

WESTERN ASTURIAS OCTOPUS TRAPS FISHERY OF ARTISANAL COFRADÍAS



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1st SURVEILLANCE REPORT

OCTOBER 2017

Prepared by: **BUREAU VERITAS IBERIA**



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Client: **ASOCIACIÓN DE ARMADORES DE LA PESQUERÍA DE PULPO CON
CERTIFICADO DE SOSTENIBILIDAD (ARPESOS)**

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Glossary

ARPESOS	Certified octopus ship owners' association (Asociación de armadores de la pesquería de pulpo con certificado de sostenibilidad)
BOPA	Official Gazette of the Principality of Asturias
BV	Bureau Veritas
CEDER	Local Development Center (Centro de Desarrollo Navia-Porcía)
CEP	Fisheries Experimentation Centre (Centro Experimentación Pesquera)
CFP	Common Fisheries Policy
CPUE	Catch per unit effort
DGPM	Asturian General Directorate of Maritime Fisheries (Dirección General de Pesca Marítima, Gobierno del Principado de Asturias)
ETP	Endangered, threatened and protected species
EC	European Commission
EU	European Union
FCR	Fisheries Certification Requirements
HCR	Harvest Control Rules
OFMC	Octopus Fishery Monitoring Committee
MCS	Monitoring, Control and Surveillance system
OFMP	Octopus Fishery Management Plan
MSC	Marine Stewardship Council
OMA	Asturian Marine Observatory (Observatorio Marino de Asturias)
P1, P2, P3	MSC Principles 1, 2, 3 respectively
PCR	MSC Public Certification Report
SA	Surveillance audit
SGP	Spanish General Secretariat for Fisheries (Secretaría General de Pesca)
t	Metric tons
TAC	Total Allowable Catch
UoA	Unit of Assessment
UoC	Unit of Certification
COFWG	Certified Octopus Fishery Working Group



1. General Information

Fishery name	Western Asturias Octopus Traps fishery of Artisanal Cofradías	
Unit of assessment	<p><u>Stock:</u> Octopus vulgaris stock from Asturian waters (metapopulation description).</p> <p><u>Fishing area:</u> The fishing grounds where the UoA operates stretch along the Asturian coastline between 7° 01' W and 6° 04' W, always within internal Spanish waters (<12nm) and within a depth range of 0-100m.</p> <p><u>Fishing method/gear:</u> Artisanal traps</p> <p><u>Fishing management:</u> Asturias Government mainly and also the Spanish Government, General Secretariat for Fishing (SGP)</p> <p><u>Fleet:</u> 27 vessels from Comarca del Comarca del Navia-Porciá (Tapia de Casariego, Viavélez, Ortiguera, Puerto de Vega).</p> <p><u>Other Eligible fishers:</u> vessels that are members of a fishing guild within the management plan (MP). Therefore the guilds Cofradías de Cudillero, Oviñana, Luarca and Figueras may become eligible to join the UoC under the Certificate Sharing. See Section 2.4 for more details.</p>	
Date certified	10 Feb 2016	Date of expiry 15 Feb 2021
Surveillance level & type	Surveillance level as determined in the PCR is 4, meaning a surveillance program including 2 on-site and 2 off-site audits. An on-site audit was performed for this first surveillance, as programmed in the PCR.	
Date of surveillance audit	July 3-4, 2017	
Surveillance stage	1st Surveillance	✓
	2nd Surveillance	
	3rd Surveillance	
	4th Surveillance	
	Other (expedited etc)	
Surveillance team	<u>Lead assessor:</u> José Ríos <u>Assessor:</u> Gonzalo Macho	
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2. Background

Major changes to the fishery since the last surveillance are outlined below.

2.1. TAC and UoC catches

No TAC is set for the octopus fishery in Asturias (as for any other octopus fishery in Spain) but instead a maximum catch of 10t is fixed per vessel and fishing season (see **Table 1**),



regardless of the total number of vessels targeting octopus. During the assessed period (2015/16 and 2016/17), octopus fishing seasons stretched from December 15 to July 14.

Table 2-1 presents the maximum octopus catches allowed to the certified fleet in the last two fishing seasons compared to the maximum allowed octopus catches in the case all vessels included in the OFMP exercise their right to target this species (all registered vessels with licence to use octopus traps are authorised to target this species and therefore expeditiously included in the OFMP). As 4 new vessels joined the certificate during the 2016/17 fishing season (see **section 2.4** for further details) the maximum allowed UoC catches increased from 270 t in 2015/2016 to 310 t in 2016/17. This is representing between 66 and 73% of the maximum annual octopus catches allowed for the whole Asturian fleet. However, these figures are not significant as the maximum catches per vessel and year have never been reached.

Table 2-1. Maximum catches allowed per vessel in 2017 for the UoC and other fishers included in the Management Plan for the octopus in Western Asturias but not in the UoA.

Fishing season	N vessels		Max Kg/vessel	Potential ^(***) Max allowed catches (t)	
	2015/16	2016/17		2015/17	2016/17
UoC	27	31	10 t	270	310
Other non-UoC vessels included in the OFMP	10 ^(*)	16 ^(**)		100	160
		Total max allowed catches:			370 470

(*) Source: Fernandez, 2016; (**) Fernandez pers.comm; (***) No TAC is set for the octopus fishery in Asturias, but instead a maximum catch of 10t is allowed per vessel and fishing season, therefore, potentially, the maximum allowed catch for the fishery could be calculated multiplying the total number of vessels by the maximum catch allowed per vessel of 10 t.

Table 2-2 shows sales of MSC certified octopus caught by the UoC and sold in the authorised auction points as established in the PCR. All auction points have created a specific code for the MSC certified octopus, different from generic code for octopus used previous to certification (see **section 2.7** for more details). The low MSC certified sales in the 2015/16 fishing season can be explained because certification was only awarded in February 2016. During the SA CEP representatives confirmed the assessment team that total OFMP catches during the latest fishing season (2016/17) were 87,791 Kg. Therefore, 65.5% of the octopus caught under the OFMP was sold as MSC certified.

Table 2-2. Kg of MSC certified octopus sales in the different authorised auction points

Auction points	Kg / fishing season	
	2015/16	2016/17
Puerto de Vega	2,148	23,533
Tapia de Casariego	1,305	10,023
Viavélez ^(*)	2,856	23,968
Ortiguera	Catches sold at Puerto de Vega auction point	
TOTAL	6,309	57,523

(*) Data provided on annual basis, instead of fishing season

2.2. SUMMARY OF ASSESSMENT CONDITIONS

Table 2-3 lists the conditions raised in the PCR of the fishery, and also presents their status after current surveillance audit. Three out of the four conditions established in PCR were found to be 'on target' (conditions on Pls 3.2.1, 3.2.2 and 3.2.3) and one was found to be 'ahead target' (condition on PI 1.2.2).



Further, despite condition on 3.2.3 was found to be ‘on target’ according to initial milestones, new evidences found during surveillance audit forced to re-score this PI (see **section 2.6** and **Appendix 1** for more details) and to establish a new condition on this PI (**Table 4-5: CONDITION 4A**), including a new client action plan.

The assessment team confirmed that new information related to P2 was raised during the SA meaning that the information base for PIs 2.1.1-3 and PIs 2.2.1-3 has changed and therefore those PIs were re-scored (see **Appendix 1**). Although no conditions were raised (actually most of the scores increased), the assessment team recommends the client to establish a monitoring system that allows improving the estimations of volumes as well as origin (stock/s) of bait species used in the UoA (see **Table 4-6** in **Section 4** for more details on the recommendation).

Table 2-3. Summary of Assessment Conditions

Condition number	Performance indicator (PI)	Status	PI original score	PI revised score
1	1.2.2	Ahead of target	75	Not revised
2	3.2.1	On target	60	Not revised
3	3.2.2	On target	75	Not revised
4	3.2.3	On target	75	65

2.3. PERSONNEL INVOLVED IN SCIENCE, MANAGEMENT OR INDUSTRY

Mario Pidal was hired by one of the fishers’ guilds included in the certificate (Cofradía de Puerto de Vega) as an independent consultant for guiding the fishing sector throughout the current assessment cycle. He was hired through a project¹ assigned by CEDER and funded by the EU through the European Maritime and Fisheries Fund (EMFF) and the Regional Government of Asturias. His role is helping the fishing sector in its internal organization for facing the MSC certification, preparing the documentation, organizing meetings, writing down minutes of the meetings and in general guiding the UoC for fulfilling the requirements during the annual surveillances. His work in compiling the documents was very helpful for the CAB along this surveillance.

The DGPM has also opened a call in April 2017 for studying the possible applicability of new tools for a scientific assessment of the octopus’ fishery, in which a PhD researcher was to be hired. The institution that won this call was the Observatorio Marino de Asturias (OMA), from the University of Oviedo, and it is expected to presents its conclusions at the end of 2017. Since this works has just started the CAB has not contacted this stakeholder, but it will be done in coming annual surveillances.

Another significant development was the creation of a multi-stakeholder Octopus Fishery Monitoring Commission (OFMC) acting as a consultative body for following-up the octopus’ MP. The OFMC is fully described under **section 2.5**.

Besides the above, there were no significant changes in the scientific and management personnel involved around the fishery.

¹ Project title: ‘Evaluación del plan de explotación del pulpo en Asturias bajo parámetros biológicos y de sostenibilidad’.



2.4. CERTIFIED FLEET AND CLIENT GROUP

Certified fleet

The initial certified fleet was limited to the 27 vessels targeting octopus and member of the following fishers' guilds: Tapia de Casariego, Viavélez, Ortigueira, and Puerto de Vega. However, vessels from the other Western Asturian fishers' guilds (Oviñana, Cudillero, Luarca and Figueras) included in the octopus Management Plan were identified as 'eligible fishers'. In accordance to FCR 7.4.12.2 a certificate sharing was prepared by the client and published at the [MSC website](#) on March 1, 2016. Also, the other eligible fishers were informed of the opportunity to share the certificate.

In January 2017 BV received a request from the client to include another 5 vessels in the certificate. These new vessels (listed in **Table 2-4**) were included in the list of vessels entitled to use the MSC certificate (latest publication on February 17, 2017). In any case the authorized landing and auction points are still limited to the ones included initially in the PCR (Tapia de Casariego, Viavélez, Ortigueira and Puerto de Vega). Therefore, the new vessels (regardless their fishers' guild of origin) must land and sell their octopus catches in those points for them to be sold as MSC certified product. As a result, their catches during the 2016-2017 fishing season were included in table 2-2 and assessed during this SA.

Table 2-4. New vessels included in the list of vessels entitled to use the MSC certificate.

Name	Identification	Cofradía
Ovimar	GI-6 01-07	Oviñana
Viki Victoria	GI-6 01-11	Oviñana
Siempre Yomar	AV-3 02-16	Ortigueira
Nuevo Soirana	AV-3 1-16	Viavélez
Habanerín	GI-8 2-09	Figueras

Client group

The vessel owners included in the UoC, with the assistance of Mario Pidal and the CEDER, promoted the creation of a working group (Certified Octopus Fishery Working Group, COFWG) which brought together all the vessel owners included in the UoC plus representatives from CEDER, CEP and DGPM. The COFWG has become in the working environment for addressing the issues related to this certification. The COFWG met on 4 occasions between December 2016 and May 2017 to address the actions needed to comply with the conditions established to the fishery in the PCR and to ensure the maintenance of the MSC certificate. Minutes of the COFWG meetings and a summary of the action plan developed was handled to the assessment team during the site visit and constituted valuable information to assess the progress made towards the achievement of the conditions (see **section 4**). Besides, as a result of the first COFWG meeting emerged the need to create a new association which could bring together all vessel owners included in the UoC. This association was created on March 1, 2017, and it was called ARPESOS (for 'Asociación de armadores de la pesquería de pulpo con certificados de sostenibilidad' which in English would result as 'certified octopus ship owners' association').

ARPESOS is constituted exclusively by vessel owners included in the UoC, and its statutes regulate the members' requirements, rights and obligations. Further, the statutes detail the governing and representing bodies, their nature and scope, and all the necessary details and mechanisms needed for the proper functioning of the association. The final aim of this association is to guarantee the continuity of the certification establishing the necessary conditions to fulfil the requirements of sustainability of MSC. The specific goals are details as follow:



- ✓ Comply with and ensure compliance with codes of good practice that ensure the sustainability of inshore fishing activity in this territory, especially the octopus trap fishery
- ✓ Collaborate actively with scientific, public and private institutions in the study of the octopus fishery and, incidentally, other species of the area
- ✓ Extend, promote and control the implementation of responsible fishing practices with the conservation of the marine environment and the sustainability of fishery resources among professionals in the sector
- ✓ Guide, support and promote proposals for conservation that have application and validity in the management of the octopus fishery, by its inclusion in the fishery specific management plan or legislative regulation that exists in this regard
- ✓ Promote research related to the fishing sector, especially research affecting the octopus fishery, and improve fisher's knowledge
- ✓ To contribute to the exchange of experiences and knowledge relating to the biology of marine species, stock status, fisheries management, processing, marketing and promotion or conservation measures
- ✓ Maintain a permanent relationship with the administration in the application of measures of protection of the environment and sustainability of resources
- ✓ Participate in the different networks or multidisciplinary working groups that are created with the objective of analyzing the fishing activity from its different biological, economic, environmental, legislative and social aspects, in order to elaborate proposal and establish lines of action that guarantee the sustainability of Professional coastal fishing, with special reference to the octopus fishery
- ✓ Promote consumption habits of sustainable fishery products
- ✓ Represent the interests of its members before the different administrative, legal and political
- ✓ To be a basis for improving the training and professional relationships of the associates
- ✓ To contribute to the conservation of the natural, cultural and historical heritage linked to the fishing activity

The certificate owner of the fishery was modified changing the ownership of the certificate from the Cofradía de Puerto de Vega to ARPESOS. In accordance with this request Bureau Veritas proceeded with this modification and the new a new certificate was issued and published at the MSC website (Uploaded on July 5, 2017).

2.5. REGULATORY FRAMEWORK AND FISHERY MANAGEMENT

The OFMP for the fishing season 2016-17 (Resolución de 7 de diciembre de 2016), currently in place, has introduced several changes from the previous management plan, related to the marking of each line of traps:

- 1) Marking of the line of traps (Third regulation of the MP, clauses 4 and 5).
 4. *In order to facilitate the fishing effort control, the lines of traps should be marked in accordance with the current regulation. The number of traps that are set in the line must be clearly indicated in the buoys.*
 5. *Failure to comply with the provisions of the previous clause may result in seizure of the fishing gear, in accordance with the provisions of the Law of the Principado de Asturias 2/1993, of October 29, on Maritime Fishing and Use of Marine Resource.*



2) Installation of tracking devices (GPS/GPRS) (Second regulation of the Additional regulations, clause 2).

2. In order to determine the fishing areas and the fishing effort, a GPS / GPRS tracking device, which will be provided and installed by the CEP, may be installed on the vessels that are part of the MP. The device, whose installation will be mandatory when required, will be withdrawn by the CEP at the end of the fishing season.

The installation of tracking devices already started in the fishing season 2014-15 through a project commissioned to the consultancy firm SIGMA SL for characterizing the fishery. The novelty is that from the fishing season 2015-16 this measure has been incorporated into the MP, and although not all vessels are tracked, it is mandatory for the ship master to allow the installation of the device if his/her vessel if the CEP decides to do it.

During the fishing season 2014-15, 20 vessels of the UoC were tracked with GPS, and during the next seasons, 2015-16 and 2016-17 the number was reduced to 14 and 4 vessels respectively. The reason for this reduction was that the CEP decided to use the tracking devices in other vessels of the OFMP not included in the UoC. The CEP has the intention to track all vessels from the UoC in the fishing season 2017-18 using VMS devices.

3) Consultative Monitoring Commission (Third regulation of the Additional regulations).

An Octopus Fishery Monitoring Commission (OFMC) is created as a consultative body for following-up the OFMP in order to improve and achieve the objectives of the fishery, and it is expected to meet twice a year. The roles of this OFMC are: a) exchange of information and knowledge between stakeholders, b) inform or propose changes in the management measures, and c) promote and facilitate scientific studies and technical monitoring.

The members of the OFMC are the CEP Chief of Section, the CEP responsible of the following up of the OFMP, the responsible for the MCS of the western area of Asturias, and one delegate of the octopus' fishers from each of the fishers' guilds that are part of the OFMP (currently 8 fishers' guilds). Other invited members could also participate in the OFMC (WWF-Spain is expected to participate in the next meeting, see **table 4-3**).

The scope of the OFMC are all the vessels and fishing grounds included in the OFMP (~ 50 vessels) and not only the ones of the UoC (currently 31 vessels), and its role is just as a consultative body. Nevertheless, the UoC vessel owners consulted during the on-site visit would like (and expect) that in the future the OFMC proposals become binding.

How decision and proposals should be taken inside the OFMC has not been regulated so far.

Besides the 3 modifications explained above, the other management measures remain the same as previously assessed in the Western Asturias Octopus Traps fishery of Artisanal Cofradías PCR.

2.6. COMPLIANCE

A work done during the fishing season 2014-2015 in the four fishers' guilds of the UoC revealed a "high degree of non-compliance in the number of traps used" (CEP-SIGMA, 2016). This study was done by biologists from the CEP and SIGMA SL for characterizing the octopus' fishery and it just had a descriptive intention, without any surveillance purposes. The OFMP establishes a maximum number of traps allowed in each boat based on the number of crew members on board. This measure has not changed since the 2010 OFMP, and it establishes a maximum of 125, 250 and 350 traps for vessels with 1, 2 and 3 or more crew members respectively. The study found an average of 220, 326 and 453 traps for UoC vessels with 1, 2 and 3 or more crew members respectively (**Table 2-5**). This difference represents an increase of 76%, 30% and 29% in the number of traps for vessels with 1, 2



and 3 or more crew members respectively, with regard to the maximum numbers of traps allowed in the MP.

This study also shows that all vessels from the UoC fail to observe this management measure, since the minimum of traps founds per each vessel category, is always above the maximum number allowed in the MP.

Table 2-5. Number of traps used by vessels from the UoC with different number of crew members on board, with regard to the maximum number allowed based on the 2014-15 OFMP (the OFMP in force when the study was done). (Source: modified using data from the CEP-SIGMA 2016 study).

# of crew members	max. # of traps allowed in the MP	# of traps used when fishing					
		min.		average		max.	
#	%	#	%	#	%	#	%
1	125	200	60%	220	76%	250	100%
2	250	280	12%	326	30%	394	58%
3	350	360	3%	453	29%	534	53%

The CEP-SIGMA (2016) study concluded that given the high degree of non-compliance in the number of traps used, a participative process with the fishing sector could be initiated to analyse the current situation and review this management measure to adjust the fishing effort to the exploitable octopus' stock, either by applying new control measures, varying the maximum number of traps allowed, considering other alternative systems for controlling the effort (fishing hours for example), etc.

The Fisheries Inspection and Surveillance Unit (unit belonging to the Resource Protection Division of the DGPM) is aimed at ensuring compliance with measures relating to the activities regulated by Law 2/93 on Asturian Fisheries. In order to fulfil with its competences, this unit currently has three small boats (6-7 m long) for on sea inspections on the fishing gears, catches and any other issue related with the fishery. During the SA on-site visit, members of this unit admitted that these boats are not big enough for lifting the lines of traps, therefore, the number of traps in each line cannot be checked. Due to this, the unit has currently no ability to seize and remove lines of traps on the sea, therefore, they were un-able to corroborate the high degree of non-compliance in the number of traps stated in the CEP-SIGMA (2016) report. The CAB was told that a new and big boat for conducting this kind of inspections on the sea is going to be operational in 2019.

The Inspection and Surveillance Unit conducts regular inspections at sea, ports, auctions, fish markets, and hotels and restaurants. The number of inspections carried out during the latest octopus fishing season by within the geographical scope of the OFMP are presented in **Table 2-6**.

Table 2-6. Number of inspections performed by the Inspection and Surveillance Unit during the latest octopus fishing season (20016/2017). Source: DGPM

Location	# inspections
At sea	23 (22 on vessels targeting octopus)
Ports (offloading)	68 (62 on vessels targeting octopus)
Auction points	40
Fish markets	9
Restaurants	7
Recreational fishers	8

Apart from the recreational fishers (which received 18 and 8 sanctions in 2016 and 2017 respectively), no sanctions were issued to the professional fishers in 2017 and only one in 2016. This is in accordance with the fact confirmed during the site visit, that all stakeholders



(including the Fisheries Inspection and Monitoring Unit) perceive this fishery as a non-conflictive fishery.

Another relevant role in the MCS system is the *Guardapescas* as a private surveillance force directly hired by the fishing guilds with funds from the DGPM. The *Guardapescas* are affiliated with the guild and their roles and responsibilities are clearly defined by Decree 23/1995 of 2 March (1. Ensure compliance with the rules and regulations governing fishery; 2. Collaborate with monitoring of Principality of Asturias' Inland Waters Surveillance in monitoring compliance with the legislation on fisheries; and 3. Report regularly on the state of fishery resources). The *Guardapescas* has no power to impose a sanction; rather, should he believe that a violation is taking place he must inform the competent authority (Civil Guard or the Office of Fisheries Inspection and Surveillance of the DGPM).

Due to the new findings described above, the CAB decided to re-score PI 3.2.3 (see **Appendix 1** for more details), and as a result this PI's score was downgraded to 65 and a new condition was established in **Table 4-5: CONDITION 4A (NEW)**.

The CAB has not found any other non-compliance of the UoC to the management measures in place.

2.7. TRACEABILITY ISSUES

As already explained in **section 2.3**, the authorized landing and auction points are still limited to those ports and auction points included in the PCR and fishery certificate:

- Puerto de Vega port and auction point
- Tapia de Casariego port and auction point
- Viavélez port and auction point
- Ortigueira port (fishers from this port sell their catches at Puerto de Vega auction point)

During the SA the assessment team checked sales records from all three active auction points (see above) and verified that a specific code was created for MSC-certified octopus, different from non-certified octopus. Also, every vessel has a different code, and every sale generates an automatic batch code which can be traced in the buyer's order.

The system explained above allows segregating the certified octopus from the one that is not certified. Besides the above, no significant changes were found affecting traceability of certified products coming from this fishery.

During the site visit the assessment team had the opportunity to check a daily offload at Viavélez and verified that the *Guardapescas* in charge was weighting the catches as fishermen arrived, as described in the PCR.

2.8. SCIENTIFIC BASED INFORMATION RELATED TO P1

The assessment team considered that the information presented below means that the information base for P1 PIs has not changed and no re-scoring is needed.

The CEP annual report of the fishing season 2016-17 was still not available during the on-site visit of this SA, so information showed below is from the 2015-2016 fishing season report (Fernández 2016) from which the fishery statistics were obtained. Another very important report was done based on on board sampling to UoC vessels along the fishing season (CEP-SIGMA, 2016).

The number of vessels in the OFMP was kept around 40 vessels per season, while catches in 2014-2015 went up considerably to 140 t for descending again in 2015-16. CPUE (kg per



fishing day) were also in line with the historic data (¡Error! No se encuentra el origen de la referencia.).

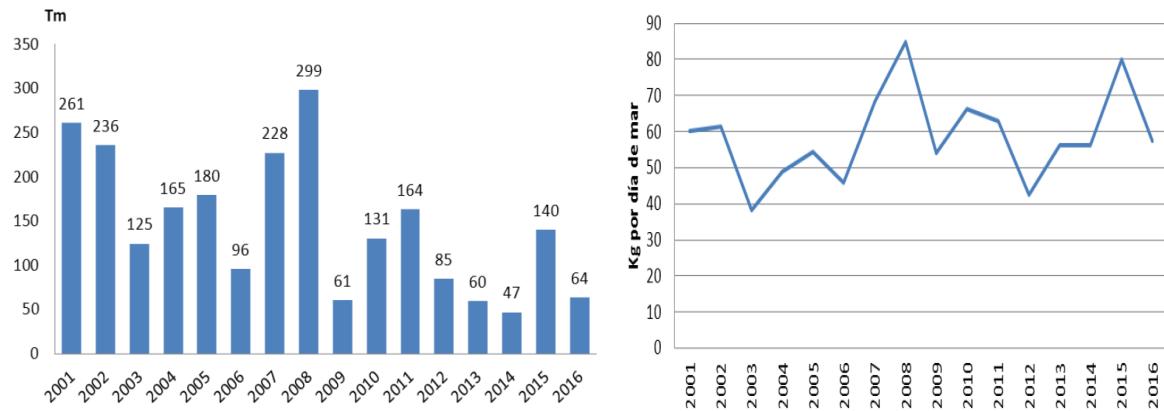


Figure 2-1. Historic catches (left graph) and cpue (kg/fishing day) (right graph) for the octopus fishery in Asturias. Source: Fernández, 2016.

The percentage of individuals below the weight limit of 1 kg was kept all the season around 4-8% of the landings, but at the end of the season, especially in July, this percentage went up to ~ 18% (Fernández 2016).

A total of 14 vessels (from the fishing guilds of Figueras, Tapia, Viavélez, Ortiguera and Puerto de Vega,) were tracked by GPS during 2015-16 along more than 600 fishing days. Based on the speed a map of relative fishing intensity could be drawn (**Figure 2-2**). Most of the fishing operation last between 3-6 hours from 7 to 13 hours (local time) in the morning (Fernández 2016). The lines of traps (with 35 traps on average) were hauled up twice during the day in 14-39% of the cases during January-April, but out of this months, traps were only checked once a day (CEP-SIGMA, 2016). The average distance to the coast where the traps are set is 940m and 86% of the fishing operations are done at least than 1,600m from the coast season (CEP-SIGMA, 2016).

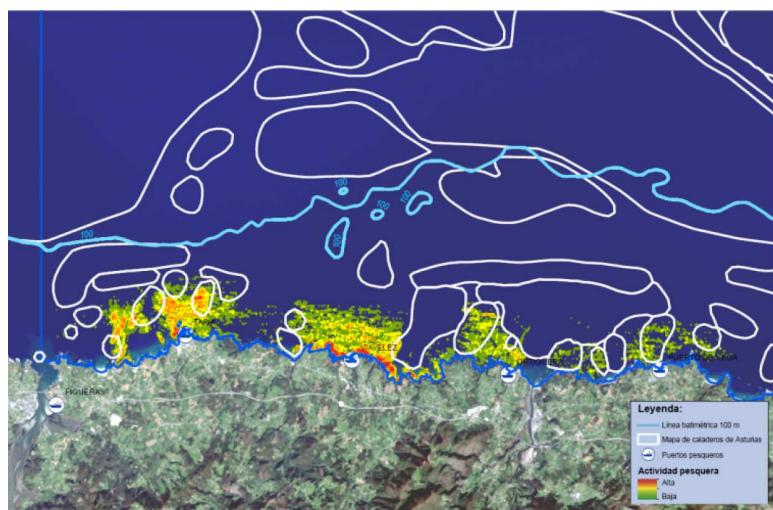


Figure 2-2. Fishing intensity (high in red, medium in yellow and low in dark green) tracked by GPS of the octopus vessels in the coast of Asturias during the fishing season 2015-16. Source: Fernández, 2016.

The proportion of octopus males-females in the catch are around 1:1 of males during the whole fishing season. Along the season the average weight drops from ~1.4 kg in December to ~0,6 kg July, in both sexes, although males are usually bigger (**Figure 2-3**). Most of the catches retained in the traps (~65%) are between 0,5-1,25 kg. Although 57% of the octopus along the season were below 1 kg, the characteristics of the traps also allows a great survival rate of those underweight discarded individuals of ~99%.

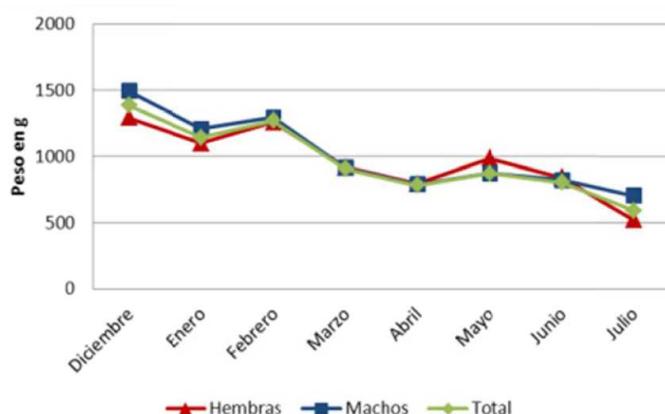


Figure 2-3. Evolution of mean weight (in g) along the fishing months during 205-16. (Note on legend: females in red, males in blue and total in orange). Source: CEP-SIGMA, 2016.

Concerning the octopus biology, the CEP-SIGMA (2016) report studied the reproductive and recruitment season finding that recruitment intensity happens in one only peak in May-July and the reproductive index is maximum in another single peak in December-February. Another study was done marking up to octopus juvenile individuals ($n=1,110$ octopuses) between 0,1-1 kg. Only 21 of those octopus were recaptured after 1-90 days. The distance travelled was almost negligible, being in 90% of the cases less than 300m, with coincides with other mark-recapture experiments done with this species. Nevertheless, distance travelled towards deeper water or from deeper waters to coast, were not possible to detect due to limited spatial coverage during the samplings to depth areas.

The OMA (University of Oviedo) is now working on studying the possible applicability of new tools for a scientific assessment of the octopus' fishery. During this study a model for assessing the *O. vulgaris* stock in Asturian waters will be proposed along with the development of fishery indicators and reference points towards assessing the fishery for a sustainable management. The project it is expected to presents its conclusions at the end of 2017.

Mauvisseau et al (2017) in a pilot study applied a new technique using *environmental DNA* as a new method for assessing the distribution and abundance of *octopus vulgaris* in Asturias waters. By analyzing water samples this method was able to detect the presence of *O. vulgaris*. Nevertheless, the use of *environmental DNA* methods for fishery assessments purposes are still very far for being implemented.

2.9. SCIENTIFIC BASED INFORMATION RELATED TO P2

The assessment team considered that the information presented below means that the information base for PIs 2.1.x and PIs 2.2.x has changed. Therefore, in accordance with FCR 7.23.12.5 the aforementioned PIs were re-scored (see **re-scoring tables in Appendix 1**). Although no conditions were raised, a recommendation was opened (see **Table 4-6** in **Section 4**).

Information on bycatch species from the Galician octopus trap fishery in the nearby region of the Cantabric coast, was initially used during the assessment of the fishery (see PCR). During the assessment, an on board monitoring of the UoC started and partial information from this monitoring was made available for the assessment team to use in the PCR.

Based on this monitoring, a comprehensive report was published afterwards (CEP-SIGMA, 2016) characterizing the trap octopus fishery in Asturias. This report provides new and/or updated information related to the P2, based on on board sampling from December 2014 to July 2015 in vessels of the UoC. Moreover, and although the data has not yet been analyzed, since 2016 this sampling have been extended to the whole UoA, actually all vessels included in the 2016/17 OFMP are bound to collaborate with this sampling (by getting a biologist on board) under CEP request. The assessment team has not found other new sources of information, so all the information that will be showed in this section corresponds to the mentioned report.

A total of 44 species and 2 genera has been found as bycatch of this fishery (**Table 2-7**). This species composition expands the bycatch list of species detailed in the PCR. Of this list, none of the species are considered out of the scope, and only one, *Charonia lampas*, is an ETP species, as it was also considered in the PCR (ETP species were checked using the Spanish List of Wildlife Species under Special Protection from the Real Decreto 139-2011 and the Red Book of the Asturian Fauna). Five individuals of this vulnerable species were found in the traps and all of them were discarded alive. Therefore, the information base for scoring Pls 2.3.x (ETPs) has not changed and no re-scoring of these Pls is needed.

None of the other species are managed with tools and measures intended to achieve stock management objectives reflected in either limit or target reference points, so, all of them are considered Secondary species, and “minor”, since the percentage in weight related to the total catch is always below the 5% threshold. In the PCR, the velvet crab (*Necora puber*) was the only Secondary main species considered, nevertheless, in the CEP-SIGMA (2016) report, this species only represents 1.03% of the total catch, so for future SA we will consider the velvet crab as Secondary minor. Most of the velvet crabs (51% in weight and 65% in number) were discarded because of being below the size limit, carrying eggs or on the reproductive closure, and 88.5% were alive when discarded. Almost all the velvet crabs were captured from May to June.

Most common species in weigh captured, besides *O. vulgaris*, were the sea star *Marthasterias glacialis* (4.14%) and the crab *Polybius henslowii* (1.6%), both without commercial interest, followed by three commercial species (*Serranus cabrilla*, *Necora puber* and *Conger conger*) (~ 1% each). Of the total catch, 97.8% of the individuals captured were discarded because of not having commercial interest and 98.6% of these discards were alive when removed from the trap.



Table 2-7. Retained captures, discarded and totals in number (N) and in weight (W). Information from the sample on board from December 2014 to July 2015. Source: CEP-SIGMA, 2016.

NOMBRE CIENTÍFICO	NOMBRE COMUN	Nº RET.	Nº DESC.	Nº TOTAL	PESO RET.	PESO DESC.	PESO TOTAL	% N	% PESO
<i>Octopus vulgaris</i>	Pulpo	978	1.290	2.268	1.446.554	841.861	2.288.415	28,111%	90,327%
<i>Marthasterias glacialis</i>	Estrella de mar común	-	1.378	1.378	-	104.972	104.972	17,080%	4,143%
<i>Polybius henslowii</i>	Patexo	-	2.790	2.790	-	40.613	40.613	34,581%	1,603%
<i>Serranus cabrilla</i>	Cabrilla	-	558	558	-	26.348	26.348	6,916%	1,040%
<i>Necora puber</i>	Nécora	84	157	241	12.910	13.303	26.213	2,987%	1,035%
<i>Conger conger</i>	Congrio	-	27	27	-	22.319	22.319	0,335%	0,881%
<i>Scyliorhinus canicula</i>	Pintarroja	-	12	12	-	3.901	3.901	0,149%	0,154%
<i>Labrus mixtus</i>	Gallano	-	30	30	-	2.003	2.003	0,372%	0,079%
<i>Galathea strigosa</i>	Sastre	-	96	96	-	1.948	1.948	1,190%	0,077%
<i>Gaidropsarus mediterraneus</i>	Bertorella	-	33	33	-	1.815	1.815	0,409%	0,072%
<i>Parablennius spp</i>	Blenio	-	107	107	-	1.651	1.651	1,326%	0,065%
<i>Gaidropsarus vulgaris</i>	Lota	-	13	13	-	1.623	1.623	0,161%	0,064%
<i>Charonia lampas</i>	Caracola	-	5	5	-	1.515	1.515	0,062%	0,060%
<i>Holothuria forskali</i>	Holoturia negra	-	20	20	-	1.350	1.350	0,248%	0,053%
<i>Cancer pagurus</i>	Buey de mar	-	12	12	-	1.122	1.122	0,149%	0,044%
<i>Ophioderma longicauda</i>	Ofiura lisa	-	149	149	-	1.107	1.107	1,847%	0,044%
<i>Homarus gammarus</i>	Bogavante	-	7	7	-	1.070	1.070	0,087%	0,042%
<i>Parablennius gattorugine</i>	Cabruza	-	22	22	-	909	909	0,273%	0,036%
<i>Scyllarus arctus</i>	Santiaguín	2	9	11	150	644	794	0,136%	0,031%
<i>Sphaerechinus granularis</i>	Erizo violáceo	-	6	6	-	741	741	0,074%	0,029%
<i>Maja squinado</i>	Centollo	-	4	4	-	587	587	0,050%	0,023%
<i>Inachus spp</i>	--	-	120	120	-	539	539	1,487%	0,021%
<i>Ctenolabrus rupestris</i>	Tabernero	-	35	35	-	472	472	0,434%	0,019%
<i>Coris julis</i>	Julia	-	5	5	-	340	340	0,062%	0,013%
<i>Palaeomon serratus</i>	Camarón, Quisquilla	44	24	68	220	120	340	0,843%	0,013%
<i>Atelecyclus undecimdentatus</i>	--	-	14	14	-	170	170	0,174%	0,007%
<i>Scorpaena porcus</i>	Rascacio	-	1	1	-	89	89	0,012%	0,004%
<i>Sympodus melops</i>	Porredana	-	1	1	-	84	84	0,012%	0,003%
<i>Trisopterus minutus</i>	Capellán	-	1	1	-	64	64	0,012%	0,003%
<i>Liocarcinus corrugatus</i>	Cangrejo de arrugas	-	6	6	-	61	61	0,074%	0,002%
<i>Raniceps raninus</i>	Pez rana	-	2	2	-	53	53	0,025%	0,002%
<i>Paracentrotus lividus</i>	Erizo de mar	-	2	2	-	45	45	0,025%	0,002%
<i>Labrus bergylta</i>	Maragota	-	1	1	-	32	32	0,012%	0,001%
<i>Pagrus pagrus</i>	Pargo	-	1	1	-	27	27	0,012%	0,001%
<i>Centrolabrus exoletus</i>	Farro	-	1	1	-	27	27	0,012%	0,001%
<i>Gobius cobitus</i>	Gobio gigante	-	1	1	-	23	23	0,012%	0,001%
<i>Atelecyclus rotundatus</i>	--	-	1	1	-	21	21	0,012%	0,001%
<i>Gobius paganellus</i>	Bobi	-	1	1	-	20	20	0,012%	0,001%
<i>Trisopterus luscus</i>	Faneca	-	1	1	-	16	16	0,012%	0,001%
<i>Pisa armata</i>	--	-	3	3	-	13	13	0,037%	0,001%
<i>Echinaster sepositus</i>	Estrella espinosa	-	4	4	-	12	12	0,050%	0,000%
<i>Liocarcinus marmoreus</i>	Cangrejo de arena	-	6	6	-	9	9	0,074%	0,000%
<i>Bathyneutes longipes</i>	--	-	1	1	-	8	8	0,012%	0,000%
<i>Asterina gibbosa</i>	Estrella del capitán	-	1	1	-	3	3	0,012%	0,000%
<i>Xaiva biguttata</i>	Xaiva	-	1	1	-	2	2	0,012%	0,000%
<i>Pisa tetraodon</i>	--	-	1	1	-	2	2	0,012%	0,000%
Total		1.108	6.960	8.068	1.459.834	1.073.654	2.533.488	100%	100%

Further, although this study confirmed that most of the vessels are using artificial bait as assessed in the PCR, it also detected that some vessels are using pelagic species as bait (mackerel, horse mackerel and sardine). In the CEP-SIGMA (2016) report, there is only relative information (% of each type of bait used in each fishing port; artificial and/or fish species) on the bait used by the UoC, but the client provided to the assessment team unpublished quantitative information on the bait used in the traps by the UoA. The main bait used in the traps by the UoA is artificial bait. There is no information on the composition of this artificial bait, but see the PCR for more information. Some vessels uses sometimes small amounts of frozen fish based on pelagic species (sardine - *Sardina pilchardus*, horse mackerel - *Trachurus trachurus* and mackerel *Scomber scombrus*) (**Figure 2-4**), especially in the fishing guild of Tapia, although the client confirmed that this eventually happens in some of the other guilds included in the UoA. In the fisheries targeting the three species



used as bait, managed tools and measures are in place, intended to achieve stock management objectives reflected in either limit or target reference points, according to ICES advice. Therefore, the three resources should be considered as Primary species for P2 purposes in this fishery. The small quantities of bait used in the UoA (around 1,300 kg of mackerel, 600 kg of sardine and 150 kg of horse mackerel), according to the client information, only represents 1.5%, 0.7% and 0.2% of the total catch of octopus of the UoA for the fishing season 2016-17 (nearly 88 t). Based on these percentages the assessment team decided to consider these three pelagic species as minor primary species. Therefore, no main primary species has been found in this fishery.

Horse mackerel (*T. trachurus*) in the Northeast Atlantic (Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k) is fished by Netherlands, Ireland and Spain, between many other countries, using pelagic trawling, purse seine and several other gears. Since 2008 a management plan has been used to set the EU TAC, nevertheless ICES does not advise according to the management plan because it is not consistent, in its current configuration, with the precautionary approach (ICES, 2017a). The stock and the fishery are very dependent on occasional high recruitments. Since 2006, SSB has been declining and is currently the lowest observed in the time-series, just below MSY $B_{trigger}$ but above B_{lim} (limit reference point for spawning stock biomass). The stock is on a downward trajectory and there is limited information on recent recruitment, which makes it difficult to predict future stock development. Fishing mortality increased from 2007, but dropped in 2015–2016 and is currently below F_{MSY} .

Mackerel (*S. scombrus*) is considered by ICES as a widely distributed stock and its distribution area has been expanded in this decade both south and north. This pelagic species is mainly fished using pelagic trawling (~80%), and the rest by purse seiners, by almost all Atlantic European countries. The stock advice is done for the entire distribution area (Subareas 1–7 and 14, and in divisions 8.a–e and 9.a -Northeast Atlantic-). Mackerel fishery has many reference points in place (MSY $B_{trigger}$, F_{MSY} , B_{lim} , B_{pa} , F_{lim} and F_{pa}) and uses both, a MSY and a Precautionary approach. Based on 2016 ICES advice, the spawning stock biomass has been well over the MSY $B_{trigger}$ and B_{pa} during the last 10 years, but although the fishing pressure its being reduced since 2003, it is still over F_{MSY} and F_{pa} (ICES, 2016).

It is not clear which stock provides the sardine (*S. pilchardus*) used as bait in the UoA; most probably, because of its geographical proximity, is that this sardine comes from the Iberian and/or the Bay of Biscay stock. Purse-seine is the most used fishing gear (>80%) followed by pelagic trawling. Bay of Biscay stock (Subareas 8.a,b,d) is mainly fished by France and Spain, but there is not an agreed precautionary management plan for managing the fishery in this area. Although fishing mortality has been above F_{MSY} since 2012 (but below F_{lim}), the recruitment pulses has allowed to maintain the spawning–stock biomass (SSB) above MSY $B_{trigger}$, almost reaching the 2005 historic peak due to the massive recruitment observed in 2016 (ICES, 2017b). On the other hand, Iberian stock of sardine (Division 9.a and Subarea 8.c) is fished by Spain and Portugal under a multiannual MP implemented in 2013, based on a HCR that sets a TAC directly according to an estimate of the biomass (ICES, 2013). Biological reference points (B_{lim} , B_{pa} and MSY $B_{trigger}$) were estimated for this stock as part of the benchmark process that took place in 2017. Last ICES advice from July 2017 considers that this MP cannot be considered precautionary, since if fishing under the current HCR the probability of rebuilding the stock biomass in five years from the current biomass level to above B_{lim} is low (< 10%), and in the long term, the probability that the stock is above B_{lim} will be considerably less than 95%; ICES concludes that rebuilding the stock to above B_{lim} with high (> 95%) probability would take about 15 years with no fishing (ICES, 2017c).



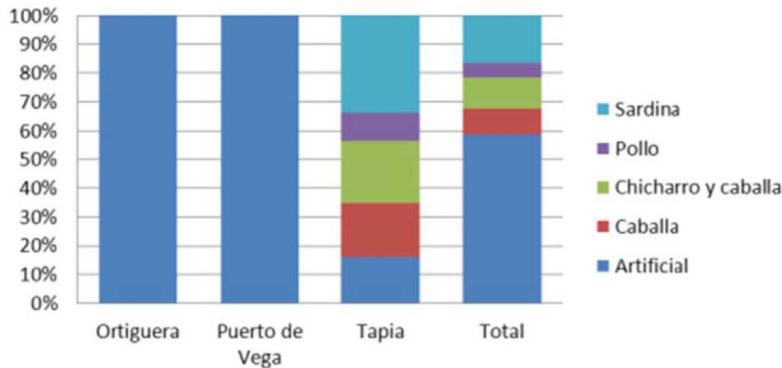


Figure 2-4. Use of bait in the octopus traps of the four fishing guild in the UoC (No information available for Viavélez and the rest of the UoA) (Note on the leyend: Sardina is *Sardina pilchardus*, Chicharro is *Trachurus trachurus*, Caballa is *Scomber scombrus*, and Pollo is chicken). Source: CEP-SIGMA, 2016.

No new information has been found on the impact of the fishing operation in the habitats and/or ecosystems. The CEP-SIGMA (2016) report only gives information on where the fishing takes place; the average depth is 22m (2-55m maximum range) and as the fishing season advance, fishing occurs in shallower areas (**Figure 2-5**). Several reasons can explain this fleet behavior; 1) common octopus has reproductive migrations towards shallower areas in spring, 2) fishing in winter in shallower areas is difficult due to weather conditions, and 3) fishers may change in May-July to focus on other valuable species rather than octopus, like the velvet crab. 96% of the traps were placed in rocky bottoms and in sandy-rocky areas in the rest of the cases.

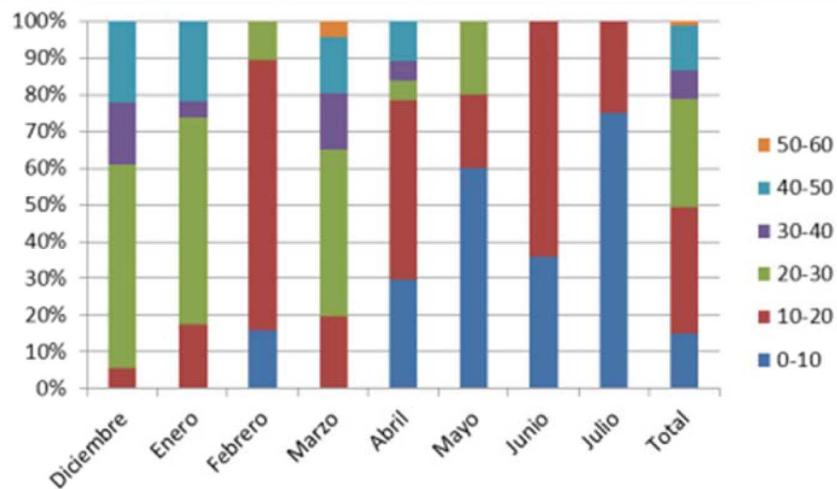


Figure 2-5. Percentage of traps set at several depth ranges by months along the fishing season. Source: CEP-SIGMA, 2016.

3. Assessment Process

3.1 SCOPE AND HISTORY OF THE ASSESSMENT

The fishery is certified since the February 10, 2016. This fishery was assessed against version 2.0 of the MSC Certification Requirements, the report was based on MSC Full Assessment Reporting Template v2.0.

As summarised in **Table 2-3**, four conditions were raised on Performance Indicators (PI) 1.2.2 (HCRs & tools), 3.2.1 (Fishery specific objectives), 3.2.2 (Decision making processes), and 3.2.3 (Compliance & enforcement).

As explained under section 2.4, the new vessels that entered in the certificate (February 2017) had to land and sell their octopus catches in the ports and auction points authorised in the PCR for them to be sold as MSC certified product. As a result, their catches during the 2016-2017 fishing season were included in **table 2-2** and their activity assessed within this SA.

Table 3-1 presents scores given to each MSC Principle as published at the PCR, while **Table 3-2** presents scores for each Performance Indicator. As a result of current SA, PIs 3.2.3, 2.1.1, 2.1.2, 2.1.3 and 2.2.1, 2.2.2, 2.3.3 have been re-scored. See **Table 3-3** and **Table 3-4** for updated scores after current SA.

Table 3-1. Scores obtained by the fishery for each MSC Principle as published at the PCR

Final Principle Scores	
Principle	Score
Principle 1 – Target Species	80,7
Principle 2 – Ecosystem	83,3
Principle 3 – Management System	85,4

Table 3-2. PIs scores of the certified fishery as published at the PCR (in orange scores below 80, meaning a condition was raised for that PI)

Principle	Component	Performance Indicator (PI)		Score	
One	Outcome	1.1.1	Stock status	82	
		1.1.2	Stock rebuilding		
	Management	1.2.1	Harvest strategy	85	
		1.2.2	Harvest control rules & tools	75	
		1.2.3	Information & monitoring	80	
		1.2.4	Assessment of stock status	80	
	Primary species	2.1.1	Outcome	100	
Two		2.1.2	Management strategy	80	
		2.1.3	Information/Monitoring	85	
Secondary species	2.2.1	Outcome	80		
	2.2.2	Management strategy	80		
	2.2.3	Information/Monitoring	85		
ETP species	2.3.1	Outcome	85		
	2.3.2	Management strategy	80		
	2.3.3	Information strategy	80		
Habitats	2.4.1	Outcome	95		
	2.4.2	Management strategy	80		
	2.4.3	Information	80		
Ecosystem	2.5.1	Outcome	80		
	2.5.2	Management	80		
	2.5.3	Information	80		
Three	Governance	3.1.1	Legal &/or customary framework	100	



	and policy	3.1.2	Consultation, roles & responsibilities	95
		3.1.3	Long term objectives	100
Fishery specific management system		3.2.1	Fishery specific objectives	60
		3.2.2	Decision making processes	75
		3.2.3	Compliance & enforcement	75
		3.2.4	Monitoring & management performance evaluation	80

Table 3-3. Scores obtained by the fishery for each MSC Principle after current SA (in red scores changed after current assessment)

Overall weighted Principle-level scores	Score
Principle 1 - Target species	80,7
Principle 2 - Ecosystem	84,7
Principle 3 - Management	84,2

Table 3-4. PI Scores obtained by the fishery for each MSC Principle after current SA (in red scores changed after current assessment)

Principle	Component	Performance Indicator (PI)		Score
One	Outcome	1.1.1	Stock status	82
		1.1.2	Stock rebuilding	
	Management	1.2.1	Harvest strategy	85
		1.2.2	Harvest control rules & tools	75
		1.2.3	Information & monitoring	80
		1.2.4	Assessment of stock status	80
	Primary species	2.1.1	Outcome	100
		2.1.2	Management strategy	85
		2.1.3	Information/Monitoring	90
Two	Secondary species	2.2.1	Outcome	80
		2.2.2	Management strategy	100
		2.2.3	Information/Monitoring	90
	ETP species	2.3.1	Outcome	85
		2.3.2	Management strategy	80
		2.3.3	Information strategy	80
	Habitats	2.4.1	Outcome	95
		2.4.2	Management strategy	80
		2.4.3	Information	80
	Ecosystem	2.5.1	Outcome	80
		2.5.2	Management	80
		2.5.3	Information	80



Three	Governance and policy	3.1.1	Legal &/or customary framework	100
		3.1.2	Consultation, roles & responsibilities	95
		3.1.3	Long term objectives	100
	Fishery specific management system	3.2.1	Fishery specific objectives	60
		3.2.2	Decision making processes	75
		3.2.3	Compliance & enforcement	65
		3.2.4	Monitoring & management performance evaluation	80

3.2 AUDIT PROCESS AND SURVEILLANCE ACTIVITIES

The first anniversary date of the certificate was on February 2017. In accordance with FCR 7.23.6 the surveillance audits shall be undertaken by the anniversary date of the certificate. However, FCR 7.23.6.1 allows CABs to move SAs up to 6 months earlier or later than the anniversary date, where this deviation is appropriate given the circumstances. Before the first SA was announced, BV received a request from the client to move the SA closer to the end of the fishing season due to the following circumstances:

- The fishing season runs from mid-December to mid-July. A ban on octopus catches stretches from mid-July to mid-December.
- Annual octopus catches concentrate from January to April. The surveillance timing proposed in the PCR would significantly alter both fishermen and biologist's work.
- The OFMP is annually reviewed and published in the Official Gazette of the Principality of Asturias (BOPA). The MP for 2016-2017 fishing season was published 7th December 2016.
- A new monitoring committee has been included in the OFMP (BOPA 2016-2017) but it will be formalized in February 2017. In addition, a technical committee has been also created internally for the guilds certified which includes different stakeholders.
- The CEP has started an enhanced data collection system for the new season (December 2016). The results will need to be assessed by the end of the fishing season.

For all the reasons mentioned above the first SA was moved back to beginning of July 2017. In accordance to FCR 7.23.6.2 this modification was detailed in the [SA announcement](#) published at MSC website on January 10.

In addition to the on-line publication of the SA announcement, 50 different stakeholders were contacted via e-mail (including Asturian and Galician fishers and manager representatives, research centres –IEO, ICES, Universidad de Oviedo, - and NGOs –WWF, Oceana, Greenpeace, Seo-Birdlife, Ecologistas en Acción-).

The site visit was carried out between the **July 3-5 2017** in Asturias and Vigo (Galicia). Both the lead auditor (Jose Rios) and the assessor (Gonzalo Macho) participated in the visit. Two MSC representatives (Carlos Montero and Alberto Martín, MSC fisheries officers in Spain and Portugal) participated as observers in almost all meetings (see **Table 3-5** for details).

The agenda of the site visit, including institutions visited, people met and main topics discussed are presented in **Table 3-5**. During the visit the team concentrated in checking for any relevant modification affecting the fishery and assessing progress on the conditions established in the PCR. Information collected on relevant modifications affecting the fishery is summarized in **section 1** of the current report, while the assessment made on the progress towards closing the conditions is presented in tables under **section 4**.



Table 3-5. Agenda followed by the assessment team during the site visit, including institutions visited, people met and topics discussed are presented. The BV team members attended to all meetings, while MSC representatives participated as observer in all meetings but those marked with an (*)

Day	Time	Place	Atendees	Role, Institution	Main topics discussed	
Monday 03/07/17	13:00-14:00	CEDER Navia-Porcia headquarters	Germán Campal	Representatives of CEDER Navia-Porcia	- Check for significant updates affecting the fishery - CEDER and Mario's role	
			Mercedes Elola			
			Mario Pidal	Independent Consultant		
	15:50-16:40	Cofradía de Puerto de Vega	Marcelino Pión	Vessel owner, Cofradía Puerto de Vega +ARPESOS	- Review traceability issues	
			Mario Pidal	Independent Consultant		
	17:15-19:00	CEDER Navia-Porcia headquarters	Julio Blanco	Vessel owner, Cofradía Ortigueira + ARPESOS	- Review progress towards all 4 conditions - Check for significant updates	
			Jose Ramón García	Vessel owner, Cofradía Viavélez + ARPESOS		
			Jose Manuel García	Vessel owner, Cofradía Viavélez + ARPESOS		
			Carlos Bedia	Guardapesca, Cofradía Viavélez + ARPESOS		
			Isidro Gonzalez	Guardapesca, Cofradía Tapia + ARPESOS		
			Marcelino Pión	Vessel owner, Cofradía Puerto de Vega + ARPESOS		
			Ramón I. Pérez	Vessel owner, ARPESOS		
			Mario Pidal	Independent Consultant		
Tuesday 04/07/17	9:30-10:45	DGPM headquarters (Gijón)	Mª del Pino Fernandez	Biologists, CEP	- Review biological monitoring system - review progress towards conditions 1, 2 & 3	
			Lucia García	Chief of Section, CEP		
			Angel Muñoz	Biologists, SIGMA, S.L.		
	10:50-11:40		Valentín García	Chief of the Fisheries Inspection and Monitoring Unit, DGPM	- Review MCS system and compliance issues	
			Lucía García	Chief of Section, CEP		
	13:15-13:50	Cofradía de Viavélez(*)	Carlos Bedia	Guardapesca, Cofradía Viavélez	- Review progress toward condition 4	
			Isidro Gonzalez	Guardapesca, Cofradía Tapia		
			Casimiro Fernandez	Guardapesca, Cofradía Ortigueira		
Wednesday 05/07/2017	10:30-11:30	BV headquarters in Vigo (*)	Beatriz Nieto	Fisheries officer, WWF-España	- Review WWF participation in the OFMC and in the preparation of technical workshops	



4. Results (conditions and recommendation)

Table 4-1: Condition 1

Performance Indicator & Score	Insert relevant PI number(s)	Insert relevant scoring issue/scoring guidepost text	Score
	1.2.2	SI(a) SG80- Well defined HCRs are in place that ensure that the exploitation rate is reduced as the PRI is approached, are expected to keep the stock fluctuating around a target level consistent with (or above) MSY	75
Condition	<p>Before the end of the certification cycle, evidence must be presented that shows there are well-defined HCRs in place which are responsive to the state of the octopus stock in the coast of Asturias. Management tools and measures should ensure that the exploitation rate is adequate to the octopus population status and are expected to keep the stock fluctuating around a sustainable long-term highly productive level and above an acceptable risk range.</p>		
Milestones	<p>The following actions can be verified during annual surveillance audit:</p> <p><u>Year 1:</u> The client shall demonstrate that it has taken steps to support the development of comprehensive HCRs.</p> <p><u>Year 2&3:</u> The fishery shall demonstrate that options for HCRs have been outlined and discussed with stakeholders, and a policy document developed.</p> <p><u>Year 4:</u> The fishery shall demonstrate that the HCRs are responsive to the state of the stock and the policy changes agreed in previous years and have been formally accepted by the government of the Principality of Asturias with clear evidence of the implementation of the agreed HCRs.</p>		
Client action plan	<p>The proposal for actions to be carried out entails the following plans:</p> <p><u>January – October 2016:</u> Joint assessment by the parties involved in the OFMP of current knowledge about capture control and the determination of the variables that will be needed for finding out and recording within a given time period the number of specimens, weight, location, variability of fishing grounds, seasonal fluctuation, etc. with regard to the specific determination of the CPUE in the assessed area.</p> <p>The biological information needed to establish correlations that will enable the adaptation of management systems will be taken into account, with a basic review of the HCRs and the TAC in order to ensure the sustainability of the stock and to avoid its over-exploitation above a risk level acceptable for the population.</p> <p>A research programme with the methods and instruments needed to properly record the HCRs and any diagnostic instruments needed will be designed with the biological indices to be taken into account defined.</p> <p>The objective is to establish a harvest threshold risk level for a given period. This implicitly means proposing minimal models of resource abundance based on which a fishery control mechanism would be established, with the possibility of closing the fishery when it is deemed that the population has reached an acceptable minimum.</p> <p>These actions will be developed jointly, and will result in clear and firm cooperation commitments between the regional administration, fishermen's guilds included in the Principality of Asturias' Octopus OFMP and the CEP. Other organisations, such as the Navia-Porciá Coastal Action Group will also be collaborating.</p> <p>A document containing objectives, goals and a commitment to agreements</p>		



among all the parties involved and that will ensure rigorous control of catches for sustainable self-management of stocks will be drawn up.

October 2016 – September 2018: Application of the methodology designed in the previous phase with the recording and harvest control by the fisheries sector under the supervision of the CEP in order to determine acceptable levels of biological risk.

Working sessions between all the parties involved to follow up the work will be held based on a pre-established schedule, and the results obtained by applying the recording and harvest control instruments proposed will be assessed. Follow-up reports will be drafted with the results obtained in the successive fishing campaigns.

November 2016 – December 2018: Organisation of technical workshops on octopus fishery which will address the Forum's recommendations on octopus fishery in northwestern Spain, held in Santiago de Compostela in January 2015. The aim – among others – of these workshops will be an analysis and discussion by the scientific community of the results that are being obtained from field work, and conclusions will be drawn on measures to implement in the management plans in order to ensure the sustainability of the resources.

This action will be organised in collaboration with the Navia-Porcia Coastal Action Group and the WWF, calling on participation from the scientific community and industry not only in Asturias, but also Galicia and Portugal, or other communities related to octopus fishing.

June 2018 – November 2018: Drafting of the conclusions of the research programme, with recommendations to be considered by the administration when developing future management plans that will ensure exploitation based on the fluctuations of the species and that will ensure the non-overexploitation of resources that are below risk levels.

June 2018 – November 2018: Definition and incorporation of the conclusions and recommendations obtained in the research programme into the guidelines for the Octopus MPs in the Principality of Asturias, and addition thereof to the text published in the Official Gazette of the Principality of Asturias (BOPA), ensuring the sustainability of the stock through management tools and measures.

The objective is to incorporate exploitation control measures that complement current fisheries management strategies with regard to the octopus catch (annual quota per vessel, number of creels per vessel, minimum weight, closed season) into criteria relating to the species' biomass, considering the results per unit of fishing effort not for the whole period, but rather continuously, ensuring that a minimum of octopus fishing is not exceeded.

This way, should the results so indicate, a limitation could be placed on the current criteria for the closed season, or on the number of traps included in the current HCR, or a review – depending on the trend of the catches – carried out of the minimum authorised weights.

November 2018 – November 2019: Implementation of the OFMPfor the 2018-2019 campaign, collection of information and assessment of results.

Analysis of the possibility of establishing a protocol for self-management of the fishery by each guild included in the plan, within the general framework, based on the maintenance of the fishing effort at limits acceptable for the sustainability of the species, with the possibility of the closure of the fishery when this limit is reached.

The co-responsibility for coordinating the proposed targets will be assumed by the member of the four fishermen's guilds involved in the certification process for which the Puerto de Vega guild acts as coordinator.

Achieving the objectives and goals proposed requires the necessary involvement of the politicians and technicians deemed responsible as determined by the DGPM and leveraging the already-existing formal channels of information and discussion of the octopus MP, which provides for meetings and agreements between: the other members of the fishermen's guilds included in the Octopus OFMPof the Principality of Asturias; those politically and technically



	<i>responsible for the CEP; and – to a lesser extent – other agencies and bodies of local scope, such as the Navia-Porcía Zone Coastal Action Group.</i>
Progress Condition [Year 1] on	<p>As a result of the multi-stakeholder COFWG meetings (see section 2.4 for more details on the COFWG), certified vessel owners agreed on the following proposals aimed to help the design and later implementation of HCRs responsive to the state of the octopus stock in the coast of Asturias:</p> <ul style="list-style-type: none"> ▪ To promote the implementation of a daily and/ or weekly quota per vessel (notwithstanding current maximum quota per fishing season - 10t/vessel). This proposal includes an operational methodology: (i) every February fishery data would be reviewed and assessed by the CEP; (ii) daily/weekly quotas would be discussed and agreed by the MC; (iii) agreed quotas would be implemented in the second half of the fishing season (mid-March - mid-July) ▪ To promote a limitation on the number of fishing hours/day: Current regulation establishes that fishing is allowed from dawn to dusk from Monday until Friday (no fishing during weekends is allowed). Participants would agree to include in the OFMP a regulation establishing an earlier hour of arrival to limit fishing effort (Note: later on, when ARPESOS was created, the members decided to limit their arrival time at 17h). ▪ To promote research on the adequacy of the different available indicators to be used as CPUE (Kg/day, Kg/trap*day, €/day), and how to integrate them in the fishery management. ▪ To collaborate with the CEP in relevant data gathering. Certified vessels agreed to collaborate with the CEP to collect detailed information on the fishery (biologists on board taking samples, GPS installed under CEP requirement, 1 vessel in each cofradía fills a log-book with information on fishing operations – number of traps hauled and re-hauled and their respective octopus catches- using a specific form). Some of these requirements, such as the obligation to install the GPS tracking devices under CEP requirement, have already been incorporated in the OFMP. ▪ To promote a drill on the next fishing season (2017/2018) to test drafted management measures. <p>ARPESOS has committed to elaborate a report compiling all these proposals, so they can be brought up for discussion within the fishery MC, which integrates all vessels included in the fishery MP. The following OFMC meeting is scheduled for next autumn, before the next fishing season (2017/18) starts.</p> <p>On the other hand, the CEP works in parallel with the following initiatives aimed to gain knowledge on the fishery to improve its management and support the development of HCRs:</p> <ul style="list-style-type: none"> ▪ Biological sampling on board fishing vessels. This project started 3 years ago and it is kept in place. A consultancy firm, SIGMA, S.L., is hired for sampling twice a month throughout the fishing season (initially the sampling frequency was 4 times/month, and it was lowered after the first year). Two biologists get on board for sampling, visiting each cofradía every 10 working days approximately. They collect information on fishing operations and sample octopus catches, other retained species and discards. Samplings are also used for other supplementary



	<p>studies that may provide information on stock structure (i.e. genetics, tagging²...).</p> <ul style="list-style-type: none"> ▪ GPS/GPRS tracking of the vessels. As explained in section 2.5 the installation of tracking devices already started in the fishing season 2014/15 through a project commissioned to the SIGMA SL. This measure has been included in the OFMP for the 2016/17 fishing season, and although not all vessels are tracked, it is mandatory for the vessel owner to allow the installation of the device under CEP requirement. According to CEP representatives, the aim for the next fishing season (2017/18) is to have a 100% GPS/GPRS coverage in the fleet included in the OFMP. ▪ A self-monitoring program was implemented during last fishing season (2016/17). CEP designed and distributed among the fishers a form to collect detailed information on fishing operations (number of traps hauled and re-hauled and their respective octopus catches). 1 vessel per cofradía was committed to use this form daily. ▪ Recently, the OMA (from the University of Oviedo) has been commissioned to study the possible applicability of new tools for a scientific assessment of the octopus' fishery and asses different monitoring indicators used in other alike fisheries around the world (see section 2.3 for more details). This study was tendered by the DGPM at the CEP's request, and it is expected to be finished by the end of 2017. <p>The result of these initiatives will help CEP to achieve a detailed understanding of the fishery, which allows identifying the best CPUE indicators and how to integrate them in the management. So far, no other possible index is thought to be used as an indicator on which a HCR could be based on.</p> <p>As CEP representatives are participating in the COFWG and OFMC meetings these results have been presented and discussed with the fishers in these fora. Further, CEP representatives confirmed they share the proposed operational methodology in relation to the implementation of future HCRs discussed within the COFWG (see above). During the site visit the assessment team confirmed that certified fishers and CEP are aligned on this issue. However, both certified fishers and CEP acknowledge that discussions on the fishery management must be held at the OFMC as they would affect the whole fleet included in the MP.</p> <p>Finally, the client included in its action plan the organization of a technical workshop on the octopus fishery at a regional level (Asturias, Galicia and Portugal) to discuss scientific information on the octopus fishery and to draw conclusions on potential measures to improve the different management plans. During the site visit the assessment team could check that a similar workshop, but restricted to the Asturian fishery, was planned to be held in June 2017. The draft agenda was shown to the assessment team during the site visit. This workshop was finally postponed due to funding issues. However, although in its action plan the client mentions that WWF-Spain would collaborate in this event, the WWF representative interviewed during the site visit confirmed that no contacts were made in relation to this issue.</p>
Status condition	The fishery have implemented several actions to support the development of comprehensive HCRs (i.e. a multi-stakeholder COFWG was established and management options discussed and outlined within it, projects are in place to collect detailed information to support the adoption of management measures).

² Tagging experiments were implemented but recaptures were very low and showed very little displacement. As a result CEP decided to abandon this technique

	<p>Further, these results and proposals will be brought up for its discussion in the OFMC so they can be agreed with the other fishers included in the MP.</p> <p>Based on the information presented above, the assessment team considers this condition to be 'AHEAD TARGET'. No need to review milestones at this point.</p>
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Table 4-2: Condition 2

Performance Indicator & Score	Insert relevant PI number(s)	Insert relevant scoring issue/scoring guidepost text	Score
	3.2.1	SI(a) SG80- 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-specific management system	60
Condition	<p><i>By the fourth³ surveillance audit, short and long-term objectives for the fishery which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, need to be explicitly included within the fishery management plan. There should also be a clear means of assessing performance relative to these objectives</i></p>		
Milestones	<p><i>The following elements can be verified during annual surveillance audit:</i></p> <p><u>Year 1:</u> the client shall demonstrate there is documented evidence that policy options based on defined objectives have been outlined and discussed with stakeholders. The client should work to encourage this first stage in forums and meetings providing information and data from the fishery.</p> <p><u>Year 2 & 3:</u> all stakeholders involved in the management of the fishery in collaboration with the scientific community should be working to develop a specific OFMP for this fishery with clear, specific short and long term objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2. Client should provide deliverables that shows the state of the work done.</p> <p><u>Year 4:</u> clear evidence that the agreed policy has been implemented should be provided. The client must provide information on the existence and implementation of a OFMP specific to this fishery, which is consistent with achieving the outcomes expressed by MSC Principle 1 and 2. SG80.</p>		
Client action plan	<p><i>The Action Plan is based on the coordination of actions among all stakeholders involved (managers, fishermen and researchers) and follows the same model applied after the results of the pre-assessment mainly for the components of Principle 2.</i></p> <p><i>This action will take place concomitantly with the action planned for the same period in the condition set out for PI 1.2.2., since their objectives are very similar and can be addressed together, leveraging and maximising the benefits from the time and effort invested. The results of the actions for the condition of P.I. 1.2.2 also contribute to achieving this condition, since they will include measurable objectives in the management plan.</i></p> <p><u>January – October 2016:</u> The parties involved in the drafting of the MP: DGPM, fishermen's guilds and the CEP will discuss what concrete and specific targets can be incorporated into the OFMP based on existing information and on the</p>		

³ The original wording says 'third' but it is a mistake (see milestones) which was corrected in the original condition



	<p><i>feasibility and trend studies carried out in octopus plans from previous years.</i></p> <p><i>The science-based studies necessary to incorporate new criteria (related to the ecosystem, the environment, etc.) into fishery management will also be designed in order to thus be able to specify new short- and medium-term objectives in line with Principles 1 and 2 of the MSC. These studies will also serve to assess whatever objectives are set out in the plans, and to validate their relevance or establish any necessary corrections.</i></p> <p><i>This action will be carried out by means of meetings between the parties involved not only in the certification, but in the entire management plan (fishermen, researchers and managers from the entire area of implementation of the MP).</i></p> <p><i>Minutes of the meetings will be drafted and a report will be requested from the CEP on the results of the assessment and follow-up of the plans implemented and their possible application in the definition of a new plan with the introduction of concrete and measurable objectives. They will also analyse what studies are necessary to incorporate new criteria and measurable objectives into the plan.</i></p> <p><i><u>October 2016 – November 2016:</u> If – based on already-existing data – it is possible to define a measurable objective related to MSC Principles 1 and 2, the possibility of incorporating it into the plan for the following year will be discussed with the DGPM.</i></p> <p><i>This action will be framed within any negotiations between the DGPM and the fishing guilds that will be carried out to define the Octopus OFMP and will require the agreement of all parties involved in the fishery.</i></p> <p><i><u>November 2016 – September 2018:</u> During 2016-17 and 2017-18 campaigns, scientifically-based studies designed to incorporate new criteria into the fishery and to establish concrete short- and medium-term objectives in the OFMP will be carried out. An assessment of the objectives that have been included in the plan on the basis of the information already available will also be conducted.</i></p> <p><i>This action will be carried out by the CEP in collaboration with fishermen, and the results will be shown in reports that will enable follow-up and assessment of the action.</i></p> <p><i><u>November 2016 - November 2018:</u> Technical seminars on octopus fishery will be organised and will address the recommendations of the forum held in Santiago de Compostela in January 2015 as regards to management plans and elements for their control, assessment and follow-up. These sessions will enable the results being obtained from the research programmes of the successive campaigns to be discussed by the scientific community.</i></p> <p><i>This action will be implemented in collaboration with the Navia-Porcia Coastal Action Group and the WWF.</i></p> <p><i><u>June 2018 - November 2018:</u> New criteria and objectives derived from the studies carried out related to Principles 1 and 2 of the MSC, as well as the plan to assess them, will be agreed with the DGPM.</i></p> <p><i>To this end, the agreement of all parties involved in the fishery will be sought. The OFMP will be published by the OFMP and will constitute the element that announces that the action plan has been created.</i></p> <p><i><u>November 2018 – November 2019:</u> The OFMP with the new criteria and specific objectives will be implemented and an assessment will be carried out, the results of which will be incorporated into the management plan for the following year, thereby making ongoing adjustments of the objectives based on the needs of the fishery.</i></p> <p><i>If studies in previous campaigns enable the introduction of measurable short and medium-term objectives into the exploitation plan for the 2016-2017</i></p>
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	<i>campaign, there is a possibility that by the third year it will be possible to show their consistency and comply with the condition. In any case, by the fourth year the objectives derived from the new studies to be carried out will already have been incorporated and there will be data demonstrating the consistency of the MP.</i>	
Progress Condition [Year 1]	<p>The client showed evidences that policy options based on defined objectives have been discussed within the multi-stakeholder COFWG (see section 2.4 for more details on the COFWG). At the beginning, the discussions focused on the need to include as many vessels in the certificate as possible to ensure that management decisions implemented to achieve MSC requirements could be effectively adopted by the fishery MP. Otherwise, conflicts of interests between the certified and non-certified fishers could arise and block any decision affecting fishery management. This was identified as a priority by fishers and led to a relevant initiative: the creation of ARPESOS (see section 2.4 for more details), including the development of entry protocols and internal regulations (still in progress).</p> <p>Further, it was considered that more detailed information on the likely monitoring indicators, reference points and subsequent HCRs was needed before outlining a policy option. Therefore, this work was decided to be postponed until CEP could come back with the analysis of the study commissioned to the OMA.</p> <p>The technical workshop on the octopus fishery included in the client's action plan and scheduled for June 2017 (see progress on condition 1 for more details) was also though as a valuable tool to bring up and discuss fishery-specific policy objectives. However, this workshop has been postponed.</p>	
Status condition	of	The fishery has probed fishery-specific objectives were discussed within the multi-stakeholder COFWG. Based on the information presented above the assessment team consider this condition to be ' ON TARGET '.



Table 4-3: Condition 3

Performance Indicator & Score	Insert relevant PI number(s)	Insert relevant scoring issue/scoring guidepost text	Score
	3.2.2	SI (d) SG80 - Information on the fishery's 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	75
Condition	<p><i>By the fourth⁴ surveillance audit, evidence shall demonstrate that Information on the fishery's performance and management action is available on request, and explanations for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity occurs</i></p>		
Milestones	<p><i>The following elements can be verified during annual surveillance audit:</i></p> <p><i>Year 1: the client shall demonstrate that the stakeholders have discussed what information should be included in the annual fishery reports coming from any source of information (research, monitoring and evaluation of the fishery, review activity, ...). The client is required to work actively to promote and support that a plan is established for collecting the information.</i></p> <p><i>Year 2&3: all stakeholders (but mainly CEP from fisheries administration) should be working to develop a full annual fishery report that includes all the information selected in year 1. Stakeholders should be working to develop a protocol for the decision making process of the fishery that explains how actions or lack of action is taken based on the information available. A protocol to deliver this information (annual fishery reports and explanations for actions or lack of action) to any stakeholder, upon request, should also be developed. Client should provide deliverables that shows the state of the work done.</i></p> <p><i>Year 4: the client should provide clear evidence that the Information on the fishery's performance and management action is available on request, and explanations for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity occurs.</i></p>		
Client action plan	<p><i>The Action Plan includes measures to develop in order to relevant information for the management of the fishery is organized, completed and accessible to all stakeholders:</i></p> <p><i>Year 1: The implementation of a protocol for the diffusion of the generated information in the processes of evaluation and monitoring of the fishery will be arranged. This protocol will affect the studies and reports referred in the Action Plan of the indicator 3.2.1.</i></p> <p><i>In the protocol minimum contents of the reports will be established, which shall include at least the sources of obtaining information (researches, surveillance, etc.), established methodology and, where appropriate, recommendations and</i></p>		

⁴ The original wording says 'third' but it is a mistake (see milestones) which was corrected in the original condition



	<p><i>proposals about possible measurements to include in the management plan.</i></p> <p><i>In the protocol the notification system of the report will be fixed to all stakeholders, not only in the certification, but throughout the management plan (fisher, researchers and managers in the application area of the management plan). It must be a system that evidences the information has been received by stakeholders. It can contemplate an argument period to which stakeholders make contributions to the results of reports. Mass media will be also included (web, publications) in order to the information that is not considered eligible for protection may come to any stakeholder and the general public.</i></p> <p><i>The protocol will be agreed and approved for all the stakeholders in the fishery in the meetings referred to the Action Plan for the indicator 3.2.1 and it will be reflected in the corresponding proceedings, which will evidence the work done.</i></p> <p><u>Year 2 and 3:</u> <i>A protocol will be applied, making the reports as it shows and its effectiveness will be reviewed in the follow-up meetings of the management plan, consulting all the stakeholders about its validity and introducing relevant improvements. As a sample of the work done, reports, notifications to the parts, allegations, requests for additional information and samples of the diffusion will be included. The results of the evaluation of the protocol will be also provided</i></p>
Progress Condition [Year 1]	<p>As explained in section 2.5, a Monitoring Commission (OFMC) was included in the 2016/17 OFMP and commenced its activity in February 2017. As described in the OFMP, the Commission should function as an advisory forum where different stakeholders can present and discuss information relevant to the fishery and, if needed, propose management measures and regulations.</p> <p>WWF-Spain expressed its interest in participating in the OFMC, application that has been approved in the first meeting of the OFMC (minutes showing this was handled to the assessment team during the site visit). Therefore, it is expected that this NGOs takes part in the next OFMC meeting.</p> <p>During the first meeting of the OFMC held in February 8, 2017, functions and operational protocol of the Committee were agreed. This protocol includes the commitment on behalf of the CEP of sharing in advance with all the other stakeholders the fishery annual report along with management proposals to be discussed in the meeting. The CEP representatives presented and explained the kind of information included in the fishery annual reports and also provided details of other studies or initiatives such as the implementation of tracking devices on board and the study commissioned to the OMA (see progress on Condition 1 for more details). All these issues were discussed and agreed.</p> <p>Although, so far, the CM is just an advisory body, all stakeholders interviewed trust that all decisions taken at these meetings will be later included in the MP. The problem lies in achieving consensus among fishers (mainly between those included in the certificate and the rest). Nevertheless, during the site visit everybody agreed on considering the establishment of the OFMC as a great step forward in term of exchanging information and improving decision making.</p> <p>The CEP is developing a public dissemination website specific for this fishery. This website provides to the general public information on the fishery, including latest catches, main fishing grounds, regulation, gears used, etc. The website is still under work but a test version was shown to the assessment team during the site visit. So far the information posted is very general and with the focus on the public society and it is not valid as a transparent tool of management related information in a decision making process.</p> <p>CEP representatives explained that according to their standard procedure, any modification made to the fishery management must be based on a technical justification and an internal file had to be created. However, they recognized this was not public available and sometimes it may not be sufficiently shared with those affected by the decision. They believe the protocol developed for sharing</p>



	and discussing information at the MC, together with the public website they are preparing will solve this shortage.
Status condition of	<p>The recently created multi-stakeholder OFMC will help to improve information exchange between relevant stakeholders involved in the fishery management. The first OFMC meeting served to present and discuss the different sources of information used by the DGPM and to adopt a protocol for the decision making process that ensures transparency. Finally, CEP is also developing a public dissemination website specific for this fishery.</p> <p>Although the progress is relevant and some discussion has been done on what information is going to be included in the annual fishery reports to be shared with all stakeholders, the mechanism and the range for disseminating the information for doing this is still not clear (e.g. will the reports be accessible to all vessels owners or just representatives?). Moreover, no further steps have been done on developing a protocol for the decision making process that explains how actions or lack of action will be taken based on the information available.</p> <p>Based on the information presented above, the assessment team considers this condition to be 'ON TARGET'.</p>

Table 4-4: Condition 4

Performance Indicator & Score	Insert relevant PI number(s)	Insert relevant scoring issue/scoring guide/post text	Score
	3.2.3	SI(a) SG80 - A monitoring, control and surveillance system has been implemented in the fishery and has demonstrated an ability to enforce relevant management measures, strategies and/or rules	75
Condition	<p><i>By the third year, the fishery must provide evidence that demonstrates that the monitoring, control and surveillance system has been implemented in the fishery and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.</i></p>		
Milestones	<p><i>The following elements can be verified during annual surveillance audit:</i></p> <p><i>Year 1: the client shall demonstrate that the stakeholders including the Fisheries administration have discussed the roles and responsibilities of the Guardapesca figure. The client is required to work actively to promote and support that all guilds understand and respect the roles and responsibilities of the Guardapesca figure (specified in the Decreto 23/1995) and that those roles are clarified in detail for the octopus MP.</i></p> <p><i>Year 2&3: all stakeholders (but mainly guilds and fisheries administration) should be working to develop a protocol that clearly details the roles and responsibilities of the Guardapesca regarding the octopus MP. Client should provide deliverables that shows the state of the work done.</i></p> <p><i>Year 4: the client should provide clear evidence that the protocol that details the roles and responsibilities of the Guardapescas in the octopus trap fishery in Asturias have been implemented in the management system. Actions carried the years before shall demonstrate that the monitoring, control and surveillance system are better implemented in the fishery and demonstrate good enforcement to the relevant management measures, strategies and/or rules.</i></p>		
Client action plan	<p><i>October 2015 - October 2016: Analysis and discussion of the Guardapesca's current situation and search for solutions for improvement, through:</i></p>		



The compilation of existing information on the work and tasks currently being done by the Guardapescas (instructions, protocols, information systems, etc.) and description of the mechanisms of collaboration with the Office of Fisheries Inspection and Surveillance, the Guardia Civil and other agencies with responsibilities related to control.

An interview with the Guardapescas in order to see first hand what their tasks are and to describe any unwritten procedures being followed. In addition, proposals for improvement will be sought, and an assessment of the strengths and weaknesses of the current system will be carried out along with an analysis of possible technical measures to be adopted, especially in order to improve the control of the number of creels set in the sea, the unloading of catches and the activity of recreational fishermen.

A meeting to be held with the participation of the Guardapescas, the Office of Fisheries Inspection and Surveillance, those from the Civil Guard responsible for the surveillance of maritime fishing, fishermen's guilds and other possible interested parties (e.g., recreational fishermen), in order to discuss the information collected and possible technical proposals for improvement and to set out principles for a formal and consistent protocol of action.

The study and proposal of possible management measures that will improve the system such as the incorporation of more resources, coordination between the guilds to have a common surveillance system exclusively for octopus fishery, etc.

Collaboration will be requested of the Navia-Porcia Coastal Action Group, technicians from the DGPM and/or external consultants for the funding and completion of these tasks. The results of the analysis of the current situation will be contained in a report and the proposals agreed upon will be contained in a written document.

October 2016 – June 2017: Establishment of a protocol of performance in the surveillance of octopus traps fishing, with a clear and concise definition of the functions and powers that correspond to each of the parties. Based on existing information and the proposals of the parties involved resulting from the previous phase, the necessary protocols will be set out with the clear definition of the tasks of the Guardapescas, the specific procedures designed to ensure compliance with the legislation, the mechanisms to create the link between the Guardapescas and security forces, the means that will be at their disposal to perform their functions, the systems for recording and subsequently checking the control actions carried out, etc.

These protocols will be contained in a document that must be approved unanimously by the parties involved and will be of compulsory compliance by all of them, and the necessary internal dissemination thereof will be effected.

A reference or an extract from the protocol may be incorporated into the Octopus OFMP for the 2017-2018 campaign for publication in the Official Gazette of the Principality of Asturias.

During this period, if necessary, funding will be sought for drafting the protocol and also for implementing the management measures which – aside from the formal recording of the activities – may improve the control and surveillance system.

June 2017- October 2018: Training and information actions on the implementation of the protocol aimed at the Guardapescas and the rest of the staff involved in control and surveillance tasks.

Implementation of the protocol and application of any management measures whose approval was decided for the 2018-2019 octopus campaign.

Design and implementation of a system for assessing the results obtained with



	<p><i>the implementation of the protocol and the agreed improvement measures.</i></p> <p><i>Adaptation of the protocol on the basis of the results obtained for implementation in the 2019-2020 campaign.</i></p>
Progress Condition [Year 1]	<p>The DGPM have specific funding for those 'cofradías' involved in MPs, in order to ensure they have the ability to control and report their catches. The call for these subventions is published annually and includes funds for hiring the Guardapescas.</p> <p>According to the Decree 23/1995, where the position of 'Guardapesca marítimo' was created, its duties include: a) ensuring compliance with the regulations governing the activities of existing management plans in their association; b) collaborating with the Internal Waters Monitoring body of the Principality of Asturias to monitor compliance with fisheries legislation in the internal waters; and c) reporting regularly on the state of fishery resources.</p> <p>During the site visit all stakeholders interviewed agreed that the tasks performed by the 'guardapescas' in relation to this fishery are the following:</p> <ul style="list-style-type: none"> ▪ Ensure that all octopus catches are weighted at arrival, and assigned to the correspondent vessel. ▪ To control that no octopus below the minimum commercial weight (1kg) is commercialised. Nevertheless, volume and number of undersized individuals are not recorded (even for statistical purposes) and those illegal individuals are either released back to sea (if the octopus is alive) or given back to the vessel owner (if it is dead). ▪ To collaborate with the DGPM Inspection and Surveillance Unit and the SEPRONA (as these are the competent bodies). Nevertheless, the Guardapescas interviewed recognized that no denunciations related to the octopus professional fishery have been done in the last years. ▪ To control recreational fishers' activity and deter illegal catches <p>The above described tasks are in accordance with the duties described in the Decree 23/1995. However, during the initial assessment it was determined that the 'guardapescas' hired by the 'cofradías' included in the UoC develop many different tasks and that may compromise their capacity to enforce proper control on octopus catches.</p> <p>The assessment team confirmed that the 'guardapescas' are only focused on the control and inspection inside the auction points buildings (no inspections are done by this unit at sea or on docks).</p> <p>The multi-stakeholder COFWG promoted by the certified fleet devoted its last meeting held on May 2017 to discuss the functions to be performed by the 'guardapescas' and review the basis regulating the funding offered by the DGPM, as reflected in the minutes shown to the assessment team during the site visit. As a result of this meeting, the certified vessel owners agreed on the following proposals aimed to help to clarify their role in this fishery:</p> <ul style="list-style-type: none"> ▪ To promote the inclusion of a paragraph that clearly states the role and functions to be developed by the 'guardapescas' in the text regulating the call for funding offered to the 'cofradías' ▪ Prepare and distribute a survey among the 'guardapescas' asking them about their roles and functions, and include this information in the annual fishery report prepared by the CEP. <p>ARPESOS has committed to elaborate a report compiling these proposals, so they can be brought up for discussion within the fishery MC, which integrates all vessels included in the OFMP. The following OFMC meeting is scheduled for next autumn, before the next fishing season (2017/18) starts.</p>



Status condition	<p>The fishery has demonstrated that the role of the 'guardapescas' has been discussed in a multi-stakeholder context and proposals have been raised.</p> <p>Based on the information presented above, the assessment team considers this condition to be 'ON TARGET'.</p> <p>However, as stated in section 2.6 new evidences related to the lack of compliance in relation to the regulation dealing with the maximum number of traps per vessel have been collected during the audit. At the light of these evidences the CAB decided to re-score the PI 3.2.3 (see re-scoring table in Appendix 1). According to the new score the fishery now fails to pass SG80 in SI(a), SI(b) and SI(d). As a result, a new condition on PI 3.2.3 was established in Table 4-5: CONDITION 4A, including new rationale, milestones and client's action plan. Therefore, for future SAs Table 4-5: CONDITION 4A will be applied.</p>
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Table 4-5: CONDITION 4A (NEW)

Performance Indicator	<p>PI 3.2.3 Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with.</p> <p>SI(a) SG80a - A monitoring, control and surveillance system has been implemented in the fishery and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.</p> <p>SI(b) SG80 - Sanctions to deal with non-compliance exists, are consistently applied and thought to provide effective deterrence</p> <p>SI(d) SG80 - There is no evidence of systematic non-compliance.</p>
Score	65 (see re-scoring table in Appendix 1)
Rationale	<p>The system has proven to be sufficient to meet most of the rules set out in the MP. However, it is known that there is a lack of robustness to enforce the rules exhaustively in relation to the total number of traps set at sea or to monitor the unloading of the catches. This seems to be cause by:</p> <ul style="list-style-type: none"> i. Shortage of operational means on behalf of the DGPMs Office of Fisheries Inspection and Surveillance Unit to enforce at sea the regulation limiting the maximum number of traps per vessel ii. The <i>Guardapescas</i> perform other tasks beyond those provided for in the Decree 23/1995, limiting the effectiveness of their control and surveillance activities. iii. The volume and number of undersized individuals is not recorded (even for statistical purposes) and those illegal individuals are either released back to sea (if the octopus is alive) or given back to the vessel owner (if it is dead). <p>Evidence provided also showed that there is a systematic non-compliance with the regulation limiting the maximum number of traps per vessel. Despite the non-compliance is documented, no sanctions were issued relation to lack of compliance with this regulation.</p> <p>In conclusion, it was found that the fishery fails to meet SG80 for SI(a), SI(b)</p>



	and SI(d).
Condition	By the fourth year, the fishery must provide evidence that: (i) the monitoring, control and surveillance system implemented in the fishery has demonstrated an ability to enforce relevant management measures, strategies and/or rules (including the regulation limiting the maximum number of traps per vessel), and (ii) that professional fishers are being inspected consistently and sanctions applied.
Milestones	<p>The following elements can be verified during annual surveillance audit:</p> <p><u>Year 2</u>: All stakeholders (but mainly guilds and fisheries administration) should be working to develop a protocol that clearly details the guardapesca's roles and responsibilities regarding the OFMP. Evidences must be provided that relevant stakeholders have discussed the issue of non-compliance with the maximum number of traps per vessel. Evidences that work is being done in relation to improve the enforcement capacity shall be provided.</p> <p><u>Year 3</u>: A protocol that clearly details the guardapesca's roles and responsibilities is ready and multi-stakeholder discussions on how to include it in the management system has started. A set of possible solutions regarding the issue of non-compliance with the regulation limiting the maximum number of traps per vessel has been proposed for its discussion and assessment. Evidences that enforcement capacity has been improved shall be provided.</p> <p><u>Year 4</u>: The protocol that clearly details the guardapesca's roles and responsibilities is included in the management system. Evidences that professional fishers are being inspected consistently and sanctions applied, and the monitoring, control and surveillance system has demonstrated an ability to enforce relevant management measures, strategies and/or rule (including the regulation limiting the maximum number of traps per vessel)</p>
Client action plan	<p>MEASURE 1. ARPESOS WILL IMPLEMENT AN EFFECTIVE SANCTIONING PROCEDURE INCLUDING INFRINGEMENTS ON THE MAXIMUM NUMBER OF AUTHORIZED TRAPS PER VESSEL</p> <ul style="list-style-type: none"> ▪ PERIOD 1 (2017-2018). The ARPESOS Internal Regulations (expected to be adopted by the end of 2017) will include specific punishing measures in case of infringements on the maximum number of authorized traps per vessel (e.g. applying a temporary suspension of the ARPESOS membership, and consequently the impossibility of using its commercialization channels) ▪ PERIOD 2 (2018-2019). Implement the ARPESOS Internal Regulations and record sanctions established ▪ PERIOD 3 (2019-2020). Introduce the necessary improvements to ensure that the measures included in the ARPESOS Internal Regulations are effective in deterring potential offenders. <p>MEASURE 2. A MONITORING, CONTROL AND SURVEILLANCE PLAN INCLUDING ACTIONS AIMED TO CONTROL THE NUMBER OF TRAPS PER VESSELS WILL BE IMPLEMENTED</p> <p>Punishing measures agreed in the ARPESOS Internal Regulations will be compiled in a proposal to be upheld for its discussion at the OFMC, expected at</p>



	<p>the end of 2017.</p> <ul style="list-style-type: none"> ▪ PERIOD 1 (2017-2018). A meeting will be requested to the DGPM to discuss and agree on the necessary measures to improve the Monitoring, Control and Surveillance (MCS) system for the maintenance of the MSC certificate. Topics to be discussed: elaboration of a specific MCS Plan for the octopus, update on the new vessel for the Surveillance and Control Unit). ▪ PERIOD 2 (2018-2019). A specific MCS Plan for the octopus has been designed and included in the OFMP ▪ PERIOD 3 (2019-2020). Implement the MCS plan as included in the OFMP <p>MEASURE 3. AN EFFECTIVE SYSTEM TO IDENTIFY TRAPS AND IMPROVE ITS CONTROL IS IMPLEMENTED</p> <ul style="list-style-type: none"> ▪ PERIOD 1 (2017-2018). ARPESOS will analyze how to improve trap lines identification. This, together with the GPS vessel monitoring system established will allow a more effective MCS by the DGPM. The solutions agreed will be compiled in a proposal to be upheld for its discussion at the OFMC, expected at the end of 2017. A meeting will be requested to the DGPM to discuss measures to identify traps that may assist in their control ▪ PERIOD 2 (2018-2019). To include in the MCS plan (see measure 2) any measure aimed at improving the identification of the traps that may assist in their control ▪ PERIOD 3 (2019-2020). Implement the MCS plan as included in the OFMP <p>MEASURE 4. IMPROVE THE ROLE OF THE GUARDAPESCAS IN RELATION REINFORCE CONTROL WITHING THE OFMP BY DESIGNING AN OPERATIONAL PROTOCOL</p> <ul style="list-style-type: none"> ▪ PERIOD 1 (2017-2018). Discuss within ARPESOS how to proceed in order to record and report octopus below minimum landing weight. The solutions agreed will be compiled in a proposal to be upheld for its discussion at the OFMC, expected at the end of 2017 ▪ PERIOD 2 (2018-2019). Implement the proposed measures to improve the role of the Guardapescas to reinforce control at the OFMP, including recording and reporting octopus below minimum landing weight. ▪ PERIOD 3 (2019-2020). Include in the OFMP the necessary measures to improve the role of the Guardapescas in relation to the control <p>MEASURE 5. DETERMINE A GOAL AIMED TO IMPLEMENT A TECHNOLOGICAL TOOL ALLOWING TO IMPROVE CONTROL ON TRAPS</p> <ul style="list-style-type: none"> ▪ PERIOD 1 (2017-2018). To contact at least one technological center that offers solvency in the development of a reasonably and viable technological solution that may assist in the control of trap lines ▪ PERIOD 2 (2018-2019). To assess the feasibility of developing a technological project and search for funding ▪ PERIOD 3 (2019-2020). To present the results of the project and, where appropriate, the technological solution found <p>MEASURE 6. REVIEW EFFORT CONTROL MEASURES INCLUDED IN THE OFMP</p>
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	<ul style="list-style-type: none"> ▪ PERIOD 1 (2017-2018). To review measures to control effort, such as maximum number of traps allowed per vessel (with the possibility to adjust daily quotas in relation to number of crew members) and the introduction of new measures such limiting the fishing hours per day. These changes will aim to adapt to the actual state of the fishery and, in combination with other regulations on other elements of the OFMP, provide sustainable and profitable conditions for the octopus fishing. These proposals would be upheld for its discussion at the OFMC, expected at the end of 2017. ▪ PERIOD 2 (2018-2019). Note: thereafter this measure would be integrated into the existing action plan applicable to CONDITION 1
Consultation on condition	The client has prepared the action plan in close collaboration with the Fisheries Inspection and Surveillance Unit, CEP and CEDER. They agreed with the actions detailed and are committed with its implementation (see in Appendix 4 support letter sent by the DGPM).

Table 4-6: RECOMMENDATION 1 (NEW)

In addition to the Conditions, there are areas of performance that the assessment team would like to see improvements in, despite the fact that they relate to Performance Indicators where the client vessels scored 80 or better. Although it is not required to maintain the certification, by implementing the recommendations, the client will improve the performance of the fishery against the MSC Principles and Criteria. Accordingly, the action taken and timescales are at the discretion of the client.

Performance Indicators	PI 2.1.2 & PI 2.1.3
Scores	80 (PI 2.1.2) & 80 (PI 2.1.3)
Rationale	<p>The CEP-SIGMA (2016) report characterizing the trap octopus fishery in Asturias, provides new and/or updated information on the way for baiting the traps. Although this study confirmed that most of the vessels are using artificial bait as assessed in the PCR, it also detected that some vessels are using pelagic species as bait (mackerel, horse mackerel and sardine). This information was later confirmed and expanded by the client. Although some information is available, the assessment team considers that the quality and publicity of the information could be improved. So far, some of this information (the one directly provided by the client) is not of public access and the CEP-SIGMA (2016) report is only based on the UoC. The assessment team has been told that several changes in the on board sampling program will happen in the coming fishing seasons, but we do not have the details. Therefore, we are not sure if the amount of bait used, and not only the type, will be collected in the future along the UoA. In line with this, we do not know if information regarding the origin of the fish bait used will also be collected.</p> <p>Further, although factors such as availability and price are commercial considerations for bait sourcing, the sustainability of the resource should also be a criterion. The CoC, on a separate bait management strategy, should clearly outline the criteria and protocols which will be employed to source bait fish from well managed resources, or at least resources that can be demonstrated as not</p>



	being over fished.
Recommendation	The assessment team recommends the client to make the necessary changes in the strategy to manage primary species for establishing a monitoring system that allows improving the estimations of volumes as well as origin (stock/s) of bait species used in the UoA. We also recommend the client not to use species for baiting the octopus traps that do not come from sustainable stocks.



5. Conclusion

The Audit found:

- The MSC certification have opened up new market opportunities and fishers included in the UoC are highly motivated to ensure the MSC
- There is an atmosphere of collaboration between different stakeholders (ARPESOS, CEDER, CEP, DGPM, SIGMA) that has allowed to implement several activities highly relevant to the certification (e.g. hiring an MSC certification coordinator -Mario Pidal-, COFWG, OFMC, the creation of ARPESOS and OMA study)
- All stakeholders have rated very positively the role of both COFWG and OFMC as tools that improved the exchange of information and ideas between them. The OFMC is expected to improve decision making process within the fishery-specific management
- DGPM (through CEP) is making different efforts to improve biological monitoring and management advice (eg. on board sampling, study on management tools commissioned to OMA and GPS/GPRS tracking)
- The new OFMC it is expected to be essential for the future of this fishery. Nevertheless, the change in the management measures will not only affect the UoC (31 vessels from 4 cofradías), but all the vessels included in OFMP (~80 vessels from 8 cofradías). This mismatch may deter the introduction of changes in the management system posing a future risk to ensure the certification.
- There is evidence that fishers generally do not comply with the regulation related to the maximum number of traps per vessels allowed in the OFMP, and the DGPM recognised its lack of capacity to enforce it. At the light of this evidence a new condition was established on PI 3.2.3 comprehending this issue.
- The characterization of the fishery commissioned by CEP (CEP-SIGMA, 2016) allowed a very detailed characterization of the catch composition of the fishery. The resulting species composition expands the list of P2 species detailed in the PCR. Further, although this study confirmed that most of the vessels are using artificial bait as assessed in the PCR, it also detected that some vessels are using pelagic species as bait (mackerel, horse mackerel and sardine). This information contradicts the initial assessment, as no bait species were assessed under P2. Therefore, the concerned PIs (2.1.1, 2.1.2, 2.1.3, 2.2.1, 2.2.2 and 2.2.3) were re-scored in the light of the new evidences.
- Although re-scoring of the above mentioned PIs did not led to establishing new conditions, the assessment team recommends the client to establish a monitoring system that allows improving the estimations of volumes as well as origin (stock/s) of bait species used in the UoA.

The assessment team concludes that **the MSC Certificate for this fishery shall remain active**, subject to the agreed annual surveillance schedule and progress on the four remaining conditions.



6. References

- Fernández, M^a del Pino. 2016. Informe sobre el seguimiento de la campaña de pulpo 2015/2016 en el Plan de Gestión. Centro de Experimentación Pesquera, Consejería de Desarrollo Rural y Recursos Naturales.
- CEP-SIGMA, 2016. Caracterización de la pesca de pulpo con nasas en el Occidente de Asturias. Consejería de Desarrollo Rural y Recursos Naturales, Gobierno del Principado de Asturias. Febrero de 2016.
- ICES, 2013. ICES Advice 2013; Special Request Bay of Biscay and Atlantic Iberian waters Management plan evaluation for sardine in Divisions VIIIc and IXa. Book 7.
- ICES, 2016. ICES Advice on fishing opportunities, catch, and effort; Northeast Atlantic. Mackerel (*Scomber scombrus*) in subareas 1–7 and 14, and in divisions 8.a–e and 9.a (Northeast Atlantic).
- ICES, 2017a. ICES Advice on fishing opportunities, catch, and effort; Ecoregions in the Northeast Atlantic. Horse mackerel (*Trachurus trachurus*) in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k (the Northeast Atlantic).
- ICES, 2017b. ICES Advice on fishing opportunities, catch, and effort; Bay of Biscay and the Iberian Coast Ecoregion. Sardine (*Sardina pilchardus*) in divisions 8.a–b and 8.d (Bay of Biscay) “Pil.27.8abd” for the Bay of Biscay stock and “sr.2017.15” for the Iberian stock.
- ICES, 2017c. ICES Special Request Advice; Bay of Biscay and the Iberian Coast Ecoregion. EU request to ICES on evaluation of the management plan for Iberian sardine.
- PCR. Western Asturias Octopus Traps Fishery of Artisanal Cofradías. MSC Public Certification Report. 22 January 2016.
- Resolución de 7 de diciembre de 2016, de la Consejería de Desarrollo Rural y Recursos Naturales, por la que se regula la pesca del pulpo común (*Octopus vulgaris*) durante la campaña 2016/2017. Boletín oficial del Principado de Asturias, 14 de diciembre de 2016, núm. 288.



Appendix 1. Re-scoring evaluation tables

The following tables used for re-scoring were taken from the PCR (assessment tree version 2.0). The original rationales are presented in black font and crossed out (if needed), while modifications made for re-scoring at the light of the information collected in the first surveillance audit are in **blue font**

Evaluation Table for PI 2.1.1 – Primary species outcome

PI 2.1.1		The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.		
Scoring Issue		SG 60	SG 80	SG 100
a		Main primary species stock status		
	Guide post	Main primary species are likely to be above the PRI OR If the species is below the PRI, the UoA has measures in place that are expected to ensure that the UoA does not hinder recovery and rebuilding.	Main primary species are highly likely to be above the PRI OR If the species is below the PRI, there is either evidence of recovery or a demonstrably effective strategy in place between all MSC UoAs which categorise this species as main , to ensure that they collectively do not hinder recovery and rebuilding.	There is a high degree of certainty that main primary species are above the PRI and are fluctuating around a level consistent with MSY.
	Met?	NA ✕	NA ✕	NA ✕
	Justification	<p>The base information for assessing the primary species was the pre-assessment carried out by BV in February 2014. On the other hand, the existing literature was consulted, with no bycatch species found in the traps specifically in the area fished by the UoC. However, direct information was available provided by the CEP and people related to fishing, who indicated the species found in traps other than the target species.</p> <p>The bait most frequently used in this area is artificial and ecological containing, among other components, flour and gelatin. It is more expensive but rather more efficient since the bait (in blocks) does not need any care on land during long periods of time and lasts more time underneath the water surface. The absence of primary live or frozen species in the bait of the creel fishery in the UoA supported that we did not include any justification on this performance indicator.</p> <p>It is essential to clarify that none of the marketable bycatch species reached 5% in weight, and that none of these species had a management system based on permitted capture limits or TAC, among other resource management measures, meaning that any main primary species are identified. This situation is similar to that found in bordering areas such as the coasts of Galicia, where, as in the case of Asturias, species of commercial importance are managed under parameters of capture size, while on the other hand fishermen are liable to change their target species.</p> <p>According to the definition for Primary species as usually species of commercial value to</p>		



PI 2.1.1		The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.											
		<p>either the UoA or fisheries outside the UoA, with management tools controlling exploitation as well as known reference points in place and measures in place, intended to achieve stock management objectives reflected in either limit or target reference points (FCR SA 3.1.3.3), for the fishery under assessment none of the species retained in the traps are susceptible for this definition. Trap is a very selective fishing gear with low bycatch species retained. It couples the SG 100. A comprehensive list of species retained in the octopus traps is given in Table 9 in the Evaluation Table for PI 2.2.1. Although some species are target species in other fisheries in Asturias, none of them are managed through reference points, therefore none of the species retained in the octopus traps are considered primary.</p> <p>Regarding the species used as bait in the UoA, the CEP-SIGMA (2016) report characterizing the trap octopus fishery in Asturias, provides new and/or updated information on the way for baiting the traps. Although this study confirmed that most of the vessels are using artificial bait as assessed in the PCR, it also detected that some vessels are using pelagic species as bait (mackerel, horse mackerel and sardine). The three species used as bait are managed based on reference points according to ICES advice (see Slb of this PI for detailed information on reference points used), so they should be considered as Primary species.</p> <p>The CEP-SIGMA (2016) report only shows relative information (% of each type of bait used in each fishing port; artificial and/or fish species) on the bait used by the UoC, but the client provided to the assessment team unpublished quantitative information on the fish species used as bait. The volume of bait used in the whole UoA is very small when compared to octopus catches; roughly 1,300 kg of mackerel, 600 kg of sardine and 150 kg of Atlantic horse mackerel that represents 1.5%, 0.7% and 0.2% respectively, of the total catch of octopus in the UoA for the fishing season 2016-17 (nearly 88 t). Based on these percentages the assessment team decided to consider these three pelagic species as minor primary species.</p> <p>Based on the above information there is evidence that the UoA is not catching main primary species, therefore this SI is not applicable (NA).</p>											
b		Minor primary species stock status											
<table border="1"> <tr> <td>Guide post</td> <td></td> <td></td> <td>Minor primary species are highly likely to be above the PRI OR If below the PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of minor primary species</td> </tr> <tr> <td>Met?</td> <td></td> <td></td> <td>Y</td> </tr> <tr> <td>Justification</td> <td colspan="3"> <p>See 2.1.1.a justification.</p> <p>As commented in the SI above, and based on new information provided by the client and from the CEP-SIGMA (2016) report, sardine (<i>Sardina pilchardus</i>), Atlantic horse mackerel (<i>Trachurus trachurus</i>) and mackerel (<i>Scomber scombrus</i>) are considered minor primary species in this fishery, as they used for baiting the traps.</p> <p>Some vessels use sometimes as bait small amounts of frozen fish of the three pelagic species mentioned, especially in the fishing guild of Tapia (coinciding with the CEP-SIGMA</p> </td></tr> </table>		Guide post			Minor primary species are highly likely to be above the PRI OR If below the PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of minor primary species	Met?			Y	Justification	<p>See 2.1.1.a justification.</p> <p>As commented in the SI above, and based on new information provided by the client and from the CEP-SIGMA (2016) report, sardine (<i>Sardina pilchardus</i>), Atlantic horse mackerel (<i>Trachurus trachurus</i>) and mackerel (<i>Scomber scombrus</i>) are considered minor primary species in this fishery, as they used for baiting the traps.</p> <p>Some vessels use sometimes as bait small amounts of frozen fish of the three pelagic species mentioned, especially in the fishing guild of Tapia (coinciding with the CEP-SIGMA</p>		
Guide post			Minor primary species are highly likely to be above the PRI OR If below the PRI, there is evidence that the UoA does not hinder the recovery and rebuilding of minor primary species										
Met?			Y										
Justification	<p>See 2.1.1.a justification.</p> <p>As commented in the SI above, and based on new information provided by the client and from the CEP-SIGMA (2016) report, sardine (<i>Sardina pilchardus</i>), Atlantic horse mackerel (<i>Trachurus trachurus</i>) and mackerel (<i>Scomber scombrus</i>) are considered minor primary species in this fishery, as they used for baiting the traps.</p> <p>Some vessels use sometimes as bait small amounts of frozen fish of the three pelagic species mentioned, especially in the fishing guild of Tapia (coinciding with the CEP-SIGMA</p>												



PI 2.1.1		The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.
		<p>(2016) report), although the client confirmed that this eventually happens in the rest of the UoA. The three species used as bait have several reference points according to ICES advice. We will present here a resume of the stock status and reference points used, but for more detailed information see section 2.9 of this report on “Scientific based information related to P2”.</p> <p>Horse mackerel (<i>T. trachurus</i>) stock size in the Northeast Atlantic is currently the lowest observed in the time-series, just below MSY $B_{trigger}$ but above B_{lim} (ICES, 2017a). Nevertheless, the volume used as bait in the octopus’s fishery (aprox. 150 kg in the fishing season 2016-17) is negligible compared to the ICES advised TAC (117,070 t in 2018).</p> <p>Mackerel (<i>S. scombrus</i>) spawning stock biomass in the Northeast Atlantic (Subareas 1–7 and 14, and divisions 8.a–e and 9.a) has been well over the MSY $B_{trigger}$ and B_{pa} during the last 10 years, but although the fishing pressure its being reduced since 2003, it is still over F_{MSY} and F_{pa} (ICES, 2016).</p> <p>Regarding sardine, it is not clear from which stock it comes; most probably, because of its geographical proximity, is that this sardine comes from the Iberian and/or the Bay of Biscay stock. Sardine (<i>S. pilchardus</i>) Bay of Biscay spawning-stock biomass (Subareas 8.a,b,d) is above MSY $B_{trigger}$, almost reaching the 2005 historic peak due to the massive recruitment observed in 2016 (ICES, 2017b).</p> <p>Based on the above information, these three stocks are highly likely to be above the PRI.</p> <p>On the other hand, Iberian stock of sardine (Division 9.a and Subarea 8.c) is probably below PRI. Last ICES advice from July 2017 considers that this MP cannot be considered precautionary, since if fishing under the current HCR the probability of rebuilding the stock biomass in five years from the current biomass level to above B_{lim} is low (< 10%), and in the long term, the probability that the stock is above B_{lim} will be considerably less than 95%; ICES concludes that rebuilding the stock to above B_{lim} with high (> 95%) probability would take about 15 years with no fishing (ICES, 2017c). Nevertheless, the level of sardine used as bait in the octopus’s fishery (aprox. 600 kg in the fishing season 2016-17) is negligible compared to the landings reported from the Iberian stock of sardine (20,600 t in 2015).</p> <p>Therefore, as minor primary species are highly likely to be above the PRI or, as in the case of the Iberian sardine stock, there is evidence that the UoA does not hinder the recovery and rebuilding of this stock, SG100 is met.</p>
References		<p>CEP-SIGMA, 2016. Caracterización de la pesca de pulpo con nasas en el Occidente de Asturias. Consejería de Desarrollo Rural y Recursos Naturales, Gobierno del Principado de Asturias. Febrero de 2016.</p> <p>ICES, 2016. ICES Advice on fishing opportunities, catch, and effort; Northeast Atlantic. Mackerel (<i>Scomber scombrus</i>) in subareas 1–7 and 14, and in divisions 8.a–e and 9.a (Northeast Atlantic).</p> <p>ICES, 2017a. ICES Advice on fishing opportunities, catch, and effort; Ecoregions in the Northeast Atlantic. Horse mackerel (<i>Trachurus trachurus</i>) in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k (the Northeast Atlantic).</p> <p>ICES, 2017b. ICES Advice on fishing opportunities, catch, and effort; Bay of Biscay and the Iberian Coast Ecoregion. Sardine (<i>Sardina pilchardus</i>) in divisions 8.a–b and 8.d (Bay of Biscay).</p> <p>ICES, 2017c. ICES Special Request Advice; Bay of Biscay and the Iberian Coast Ecoregion. EU request to ICES on evaluation of the management plan for Iberian sardine.</p> <p>Bañón R, Campeón JM, García M, Quintero F, Ribó J, Lamas F, Gancedo A, Arnaiz R, Rodríguez ME, Garazo A. 2007.</p>

PI 2.1.1	The UoA aims to maintain primary species above the PRI and does not hinder recovery of primary species if they are below the PRI.
	MSC Pre-assessment Octopus artisanal Fishery:
Scoring summary	The assessment team followed MSC FCR v2.0 7.10.7 to score PIs with different scoring elements. Table 4: Combining element scores was used to assign the overall score for this PI; all species (scoring elements) meet SG100.
<i>Scoring element 1 (Atlantic horse mackerel)</i>	<i>100</i>
<i>Scoring element 2 (mackerel)</i>	<i>100</i>
<i>Scoring element 3 (sardine Iberian stock)</i>	<i>100</i>
<i>Scoring element 4 (sardine Bay of Biscay stock)</i>	<i>100</i>
OVERALL PERFORMANCE INDICATOR SCORE:	100
CONDITION NUMBER (if relevant):	NA



Evaluation Table for PI 2.1.2 – Primary species management strategy

PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch.		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are measures in place for the UoA, if necessary, that are expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are likely to be above the point where recruitment would be impaired.	There is a partial strategy in place for the UoA, if necessary, that is expected to maintain or to not hinder rebuilding of the main primary species at/to levels which are highly likely to be above the point where recruitment would be impaired.	There is a strategy in place for the UoA for managing main and minor primary species.
	Met?	Y	Y	N
	Justification	<p>As the UoA catches no main primary species (see PI 2.1.1 Evaluation table), SG60 and SG80 are met by default.</p> <p>The HCR managing the fishing of the common octopus (<i>Octopus vulgaris</i>) in the waters of the Principality of Asturias include the following management elements: i) limited rights of access through licences; ii) five month closed season (July–December); iii) minimum capture size for specimens of 1 000g; iv) maximum quota per boat; v) fishing gear restrictions. The aim of these measures is to ensure the protection of octopus recruitment and the survival of a suitable number of reproductive adults at the end of each fishing season.</p> <p>The MP cited throughout P1 tables in conjunction with monitoring landings of octopus during the fishing season by biologists and coastguards is considered a partial strategy for managing not just the target species but primary species as well.</p> <p>The new information provided by the client and the CEP-SIGMA (2016) report, confirm that most of the vessels of the UoA are using artificial bait as assessed in the PCR. The artificial bait used is made of natural and biodegradable materials, although no more detailed information on the composition is available. For more information on the company and specifications and description of the product see the PCR. Fishers consider artificial bait as more efficient compared to frozen fish since the artificial bait (in blocks) does not need any care on land during long periods of time and lasts more time under seawater.</p> <p>As commented in the evaluation table for the PI 2.1.1 small amounts of horse mackerel (<i>Trachurus trachurus</i>), mackerel (<i>Scomber scombrus</i>) and sardine (<i>Sardina pilchardus</i>), are used by the UoA for baiting the octopus traps. Horse mackerel (<i>T. trachurus</i>) in the Northeast Atlantic has a management plan since 2007; ICES considers that this MP is not consistent, in its current configuration, with the precautionary approach, however, the plan could be made consistent with the PA through the introduction of a protection rule (ICES, 2017a). The catches of horse mackerel are currently mainly limited by effort limitations of the bottom-trawl fleets and due to management plans for other species caught in the same mixed-fisheries (e.g. hake). The strategy is partially working since the stock is on a downward trajectory although fishing mortality dropped in 2015–2016 below F_{MSY}. For mackerel (<i>S. scombrus</i>) there are technical measures to regulate the Northeast Atlantic catches as catch limitation, management plan, minimum size, quota adaptation,</p>		



PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch.		
		<p>and in Spain there is a national catch limitation by gear, semester and area. These measures have worked on keeping the spawning stock biomass well over the MSY $B_{trigger}$ and B_{pa} during the last 10 years (ICES, 2016). Both stocks (Bay of Biscay and Iberian) of sardine (<i>S. pilchardus</i>) have no precautionary management plans in place under ICES consideration; there is not an agreed precautionary management plan for sardine in the Bay of Biscay and the MP established in 2013 between Spain and Portugal for the Iberian stock is not anymore considered precautionary, although a HCR sets a TAC directly according to an estimate of the biomass (ICES, 2017b,c). Main management measures are effort control and size limit, are clearly not responsive to the state of the Iberian stock. Lastly, EU's Common Fisheries Policy seeks to phase in the implementation of the landing obligation and prohibition of discards from 2015 through to 2019 for all commercial fisheries (species under TACs, or under minimum sizes) in European waters and for European vessels fishing in the high seas. The landing obligation requires all catches of TAC regulated commercial species on-board to be landed and counted against the quota.</p> <p>Regarding directly to the UoA strategy, the CEP-SIGMA on board sampling program collects information on the type of bait used in the octopus traps, although not the amount used. During the first SA it was confirmed that this sampling program has changed since the 2014-15 fishing season; the scope of the sampling was extended to the whole UoA vessels and not only the UoC, actually all vessels included in the 2016/17 OFMP are bound to collaborate with this sampling (by getting a biologist on board) under CEP request (Resolución de 7 de diciembre de 2016). On the other hand the periodicity of the sampling has been reduced from 4 days/month to 2 days/month.</p> <p>The assessment team has no information if with the changes mentioned above in the on board sampling program, the amount of bait used, and not only the type, will be collected in the future along the UoA. In line with this, we do not know if information regarding the origin of the fish bait used will be collected.</p> <p>Based on the above, the assessment team considers that the current strategy for managing main and minor primary species is only partial, therefore SG80 is met, but not SG100 because the re-is not a full-strategy in place is not a cohesive and strategic arrangement specifically designed to manage impacts on this component.for managing primary species.</p>		
b	Management strategy evaluation			
	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 measures/partial strategy will work, based on some information directly about the fishery and/or species involved.	Testing supports high confidence that the partial strategy/strategy will work, based on information directly about the fishery and/or species involved.
	Met?	Y	Y	N
	Justification	<p>In terms of fishing practices relating to retained species, upon asking during the meeting with the parties involved, they explained that normally when these species are caught in their traps, they record this in their fishing log and unload them at port to be sold at market.</p> <p>To date, there is little information on the accidental capture of primary species, but the information that does exist is objective and indicates that it never reaches 5%, by which it would not need to be assessed.</p>		



PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch.		
		<p>Despite this, the quantitative results gathered on all retained species caught in traps indicate that the specificity of this fishing method and the measure or trap size, etc. are appropriate, which means that SG 80 is met, but SG 100 is not met, as the recent implementation of the planning and estimates for the resource and non-target species have so far prevented checks from being made to support high confidence of the strategy in place.</p> <p>Only in the fishing guild of Tapia frozen pelagic species are commonly used for baiting, but the greatest majority of the vessels of the UoA (8 fishing guilds) are using artificial bait; almost all vessels from the fishing guilds of Ortiguera, Puerto de Vega, Oviñana, Viavélez, Luarca, Figueras and Cudillero. Moreover, the fleet is not allowed for fishing the species used as frozen bait (horse mackerel, mackerel and sardine), which has to be purchased. The result is that only very limited quantities of these species are being used as bait.</p> <p>Regarding the management strategy outside the UoA, there is a high confidence that the strategies for managing the fisheries targeting the three pelagic species, mainly using purse-seiner and pelagic trawlers, will work for the sardine Bay of Biscay stock, horse mackerel and mackerel stocks, but for the Iberian sardine stock the measures are not even considered likely to work.</p> <p>Based on the above information, there is some objective basis for confidence that the partial strategy will work, therefore SG80 is met. Nevertheless, since the strategy is not complete and there are still gaps of information to assess its success, the assessment team considers that the strategy has not been tested for supporting a high confidence that it will work, therefore SG100 is not met.</p>		
		Management strategy implementation		
C	Guide post		There is some evidence that the measures/partial strategy is being implemented successfully .	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving its overall objective as set out in scoring issue (a).
	Met?		Y	N
	Justification	<p>The strategy of recording has been recently implemented, but the data collected by the different fields related to fishing activity verified that there is no problem with the primary or secondary species. In fact, previous studies indicated that 97.62% is returned to the sea alive, verifying the selectivity of the gear and low mortality of bycatch species retained, both primary and secondary. SG 80 is met are they are some evidences that strategy is being implemented successfully, but not the SG 100, because they are not clear evidences that is achieving its overall objective as set out in scoring issue a.</p> <p>The information showed in the CEP-SIGMA (2016) report from the on board sampling program, and the one provided by the client, although not comprehensive and quantitative throughout the UoA, confirmed that there is some evidence that the strategy is being implemented successfully, ensuring that the impact of the UoA on the minor primary species is being monitored and managed. Moreover, since 2016 this sampling program have been extended to the whole UoA, actually all vessels included in the 2016/17 OFMP are bound to collaborate with this sampling (by getting a biologist on board) under CEP request.</p> <p>Regarding the management strategy outside the UoA, there is a high confidence that the</p>		



PI 2.1.2		There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch.		
		<p>strategies for managing the fisheries targeting the three pelagic species, mainly using purse-seiner and pelagic trawlers, will work for the sardine Bay of Biscay stock, horse mackerel and mackerel stocks, but for the Iberian sardine stock the measures are not even considered likely to work.</p> <p>Based on the above, there is some evidence that the partial strategy is being implemented successfully, therefore, SG80 is met. Nevertheless, since there are still gaps of information on the amount of bait used in the whole UoA due to an improbable sampling program regarding this issue, there is not clear evidence that the partial strategy is being implemented successfully and is achieving its overall objective, therefore SG100 is not met.</p>		
e	Review of alternative measures			
	Guide post	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main primary species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main primary species and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of all primary species, and they are implemented, as appropriate.
	Met?	Y	Y	NY
	Justification	<p>As there is no main primary species caught by the UoA SG60 and SG80 are met by default.</p> <p>In 2014 it began a review of the primary species catches. However, even though none of them reached the 5%, it continues the monitoring in order to check if results vary since 2014. Despite this monitoring and analysis is annual, we assigned a scoring of 80 due to the initial state of these registration activities. SG100 is not met because there is not a biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA related mortality of unwanted catch of all primary species, and they are implemented, as appropriate.</p> <p>During the first SA it was confirmed that the on board sampling program jointly conducted by SIGMA and CEP has been extended from the UoC to the whole UoA, although the periodicity of the sampling has been reduced from 4 days/month to 2 days/month. The annual report on the fishery performance done by the CEP ensures that the performance of these measures is assessed. Further, an Octopus Fishery Monitoring Commission (OFMC) was created as a consultative body for following-up the Management Plan. As expressed in the MP (Resolución 7 diciembre 2016) the roles of this OFMC are: a) exchange of information and knowledge between stakeholders, b) inform or propose changes in the management measures, and c) promote and facilitate scientific studies and technical monitoring. The OFMC will meet at least twice a year (before and after the fishing season), therefore, SG100 is met.</p>		
	References	<p>CEP-SIGMA, 2016. Caracterización de la pesca de pulpo con nasas en el Occidente de Asturias. Consejería de Desarrollo Rural y Recursos Naturales, Gobierno del Principado de Asturias. Febrero de 2016.</p> <p>ICES, 2016. ICES Advice on fishing opportunities, catch, and effort; Northeast Atlantic. Mackerel (<i>Scomber scombrus</i>) in subareas 1–7 and 14, and in divisions 8.a–e and 9.a</p>		



PI 2.1.2	There is a strategy in place that is designed to maintain or to not hinder rebuilding of primary species, and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch.
	<p>(Northeast Atlantic).</p> <p>ICES, 2017a. ICES Advice on fishing opportunities, catch, and effort; Ecoregions in the Northeast Atlantic. Horse mackerel (<i>Trachurus trachurus</i>) in Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k (the Northeast Atlantic).</p> <p>ICES, 2017b. ICES Advice on fishing opportunities, catch, and effort; Bay of Biscay and the Iberian Coast Ecoregion. Sardine (<i>Sardina pilchardus</i>) in divisions 8.a–b and 8.d (Bay of Biscay).</p> <p>ICES, 2017c. ICES Special Request Advice; Bay of Biscay and the Iberian Coast Ecoregion. EU request to ICES on evaluation of the management plan for Iberian sardine.</p> <p>Resolución de 7 de diciembre de 2016, de la Consejería de Desarrollo Rural y Recursos Naturales, por la que se regula la pesca del pulpo común (<i>Octopus vulgaris</i>) durante la campaña 2016/2017. Boletín oficial del Principado de Asturias, 14 de diciembre de 2016, núm. 288.</p>
OVERALL PERFORMANCE INDICATOR SCORE:	8085
CONDITION NUMBER (if relevant):	NA



Evaluation Table for PI 2.1.3 – Primary species information

PI 2.1.3		Information on the nature and extent of primary species is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species		
Scoring Issue		SG 60	SG 80	SG 100
a	Information adequacy for assessment of impact on main primary species			
Guide post		Qualitative information is adequate to estimate the impact of the UoA on the main primary species with respect to status. OR If RBF is used to score PI 2.1.1 for the UoA: Qualitative information is adequate to estimate productivity and susceptibility attributes for main primary species.	Some quantitative information is available and is adequate to assess the impact of the UoA on the main primary species with respect to status. OR If RBF is used to score PI 2.1.1 for the UoA: Some quantitative information is adequate to assess productivity and susceptibility attributes for main primary species.	Quantitative information is available and is adequate to assess with a high degree of certainty the impact of the UoA on main primary species with respect to status.
Met?		NA ✘	NA ✘	NA ✘
Justification		Currently there is a record of non target species in the traps and, on the other hand, on-board monitoring is now being carried out by the CEP and the company Sigma, in which all non target species are monitored, together with their levels of incidence, mortality rates, etc. Therefore, some qualitative and quantitative information is available and is adequate to assess the impact of the UoA. SG100 is not met because the quantitative information shall be improved to assess with a high degree of certainty. As there is evidence that the UoA is not catching main primary species (see PI 2.1.1 table), this SI is not applicable (NA).		
b	Information adequacy for assessment of impact on minor primary species			
Guide post				Some quantitative information is adequate to estimate the impact of the UoA on minor primary species with respect to status.
Met?				Y
Justification		The historic records and the quantitative information gathered over several years in Galicia and available to date in Asturias indicate the scant relevance of the method in relation to planning for primary species. SG 100 is therefore met because the information is adequate to estimate the impact. There are several sources of information for assessing the impact of the UoA on minor primary species, some qualitative and some quantitative. In the CEP-SIGMA (2016) report,		



PI 2.1.3		Information on the nature and extent of primary species is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species		
		<p>there is only relative information (% of each type of bait used in each fishing port; artificial and/or fish species) on the bait used by the UoC, but the client provided to the assessment team unpublished quantitative information vessels by vessels on the bait (species and volume) used in the traps by the UoA during the fishing season 2016-17. Based on these two sources of information, it is clear that the main bait used in the traps by the UoA is artificial bait, although some vessels uses sometimes small amounts of frozen fish based on pelagic species (sardine - <i>Sardina pilchardus</i>, horse mackerel - <i>Trachurus trachurus</i> and mackerel <i>Scomber scombrus</i>).</p> <p>In order to assess the impact of the frozen fish used with respect to the status of this stocks, ICES has updated (2016 and 2017) stock assessment advice on all the species/stock involved: horse mackerel and mackerel stocks in the Northeast Atlantic, and the sardine from the Iberian and the Bay of Biscay stocks. Stock status is given using quantitative information through reference points (e.g. B_{lim}, B_{pa} and MSY $B_{trigger}$, F_{MSY}, F_{lim}, F_{pa}, etc).</p> <p>Through CEP-SIGMA (2016) report, client information and ICES report, the assessment team considers that some quantitative information is available and it is adequate to estimate the impact of the UoA on minor primary species with respect to status. SG100 is therefore met.</p>		
c	Information adequacy for management strategy			
	Guide post	Information is adequate to support measures to manage main primary species.	Information is adequate to support a partial strategy to manage main Primary species.	Information is adequate to support a strategy to manage all primary species, and evaluate with a high degree of certainty whether the strategy is achieving its objective.
	Met?	Y	Y	N
	Justification	<p>As the UoA catches no main primary species (see PI 2.1.1 table), SG60 and SG80 are met by default.</p> <p>See sections 2.1.3. a and b. The results obtained on the abundance of primary species coincide with the fact that the information gathered would be sufficient to apply a different partial fishing strategy, which would maintain the low abundance of primary species obtained in traps in the event of a potential increase in bycatch in subsequent years. Thus SG 80 would be met, but not SG 1000, due to the lack of a high degree of certainty to meet the objective.</p> <p>Through the CEP-SIGMA (2016) report, client information and ICES report detailed in Slb, some information is available and it is adequate to support a strategy to manage all primary species. But, the information available so far is not enough to evaluate with a high degree of certainty whether this strategy is achieving its objective, therefore SG100 is not met.</p> <p>For reaching SG100, the quality and publicity of the information should be improved. So far, some of this information (the one directly provided by the client) is not of public access and the CEP-SIGMA (2016) report is only based on the UoC. The assessment team has been told that several changes in the on board sampling program will happen in the coming</p>		

PI 2.1.3		Information on the nature and extent of primary species is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage primary species
		fishing seasons, but we do not have the details. Therefore, we are not sure if the amount of bait used, and not only the type, will be collected in the future along the UoA. In line with this, we do not know if information regarding the origin of the fish bait used will also be collected. A recommendation to the client was opened for establishing a monitoring system that allows improving the estimations of volumes as well as origin (stock/s) of bait species used in the UoA.
References		CEP-SIGMA, 2016. Caracterización de la pesca de pulpo con nasas en el Occidente de Asturias. Consejería de Desarrollo Rural y Recursos Naturales, Gobierno del Principado de Asturias. Febrero de 2016.
OVERALL PERFORMANCE INDICATOR SCORE:		8590
CONDITION NUMBER (if relevant):		NA



Evaluation Table for PI 2.2.1 – Secondary species outcome

PI 2.2.1		The UoA aims to maintain secondary species above a biological based limit and does not hinder recovery of secondary species if they are below a biological based limit.		
Scoring Issue		SG 60	SG 80	SG 100
a	Main secondary species stock status			
	Guide post	Main Secondary species are likely to be within biologically based limits.	Main secondary species are highly likely to be above biologically based limits	There is a high degree of certainty that main secondary species are within biologically based limits.
	Met?	NA (RBF)	NA (RBF)	NA (RBF)
	Justification	<p>The bait most frequently used in this area is artificial and ecological containing, among other components, flour and gelatin. It is more expensive but rather more efficient since the bait (in blocks) does not need any care on land during long periods of time and lasts more time underneath the water surface. The absence of secondary live or frozen species in the bait of the creel fishery in the UoA supported that we did not include any justification on this performance indicator.</p> <p>Based on the monitoring commissioned to SIGMA by CEP, a comprehensive report was published on February 2016 (CEP-SIGMA, 2016) characterizing the trap octopus fishery in Asturias. This report presents the results obtained from samplings performed between December 2014 and July 2015 on-board 20 vessels included in the UoC. This data constitute the most detailed and updated information on species catch composition of the assessed fishery. Since 2016 this sampling have been extended to the whole UoA, actually all vessels included in the 2016/17 OFMP are bound to collaborate with this sampling (by getting a biologist on board) under CEP request.</p> <p>A total of 44 species and 2 genera have been found as bycatch of this fishery (Table 9), expanding the bycatch list of species detailed in the PCR. Of this list, none of the species are considered out of the scope, and only one, <i>Charonia lampas</i>, is an ETP species, as it was also considered in the PCR.</p> <p>None of the other species are managed with tools and measures intended to achieve stock management objectives reflected in either limit or target reference points, so, all of them are considered Secondary species. Further, none of these species accounts for >5% of the total catch. Only the spiny starfish (<i>Marthasterias glacialis</i>) represents a percentage close to 5% (4.1%), and there are another 3 species achieving a percentage between 1 and 2%, while the remaining 38 species and genera fall below 1% of the total catch. Based on this, all the bycatch species, beside the ETP <i>Charonia lampas</i>, are considered minor Secondary species. Therefore, as there is evidence that the UoA is not catching main secondary species, this SI is not applicable (NA).</p>		

Table 9. Retained captures, discarded and totals in number (N) and in weight (W –g-). results obtained from samplings performed between December 2014 and July 2015 on-board 20 vessels included in the UoA. Source: CEP-SIGMA, 2016.



PI 2.2.1		The UoA aims to maintain secondary species above a biological based limit and does not hinder recovery of secondary species if they are below a biological based limit.									
		NOMBRE CIENTÍFICO	NOMBRE COMUN	Nº RET.	Nº DESC.	Nº TOTAL	PESO RET.	PESO DESC.	PESO TOTAL	% N	% PESO
		<i>Octopus vulgaris</i>	Pulpo	978	1.290	2.268	1.446.554	841.861	2.288.415	28,111%	90,327%
		<i>Marthasterias glacialis</i>	Estrella de mar común	-	1.378	1.378	-	104.972	104.972	17,080%	4,143%
		<i>Polybius henslowii</i>	Patexo	-	2.790	2.790	-	40.613	40.613	34,581%	1,603%
		<i>Serranus cabrilla</i>	Cabrilla	-	558	558	-	26.348	26.348	6,916%	0,404%
		<i>Necora puber</i>	Nécora	84	157	241	12.910	13.303	26.213	2,987%	1,035%
		<i>Conger conger</i>	Congrio	-	27	27	-	22.319	22.319	0,335%	0,881%
		<i>Scyliorhinus canicula</i>	Pintarroja	-	12	12	-	3.901	3.901	0,149%	0,154%
		<i>Labrus mixtus</i>	Gallano	-	30	30	-	2.003	2.003	0,372%	0,079%
		<i>Galathaea strigosa</i>	Sastre	-	96	96	-	1.948	1.948	1,190%	0,077%
		<i>Gaidropsarус mediterraneus</i>	Bertorella	-	33	33	-	1.815	1.815	0,409%	0,072%
		<i>Parablennius spp</i>	Blenio	-	107	107	-	1.651	1.651	1,326%	0,065%
		<i>Gaidropsarус vulgaris</i>	Lota	-	13	13	-	1.623	1.623	0,161%	0,064%
		<i>Charonia lampas</i>	Caracola	-	5	5	-	1.515	1.515	0,062%	0,060%
		<i>Holothuria forskali</i>	Holoturia negra	-	20	20	-	1.350	1.350	0,248%	0,053%
		<i>Cancer pagurus</i>	Buey de mar	-	12	12	-	1.122	1.122	0,149%	0,044%
		<i>Ophioderma longicauda</i>	Ofiura lisa	-	149	149	-	1.107	1.107	1,847%	0,044%
		<i>Homarus gammarus</i>	Bogavante	-	7	7	-	1.070	1.070	0,087%	0,042%
		<i>Parablennius gattorugine</i>	Cabruza	-	22	22	-	909	909	0,273%	0,036%
		<i>Scyllarus arctus</i>	Santiaguín	2	9	11	150	644	794	0,136%	0,031%
		<i>Sphaerechinus granularis</i>	Erizo violáceo	-	6	6	-	741	741	0,074%	0,029%
		<i>Maja squinado</i>	Centollo	-	4	4	-	587	587	0,050%	0,023%
		<i>Inachus spp</i>	--	-	120	120	-	539	539	1,487%	0,021%
		<i>Ctenolabrus rupestris</i>	Tabernero	-	35	35	-	472	472	0,434%	0,019%
		<i>Coris julis</i>	Julia	-	5	5	-	340	340	0,062%	0,013%
		<i>Palaemon serratus</i>	Camarón, Quisquilla	44	24	68	220	120	340	0,843%	0,013%
		<i>Atelecyclus undecimdentatus</i>	--	-	14	14	-	170	170	0,174%	0,007%
		<i>Scorpaena porcus</i>	Rascacio	-	1	1	-	89	89	0,012%	0,004%
		<i>Sympodus melops</i>	Porredana	-	1	1	-	84	84	0,012%	0,003%
		<i>Trisopterus minutus</i>	Capellán	-	1	1	-	64	64	0,012%	0,003%
		<i>Liocarcinus corrugatus</i>	Cangrejo de arrugas	-	6	6	-	61	61	0,074%	0,002%
		<i>Raniceps raninus</i>	Pez rana	-	2	2	-	53	53	0,025%	0,002%
		<i>Paracentrotus lividus</i>	Erizo de mar	-	2	2	-	45	45	0,025%	0,002%
		<i>Labrus bergylta</i>	Maragota	-	1	1	-	32	32	0,012%	0,001%
		<i>Pagrus pagrus</i>	Pargo	-	1	1	-	27	27	0,012%	0,001%
		<i>Centralabrus exoletus</i>	Farro	-	1	1	-	27	27	0,012%	0,001%
		<i>Gobius cobitis</i>	Gobio gigante	-	1	1	-	23	23	0,012%	0,001%
		<i>Atelecyclus rotundatus</i>	--	-	1	1	-	21	21	0,012%	0,001%
		<i>Gobius paganellus</i>	Bobi	-	1	1	-	20	20	0,012%	0,001%
		<i>Trisopterus luscus</i>	Faneca	-	1	1	-	16	16	0,012%	0,001%
		<i>Pisa armata</i>	--	-	3	3	-	13	13	0,037%	0,001%
		<i>Echinaster sepositus</i>	Estrella espinosa	-	4	4	-	12	12	0,050%	0,000%
		<i>Liocarcinus marmoreus</i>	Cangrejo de arena	-	6	6	-	9	9	0,074%	0,000%
		<i>Bathyneutes longipes</i>	--	-	1	1	-	8	8	0,012%	0,000%
		<i>Asterina gibbosa</i>	Estrella del capitán	-	1	1	-	3	3	0,012%	0,000%
		<i>Xaiva biguttata</i>	Xaiva	-	1	1	-	2	2	0,012%	0,000%
		<i>Pisa tetraodon</i>	--	-	1	1	-	2	2	0,012%	0,000%
		Total		1.108	6.960	8.068	1.459.834	1.073.654	2.533.488	100%	100%
		The only main secondary species identified by the team was the <i>Necora puber</i>. These species was the only species close to a percentage of 5% in weight of the total octopus captures. See Table Appendix 1-3. The information described above was checked during the site visit with the interviews carried out with the CEP and the DGPM. Considering the above constraints and the absence of stock status reference points in the velvet crab, the assessment team decided that it would be appropriate to use the RBF tool for outcome of the main secondary species.									
		In the Appendix 1.2 can be find the PSA Rational Table 1.2.2.b. undertaken by the assessment team and stakeholders during the RBF meeting. Taking into account the FCR (PF 5.3.2) if only main species are scored then the final MSC score for this PI is capped at 80. Therefore the final score for the PSA an therefore the overall score for the PI was 80.									
b	Minor secondary species stock status										
b	Guide post										
		For minor species that are below biologically based limits', there is evidence that the UoA does not									



PI 2.2.1		The UoA aims to maintain secondary species above a biological based limit and does not hinder recovery of secondary species if they are below a biological based limit.		
				hinder the recovery and rebuilding of secondary species
	Met?			N NA (RBF)
Justification		<p>Apart from the octopus, only 3 species were retained by fishers (velvet crab –<i>Necora puber</i>-, slippery lobster –<i>Scyllarus arctus</i>-, common prawn –<i>Palaemon serratus</i>-). This means that 97.8% of the individuals captured were discarded because of not having commercial interest or because of being below its size limit (see table 9), and 98.6% of these discards were alive when removed from the trap (CEP-SIGMA, 2016). Due to this fact, coupled with the low catches for those species recorded in the 12,562 traps sampled (catches of 41 out of the 46 species and genera fall below 2kg), the assessment team considers highly unlikely that the UoA is hindering the recovery and rebuilding of any secondary species.</p> <p>However, as the information on the status of most of the minor secondary species is very limited or non-existent, it cannot be assessed whether they are above or below their biologically based limits. Further, survival of discards after being released is not fully understood as post-capture mortality studies performed have not checked the survivorship rates after the individuals are thrown back into the sea.</p> <p>Therefore, in accordance with MSC Guidance Box GSA1 (“Where limited information is available, teams should be more precautionary in their assessment of information adequacy to support an outcome PI score”), SG100 is not met.</p>		
References				
OVERALL PERFORMANCE INDICATOR SCORE:				80
CONDITION NUMBER (if relevant):				NA



Evaluation Table for PI 2.2.2 – Secondary species management strategy

PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch.		
Scoring Issue		SG 60	SG 80	SG 100
a	Management strategy in place			
	Guide post	There are measures in place, if necessary, which are expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be within biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a partial strategy in place, if necessary, for the UoA that is expected to maintain or not hinder rebuilding of main secondary species at/to levels which are highly likely to be within biologically based limits or to ensure that the UoA does not hinder their recovery.	There is a strategy in place for the UoA for managing main and minor secondary species.
	Met?	Y	Y	Y 
Justification	As the UoA catches no main secondary species (see table 9 above), SG60 and SG80 are met by default.			
	<p>With regard to fishery management in terms of non-target species, the MP for octopus establishes the appropriate recommendations of returning bycatch to the sea and making a note of them.</p> <p>All the parties involved as stakeholders, particularly the public administration, fishermen and representatives from the cofradías in attendance at the work meetings, comment that the way of operating they have with bycatch is to remove them from the trap and return them to the sea. As the gear used is fixed, no harm is done to any species that might become trapped, and their rate of survival is very high. The results from the CEP-SIGMA sampling carried out between December 2014 and July 2015 on-board 20 vessels included in the UoC confirmed that 97.8% of the individuals captured were discarded, and 98.6% of these discards were alive when removed from the trap (CEP-SIGMA, 2016).</p> <p>CEP maintains a sampling program which allows: (i) monitoring catches of non-target species and detecting any increase in the catches of a particular species; (ii) check the percentage of discards and their survival rates when removed from the trap.</p> <p>Further, the DGPM performs regular inspections at sea, ports (offloading) and auction points to ensure fishers comply with the regulations in relation to size limits of the non-target commercial species. However, most of the non-target catches are comprised by non-commercial species meaning that there is little incentive for the fishers to avoid returning these species alive to the sea.</p> <p>The elements described above represent a cohesive and strategic arrangement which comprise different measures (detailed sampling by Sigma, biological monitoring by CEP, regular inspections by the SGPM) designed to manage the impact of the UoA on minor secondary species. The annual report on the fishery performance done by the CEP provides ensures that the performance of these measures is assessed. Therefore, these elements</p>			



PI 2.2.2	<p>There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch.</p>								
	<p>constitute a comprehensive strategy as defined by MSC (see FCR v2.0 Table GSA3). Further, taking into consideration that non-target species accounts for less than 10% of the catches, and that 98% of the individuals captured are discarded (99% of them alive when removed from the trap), the assessment team considers that this strategy is appropriate to the scale and intensity of the risk associated to these species. Therefore, SG100 is met.</p> <p>The following is a list of secondary bycatch species (not highlighted) in traps operating in the management unit. See Table 9.</p> <p>Table 7 Retained captures, discarded and totals in number (N) and in weight (W). Information from the sample on board from December 2014 to January 2015.</p> <p>TABLE DELETED (to facilitate reading and avoid confusion)</p> <p>On the other hand, in the analysis conducted in Asturias, it was observed that all the species previously referred to (comber, conger eel, shrimp, etc.) are minor secondary species, as they are not relevant from a quantitative point of view in the fishing of octopus using traps. As can be seen in the table, captures of the other species are insignificant in relation to the total catch, and moreover, with the exception of the common prawn (<i>Palaemon serratus</i>), all bycatch species were returned to the sea, which means they cannot be logged as bycatch but rather as live discards.</p> <p>Despite the fact that none of the secondary species is close to a percentage of 5% in weight of the total octopus captures, as stated previously, a review of the managed data in Galicia on non target species found in octopus traps indicated that the captures of velvet crab (<i>Necora Puber</i>) in the area closest to Asturias did reach this threshold of 5% (Table Appendix 1-3).</p> <p>Table 8 Information from the UTPB_2006_Galician octopus fishery. Source: Table done by the team</p> <p>TABLE DELETED (to facilitate reading and avoid confusion)</p> <p>The species <i>Necora Puber</i> is protected by the Resolution of 10 March 2004 of the Regional Ministry for the Rural Environment and Fisheries, approving the Seafood MP. Since it came into force, it has limited the number of traps per boat, harvesting hours, etc. Certain minimum sizes have also been established and closed season for the velvet crab (<i>Necora Puber</i>) from 15 January to 15 March in seasons from 2003/2004, which means that most of the main octopus season does not overlap with that of the velvet crab.</p> <p>Currently, in Asturias there is a record of non target species in the traps and, on the other hand, on board monitoring is now being carried out by the CEP and the company Sigma, in which all non target species are recorded, together with their levels of incidence, mortality rates, etc. These figures indicate the beginning of the establishment of a partial strategy for controlling primary species. These studies validate the certainty that there is no risk for these species. SG 80 is therefore met. However, there is no strategy for the UoC to handle the main and minor secondary species directly. SG 100 is not therefore met.</p>								
b	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="4" style="padding: 5px;">Management strategy evaluation</td> </tr> <tr> <td style="width: 15%; padding: 5px; vertical-align: top;">Guide post</td> <td style="width: 25%; padding: 5px;">The measures are considered likely to work, based on plausible</td> <td style="width: 25%; padding: 5px;">There is some objective basis for confidence that the measures/partial</td> <td style="width: 35%; padding: 5px;">Testing supports high confidence that the partial strategy/strategy will work,</td> </tr> </table>	Management strategy evaluation				Guide post	The measures are considered likely to work, based on plausible	There is some objective basis for confidence that the measures/partial	Testing supports high confidence that the partial strategy/strategy will work,
Management strategy evaluation									
Guide post	The measures are considered likely to work, based on plausible	There is some objective basis for confidence that the measures/partial	Testing supports high confidence that the partial strategy/strategy will work,						



PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch.		
		argument (e.g. general experience, theory or comparison with similar UoAs/species).	strategy will work, based on some information directly about the UoA and/or species involved.	based on information directly about the UoA and/or species involved.
	Met?	Y	Y	Y N
Justification		<p>Most of the catches of non-target species are comprised by non-commercial species (see table 9) meaning that there is little incentive for the fishers to avoid returning these species alive to the sea.</p> <p>In terms of management practices relating to bycatch species, upon asking them during the meeting with the parties involved, they explained that normally when bycatch of secondary species with commercial interest are caught in their traps, they record them in their fishing log, land them at port and register them to be sold at market. According to the information provided by the SGPM at the first SA, inspections performed at sea, ports (offloading), and auction points confirm this issue.</p> <p>Finally, results shown in table 9 evidence that non-target species are restricted to less than 10% of the total catches of the UoA, besides that 98% of the individuals captured are discarded and 99% of those discarded individuals are returned to the sea alive. Therefore SG60, SG80 and SG100 are met.</p> <p>To date, there is little information on the accidental capture of secondary species, because the target sampling at sea to gather information about these species was not implemented many years ago and thus, a long term analyses cannot be presented. However, the information that does exist so far is objective and indicates that the catches of secondary species never reaches 5%, by which it would not need to be assessed. The most relevant primary species (in terms of their commercial importance) would be the velvet crab (<i>Necora Puber</i>), common prawn (<i>Palaeomon serratus</i>) and slipper lobster (<i>Scyllarus arctus</i>), which is similar to what occurs in the fishing industry in Galicia. However, captures of the most relevant species, the velvet crab, in direct field studies by biologists in the fishery, would not reach 0.008% in weight of common octopus catches. Similar data account for the other minor secondary species, so no secondary species could be considered primary. Despite this, as indicated previously, velvet crab incidence was assessed (see section 2.2.2.a.). The quantitative results gathered on all bycatch species caught in traps indicate that the specificity of this fishing method and the measure or net size, etc. are appropriate, which means that SG 80 is met, but SG 100 is not met, as the recent implementation of the planning and estimates for the resource and non target species have so far prevented checks from being made to support a high degree of effectiveness of the planning measures in place.</p>		
C	Management strategy implementation			
	Guide post		There is some evidence that the measures/partial strategy is being implemented successfully.	There is clear evidence that the partial strategy/strategy is being implemented successfully and is achieving



PI 2.2.2		There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch.		
				its objective as set out in scoring issue (a).
	Met?		Y	Y N
Justification <p>Results obtained by the sampling performed by Sigma (table 9) and the inspections performed by the DGPM confirmed that the strategy is being implemented successfully, ensuring that the impact of the UoA on the minor secondary species caught is being monitored and managed. Therefore, SG80 and SG100 are met.</p> <p>The strategy of recording bycatch was only recently implemented, but the data collected by the different elements related to fishing have verified that there is no existing problem with secondary species. In fact, previous studies indicated that 97.62% of the animals caught are returned to the sea alive, which verification of the specificity of the method used and the low mortality rate of both primary and secondary bycatch species. SG 80 is therefore met, but not SG 100, as indicated in the scoring for issue SG100a.</p>				
e	Review of alternative measures to minimise mortality of unwanted catch			
	Justification	There is a review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main secondary species.	There is a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of main secondary species and they are implemented as appropriate.	There is a biennial review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality of unwanted catch of all secondary species, and they are implemented, as appropriate.
	Met?	Y	Y	Y N
	Guide post	<p>As there is no main secondary species caught by the UoA SG60 and SG80 are met by default.</p> <p>In 2014, a regular review of the potential effectiveness and practicality of alternative measures to minimise UoA-related mortality started to deal with non-target species captured in traps. However, despite the fact that none of these reach the minimum value of 5%, the activity is ongoing to monitor variation in these aspects from 2014 onwards. Although this monitoring and analysis will be on an annual basis, a scoring of 80 is assigned due to the initial status of the activities being recorded typographic. SG100 is not because there is not a biennial review of the potential effectiveness. During the first SA it was confirmed that the sampling on-board has been maintained, although the periodicity of the sampling has been reduced from 4 days/month to 2 days/month. The annual report on the fishery performance done by the CEP ensures that the performance of these measures is assessed. Further, An Octopus Fishery Monitoring Commission (OFMC) was created as a consultative body for following-up the Management Plan. As expressed in the Management Plan (Resolucion 7 diciembre 2016) the roles of this OFMC are: a) exchange of information and knowledge between stakeholders, b) inform or propose changes in the management measures, and c) promote and facilitate scientific studies and technical monitoring. The OFMC will meet at least twice a year (before and after the fishing season). Therefore, SG100 is met.</p>		
References		Fernández, Mª del Pino. 2016. Informe sobre el seguimiento de la campaña de pulpo		



PI 2.2.2	There is a strategy in place for managing secondary species that is designed to maintain or to not hinder rebuilding of secondary species and the UoA regularly reviews and implements measures, as appropriate, to minimise the mortality of unwanted catch.
	<p>2015/2016 en el Plan de Gestión. Centro de Experimentación Pesquera, Consejería de Desarrollo Rural y Recursos Naturales.</p> <p>CEP-SIGMA, 2016. Caracterización de la pesca de pulpo con nasas en el Occidente de Asturias. Consejería de Desarrollo Rural y Recursos Naturales, Gobierno del Principado de Asturias. Febrero de 2016.</p> <p>Resolución de 7 de diciembre de 2016, de la Consejería de Desarrollo Rural y Recursos Naturales, por la que se regula la pesca del pulpo común (<i>Octopus vulgaris</i>) durante la campaña 2016/2017. Boletín oficial del Principado de Asturias, 14 de diciembre de 2016, núm. 288.</p>
OVERALL PERFORMANCE INDICATOR SCORE:	100 80
CONDITION NUMBER (if relevant):	NA



Evaluation Table for PI 2.2.3 – Secondary species information

PI 2.2.3		Information on the nature and amount of secondary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage secondary species.		
Scoring Issue		SG 60	SG 80	SG 100
a		Information adequacy for assessment of impacts on main secondary species		
Guide post	The RBF was used to score PI 2.2.1 for the UoA:	The RBF was used to score PI 2.2.1 for the UoA:	Some quantitative information is available and adequate to assess with a high degree of certainty the impact of the UoA on main secondary species with respect to status.	Quantitative information is available and adequate to assess with a high degree of certainty the impact of the UoA on main secondary species with respect to status.
Met?	NA ✘	NA ✘	NA ✘	NA ✘
Justification	<p>As there is evidence that the UoA is not catching main secondary species (see table 9), this SI is not applicable (NA).</p> <p>As has been reiterated, examining official statistics on trap fishing in the managed area. However, as the velvet crab has been identified as a main secondary species, the data on this species indicate that existing information verifies that the species is not affected. The same is true of the other species that are commercially significant but which do not have a MP based on planning measures which are in turn based on specific management limits, such as the common prawn or the slipper lobster, or teleost species such as the comber, although it should be stressed that these species do have minimum capture sizes and a particular fishing season. Catches of this species do not come to 5% in weight terms.</p> <p>The qualitative (and some quantitative) information gathered in the RBF is sufficient to assess productivity and susceptibility for secondary species. SG 80 is therefore met. However, a high degree of certainty of the impact caused does not exist, which means that SG 100 is not met.</p>			
b		Information adequacy for assessment of impacts on minor secondary species		
Guide post			Some quantitative information is adequate to estimate the impact of the UoA on minor secondary species with respect to status.	Some quantitative information is adequate to estimate the impact of the UoA on minor secondary species with respect to status.
Met?			NA ✘	NA ✘
Justification	<p>Althoguh the onboard sampling performed by Sigma provided very detailed data on the catch composition at species level (number of individuals and weight), the destination of that catch (retained/discard) and the fate of the discards (alive/dead), there is little or even no information on the status of most of the species caught by the UoA. Therefore, SG100 is not met.</p> <p>The sampling conducted indicates that the minor secondary species that have been detected in octopus traps would be: comber, conger, cuckoo wrasse, sea urchin, threadfin rockling, common prawn, sea cucumber, slipper lobster and velvet crab, with percentage by weight of between 0.007 (velvet crab) and 1.1% (comber).</p> <p>As stated previously, these captures do not have any relevance in weight or in the number</p>			



PI 2.2.3		Information on the nature and amount of secondary species taken is adequate to determine the risk posed by the UoA and the effectiveness of the strategy to manage secondary species.		
		of secondary species. On the other hand, it is important to stress that the historic records and the quantitative information gathered over several years in Galicia and available to date in Asturias indicate the scant relevance of the method in relation to planning for secondary species. SG 100 is therefore met.		
C	Information adequacy for management strategy			
	Guide post	Information is adequate to support measures to manage main secondary species.	Information is adequate to support a partial strategy to manage main secondary species.	Information is adequate to support a strategy to manage all secondary species, and evaluate with a high degree of certainty whether the strategy is achieving its objective .
	Met?	Y	Y	Y N
	Justification	<p>As the UoA catches no main secondary species (see table 9 above), SG60 and SG80 are met by default</p> <p>The onboard sampling performed by Sigma provided very detailed data on the catch composition at species level (number of individuals and weight), the destination of that catch (retained/discharged) and the fate of the discards (alive/dead). Although initially the sampling was performed only within the UoC, since 2016 the scope of the sampling was extended to the whole UoA as all the vessels included in the OFMP are bound to collaborate with the biological sampling commissioned by the CEP. Despite detailed results on catch composition since 2016 were not provided, no significant changes are expected. Further, the annual reports on the fishery performance prepared by the CEP, and the reports on the inspections performed by the DGPM are adequate to support the strategy implemented to monitor and manage all minor secondary species, and to evaluate its performance with a high degree of certainty. Therefore, SG100 is met.</p> <p>See SGa and SGb. The results obtained on the abundance of secondary species coincide with the fact that the information gathered would be sufficient to apply a different partial fishing strategy, which would maintain the low abundance of secondary species obtained in traps in the event of a potential increase in bycatch in subsequent years. Thus SG 80 would be met, but not SG 100, due to the lack of a high degree of certainty to reach the objective.</p>		
References		CEP-SIGMA, 2016. Caracterización de la pesca de pulpo con nasas en el Occidente de Asturias. Consejería de Desarrollo Rural y Recursos Naturales, Gobierno del Principado de Asturias. Febrero de 2016.		
OVERALL PERFORMANCE INDICATOR SCORE:				90-85
CONDITION NUMBER (if relevant):				NA



Evaluation Table for PI 3.2.3 – Compliance and enforcement

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with.		
Scoring Issue		SG 60	SG 80	SG 100
a	MCS implementation			
	Guide post	Monitoring, control and surveillance mechanisms exist, and are implemented in the fishery and there is a reasonable expectation that they are effective.	A monitoring, control and surveillance system has been implemented in the fishery 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 and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.
	Met?	Y	N	N
	Justification	<p>The DGPM' Office of Fisheries Inspection and Surveillance has the primary responsibility for ensuring compliance with the rules governing the activity (Fisheries Act 2/1993 of the Principality of Asturias, Title IX). This body has four teams: one on the eastern coast, two on the central coast and one on the western coast. In each one, there are three or four agents who monitor all fishing activities, from the catch to the sale.</p> <p>The DGPM' Office of Fisheries Inspection and Surveillance Unit is also responsible for the Guardapescas hired by the guilds. Both bodies have a good relationship and work together. The fisheries offices are guild staff and their functions are regulated by Decree 23/1995 of 2 March, create the position of Guardapescas. Each of the guilds in Puerto de Vega, Ortiguera, Viavélez and Tapia de Casariego has a Guardapescas. Their functions are: 1) Ensure compliance with the rules governing the exploitation plans (mainly barnacle and octopus); 2) Collaborate with the Inland Waters Surveillance of the Principality of Asturias in the enforcement of fishing laws and 3) Report periodically on the state of fish stocks in their purview. The Guardapescas has no sanctioning powers; rather, should he believe that a violation is taking place he must inform the competent authority (Civil Guard or the Office of Fisheries Inspection and Surveillance of the DGPM Monitoring of Fisheries (Spanish acronym DGPM).</p> <p>The system has proven to be sufficient to meet most of the rules set out in the MP. However, it is known that there is a lack of robustness to enforce the rules exhaustively with the total number of traps set at sea (see below data presented under SI(d)) or to monitor the unloading of the catches. This seems to be partly cause by:</p> <ul style="list-style-type: none"> (i) Shortage of operational means on behalf of the DGPMs Office of Fisheries Inspection and Surveillance Unit to perform inspections at sea, in particular related to verify the compliance on maximum number of traps in used. According to information collected during the first surveillance audit members of this unit admitted that any of the 3 vessels available for inspection at sea are big enough for lifting the lines of traps. Due to this, the unit has currently no ability to seize and remove lines of traps on the sea, therefore, they were un-able to corroborate the high degree of non-compliance in the number of traps stated in the CEP-SIGMA (2016) report. The CAB was told that a new and big boat for conducting this kind of inspections on the sea is going to be operational in 2019. (ii) Staff shortages at the fish auctions. Because of this, the Guardapescas perform other tasks beyond those provided for in Decree 23/1995, such as administrative work, 		



PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with.										
		<p>management of the fish auction, etc. This fact (more pronounced in some guilds than others) limit the effectiveness of the work of this group, and even more when they have to share their job with the surveillance of the Barnacle Exploitation Plan. In addition, the Guardapescas agree that they spend much more time on barnacle fishery than on octopus fishery.</p> <p>(iii) 'Guardapescas' role is focused only on the control and inspection inside the auction points buildings, but no inspections are done by this unit on the sea and on docks. The volume and number of undersized individuals is not recorded (even for statistical purposes) and those illegal individuals are either released back to sea (if the octopus is alive) or given back to the vessel owner (if it is dead).</p> <p>A Monitoring, control and surveillance mechanisms is implemented in the fishery and there is a reasonable expectation that it is effective therefore the PI gets 60. Nevertheless, the lack of ability of the Fisheries Inspection and Surveillance Unit to seize and remove lines of traps on the sea (and therefore to ensure compliance on the maximum number of traps per vessel), together with the lack of definition in relation to the figure of the the issue with the figure of the Guardapescas figure can weaken is weakening the ability of the monitoring, control and surveillance system to enforce relevant management measures, strategies and/or rules, therefore the PI do not get a SG of 80. The fishery does not reach SG100 because we it cannot ensure that the monitoring, control and surveillance system is comprehensive.</p>										
b		Sanctions										
		<table border="1"> <tr> <td>Guide post</td><td>Sanctions to deal with non-compliance exist and there is some evidence that they are applied.</td><td>Sanctions to deal with non-compliance exist, are consistently applied and thought to provide effective deterrence.</td><td>Sanctions to deal with non-compliance exist, are consistently applied and demonstrably provide effective deterrence.</td></tr> <tr> <td>Met?</td><td>Y</td><td>¥ N</td><td>¥ N</td></tr> </table>			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	¥ N	¥ N
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	¥ N	¥ N									
		Justification	<p>DGPM' Office of Fisheries Inspection and Surveillance was created in 1993 (Fisheries Act 2/1993 of the Principality of Asturias, Title IX). This body is also responsible for the Guardapescas hired by the guilds since 1995. Both bodies have a good relationship and work together. The fisheries offices are guild staff and their functions are regulated by Decree 23/1995 of 2 March. In the Fisheries Act 2/1993, Título IX, is entirely dedicated to Infringements and Sanctions where a comprehensive list of type of infractions and sanctions to each one are given (from monetary penalties to removal of fishing licence and confiscating of fishing gears and boats).</p> <p>There have been few sanctions in this fishery due to the low conflict, but they are applied consistently and have proved to be dissuasive. The vast majority of sanctions related to octopus are to recreational fishers for not reaching the minimum wage or for exceeding the quota. In the last five years (2010-2014), the Office of Fisheries Inspection and Surveillance of the DGPM has imposed only nine sanctions on professional octopus fishermen with traps (five in 2010 and only one in 2014 (information provided by the DGPM). A decline of sanctions has been observed from 2010 to 2014, and this was confirmed during the first surveillance as no sanctions were imposed to professional fishers in 2016 and 2017 according to information provided by the DGPM, although the intensity of control and surveillance vessels targeting octopuses has been maintained (40 inspections at auction points, 62 vessels inspected while landing and 22 vessels inspected while fishing, during the fishing season 2016/17 according to data provided by the DGPM during the first SA).</p>									

PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with.		
		<p>During the site visit a non-conflict atmosphere was observed regarding this issue and everybody agrees that sanctions have worked for increase fisher's compliance and has provide an effective deterrence.</p> <p>We have no evidence that the Guardapescas have imposed any sanctions (they do not have the power to do so) during the same period, although they have reported conflicts with other recreational fishermen. The Guardapescas surveillance activity is restricted inside the auction points buildings, as no inspections are done by this unit on the sea and on docks.</p> <p>Until 2015, infractions were considered administrative In Spain, but due to the pressure of the Spanish fishing sector in 2015 the penal code was modified under which shellfish poaching is now considered a criminal offense, with penalties of up to two years in prison (Organic Law 1/2015, of 30 March, on the Penal Code, article 180) and so is expected to have a even higher deterrent effect as sentences are gradually made public.</p> <p>Based on the above, it can be concluded that sanctions exist, are consistently applied and demonstrably provide effective deterrence; therefore this SI reaches SG 100.</p> <p>The non-conflict atmosphere was also confirmed during the site visit of the SA. However, evidence was found on a systematic non-compliance with the maximum number of traps per vessel regulation (see SI (d) for more details). At the light of that non-compliance and the lack of sanctions related to this issue, the assessment team cannot consider that sanctions to deal with non-compliance exist, are consistently applied and thought to provide effective deterrence. Therefore, SG80 is not met.</p>		
C	Compliance			
	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	N
	Justification	<p>The fishermen are maintaining high levels of commitment in complying with most of the management system requirements and the fishery regulations. Apart from the lack of ability to control and enforce the regulation limiting the maximum number traps per vessel, the control system is very effective and hardly any cases of non-compliance have been reported. The data provided by the fishery activity (catch and landing data) can be considered essential for monitoring the status of the stock. Moreover some fishers (4 vessels are currently doing this during 2016-2017 fishing season) have to complete voluntarily fill the onboard daily logbooks and the catches are compared to the sales notes in the port. Therefore, SG80 is met.</p> <p>Nevertheless during the site visit we could observe there are some doubts about the real number of traps in the water and surveillance on the sales. Doubts regarding compliance in relation to the maximum number of traps per vessel were confirmed in the SA (see info presented in SI (d)). Due to this there is not a high degree of confidence that fishers comply with the management system, therefore SG100 is not met. therefore the SI gets a SG of 80 but not SG100.</p>		



PI 3.2.3		Monitoring, control and surveillance mechanisms ensure the management measures in the fishery are enforced and complied with.																																													
d	Systematic non-compliance																																														
Guide post			There is no evidence of systematic non-compliance.																																												
Met?			¥ N																																												
Justification	<p>There is no evidence of systematic non-compliance in this fishery; we have not noticed any sign in our site visit. Therefore this SI gets a SG of 80.</p> <p>A work done during the fishing season 2014-2015 in the four cofradías included in the UoC revealed a "high degree of non-compliance in the number of traps used" (CEP-SIGMA, 2016). This study was done by the CEP and SIGMA SL for characterizing the octopus' fishery and it just had a descriptive intention, without any surveillance purposes. The OFMP establishes a maximum number of traps allowed in each boat based on the number of crew members on board. This measure has not changed since the 2010 MP, and it establishes a maximum of 125, 250 and 350 traps for vessels with 1, 2 and 3 or more crew members respectively. The study found an average of 220, 326 and 453 traps for UoC vessels with 1, 2 and 3 or more crew members respectively (Table 3.2.3.1). This difference represents an increase of 76%, 30% and 29% in the number of traps for vessels with 1, 2 and 3 or more crew members respectively, with regard to the maximum numbers of traps allowed in the MP.</p> <p>Table 3.2.3.1. Number of traps used by vessels from the UoC with different number of crew members on board, with regard to the maximum number allowed based on the 2014-15 OFMP (the OFMP in force when the study was done). (Source: modified using data from the CEP-SIGMA 2016 study).</p> <table border="1"> <thead> <tr> <th rowspan="2">N of crew members</th> <th rowspan="2">max. N of traps allowed in the MP</th> <th colspan="6">N of traps used when fishing</th> </tr> <tr> <th>min.</th> <th>N</th> <th>%</th> <th>N</th> <th>%</th> <th>N</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>125</td> <td>200</td> <td>60%</td> <td>220</td> <td>76%</td> <td>250</td> <td>100%</td> </tr> <tr> <td>2</td> <td>250</td> <td>280</td> <td>12%</td> <td>326</td> <td>30%</td> <td>394</td> <td>58%</td> </tr> <tr> <td>3</td> <td>350</td> <td>360</td> <td>3%</td> <td>453</td> <td>29%</td> <td>534</td> <td>53%</td> </tr> </tbody> </table> <p>This study also shows that all vessels from the UoC fail to observe this management measure, since the minimum of traps founds per each vessel category, is always above the maximum number allowed in the MP. Therefore, there is evidence of systematic non-compliance and SG80 is not met.</p>								N of crew members	max. N of traps allowed in the MP	N of traps used when fishing						min.	N	%	N	%	N	%	1	125	200	60%	220	76%	250	100%	2	250	280	12%	326	30%	394	58%	3	350	360	3%	453	29%	534	53%
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OVERALL PERFORMANCE INDICATOR SCORE:								65																																							
CONDITION NUMBER (if relevant):								4																																							



Appendix 2. Stakeholder submissions

No comments from stakeholders were received.

Appendix 3. Surveillance audit information

Relevant figures and tables used for this SA were included and commented within the report



Appendix 4. Additional detail on conditions/ actions/ results



GOBIERNO DEL PRINCIPADO DE ASTURIAS

CONSEJERÍA DE DESARROLLO RURAL Y RECURSOS NATURALES

Alberto Vizcaíno Fernández

Director General
de Pesca Marítima

Gijón, 4 de octubre de 2017

Asunto: APOYO A LAS MEDIDAS PROPUESTAS POR LOS TITULARES DEL CERTIFICADO MSC PARA EL PULPO DEL OCCIDENTE DE ASTURIAS.

Al objeto de lograr una explotación sostenible del pulpo capturado por las embarcaciones asturianas incluidas en el PLAN DE GESTIÓN DEL PULPO DEL OCCIDENTE DE ASTURIAS, la DIRECCIÓN GENERAL DE PESCA MARÍTIMA DEL PRINCIPADO DE ASTURIAS, dentro del ámbito de sus competencias y en lo que le corresponda, se suma en el apoyo a las medidas propuestas en el PLAN DE ACCIÓN diseñado por los titulares del certificado MSC para el pulpo del occidente de Asturias que persigue propiciar un mejor desempeño en las labores de vigilancia pesquera aplicables a este recurso.



ADMÓN. PRINCIPADO DE ASTURIAS
Reg. Salida N° 2017020841002900
05/10/2017 12:13:13

Avda. Príncipe de Asturias, s/n. Centro Integrado de Formación Profesional del Mar, 2.^a planta. 33212 Gijón. Tfno.: 985 31 28 90. Fax 985 31 28 99



Appendix 5. Revised Surveillance Program

The surveillance level and the fishery surveillance program remains the same as in the PCR. The surveillance level is number 4 (2 on-site and 2 off-site). See Tables 5.1 & 5.2 for details.

Table 5.1: Timing of surveillance audit

Year	Anniversary date of certificate	Proposed date of surveillance audit	Rationale
2	February 2018	July 2018	
3	February 2019	July 2019	
4	February 2020	July 2020	<p>The assessment team considers that the surveillance timing date should be established in July due to the following circumstances of the fishery:</p> <ul style="list-style-type: none"> • The fishing season runs from December through July. The fishery is closed the rest of the year. • The main catches of the fishery takes place from January to April. The surveillance timing proposed in the PCR will significantly alter the fishermen and biologist work. • The Management Plan (MP) is annually reviewed and published in the Official Gazette of the Principality of Asturias (BOPA).
5	February 2021	Before February 2021	The recertification audit will need to be aligned with the expiry date of the certificate (10 February 2021).

Table 5.2 Fishery Surveillance Program

Surveillance Level	Year 1	Year 2	Year 3	Year 4
Level 4	On-site surveillance audit	Off-site surveillance audit	On-site surveillance audit	Off-site surveillance audit & re-certification site visit

