

Marine Stewardship Council (MSC) Year 1 Surveillance Report

Basse-Normandie Granville Bay Whelk Fishery

**On behalf of the Comité Régional des Pêches Maritimes et des
Elevages Marins de Normandie**

Prepared by

Control Union Pesca Ltd

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1 General summary

Fishery name	Basse Normandie Granville Bay whelk fishery		
Unit(s) of assessment	<p>Species: Whelk (<i>Buccinum undatum</i>)</p> <p>Geographical range: Granville Bay (Basse-Normandie exclusive zone in West Cotentin, plus shared Normandy/Brittany/Jersey zone as defined under the Granville Bay Treaty, plus zones A, B and C as defined under the Granville Bay Treaty for those Normandy vessels with the rights to fish in those areas).</p> <p>Method of capture: whelk pot</p> <p>Stock: Granville Bay</p> <p>Client group: Whelk fishermen from West Cotentin, Basse-Normandie, i.e. those with a current whelk permit issued by the CRPM-Normandie.</p> <p>Other eligible fishers: None</p>		
Date certified	13 Sep 2017	Date of expiry	12 Sep 2022
Surveillance level and type	Surveillance level 6, onsite audit.		
Date of surveillance audit	25 Feb 2019		
	Note: the site visit was delayed in order to align with the Normandy and Jersey lobster fishery year 2 surveillance audit (which was itself delayed in order to bring the audit in line with the Joint Advisory Committee meeting in Granville) to mitigate travel costs for the client and to improve accessibility to local stakeholders.		
Surveillance stage (tick one)	1st Surveillance	X	
	2nd Surveillance		
	3rd Surveillance		
	4th Surveillance		
	Other (expedited etc)		
Surveillance team	Lead assessor: Chrissie Sieben Assessor(s): Julian Addison		
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	Contact name(s)	Véronique Legrand (CRPM), Dominique Lamort (NFM)

2 Background

This report outlines the process and outcome of the first annual surveillance audit for the Basse-Normandie Granville Bay Whelk Fishery.

The client for this assessment is the Comité Régional des Pêches Maritimes et des Elevages Marins de Normandie (CRPM-N), with the certification process managed by Normandie Fraicheur Mer (NFM). The Unit of Certification (UoC) for this fishery is defined as whelk fishermen from West Cotentin, Basse-Normandie, i.e. those with a current whelk permit issued by the CRPM, targeting whelks with whelk pots ('casiers bulot') in Granville Bay. The Granville Bay area is shared between Normandy, Brittany and Jersey, with a system of co-management in place for shared areas based on the Granville Bay Treaty. No other eligible fishers have been identified.

The fishery is only open to vessels <12m length and is based around day trips which all take place inside 12 nautical miles. In Basse-Normandie, whelks are caught in coastal waters at depths shallower than 30-40m between Diélette and Granville as far as around Jersey.

The fishery was certified by ME Certification Ltd (MEC) on the 13th September 2017 with five conditions and one recommendation, as indicated in Table 1 and Table 2. Progress against the conditions and recommendation is further discussed in Section 4.

Table 1. Summary of Assessment Conditions prior to the Year 1 Surveillance Audit

Condition number	Performance indicator (PI)	Status	PI original score	PI revised score
1	1.1.2 - By the end of Year 3, the limit reference point should be set above the level at which the reproductive capacity of the stock is impaired.	Open	75	N/a
2	1.2.3 - By the end of Year 4, there should be a review of the data being used to monitor the fishery and stock status, with an appropriate statistical analysis carried out to try as far as possible to reduce uncertainties associated with external variability or spatial variability in stock structure and dynamics and fishing pressure. The analysis may be used to inform future data gathering, such that data is gathered following a suitable statistical methodology where possible.	Open	75	N/a
3	1.2.4 - By the end of Year 3, the stock assessment approach should be peer-reviewed.	Open	75	N/a
4	3.2.1 - By the end of Year 3, there need to be explicit management objectives for both Principle 1 (stock) and Principle 2 (ecosystem). They do not have to be expressed in terms of stock biomass, but should be consistent with keeping the stock at a level of high productivity. The objectives could be at the level of the Basse-Normandie fishery or at the Granville Bay level.	Open	60	N/a
5	3.2.4 - By the end of Year 2, a formal research plan as a framework for guiding research should be prepared and adopted	Open	70	N/a

Table 2. Summary of recommendations prior to the Year 1 Surveillance Audit

Nb	Recommendation	Status
1	The team recommends that any lost whelk pots be reported on so that this can be monitored by the CRPM-BN/SMEL and any increase in risk to habitat structure and function can be determined	Open

2.1 Principle 1

The Basse-Normandie Granville Bay whelk fishery is a coastal fishery targeting whelks with pots (*casiers*) at depths of less than 30-40 metres. The region is at the southern edge of the whelk's geographical range and catches are lower in August and September as whelks burrow to shield from higher water temperatures.

The overall harvest strategy is to continue with gradual reduction of effort in the fishery, and to monitor the fishery both biologically and economically and to reach a point at which stakeholders agree that an appropriate balance between biological sustainability and economic return has been found. Elements of that strategy include limitations on fishing effort through a licensing scheme which is coupled with a license reduction programme, pot limits based on the number of crew, weekend closures, maximum vessel size, daily catch quotas based on the number of crew, a minimum landing size of 45mm, and a mandatory 22mm sorting grill on board the vessel. All vessels complete mandatory logbooks (*fiches de pêche*) and the fishery is monitored further through landings declarations, sales notes, a self-sampling scheme in the reference fleet and an observer programme. There have been no changes to the harvest strategy since the fishery was certified in 2017.

Basse-Normandie accounts for the majority of whelk landings from Granville Bay. However, Jersey and Brittany have small fisheries which may overlap, with the latest overall landing figures given in Table 3.

Table 3. 2017 Granville Bay whelk landings

Region	Tonnes	% of total
Basse-Normandie (Manche Ouest)	6,066	60
Brittany	3,627	36
Jersey	46	4

2.1.1 Vessel numbers

The strategy of gradual reduction of fishing effort has seen the number of licences decline from 80 in 2008 to 69 in 2017, of which there were 58 vessels actively fishing (Figure 1). The number of licences has fallen again to 68 in 2018 and 67 in 2019. The average length and kW power of the vessels has not changed significantly over the last 10 years (Veronique Legrand, CRPM Normandie, pers. comm.).

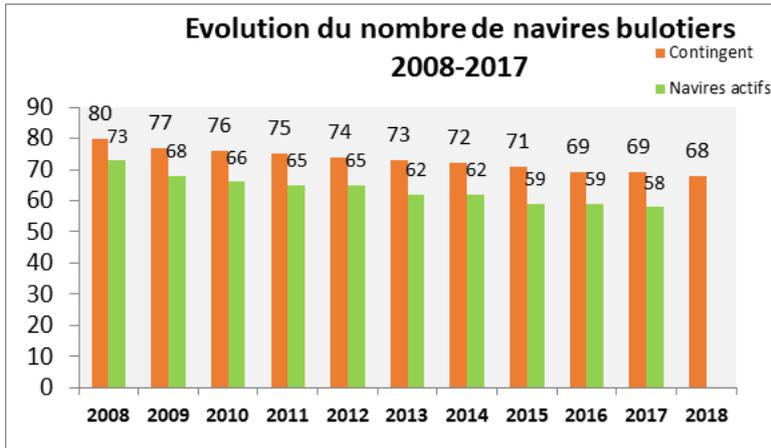


Figure 1. Number of licences and active vessels in the Normandie-Manche Ouest whelk fishery from 2008 to 2018. (Source: CRPM Normandie).

2.1.2 Landings

The fishery started in the mid-1970s and expanded throughout the 1980s, reaching a peak in 2000 to 2002 when estimated landings were 12,000 tonnes (Gascoigne et al., 2017). Since 2002 landings in the UoC have declined and have stabilised around 6000 tonnes since 2009 (Figure 2 and Figure 3). Landings data are collated from logbook records by both the CRPM (Figure 2) and by IFREMER (Figure 3), both of which show relatively stable landings in recent years. The CRPM data are generally higher than the IFREMER data and are considered to be more reliable as IFREMER compiles landings data only from “selected representative” vessels. For example, in 2017 IFREMER data were collated from 54 of the 58 active vessels in the whelk fishery. The CRPM data are therefore used as the official landings data for the UoC given in Table 4. (Note that CRPM data for 2018 were not available at the time this surveillance audit report was completed, and generally there is a longer time delay in publication of IFREMER figures.) The main fishing areas for the Normandy vessels are ICES rectangles 27E8 around Carteret and 26E8 around Granville (Figure 4). The landings by Normandy vessels in the UoC represent 60% of the total landings in the Bay of Granville in 2017 with Brittany and Jersey vessels contributing 36% and 4% respectively.

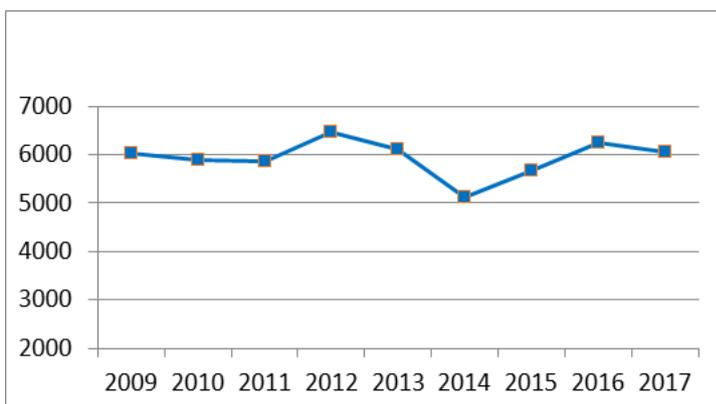


Figure 2. Landings of whelks in Normandie - Manche Ouest 2009-2017. (Source: CRPM Normandie)

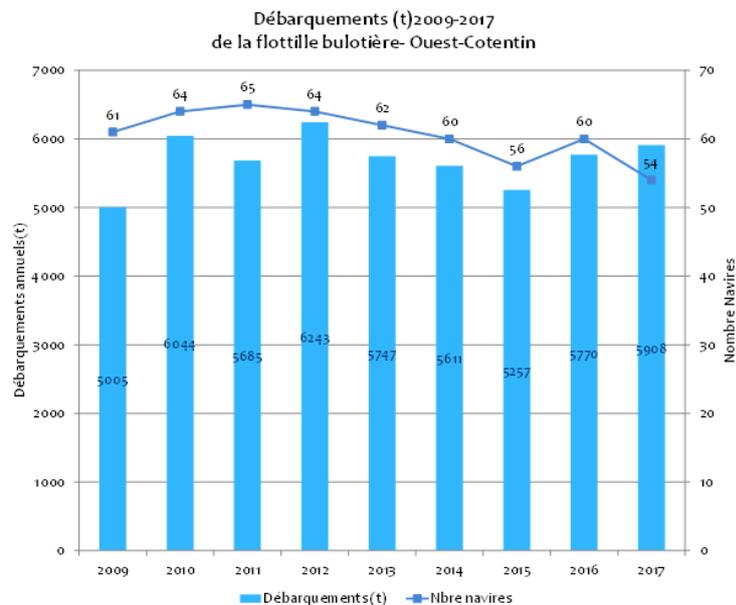


Figure 3. Landings of whelks in Normandie - Manche Ouest 2009-2017 and number of vessels from which landings are collected. (Source: IFREMER)

Table 4. TAC and Catch data (Source: CRPM Normandie)

TAC	Year	N/A	Amount	N/A
UoA share of TAC	Year	N/A	Amount	N/A
UoC share of TAC	Year	N/A	Amount	N/A
Total green weight catch by UoC	Year (most recent)	2017	Amount	6,066 tonnes
	Year (second most recent)	2016	Amount	6,241 tonnes

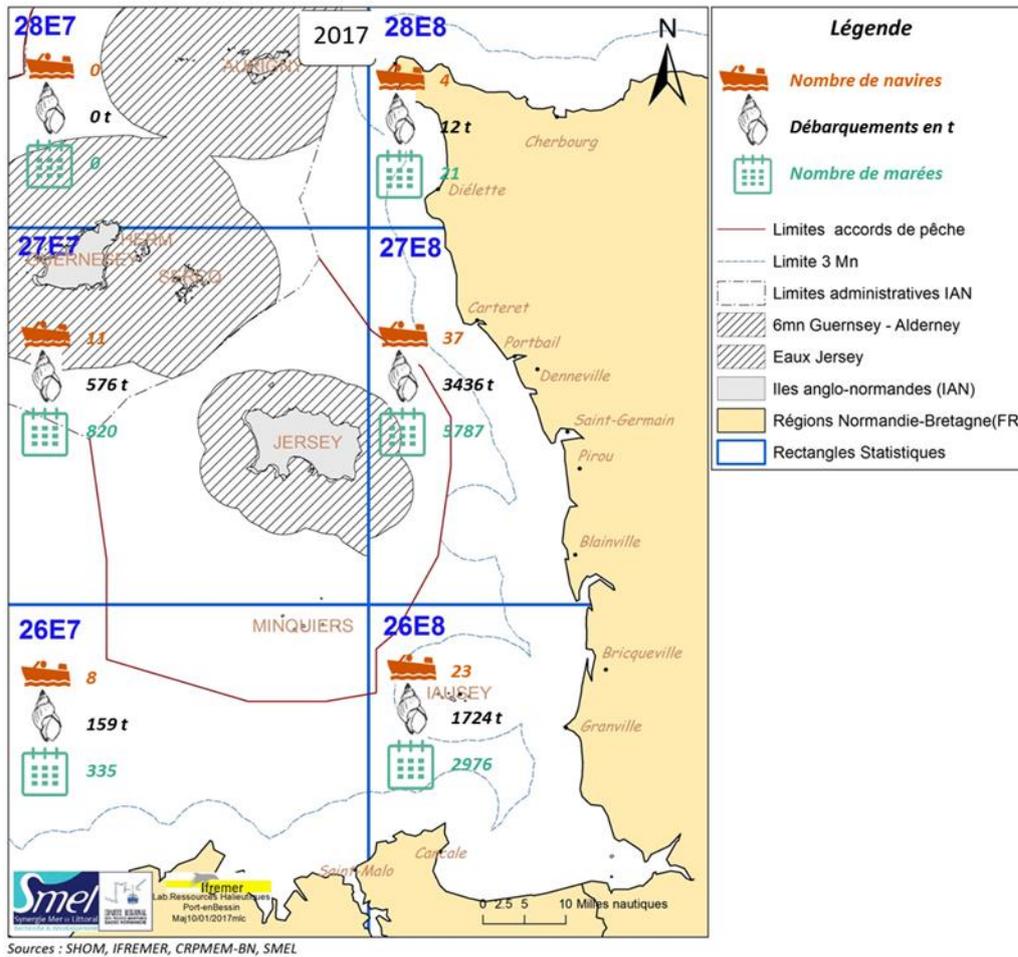


Figure 4. Map showing main ICES rectangles in which the whelk fishery takes place. The main source of landings (*débarquements*) are ICES rectangles 27E8 and 26E8. In addition to landings, figures are also given for the number of vessels (*nombre de navires*) and number of records of catch per trip (*nombre de marées*). (Source: SMEL)

2.1.3 Landings per unit effort (LPUE)

The key stock indicator in the Bay of Granville whelk fishery is landings per unit effort (LPUE), which can be used as a proxy for stock abundance. LPUE data are obtained from two sources – a self-sampling scheme in a reference fleet of vessels which are considered representative of the fleet as a whole, and an observer programme run by the SMEL.

LPUE data have been collected from the self-sampling scheme since 2009. In 2017, data were available from 922 fishing days augmented with logbook data from 11 vessels. LPUE showed a steady increase from 2009 to 2015, but has declined in 2016 and 2017 (Figure 5). LPUE was 109 kg / 100 pots which is just on the trigger reference point adopted for the fishery (see Section 2.1.5 for further discussion). However, the trend in LPUE varies across fishing area (Table 4): LPUE has remained stable in the two main fishing areas, ICES rectangles 27E8 around Carteret and 26E8 around Granville, but has increased in 27E7 around Jersey and has declined significantly in 26E7, the western coastal area.

Observer data are collected on a biannual basis based on around 9 to 12 days at sea in each sampling year. Catch per unit effort (CPUE) for whelks above the minimum landing size of 45 mm has been stable across the 5 observer programmes carried out since 2009, whereas there appears to be a small increase in CPUE of undersize (<45 mm) whelks (Figure 6). CPUE values observed for whelks above

the minimum landing size are significantly higher than the observed LPUE values from the self-sampling programme, but it should be stressed that the mandatory size of the gaps in the sorting grills will select for a whelk of 48mm, slightly above the minimum landing size. Nevertheless, the observer data still appear to provide a higher estimate of stock abundance than the self-sampling data.

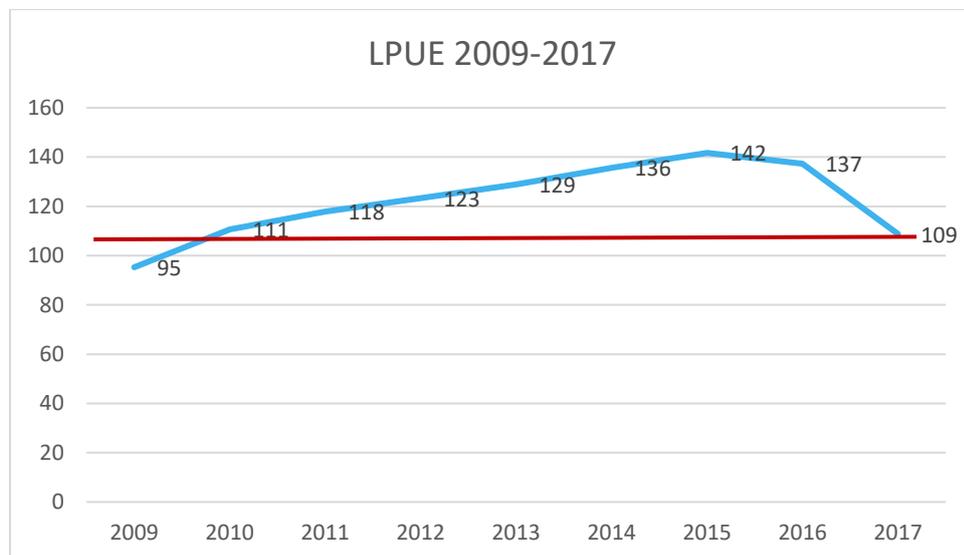


Figure 5. Landings (*débarquements*) per unit effort (LPUE/DPUE) in kgs / 100 pots from 2009-2017 estimated from the self-sampling scheme. (Source: SMEL)

Table 5. Landings (*débarquements*) per unit effort (LPUE/DPUE) in kgs / 100 pots from 2015-2017 for the four ICES rectangles estimated from landings data. (Source: IFREMER-CRPM Normandie)

Rectangles stat	2015	2016	2017
27 E7	470	622	703
27 E8	593	573	594
26 E8	607	613	579
26 E7	725	694	475

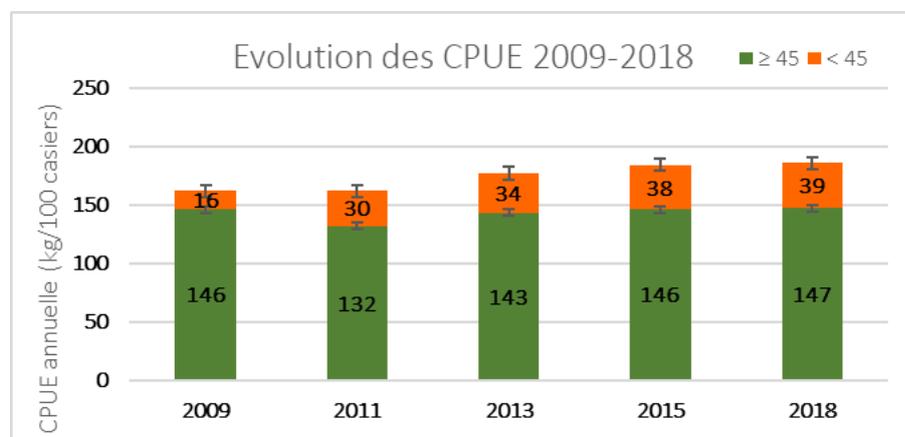


Figure 6. Catch per unit effort (CPUE) in kgs / 100 pots for whelks above minimum landing size of 45mm and for undersized whelks based on sampling from five observer programmes carried out over the period 2009 to 2018. (Source: SMEL/ CRPM Normandie)

Jersey have undertaken a fishery-independent survey of whelk stocks at 10 reference stations around the island of Jersey since 1996. In 2018 catch rates were lower than in previous years, but there was high variability between stations with catch rates of whelks above 44mm ranging from 60 to 190 kg / 100 pots. The methodology employed by Jersey remains incompatible with that used by Normandy, making comparison of results difficult. A first whelk working group was organised in 2017 between Normandy, Brittany and Jersey with the aim of developing/agreeing to a common methodology between the three regions so that survey results can be more easily compared.

2.1.4 Size composition of catch

Data on size composition of the catch are available from the observer programme. In 2018 there was a wide distribution of sizes in the catch with the mode at 50-55mm and over 50% of the catch was above the minimum landing size of 45mm (Figure 7). CRPM Normandie report that there has been little change in the size composition of the catch over recent years, but there were differences between the fishing areas in 2017 with a higher proportion of whelks above the minimum size in ICES rectangles 26E7 and 26E8, but more undersized whelks in 27E7 and 27E8.

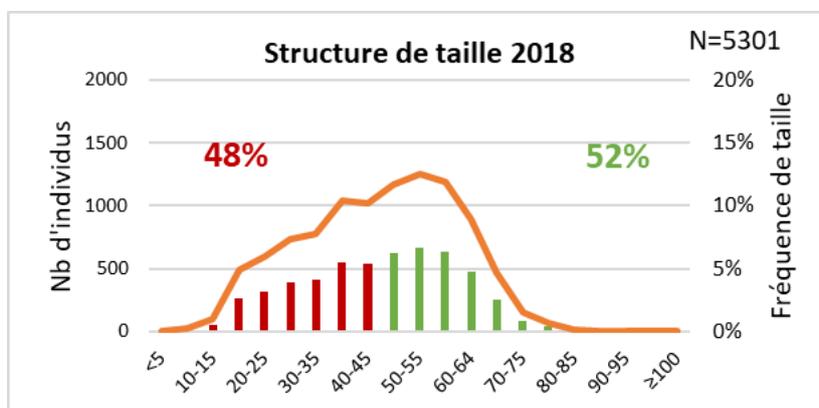


Figure 7. Size composition of the catch in 2018 (all fishing areas combined) from observer programme. Green and red bars represent whelks over and under the minimum landing size of 45mm respectively. (Source: SMEL-CRPM Normandie)

2.1.5 Stock assessment

There is no formal analytical stock assessment of the whelk fishery in Normandy. Stock status is tracked through the evaluation of LPUE (an index of stock abundance) against agreed stock reference points as described below.

Reference points are defined as a '*seuil d'alerte*' (trigger reference point) and a '*seuil d'alarme*' (limit reference point). The reference point levels are calculated using the self-sampling data because they have good spatial and temporal coverage and are therefore considered to be the most reliable stock indicators. The reference points are defined in terms of landings per unit effort (kg / 100 pots):

- *Seuil d'alerte* – 109 kg / 100 pots (the lowest mean annual LPUE in the time series from 2009-2015)
- *Seuil d'alarme* – 70 kgs / 100 pots (the lowest mean monthly LPUE in the time series)

If the LPUE drops below these reference points, there is an agreed list of measures which will be triggered which includes reduction in daily quotas, increase in minimum size, increase in spacing in the sorting grill, introduction of a maximum size, introduction of escape gaps in pots and a closed

season. The chosen measure(s) will depend on the likely causes of the decline. The audit team noted that the main stock indicator (LPUE from the self-sampled vessels) had now dropped to the trigger point level (*seuil d'alerte*) (Figure 5) but that it could still be considered to be fluctuating around the trigger reference point. No management action has therefore yet been taken.

During the certification process the assessment team noted that the *seuil d'alarme* – the limit reference point (LRP) – was defined in terms of monthly LPUE and that it was not defined in the same terms as the trigger point, and it was not clear how this LRP related to the point at which recruitment was impaired. Initial discussions have therefore been undertaken to evaluate various options for reference points.

One option being considered is to set a trigger level at 1.4 x the LRP, and the level corresponding to Maximum Sustainable Yield (MSY) as 2 x the LRP. Assuming a trigger point of an annual LPUE of 110 kg /pots as an appropriate trigger level, this would provide values of reference points as follows:

Reference point	Kg / 100 pots	Definition
Target (MSY)	160	2.0 x LRP
Trigger	110	1.4 x LRP
Limit	80	LRP

An alternative approach is to take the lowest observed value (95 kg /100 pots) in the time series of LPUE as the LRP and then calculate the trigger and target reference points based upon the value of the LRP. Discussions continue to find the best option for revised reference points.

BESTCLIM is a multi-institute project (University of Caen, CRPM, IFREMER, SMEL) investigating whelk as a fishery resource at the Granville Bay level (so not just Normandy or Jersey) and the future of that resource with particular emphasis on the impact of climate change. The project focused on the influence of temperature on the growth rate and reproductive cycle of whelks, on standardising LPUE data from the fishery and evaluating the robustness of stock assessment methodologies for data-limited stocks¹.

The project evaluated methods for standardisation of LPUE data in order to provide a better index of stock health. Initial results for LPUE data from the BESTCLIM project show that the LPUE increased between 2009 and 2015 (Figure 8), and IFREMER are in the process of updating the analysis to include data up to 2018, i.e. covering the time period during which there has been an observed decline in LPUE. The results of this work remain experimental and have yet to be formally incorporated into the whelks stock assessment. However, on a precautionary basis, the CRPM have stated that any findings would be considered at the Commission Bulots where appropriate management action would be decided upon.

¹ <http://www.smel.fr/2018/02/21/bestclim-bilan-des-travaux-sur-la-ressource-bulot-et-lavenir-de-la-pecherie/>

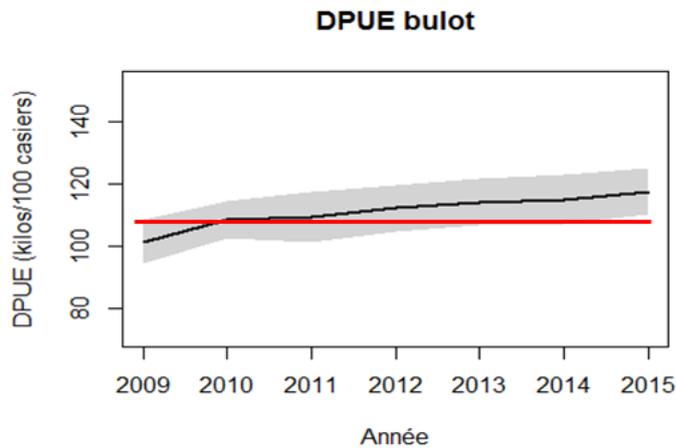


Figure 8. Evaluation of time series of LPUE (DPUE) data in kg / 100 pots for Normandy whelk fishery. The red horizontal line presents the current trigger reference point. (Source: IFREMER)

2.2 Principle 2

For Principle 2, the situation remains as described during the initial assessment. Other than whelks, no other species are retained. The main discarded species is the netted dogwhelk ('nasse', *Nassarius reticulatus*) which was initially assessed with the Risk-Based Framework. No information was put forward during the surveillance which indicates either a change in discarded species or a change in the fishery's impact on the netted dogwhelk.

There has been no change in overall bait composition which continues to be made up of a mixture of crabs, dogfish and low-grade fish. The lesser-spotted dogfish ('roussette', *Scyliorhinus canicula*) is still the likely 'main' bait species (see Gascoigne et al., 2017 for discussion). A review of the latest ICES advice for this species (ICES, 2017) indicates that stock size indicator is estimated to have increased by more than 20% and landings in each of the years 2018 and 2019 should be no more than 3380 tonnes which is an increase compared to the preceding years.

Key ETP species and habitats of concern to the assessment are those designated under the EC Habitats Directive. Impacts on those species were not thought to be significant during the initial assessment and this situation has not changed. Note that any interactions with ETP species would be recorded in the SMEL observer reports (Laurence Hégron-Macé, SMEL, pers. comm.).

The client reports that most whelk fishers no longer use concrete bases for the pots; steel is now increasingly used as this is lighter for the fishermen to handle but denser when submerged in water and therefore potentially less likely to move with the currents. Note that there was an incident in December last year when about 400 pots were lost due to entanglement in algae, following a storm. This appears to have been a freak event; however, incidences of gear loss will need to continue to be monitored at future surveillances.

There have been no other changes in gear use or fishing areas.

2.3 Principle 3

There have been no changes to the overarching fisheries management framework. CRPM Basse-Normandie has now merged with Haute Normandie to form the new CRPM Normandie. In reality, this has had very little effect on the management of the fishery and the Commission Bulots (the main

management instrument in this fishery) still functions as described by Gascoigne et al. (2017). Veronique Legrand, the key CRPM staff member involved in the management and monitoring of this fishery will be retiring this year. A replacement had not yet been identified at the time of surveillance.

There has been no change to the licensing system for the fishery which continues to aim for a gradual reduction of effort in the fishery, by *inter alia* a reduction of the total number of whelk permits.

The level of collaboration with Jersey and Brittany regarding the whelk (and other mollusc) resources in Granville Bay appears to have strengthened since the initial assessment, with a working group now meeting annually to discuss data collection protocols and assessment methodologies (see Section 2.1). The working group meeting coincides with at least one of the quarterly Granville Bay Joint Advisory Committee (JAC) meetings and provides opportunity for alternate discussion around mainly whelks and scallops. Participants include the CRPM Normandie, CRPM-CDPM Bretagne, Jersey Fisheries and Marine Resources and the SMEL.

Compliance in the fishery continues to be good. 32 inspections were carried out for the Normandy whelk fishery specifically, 2 of which led to minor infractions. Overall, there are no indications of systematic non-compliance in this fishery.

2.4 Traceability

There have been no changes to the traceability in this fishery which remains as described in Gascoigne et al. (2017).

2.5 Harmonisation

This fishery only overlaps to some extent with the Normandy and Jersey lobster fishery. However no matters requiring harmonisation were identified during this surveillance.

3 Assessment Process

CU Pesca confirms that the certified fishery remains within the scope of the MSC Fisheries Standard (7.4 of the MSC Certification Requirements v2.0):

- The target species is not an amphibian, reptile, bird or mammal;
- The fishery does not use poisons or explosives;
- The fishery is not conducted under a controversial unilateral exemption to an international agreement;
- The client or client group does not include an entity that has been successfully prosecuted for a forced labour violation in the last 2 years;
- The fishery has in place a mechanism for resolving disputes, and disputes do not overwhelm the fishery;
- The fishery is not an enhanced fishery as per the MSC FCR 7.4.3; and
- The fishery is not an introduced species-based fishery as per the MSC FCR 7.4.4.

This fishery was certified on the 13th September 2017. The assessment team consisted of Dr Jo Gascoigne (Team Leader, Principle 1), Chrissie Sieben (Principle 2), and Dr Sophie des Clers (Principle 3). The site visit for the assessment took place in Granville, France on the 8th and 9th July 2014. During the initial assessment, five conditions were raised against Principle 1 and Principle 3 Performance Indicators. For this reason, a surveillance level of 6 was deemed appropriate. This fishery was assessed under the MSC Certification Requirements v1.3 for scoring and process.

The Year 1 surveillance was carried out on site in Granville on the 25th February 2019. The audit was delayed in order to align with the Normandy and Jersey lobster fishery year 2 surveillance audit (which was itself delayed in order to bring the audit in line with the Joint Advisory Committee meeting in Granville). The surveillance audit was announced on the 24th January 2019. Other than the participants listed in Table 6, no other parties requested to attend.

The aim of the audit was to review any changes that may have occurred since the initial assessment that may lead to changes in the scoring. Information was collated and submitted by the CRPM Normandie and independently checked and complemented by the audit team. Each Principle as well as the traceability was examined in detail (Section 2). The surveillance audit followed the process requirements set out in the MSC Fisheries Certification Requirements version 2.0, as well as Annex CB of the MSC Certification Requirements version 1.3 for scoring.

Table 6. Year 1 surveillance audit participants

Name	Organisation
Véronique LEGRAND	CRPM Normandie
Laurence HEGRON-MACE	SMEL
Ghislaine HERVIEU	Antenne Ouest Cotentin du CRPM Normandie
Dominique LAMORT	NFM
Roland QUARANTE	CRPM – co-président de la commission Bulot Manche Ouest
Chrissie SIEBEN	CU Pesca assessor
Julian ADDISON	CU Pesca assessor

4 Results

The fishery was certified with five conditions and one recommendation. This section describes the Client Group's progress against conditions and recommendations after the first year of certification.

4.1 Conditions

Table 7. Condition 1 - Limit and target reference points are appropriate for the stock.

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score															
	1.1.2	(b) The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity.	75															
Condition	By the end of Year 3 the limit reference point should be set above the level at which the reproductive capacity of the stock is impaired.																	
Milestones	Year 1: Review of options; discussion with stakeholders. Score: 75 Year 2: Proposal put forward for a suitable limit reference point level. Score: 75 Year 3: Limit reference point agreed and implemented. Score: 80																	
Client action plan	See Table 9 for Client Action Plan for Conditions 1 and 2.																	
Progress on Condition (Year 1)	<p>The Client has had discussions with IFREMER and other stakeholders reviewing the options for revision of the reference points including the limit reference point (LRP). Stakeholders agreed that the current LRP as expressed in terms of monthly LPUE (kgs/100 pots) from the self-sampling scheme is inappropriate as the trigger reference point is expressed in terms of annual LPUE. Initially two approaches to setting reference points have been proposed. Firstly, analysis of LPUE data by IFREMER suggested that 110 kg /100 pots would be a suitable trigger point below which additional management measures would be triggered to ensure that the LRP is not approached. A standard approach is to set a trigger level at 1.4 x the LRP, and the level corresponding to Maximum Sustainable Yield (MSY) as 2 x the LRP. Assuming a trigger point of an annual LPUE of 110 kg /pots as an appropriate trigger level, this would provide values of reference points as follows:</p> <table border="1"> <thead> <tr> <th>Reference point</th> <th>Kg / 100 pots</th> <th>Definition</th> </tr> </thead> <tbody> <tr> <td>Target (MSY)</td> <td>160</td> <td>2.0 x LRP</td> </tr> <tr> <td>Trigger</td> <td>110</td> <td>1.4 x LRP</td> </tr> <tr> <td>Limit</td> <td>80</td> <td>LRP</td> </tr> </tbody> </table> <p>An alternative approach is to use the method used in invertebrate fisheries in Canada where the time series of the stock indicator is used to set target (MSY), trigger and limit reference points. The LRP is set at the lowest observed point in the time series, i.e. a point from which the stock has demonstrably recovered and can therefore be considered to be above the point at which recruitment would be impaired, and the trigger and target reference points are then set based on the range of values observed over a specific time period. For the whelk fishery preliminary values for the reference points were set as follows:</p> <table border="1"> <thead> <tr> <th>Reference point</th> <th>Kg / 100 pots</th> <th>Definition</th> </tr> </thead> <tbody> </tbody> </table>			Reference point	Kg / 100 pots	Definition	Target (MSY)	160	2.0 x LRP	Trigger	110	1.4 x LRP	Limit	80	LRP	Reference point	Kg / 100 pots	Definition
Reference point	Kg / 100 pots	Definition																
Target (MSY)	160	2.0 x LRP																
Trigger	110	1.4 x LRP																
Limit	80	LRP																
Reference point	Kg / 100 pots	Definition																

	Target (MSY)	136	80 th percentile of observed values
	Trigger	114	40 th percentile of observed values
	Limit	95	Lowest observed point
It should be stressed that the values suggested in both approaches are purely to demonstrate possible approaches and options and are not formal proposals for the whelk fishery. The audit team considered that the 1 st year milestone had been met.			
Status of condition (Year 1)	Progress against this condition is on target.		

Table 8. Condition 2 - Relevant information is collected to support the harvest strategy.

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	1.2.3	(b) 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.	75
Condition	By the end of Year 4, there should be a review of the data being used to monitor the fishery and stock status, with an appropriate statistical analysis carried out to try as far as possible to reduce uncertainties associated with external variability or spatial variability in stock structure and dynamics and fishing pressure. The analysis may be used to inform future data gathering, such that data is gathered following a suitable statistical methodology where possible.		
Milestones	Year 1: Review of the dataset, first attempt at analysis. Score: 75 Years 2-3: On-going review. Score 75 Year 4: establishment of a long-term analysis protocol as appropriate. Score: 80		
Client action plan	See Table 9 for Client Action Plan for Conditions 1 and 2.		
Progress on Condition [Year 1]	As explained in Section 2.1, IFREMER has been conducting an initial analysis to review sources of LPUE data (which is the key indicator of stock status) and methods for standardising LPUE data in relation to year, fishing area and other variables. This work forms part of BESTCLIM, a multi-institute project, whose objectives include standardising LPUE data from the fishery and evaluating the robustness of stock assessment methodologies for data-limited stocks. The analysis is in the process of being updated with LPUE data up to 2018, a time period during which LPUE has declined. The analysis is expected to be completed and published in 2019. The audit team concluded that the dataset had been reviewed and an initial analysis undertaken, and therefore the 1 st year milestone had been met.		
Status of condition (Year 1)	Progress against this condition is on target.		

Table 9. Client Action Plan for Conditions 1 and 2

Année 1	Action
Premier semestre	<p>Recensement des différentes informations existantes (fiche de pêche, données criées, données SMEL, bateaux référents, Ifremer....)</p> <p>Fixer la périodicité de recueil des données</p> <p>Review of the various existing information sources (logbook, auction data, SMEL data, reference fleet, Ifremer)</p> <p>Fix the periodicity of data collection</p>
En continu (selon périodicité définie)	<p>Suivi et recueil des données</p> <p>Monitoring and data collection</p>
Année 2	
Semestre 1	<p>Analyse statistique des données (2009- 2014) et recherche et validation des données les plus pertinentes pour un meilleur suivi de la pêche</p> <p>Tentative de définir un indice standardisé sur la base des données pleinement validées (Bestclim)</p> <p>Commencement du revue des points de références avec l'indice 'Bestclim'</p> <p>Statistical analysis of data (2009- 2014) and research and validation of the most relevant data for better monitoring of the fishery</p> <p>Attempt to define a standardized index on the basis of fully validated data (Bestclim)</p>
En continu (selon périodicité définie)	<p>Suivi et recueil des données</p> <p>Monitoring and data collection</p>
Semestre 2	<p>Présentation des premiers résultats à la Commission Bulot y inclus la revue des niveaux des points de références. Si la revue montre que Dlim est au-delà du PRI, pas besoin de changer. Sinon, discussion sur nouvelle définition du Dlim.</p> <p>Presentation of the first results to the Commission Bulot</p>
Année 3	
Semestre 1	<p>Analyse statistique des données (de l'année 2) les plus pertinentes retenues en vue de pondérer l'indice d'abondance.</p> <p>Statistical analysis of data (year 2) retained as most relevant to inform on index of abundance.</p>
En continu (selon périodicité définie)	<p>Suivi et recueil des données pertinentes, notamment les données de 2000 à 2008 (récupérées auprès de l'Ifremer)</p> <p>Monitoring and collection of relevant data, including data from 2000 to 2008 (obtained from Ifremer)</p>
Trimestre 4	<p>Bilan. Présentation et validation à la Commission Bulot, puis information des parties prenantes au JAC. Decision sur nouveau Dlim, si besoin.</p> <p>Overview and validation at the Commission Bulot, then presentation to stakeholders at JAC</p>

Année 4	
Semestre 1	<p>Analyse statistique des données (de l'année 3 et historiques)</p> <p>Mise en place du suivi par le biais de l'indice d'abondance standardisé après avoir affiné cet indice d'abondance.</p> <p>Statistical analysis of data (year 3 and historical)</p> <p>Implementation of monitoring through standardized abundance index after having refined this index of abundance.</p>
En continu (selon périodicité définie)	<p>Suivi et recueil des données</p> <p>Monitoring and data collection</p>
Trimestre 4	<p>Bilan. Présentation et validation à la Commission Bulot, puis informations des parties prenantes au JAC</p> <p>Overview and validation at the Commission Bulot, then presentation to stakeholders at JAC</p>
Année 5	
Semestre 1	<p>Analyse statistique des données (de l'année 4)- suivi de l'indice</p> <p>Statistical data analysis (year 4) and monitoring of index</p>
En continu (selon périodicité définie)	<p>Suivi et recueil des données</p> <p>Monitoring and data collection</p>
Trimestre 4	<p>Bilan. Présentation et validation à la Commission Bulot, puis présentation aux parties prenantes lors du JAC</p> <p>Overview and validation at the Commission Bulot, then presentation to stakeholders at JAC</p>

Table 10. Condition 3 - There is an adequate assessment of the stock status.

Performance Indicator(s) & Score(s)	Insert relevant number(s)	PI	Insert relevant scoring issue/ scoring guidepost text	Score
	1.2.4		(e) The assessment of stock status is subject to peer review.	75
Condition	<p>Original condition:</p> <p>By the end of Year 3, the stock assessment approach should be peer-reviewed.</p> <p>Revised condition at Year 1:</p> <p>By the end of Year 4, the stock assessment approach should be peer-reviewed.</p>			
Milestones	<p>Original milestones:</p> <p>Year 1: Commission and undertake peer review. Score: 75</p> <p>Year 2: Review conclusions of the review, evaluate if changes are required to the stock assessment approach. Score: 75</p>			

	<p>Year 3: Agree and implement revised approach if necessary. Score: 80</p> <p>Revised milestones at Year 1:</p> <p>Year 2: Review results of current work on revising reference points and standardising data, and revise stock assessment approach as necessary. Score: 75</p> <p>Year 3: Commission and undertake peer review of stock assessment. Score: 75</p> <p>Year 4: Following peer review, revise stock assessment approach as required. Score: 80</p>
<p>Client action plan</p>	<p>Original Client Action Plan:</p> <p>Year 1 – Discussion on formation of new ‘review group’ for data limited species</p> <p>Year 2 – Formation of group</p> <p>Year 3 – First meeting of group; presentation of whelk assessment for review and comment</p> <p>Revised Client Action Plan at Year 1:</p> <p>Year 2:</p> <p>Based on the different types of assessment, define the best option for peer review review of the stock assessment.</p> <p><i>Sur la base des différents travaux réalisés définir la meilleure option pour l'examen peer review de l'évaluation du stock</i></p> <p>Year 3 :</p> <p>Assign a third-party expert to achieve the peer review. Completion of the peer review.</p> <p><i>Designer un expert tiers pour réaliser la peer review. Réalisation de la peer review.</i></p> <p>Year 4 :</p> <p>Following the review of this assessment, if necessary, revise the method for assessing the whelk stock.</p> <p><i>Suite à l'examen de cette évaluation, réviser si nécessaire la méthode d'évaluation du stock de bulot.</i></p>
<p>Progress on Condition (Year 1)</p>	<p>A Working Group has been set up for the Bay of Granville mollusc fisheries, and approaches for data limited species have been evaluated within IFREMER. The Client has therefore undertaken what was required under the Client Action Plan. However, the audit team noted that the condition required the stock assessment to be peer-reviewed by the 3rd surveillance audit, but that the milestones did not match the condition with the 1st year milestone requiring the peer review to have been commissioned and undertaken. In practice, therefore the 1st year milestone had not been met. Research is currently underway to develop a methodology for standardising LPUE data, which is the key stock indicator, and reference points are also under review. The audit team concluded therefore that the peer review of the stock assessment should be carried out when the revised stock assessment approach is in place. The condition and milestones have therefore been rewritten as follows:</p>

	<p><u>Condition:</u> By the end of Year 4, the stock assessment approach should be peer-reviewed.</p> <p><u>Milestones:</u></p> <p>Year 2: Review results of current work on revising reference points and standardising data, and revise stock assessment approach as necessary</p> <p>Year 3: Commission and undertake peer review of stock assessment</p> <p>Year 4: Following peer review, revise stock assessment approach as required.</p> <p>A revised Client Action Plan was submitted.</p>
Status of condition (Year 1)	Progress against this condition is behind target but milestones revised as above.

Table 11. Condition 4 - Clear specific objectives designed to achieve the outcomes expressed in MSC's Principle 1 and 2.

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	3.2.1.	(b) 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.	60
Condition	By the end of Year 3, there need to be explicit management objectives for both Principle 1 (stock) and Principle 2 (ecosystem). They do not have to be expressed in terms of stock biomass, but should be consistent with keeping the stock at a level of high productivity. The objectives could be at the level of the Basse-Normandie fishery or at the Granville Bay level		
Milestones	<p>Year 1: Start a process to agree a management target via the Commission Bulot, the JAC/JMC, or both, or some other process as appropriate. Score: 60</p> <p>Year 2: Agree set of objectives, consistent with maintaining the stock at a level of high productivity and minimizing ecosystem impacts. Score 60</p> <p>Year 3: Implement additional management, if required, to ensure that the target can be met. Score: 80</p>		
Client action plan	See Table 12.		
Progress on Condition (Year 1)	<p>As explained for condition 1, the Client has had discussions with IFREMER and other stakeholders (including those at the wider Granville Bay level) reviewing the options for revision of the reference points and this work is clearly still ongoing. In parallel, the CRPM Normandie have carried out a review of those objectives deemed key to the management of the fishery. These objectives are yet to be formally agreed upon but are provisionally listed as follows:</p> <ul style="list-style-type: none"> - Explicit objective consistent with maintaining the stock at a level of high productivity (MSY equivalent); - Target of reduction in fishing effort is adapted to the resource: continued reduction in number of fishing licenses, closed periods and limited number of fishing days at 225 days at sea per year. 		

	<ul style="list-style-type: none"> - 'Cohabitation' with other passive or mobile gears so that gear loss is avoided; - Protection of habitats and waste at sea; - Control objective: Every year, the CRPM transmits the control objectives to the administration (list of licenses, priority measures to be controlled ...)
Status of condition (Year 1)	The process for review of management objectives for both Principle 1 and 2 has commenced. Progress against this condition is on target.

Table 12. Client Action Plan for Condition 4

Année 1	Action
	Recenser et lister les objectifs en termes de respect de la ressource et de l'environnement, y compris contrôles. <i>Identify and list the objectives in terms of respect of the resource and the environment, including controls.</i>
Année 2	
Semestre 1	Présentation des objectifs « ressource » et « environnement » à la Commission Bulot et validation <i>Presentation of the "resource" and "environment" objectives to the Commission Bulot and validation</i>
Trimestre 4	Présentation des objectifs aux parties prenantes lors du JAC <i>Presentation of the objectives to stakeholders at JAC</i>
Année 3	
Trimestre 1	Définition des points de référence (selon IP 122) et présentation à la commission Bulot pour approbation et validation <i>Definition of reference points (according to IP 122) and presentation to the Commission Bulot for approval and validation</i>
Semestre 2	Détermination et validation des mesures à envisager selon les points de référence pré définis et des objectifs en Commission Bulot <i>Identification and validation in Commission Bulot of measures to be considered according to pre-defined reference points and objectives</i>
En continu	Suivi des indicateurs et des objectifs – réflexion sur d'éventuels nouveaux objectifs <i>Monitoring indicators and objectives - reflection on possible new objectives</i>
Trimestre 4	Présentation des mesures au JAC <i>Presentation of measures to JAC</i>
Année 4 et 5	
En continu	Suivi des indicateurs et des objectifs- réflexion sur d'éventuels nouveaux objectifs <i>Monitoring indicators and objectives - reflection on possible new objectives</i>

Trimestre 4	Présentation et validation à la Commission Bulot, puis présentation au JAC Presentation and validation to the Bulot Commission and then presentation to the JAC
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Table 13. Condition 5 - The fishery has a research plan that addresses the information needs of management.

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score																																												
	3.2.4	(b) 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.	70																																												
Condition	By the end of Year 2, a formal research plan as a framework for guiding research should be prepared and adopted.																																														
Milestones	Year 1: Prepare draft plan. Score: 70 Year 2: Consult stakeholders and adopt research plan. Score: 80																																														
Client action plan	See below																																														
Progress on Condition (Year 1)	A draft research plan has been prepared by the CRPM Normandie, covering research activities under both Principle 1 and 2:																																														
	<table border="1"> <thead> <tr> <th>Suivis</th> <th>Moyens</th> <th>Finalité</th> <th>Période</th> </tr> </thead> <tbody> <tr> <td>Activités de la flottille</td> <td>Profil flottille sous licences Mois navires (CRPM)</td> <td>Amélioration des connaissances sur P1 et P2 Standardisation des navires / flottille de référence</td> <td>2009-2022 Annuel</td> </tr> <tr> <td>Effort de pêche</td> <td>Nombre de marées annuelles IFREMER Nombre de casiers sur flottille de référence</td> <td>CPUE/ marée Test sur quelques années de CPUE/100cas</td> <td>2009-2022 Annuel 2019</td> </tr> <tr> <td>Débarquements</td> <td>Base de données CRPM et SIH</td> <td>Volume global de la Pêcherie bulot</td> <td>2009-2022 Annuel</td> </tr> <tr> <td>Evolution CPUE DPUE</td> <td>Suivis en mer et Auto Ech SMEL Suivis FP et LB (IFREMER)</td> <td>Recherche la tendance sur l'évolution des DPUE CPUE pour améliorer la définition points de référence</td> <td>2009-2022 2019-2020</td> </tr> <tr> <td>Indices d'abondance</td> <td>SIH CPUE marée et CPUE casiers</td> <td>Recherche d'indice d'abondance standardisé Cond 1.2.3 Autres approches d'évaluation avec GT Mollusques – Cond 1.2.4</td> <td>2009-2022 Fev- Décembre 2019</td> </tr> <tr> <td>Structure de taille</td> <td>Observations en mer Observation à la débarque</td> <td></td> <td>2009-2022 Bi annuel</td> </tr> <tr> <td>Données indépendantes de la pêche</td> <td>Données de Jersey à prendre en considération</td> <td>Référence depuis 1996 - Suivi de la tendance CPUEJE pour les zones de pêche communes</td> <td>1996-2022 (Fevrier)</td> </tr> <tr> <td>Comparaison Engins de pêche FR/IE</td> <td>Moyens scientifiques conjoints MR Jersey /SMEL</td> <td>P1 Recherche de CPUE Standardisée avec des engins pêche différents entre FR et IE</td> <td>ponctuel Mars 2019</td> </tr> <tr> <td>Gestion des déchets</td> <td>Dénombrer le nb de casiers perdus Et participation au recyclage plastique</td> <td>Principe 2 objectifs environnementaux en plus des objectifs de gestion de la pêche Prévoir interdire rejets de plastiques</td> <td>2019</td> </tr> <tr> <td>Espèces accessoires</td> <td>Suivi des nasses</td> <td>P2 répartition bulots/nasses</td> <td>2009-2022 printemps</td> </tr> </tbody> </table>	Suivis	Moyens	Finalité	Période	Activités de la flottille	Profil flottille sous licences Mois navires (CRPM)	Amélioration des connaissances sur P1 et P2 Standardisation des navires / flottille de référence	2009-2022 Annuel	Effort de pêche	Nombre de marées annuelles IFREMER Nombre de casiers sur flottille de référence	CPUE/ marée Test sur quelques années de CPUE/100cas	2009-2022 Annuel 2019	Débarquements	Base de données CRPM et SIH	Volume global de la Pêcherie bulot	2009-2022 Annuel	Evolution CPUE DPUE	Suivis en mer et Auto Ech SMEL Suivis FP et LB (IFREMER)	Recherche la tendance sur l'évolution des DPUE CPUE pour améliorer la définition points de référence	2009-2022 2019-2020	Indices d'abondance	SIH CPUE marée et CPUE casiers	Recherche d'indice d'abondance standardisé Cond 1.2.3 Autres approches d'évaluation avec GT Mollusques – Cond 1.2.4	2009-2022 Fev- Décembre 2019	Structure de taille	Observations en mer Observation à la débarque		2009-2022 Bi annuel	Données indépendantes de la pêche	Données de Jersey à prendre en considération	Référence depuis 1996 - Suivi de la tendance CPUEJE pour les zones de pêche communes	1996-2022 (Fevrier)	Comparaison Engins de pêche FR/IE	Moyens scientifiques conjoints MR Jersey /SMEL	P1 Recherche de CPUE Standardisée avec des engins pêche différents entre FR et IE	ponctuel Mars 2019	Gestion des déchets	Dénombrer le nb de casiers perdus Et participation au recyclage plastique	Principe 2 objectifs environnementaux en plus des objectifs de gestion de la pêche Prévoir interdire rejets de plastiques	2019	Espèces accessoires	Suivi des nasses	P2 répartition bulots/nasses	2009-2022 printemps		
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Activités de la flottille	Profil flottille sous licences Mois navires (CRPM)	Amélioration des connaissances sur P1 et P2 Standardisation des navires / flottille de référence	2009-2022 Annuel																																												
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Espèces accessoires	Suivi des nasses	P2 répartition bulots/nasses	2009-2022 printemps																																												
Status of condition (Year 1)	Progress against this condition is on target.																																														

Table 14. Client Action Plan for Condition 5

Année 1	Action
1 ^{er} semestre	Recensement des différentes études en cours <i>Review of different ongoing studies</i>
2 ^{ème} semestre	Rédaction du plan de recherche <i>Drafting of research plan</i>
Année 2	
1 semestre	Validation du plan de recherche en Commission Bulot <i>Validation research plan at Commission Bulot</i>
4 ^{ème} trimestre	Présentation des résultats et nouvelles études éventuelles à la Commission Bulot et au JAC Mise à jour éventuelle du plan de recherche <i>Presentation of results and possible new studies to Bulot Commission and the JAC</i> <i>Any updating of the research plan</i>
Année 3, 4 et 5	
4 ^{ème} trimestre	Présentation des résultats et nouvelles études éventuelles en Commission Bulot et au JAC Mise à jour éventuelle du plan de recherche <i>Presentation of results and possible new studies to Bulot Commission and the JAC</i> <i>Any updating of the research plan</i>

4.2 Recommendations

Table 15. Recommendation 1

Recommendation 1	Habitats
The team recommends that any lost whelk pots be reported on so that this can be monitored by the CRPM-BN/SMEL and any increase in risk to habitat structure and function can be determined	
<u>Progress Year 1</u> : there was an incident in December last year when about 400 pots were lost due to entanglement in algae, following a storm. This appears to have been a freak event; however, incidences of gear loss will need to continue to be monitored at future surveillances.	

5 Conclusion

The audit team confirms that this fishery continues to conform to the MSC Principles and Criteria for sustainable fishing.

Although progress against one of the five conditions was considered behind target, the condition and milestones were revised by the audit team so that the peer review of the stock assessment could be carried out when the revised stock assessment approach is in place. Progress against the remaining conditions is on target and the client is making suitable progress against the recommendation made.

No new conditions or recommendations were raised. No Performance Indicators have been rescored. There have been no changes to the traceability system in the fishery.

The surveillance plan has not been revised and remains at Level 6.

6 Evaluation Results

6.1 Principle Level Scores

The final Principle scores are provided in Table 16.

Table 16. Final Principle Scores

Final Principle Scores	
Principle	Score
Principle 1 – Target Species	83.1
Principle 2 – Ecosystem	88.3
Principle 3 – Management System	85.1

6.2 Summary of PI Level Scores

Principle	Component	Weighting	PI nb.	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	95
			1.2.2	Harvest control rules and tools	90
			1.2.3	Information and monitoring	75
			1.2.4	Assessment of stock status	75
	2	Retained species	0.2	2.1.1	Outcome
2.1.2				Management	85
2.1.3				Information	80
Bycatch species		0.2	2.2.1	Outcome	100
			2.2.2	Management	95
			2.2.3	Information	80
ETP species		0.2	2.3.1	Outcome	100
			2.3.2	Management	100
			2.3.3	Information	100
Habitats		0.2	2.4.1	Outcome	80
			2.4.2	Management	80
			2.4.3	Information	95
Ecosystem		0.2	2.5.1	Outcome	80
			2.5.2	Management	80
			2.5.3	Information	90
3		0.5	3.1.1	Legal and customary framework	100

Principle	Component	Weighting	PI nb.	Performance Indicator	Score
	Governance and Policy		3.1.2	Consultation, roles and responsibilities	95
			3.1.3	Long term objectives	90
			3.1.4	Incentives for sustainability	80
	Fishery-specific management system	0.5	3.2.1	Fishery specific objectives	60
			3.2.2	Decision making processes	100
			3.2.3	Compliance and enforcement	85
			3.2.4	Research plan	70
			3.2.5	Management performance evaluation	80

7 References

BESTCLIM project - <http://www.smel.fr/2018/02/21/bestclim-bilan-des-travaux-sur-la-ressource-bulot-et-lavenir-de-la-pecherie/>

Gascoigne, J., Sieben, C. and des Clers, S. 2017. MSC Public Certification Report for the Basse-Normandie Granville Bay Whelk Fishery. ME Certification Limited.

ICES. 2017. Lesser-spotted dogfish (*Scyliorhinus canicula*) in Subarea 4 and in divisions 3.a and 7.d (North Sea, Skagerrak and Kattegat, eastern English Channel). In: ICES Advice on fishing opportunities, catch, and effort: Greater North Sea Ecoregion. Published 6 October 2017