# Three-Year Audit Template

## Introduction to the tool

The three-year audit template was developed by FishChoice and is based on the FisheryProgress FIP Review Guidelines and feedback from the FisheryProgress Technical Oversight Committee. The audit template is designed to present key information about the current performance of the fishery and to verify reported progress on www.FisheryProgress.org. **FisheryProgress requires the use of three-year audit template.**

Text in italics provides additional guidance about information that should be included in each section. Text in red provide examples for possible responses.

## Basic FIP information

*Fill in the following table. The management authority is the regulatory authority with fishing management responsibilities; there may be multiple authorities where joint jurisdictional responsibilities occur.*

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| Target species scientific name and common name | Anchoveta *Engraulis ringens* |
| Fishery location | Peruvian EEZ, Northern-Central stock |
| Gear type(s) | Purse seine |
| Catch quantity (weight) | 2,059,000.00 tonnes (Second fishing season Nov/18 – April/19)<br>2,003,000.00 tonnes (First fishing season May/19 – July/19) |
| Vessel type(s) and size(s) | Vessels are steel or wood, 32.5 - 1110 tonnes capacity. |
| Number of vessels | The vessels that are part of the FIP are all the fleet that are part of the Societe National de Pesca (SNP). In total there are 460 vessels, from both the wood |

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| | and steel fleets. |
| Management authority | PRODUCE |

## Stakeholder consultation & meetings

*Fill in the following table and include a high-level summary of the subjects that were discussed. Additional rows may need to be added or modified depending on number of participants and meetings completed.*

| Name | Affiliation | Date and Subjects Discussed |
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| Miguel Ñiquen | IMARPE | 4th December 2019<br>• Update of IHC & DHC FIP actions<br>• Individual meetings held with all FIP participants to discuss their specific area of expertise with regards to the FIP |
| Cristian Condori Tito | PRODUCE. The FIP representative from PRODUCE was not able to be present at the meeting, a replacement was sent but some specific information was not able to be provided. | |
| Ernesto Godelman | CeDePesca | |
| Carmen Guerrero | CeDePesca | |
| Julissa Melo | CeDePesca | |
| Mayra Palacios | CeDePesca | |
| Chloe North | MRAG | |
| Jorge Risi and Ulises Munayla | SNP | |
| Julia Black | Lovering Foods | |
| Isabel Valcárcel | CAC | |
| Juan Alcazar y Roberto Flores | iPrisco | |
| Milagros Chávarri | Embarcadero Multipropósito Juan Pablo | |
| Mariano Gutiérrez | Instituto Humboldt | |
| Francisco Miranda | OANNES NGO | |
| Ernesto Godelman | CeDePesca | 5th December 2019<br>• Discuss the observer programs |
| Carmen Guerrero | CeDePesca | |
| Julissa Melo | CeDePesca | |

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| Mayra Palacios | CeDePesca | • Filling in any remaining information gaps |
| Julia Black | Lovering Foods | |
| Chloe North | MRAG | |
| Frank Altamirano | Observer on board of DHC FIP | |
| Fiorella Solimano | Observer on board of IHC FIP | |

# Summary of MSC performance indicator scores

*Fill in the likely scoring category (<60, 60-79, ≥80) for each performance indicator (PI) and provide a rationale for the score by referring to the text used in v2.0 of the MSC Standard's scoring guideposts for the related Performance Indicator.*

## Considerations for FIP

Allegations against IMARPE. It is noted that there are currently allegations against the stock assessment scientists at IMARPE for inflating the figures in the stock assessment and increasing the quota. As these allegations are still being looked into by PRODUCE, and have not been proved, they have not impacted the scoring or rational. The situation is one that, of course, the industry in Peru and the FIP practitioners will be well aware of, and involved in the investigation. In May 2020 an international panel will review all the IMARPE procedures to evaluate the anchovy population. Future assessments should take the results of the review into account.

Traceability - A key consideration is the inclusion of vessels within the certification. If limiting the vessels to only those owned by the companies in the FIP, this may make traceability difficult for the fishmeal plants. They will not be able to mix fish, fishmeal or fish oil from a vessel within the certification with that one of outside of the certification.

PI 1.2.1 Harvest Strategy - A second consideration is that currently the pre-assessment only considers samasa under P2, but the fact that the TAC is a joint TAC between anchovy and samasa, the issue of the TAC covering both species should be considered under P1 as well. Therefore, the fishery will need to be able to demonstrate that the joint TAC is able to manage anchovy sufficiently, under P1; and that it is able to manage samasa sufficiently under P2. There has been work discussing separating the TAC and it has been decided it is not a sufficiently high priority to conduct yet, as it could be complex and prohibitively time consuming, compared to the risk that the issue poses.

Principle 2 - If the total catch of all species retained within the UoA is particularly large, such that even small proportions of P2 species may significantly impact the population size, these non-target species should be classified as main. Therefore, all P2 species should be analysed with this in mind.

PI 2.2.1 Secondary species outcome - The pre-assessment conducted a Productivity Susceptibility Analysis for samasa, to determine the outcome score. Two possible scores were presented based on uncertainty in the spatial overlap, due to the distributions being variable based on environmental conditions, and the issue that samasa stocks migrate south only during El Nino events. Little information is provided on the extent of either the fishery, or the distribution of samasa. It was decided to choose a score in the middle of the two scores. However, the very nature of using the Risk-based framework, is that, in the presence of uncertainty, one should be precautionary. It is recommended to conduct an analysis on spatial overlap to re-enforce the decision of >80 scoring. It is understood that there is a plan to update the PSA and produce further rational.

PI 2.4.1 Habitats outcome - The pervious scores for the habitat PIs were >80. Since data has begun to be collected on habitat interactions, the data now shows some interactions do occur. Therefore, a CSA or another form of impact analysis is required before a score of 80 can be demonstrated in a full assessment.

| Principle | Component | Performance Indicator | | Current Score | Rationale and Justification |
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| 1 | Outcome | Key LTL 1.1.1 A | Stock status. The stock is at a level which has a low probability of serious ecosystem impacts. | 60-79 | In November 2019, IMARPE (Instituto del Mar del Peru, the government marine research agency) produced a report on the 'Situation of the North-Central stock of Peruvian anchovy, and prospects for exploitation for the second fishing season of 2019'[i]. IMARPE conduct two fishery-independent acoustic surveys of the stock during the closed seasons each year (there are two open fishing seasons annually for the IHC fleet; the DHC fleet are able to fish all year). Throughout the IHC fishing season, IMARPE estimate the biomass between different zones and they know what size individuals make up the population at that time, through real-time fishery-dependent biological data recording.<br><br>The bi-annual assessment considers oceanographic conditions, such as temperature, salinity and chlorophyll a, because El Nino plays such a role in the status of the stock. |

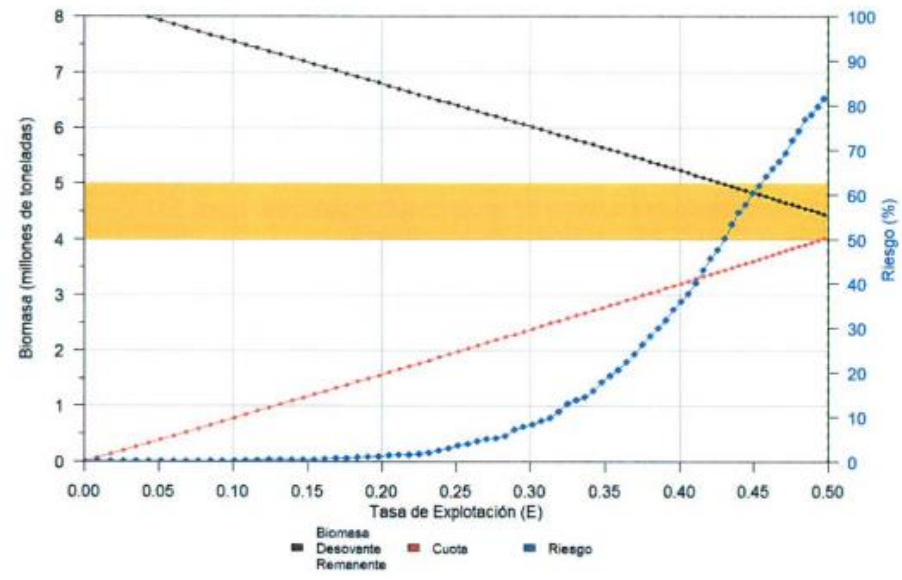


*Figure 1. A Graph depicting the decision equations IMARPE use to recommend the TAC*

The figure above is the decision table and biological reference points, assuming normal environmental conditions. The x axis is the rate of exploitation, and the Y axis is the biomass. The black line is the spawning stock biomass that would be available following the summer 2020 reproductive season, as a consequence of applying different rates of exploitation, see on the red line (whose scale is on the left-y-axis). The yellow bar shows the objective level of spawning biomass (5 million tonnes as trigger reference point, and 4 million tonnes as the limit reference point) and the necessary limits to maintain the sustainability of the stock. The blue line is the risk of having a spawning biomass of less than 5 million tonnes (whose scale is read on the right-y-axis).

The aim is to keep the biomass above the yellow bar. In October 2019 the North-Central stock was estimated to have a biomass of 8.34 million tonnes (8 million tonnes is at the top if the graph on the left-y-axis, far above the yellow bar). IMARPE recommends that to determine the quota for the next fishing season, the exploitation rate should be no more than 35%. The biomass was estimated using a “biomass balance” model, because the results of the hydroacoustic

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| | | | | | survey this year was deemed to not be sufficiently representative of the population. This model has been used in the past when similar situations happened.<br><br>Scoring issues<br><br>a) The stock is at a good level when just considering anchovy on its own. The biomass, estimated at over 8 million tonnes, has a very low risk of being near the trigger reference point of 5 million tonnes. However, the biological reference point does not currently take into account the needs of the ecosystem, and anchovy is classed as a Key Low Trophic Level species. The ecosystem impacts of fishing anchovy at different levels are not known, although at the high current level of the stock biomass is seems likely that the stock is above the point where serious ecosystem impacts could occur. SG60 is likely to be met.<br><br>b) An ecosystem model is currently being created, which will model the effects on other species in the ecosystem under different scenarios of the fishery and El Nino, e.g. unfavorable and favorable conditions for the anchovy. This model is now due to be completed in March 2020; it is currently not possible to determine whether the stock is at a level consistent with ecosystem needs, therefore the 80 level cannot yet be demonstrated. |
| | | 1.1.2 | Stock rebuilding | | N/A |
| | Management | 1.2.1 | Harvest Strategy | <60 | In Principle 1, the whole of the stock, and therefore all sections of the Peruvian anchovy fishery are considered.<br><br>The anchovy fishery is managed in two parts: the industrial Indirect Human Consumption fishery, which actually consist of two fleets, smaller wooden vessels, and larger steel vessels; and the Direct Human Consumption fishery which consists of small-scale and artisanal vessels.<br><br>Both the IHD fishery and the DHC fishery are managed via licenses, mesh size and minimum landing size. There is also a TAC and quota |

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| | | | | | system, and a spatial and temporal closure system, which is different between the IHC and DHC fisheries.<br><br>The anchovy fishery is a closed fishery; there is a limit on the number of licenses and there are no new licenses being issued for either the DHC or IHC sectors. If there is excess quota that is not able to be caught by Peruvian vessels, foreign vessels are able to buy access, however this rarely happens in the anchovy fishery, and there are no foreign access agreements.<br><br>PRODUCE have the ability to close the IHC fishery during the fishing seasons when the proportion of juveniles in the catch is too high. The percentage of juveniles to close the entire fishery varies and is a decision that is taken on a season by season basis. The percentage of juveniles is monitored on a set by set basis through real-time catch reporting and observers. Occasionally the recruitment is so high that the entire catch is juveniles. This has led to the cancellation of the second fishing season in the year, which has occurred four times in the last decade.<br><br>There is a regulation banning landing of more than 10% juveniles. In the past, vessels may have slipped the catch because there were sanctions if you did land it. When the catch is slipped, all the fish are dead; and fishermen were not happy about the level of sanctions for something largely out of their control. In 2015, the regulation changed to incentivise catches not to be slipped; catches can be landed with over 10% juveniles, as long as it is reported immediately so that that specific area can be temporarily closed. The percentage of juveniles is reported for each haul in the electronic logbooks submitted to PRODUCE. If the percentage is higher than 10%, the area could then be temporarily closed within 6 hours or a matter of days. This has reduced the sanction system and placed the priority on data and this form of move-on rule.<br><br>This real-time data system is only for the IHC fishery and not the DHC fishery, although the DHC fishery are not allowed to land more than 10% of juveniles. Where they do, the area fished might be temporarily closed. Landings of the DHC fishery are monitored in |

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| | | | | | port by inspectors from PRODUCE. The system of closing the artisanal fishery when the catches of juveniles are high, is not as quick or well-structured as the IHC system. In the second season of 2019, artisanal fishermen staged protests when the catches of juveniles were extremely high but the fishery was not closed[ii]; PRODUCE eventually closed the fishery. This shows a weakness in the Harvest Strategy for the DHC fleet because the management have less ability to close small areas, than they do with the IHC fishery.<br><br>The Humboldt Institute is part of the FIP steering group and worked specifically on developing an approach to address the problem of catching juvenile fish. IHMA conducted a workshop to investigate whether the mesh size should be modified. The workshop included representatives from fishing companies and universities, as well as IHMA scientists. The conclusion was that increasing mesh size would still retain the larger of the juveniles, and that the current strategy of a 10% move-on rule is correct. They also concluded to create a working group between government and industry to maintain communication and dialogue on the topic. There may also be scope to improve the situation by including different mesh panels, but the law needs to allow dispensations for net trials.<br><br>The IHC fishery is not allowed to fish within 5 nm of the coast. This area is allowed to be fished by the DHC fishery.<br><br>Scoring issues<br><br>a) To reach SG60 the management strategy must be 'designed to achieve stock management objectives in PI 1.1.1', which, as this fishery is a Key LTL species, must maintain the stock at a level that meets ecosystem needs.<br><br>There are parts of the Peruvian marine management system that protect other parts of the ecosystem, such as quota on other species, ETP regulations, and Marine Protected Areas (MPAs), however these measures are not part of the anchovy fishery strategy, and ecosystem needs have yet to be included in the |

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| | | | | | anchovy quota decision table. Therefore, SG60 is not likely to be met.<br><br>b) Evidence exists that management measures, tend to be robust and complied with in Peru for the IHC fleet. The DHC fleet has some issues with non-compliance. Despite this, the management takes IUU fishing into account in the TAC decision, and the stock has been maintained at a good level in the recent past. The strategy is currently achieving its objectives, and has been tested in the past through low biomass situations, and measures have always come into effect to protect the stock. During the first fishing season of 2019, over 100 temporary fishing area closures were implemented to protect the juvenile portion of the stock. And in the second season of 2019, the entire fishery was closed. In 2014 the second anchovy fishing season was not opened to the IHC fleet because of a low biomass situation. It is extremely important for the IHC sector to have a robust harvest strategy as this fishery is much greater than the DHC fishery (two million tonnes by IHC; 160,000 tonnes by DHC in 2018). The DHC sector also has measures in place to limit expansion of the fishery and to monitor it, vessel licensing and data are evidence of this. SG60 is likely to be met.<br><br>c) Monitoring is conducted at sea via compliance observers on the IHC fishery, and scientific observers on both the IHC fishery and the DHC fishery. The percentage coverage of the observer programs would be useful to show for full-assessment. Both fisheries also have to have satellite tracking, via the Peruvian Government's SISESAT system, with the exception of vessels <10m. There is also monitoring of landings at port from PRODUCE, the ministry responsible for fisheries management. IMARPE conduct a fishery independent acoustic survey of the stock twice per year. The monitoring is sufficient to determine the state of the stock biannually and the amount and location of juveniles daily. IMARPE also monitors other species within the ecosystem, such as the marine mammals. SG60 is likely to be met. |

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| | | | | | d) The harvest strategy is undergoing a Management Strategy Evaluation currently. SG100 is not yet met.<br><br>e) N/A<br><br>f) There has been a review of measures to minimize the catch of juveniles[iii], two gear workshops were conducted and recommendations are being implemented. Although the law is apparently not very flexible to allow for trials of new gear adaptations. SG60 is likely to be met, but the review is not yet regular, therefore SG80 is not likely to be met. |
| | | 1.2.2 | Harvest control rules and tools | 60-79 | From the stock assessment results, the TAC is set for the next fishing season based on a formula explicitly set out in a decision table by IMARPE[iv]. The decision table is based on calculating the risk that the remaining spawning biomass is below the biological limit reference point. This is calculated prior to each fishing season, based on an acoustic survey in the closed season, and on landings data; the TAC is therefore adaptive to the current state of the stock. The TAC has a limit of 6 million tonnes. The average historical value for the exploitation rate is 0.35. This value is maintained as a limit because it has been demonstrated in the past to allow the sustainability of the anchovy fishery. This decision table does not yet take into account the trophic needs of the ecosystem.<br><br>The TAC is then divided into a quota for DHC and a quota for IHC, by PRODUCE. There is no transparent method to calculate this division. The proportion is currently based on the historical production of the DHC fleet and of society is apparently not taken into account. NGOs have been working on a model of how to decide the quota proportions between the IHC and DHC fleets.<br><br>The IHC quota is then allocated into individual quotas for vessels or companies, and is released in two parts over the two fishing seasons. The quota is calculated using the Northern-Central stock assessment, and is only used to cover the Northern-Central stock. The Southern stock has separate management for the IHC fleet. |

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| | | | | | The DHC quota is issued for the whole year and is not allocated per vessel. The DHC quota was not adapted in the first years of its existence and remained at 300,000 tonnes. 2019 is the first year the volume of quota changed, but it is not clear what the reason for the change is, and whether it is linked to the state of the stock The quota for the DHC fleet is calculated using just the biomass of the North-Central stock and then used to cover both the Northern-Central stock, and the Southern stock; this makes it precautionary. It is unlikely that all the TAC would be fished just in one area, for example that all the fishing would occur on the Southern stock, because small-scale vessels are limited in the distance they can travel to fish. Despite the precautionary nature of this quota, the annual limit has not yet been reached by the DHC fleet, therefore the mechanism for management once quota is reached for this fleet has not been tested.<br><br>The TAC covers the Northern-Central stock of anchovy, and also long-nosed anchovy (samasa), despite the biomass of samasa not feeding into the TAC decision table. When there is an El Nino event, the sea in Peru is warmer, providing more favorable conditions for samasa. As the anchovy abundance in the areas decrease, the samasa abundance increases, occasionally reaching up to 40% of the catch. The last time the percentage of samasa was this high was around 1998, at this time there was mis-reporting of the species to comply with regulations, which lead to the creation of the regulation that the quota covers both species. The landings of samasa have been relatively low since 1998 (Figure 2), and the biomass of samasa seems stable, with peaks in El Nino year (Figure 3).<br><br>The joint quota has been defined by law of the Congress, and modifying it would be very complex and time consuming. The appearance of samasa in Peruvian water is circumstantial and just when there is a Niño. When that happens, the strong restrictions to anchovy landings also protect samasa. As well as this, the available analysis on samasa biomass shows a healthy status. Putting all this together, it was decided that this issue was not a risk to either species and was therefore not high priority in the short term, given |

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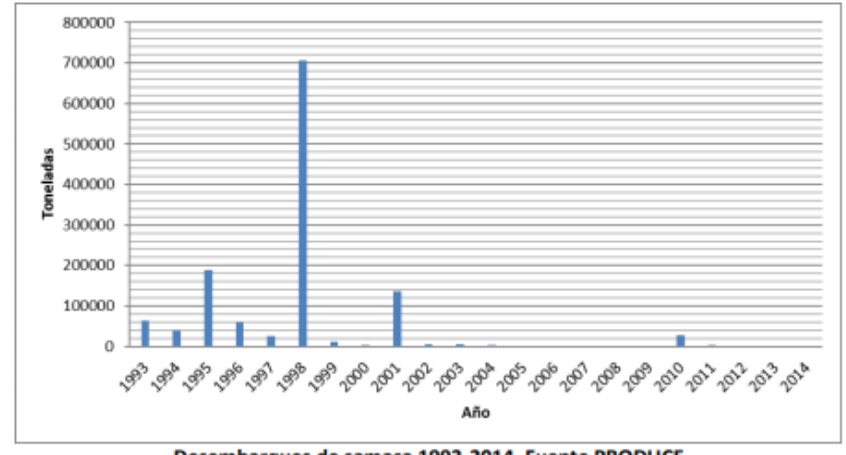
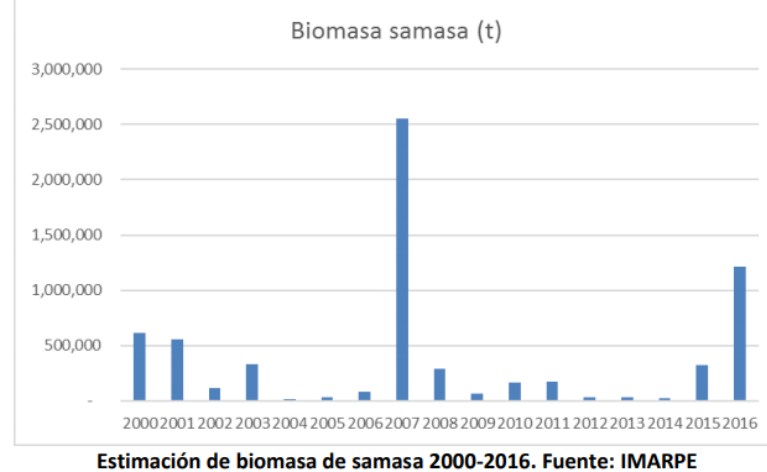
| | | | | | the complexity of changing it. The situation is being reviewed after new government is in place following elections in early 2020.<br>  <br><br>**Desembarques de samasa 1993-2014. Fuente PRODUCE**<br>*Figure 2. Landings of samasa in Peru over time*<br>  <br><br>**Estimación de biomasa de samasa 2000-2016. Fuente: IMARPE**<br>*Figure 3 Biomass of samasa in Peru over time*<br><br>Figure 2 was provided in the original pre-assessment to demonstrate the low catches of samasa that have occurred since 1998. The updated data should be provided to show that this is still the case. |

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| | | | | | Scoring issues<br><br>a) The HCRs are well defined in the decision table which takes into account the IHC and DHC portions. However, they are not expected to keep the stock fluctuating around a level consistent with ecosystem needs, because these have not been defined yet. SG80 is not met.<br><br>b) According to the pre-assessment and communications during the FIP review, IMARPE takes into account an estimate of unreported fishing from the DHC fleet into its stock assessment calculations. This should be demonstrated for the full-assessment. Environmental variables are also monitored and considered during fishery management. The decision table is used for the TAC during El Nino events as well. SG80 may be met if the input of IUU fishing can be demonstrated in the management decisions.<br><br>c) Due to the good state of the stock and the past examples of closing the fishery during low stock situation, there is evidence that the tools in use are appropriate at controlling exploitation in the IHC fleet. The DHC fleet have not reached their quota yet, so the tools are effective at achieving the exploitation level required. It is yet to be demonstrated if the tools would be effective at reducing the exploitation in the DHC fleet, although the entire fishery, including both fleets, has recently been closed due to high proportions of juveniles. SG80 is likely to be met. |
| | | 1.2.3 | Information and monitoring | 60-79 | IMARPE monitors the anchovy stock through a variety of different means. They conduct two fishery-independent at-sea surveys each year prior to the start of the fishing season. They also integrate data such as biometric data from mandatory sampling on board vessels, and data from the satellite vessel tracking system (SISESAT). Every vessel in the IHC fleet must sample 100 fish from every haul and send catch and biological data to IMARPE and PRODUCE on a daily basis via radio or telephone. IMARPE collect catch and size data from all landings of the artisanal fleet at the landing ports, there are no |

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| | | | | | logbooks mandated for the DHC fleet. There is some unreported catch from the DHC fleet from unregistered vessels landing at unregulated sites.<br><br>The main research activities of the Pelagic Fishery (both IHC and DHC) Monitoring are detailed below[v]:<br>• Management reports on compliance with conservation measures of the main pelagic resources (recruitment closures, closures for compliance with allowable catch quotas, etc.)<br>• Periodic reports on the development of the Pelagic Fishery on the Peruvian coast.<br>• Daily reports of the Monitoring of the Pelagic Fishery and Percentage of juveniles.<br>• Biweekly Information Notes of the Pelagic Fishery nationwide.<br>• Determine the main fishing areas and location (through the satellite tracking system) of fishing areas of the main pelagic resources.<br>• Determine the catch and effort levels of the main pelagic resources.<br>• Determine the size structure of the main pelagic resources in commercial catches.<br>• Daily biometric sampling and weekly biological anchovy and other pelagic fish.<br><br>IMARPE have time series of the main reproductive indexes (sexual proportion, spawning frequency, fertility and average female weight) that allow them to identify any changes in the anchovy spawning cycle, and to estimate spawning biomass and potential production of eggs. This allows them to predict recruitment in the coming season.<br><br>IMARPE run an observer program to collect scientific data. Scientific reports are published on the IMARPE website. 5% of trips of the industrial fleet are observed by the IMARPE program, they have recently increased the number of observers from 10 to 50 people |

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| | | | | | and they try to ensure representation according to fleet distribution in all fishing areas.<br><br>There is sufficient relevant information related to stock structure, productivity, removals of both anchovy and samasa, and fleet composition to support the harvest strategy for the both fleets. A graph showing catch and quota for both fleets would be useful for full assessment to show whether the TAC has ever been exceeded.<br><br>The DHC TAC has never been reached or exceeded, however, the information on the unreported fishery removals from the DHC fleet is still an issue until the situation is rectified. A recent report by Oceana attempted to estimate the amount of unreported fishmeal and fish oil in production in Peru based on the number and capacity of illegal plants identified using satellite technology. A production of 22,000 tonnes of fishmeal per year was estimated, and 5,0000 tonnes of fish oil[vi]. Therefore, there is still significant amounts of raw material being used.<br><br>Scoring issues<br><br>a) Due to the range of monitoring described above, sufficient relevant information is available. SG80 is likely to be met<br><br>b) Stock abundance and removals are monitored with sufficient frequency to support the HCR, and TAC has never been exceeded. Unreported removals are estimated through analysis of fishmeal production and export quantities. However, the unreported removals are an estimation and therefore there is some uncertainty about the total removals from the stock. More information on the confidence around these estimates and how they are verified, would be useful. Actions have been put in place to reduce the level of IUU fishing in the DHC fleet, in the form of new laws (detailed in Principle3). The Interdiction law is still in the early stages of implementation, monitoring during and after its implementation is required, and a review should be conducted. SG60 likely to be met. |

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| | | | | | c) There are estimations available of unregistered catch, which range from between 2% - 4% of the landings. This has been improving from 10% in the past due to improved MCS. The Oceana report estimated the unreported catch, and unreported catch estimation is taken into account in the stock assessment. It is currently borderline whether the fishery would reach SG80. To be precautionary, the fishery will achieve a score of SG60 until unreported catch can be reduced with the new Interdiction law. |
| | | 1.2.4 | Assessment of stock status | >80 | Scoring issues<br><br>a) The stock assessment calculates indicators such as CPUE and size structure. From this they estimate spawning stock biomass and other biological indicators. The evaluation is appropriate for the for the stock and the HCRs. SG80 is likely to be met.<br><br>b) They use a target and limit spawning biomass reference point, as well as a limit on fishing mortality. These are defined for the stock specifically. SG80 is likely to be met, although the appropriate of these reference points for key LTL species should be re-evaluated when the ecosystem model is complete.<br><br>c) The assessment takes into account the changes in catchability of anchovy during El Nino years when the acoustic surveys are being carried out, as the anchovy tend to hyper-aggregate [vii]. In the protocol for determining the stock, they incorporate uncertainty by generating abundance replicas of the size and biomass estimates using the bootstrap method which incorporate multiple sources of uncertainty. It is assumed that the main sources of uncertainty come from the sampling. Confidence limits are estimated[viii] . The assessment also apparently takes unreported fishing into account, but some more information on how this is done, would be useful. SG80 is likely to be met.<br>d) There is no scoring guidepost at the 80 level. When the Management Strategy Evaluation has been completed, the fishery may reach the 100 level. |

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| | | | | | e) The stock assessment has been reviewed externally in the past. The details of these reviews should be provided for full assessment. The ecosystem modelling work that is currently being conducted related to PI 1.1.1, is due to be peer-reviewed and then made public. SG80 is likely to be met |
| 2 | Primary species | 2.1.1 | Outcome | >80 | Hake (*Merluccius gayi peruanus)* and Humbolt or Jumbo squid (*Dosidicus gigas*) are the two primary species, both are minor. The total bycatch of all species in the IHC fishery is 0.27% of the catch (CedePesca, pers. comm.).<br>Neither of these two species are below the point of recruitment impairment[ix].<br>As there are no main primary species, the score is likely to default to SG80 |
| | | 2.1.2 | Management strategy | >80 | Both hake and giant squid are managed through quota based on a stock assessment. Hake is also managed using a similar real-time closure system to anchovy, when catches of juveniles are higher than 20%.<br><br>PRODUCE can close areas in the anchovy fishery in real-time based on catches of other species being too high, such as jack mackerel or horse mackerel. There is a limit of 5% incidental bycatch of other species. It would be useful to see notices of examples where this has been put into practice.<br><br>As there are no main primary species, the score is likely to default to SG80 |
| | | 2.1.3 | Information | >80 | Information is collected for the anchovy fleet specifically by IMARPE from logbooks, observers and IMARPE staff collecting data at ports.<br><br>In the hake and giant squid fisheries, there is also a data collection system run by IMARPE which allows them to conduct the stock assessments.<br><br>a, b, c) There are no main primary species. Catches are monitored through real-time catch reporting, and, similar to the 10% rules for |

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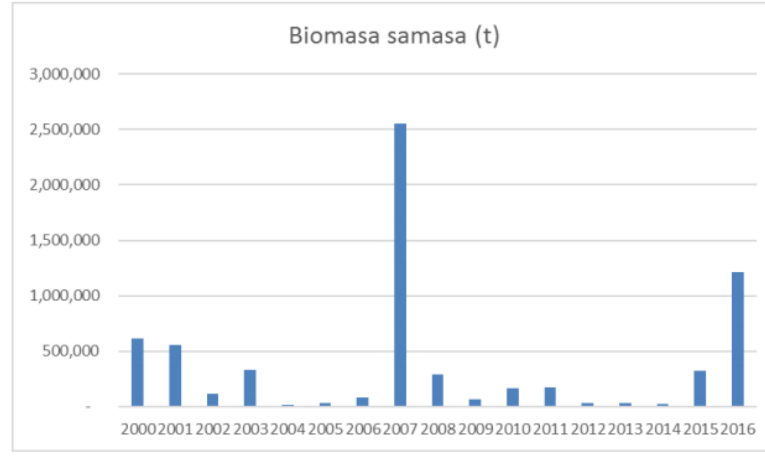
| | | | | | juveniles, there is a 5% rule for bycatch species such as hake and mackerel. SG80 is likely to be met for all Scoring issues. |
| | Secondary species | 2.2.1 | Outcome | >80 | Scoring issues<br><br>a) From the viewpoint of percentage of the catch in recent years, there are no main secondary species. Samasa (long-nosed anchovy) is usually a minor bycatch species, however, occasionally, during El Nino years, it can be up to 40% of the catch. Therefore, in this assessment, it is being considered as a Main species, to be precautionary.<br><br>Currently there is a biomass assessment but no reference points for samasa (biomass time series in the pre-assessment shows large inter-annual variation). The last time there were high catches of samasa was 20 years ago. Catches of anchovy and samasa are negatively correlated; if anchovy stocks decline, stronger management measures will kick-in which will be very precautionary for the samasa. However, the management is based on the anchovy stock status, therefore, the measures that are effective for anchovy, do not protect the samasa stock. IMARPE has said they are going to start to issue some single-species analysis for samasa, such as spawning stock biomass and more detail on the biological characteristics; although this analysis has not yet been conducted. |




**Estimación de biomasa de samasa 2000-2016. Fuente: IMARPE**

*Figure 4 Biomass of samasa in Peru over time*

The pre-assessment conducted a Productivity Susceptibility Analysis for samasa, to determine the outcome score. Two possible scores were presented based on uncertainty in the spatial overlap, due to the distributions being variable based on environmental conditions, and the issue that samasa stocks migrate south only during El Nino events. Little information is provided on the extent of either the fishery, or the distribution of samasa. It was decided to choose a score in the middle of the two scores. However, the very nature of using the Risk-based framework, is that, in the presence of uncertainty, one should be precautionary. It is recommended to conduct an analysis on spatial overlap to re-enforce the decision of >80 scoring. It is understood that there is a plan to update the PSA and produce further rational.

It was highlighted that there are also at certain times a large bycatch of squat lobster (munida, *Pleuroncodes monodon*). In total however, the proportion of bycatch classifies this species as Minor. There is a 20-year stock assessment for squat lobster and the abundance is variable.

Munida and anchoveta share ecological niches but munida is restricted to the coldest part of the productive cold coastal waters

whereas anchoveta do not present any temperature preference over a large range (14–23 °C)[x]. The very shallow oxycline in the waters off Peru keeps munida from its usual bottom habitat and has forced it to adopt pelagic behavior.

Munida is considered as a Minor species. However, due to the nature of the fishery, with extremely large catches of anchovy, if there are certain times of year when munida does constitute over 5% of the catch, it would be precautionary to consider it as Main. Other secondary minor species include those listed in Table 1, and Table 2. These tables include 10 species of fish, 1 species of cephalopod mollusk, 1 of tunicate and 1 crustacean.

*Table 1. Catches from the industrial steel fleet and the industrial wooden fleet (Vikinga), presented in the IHC Pre-assessment in 2017, from observer data.*

| ESPECIE | Flota Industrial | Flota Vikinga | Total | Porcentaje |
|---|---|---|---|---|
| ANCHOVETA | 2514556 | 680352 | 3194908 | 99,898% |
| JUREL | 1 | 40 | 41 | 0,001% |
| CABALLA | 1972 | 195 | 2167 | 0,068% |
| ATUN | 24 | 0 | 24 | 0,001% |
| SAMASA | 3 | 4 | 7 | 0,000% |
| POTA | 75 | 0 | 75 | 0,002% |
| PEJERREY | 22 | 38 | 60 | 0,002% |
| MUNIDA | 184 | 11 | 195 | 0,006% |
| BAGRE | 302 | 45 | 347 | 0,011% |
| CAMOTILLO | 59 | 7 | 66 | 0,002% |
| MELVA | 56 | 5 | 61 | 0,002% |
| JUREL FINO | 20 | 2 | 22 | 0,001% |
| CABINZA | 46 | 8 | 54 | 0,002% |
| LORNA | 64 | 12 | 76 | 0,002% |
| PAMPANITO | 45 | 8 | 53 | 0,002% |
| TOTAL | 2517429 | 680728 | 3198156 | 100,000% |

**BY-CATCH ESPECIES SECUNDARIAS. FUENTE: IMARPE**

*Table 2. A comparison of results between the Salvamares program and the Observer program.*

| Nombre común | Nombre científico | % de captura por especie | |
|---|---|---|---|
| | | POAB | Salvamares |
| Caballa | *Scomber japonicus peruanus* | 0,5282% | |
| Perico | *Coriphaena hippurus* | 0,0003% | |
| Raya mubula | *Mobula sp.* | 0,0002% | |
| Bonito | *Sarda chiliensis chiliensis* | 0,0002% | 0,0002% |
| Tiburón martillo | *Sphyrna zygaena* | 0,0002% | |
| Raya | *Raya indet.* | 0,0001% | |
| Jurel | *Trachurus picturatus murphyi* | 0,0001% | |
| Pampanito | *Trachinotus paitensis* | 0,0000% | 0,0001% |
| Bagre | *Galeichthys peruvianus* | 0,0000% | |
| Anguila | *Ophichthus remiger* | 0,0000% | |
| Múnida | *Pleuroncodes monodon* | 0,0900% | 0,3761% |
| Argonauta | *Argonauta sp.* | 0,0000% | |
| Pyrosoma | *Pyrosoma atlanticum* | 0,0820% | |
| **Total** | | **0,70%** | **0,38%** |

If attempting to achieve the SG100 mark, an analysis of the stock status of each of them should be conducted.

b) SG80 will be met by default

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| | | 2.2.2 | Management strategy | 60-79 | Scoring issues<br><br>a) Samasa is managed under the same TAC as anchovy. This regulation was put in place when there were high catches of samasa around the strong El Nino event in 1998. The regulation is enshrined at a high level in the legal structure of fishery management in Peru, and would therefore be relatively difficult to change. It is still considered something to solve but the regulation has been deemed to not pose an immediate risk to either species. However, there is no |

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| | | | | | documented analysis of how this decision was reached. It can be inferred from the history of catches and the estimated biomass, that the anchovy fishery has not impacted the samasa stock beyond biological limits. A stock assessment would help provide evidence whether the management measures are currently sufficient to maintain the stock above biologically based limits. Without more evidence, the score cannot meet SG80.<br><br>b) The biomass of samasa fluctuates greatly throughout the timeseries, and is linked to environmental variables. Past experience has shown that fishing pressure at the current level is not controlling the population of samasa, and is unlikely to reduce samasa biomass before impacting the biomass of anchovy first. SG60 is likely to be met. SG60 is likely to be met.<br><br>c) The management measures for anchovy, which include the TAC, licensing, mesh size, closed areas and seasons, may also protect the samasa stock to some extent. Evidence from the anchovy fishery shows that these measures are being implemented successfully. SG80 is likely to be met.<br><br>d) N/A<br><br>e) There is no unwanted or discarded catch of samasa, however it is unclear whether there is any unwanted juvenile catch, such as with anchovy. If so, it may be able to be demonstrated that the review conducted for for anchovy may also apply to samasa, if they are of similar size. The rational that the fishery is proposing should be considered before full assessment. SG80 is likely to be met.<br><br>From an MSC stand point, the management of munida does not need to be considered until the 100 level. However, when there are high catches of munida, this is impractical, and therefore avoidance mechanisms could be researched purely for this reason. There is a regulation that bans the discarding of anchovy, and therefore, if the catch has a lot of munida in it, the vessels must land the catch despite there being no market for it. There needs to be more information exchange on where the high concentrations are, and |

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| | | | | | some training on the environmental conditions that usually are associated with high concentrations, so that skipper can avoid those areas. High concentrations can be predicted using Sea Surface Temperature. |
| | | 2.2.3 | Information | >80 | Scoring issues<br><br>a) Vessels fill out logbooks and provide their catch data in real-time to IMARPE and PRODUCE. Observers are deployed to gather scientific data. There are also observers in all landing ports that collect data on the species in the catch. CeDePesca run a private observer program for both the IHC and DHC fleets, to augment the P2 data. IMARPE have developed the CeDePesca data collection protocols in conjunction with CeDePesca and IMARPE works with CeDePesca to ensure the databases are can be integrated; despite this, a conflict of interest is still possible, as CeDePesca are the FIP implementers. An independent review of the CeDePesca observer program is still advisable to negate any potential conflict of interest. It is understood that work on this is underway with local universities.<br><br>The RBF was used to score PI 2.2.1 for samasa. Some quantitative information was available and adequate to assess the score. However, there was some uncertainty about the spatial overlap of the fishery with the distribution of samasa. The information is most likely available, but nobody has conducted this analysis yet. It is recommended that this is conducted.<br><br>SG80 is likely to be met.<br><br>b) SG80 is met by default<br><br>c) Information on catches of samasa is adequate to support the management measures. SG80 is likely to be met. |
| | ETP species | 2.3.1 | Outcome | >80* | Scoring issues<br><br>a) N/A<br><br>b) The bycatch species that interact with the UoA are presented in table 3 at the end of this summary section on PI scoring. It is necessary to know the number of observed trips or catch compared |

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| | | | | | to the number of unobserved trips or catch, in order to understand the information more clearly. This analysis should be presented for full-assessment of the fishery.<br><br>There are two fishing seasons per year. In fishing seasons 1 and 2 in 2018, data was collected on 1,034 trips by Salvamares. There were 31 incidences of releases of long-beaked common dolphins (*Delphinus capensis*), with one death of a dusky dolphin (*Lagenorhynchus obscurus*). There was the release of 650 sea lions (*Otaria flavescens*), and the death of 10. There were also interactions with South American fur seals (*Arctophoca australis*), bottlenose dolphins (Tursiops truncates), but all these individuals escaped the net without any human interaction. Fur seals have low population status compared to the time series (see fichas del impacto).<br><br>With regards to sea birds, the Peruvian booby (*Sula variegata*) and the Peruvian pelican (*Pelecanus thagus*) were the species with the highest record of interaction with the fishery. Of 149,452 individuals of Peruvian boobies observed, 398 died (>0.3 %) during the fishing tasks. To put this into context, the population size of blue footed booby population is around 2million[xi]. A total of 100 Peruvian Pelicans were caught but released alive from 115,554 individuals observed, pelican populations are low for the timeseries (see fichas del impacto), and the guanay cormorant (*Phalocrocorax bougainvilii*) had 59 individuals released alive, 2 in poor condition and 149 discarded dead, out of 54,939 individuals observed in total. For many other species, identification to species level was not possible by the Salvamares, and they were identified to family level, such as albatross, tern etc.<br><br>In relation to marine reptiles, two species of turtle interacted with the fishery, the Olive Ridley turtle (*Lepidochelys olivacea*), and the Green turtle (Chelonia mydas). All the individuals were released alive.<br><br>In the second 2018 fishing season, data from the observer program describes 10 different species of seabird having interactions, but no register of any individuals being negatively impacted by the fishing |

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| | | | | | operation. One species of marine mammal was observed, the sea lion *Otaria byronia.* There were 764 observations but no negative interactions. The birds and sea lions tend to feed in or around the nets and then swim or fly out, the sealions swim over the top of the net.<br><br>The Fichas del Impacto document sets out the population status of each ETP species in terms of its current percentage compared to its historical maximum and its objective levels set by management. Pelicans are at 15% of their historical maximum, and fur seals are at 14%, all other species are at 60 to 100%.The document estimates the food requirements of these ETP species and concludes sufficient anchovy has been left in the stock in recent years to meet this need.<br><br>It seems pertinent, given the low population status of the pelican and fur seal, and healthy population status of other species, to mainly consider these two species going forward. Although there may be a high incidence of interactions pelicans, there is a low incidence of mortalities, and no fur seal mortalities. The UoA is likely to not hinder recovery of these ETP species, however, to be sure, the analysis that links the number of negative interactions, with the population size, must be conducted. This analysis should include direct and indirect effects. It should be demonstrated that the populations of the ETP species are stable or increasing; if the population is decreasing, the fishery would need to prove why it is not having an effect on that.<br><br>Due to the very low number of mortalities in the UoA and due to the general regulatory framework and legislation in place in Peru, which has been designed to protect certain species, it can be assumed that the fishery is likely to not hinder recovery of ETP species. SG80 is likely to be met.<br><br>*c) Indirect effects include ecosystem effects, such as removing food source. Indirect effects have been considered: the document 'Impact study of the anchovy fishery on by-catch and protect species' (Fichas del Impacto) describes correlations between various different species populations, and the anchovy population, or correlations |

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| | | | | | between the amount of food available at certain times of year for reproduction. This document estimates the needs of various species in the ecosystem, with regards to anchovy as food, has been created. It is estimated that the requirements of these species have been available in recent years, and therefore that the anchovy fishery is not having a negative effect on the recovery of species. It is noted that this document is not specific to this UoA and is used as rational for both the IHC FIP and the DHC FIP.<br><br>Indirect impacts from disturbance and stress are reduced through spatial management measures. The closed areas around Guaneras Islands prohibit fishing activities around nesting and reproductive/resting areas for birds and mammals.<br><br>The detailed ecosystem model is due to be complete imminently and from this it will be possible to discern whether the UoA is *highly likely* to not have an impact on ETP species. SG80 is likely to be met when this work is complete, if the results corroborate the previous impact study. |
| | | 2.3.2 | Management strategy | 60-79 | Independently owned vessels that are not part of the companies within this FIP, are not part of the Private Observer program or the Salvamares program. In consequence, there are no bycatch data for this sector. For MSC certification under P2, the entire Unit of Assessment must be considered. Therefore, you only need to consider these third-party vessels if they are classed as 'other eligible fishers'. If wanting to consider them in the UoA, they should be fishing in the same manner as the other vessels.<br><br>Scoring issues<br><br>a) The national protection and management of ETP species involves marine protected areas around islands and guaneras areas, as well as prohibition on hunting sea lions, and a prohibition on the possession, trade, transport or export of ETP species. Various government departments monitor the population status of ETP species. |

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| | | | | | In Peru, multiple different government departments have responsibility for different aspects of ETP management. MINAGRI, the Ministry for Agriculture prohibits the catch and transport of ETP species, SERNANP is the department responsible for protected areas, and SERFOR manages forests and fauna outside of protected areas. Hunting sea lions is prohibited, birds associated with the production of guano are protected. There is a system of MPAs prohibiting fishing around guaneras islands and points.<br><br>IMARPE promotes the adoption of Dolphin Safe practices and certification of fisheries. Some of the companies in the FIP use pingers on their nets to deter dolphins. It is not clear whether all the companies do this. It is not a policy of the fishery management or the FIP. However, if one company seems the value in pingers, it can be assumed it reduces dolphin interactions. Independently owned vessels that are not part of the companies within this FIP, do not use pingers on their nets.<br><br>SERFOR and the Peruvian government has recently published a National Plan for the Conservation of Marine Turtles, approved in December 2019.<br><br>IMARPE has a department called the Office of Research on Superior Predators. One of their objectives is to develop indicators of changes in the marine environment. They conduct activities such as the estimation of population abundance, the study of the ecology of food and the study of reproductive parameters of guaneras birds, the evaluation of the population abundance of sea lions on the Peruvian coast and monitoring of sea turtles. They conduct research cruises to study the distribution and abundance of birds and cetaceans.<br><br>There are overarching national measures designed to protect ETP species. The IHC fishery is not allowed to fish within 5 nm of the coast. This area is allowed to be fished by the DHC fishery. This measure protects many of the islands that are habitat to ETP species, from the disturbance of industrial fishing. |

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| | | | | | The FIP has implemented a private on-board observer program with the following aims:<br>• Characterize and estimate the bycatch of the fishery.<br>• Identify and quantify the species of birds and marine mammals that interact with the fishery.<br>• Collect information to identify the habitats on which it would be impacting the fishery.<br>• Provide advice on board to the crew members who are part of the Program "Salvamares".<br><br>The FIP has also implemented a program called 'Salvamares', which is a system of training crew on-board to act similar to observers, and collect data on ETP interactions. They are also trained in release techniques. The Salvamares cover 10% of the fleet. The information can be validated by the observer program which also covers this fleet, and comparisons of the data have been carried out, in order to improve the data collection.<br><br>There is a kit which has been developed and recommended for use, which includes devices to aid the release of turtles, dolphins and sharks. For there to be a commitment to implement the kit, it must be approved by the SNP scientific committee first. If the kit is issued to vessels, there should also be a summary of the release training and release kit work that has been occurring, to understand whether this has been applied to all FIP vessels yet.<br><br>The spatial overlap of the fishery with bird and mammal nesting areas is low because, with the exception of one island, all other islands are within the 5m inshore zone and therefore the IHC vessels are not allowed to fish there. There is a medium level of temporal overlap between the fishing seasons and the reproductive seasons of the critical TP species (pelicans and fur seals).<br><br>Scoring issues<br><br>a) Specific to the UoA, the FIP has developed a number of measures to minimize mortalities, and there is monitoring of interactions and mortalities. However, there should also be a review of population |

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| | | | | | status of the ETP species in relation to UoA-related mortalities, and a system of review and adaptability of the program. A single strategy document would be useful to bring the FIP work together, and achieve the SG80 level.<br><br>b) N/A<br><br>c). The fishery has not prevented the recovery of populations of guano birds, penguins and sea lions (noting effects of El Nino years). Supporting evidence specific to the UoA indicates that there is little to no UoA-related mortality of the vulnerable ETP species (pelicans and fur seals). There are many ETP interactions but most individuals are released alive and in good condition. It would be useful to know what proportion of the fleet have had release technique training, and some analysis of the impact of this. SG80 is likely to be met.<br><br>d) Evidence of releases are is being collected by the observers and the Salvamares. All vessels are part of the SISESAT tracking system and therefore PRODUCE are aware of their activities and they must comply with closed areas. SG80 is likely to be met.<br><br>e) A release-kit and training program are being rolled out, which, presumably, had some research to create it. And the document on justification of scoring change describes that reviews have been conducted over the years which have led to new measures. Evidence of this will be necessary for full-assessment. A review should also be conducted of alternative gear modifications to minimize ETP catches, and alternative fishing methods or areas. SG80 is not met |
| | | 2.3.3 | Information | >80 | Scoring issues<br><br>a) IMARPE conducts an observer program, and the FIP has also implemented a further private on-board observer program in the IHC fleet to collect more data. The FIP observer data collection has been designed so that the two datasets can be integrated, however, as yet, the information has not been shared with IMARPE and IMARPE have not analysed the datasets together. |

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| | | | | | The FIP has also implemented the 'Salvamares' program of training the crew to collect data.<br><br>The observer program has been improved over the course of the FIP. The on-board weighing equipment now has a lower margin of error. The data now includes invertebrates to species level, which provides more data for habitat interactions. The database now includes photos. A species ID guide has been created.<br><br>Interaction data is collected as 'direct interaction' when an animal is trapped, or 'indirect interaction' when an animal is observed but not trapped. If the interaction is direct, the data records whether they were released in a good or bad condition and alive or dead.<br><br>There are some small gaps in the data. One of the recommendations of the report from the observer program, is that observers should be trained in observation and identification of seabirds to species level, as some are only identified to group level. The number of trips observed is given in the results, but the percentage coverage of all trips is not given i.e. the trips observed as a percentage of all trips conducted. One of the gaps with this data is that the Salvamares program and the Private Onboard Observer Program both only cover the vessels in the FIP. There is another portion of the fleet, the madera fleet, that is not included in the FIP and therefore does not collect this kind of data. Also, the future of the observer program for the IHC FIP, after the end of the FIP, is unclear.<br><br>According to the pre-assessment, IMARPE and SERNANP monitor the population status of guaneras birds and sea lions through a census. The results of this should be made available for full-assessment.<br><br>Quantitative information is available to assess UoA related mortality and to determine impact on the recovery of species. SG80 is likely to be met.<br><br>b) Information is adequate to measure trends and support the strategy. SG80 is likely to be met. |

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| | Habitats | 2.4.1 | Outcome | Likely >80 *(some analysis required) | a) It is often assumed that fishing pelagic fish means the fishery has no benthic habitat interaction. Some pelagic fishing has pelagic habitat effects, such as the use of FADs, although these are not used in small pelagic fisheries like anchovy. Anchovy, and other small pelagics, can be found quite close in towards the shore and fishing can sometimes occur in shallow areas. Anchovy usually swim close to the surface, to a maximum of around 9 m deep (observer report). As part of the FIP, it was necessary to gather data to analyse whether the net does come into contact with the seabed and with what frequency. The FIP has initiated data gathering on habitats to understand the situation better.<br><br>The FIP has initiated data gathering on habitats to understand the situation better. Habitat interactions do occur in this fishery when the fish are close to coast. There is occasional seabed interaction in the IHC fishery; the Salvamares observered seabed interactions in 5% of the haulss in the first season of 2019. (source: Informe del Programa de Observadores Salvamares temporada 2019 – I.) .<br><br>The Salvamares program reports that in the first fishing season of 2018, there was one interaction with rocky benthic habitat. But in the second season of 2018, there were 122 instances of interactions with muddy benthos, 32 with sandy benthos and 74 unidentified interactions. There were also three instances of nets being caught on rocky habitat. The percentage of incidences is unclear here so it is difficult to compare to the 2019 season (source: Programa “Salvamares” CHI Temporadas de pesca 2018-I y 2018-II)<br><br>The sediment-types have been mapped. The fishery operates in areas where the bottom composition is sand and silt. The occurrences of seabed interaction confirm this, as the observers noted the nets interacted with sand and silt. They also noted that there were no benthic species brough up in the net. This indicates there is little negative interaction with biogenic structures or benthic species that could be damaged by the net. 43% of the interactions observed by the salvamares in 2019 (first season) were with muddy substrate, 25% with sand, 31% unclassified and <1% rocky substrate |

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| | | | | | (source: Informe del Programa de Observadores Salvamares temporada 2019 – I.)<br><br>There seems to be a difference in the results between the observers and the Salvamares. The reason for this should be investigated. For example, the onboard observers for the IHC FIP in the second season of 2018 reported 15% of hauls had seabed interactions (source: Programa Privado De Observadores - CHI - Temporada 2018-II), whereas the Salvamares reported 1 out of 3042 hauls. The presentation comparing the two programs also reported a difference but in this presentation, it reports that Salvamares report higher levels of seabed interactions than observers (source: Comparación de resultados entre el Programa Salvamares y POAB – CHI – June 2019)<br><br>There are different types and styles of reporting the observer and Salvamares data. Some reports just include one season, some include both. Different data is presented, and the data is reported in slightly different ways in each, for example between the different years of the Salvmares program. This leads to the data in the reports not matching. It might be a function of the different data sets from the observers and the Salvamares; it should always be made clear exactly which dataset is being reported. The reporting style, i.e. metrics/tables/description, on habitats should be standardised to avoid confusion. It would also be useful to see the number of hauls with seabed interaction, as a proportion of all observed hauls.<br><br>*It is recommended that as soon as there is sufficient data, a Consequence Spatial Analysis should be carried out. It is understood that this has begun.<br><br>Scoring issues<br><br>a) The fishery has been deemed to pose low risk to habitats. However, now that data is being collected, it is showing habitat interactions do occur. There has been no reporting of benthic species being brought up as bycatch, however it is not clear to what level the identification of benthic species goes for the observers, would they record sponges, corals and biogenic structures? |

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| | | | | | The data is an extremely useful start to the process. Next it is required to define the commonly encountered habitats, and what biogenic structure or organisms may be associated with them, the effect the gear could have on the habitat, and the extend of the fishery compared to the extend of the habitat.<br>A CSA is required to be carried out before this can be scored.<br><br>b) It would be useful to provide a map of VMEs along the Peruvian coast and overlay the fishery footprint to demonstrate the conclusions that has been made that the fishery does no operate on any VMEs. *More information is required in order to achieve the 80 score.<br><br>c) A higher resolution of detail would be necessary to define if there were any minor habitats sufficient to meet SG100. |
| | | 2.4.2 | Management strategy | Likely >80 (some analysis required) | Fishing is prohibited around certain islands, designed to protect their ecological status as islands for birds or marine mammals. This may also help to reduce seabed interactions. IHC vessels are prohibited from fishing within 5 nm of the coast, which also reduces habitat interactions.<br><br>It is difficult to ascertain whether management measures are necessary before the CSA is carried out. Previously it was assumed that the fishery has no seabed interaction, but now it is known there is some interaction when the net is deeper than the seabed, more analysis needs to be carried out as to whether this interaction is significant. |
| | | 2.4.3 | Information | SG80 | Data has been gathered from the private observer and the Salvamares (trained fishermen) about habitat interactions. It is not clear whether the IMARPE observers collect habitat data; if so, this could also be included to increase the dataset.<br><br>Invertebrate such as sponges and sea stars were not included previously but are now. If there's sediment or rock fractions this is also registered now. The sediment types have been mapped. |

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| | | | | | SG80 is likely to be met for all SIs. |
| | Ecosystem | 2.5.1 | Outcome | >80* | The Humboldt current system is a highly productive marine area with many top predators. The top predator species in an ecosystem are indicators of the changes that have occurred at different trophic levels. The ecosystem is supported by large base of primary consumers, namely, krill, pelagic squat lobsters, and anchovy. The ecosystem as a whole, undergoes large shifts with the El Nino/ La Nina Southern Oscillation. Anchovy populations can be managed within this oscillation in terms of fishing pressure. The fishery management attempts to maintain the stock above a minimum biological reference point at all times, which has been demonstrated throughout the timeseries to be a sufficient level to support the ecosystem. IMARPE are currently attempting to quantify the actual needs of the ecosystem to add further evidence to this assumption. The results of the ecosystem modelling work ae due to be completed in March 2020.<br><br>Ahead of the completion of the ecosystem modelling, some research was conducted estimating the needs of various species in the ecosystem, with regards to anchovy as food. It is estimated that the requirements of these species have been available in recent years, and therefore that the anchovy fishery is not having a negative effect on the recovery of species.<br><br>Scoring issues<br><br>*a) It is likely that this PI will reach SG80 when the results of the ecosystem modelling have been produced. |
| | | 2.5.2 | Management strategy | >80 | There are measures in place to protect the different levels of the ecosystem, such as the marine protected areas around islands which protects nesting and haul-out areas for marine mammals and birds, from disturbance from fishing vessels. Guaneras areas are also included in the protected area system, understanding that guano birds create an important ecosystem themselves. These species are indicators of the healthy functioning of the ecosystem and |

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| | | | | | populations of them are monitored. Anchovy populations are highly monitored and regulated as well.<br><br>Scoring issues<br><br>a) This management of the top and base parts of the trophic structure represents a partial strategy that is expected to restrain impacts of the UoA on the ecosystem. SG80 is likely to be met.<br><br>b) the populations of various parts of the ecosystem are continuously monitored and IMARPE are currently conducting an ecosystem modelling exercise. SG80 is likely to be met.<br><br>c) The population status of anchovy and of top predators are known. There is compliance with the regulations on protected areas and fishing quotas. SG80 is likely to be met. |
| | | 2.5.3 | Information | >80 | IMARPE monitors all levels of the ecosystem, from algae up to marine macro-fauna, top predators, marine mammals and birds. Data is also collected be the observer programs and the Salvamares. IMARPE are currently compiling all datasets into one ecosystem model to be able to model the impact of different fishing pressures of the UoA. On completion of this exercise in early 2020, all SIs are likely to meet SG80. |
| 3 | Governance and Policy | 3.1.1 | Legal and customary framework | >80 | Scoring issues<br><br>a) The fisheries legislation is based around the General Fisheries Law 25977 of 1992[xii], which sets the framework for how the fishery is managed. The law lays out a limited entry system, which is now completely closed to the creation of new licenses for both the industrial and artisanal sectors. The law also sets out the 5nm limit which is closed for industrial vessels. Supreme decrees are created to implement further specific regulations, such as Legislative Decree 1084, which implemented the quota system for the industrial fleet, and Legislative Decree 010 2010, which is the equivalent regulation for the DH fleet. Other key management tools within the regulatory system are the fishing seasons, MPAs and the gear regulations. PRODUCE cooperates with regional governments and with other governmental departments to deliver the different aspects of the management system. SG80 is likely to be met. |

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| | | | | | b) The Regulations of Fisheries and Aquaculture Inspections and Sanctions (Decreto Supremo N° 017-2017-PRODUCE)[xiii] sets out the legislation for inspections, what can be sanctioned and the scale of the sanction. This can be disputed in the mechanism set out in articles 26-32. SG80 is likely to be met.<br><br>c) The General Law of Fishing (Decreto Ley 25977) sets out:<br>Article 45.<br>Concessions, authorizations, permits and licenses will be granted prior payment of the corresponding rights, whose amount, method of payment and destination, will be fixed by ministerial resolution. The income generated by the payment of such rights, constitute own resources of the Ministry of Fisheries. There are exceptions for paying for these rights, individual people or legal entities are exempt that develop research activities are exempt, and those dedicated to artisanal and subsistence fishing activities.<br>SG80 is likely to be met. |
| | | 3.1.2 | Consultation, roles and responsibilities | >80 | Scoring issues<br><br>a) There are various documents that explicitly define roles and responsibilities of management bodies. These are:<br>• Regulation of Organization and Functions - ROF<br>• Organization and Functions Manual - MOF<br>• Manual Classification of Charges<br>• Table of Equivalences of Charges<br><br>SG80 is likely to be met.<br><br>b) PRODUCE publish their proposed regulations and consult on them before they become official regulations. This was described by stakeholders at the FIP review meeting. Some evidence of this would be useful for full-assessment.<br><br>The Oannes network is a communication network for the fishing industry. There are 30,000 users in this network and email list. Oannes runs social networks for the fishing industry to generate dialogue. They also represent the fishing industry in meetings with |

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| | | | | | government and in FIP meetings, they can use the information from their networks to express what the sector desires. The networks contain fishermen from all sectors as well as scientists.<br><br>Since September 2019, there has been a technical consultation meeting every two weeks, which involves SNP, relevant government departments and the national industry society. Anyone in the group can put something on the agenda for discussion. This is the main conflict resolution system, and examples were provided of the system solving disputes.<br><br>There is a 'Forum for sustainable fisheries and aquaculture' (http://www.fpas.pe/) whose objective is to promote dialogue and research among the different actors in fisheries and aquaculture in Peru. Forum members include regulators, NGOs, companies and academics. The forum organizes multiple meetings per year both in Lima and regionally to discuss relevant topics such a management issues. There is also an electronic suggestions platform. This forum has increased the ability for all parties to be involved.<br><br>b) The management system includes consultation processes and there are many ways the government engages with forums and representative groups to gather opinions and solve issues. SG 80 is likely to be met.<br><br>c) The private industry network run by Oannes, and the and the public-private forum involves fishers from all sector and provide opportunity for all affected parties to be involved. The management system itself has informal and formal mechanisms by which all interested parties can be involved. Government meet with stakeholders and receive their proposals as standard practice. SG80 is likely to be met. |
| | | 3.1.3 | Long term objectives | >80 | The long-term objectives are described in detail in the IHC pre-assessment. The General Fishing Act is clear about the sustainable development and responsible use of fishery resources. SG80 is likely to be met. |

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| | Fishery specific management system | 3.2.1 | Fishery specific objectives | 60-79 | The fishery-specific management system has explicit protocols for establishment of the TAC to maintain the stock within certain boundaries of sustainable biological levels, consistent with Principle 1. There is a regulation of maximum 5% of the catch as bycatch which is consistent with some of principle 2. However, the ETP and habitats objectives are not fishery specific. Also, the fishery specific objectives do not consider the needs of the ecosystem when managing the size of the anchovy stock, consistent with P1 for key LTL species. SG60 is likely to be met. |
| | | 3.2.2 | Decision making processes | 60-79 | Scoring issues<br><br>a) The decision table used by IMARPE to establish the TAC for the anchovy stock is published and transparent. The PRODUCE decides what percentage of this TAC is allocated to the IHC fleet and the DHC fleet, this decision is not based on an established decision-making procedure. SG60 is likely to be met<br><br>b) The TAC is set each year, released in two stages and reviewed before the second fishing season. The percentage of juveniles and bycatch is reviewed in real-time. The decision-making process responds in a timely fashion to issues identified. SG80 is likely to be met.<br><br>c) Decisions are made based on the best available information and the recommendations from IMARPE which appear to be precautionary, even if this is not explicit. SG80 is likely to be met.<br><br>d) The protocol for establishing the TAC is transparent, as is a summary of the most recent season of fishery data, such as landings and CPUE. However, detailed information from the stock assessment, such as fishing mortality and spawning stock biomass is more difficult to find. The decision on how to allocate the TAC between the IHC fleet and the DHC fleet is also not transparent. SG60 is likely to be met.<br><br>e) The management system complies in a timely fashion with judicial decision, an example from 2015 is given in the pre-assessment. More |

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| | | | | | recent examples may be useful for full-assessment. SG80 is likely to be met. |
| | | 3.2.3 | Compliance and enforcement | >80* | Scoring issues<br><br>a) The Peruvian anchovy fishery is a closed fishery, with a high level of surveillance on the IHC fleet. Produce have the Fishing and Landing Surveillance Program. Which consists of an observer program used for compliance monitoring purposes, and inspector at the landing ports, even if they are private. They have 100 observers. PRODUCE have a fishery control center where they conduct monitoring of the fleets.<br><br>Anchovy is found in highest abundance within the first 120nm from the coast. Therefore, there is not an issue with foreign vessels coming just into the EEZ to fish illegally. Peru has signed up to Global Fishing Watch and transmits position data of the vessels within its EEZ.<br><br>The SISESAT satellite tracking system has been running since 1998. This includes satellite and radio monitoring and communication with vessels. All vessels have to transmit their position every 15 minutes.<br><br>Vessel owners have the ability to see where all other vessels in the fleet are, and they can see how much of the quota has been caught that day and by whom. On the visual satellite map system, all positions of vessels and the current 'vedas' (spatial closures) can be seen.<br><br>SG80 is likely to be met.<br><br>b) The reasons for sanctions and levels they are set at are laid out in the law of Inspection and Sanction for the Activities of Fishing and Aquaculture 017-2017-PRODUCE[xii].<br><br>The companies or vessels will report their catches in real-time to PRODUCE including the percentage of juveniles. If reported immediately, the vessel will be allowed to land their catch even if it |

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| | | | | | has higher than 10% juveniles, and avoid sanctions. According to industry, the sanctions for fishing illegally are high enough; vessels have been seized in the past and people have been sent to prison. SG80 is likely to be met<br><br>*c) There is thought to be good compliance in the IHC fleet with the management system, because the surveillance system is so strong, it would be difficult not to comply. However, this assumption should be reinforced with some kind of compliance report from PRODUCE for full-assessment. SG80 is likely to be met if this evidence is provided.<br><br>d) Similar to c), it is generally concluded that there is no systematic non-compliance, due to surveillance activities. A compliance report from PRODUCE would be necessary at full-assessment to prove this. |
| | | 3.2.4 | Management performance evaluation | 60-79 | A fishery-specific Management Strategy Evaluation (MSE) is currently being performed by IMARPE. The results were expected in the second half of 2019 but have yet to be presented. Once completed, this may reach SG80, if there is a mechanism to ensure that the review is conducted regularly by IMARPE, and occasionally conducted externally. |

*Figure 5*

| Especie | Nombre científico | Total de interacciones | | Total de individuos | | Escaparon solos | | Muertos | | Liberados vivos | | Liberados en mal estado | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nombre común | | 2018-I | 2018-II | 2018-I | 2018-II | 2018-I | 2018-II | 2018-I | 2018-II | 2018-I | 2018-II | 2018-I | 2018-II |
| Mamíferos marinos | | | | | | | | | | | | | |
| Delfín común | *Delphinus capensis* | 54 | 2 | 97 | 10 | 65 | 9 | 1 | | 21 | | 10 | 1 |
| Delfín nariz de botella | *Tursiops truncatus* | | 2 | | 57 | | 45 | | | | 12 | | |
| Delfín oscuro | *Lagenorhynchus obscurus* | | 2 | | 16 | | 3 | | 1 | | 12 | | |
| Lobos chuscos | *Otaria flavescens* | 682 | 1.435 | 29.120 | 43.295 | 29.019 | 42.736 | | 10 | 100 | 543 | 1 | 6 |
| Lobos finos | *Arctocephalus australis* | 2 | 13 | 125 | 1.162 | 125 | 1.152 | | | | 10 | | |
| Aves marinas | | | | | | | | | | | | | |
| Albatros de Galápagos | *Phoebastria irrorata* | 12 | 63 | 775 | 2.399 | 775 | 2.399 | | | | | | |
| Albatros de ceja negra | *Thalassarche melanophris* | | | | | | | | | | | | |
| Chuita | *Phalacrocorax gaimardi* | | 2 | | 3.033 | | 3.028 | | 5 | | | | |
| Gaviota de Franklin | *Larus pipixcan* | 137 | 156 | 20.175 | 41.080 | 20.174 | 41.080 | 1 | | | | | |
| Gaviota dominicana | *Larus dominicanus* | | 20 | | 1.500 | | 1.500 | | | | | | |
| Gaviota peruana | *Larus belcheri* | | 467 | | 76.023 | | 76.015 | | 4 | | 3 | | 1 |
| Gaviotín peruano | *Sternula lorata* | 5 | 3 | 500 | 530 | 500 | 530 | | | | | | |
| Guanay | *Leucocarbo bougainvilli* | 27 | 339 | 2.617 | 52.322 | 2.565 | 52.164 | | 149 | 52 | 7 | | 2 |
| Golondrinas | *Oceanodroma sp.* | 60 | 5 | 10.530 | 370 | 10.530 | 370 | | | | | | |
| Pardela común | *Ardenna grisea* | 34 | 448 | 4.755 | 74.603 | 4.752 | 74.588 | 1 | 3 | 2 | 9 | | 3 |
| Pardela de patas rosadas | *Ardenna creatopus* | | | | | | | | | | | | |
| Pelícano peruano | *Pelecanus thagus* | 269 | 620 | 49.217 | 66.337 | 49.139 | 66.267 | 17 | 18 | 61 | 39 | | 13 |
| Pingüino de Humboldt | *Spheniscus humboldti* | | 80 | | 20.543 | | 20.543 | | | | | | |
| Piqueros peruanos | *Sula variegata* | 315 | 766 | 49.492 | 99.960 | 49.435 | 99.528 | 45 | 353 | 11 | 59 | 1 | 20 |
| Piquero de patas azules | *Sula nebouxii* | | 2 | | 3.109 | | 3.098 | | 5 | | 6 | | |
| Zarcillos | *Larosterna inca* | 71 | 123 | 6.631 | 11.418 | 6.631 | 11.417 | | | | | | 1 |
| Reptiles marinos | | | | | | | | | | | | | |
| Tortuga golfina | *Lepidochelys olivacea* | 1 | | 1 | | | | | | 1 | | | |
| Tortuga verde | *Chelonia mydas* | 1 | 3 | 1 | 3 | | | | | 1 | 3 | | |

*Table 3. Total number of observed interactions of birds, mammals and reptiles within the IHC anchovy fishery*

## Workplan results

*Fill in the following table by reviewing the FIP's workplan and summarizing the key results that have been achieved over the last three years (or since the last audit took place) as a result of the FIP's workplan. Provide an explanation of steps that the FIP participants took in supporting and achieving each result.*

*The numbering system on the action plans is different to that on Fishery Progress. Action 1 on the action plans was to update the pre-assessment, this action was omitted on Fishery Progress. This is why numbers do not exactly match up between the website and the document. This document has followed the numbering system on Fishery progress

| Result | Related Action on FisheryProgress | Related MSC Performance Indicator | Explanation |
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| 1.1. Hire a highly regarded professional to analyze whether the fishery complies fully with the MSC requirements for LTL species. Complete<br>1.2. Elaborate a document analyzing the role of anchovy in the ecosystem and the trophic needs of species that prey on it. In Progress but behind schedule<br>1.3. Elaborate a document together with the specialist hired in Task 1.1 to analyze whether the fishery complies fully with the MSC requirements for LTL species. Not Started, behind initial schedule. Will come after 1.2 is complete | Action 1 Demonstrating that the management system considers the ecosystem needs. | 1.2.1, 1.1.2, 1.1.1 | 1.1 The FIP Steering Group has hired an MSC specialist, Dr Ian Scott, who will conduct an in-depth analysis of whether the fishery complies with PI 1.1.1. The analysis has not been conducted yet; it is due to begin once IMARPE has finished conducting their trophic research.<br>1.2 IMARPE has not yet produced the results of the ecosystem research, although they are almost complete. This work is has taken longer than originally estimated; it was initially due to be completed in August 2017, according to the first FIP workplan (2017); and then in the second workplan (2018-2019), it was due to be complete by June 2019. The most recent estimate for the work to be presented is on January 15th 2020. Once the work is complete, the FIP will need to consider whether the current formula for setting the TAC leaves sufficient resource to fulfill the energy needs of the ecosystem. IMARPE have contracted two external experts to assist them with this work, Dr. Moritz Stabler and Dr. Mark Tylor.<br>1.3 Has not been initiated yet. There should also be a plan of how to address the outcome of the analysis, if the TAC-setting formula does need to be changed. |

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| | | | PRODUCE always set the TAC according to the advice of IMARPE; therefore, it is in the hands of IMARPE to add the results of the ecosystem modelling into their TAC-estimation protocol and decision table, and include fulfilling the needs of the ecosystem into the objectives of the fishery management. |
| 2.1. Create a database from data gathered by industrial vessels in cooperation with IMARPE and promote participation of universities in the analysis, assessment and research. Complete<br>2.2. Promote technological and methodological innovation and development in the fishing sector, monitoring and assessment of the ecosystem Complete | Action 2 Building a database derived from data gathered by the industrial fishing vessels. | 2.3.3, 2.3.2, 2.3.1, 2.5.3, 2.5.2, 2.5.1, 2.4.3, 2.4.2, 2.4.1, 2.1.3, 2.1.2, 2.1.1, 2.2.3, 2.2.2, 2.2.1 | 2.1 Acoustic data gathered by industrial vessels is now complied and available to researchers.<br><br>2.2 Two workshops have been carried out to discuss and analyse how to reduce catches of juveniles. The summary and conclusions of the workshops have been uploaded onto the Fishery Progress website. It was concluded to use spatial management with real-time data to reduce catches of juveniles. Changing the mesh size would not be as effective as many juveniles still get caught in the net even with bigger mesh size, as the net holes get obstructed.<br>Other innovations are still being considered, such as hexagonal mesh panels and different coloured nets, as well as new sonar systems and cameras which can better determine size of individuals. Some companies are using the new sonars already and more trials are planned. There is an incentive because of the regulations on juveniles. The FIP is lobbying government to create greater flexibility in regulations, to allow for trials of new gear. |
| 3.1. Draft a proposal that ensures that harvest control rules under a low biomass scenario and the management objectives regarding the ecosystem are explicitly considered. Not Started, behind schedule<br>3.2. Promote the adoption of differentiated catch quotas or similar measures for longnose | Action 3 Promoting improvements for the Management System. | 1.2.2, 1.2.1, 1.2.3, 2.3.2, 2.5.2, 2.4.2, 2.1.2, 2.2.2, 3.2.3, 3.1.2, 3.2.1, 3.2.4 | 3.1 This action has not been started yet, as the ecosystem analysis has not been completed. The HCR in a low biomass scenario has been deemed to be sufficient; the industrial fishery has been closed in the past, although what would occur in the DHC fishery is unclear.<br><br>3.2 This issue was discussed by the FIP working group and it has been decided it is not of sufficient priority at |

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| anchovy during the El Niño warm events. De-prioritised<br>3.3. Develop, from a methodological standpoint, a Management Strategy Evaluation for the Peruvian anchovy fishery. In Progress but behind schedule<br>3.4. Draft a proposal of a new fishing penalties regime, contemplating selectivity and technological innovation limitations. Complete<br>3.5. Hold meetings with officials and authorities to encourage the implementation of measures in line with the proposals. In Progress | | | the moment because it has been concluded that the current regulation does not pose a risk to either species.<br><br>3.3 An expert group has been contracted to complete the MSE, with IMARPE in conjunction with the University of Washington. The MSE is underway and results are expected soon, although they are slightly behind schedule.<br><br>3.4 The proposal was drafted and the new regime is in place and functioning. The old system of sanctions for high catches of juveniles incentivized slipping of catches and was a financial and administrative burden for the government and fishers. The new system places the emphasis on transparency of information and minimizes catches of juveniles through the use of a move-on rule and closed areas in real-time. Through consultation at the FIP review meetings, all parties support this change and it seems to be working well, with 144 spatial closures last year.<br><br>3.5 The implementation seems to be going well, according to stakeholders and the evidence of the closures occurring. The authorities (PRODUCE & IMARPE) attend the FIP meetings, therefore there are regular meetings held, although these are not specific just to the implementation of measures. It is not clear whether any meetings have been held with other officials involved. |
| 4.1. Conform wide alliances between stakeholders interested in solving the issue of unreported fishing and illegal vessels in the fishery. Complete<br>4.2. Draft a report for the implementation of DS 006-2015, as well as for the supply agreements | Action 4 Promoting actions to increase traceability and minimize illegal activities in the small-scale | 1.2.2, 1.2.3, 3.2.3, 3.1.2 | 4.1 Alliances were created between IMARPE, DIREPROs (regional government), DICAPI (coast guard), SNP and CeDePesca, The Prosecutors Office (responsible on land for control of the shipyards). The Executive branch of the Peruvian Government also became involved and two laws were created which strengthen inter-institutional actions to combat illegal activities. Two workshops have been held, one in Chimbote and one in Pisco to |

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| for canned and frozen food plants. Complete<br>4.3. Conduct workshops with stakeholders to define the IHC/DHC ratios and an effective and mandatory catch certificate system for the DHC fishery. Complete<br>4.4. Hold meetings with authorities to find ways to support the implementation process of measure DS 006-2015 and its corresponding enforcement controls. In Progress<br>4.5. Disseminate the results of the workshops In Progress | fishery operating over the same fish stock. | | investigate how the communication can be strengthened between all parties.<br><br>A number of interinstitutional agreements have been made. DICAPI and the Prosecutors Office can work together and now have a formal agreement to share vessel lists. PRODUCE have a database for the licensed fleet, which can now be used by DICAPI offices as well. University of ICA now has an agreement with CAC, the students go out on vessels to collect data.<br><br>The Interdiction law gives more power to for local governments and coast guards, their jurisdiction is extended onto land to make arrests to combat the whole illegal industry. Previously it was not illegal for shipyards to build new ships, even though no new licenses are being issued. Now the illegal shipyards can be prosecuted. Data is held by the coastguards<br><br>4.2 The report is available on the FisheryProgress website.<br><br>4.3 A quota workshop has been conducted to discuss the proportion of DHC and IHC quota. Participants included: PRODUCE, IMARPE, SNP, Producer companies, CAC, iPrisco, Walton, Oceana, EDF and WWF. A proposal has now been sent to PRODUCE from CeDePesca, who are currently following up with PRODUCE for a response.<br><br>4.4 Interinstitutional meetings were held where participants set out their obstacles in implementing regulations and recommendations to improve their execution, see action 4.1. Meetings continue to be held. The next meeting will be about the implementation of the Interdiction La. This action is ongoing and due to be complete in March 2020. |

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| | | | 4.5 The results of the interinstitutional meetings (4.1) and the IHC/DHC quota workshop (4.3) have been published on Fishery Progress. It is unclear whether the results have been disseminated to the workshop attendees yet. This action is ongoing and due to be complete in March 2020 |
| 5.1. Document experiences of those companies related with the monitoring of the impact of fishing activities on other ecosystem components. Complete<br>5.2. Establish a protocol for data collection and a training program for onboard observers that in turn will train selected crew members. Complete<br>5.3. Recruit and train one on board observer that will train the fishing crew. Complete<br>5.4. Implement a private Onboard Observers Program and aim towards a 10% coverage for the Salvamares program. Complete<br>5.5. Analyze and publish the outcomes of the observer program. In Progress but behind schedule<br>5.6. Promote space and time measures to mitigate the impact, in case it is deemed necessary in light of the analysis of the collected information. In Progress | Action 5 Determining the impacts of the industrial fleet on ETP species and other ecosystem components and mitigate them, if necessary | 2.3.3, 2.3.2, 2.3.1, 2.5.3, 2.5.2, 2.5.1, 2.4.3, 2.4.2, 2.4.1, 2.1.3, 2.1.2, 2.1.1, 2.2.3, 2.2.2, 2.2.1 | 5.1 The report is available on FisheryProgress.<br><br>5.2 The protocol for data collection has been established in line with the data collection carried out by IMARPE scientific observers.<br><br>5.3 One on-board observer is trained and active for the IHC fleet. The Private Onboard Observer program commenced in in May 2017. The observer is in a continual process of training crew in such skills as release techniques.<br><br>5.4 There is now 10% coverage of the Salvamares program, as well as an onboard observers program implemented by the FIP<br><br>5.5 CeDePesca have published the data from both the Private On-board Observer Program, and the Salvamares Program; they have also published a comparison of the two.<br><br>It is now necessary to analyse the IMARPE observer data and the data from Private On-board Observer Program together. There is currently no reports that link the observer data with the population status of the species. The key aspect will be to analyse the impact of the fishery on ETP species, and ensure this analysis is available to the FIP and the full-assessment team.<br><br>5.6 Some interim mitigating steps have begun to be implemented, such as training on release techniques. |

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| | | | Salvamares have so far received this training, and the observers are currently receiving it, they will then teach the crew onboard vessels. Kits with devices to aid in release have been recommended and are being reviewed by the SNP science committee. |

Other considerations:
Other eligible fishers

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