlap to be detected. Further information is based on scientific literature investigating benthic interactions in pot fisheries (see le Fur, 2010; Chuenpagdee et al., 2003; Brown et al., 2005 and Eno et al., 2001). On this basis, the team felt that sufficient data are available for SG80 to be met. However, no research has been done assessing benthic interactions in this fishery specifically. On that basis SG100 is not met.		
c	Guide post		Sufficient data continue to be collected to detect any increase in risk to habitat (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).	Changes in habitat distributions over time are measured.
	Met?		Y	N
	Justifi cation	Within protected areas, habitats are monitored over time, but outside these areas it is not clear that there is consistent monitoring, as noted above, although there is some. The team considered that data are sufficient to detect changes in risk (e.g. if the effort or distribution of the fishery changed, or the gear type or methods of deployment changed, this would be immediately noted and evaluated), but in terms of habitat distribution over the whole fishing area, SG100 is not fully met.		
References	le Fur, 2010 Chuenpagdee et al., 2003 Brown et al., 2005 Eno et al., 2001			
OVERALL PERFORMANCE INDICATOR SCORE:				80
CONDITION NUMBER (if relevant):				N/A

Evaluation table 19 - PI 2.5.1

PI 2.5.1		The fishery does not cause serious or irreversible harm to the key elements of ecosystem structure and function		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	The fishery is unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	The fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	There is evidence that the fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.
	Met?	Y	Y	P
	Justifi cation	Lobster and crab are heterogeneous feeders on detritus and invertebrates according to availability, and are therefore not likely to be closely linked in their dynamics with any individual prey species; likewise although they are prey for some predator species, particularly as juveniles (e.g. dogfish), there is no evidence of predators that depend specifically on these species. It does not seem likely, therefore, that these species would play a role in trophic cascades, even if depleted. The status of lobster and brown crab stocks is good (stable or increasing; see 1.1.1 and 2.1.1). While there is less information about spider crab populations, they are only present in Granville Bay for a few months a year; and spider crab populations also appear to be naturally highly variable (see details under rationales for 2.1.1-2.1.3). The environment is highly productive and energetic, making it resilient to perturbations. Overall, on this basis, the team concluded that there is evidence that the fishery is highly unlikely to disrupt ecosystem structure and function; the evidence is circumstantial, however. SG100 is partially met.		
References		See references in 1.1.1 and 2.1.1-3		
OVERALL PERFORMANCE INDICATOR SCORE:				**90**
CONDITION NUMBER (if relevant):				**N/A**

Evaluation table 20 - PI 2.5.2

PI 2.5.2		There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	There are measures in place, if necessary.	There is a partial strategy in place, if necessary.	There is a strategy that consists of a plan, in place.
	Met?	Y	Y	N
	Justification	The management measures pertaining to the fishery are listed under Principle 1, and serve to ensure that the fishery does not pose a risk to the lobster or crab stocks and therefore to the wider ecosystem.		
		Under the Marine Strategy Framework Directive (MSFD) (2008/56/CE) each member state should achieve 'good ecological status' by 2020 and establish an action plan on how this will be achieved. For the implementation of the MSFD, four sub-regions have been defined within French waters, including the sub-region of the Channel/North Sea. The action plan for the sub-region includes an initial diagnostics and data gap analysis of the status of the marine environment, a definition of what 'good ecological status' is within the context of the sub-region, environmental objectives and management measures to reach that status (to be established by 2015 and implemented in 2016) and a monitoring programme to see how the objectives are being reached (to be established in 2014). The report providing the initial diagnostic for the sub-region is available via the link given below. The report provides an in-depth analysis on the ecological characteristics and status of the marine environment within the sub-region and the anthropogenic influences acting on this environment. Following the issuing of this report a number of objectives were identified in 2012. These objectives are very generic however, and more specific ones are due to be identified by 2015. Similarly, work also continues on the management plan.		
		Jersey is not part of the EU and therefore not required to implement the MSFD. It is clear, however, that protection of the marine ecosystem is taken seriously in Jersey; four Ramsar sites have been designated including two (the Ecrehous and the Minquiers) which are within the fishing area. The management by Jersey of these sites was audited in 2013 and although some issues are outstanding, overall the status of the sites is good.		
		The team therefore felt that at least a partial strategy is in place and that SG80 is met. However, there is not, for the moment 'a strategy that consists of a plan' for the entire Granville Bay area. For this reason SG100 is not met.		

b	Guide post	The measures take into account potential impacts of the fishery on key elements of the ecosystem.	The partial strategy takes into account available information and is expected to restrain impacts of the fishery on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.	The strategy, which consists of a plan, contains measures to address all main impacts of the fishery on the ecosystem, and at least some of these measures are in place. The plan and measures are based on well-understood functional relationships between the fishery and the Components and elements of the ecosystem. This plan provides for development of a full strategy that restrains impacts on the ecosystem to ensure the fishery does not cause serious or irreversible harm.
	Met?	Y	Y	N
	Justification	As noted above, the key elements of the strategy is the sustainable management of the target stocks, although a wider framework is also in place. It is clear that the management is responsive to available and new information – scientific work such as surveys is ongoing and is shared and discussed at JAC/JMC meetings, and the management system is adaptive. SG80 is met. In the absence of a 'strategy which consists of a plan', SG100 is not met.		
c	Guide post	The measures are considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/ecosystems).	The partial strategy is considered likely to work, based on plausible argument (e.g., general experience, theory or comparison with similar fisheries/ecosystems).	The measures are considered likely to work based on prior experience, plausible argument or information directly from the fishery/ecosystems involved.
	Met?	Y	Y	N
	Justification	As argued above, the 'partial strategy' based around managing the target stocks sustainably are likely to work in avoiding ecosystem impacts from this fishery. SG80 is met. In relation to SG100, while there are various surveys and other data collection on the ecosystem (see rationale for 2.5.3) there is nothing that brings all these data sets together to evaluate fisheries / ecosystem impacts and their management specifically (plausible argument suggesting that this is not required). SG100 is not met.		

d	Guide post		There is some evidence that the measures comprising the partial strategy are being implemented successfully.	There is evidence that the measures are being implemented successfully.
	Met?		Y	Y
	Justification	Compliance with the management measures put in place by the CRPM-BN is verified by the DDTM/DML, and in Jersey by the Department of the Environment (fisheries officers). Rates of non-compliance are low (see PI3.2.3), constituting evidence that the measures comprising the partial strategy are being implemented successfully.		
References		http://webissimo.developpement-durable.gouv.fr/IMG/pdf/Evaluation_initiale_Manche_-_mer_du_Nord_cle72511e.pdf Marine Strategy Framework Directive (MSFD) (2008/56/CE) Jersey Marine Resources annual report 2013		

OVERALL PERFORMANCE INDICATOR SCORE:	85
CONDITION NUMBER (if relevant):	N/A

Evaluation table 21 - PI 2.5.3

PI 2.5.3		There is adequate knowledge of the impacts of the fishery on the ecosystem		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	Information is adequate to identify the key elements of the ecosystem (e.g., trophic structure and function, community composition, productivity pattern and biodiversity).	Information is adequate to broadly understand the key elements of the ecosystem.	
	Met?	Y	Y	
	Justification	Information on key elements of the ecosystem continues to be collected under the Marine Strategy Framework Directive (see PI 2.5.2, scoring issue a), the EC Habitats (e.g. EUNIS) and Birds Directives and the Jersey Ramsar monitoring programme; as well as part of the fisheries monitoring programme (e.g. tracking trends in lobster and crab populations). Information is thus adequate to broadly understand the key elements of the ecosystem. SG80 is met.		
b	**Guide post**	Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, and have not been investigated in detail.	Main impacts of the fishery on these key ecosystem elements can be inferred from existing information and some have been investigated in detail.	Main interactions between the fishery and these ecosystem elements can be inferred from existing information, and have been investigated.
	Met?	Y	Y	N
	Justification	As set out in the rationale for PI2.5.1, the main impacts of the fishery on the ecosystem elements can be inferred. Some elements such as benthic biodiversity have been evaluated as part of the system of protected areas (e.g. Ramsar, Natura 2000) but not all. SG80 is met, but SG100 is not met.		

c	Guide post		The main functions of the Components (i.e., target, Bycatch, Retained and ETP species and Habitats) in the ecosystem are known.	The impacts of the fishery on target, Bycatch, Retained and ETP species are identified and the main functions of these Components in the ecosystem are understood.
	Met?		Y	N
	Justification	The main components in this fishery are: lobster, brown crab, spider crab, rocky subtidal habitats The role of each of these in the ecosystem is known, in as much as the biology and ecology of the crustacean species is relatively well understood (see for example references given below). Habitats are mapped and the role of habitat in providing food or structure for these species, as well as habitats which are vulnerable to fishing impacts, are also known (see PIs 2.4 for details). SG80 is met. There is not, however, an ecosystem model or similar for this area which would allow quantitative analysis of ecosystem linkages, so SG100 is not met.		
d	Guide post		Sufficient information is available on the impacts of the fishery on these Components to allow some of the main consequences for the ecosystem to be inferred.	Sufficient information is available on the impacts of the fishery on the Components and elements to allow the main consequences for the ecosystem to be inferred.
	Met?		Y	N
	Justification	As noted above, the status of target and main retained stocks is monitored, and the impact on habitats can be fairly confidently evaluated. Therefore SG80 is met. There is no direct information, however, on the impact of the fishery on elements such as trophic structure and function, although the team considered that they can confidently be expected to be small in this environment. Nevertheless, SG100 is not met in full.		

e	Guide post		Sufficient data continue to be collected to detect any increase in risk level (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).	Information is sufficient to support the development of strategies to manage ecosystem impacts.
	Met?		Y	N
	Justifi cation	As noted in the rationales for Principle 1, 2.1 and 2.4, there is ongoing monitoring of target and main retained species as well as habitats. This should be sufficient to ensure that SG80 is met. The team considered that a strategy to manage ecosystem impacts is not required, but the development of such a strategy would require more direct information about ecosystem structure and function than currently exists, so SG100 is not met.		
References		Jersey Marine Resources annual report 2013 http://webissimo.developpement-durable.gouv.fr/IMG/pdf/Evaluation_initiale_Manche_-_mer_du_Nord_cle72511e.pdf. ICES, 2013 Le Foll, 1993 Butler et al., 2013		
OVERALL PERFORMANCE INDICATOR SCORE:				80
CONDITION NUMBER (if relevant):				N/A

Evaluation table 22 - PI 3.1.1

PI 3.1.1	The management system exists within an appropriate legal and/or customary framework which ensures that it: • **Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; and** • **Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and** • **Incorporates an appropriate dispute resolution framework.**		
Scoring Issue	SG 60	SG 80	SG 100
a **Guide post**	There is an effective national legal system and <u>a framework for cooperation</u> with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2	There is an effective national legal system and <u>organised and effective cooperation</u> with other parties, where necessary, to deliver management outcomes consistent with MSC Principles 1 and 2.	There is an effective national legal system and <u>binding procedures governing cooperation with other parties</u> which delivers management outcomes consistent with MSC Principles 1 and 2.
Met?	Y	Y	Y
Justification	The Agreement between the United Kingdom and France concerning the fishing in the Bay of Granville (or Granville Bay Treaty) signed in 2000 is binding. It sets a fisheries management regime between Jersey and France providing exclusive rights for French (Normandie and Brittany) and Jersey vessels within the Granville Bay, which covers the lobster management unit. A Joint Management Committee (JMC) manages levels of fishing effort across jointly regulated waters, with the Joint Advisory Committee (JAC) acting as a forum and advisory panel. The Treaty process has been implemented effectively since 2004 with management measures agreed by the JMC that deliver the intent of UNFSA Article 10 and are implemented by the authorities of Jersey and France without delay. The objectives of this binding legal system is that fisheries are managed on the basis of long-term sustainability (see 3.1.3) and it has resulted in a management framework being in place to achieve this, not only for this fishery (i.e. Principle 1) but also in relation to other fisheries, non-target species and other ecosystem-related issues (e.g. marine parks, wind farms and other uses of the marine environment). SG100 is met.		
b **Guide post**	The management system incorporates or is subject by law to a mechanism for the resolution of legal disputes arising within the system.	The management system incorporates or is subject by law to a transparent mechanism for the resolution of legal disputes which is considered to be effective in dealing with most issues and that is appropriate to the context of the fishery.	The management system incorporates or subject by law to a transparent mechanism for the resolution of legal disputes that is appropriate to the context of the fishery and has been tested and proven to be effective.
Met?	Y	Y	Y

	Justification	The Granville Bay Treaty includes internal dispute settlement provisions (art.8). It also stipulates the tribunal and administrative bodies in Jersey and France with jurisdiction over any infringement to its regulations. The Sea Fisheries Law (Jersey) has an appeals procedure for any person aggrieved by a refusal to grant or vary a fishing licence or permit, a revocation or suspension or the imposition of specific conditions. The French system has a full array of recourse against administrative decisions. Both systems have been in place for an extended period of time and proved to be effective mainly the co-management arrangements that prevail in France and Jersey to discuss disputes at the earliest stages. SG100 is met.		
d	Guide post	The management system has a mechanism to generally respect the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to observe the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	The management system has a mechanism to formally commit to the legal rights created explicitly or established by custom of people dependent on fishing for food and livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.
	Met?	Y	Y	Y
	Justification	The Granville Bay Treaty (GBT) specifically recognizes historical rights in shared waters (GBT 2000 and Fleury 2011). Both Jersey and France fisheries management systems recognize fishing rights, specifically the rights created by custom inside the 12 nautical miles of territorial waters that are covered by the Treaty area (see Figure 31 in main report). In both countries the rights to fish return to the State after the right holder ceases activity. SG100 is met.		
References		Granville Bay Treaty – GBT 2000; UNFSA 1995; Sea Fisheries (Jersey) Law 1994, consolidated to 1st January 2015; Code Rural et de la Pêche Maritime (France, 2015); Code de l'environnement Livre II Stratégie nationale pour la mer et le littoral (France, 2015); Fleury (2011) Jersey and Guernsey: Two distinct approaches to cross-border fishery management.		
OVERALL PERFORMANCE INDICATOR SCORE:				100
CONDITION NUMBER (if relevant):				N/A

Evaluation table 23 - PI 3.1.2

PI 3.1.2		The management system has effective consultation processes that are open to interested and affected parties. The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction.
	Met?	Y	Y	N
	Justification	Membership of the marine fisheries co-management committee (CRPMEM) is mandatory in France. In Jersey fishermen are represented through one of two Associations that sit on the Fisheries and Marine Resources Advisory Panel (FMRAP). There is close collaboration with scientists and administrations in charge of management in both cases. All are members of the Granville Bay Joint Advisory Committee (JAC). Functions, roles and responsibilities are well understood, within the French and Jersey systems, and through the Bay of Granville Treaty for all key areas of activity, as set out in detail in the main report, SG 80 is met. With regards to SG100, the French process for data handling and data entry for small-scale fisheries is getting done and SG80 is met, but it remains overly complex and confusing, creating delay and often the need for duplicate data entry. Therefore the team finds that <u>not all </u>areas of responsibility and interactions are well defined and understood, SG100 is not met.		
b	**Guide post**	The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge, to inform the management system.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used.
	Met?	Y	Y	Y
	Justification	The JAC is composed of fishermen's organisations representatives from France and Jersey (12), administration representatives (8), scientists (3) and trade association representatives (3). The JAC is tasked to (a) facilitate research, collect statistical data and ensure exchange of information, (b) recommend measures needed to conserve and manage the resource, and (c) discuss all matters of		

interest to the fishermen of France and Jersey. The JAC adopts its recommendations mostly by consensus and holds three ordinary sessions per year, with a provision for emergency sessions. A Crustaceans Working Group was formed in 2012 to support the MSC certification, to collate and discuss relevant available information, examine specific lobster and crabs management measures and issue recommendations. Minutes of the JAC meetings are taken separately in French (CRPM) and English (Jersey Fishermen's Association) and subsequently included in CRPM 'délibérations' and Jersey MRP minutes, which provide evidence of discussions on how the information is used or not. SG100 is met.

c	Guide post		The consultation process provides opportunity for all interested and affected parties to be involved.	The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement.
	Met?		Y	Y
	Justification	The French and Jersey Granville Bay systems provide for regular consultation and decision making with interested and affected parties for all relevant aspects of marine resources policy and management, which are then discussed at the JAC. Encouragement for potentially affected parties to be involved is also provided through consultations and other advisory groups, for example within the French Golfe Normand-Breton Marine Park process and Jersey Department of the Environment MRP. Overall, the team concluded that further to the description above, the fishery management system 'facilitates the effective engagement of interested parties'. SG100 is met.		
References		JAC and Crustaceans WG minutes and CRPMEM-BN Délibérations (CRPMEM V. Legrand copies on request); Jersey Marine Resources Panel minutes: https://www.gov.je/Government/Departments/PlanningEnvironment/AdvisoryGroups/Pages/index.aspx; See also http://www.aires-marines.fr/L-Agence/Organisation/Missions-d-etude-de-parc/Golfe-normand-breton		

OVERALL PERFORMANCE INDICATOR SCORE:	95
CONDITION NUMBER (if relevant):	N/A

Evaluation table 24 - PI 3.1.3

PI 3.1.3		The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Principles and Criteria, and incorporates the precautionary approach		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	Long-term objectives to guide decision-making, consistent with the MSC Principles and Criteria and the precautionary approach, are implicit within management policy	Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach are explicit within management policy.	Clear long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are explicit within and required by management policy.
	Met?	Y	Y	P
	Justification	Fisheries management systems in France and Jersey (through its Agreement with UK) have clear and explicit long-term objectives that guide decision-making and are consistent with MSC Principles and Criteria and the precautionary approach. For Principle 1, these are required and set out explicitly in the Granville Bay Treaty, SG100 is met. The Marine Park project for the Golfe normand-breton will set clear objectives in terms of biodiversity that will be eventually be required by management policy for Principle 2. In the meantime, national level objectives meet SG80 but not 100. The overall score is 90.		
References		Décret n°2011-776 du 28 juin 2011 CNPM, CRPM; Bay of Granville Treaty 2000 (art. 1 and Annex C- JAC p15 and art. 2) Jersey Marine Strategy Consultation document 220713; http://www.aires-marines.fr/L-Agence/Organisation/Missions-d-etude-de-parc/Golfe-normand-breton/Mission-d-etude; AAMP and Ifremer (eds) 2011.		
OVERALL PERFORMANCE INDICATOR SCORE:				**90**
CONDITION NUMBER (if relevant):				**N/A**

Evaluation table 25 - PI 3.1.4

PI 3.1.4		The management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2.	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and seeks to ensure that perverse incentives do not arise.	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and explicitly considers incentives in a regular review of management policy or procedures to ensure they do not contribute to unsustainable fishing practices.
	Met?	Y	Y	Y
	Justification	Through their respective collaborative management systems, the French, Jersey and Granville Bay management systems provide incentives consistent with achieving the outcomes expressed by P1 and P2.		

<div>

Through their respective collaborative management systems, the French, Jersey and Granville Bay management systems provide incentives consistent with achieving the outcomes expressed by P1 and P2.

The most important positive incentives for the small-scale coastal fisheries are security of tenure and co-management arrangements that ensure active representation in designing legitimate and effective measures, which prevail in France, Jersey and through the joint Baie of Granville treaty process.

Potential perverse incentives are as follows:

- European Maritime and Fisheries Fund (EMFF; formerly the European Fisheries Fund EFF) subsidies for new engines and fleet withdrawal (for France only). The Channel Islands do not pay into or receive money from the EU (or UK) budget, including the European Maritime and Fisheries Fund – EMFF (Channel Islands Brussels Office, 2014).
- Fuel duty exemption – an EU wide policy for Agriculture and Fisheries, also applying to Jersey.

Both France and Jersey review the situation regularly (minutes MRP) and seek to ensure that perverse incentives do not arise. SG80 is met.

State aid (subsidies) to partly support local projects could occur through European Maritime and Fisheries Fund (EMFF, previously EFF) are in place for the French system only. All supported projects are carefully scrutinized against providing perverse incentives.

</div>

		These are reviewed annually as part of each member state EU-funding Operational Programme. SG 100 is met.	
References		EU Regulations 508/2014, Regulation 1380/2013 and EFF annual reports http://ec.europa.eu/fisheries/cfp/eff/index_en.htm Ernst and Young, et al. 2011. Interim evaluation of the European Fisheries Fund (2007-2013) Synthesis of the 26 national evaluations; Review of EU fisheries subsidies: http://www.europarl.europa.eu/RegData/etudes/divers/join/2013/513980/IPOL-PECH_DV%282013%29513980_EN.pdf; Channel Islands Brussels Office (2014).	
OVERALL PERFORMANCE INDICATOR SCORE:			**100**
CONDITION NUMBER (if relevant):			**N/A**

Evaluation table 26 - PI 3.2.1

PI 3.2.1		The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	Objectives, which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are implicit within the fishery's management system	Short and long-term objectives, which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system.	Well defined and measurable short and long-term objectives, which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are explicit within the fishery's management system.
	Met?	Y	Y	N
	Justification	The French Basse-Normandie management of the fishery aims specifically to match fishing pressure to each resource available. In the short term this is translated into a phased reduction of fishing licences (large crustacean) and other measures. This also applies in Jersey, and overall to the Bay of Granville lobster fishery. For Principle 1, objectives are set out in the agreed management plan explicitly, keep stock biomass above a set trigger 'stock trigger point', which can be considered to be a quantitative objective, since management measures are combined in such a way as to maintain the stock above these levels. The team considered that the objective is i) clearly defined, ii) quantitative and therefore measurable, iii) demonstrably consistent with Principle 1 outcome requirements (see scoring for Principle 1), and iv) explicit.		
		Objectives relating to P2 concern potential interactions with protected species, protected habitats and waste management. The fishery's impact on associated species, the use of sustainably sourced bait are also closely monitored. In Jersey, fisheries management is objective-driven. Short and long-term objectives are set out in the Planning and Environment annual Department Business Plan, and performance against these are discussed in the Marine Resources Panel (MRP) annual reports. In the French system, the fishery operates in a wider general framework that provides a number of P2 objectives (MPAs and protected species, fisheries regulations, the MSFD). On this basis, the team concluded that these objectives are i) short- and long-term, ii) consistent with the required outcomes for P2 (see scoring for P2), and iii) explicit, hence SG80 is met.		
		Two important developments are currently taking place, Jersey is finalising its Marine Strategy, and a Marine Park for the Golfe normand-breton covering the entire Granville Bay Treaty area is under study. However, in both French and Jersey systems, several of the P2 objectives are 'higher-level' objectives (e.g. 'favourable conservation status' under the Habitats Directive/ OSPAR), and haven't been quantified for the lobster fishery specifically so SG100 is not met.		
References		MSFD initial assessment and monitoring program for the Channel – North Sea sub-region, see DIRM-MEMN (2012 and 2015); Jersey (2013) Marine Resources Strategy Consultation; AAMP and Ifremer (eds.) 2011. Golfe normand-breton Marine Park project; Granville		

	Bay Treaty JAC minutes 2013.
OVERALL PERFORMANCE INDICATOR SCORE:	**80**
CONDITION NUMBER (if relevant):	**N/A**

Evaluation table 27 - PI 3.2.2

PI 3.2.2		The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives, and has an appropriate approach to actual disputes in the fishery under assessment.		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	There are some decision-making processes in place that result in measures and strategies to achieve the fishery-specific objectives.	There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.	
	Met?	Y	Y	
	Justifi cation	France (CRPMEM), Jersey (Marine Resources Division and Marine Resources Panel) and the Granville Bay Treaty system (JAC and JMC) have established decision-making processes that review and update measures and strategies regularly (at least once a year) to achieve the fishery-specific objectives. SG80 is met.		
b	**Guide post**	Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take some account of the wider implications of decisions.	Decision-making processes respond to serious and other important issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.	Decision-making processes respond to all issues identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.
	Met?	Y	Y	Y
	Justifi cation	Measures discussed at the Crustacean WG and JAC are based on relevant research, monitoring, evaluation and consultation. They take account of the different contexts and diverse evidence and complementary evidence from BN and in Jersey. The wider context is examined systematically because of the small size and single Marine Resource Division in Jersey, and through a wide representation and consultation of the CRPM in Marine Spatial Planning and other regional initiatives (Marine Park, MDFS). Management measures for the fishery in both systems are introduced in a timely manner, for example systematically following JMC decisions. There is also provision for Baie of Granville (JAC-JMC) emergency meetings. SG100 is met.		
c	**Guide post**		Decision-making processes use the precautionary approach and are based on best available information.	

	Met?		Y	
	Justification	A precautionary approach is enshrined in the Granville Bay Treaty. The CRPMEM and Jersey Marine Resources fisheries management duties are performed on the basis of information regularly collected and analysed, and reviewed at least annually by the Bay of Granville Crustacean working group specifically created in 2012 to support the MSC fishery certification process. The Crustacean WG convenes before the JAC to ensure that recommendations to be agreed by the JMC are based on the best available information SG80 is met.		
d	**Guide post**	Some information on fishery performance and management action is generally available on request to stakeholders.	Information on fishery performance and management action is available on request, and explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.	Formal reporting to all interested stakeholders provides comprehensive information on fishery performance and management actions and describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.
	Met?	Y	Y	Y
	Justification	Information on the fishery performance in France (CRPMEM Basse Normandy) and Jersey (MRP) are examined at least annually and also formally reported at the Bay of Granville Crustacean WG and JAC for the JMC. WG and JAC minutes are available on demand from CRPMEM and the key points are also given in MRP minutes. Monitoring and research results are presented at conferences (AAMP and Ifremer 2011) and public meetings. All interested parties are represented have access to regularly updated information from Jersey MRP, CRPMEM BN and partners (SMEL, Normandie Fraîcheur Mer, Ifremer etc.) SG100 is met.		
e	**Guide post**	Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery.	The management system or fishery is attempting to comply in a timely fashion with judicial decisions arising from any legal challenges.	The management system or fishery acts proactively to avoid legal disputes or rapidly implements judicial decisions arising from legal challenges.
	Met?	Y	Y	Y
	Justification	Both French and Jersey management systems have been presented with challenges regarding lobster license conditions in the past, or instances of gear conflicts between crustacean and whelk potting, which were dealt with immediately. The Bay of Granville lobster-potting permit is part of the Treaty discussions since its implementation in 2004, providing an additional forum to avoid legal disputes.		

		In combination and separately, the management systems act proactively to avoid disputes. SG100 is met.
References		CRPMEM BN Commission Crustacés, Délibérations and bylaws; Jersey 2015, MRP minutes and Marine Resources Annual Reports; SMEL reports; Bay of Granville Crustacean working group and JAC minutes (on demand from CRPMEM-BN and key points in MRP minutes).

OVERALL PERFORMANCE INDICATOR SCORE:	**100**
CONDITION NUMBER (if relevant):	**N/A**

Evaluation table 28 - PI 3.2.3

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with		
Scoring Issue		SG 60	SG 80	SG 100
a	**Guide post**	Monitoring, control and surveillance mechanisms exist, are implemented in the fishery under assessment and there is a reasonable expectation that they are effective.	A monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.	A comprehensive monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.
	Met?	Y	Y	Y
	Justification	The French MCS system mobilises a number of agencies at sea and onshore, which are taken to be proportionate and effective. The systems put in place by the CRPMEM-BN and the DDTM-DML50 together are able to monitor and control the fishery. In a context of co-management, where fishers propose management measures and rules, the system in place has demonstrated its ability to the extent that French MCS authorities report no worry regarding the fishery. SG80 is met. For Jersey-registered vessels, the system is also demonstrably effective, and the agreement on controls of vessels in the Granville Bay Treaty area by both French and Jersey agencies provides added coverage. The MCS system has been developed by and for professional fishers and is therefore well adapted. In 2014, in France, of the 1146 controls made, including landings outside the auction markets and direct sales, 45 infringement regarding lobsters were noted, all regarding recreational catches (under-sized or additional pots). No infringements from commercial fishermen noted, down from 4 in 2013. In Jersey, 5 cases of infringement were also recorded from on shore inspections of 86 recreational fishermen. SG100 is met.		
b	**Guide post**	Sanctions to deal with non-compliance exist and there is some evidence that they are applied.	Sanctions to deal with non-compliance exist, are consistently applied and thought to provide effective deterrence.	Sanctions to deal with non-compliance exist, are consistently applied and demonstrably provide effective deterrence.
	Met?	Y	Y	Y
	Justification	There are various sanctions in the French and Jersey systems that may lead to temporary or permanent suspension of fishing licences and permits and even to criminal proceedings, which according to the agencies involved, provide effective deterrence and are consistently applied. SG100 is met		

c	Guide post	Fishers are generally thought to comply with the management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery.	Some evidence exists to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery.	There is a high degree of confidence that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery.
	Met?	Y	Y	Y
	Justifi cation	Evidence exists to demonstrate that fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery – both via the legal requirements to submit fiches de pêche and landings declarations, as well as through voluntary schemes such as the self-sampling and voluntary reporting directly to the CRPMEM-BN. The same applies in Jersey, where compliance is reported to be good with no major concerns for the management of the fishery. Although all pots are rarely out of the water at any given time, all pots have to be tagged and are regularly lifted by inspectors at sea. French and Jersey enforcement officers have a high degree of confidence that the system is effective. SG100 is met.		
d	Guide post		There is no evidence of systematic non-compliance.	
	Met?		Y	
	Justifi cation	Communications from CRPM-BN and DDTM-DML50 and with the States of Jersey Marine Resources Department during the site visit have confirmed that there is no-evidence of systematic non-compliance. SG80 is met		
References		France: DML50 pers. comm.; EU Points-based system: Regulation 2012/2009; Jersey: Marine Resources Annual Reports and pers. comm.; French MCS http://www.developpement-durable.gouv.fr/Encadrement-reglementaire.html.		
OVERALL PERFORMANCE INDICATOR SCORE:				**100**
CONDITION NUMBER (if relevant):				**N/A**

Evaluation table 29 - PI 3.2.4

PI 3.2.4		The fishery has a research plan that addresses the information needs of management		
Scoring Issue		SG 60	SG 80	SG 100
a	Guide post	Research is undertaken, as required, to achieve the objectives consistent with MSC's Principles 1 and 2.	A research plan provides the management system with a strategic approach to research and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2.	A comprehensive research plan provides the management system with a coherent and strategic approach to research across P1, P2 and P3, and reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2.
	Met?	Y	Y	N
	Justification	A collaborative research plan was put together to deliver research activities from France and Jersey to cover essential aspects of the fishery and biology needed to inform management (see Second Surveillance report). Monitoring and research are conducted as required and in a timely fashion, by the SMEL principally for MPAs (cantonnements) and by Ifremer providing additional analyses of catch data. Jersey also conducts some annual monitoring of lobster growth, catches and abundance indicators. The research plan currently includes a review of fishing activities, estimated abundance (index derived from catches) and updates biological knowledge. It brings together analyses and data collected by both France and Jersey on an annual basis. Results are presented annually as annexes of the fishery's surveillance audit reports. Research does not include P3 aspects. Only SG80 is met.		
b	Guide post	Research results are available to interested parties.	Research results are disseminated to all interested parties in a timely fashion.	Research plan and results are disseminated to all interested parties in a timely fashion and are widely and publicly available.
	Met?	Y	Y	N
	Justification	Research results are presented at each Crustacean WG meetings prior to the JAC meetings, to illustrate trends or analyse new developments. Some results are presented to a wide audience of professional fishermen, scientists and managers through the CRPMEM-BN, the national Committee CNPNEM, and the Jersey Marine Resources Reports. Some results may be presented at conferences and published in the scientific literature. All elements of SG 80 are met. In relation to SG100, the team noted that while data is available to interested parties, it cannot be described as 'widely and publically available' – there is, for example, no website with publications.		

References	Surveillance Audit reports, 2013 and 2014; Conférence Parc Marin (AAMP and Ifremer, 2011. Biodiversity, ecosystems and uses of the marine environment: what knowledge for integrated management of the normand-breton gulf?")
OVERALL PERFORMANCE INDICATOR SCORE:	**80**
CONDITION NUMBER (if relevant):	**N/A**

Evaluation table 30 - PI 3.2.5

<table>
<tr>
<td rowspan="2">PI 3.2.5</td>
<td colspan="3">There is a system of monitoring and evaluating the performance of the fishery-specific management system against its objectives</td>
</tr>
<tr>
<td colspan="3">There is effective and timely review of the fishery-specific management system</td>
</tr>
<tr>
<td colspan="2">Scoring Issue</td>
<td>SG 60</td>
<td>SG 80</td>
<td>SG 100</td>
</tr>
<tr>
<td rowspan="3">a</td>
<td>Guide post</td>
<td>The fishery has in place mechanisms to evaluate some parts of the management system.</td>
<td>The fishery has in place mechanisms to evaluate key parts of the management system</td>
<td>The fishery has in place mechanisms to evaluate all parts of the management system.</td>
</tr>
<tr>
<td>Met?</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Justification</td>
<td colspan="3">The management system is scrutinized regularly by the CNPMEM 'Commission Crustacés'. The review concerns all parts of the French management system. Jersey has mechanisms to review key parts of its management system against its workplan and annual targets. The Bay of Granville Treaty JAC also reviews key parts of the management system. The UK and French central administrations representatives (Defra and DPMA) sitting on JMC also provide oversight, SG 80 is met. There is no systematic review of "all" parts of the management system, SG100 is not met.</td>
</tr>
<tr>
<td rowspan="3">b</td>
<td>Guide post</td>
<td>The fishery-specific management system is subject to occasional internal review.</td>
<td>The fishery-specific management system is subject to regular internal and occasional external review.</td>
<td>The fishery-specific management system is subject to regular internal and external review.</td>
</tr>
<tr>
<td>Met?</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Justification</td>
<td colspan="3">The CRPMEM-BN reviews management measures for their effect on catches and the abundance index regularly, and at least annually. The new information and reviews are discussed between CRPMEM-BN and Jersey at JAC meetings, which amounts to occasional external reviews for both sides. The French national research institute Ifremer provides occasional external reviews discussed at the JAC meetings. SG 80 is met. The stock assessment model is not currently reviewed by the ICES WG (see main report Principle 1), SG100 is not met.</td>
</tr>
<tr>
<td colspan="2">References</td>
<td colspan="3">CRPMEM et CNPMEM, Commission Crustacés; Minutes of JAC and Crustacean WG (since 2012); Jersey Marine Resources annual reports; Martial Laurens presenting to Comité Crustacé (WG Crab) in Brest 2015.</td>
</tr>
<tr>
<td colspan="4">OVERALL PERFORMANCE INDICATOR SCORE:</td>
<td>80</td>
</tr>
<tr>
<td colspan="4">CONDITION NUMBER (if relevant):</td>
<td>N/A</td>
</tr>
</table>

Appendix 1.2   Conditions

Table 1.2.1: Condition 1

Performance Indicator	**1.1.2 scoring issue c** *The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome.*
Score	75
Rationale	The lobster fishery has an upper reference point (seuil d'alerte – alert threshold) (IAS=1) which acts as a trigger reference point (below which additional harvest or effort control rules are implemented) rather than as a target reference point. However the implicit management strategy is that the stock should be kept within the 'target range' which is defined as above this trigger reference point, and effort reduction continues within the Basse Normandie fishery at stock levels above this trigger reference point. Hence this reference point is similar in intent to, for example, the ICES reference point 'MSY Btrigger'. No attempt has been made to estimate MSY and associated MSY-based reference points for this fishery because there are insufficient data currently to develop a robust analytical assessment (which is often the case for crustacean fisheries). MSC Certification Requirements v1.3 paragraph CB2.3.1.1 state that the target reference point should be "*consistent with Bmsy*" or "*some other measure or surrogate with similar intent or outcome, which maintains a high productivity of the stock and is a level well above the point at which recruitment might be impaired*". In other words, MSC recognises that in fisheries such as this, it is important to have considerable flexibility in the definition of reference points that are considered to be of similar intent to Bmsy. Whilst the intent of this reference point is to maintain the stock at high productivity and well above the formal LRP, there is no clear rationale for choosing the observed value of IAS in 2007 as the trigger reference point, and how this might be consistent with Bmsy or be a measure or surrogate with similar outcome or intent, nor is it easy to be definitive about stock status in relation to this target reference point. It is also notable that the value of trigger (IAS=1) is different in terms of absolute LPUE between Normandy and Jersey. Similar approaches have been taken in other crustacean fisheries where the upper reference point has been fixed at a level consistent with the median observed level over a long time period during which stock abundance indices have been stable. This does not appear to be the case for this fishery, where the biological justification for selecting the value of the reference point remains somewhat unclear. The assessment team considered that the SG80 was not met and that a condition should be raised. La pêcherie a défini un seuil d'alerte (IAS=1) qui sert comme un point de référence 'trigger' (de déclenchement) (en-dessous duquel les règles supplémentaires pour le contrôle d'effort ou des captures sont déclenchées), plutôt qu'un point de référence cible. La stratégie de gestion implicite est, néanmoins, de garder le stock dans une 'zone cible' au-dessus du seuil d'alerte. Il faut noter aussi que les réductions d'effort continuent dans la pêcherie Basse Normandie, même aux niveaux de stock au-delà du seuil d'alerte. Ce point de référence est similaire, dans ses intentions, au point de

référence CIEM 'MSYBtrigger'.

Il n'a pas été possible, jusqu'à maintenant, d'estimer MSY et ces points de référence (BMSY, FMSY) pour cette pêcherie, parce que les données sont insuffisantes pour une évaluation analytique robuste (ce qui est souvent le cas pour des pêcheries de crustacés). Dans les 'Certification Requirements' MSC (v1.3 paragraphe CB2.3.1.1) on lit que le point de référence cible doit être '*cohérent avec BMSY*' ou '*une autre mesure ou substitut avec une intention ou un résultat similaire, qui maintient la haute productivité du stock et qui est au niveau bien au-dessus du point auquel le recrutement peut être limité*' [traduction non-définitive de MEC]. Autrement dit, MSC reconnait que dans les pêcheries comme celle-ci, il est important d'être très flexible pour la définition des points de référence tant que ceux-ci correspondent à un résultat similaire à celui de Bmsy.

L'intention du seuil d'alerte est clairement de maintenir le stock à un niveau de haute productivité et bien au-dessus du point de référence limite, il n'est pas évident comment était choisi le niveau du seuil d'alerte (IAS en 2007), et comment ce niveau est cohérent avec BMSY ou son substitut, et il est difficile d'évaluer définitivement l'état du stock par rapport à ce point de référence cible. On constate aussi que la valeur absolue du seuil d'alerte (IAS=1) est différente en termes de LPUE entre Basse Normandie et Jersey.

On note que dans d'autres pêcheries de crustacés avec des approches de gestion similaires, le point de référence 'cible' a été fixé, par exemple, au niveau qui est cohérent avec le niveau moyen observé pendant une période de stabilité dans les indices du stock. Cette approche n'a pas été utilisée dans cette pêcherie, et la justification biologique pour le choix de la valeur du seuil d'alerte n'est donc pas tout à fait évidente. L'équipe a décidé que le SG80 n'est pas complètement atteint, et impose une condition.

Condition	By the end of year 3 the fishery should show that the seuil d'alerte has been selected such that a target of maintaining the fishery above this level will maintain the stock at a level consistent with Bmsy or some measure with a similar intent or outcome. The team appreciates that it is very difficult to estimate MSY reference points analytically for crustacean fisheries, and that this has been attempted already for this fishery without success. The fishery may consider options for MSY-proxies, which would give confidence that the target is set at a level which is consistent with maintaining the productivity of the stock as well as reducing the risk of stock decline. A la fin de la troisième année la pêcherie doit montrer que la valeur du seuil d'alerte a été choisie telle que l'objectif de la stratégie de gestion (de maintenir le stock au-delà du seuil) puisse maintenir le stock à un niveau qui est cohérent avec BMSY ou un autre indicateur aux intentions ou résultats similaires. L'équipe constate qu'il est difficile d'estimer analytiquement les points de référence MSY pour les pêcheries crustacés, et comprend qu'un essai a déjà été tenté pour cette pêcherie, sans succès. La pêcherie peut considérer plusieurs options pour des alternatives aux points de références MSY (des 'proxies' dans le vocabulaire MSC) – l'essentiel est d'avoir confiance que le seuil d'alerte est défini au niveau qui maintient la productivité du stock.
Milestones	Year 1: Evaluate options for measuring the productivity of the stock, whether via estimation of Bmsy or via another surrogate or proxy measure. **Score: 75** Year 2: Review whether the existing 'seuil d'alerte' is consistent with the selected reference proxy or proxies. If the present level can be justified in

	terms of maintaining stock productivity, no change is required. If the seuil d'alerte needs to be changed, evaluate different options internally in BN and Jersey and at the JAC/JMC. **Score 75** Year 3: Agree and implement a new target if required. **Score: 80** Année 1 : Evaluation des options pour estimer la productivité du stock, par estimation de BMSY ou par un autre indicateur équivalent. **Score: 75** Année 2 : Revue du seuil d'alerte actuel (IAS à 2007) pour sa cohérence avec les mesures de productivité. Si le niveau actuel peut être justifié en termes de maintien de productivité, aucun changement n'est exigé. Si le niveau du seuil d'alerte doit être changé, plusieurs options peuvent être évaluées dans le cadre de la gestion de BN et de Jersey, ainsi qu'au JAC/JMC. **Score: 75** Année 3 : Si besoin, finalisation et implémentation du nouveau seuil d'alerte. **Score: 80**
Client action plan	See Appendix 1.3
Consultation on condition	The CRPM and the Jersey Dept. of Environment have fisheries expertise, and may choose to implement this condition themselves. Alternatively, the action plan should indicate whether it is planned to seek external support (e.g. from SMEL, Ifremer or Cefas) Le CRPM-BN et le département à Jersey ont des experts dans la gestion des pêcheries, qui peuvent décider de mettre cette condition en œuvre. Sinon, le plan d'action doit indiquer s'il est prévu de solliciter un appui extérieur (par ex. Ifremer ou SMEL ou CEFAS ou autre).
Comment on condition at re-assessment	The fishery was previously assessed using the RBF, so PI 1.1.2 was not evaluated.

Table 1.2.2: Condition 2

Performance Indicator	1.2.4 scoring issue e *The assessment of stock status is subject to peer review*
Score	75
Rationale	Whilst stakeholders from both Basse Normandie and Jersey, including scientists, government representatives and fishermen, attend the Shellfish Working Group meetings, the assessment team concluded that the Shellfish Working Group could not be considered to provide a peer review of the assessment of stock status based on trends in LPUE and IAS. The development of the IAS does not appear to have been published in a peer-reviewed publication. The stock assessment does not appear to be regularly peer-reviewed through, for example, an ICES Working Group. A summary of the stock assessment was presented at the 2015 meeting of the ICES Working Group on the Biology and Life History of Crabs (WGCRAB), but currently this working group does not provide a peer review of stock assessments. The assessment team found no evidence that the assessment undergoes occasional or regular internal and external peer review and therefore the SG80 is not met and a condition is raised. *Bien que les parties prenantes de Basse Normandie et de Jersey, y inclus les scientifiques, les représentants de gestion et les pêcheurs, assistent aux réunions du groupe de travail crustacés, ce groupe n'offre pas une revue de l'évaluation du stock par des experts tiers. Le développement de l'IAS n'est pas publié dans un journal scientifique avec revue par des experts tiers, et il n'existe pas de revue par des experts tiers dans le cadre d'un groupe de travail CIEM ou autre. Bien qu'un sommaire fût présenté au groupe de travail CIEM WGCRAB, ce groupe ne propose pas aux membres une revue externe des évaluations. L'équipe n'a trouvé aucune évidence de revue par des experts tiers. SG80 n'est pas atteinte.*
Condition	By the end of year 2, the fishery should demonstrate that there has been a peer review of the stock assessment. *A la fin de la deuxième année la pêcherie doit montrer qu'une revue de l'évaluation du stock par des experts tiers a eu lieu.*
Milestones	Year 1: Evaluate options for peer review of the stock assessment. **Score: 75** Year 2: Complete peer review of the stock assessment. **Score: 80** *Année 1 : Evaluation des options pour revue par des experts tiers de l'évaluation du stock.* **Score 75** *Année 2 : Finalisation de la revue par des experts tiers.* **Score 80**
Client action plan	See Appendix 1.3
Consultation on condition	Ifremer is an active member of the Crustacean working group and remains involved in the stock assessment process. Any additional information required for the peer review should therefore be made available by IFREMER *IFREMER est un membre actif du groupe de travail Crustacés et reste impliqué dans le processus d'évaluation des stocks. Toute information supplémentaire nécessaire pour la revue devra donc être mise à disposition par l'IFREMER.*
Comment on condition at re-assessment	The fishery was previously assessed using the RBF, so PI 1.2.4 was not evaluated.

Table 1.2.3: Condition 3

Performance Indicator	2.1.3 scoring issue d – spider crab *Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator score or the operation of the fishery or the effectiveness of the strategy)*
Score	75
Rationale	… The team was, however, concerned about landings of spider crab from this fishery, which are not convincingly estimated by Basse Normandie – the overall tonnage is uncertain and it is also not clear what proportion comes from this fishery vs other pot fisheries vs netting vs trawls. Although the WGCRAB report for 2014 notes that Ifremer monitor the stock, no data on stock status trends could be found. On this basis, the team considered that SG80 is not met in full for spider crab. ... L'équipe a noté que les débarquements d'araignée venant de cette pêcherie ne sont pas estimés par la Basse Normandie de façon convaincante – le tonnage total n'est pas certain, ainsi que les proportions venant de cette pêcherie, par rapport aux autres pêcheries (autres casiers, filets, chaluts). Bien que le rapport WGCRAB (2014) note que le stock est suivi par Ifremer, aucune donnée sur l'état et les tendances dans le stock n'a pu être trouvée. SG80 n'est pas achevé pour l'araignée.
Condition	By the end of year 4 the fishery should demonstrate that sufficient data are collected on spider crab such that any increase in risk to the stock from this fishery could be detected. This may take the form of a periodic evaluation of existing data, or, if suitable data do not exist, the development of some kind of monitoring, or some other appropriate procedure. A la fin de la quatrième année la pêcherie doit montrer que la collection de données sur l'araignée est suffisante pour détecter une augmentation dans le risque pour le stock par cette pêcherie. Ceci peut comporter une évaluation périodique des données existantes, ou, s'il y n'a pas de données suffisantes, le développement d'un suivi ou d'une autre procédure.
Milestones	Year 1: Evaluate existing sources of current and historical data on spider crabs fished in Granville Bay; assess if anything available is suitable for monitoring stock status. **Score: 75** Year 2: If suitable data are available, ensure that they are reviewed regularly (e.g. annually or biennially), either by the two jurisdictions individually, and/or by the JAC/JMC to ensure that there is no increase in risk to the stock from the fishery. If not, identify a suitable method of monitoring the stock (e.g. via landings or CPUE or survey data or some other suitable proxy). **Score: 75** Year 3: Develop and implement a monitoring protocol if required. **Score: 75** Year 4: Ensure that the monitoring data are reviewed regularly to ensure that there is no increase in risk to the stock from the fishery. **Score: 80** Année 1 : Evaluation des sources de données (actuelles et historiques) sur l'araignée pêchée en Baie de Granville ; évaluation des options de suivi avec ces données. **Score : 75** Année 2 : Si des données existent, mettre en place un système pour revue régulière (par ex. annuelle or tous les deux ans), soit par BN et Jersey indépendamment, soit par le JAC/JMC, pour s'assurer qu'il n'y a pas

	d'augmentation dans le risque pour le stock par la pêcherie. Sinon, identifier une méthode pour le suivi du stock (par ex. par débarquements et/ou CPUE et/ou un suivi en mer et/ou un autre moyen). **Score : 75** Année 3 : Développement et mise en place d'un système de suivi, si besoin. **Score : 75** Année 4 : Mise en place d'un système pour la revue régulière des données de suivi, pour évaluation du risque pour le stock d'araignée venant de la pêcherie. **Score : 80**
Client action plan	See Appendix 1.3
Consultation on condition	No external consultees have been identified
Comment on condition at re-assessment	In the previous assessment, the team concluded that the annual Jersey review of LPUE was sufficient, but this time the team came to a different view.

Appendix 1.3   Client Action Plan

PECHERIE DE HOMARD DE NORMANDIE ET DE JERSEY

PLAN D'ACTION Réévaluation

Réponses aux 3 conditions relevées / Evaluation MSC

Réunion 4 et 5 juillet 2016

Nous remercions l'équipe des experts de nous avoir fait parvenir les résultats de l'évaluation de la Pêcherie de Homard de Normandie et de Jersey selon les critères MSC. Nous avons bien pris en compte les conditions énoncées pour lesquelles n'avons pas d'opposition majeure. Conjointement entre Jersey et la Basse-Normandie, nous nous engageons à respecter le Plan d'Action suivant, en réponse aux 3 conditions relevées par l'équipe d'évaluation.

We thank the team of experts who provided the results of the MSC assessment of the Normandy and Jersey lobster fishery. We considered the conditions that were raised and do not contest the results. Jointly between Jersey and Normandy, we are committed to the following Action Plan in response to the three conditions identified by the assessment team.

Condition 1 : IP112- Points de référence Reference points

The target reference point is such that the stock is maintained at a level consistent with B_{MSY} or some measure or surrogate with similar intent or outcome - Le score est de 75

Le rapport d'évaluation indique / The assessment report states the following :

The lobster fishery has an upper reference point (seuil d'alerte – alert threshold) (IAS=1) which acts as a trigger reference point (below which additional harvest or effort control rules are implemented) rather than as a target reference point. However the implicit management strategy is that the stock should be kept within the 'target range' which is defined as above this trigger reference point, and effort reduction continues within the Basse Normandie fishery at stock levels above this trigger reference point. Hence this reference point is similar in intent to, for example, the ICES reference point 'MSY Btrigger'.

No attempt has been made to estimate MSY and associated MSY-based reference points for this fishery because there are insufficient data currently to develop a robust analytical assessment (which is often the case for crustacean fisheries). MSC Certification Requirements v1.3 paragraph CB2.3.1.1 state that the target reference point should be "*consistent with Bmsy*" or "*some other measure or surrogate with similar intent or outcome, which maintains a high productivity of the stock and is a level well above the point at which recruitment might be impaired*".

Whilst the intent of this reference point is to maintain the stock at high productivity and well above the formal LRP, there is no clear rationale for choosing the observed value of IAS in 2007 as the trigger reference point, and how this might be consistent with Bmsy or be a measure or surrogate

with similar outcome or intent. Similar approaches have been taken in other crustacean fisheries where the upper reference point has been fixed at a level consistent with the median observed level over a long time period during which stock abundance indices have been stable. This does not appear to be the case for this fishery, where the biological justification for selecting the value of the reference point remains somewhat unclear. The assessment team considered that the SG80 was not met and that a condition should be raised.

By the end of year 3 the fishery should show that the seuil d'alerte has been selected such that a target of maintaining the fishery above this level will maintain the stock at a level consistent with Bmsy or some measure with a similar intent or outcome. The team appreciates that it is very difficult to estimate MSY reference points analytically for crustacean fisheries, and that this has been attempted already for this fishery without success. The fishery may consider options for MSY-proxies, which would give confidence that the target is set at a level which is consistent with maintaining the productivity of the stock as well as reducing the risk of stock decline.

A la fin de la troisième année la pêcherie doit montrer que la valeur du seuil d'alerte a été choisie telle que l'objectif de la stratégie de gestion (de maintenir le stock au-delà du seuil) puisse maintenir le stock au niveau qui est cohérent avec BMSY ou une autre mesure aux intentions ou résultats similaires.

L'équipe constate qu'il est difficile d'estimer analytiquement les points de référence MSY pour les pêcheries crustacés, et comprend qu'une essaie a déjà été faite pour cette pêcherie, sans succès. La pêcherie peut considérer plusieurs options pour des alternatifs aux points de références MSY (des 'proxies' dans le vocabulaire MSC) – l'essentiel est d'avoir confiance que le seuil d'alerte est défini au niveau qui maintient la productivité du stock.

Plan d'Action C1 :

Il conviendra d'estimer par tout moyen que ce soit que le point d'alerte tel qu'il a été défini l'a été de telle sorte qu'il permet une productivité élevée.

Dans un premier temps, une revue des méthodes utilisées pour étudier un stock de crustacés sera effectuée.

En s'appuyant sur les travaux et le suivi réalisés par l'Ifremer, mais aussi ce qui a été fait dans d'autres pêcheries de crustacés (ex : pêcherie de crabe des neiges –Canada), définir le ou les indices les plus représentatifs pour le suivi de l'état du stock de homard.

Puis estimer les points de référence fixés préalablement par rapport à l'état du stock ainsi analysé. Si l'étude montre que les points de référence ont été fixés à un niveau ne permettant pas une bonne productivité, il conviendra de changer ces points de référence.

It should be estimated by any means whatsoever that the alert point as it was defined was such that it allows high productivity.

First, a review of methods used to study a shellfish stock will be made.

Based on the work and monitoring carried out by Ifremer, but also what has been done in other crustacean fisheries (e.g. snow crab fishery in Canada), identify the most representative index or indices to monitor the state of the lobster stock.

Then estimate the reference points previously set based on the state of the stock. If the study shows that the reference points have been set at a level not allowing good productivity, it will be necessary to change these reference points.

Planning : le planning prévisionnel est décrit ci-dessous / The provisional schedule is shown below :

Année 1(2017)	Action
1er semestre 1st 6 months	Revue des méthodes utilisées pour évaluer le stock de homard Review of lobster stock assessment methods
2ème semestre- date JAC 2nd 6 months (JAC)	Choix de(s) l'indice(s) le(s) plus pertinent(s) Selection of most appropriate index or indices
Année 2 (2018)	
En continu Ongoing	Analyse et suivis des résultats de l'évaluation du stock Analysis and monitoring of stock assessment results Comparaison des points de référence définis/ état du stock Comparison defined reference points / stock status
Année 3 (2019)	
Ongoing	Présentation JAC et décision (ou non) de changer les points de référence. Presentation at the JAC and decision on whether reference points should be changed.
Année 4 (2020)	
Année 5 (2021)	

Discussions du plan d'action Notes on action plan

1. Une revue des méthodes possibles expliquant le choix d'un modèle / A review of possible methods explaining the choice of a model

Pour étudier l'état d'un stock de homard du Cotentin et Jersey pêché aux casiers uniquement, l'indice d'abondance se traduit en kg de homard et l'unité d'effort est de 100 casiers. Parmi ces modèles existants, nombreux exigent des paramètres non disponibles pour des séries de données courtes, ce qui a favorisé le choix de la méthode déjà utilisée pour le crabe des neiges. Celle-ci se base sur un indice d'abondance moyen annuel, un indice moyen sur les 5 dernières années et le niveau le plus bas observé sur une série de données assez longue.

To examine the state of the Cotentin and Jersey lobster stock which is only caught with traps, the abundance index is expressed in kg of lobster with the unit of effort being 100 traps. Among the existing models, many require data that are not available for short data series, which means that the choice of the method which is already being used for snow crab was the preferred one. The method is based on an average annual index of abundance, an average index over the past 5 years and the lowest level observed on a longer data series.

2. Choix de l'indice le plus représentatif de l'évolution d'état du stock de homard du Cotentin et Jersey / Choice of the most representative index to monitor trends in the Cotentin and Jersey lobster stock

La méthode utilisée pour le homard du Cotentin et de Jersey s'appuie sur un **indice d'abondance standardisé** (IAS) pour une flottille de référence d'une trentaine de navires. Les premières variables explicatives (année, mois) immédiatement disponibles sont intégrées au modèle GLM. D'autres variables ont été intégrées au fil des années, après recueil de l'information spécifique concernant les zones de pêche et la stratégie de pêche des homardiers.

The method used for the Cotentin and Jersey lobster stock is based on a **standardised index of abundance (SIA)** for a reference fleet consisting of about 30 vessels. The first parameters (year, month) that are immediately available are integrated into the GLM model. Other parameters are integrated over the years, after collection of more specific data on fishing zones and fishing strategies employed by lobster fishermen.

3. Evolution de la méthode de calcul de IAS en fonction de la connaissance plus fine des variables explicatives / **development of the SIA calculation method based on improved understanding of available parameters through the years** :

- **Indice d'abondance calculé en 2012 et 2013** (Année Mois) / **Index of abundance calculated in 2012 and 2013 (Year, Month)**

    IASn = PUEn / PUE année la plus basse, soit en 2004 pour BN et 2007 pour JE

  SIAn = CPUEn/CPUE lowest year, i.e. 2004 for Basse Normandy and 2007 for Jersey

- **Indice d'abondance calculé en 2014 / IA calculated in 2014 :** Pour les données 2014, la méthode a permis de séparer les navires en fonction de la stratégie de pêche : navires « homard espèce cible »/ navires polyvalents bulot/crustacés et de les repartir par zone (Var Année, Mois, Zone, stratégie). A Jersey, les zones de pêche pourraient être divisées en 1 zone au nord et 1 au sud.
  For the 2014 data, the method enabled separation between vessels depending on fishing strategy (boats targeting lobster vs polyvalent boats targeting crustaceans/whelks) and allocating those to different zones (parameters: year, month, zone, strategy). In Jersey, the fishing zones were divided into one in the north and one in the south.

    IAS (2014) = PUEn / PUE 2007 BN et JE

    SIA (2014) = CPUEn/CPUE 2007 BN and JE

- **Indice d'abondance calculé en 2015 / IA calculated in 2015 :** Pour les données de 2015, la méthode propose d'intégrer la capacité de pêche (liée au savoir faire du pêcheur) comme

variable explicative complémentaire. Ainsi, l'indice d'abondance standardisé IAS 2015 est encore plus représentatif en s'appuyant sur les facteurs pêche et s'affranchissant des autres facteurs « bruit de fond »**.** Les données de Jersey seront disponibles sous peu.

For the 2015 data, the method incorporated fishing capacity (linked to fisher's know-how) as additional parameter. This way, the SIA 2015 was even more representative, relying on fisheries-dependent factors and reducing backscatter. The Jersey data should become available soon.

$$\text{IAS (2015)} = \text{PUEn / PUE 2007}$$

IAS (2015) = PUEn/ PUE 2004 (pour conserver l'historique)

$$\text{SIA (2015)} = \text{CPUEn/CPUE 2007}$$

SIA (2015) = CPUEn/CPUE 2004 (to keep track of history)

D'autres variables pourraient être intégrées au modèle (groupes de ports, groupes de navires, nature des fonds) suivant la disponibilité de l'information. Depending on data availability, other parameters could be incorporated into the model such as groups of ports, vessels, types of substrate.

4. Le choix des seuils / Choice of thresholds

- **Seuil de danger :** est le niveau le plus bas observé dans les pêches durant les 10 dernières années. On sait qu'en dessus de ce seuil, le stock n'est pas véritablement en danger biologique car il a été capable de remonter à un niveau important.
  Danger threshold : the lowest level observed in the time series over the last 10 years. We know that above this level, stock recovery is possible.
- **Seuil d'Alerte :** Le choix du seuil d'Alerte a été basé sur une série de données de JE et Basse Normandie suffisamment éloigné du seuil de danger pour avoir le temps de prendre des mesures de gestion adaptée.
  Alert threshold : the choice of this threshold was based on a Jersey and BN time series sufficiently removed from the danger threshold to leave ample time to take adaptive management measures.

5. Les autres indices de l'évaluation de stock / The other stock assessment indices :

- L'évolution des débarquements avec une méthode de suivi plus efficace en termes de disponibilité de données et de recueil de séries historiques
  Trends in landings with a more efficient monitoring method in terms of data availability and historical data collection.

- Les compositions en taille pour identifier les cohortes, analyser leur évolution et appréhender le recrutement : une méthode d'autoechantillonnage simplifiée sera mise en œuvre avec les pêcheurs pour recueillir davantage de données.
  Size composition to identify cohorts and analyse their evolution and improve understanding of recruitment: a simplified method of self-sampling will be implemented with the fishers to gather data

- L'estimation d'un indice de recrutement actuellement en cours d'étude à partir des données d'observations en mer sur la pêche et par une autre méthode, la pose de collecteurs en mer pour recueillir les post larves (les quantités recueillies pourraient être utilisées comme indice de pré recrutement).

  The estimation of a recruitment index is currently being studied, based on observations at sea and through the usage of collectors to gather post-larvae (the collected quantities could be used as an index of pre-recruitment)

- Les données biologiques sur la maturité : on voit apparaître des jeunes femelles matures en début de période hivernale suivies au printemps par des femelles grainées de plus grande taille. L'éclosion des œufs est également décalée dans le temps, les plus jeunes femelles dégrainent plus tôt alors que les grosses femelles finissent leur éclosion en juin. La quantité de géniteurs n'est pas affectée.

  Biological data on maturity : young mature females appear at the start of the winter period, followed in spring by berried females of a larger size. The hatching of the eggs is also spaced in time: younger females lose their eggs sooner than larger females which lose them in june. The number of 'parents' remains the same.

Avec 12 années de séries historiques de pêche, 6 années de données biologiques d'autoechantillonnage, le recul devrait être suffisant pour voir évoluer plusieurs cohortes et en final déterminer l'état du stock. Une simulation par le modèle VPA de rendements par recrue permettra de déterminer l'état du stock de homard de manière plus fiable. De même, diverses méthodes comme WKlife, C_{MSY} ou autres pourront également être testées.

12 years of historical fisheries data and 6 years of biological data through self-sampling should provide sufficient perspective to observe the evolution of several cohorts and to finally determine the stock status. A VPA model simulation of yield per recruit will enable to determine the lobster stock status in a more robust way. At the same time, various other methods such as WKLife, C_{MSY} or others can also be evaluated.

Condition 2 : IP 1.2.4- Evaluation du stock

The assessment of stock status is subject to peer review

Le score est de 75

Le rapport d'évaluation indique: The assessment report states :

Whilst stakeholders from both Basse Normandie and Jersey, including scientists, government representatives and fishermen, attend the Shellfish Working Group meetings, the assessment team concluded that the Shellfish Working Group could not be considered to provide a peer review of the assessment of stock status based on trends in LPUE and IAS. The development of the IAS does not appear to have been published in a peer-reviewed publication. The stock assessment does not appear to be regularly peer-reviewed through, for example, an ICES Working Group. A summary of the stock assessment was presented at the 2015 meeting of the ICES Working Group on the Biology and Life History of Crabs (WGCRAB), but currently this working group does not provide a peer review of stock assessments. The assessment team found no evidence that the assessment undergoes occasional or regular internal and external peer review and therefore the SG80 is not met and a condition is raised.

By the end of year 2, the fishery should demonstrate that there has been a peer review of the stock assessment.

A la fin de la deuxième année la pêcherie doit montrer qu'une revue de l'évaluation du stock par des experts tiers a eu lieu.

Plan d'Action C2 :

Dans les 2 ans suivant la ré-certification, il conviendra de trouver un expert pour la relecture de l'évaluation du stock, de s'assurer auprès de l'Ifremer que les résultats de l'évaluation du stock sont bien disponibles pour l'expert indépendant et en continu de récupérer toutes les données nécessaires à l'élaboration de cette évaluation.

Si l'évaluation de la pêcherie fait l'objet d'une publication scientifique dans les 2 ans à venir, la revue de l'évaluation du stock pourra être effectuée par un expert indépendant, membre du WGCRAB ou non, à partir de cette publication scientifique

In the two years following recertification, an expert to review the stock assessment should be found. IFREMER should be approached to make available the results of the stock assessment to the independent expert. The data collection programme should continue to enable this assessment.

If a paper on the stock assessment is published in the coming 2 years, the review will be carried out by an independent expert, WGCRAB member or not, on the basis of this publication.

Planning : le planning prévisionnel est décrit ci-dessous. The provision schedule is described below :

Année 1 (2017)	Action
1er semestre 1st 6 months	Interroger l'Ifremer (M. Laurans) pour savoir s'il y a possibilité de mettre la revue de l'évaluation du stock à l'ordre du jour de la prochaine réunion du WGCRAB en 2017 ou 2018, ou si une publication scientifique est en préparation, et si tel est le cas,

	demander le délai. Ask IFREMER (M. Laurans) whether it is possible to add the review of the stock assessment to the WGCRAB meeting agenda for 2017 or 2018 , or whether a paper is being prepared, and if so, what the timeline is.
2ème semestre 2nd 6 months	Choix de l'option retenue : - Revue lors du WGCRAB 2017 ou WGCRAB 2018 - expert individuel contacté et transmission des données - autres – publication scientifique par l'Ifremer Selection of the preferred option : - Review during WGCRAB 2017 or 2018 - contact expert and transmit data - others (scientific paper published by IFREMER)
Année 2 (2018)	
1er semestre 1st 6 months	Selon l'option retenue ; revue de l'évaluation du stock réalisée par l'expert ou par membres du WGCRAB 2017 ou 2018 ou suite à une publication scientifique Depending on the selected option : stock assessment review carried out by one expert or by WGCRAB 2017 or 2018 members, or following publication of scientific paper
Date JAC n°3 JAC nr 3	Présentation des résultats de la revue de l'évaluation Present results of review
Année 3 (2019)	
Année 4 (2020)	

Discussions du plan d'action Notes on action plan

Le groupe WGCRAB ne concernait jusqu'à présent que le suivi des crabes tourteau, le homard étant absent des évaluations depuis de nombreuses années. Le Groupe de travail réuni en novembre 2015 à Brest, a fait état des travaux en cours, mais ce groupe prévoit à partir de 2016 d'évoluer vers un groupe d'évaluation de stock de homard avec des échanges sur les méthodes d'évaluation et une analyse plus complète de ces méthodes en 2016 en Ecosse. Des publications pourront y être présentées, d'autant que Jersey participe à ce groupe.

The WGCRAB has recently only focused on monitoring of edible crab; lobster has not been assessed for a number of years. The working group convened in November 2015 in Brest and made note of the ongoing work; however the group plans from 2016 to evolve towards a lobster working group with exchanges on assessment methods and a more complete analysis of these methods in 2016 in Scotland. Publications will be presented, especially as Jersey participates in this group.

Condition 3 : IP 213- Suivi des espèces retenues (information) / Araignées de mer (Spider crabs)

Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator score or the operation of the fishery or the effectiveness of the strategy) Le score est de 75

Le rapport d'évaluation indique :

The team was, however, concerned about landings of spider crab from this fishery, which are not convincingly estimated by Basse Normandie – the overall tonnage is uncertain and it is also not clear what proportion comes from this fishery vs other pot fisheries vs netting vs trawls. Although the WGCRAB report for 2014 notes that Ifremer monitor the stock, no data on stock status trends could be found. On this basis, the team considered that SG80 is not met in full for spider crab.

By the end of year 4 the fishery should demonstrate that sufficient data are collected on spider crab such that any increase in risk to the stock from this fishery could be detected. This may take the form of a periodic evaluation of existing data, or, if suitable data do not exist, the development of some kind of monitoring, or some other appropriate procedure.
A la fin de la quatrième année la pêcherie doit montrer que la collection de données sur l'araignée est suffisante pour détecter une augmentation dans le risque pour le stock par cette pêcherie. Ceci peut comporter une évaluation périodique des données existantes, ou, s'il y n'a pas de données suffisantes, le développement d'un suivi ou d'une autre procédure.

Plan d'Action C3:

Dans un premier temps, il conviendra de recueillir toutes les informations et données relatives à la pêche aux araignées dans l'unité de certification afin entre autres de vérifier la proportion d'araignées issue de la pêche aux casiers, et plus précisément si possible, celles pêchées par les homardiers.

S'il est prouvé que les homardiers ne capturent que très peu d'araignées lorsqu'ils ciblent le homard, la condition est levée.

S'il n'est pas possible de montrer que les captures d'araignées par les homardiers ne sont pas négligeables, il faudra choisir les informations qui paraissent le plus pertinentes pour évaluer l'état de la ressource. Puis de recueillir les données choisies et de les suivre pour noter l'évolution du stock d'araignées en Baie de Granville. Une présentation des résultats sera faite annuellement lors du JAC.

First, all information and data on the spider crab fishery in the UoC should be gathered to among others determine the proportion of spider crabs caught in the trap fishery, and as precisely as possible, those caught in the lobster fishery.

If it is demonstrated that the lobster fishery catches only very few spider crabs, the condition is lifted.

If it is not possible to show that spider crab catches in the lobster fishery are not negligible, it will be necessary to select the information which is the most relevant for assessing the state of the resource. Those data would then be collected and monitored to determine trends in the spider crab stock of Granville Bay. A presentation of the results will be made annually at the JAC.

Planning : le planning prévisionnel est décrit ci-dessous / the provisional schedule is shown below :

Année 1 (2017)	Action
1er semestre 1st 6 months	Identifier les différentes sources de données de production relatives à la pêche de l'araignée en Baie de Granville (criées, log book, fiche pêche, suivi Ifremer, suivi des captures dans les cantonnements…) Sélection de quelques navires référents Identify different sources of production data for the spider crab fishery in Granville Bay (auctions, logbooks, fiches de peche, IFREMER data, data from closed areas…) Selection of reference fleet
2ème semestre 2nd 6 months	Recueil et analyses des données Suivi des prises d'araignées par les homardiers (navires référents), si possible. Collection and analysis of data Monitoring of spider crab catches in lobster fishery (reference fleet) if possible
Année 2 (2018)	
1er semestre 1st 6 months	Résultats des prises d'araignées sur navires référents : - option 1 : - de 5 % araignées capturées par homardiers : continuer uniquement le suivi sur bateaux référents - option 2 : > 5 % araignées capturées : choix de source de données pour estimer évolution du stock Reference fleet spider crab catch data results : - option 1 : if less than 5% of spider crabs caught in lobster fishery, continue monitoring reference fleet alone - option 2: if more than 5% caught: choose data source to monitor stock trends
2ème semestre 2nd 6 months	Mise en place du système de suivi et de revue, selon option retenue. Présentation du système et des résultats au JAC Depending on selected option, put in place monitoring and review programme Present programme and results at JAC

Année 3 (2019)	
En continu Ongoing	Recueil, suivi, analyse des données de l'option retenue Collection, monitoring, analysis of data depending on selected option
2ème semestre 2nd 6 months	Bilan et analyses des données suivies Summary and analyses of monitoring data
Année 4	
1er semestre 1st 6 months	Présentation du suivi au JAC Presentation at JAC

Discussion du plan d'action Notes on action plan

Le suivi des débarquements d'Araignée est disponible pour la France, la Baie de Granville, ainsi que la part de chaque métier par rectangle statistiques CIEM. Il semble que la pêche est issue en majorité du métier du filet dans le Golfe Normand Breton.

Un test pourra être effectué sur bateaux référents en regardant le % des AR pêchées en même temps que le homard. (+ ou – que 5% ?), on pourra même corréler cet aspect avec le prix de vente criée. Les données issus des cantonnements et des observations en mer pourront apporter peut être d'autres informations.

Pour Jersey les données sont disponibles depuis 2008, la pêche aux filets y était importante jusqu'à ce que la raie brunette soit interdite de pêche en 2009. Les navires se sont reportés sur le homard et la pêche des araignées a baissé énormément.

Monitoring data on spider crab landings are available for France, Granville Bay and the contribution of each fishing gear by ICES statistical rectangle is shown. It seems that most of the catches stem from nets in the Golfe Normand-Breton.

A test will be carried out on the reference fleet to determine the proportion of spider crabs fished in the lobster fishery (more or less than 5%?). This could even be correlated with the sale price at auctions. Data stemming from closed areas and observations at sea could provide other information.

For Jersey, data are available from 2008 onwards; the nets fishery was important in this area until catches of undulate ray were forbidden in 2009. The vessels then moved onto lobster fishing and catches of spider crab declined significantly.

Appendix 2. Peer Review Report

Overall Opinion

Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report?	Yes	Conformity Assessment Body Response
Justification: I fully agree with the assessment team's conclusion that the Normandy and Jersey lobster fishery should be re-certified. The conclusion is based on a well-written and comprehensive review of the available information on the fishery, its management and its ecological context. I agree with the conditions required for meeting the SG80 level for three Performance Indicators, relating to target reference point, quantifying risk to spider crab stocks and the need for peer review of the stock assessment. My comments below relate particularly to the first of these three topics, but should not affect the overall scores given.		*See response to detailed comments on conditions at the end of this document*

Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe?	Yes	Conformity Assessment Body Response
Justification: See additional sheet.		*At the end of this document.*

If included:

Do you think the client action plan is sufficient to close the conditions raised?	Yes	Conformity Assessment Body Response
Justification: **Condition 1. Target reference point consistent with B$_{MSY}$.** The client action plan specifies a review of lobster stock assessment methods and selection of appropriate index or indices in year 1, followed by analysis and monitoring of stock assessment results and stock status evaluation in year 2, and discussion at JAC on whether or not the reference points should be changed during year 3. This plan is consistent with Condition 1 and its closure over the required timescale, although details of approaches to be taken are somewhat sketchy. Notes 1-4 on the action plan are mainly looking back to the development of the existing reference points, without specifying the specific approach that will be taken to address the condition (although Note 3 indicates that the existing method has already been further developed in 2015). Note 5 and following text are more forward-looking, but extend beyond the simple requirements for demonstrating a reference point that shows a clear rationale for maintaining the stock at a		*The clients do not know as yet the details of what their approach will be – working that out is the first task in addressing this condition.*

level consistent with B_{MSY} or a measure with similar intent or outcome. The action plan refers to methods for data-limited stocks such as the C_{MSY} approach, as set out in a recent ICES workshop (WKLIFE V); this is a good idea for future development, provided that it does not distract from the immediate need for a biologically-justified reference point consistent at least in intent with B_{MSY}, which is likely to proceed from the starting point of the existing measure (IAS) and reference point.

A minor typographical note on the client action plan: in the first bullet point under Note 4 to Condition 1 it is stated that we know that stock recovery is possible *below* the seuil de danger level. This is incorrect: we know that stock recovery is possible *at or above* this level.

	Corrected

Condition 2. Peer review of stock assessment. The client action plan specifies consideration during year 1 of options for peer review of the stock assessment, including review within the ICES Working Group WGCRAB, an external expert or a scientific paper submitted for publication, and putting the selected option into action during year 2. This plan is realistic and appropriate, and should result in Condition 2 being closed over the required timescale. It is to be hoped that WGCRAB can evolve to accommodate the need for peer review of such stock assessments.

Indeed so, but the plan includes an alternative if WGCRAB cannot help.

Condition 3. Collection of data on spider crab. The client action plan specifies a four year programme of work involving identifying data sources, reference fleet monitoring, data collection, analysis and review and presentation to JAC. The plan is realistic and appropriate, and should result in Condition 3 being closed over the required timescale.

The clients have a good record of improving data and monitoring where required (as in this fishery, as well as for velvet swimming crab and other species).

Performance Indicator Review

Please complete the table below for each Performance Indicator which are listed in the Conformity Assessment Body's Public Certification Draft Report.

PI	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.1.1	Yes	Yes	NA	Evidence from LPUE/CPUE data and size compositions of commercial and survey catches convincingly demonstrates that stocks are well above the point of reproductive impairment (PRI). Although based on raw rather than standardised LPUE, for Jersey only, the limit reference point of 6 kg/100 pots is likely on the precautionary side of PRI for both Jersey and Basse Normandie fisheries and there can be no doubt that recent catch rates in both fishery components have been well above this level. SG100a is thus well justified. Annual values of the standardised index of abundance (IAS) have been above the upper trigger point of 1.0 since 2009. I would be tempted to suggest that this indicates a high degree of certainty that the stock has been above its target reference point in recent years, thus meeting SG100b. However, the assessment team interpret the target as	The assessment team has now included within the rationale a reference to the actions required to meet Condition 1 raised against PI 1.1.2.

PI	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
				being defined as a range *above* the trigger reference point rather than as a single value, and on this basis I am content that no higher than SG80b is warranted, particularly given that uncertainty around IAS values has not been quantified (or at least is not presented in Figure 14). I note that this is not so much a matter of the reference point being relatively new as being not precisely defined. In the absence of either an explicit target value or an estimate of the probability that an annual IAS value is above the trigger reference point, it is difficult to provide an objective assessment of certainty about stock status in relation to its target condition. Actions to meet Condition 1, raised in response to PI1.1.2, provide the opportunity to address this issue, and it would be helpful to make this linkage clear both in the rationale for PI1.1.1 and the text of Condition 1.	True – rationale edited A reference has been added in the rationale for 1.1.1b and the rationale for Condition 1.

PI	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
1.1.2	Yes	Yes	Yes	The rationale provides a clear justification that reference points based on time-series of catch data are appropriate for a crustacean fishery of this nature (SG80a), and that the limit reference point is set above the level at which there is any appreciable risk of impairing reproductive capacity (SG80b). Given that the limit reference point is based on an unstandardised catch rate, it is also clear that consideration of precautionary issues is missing, thus SG100b is not met (a non-binding recommendation on standardisation for seasonal, area and vessel effects could be considered here). The rationale also sets out a clear account of the short-comings of the target reference point, for which no clear biological justification is given, thus failing to meet SG80c. Condition 1 is triggered by this Scoring Issue, and is appropriately defined. I would also highlight that the trigger value of IAS=1.0 (and hence target range above this value) is very different between Jersey and Basse Normandie in terms of absolute LPUE. It is not clear whether this is a result	The observation that the trigger value of IAS=1 is very different between Jersey and Basse Normandie in terms of absolute LPUE has been noted in the condition.

PI	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
				of fishing practices (such as the greater use of parlour pots in Jersey), catchability differences (e.g. related to habitat) or fishery productivity. Being based on Jersey catch rates, higher than in Basse Normandie, the limit reference point can be justified as being precautionarily high for the latter, but it then seems inconsistent to provide a trigger value that differs between the areas in absolute terms. Actions to meet Condition 1 should address this issue effectively, but it would be worth highlighting it in the text of the condition so that it can explicitly be considered.	
1.1.3					
1.2.1	Yes	Yes	NA	It seems a little harsh to penalise the harvest strategy for having evolved over time rather than being designed from scratch (SG100a), but I take the point that it is still a little too heterogeneous to be considered as a designed management system. Scores on all other scoring issues are well justified in	The assessment team agrees with the reviewer that the score for SIa is appropriate and no changes to the scores are considered necessary.

PI	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
				the rationale.	
1.2.2	Yes	Yes	NA	Scoring and rationales reflect the impressive nature of the harvest control rules, failing to meet SG100c only because their recent implementation does not provide the opportunity to demonstrate directly that the tools have reduced exploitation rates in response to changes in stock status.	No response required
1.2.3	Yes	Yes	NA	Scoring is appropriate, fully justified by the rationales. I support the non-binding recommendation that data from all the monitoring programmes should be fully analysed and the results made available to all fishery stakeholders.	No response required
1.2.4	Yes	Yes	Yes	Scoring is appropriate, fully justified by the rationales. Condition 2, which addresses the lack of peer review (scoring issue e), is appropriate. Opening sentence of the rationale for scoring issue a should be made less sweeping (e.g. "As with all fisheries for	The assessment team has added a recommendation that approaches to estimating uncertainty around the IAS scores should be developed.

PI	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
				European lobsters…"), as biomass estimates are available for some other exploited lobster species. Under scoring issue c, it could be noted that uncertainty around the IAS scores could be expressed, based on standard statistical or computer intensive (e.g. bootstrapping) approaches (see my comment under PI 1.1.1). Consider making a non-binding recommendation to this effect.	Corrected
2.1.1	Yes	Yes	NA	Scoring is appropriate and justified by the rationales. Spider crab appears to be the main issue of concern, but I note that this is picked up in Condition 3 relating to PI 2.1.3. Is it possible to strengthen the justification for considering the partial strategy of management measures to be 'demonstrably effective' (SG80c)? Whilst I have no doubt that the scoring is correct, I am left uncertain about how the effectiveness of the management measures has been demonstrated.	Arguing that management is 'demonstrably effective' in the context of the entire stock is problematic, we agree, because there is no stock assessment, although also anecdotally no evidence of any declining trends in the fishery (which is, however, highly variable from year to year). However, here, we need to argue rather that the fishery in assessment here is demonstrably not having an impact on the stock, or that such an impact is highly unlikely. The argument hinges on two elements: management measures for the entire stock (mainly

PI	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
					the minimum size which leaves a proportion of the mature stock unfished); and the contribution of this fishery to total landings, which is somewhere less than 13% (proportion taken by all pot fisheries as estimated by Ifremer). On this basis, the team considered that despite the lack of a stock assessment, it was demonstrably reasonable to support that the impact, if any, is minor. The rationale has been expanded somewhat to make this more clear.
2.1.2	Yes	Yes	NA	Scoring is appropriate, and fully justified by the rationales.	No response required
2.1.3	Yes	Yes	Yes	Scoring is appropriate, and fully justified by the rationales. A survey index for red gurnard is not available after 2011, and uncertainty about landings and discards of this species mean that there is no ICES advice on management, thus there is little	No response required

PI	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
				context against which bait quantities can be compared. The assessment team make the case that use of the species as bait in the lobster fisheries have no influence on fishing effort on red gurnard. In this light, I agree with the approach taken by the assessment team which is to consider the information available on gurnard as adequate to determine the risk posed by the lobster fisheries. I also agree with the focus put on uncertainties about impacts on spider crab, causing SG80d not to be met for this species. Condition 3 is appropriate and should ensure that SG80 is met for this PI by the end of year 4.	
2.2.1	Yes	Yes	NA	There are no main or minor bycatch species.	No response required
2.2.2	Yes	Yes	NA	There are no bycatch species.	No response required
2.2.3	Yes	Yes	NA	There are no bycatch species.	No response required

PI	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
2.3.1	No	Yes	NA	Scoring is appropriate, and justified by the rationales. However, given that this is a recognised issue for other pot fisheries (e.g. http://www.smru.st-and.ac.uk/documents/347.pdf) it would be good to include a note about probability of whale entanglement with gear, even if this is just to say that no such interactions have been reported and that large cetaceans such as minke whales are rarely recorded in Jersey or Basse Normandie waters (if indeed this is the case). I note that this issue is mentioned under PI 2.3.3, but it would be appropriate to include in the rationale for scoring issue c under this PI as well (or instead).	Added
2.3.2	Yes	Yes	NA	There are no records of interactions with ETP species.	No response required
2.3.3	Yes	Yes	NA	Scoring is appropriate, and fully justified by the rationale.	No response required

PI	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
2.4.1	Yes	Yes	NA	Scoring is appropriate, and fully justified by the rationales.	No response required
2.4.2	Yes	Yes	NA	Scoring is appropriate, and fully justified by the rationales. I agree with the assessment team's view that the fishing method constitutes an effective strategy for avoiding habitat impacts, but with a lack of specific evidence to support SG100.	No response required
2.4.3	Yes	Yes	NA	Scoring is appropriate, and fully justified by the rationales.	No response required
2.5.1	Yes	Yes	NA	Scoring is appropriate, and fully justified by the rationale.	No response required
2.5.2	No	No	NA	Under scoring issue c, the guidepost for SG100 is not the same as for SG60, as stated. SG100c requires prior experience or information from the fishery/ecosystems involved to justify that measures are likely to ensure ensure the fishery does not pose a risk to ecosystem structure or function. This	Not so – the SG as worded requires prior experience OR plausible argument OR information from the fishery/ecosystem. Nevertheless, we agree that the reviewer's interpretation is MSC's intent - we put this comment in to highlight what is in our view very

PI	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
				experience or information should be explicitly stated in the rationale, otherwise SG80 should be score for this scoring issue.	unsatisfactory wording and it is good to see that someone noticed! It has been removed, the point being made. In terms of the scoring, the team concluded that SG100 is not met, and the score was reduced to 85.
2.5.3	Yes	Yes	NA	Scoring is appropriate, and fully justified by the rationales.	No response required
3.1.1	Yes	Yes	NA	Scoring is appropriate and justified by the rationales, but in relation to guidepost d there should be some mention of how the mechanism for commiting to legal and customary rights is consistent with MSC Principles 1 and 2.	Added.
3.1.2	Yes	Yes	NA	Scoring is appropriate, and fully justified by the rationales.	No response required
3.1.3	Yes	Yes	NA	Scoring is appropriate, and fully justified by the rationale.	No response required

PI	Has all the relevant information available been used to score this Indicator? (Yes/No)	Does the information and/or rationale used to score this Indicator support the given score? (Yes/No)	Will the condition(s) raised improve the fishery's performance to the SG80 level? (Yes/No/NA)	Justification Please support your answers by referring to specific scoring issues and any relevant documentation where possible. Please attach additional pages if necessary.	Conformity Assessment Body Response
3.1.4	Yes	Yes	NA	Scoring is appropriate, and fully justified by the rationale.	No response required
3.2.1	Yes	Yes	NA	Scoring is appropriate, and fully justified by the rationales.	No response required
3.2.2	Yes	Yes	NA	Scoring is appropriate, and fully justified by the rationales.	No response required
3.2.3	Yes	Yes	NA	Scoring is appropriate, and fully justified by the rationales.	No response required
3.2.4	Yes	Yes	NA	Scoring seems appropriate and justified by the rationale, but it could be made clearer why SG100b is not met. Presumably this relates to public availability of the research plan and results, in which case it would be helpful to specify the limitations placed on what is made publicly available.	Some more information is added. The team did not consider that information is 'widely and publically available' – this would require, for example, a website where reports can be downloaded by the public.
3.2.5	Yes	Yes	NA	Scoring is appropriate, and fully justified by the rationales.	No response required

Any Other Comments

Comments	Conformity Assessment Body Response
This is clearly a well-managed fishery that deserves to be re-certified. The assessment team rightly identifies three main areas where there is scope for improvement, as specified in the formal conditions. I would like to offer a little amplification with regards to the first of these, namely reference points. Condition 1 and the client action plan are sufficient for addressing issues relating to definition of a target, although the action plan is short on details about how this will be approached in the immediate term. The action plan does set out a valuable agenda for longer term actions, but whilst it is clear that the planned work will provide good scientific underpinning for sustainable fishery management, I have some concerns that the most immediately necessary steps involving analysis of time-series of catch rate data (and potentially other stock indicators) could become lost in a drive towards strict conformity to MSY-related quantities (and their proxies). I would make a distinction here between, on the one hand, both direct B_{MSY} estimates and proxies that stand in place of these estimates, and on the other hand, measures which are similar in intent. It seems to me that, although the biological justification or intent has not been stated, the current approach involving a trigger value of IAS=1.0 is aligned with the second category. There is no conceptual problem with the idea of a reference point couched in terms of an average standardized abundance index that indicates a condition of stock productivity represented in the historic time-series. The issues are (i) deciding on the productivity condition to be indicated and how this condition is used in status determination (the 'intent'), and (ii) showing evidence from the time-series that this condition truly is represented by the value selected. It is, of course, entirely up to the client to decide how to address Condition 1, but I suggest that the wording of the condition is re-visited to make certain that it is made clear to the client that options of intent are not limited to direct values or explicit proxies (e.g. per recruit-based or catch-based proxies) for MSY-related quantities. On a related note, I would like to offer two non-binding recommendations that could be considered: (i) to standardize the limit reference point for vessel, seasonal and area effects, for more consistent comparison with standardized abundance indices; (ii) to consider how to represent uncertainty around standardized abundance indices, to aid in probabilistic determination of stock status.	We note the peer reviewer's comments on the Client Action Plan, and we believe that the client will find them helpful. The assessment team has added a sentence to Condition 1 highlighting that the MSC recognises that there is considerable flexibility in the definition of measures that are considered to be of similar intent to Bmsy However it is not the role of the assessment team to prescribe what action the client should take in meeting the condition. The assessment team has accepted the peer reviewer's suggestions to add recommendations on standardization of the limit reference point, and considering uncertainty around the standardized abundance indices (IAS).

Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe?

<u>Condition 1. Target reference point consistent with B_{MSY}</u>. The condition requires that, by the end of year 3, the fishery should be able to demonstrate a reference point that shows a clear rationale for maintaining the stock at a level consistent with B_{MSY} or a measure with similar intent or outcome. This addresses the fact that the current upper reference point, which acts to maintain the stock at an index of abundance (standardized LPUE) within a target range above the reference point (trigger) level, appears not to have a biological basis. Instead, it is based on the arbitrary choice of the abundance index value for 2007 as the triggering level. As I understand it, primarily what is required is this biological justification – an explicit statement of the intent behind the choice of reference point – rather than necessarily a change of reference point, although a full review of available information may well lead to such a change.

Team response: Correct

The condition specifies first that methods for measuring productivity of the Jersey and Basse Normandie lobster stocks should be evaluated, and then that it should be considered whether or not the existing trigger reference point is consistent with the aim of maintaining the stock at a consistently productive level, followed by revision of the reference points if necessary.

The condition is reasonable and appropriate, and if the specified actions are undertaken the fishery should certainly achieve the SG80 outcome within the required timeframe. However, it may be helpful to include some additional considerations within the text of the condition:

(i) The condition does mention alternatives to estimation of B_{MSY} *per se* ("…estimation of B_{MSY} or … another surrogate or proxy measure"), but I think it could be made clearer that there can be considerable flexibility in how a measure similar in intent to B_{MSY} can be defined. For example, an abundance index averaged over an historic period of sustained and relatively stable productivity, could provide an acceptable target. This is certainly consistent with my reading of the intent of the condition, but without further elaboration I believe there is a danger that the client could make an over-literal interpretation of requirements in relation to actual estimation of B_{MSY} (see my additional comments below).

Team response: The point is well made; we are not allowed to be prescriptive in how a condition is met (hence the general language around 'another surrogate or proxy measure') but at the same time it is important that the client understand the requirements. It is trickier still in this case since one of the two clients is francophone rather than anglophone. We have added into the condition wording (in both languages) a comment noting that the MSC recognises that there is considerable flexibility in the definition of measures that are considered to be of similar intent to Bmsy. There have also been verbal discussions with the clients on all the conditions, including this one, of course.

(ii) The trigger reference point is based on the abundance index for 2007 for both Basse Normandie and Jersey, which is the same value of IAS=1.0, but very different between the areas in absolute terms. Clearly, there must be a difference in either level of stock depletion, catchability per trap or stock productivity. The choice of reference point implies that either catchability or productivity differences are assumed, but clearly the implications are very different if the contrast in 2007 catch rates is a result of differing states of exploitation. Although it may not be possible to find an unequivocal answer using available information, the issue should be highlighted to the client as needing to be explored as part of the evaluation of options for measuring stock productivity during year 1. If it can be demonstrated that Basse Normandie and Jersey have periods of relatively stable sustained productivity, albeit at different levels, this may provide enough justification for a difference in absolute value of the reference point. Note that this would still be inconsistent with the single (Jersey-based) value of the limit reference point.

Team response: This has been added to the rationale for 1.1.2c and noted in the condition wording.

(iii) The abundance index is derived from a statistical model fitted to commercial LPUE data. It would be worth highlighting to the client that it would be possible to characterize uncertainty around annual IAS values, which would facilitate probabilistic statements about stock status in relation to reference points, e.g. relevant to PI 1.1.1a and PI 1.2.4c. The GLM approach used for standardizing LPUE should provide the basis appropriate confidence intervals around IAS values, or else computer intensive methods such as bootstrapping should be possible. A non-binding recommendation on this consideration may be more appropriate than including within the text of Condition 1.

Team response: A recommendation has been added, linked to PI 1.2.4, as suggested by the reviewer.

Condition 2. Peer review of stock assessment. The stock assessments have never been peer reviewed. The condition requires that peer review options be evaluated and a peer review be undertaken by the end of year 2. This condition is appropriate and proportionate, and should result in the SG80 level being achieved for PI 1.2.4 by the end of year 2.

Condition 3. Collection of data on spider crab. The condition addresses concerns that landings of spider crab by the Basse Normandie fishery are not convincingly estimated. The condition requires that, by the end of year 4, sufficient data should be collected for detection any increase in risk to the stock posed by the lobster fishery, and sets out a stepwise approach to evaluating current and historical data sources and developing any new monitoring protocols that may be required. The condition is clear and appropriate and should result in the SG80 level being achieved for PI 2.1.3 by the end of year 4.

Appendix 3. Stakeholder submissions

No written stakeholder submissions were received prior to the publication of the Public Comment Draft Report. Verbal submissions received during the site visit focused on the provision of information and no concerns were raised about the fishery under assessment.

(REQUIRED FOR FR AND PCR)

1. The report shall include all written submissions made by stakeholders about the public comment draft report in full, together with the explicit responses of the team to points raised in comments on the public comment draft report that identify: a. Specifically what (if any) changes to scoring, rationales, or conditions have been made. b. A substantiated justification for not making changes where stakeholders suggest changes but the team makes no change. *(Reference: FCR 7.15.5-7.15.6)*

Appendix 4. Surveillance Frequency

1. The report shall include a rationale for any reduction from the default surveillance level following FCR 7.23.4 in Table 4.1.
2. The report shall include a rationale for any deviations from carrying out the surveillance audit before or after the anniversary date of certification in Table 4.2
3. The report shall include a completed fishery surveillance program in Table 4.3.

Table 4.1: Surveillance level rationale

Year	Surveillance activity	Number of auditors	Rationale
e.g.3	e.g.On-site audit	e.g. 1 auditor on-site with remote support from 1 auditor	e.g. From client action plan it can be deduced that information needed to verify progress towards conditions 1.2.1, 2.2.3 and 3.2.3 can be provided remotely in year 3. Considering that milestones indicate that most conditions will be closed out in year 3, the CAB proposes to have an on-site audit with 1 auditor on-site with remote support – this to ensure that all information is collected and because the information can be provide remotely.

Table 4.2: Timing of surveillance audit

Year	Anniversary date of certificate	Proposed date of surveillance audit	Rationale
e.g. 1	e.g. May 2014	e.g. July 2014	e.g. Scientific advice to be released in June 2014, proposal to postpone audit to include findings of scientific advice

Table 4.3: Fishery Surveillance Program

Surveillance Level	Year 1	Year 2	Year 3	Year 4
e.g. Level 5	e.g. On-site surveillance audit	e.g. On-site surveillance audit	e.g. On-site surveillance audit	e.g. On-site surveillance audit & re-certification site visit

Appendix 5. Objections Process

(REQUIRED FOR THE PCR IN ASSESSMENTS WHERE AN OBJECTION WAS RAISED AND ACCEPTED BY AN INDEPENDENT ADJUDICATOR)

The report shall include all written decisions arising from an objection.

(Reference: FCR 7.19.1)

Appendix 6. Vessels included in the UoA

Basse Normandie vessels:

Vessel	Registration	Length (m)	Gear
A TOI DE JOUER	518,418	10.36	Pots
BALBAYA	922241	7.52	Pots
BELLE EPOQUE	638,760	9.20	Pots
BOUKALOT II	613,692	11.98	Pots
BRISE LAME 2	922,544	6.15	Pots
CAP LIZARD	918,522	10.95	Pots
CAP NORD	930,532	9.30	Pots
CARNIQUET 2	922,373	7.40	Pots
CAUSE TOUJOURS	922,452	6.77	Pots
C'EST L'AMERIQUE	925,064	8.00	Pots
CHALLENGER	776,202	6.50	Pots
CHEZ WAM	922,428	8.10	Pots
CRABUCSEI	929,821	8.10	Pots
CREPUSCULE	316,701	9.31	Pots
CYMALISE II	879,303	7.10	Pots
DEA MARIS	589,668	7.50	Pots
DEFI III	931,912	6.99	Pots
DOBERMAN	922,567	7.40	Pots
DOM KHA	878,369	6.50	Pots
DU CALME	711,086	6.74	Pots
EMILIEN MATHILDE	922,402	7.40	Pots
ER HUVE VAD	292,648	8.41	Pots
FAUSSETTE	775,504	6.80	Pots
FILS DU VENT	922,393	11.17	Pots
FLECHE	517,640	7.40	Pots
GASTIBELZA	510,092	7.50	Pots
GAVROCHE 2	922,378	11.56	Pots
GERLEAN	681,985	9.00	Pots
GRAIN DE SEL	638192	8.10	Pots
GUILLAUDE	922,403	7.40	Pots
IXIA 2	931911	8.73	Pots
JOKER	775,898	11.98	Pots
KERSTIMAEL	922,430	7.40	Pots
LA BETE A BON DIEU 2	922,502	8.12	Pots
LA LICORNE	763,753	7.52	Pots
LA PROVIDENCE	922,471	8.26	Pots
LA SARCELLE	734,081	11.00	Pots
L'ALBATROS	775,901	11.98	Pots
L'AMI SINCERE	923,117	11.90	Pots

L'ARC EN CIEL II	922598	7.12	Pots
LAURINE CLEMENCE	925,084	7.09	Pots
L'AY	775872	6.00	Pots
LE BLEIZ MOR	638,753	9.95	Pots
LE CEOL II	930,262	7.99	Pots
LE CHOUTIK	648700	6.80	Pots
LE KLABOUTER II	925,093	7.40	Pots
LE P'TIT ROBERT II	922,564	7.25	Pots
LE RESCATORE	922,499	7.97	Pots
L'EQUINOXE	775,925	10.45	Pots
LES ANTILLES	590,401	10.00	Pots
L'INSOMNIE	590,364	7.70	Pots
L'IRIS DE SUZE	714,399	9.00	Pots
L'OMERTA	917,408	11.81	Pots
LOOPING	579931	9.00	Pots
MA FE DES ILES	659,690	8.05	Pots
MABER MOR	633284	7.20	Pots
MANOLA	449,426	8.00	Pots
MARIA LUCA	922,384	9.01	Pots
MOUNABLUE 2	922,400	8.12	Pots
NAUSITHOE	925,094	8.20	Pots
NINJA 2	925083	7.99	Pots
NJORK	827,481	9.95	Pots
NOTIJU	930,264	8.20	Pots
OHEME	639,150	6.80	Pots
ONYX	795,044	11.96	Pots
PAO II	922,562	8.25	Pots
PASSAGER DU VENT	590380	7.70	Pots
PEPEE	775,589	11.34	Pots
PEPEM 2	922,469	6.70	Pots
PEQUERESSE	338317	8.70	Pots
PETITE LAURA	643,489	9.44	Pots
PETITE MARION	922,431	8.33	Pots
PETITE PRINCESSE 2	922,494	7.36	Pots
PHELYA	922447	6.23	Pots
PIRATE DES MERS 2	922,467	7.37	Pots
PIRHANA	735,995	11.99	Pots
PITOU FAITE II	922,391	6.50	Pots
Pt JN	922,383	8.49	Pots
QUO VADIS	627,959	8.20	Pots
REBELOTE	449,836	6.10	Pots
REGINA MARIS	460,509	9.80	Pots
ROSE DES CHAMPS II	925,078	10.80	Pots
ROUGI DU SEE	638,781	6.35	Pots

SAINT EDOUARD	775484	8.60	Pots
SAINT PHILIPPE	476284	9.00	Pots
SANTA MARIA	638750	9.95	Pots
SI ON CHANTAIT	922,565	8.10	Pots
SPARTIATE	711,421	9.10	Pots
TETHYS	689,146	7.58	Pots
WILLIAM MARINE	783,442	11.00	Pots
YODEMA	716503	8.28	Pots
YVES GUY	929,784	7.99	Pots
ZELIE	775,760	9.24	Pots

Jersey vessels:

Vessel	Port Letters	Length (m)	Gear
ABBA II	J407	5.78	Pots
AIGRETTE	J114	6.6	Pots
ANN VIRGINIA	J204	10.73	Pots
ANNE LOUISE	J321	4.98	Pots
AQUARIUS II	J307	9.1	Pots
AQUASPORT	J657	4.88	Pots
AURIGA	J008	5.68	Pots
BALLISTIC	J171	8.23	Pots
BANANA SPLIT	J357	6.86	Pots
BASS FISHER	J24	4.87	Pots
BELLE BIRD	J033	8.66	Pots
BLACK KNIGHT	J531	6.9	Pots
BLUE BELLE	J150	5.75	Pots
BONNE PECHE	J041	6.85	Pots
BRAMA	J013	7.01	Pots
BRETTANE	J214	5.8	Pots
CARMEN	J005	4.78	Pots
CAROL ANN	J559	5.49	Pots
CAROLE G	J049	9.55	Pots
CASTLE LIGHTS	J067	9.1	Pots
CONTENDER	J004	7.5	Pots
CYNTHIA MARY	J038	10.2	Pots
DAN-JOHN	J658	5.1	Pots
DAWN HUNTER	J252	5.73	Pots
DAWN LIGHT	J148	7.1	Pots
DEN-MAR	J076	8.03	Pots
DUSTY BIN	J135	9.13	Pots
DUSTY BIN	J135	9.13	Pots
EMMAJEN	J057	4.65	Pots
FISH TAILS	J095	3.94	Pots
FOU DE BASSAN	J035	7.9	Pots
GEMINI	J325	4.9	Pots
GOLDEN GRAIN	J485	11.58	Pots
GREY DAWN	J208	8.05	Pots
GRIZZLY	J200	4.98	Pots
HANNAH LOUISE	J104	9.67	Pots

HERITAGE	J073	9.98	Pots
HOMARD	J602	7.72	Pots
INVINCIBLE	J211	6.58	Pots
ISLE JERSEY	J059	4.62	Pots
IZZIE	J375	4.85	Pots
JADE S	J401	8.05	Pots
JAN FISHER	J006	6.52	Pots
JASON II	J180	5.58	Pots
JESSIE	J292	4.5	Pots
JILLMAR	J317	3.75	Pots
JUCLO	J350	4.2	Pots
KESTREL II	J273	4.85	Pots
KIRSTY LIN	J064	9.99	Pots
KONI	J122	4.48	Pots
LA CRISE	J060	8.16	Pots
LOUIS MARIE	J167	6.57	Pots
LOUISE MAY	J229	5.8	Pots
LOUP DE MER	J455	9.95	Pots
LOYAL FRIEND	J079	7.39	Pots
LUCUIS	J279	5	Pots
MARGARET WILLIAM II	J274	5.8	Pots
MARIA	J437	5.5	Pots
MASTER B	J121	4.4	Pots
MASTER B	J121	4.4	Pots
MATAURI BAY	J045	7.38	Pots
MAVERICK II	J094	10.73	Pots
MINUIT	J002	6.6	Pots
MY JEM	J159	9.95	Pots
OCEAN DANCER	J072	5.78	Pots
OUTRAGE	J238	4.83	Pots
PEDRO	J231	3.77	Pots
PERSEVERANCE	J649	6.27	Pots
PETER MICHAEL	J109	9.77	Pots
PETIT MOUSSE II	J399	7.4	Pots
PIERRETTE	J025	4.87	Pots
QUEQUEG	J022	6.42	Pots
RAE OF HOPE	J224	6.8	Pots
RIPTIDE	J145	6.98	
SABOT	J275	4.25	
SACRE BLEU	J494	5.78	
SARAH ANN	J280	5	
SAUCY SUE	J112	6.98	
SEA KING	J194	5.28	
SEA TONIC	J084	4.5	
SEABASS	J419	5.79	
SEAFORTH	J058	7.96	
SEASHELL	J284	5.49	
SENGALOU	J027	4.9	
SENIOR MOMENT	J177	6.53	
SENIOR MOMENT	J177	6.53	
SHALLOW WATERS	J323	7.31	
SHARANDAN	J620	5.32	
SHARKIE TOO	J569	10.39	

SHARNIC	J389	5.4	
SHYLOCK	J388	5.72	
SKYE	J490	5.8	
SOIXANTE NEUF	J069	8.88	
SUSIE TOO	J130	4.93	
SYLVIES DAWN	J017	3.74	
SYLVIES GRACE	J011	7.57	
SYLVIES JOY	J053	8.72	
T J ROCKHOPPER	J127	5.8	
TELSTAR II	J077	4.5	
THE GAMBLER	J028	6.5	
THE KRAKEN	J170	7.56	
THE SHILLING	J164	5.05	
TICKETY TWO	J342	5.78	
TIME N TIDE	J021	8.85	
WAVE RIDER	J479	5.05	
WHITE LADY	J003	7.97	
WHITE WATERS	J100	9.75	
ZEBEC	J209	7.78	
ZEUS FABER	J082	7.01	