Brazil red and green lobster – trap
Three-Year Audit Report

Version 1.2, September 2021

FIP Information

Target species scientific name(s) and common name(s) [state target stock(s), if relevant]	Red lobster (*Panulirus argus*); Green lobster (*Panulirus laevicauda*)
Fishery location	Northeast coast of Brazil, FAO Area 041. Fishing area in the state of Ceará between 37°08' W and 41°25' W.
Gear type(s)	Traps
Estimated FIP Landings (weight in tons)	2,000 metric tons
Vessel type(s) and size(s)	Sail-propelled vessels and motorized
Number of vessels	53 vessels that comprise the Associação Pesca Sustentável (APS) and the FIP is currently compiling the list of vessels in commercial relationship with the other private-sector members of the FIP.
Management authority	Ministério da Agricultura, Pecuária e Abastecimento/Secretaria de Aquicultura e Pesca
Auditor name(s)	Lisa Borges
Auditor Organization/Affiliation	
Date of report completion	17 April 2022

FIP Background (Optional)

The two lobster species, *Panulirus argus* (red lobster, or lagosta-vermelha in Portuguese) and *Panulirus laevicauda* (green lobster, or lagosta-verde in Portuguese), represent the most important fishing resources of the coastlines of northern and northeastern Brazil. The fishery exports mainly to the US market, with an average worth 60 million USD per year, and can provide for the livelihood of more than 15,000 fishers. Unfortunately, largely due to a failure to apply timely management tools and inadequate enforcement, the fishery has faced mortality levels above those scientifically recommended for a long time.

Stakeholder Consultation & Meetings

Name	Affiliation	Date and Subjects Discussed
Rochelle Cruz	CeDePesca, Brazil	14th March 2022 • Data collection & stock assessment • Ilegal fishing • FIP structure and actions • Fishery co-management • Lobster project status
Tobias Soares	Fisher	18th March 2022 • Fishing strategies • Catch and ETP species • Data collection • Management measures • Ilegal fishing
Valdimere Ferreira	Secretaria de Aquicultura e Pesca (SAP/MAPA)	24th March 2022 • Fisheries laws • Fishery co-management • Data collection and reporting • Management measures • Fisheries subsidies

Summary of Findings and Recommendations

Action 1 of the workplan is extremely long and ambitious and relates to three main subjects that, although they are interlink, in the opinion of the consultant, should exist in separate tasks: namely regarding governance, management, and research. They are certainly two of the three components required in a harvest strategy (the left out is control), but they should be considered separate for the purpose of FIP work. Doing so would help focus the work, and it would make achievements more attainable. Therefore, it is suggested that a new Action 1 is created, where the monitoring programme and data collections is incentivized through official government channels, but also trough private industry related companies (current task 1.8, new task related to industry collecting data). It is suggested that a new Action2 refers to the creation or maintenance or re-establishment of the co-management groups (current task 1.2, 1.3, 1.5), while a new Action 3 is related to the specific management measures agreed (TACs, gears limitations, closed seasons, etc.; current task 1.4, 1.6, 1.7, 1.9).

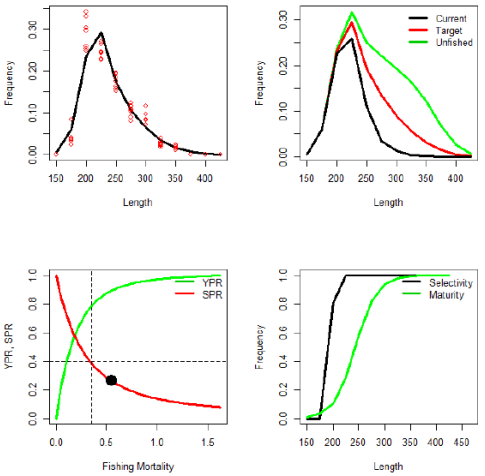
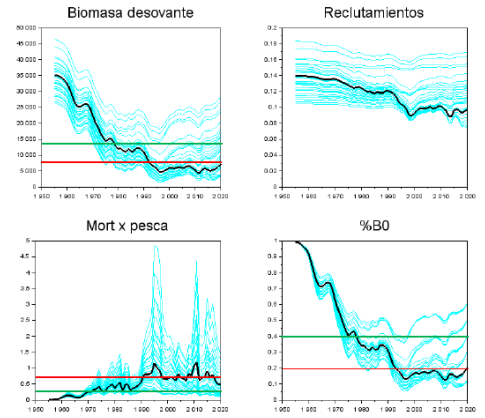
The FIP WorkPlan has also a clear weakness: there are no specific actions to improve Principle 2 PIs that do not reach an 80 score, namely the PIs related to primary, secondary and particularly ETP species information. Although these PIs are listed under Action 1, there are no specific actions that relate to these PIs *per se*. Examples of actions that could be undertaken could be of FIP partners incentivizing data collection by providing their own data by fisher/vessel, by the fishers they buy from requiring effort data associated to the catch, or by paying for data to be collected at the vessels. Regarding bait species, it was clear by the stakeholders interviews that there are no species that should be considered for scoring, as the bait used presently is either leather or coconut.

Another issue is related to illegal fishing (namely with illegal gears) is a widespread problem and the FIP companies do not have at the moment a way of making sure that they are not buying illegally caught lobsters. Fishers may lie on the gear used and the companies rely only on the information provided by the fisher. Traceability mechanisms, alongside fishers agreements against illegal fishing, should be in place to make sure that only legally caught lobster is under the FIP.

Summary of MSC Performance Indicator Scores

Fisheries that contain combinations of multiple target species, gear types, and/or governing jurisdictions (UoAs) should complete the Multi-species/Gear/Jurisdiction Indicator Score spreadsheet and use the table below to provide the lowest score for each performance indicator. If a rationale is provided, the auditor may choose to address only the scoring issues for the lowest scoring UoA for that performance indicator.

Principle	Component	Performance Indicator		Previous Score 2021	Current Score 2022	Rationale or Key Points
1	Outcome	1.1.1	Stock status	Red lobster – 60-79	Red lobster - <60	According to the most recent red lobster stock assessment (Canales & Ibarra, 2021a) present fishing pressure is concentrated on a juvenile population and that the limited presence of specimens over 330 mm in total length leads to a considerable reduction in its reproductive potential. Stock biomass is reduced to around 25% or between 10-20% of the

				Green lobster-60-79		virgin biomass (B_0) depending on the model used (Length-based pseudo-cohort analysis (LBPA) or Integrated production assessment (MESTOCKL)), and subject to a level of fishing mortality between 1.5 and 1.6 times the reference value $F_{40\%}$.  **Figura 8.** Ajuste del modelo LBPA a 7 años de composiciones de longitudes 2014-2020. Composiciones de longitud actual, objetivo (40%) y virginal. Curvas de biomasa y rendimiento por recluta relativos. Curvas de selectividad y madurez. Langosta roja.  **Figura 12.** Biomasa desovante, Reclutamientos, Mortalidad por pesca y proporción de biomasa desovante virginal (%B0) para todos los escenarios (líneas celestes) de evaluación realizados para distintas combinaciones de Steepness (h) y %B0. La línea negra representa el escenario más verosímil. a. For red lobster: it is not likely that the stock is above the point at which recruitment would be impaired (PRI) <60	

b. The stock is not at or fluctuating at a level consistent with MSY. 60-79

For green lobster, according to the most recent red lobster stock assessment (Canales & Ibarra, 2021b) present fishing pressure is concentrated on a juvenile population and that the limited presence of specimens over 330 mm in total length leads to a considerable reduction in its reproductive potential. Stock biomass is reduced to around 10% of the virgin biomass (B0) according to both models used (LBPA and MESTOCKL), and subject to a level of fishing mortality over 4 times the reference value $F_{40\%}$. Again, present fishing pressure is concentrated on a juvenile population and that the limited presence of specimens over 330 mm in total length leads to a considerable reduction in its reproductive potential.

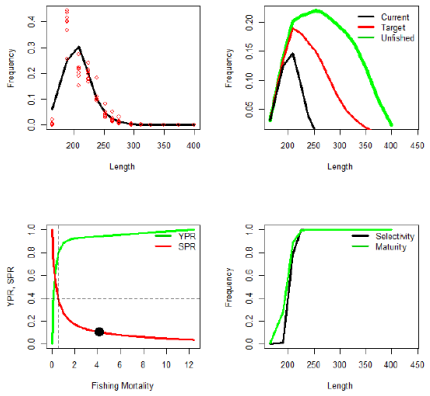
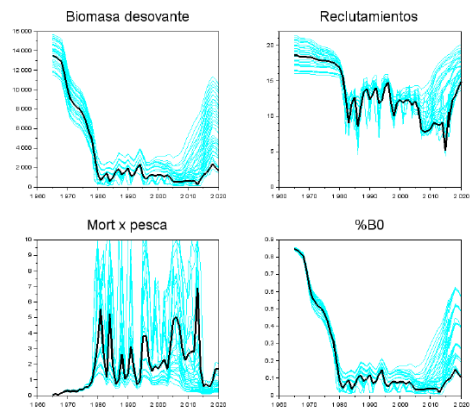


Figura 7. Ajuste del modelo LBPA a 7 años de composiciones de longitudes 2014-2020. Composiciones de longitud actual, objetivo (40%) y virginal. Curvas de biomasa y rendimiento por recluta relativos. Curvas de selectividad y madurez. Langosta verde.

						 **Figura 10.** Biomasa desovante, Reclutamientos, Mortalidad por pesca y proporción de biomasa desovante virginal (%B0) para todos los escenarios (líneas celestes) de evaluación realizados para distintas combinaciones de Steepness (h) y %B0. La línea negra representa el escenario más verosímil. a. For green lobster: it is not likely that the stock is above the point at which recruitment would be impaired (PRI) <60 b. The stock is not at or fluctuating at a level consistent with MSY. 60-79
		1.1.2	Stock rebuilding	<60		a. There is no rebuilding strategy. The Brazilian National Fisheries Policy does not have explicit objectives, and refers only to the "preservation, conservation and recovery of fisheries resources and aquatic ecosystems". <60 b. According to the stock assessment presented above, there are no signs of rebuilding for both species <60
	Management	1.2.1	Harvest Strategy	60-79		a. Lobster fishery is managed by Brazil under the Política Nacional de Desenvolvimento Sustentável da Aquicultura e da Pesca[1], where there are several general regulations in place that contain different management measures. There is a closed season, minimum size, a national licensing scheme, freeze on new vessels entering the fishery, gear restrictions, obligation of selling whole lobster and prohibition of selling lobsters during the last 3 months of the closed season. There is also data collection, namely of total catches by length category, that enables a stock assessment to be carried out and logbooks compulsory to

[1] http://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/lei/l11959.htm

						all vessel. Therefore all the elements of the harvest strategy exist. The harvest strategy is also responsive to the state of the stock as shown by the measures have been recently agreed in Portaria SAP/MAPA Nº 22 of 8th June 2021, but the elements of the harvest strategy do not work together towards achieving stock management objectives 60-79. b. Closed season and a minimum size could possibly work to limit exploitation, but the harvest strategy has not been tested 60-79. c. There ia monitoring in place to collect data on total catches by length category that enables stock assessment of both species 60-79. d. There is no information that the harvest strategy is periodically review. 80 e. The fishery does not target a shark species. N/A f. There are no discards of lobster, and even if they would be it would have a high survival rate. N/A
		1.2.2	Harvest control rules and tools	<60		a. There are no generally understood HCR available or in place that may reduce exploitation when the state of the stock approaches its PRI. <60 b. There is no generally understood HCR. 60-79 c. There is no evidence that exploitation is being controlled. <60
		1.2.3	Information and monitoring	60-79		a. There is some information on total catches by length category between 2004 and 2020, and assumptions regarding stock structure and growth that allow for the species to be quantitively assessed. 60-79 b. UoA removals are monitored regularly trough the export catch data that comprises 90% of total catches and these constitute one indicator. 60-79 c. There are no recreational fisheries, but there is no information on the level of illegal fishing that is known to occur. 60-79
		1.2.4	Assessment of stock status	60-79		a. The stock assessment is appropriate for the stock but does not take major biological features into account 80 b. The assessment estimates stock status relative to reference points 80

						c. The assessment identifies major sources of uncertainty but does not take into account 60-79 d. The assessment has not been tested. 80 e. The assessment is not subject to peer-review 60-79
2	Primary species	2.1.1	Outcome	≥80		CeDePesca (2016) study of bycatch of the lobster trap fishery shows that there are no species bycatch in the trap fishery. However, the study is based on a single day where fishing of 12 vessels was observed, is six years old, and confined to a very small sample of fishing vessels fishing in the same area. In addition, CeDePesca (2020) refers to several other studies where Brazilin lobsters trap catch is associated to other species, nonetheless with fish, which is a common bycatch in trap fisheries. CeDePesca (2016) therefore gives some quantitative information that there is little bycatch in the fishery, but uncertainty on the possible bycatch species and levels remain. Also, based on stakeholders interviews, fish, whelks, octopus and turtles may occasionally came in to the traps, the two later to prey on lobster. a. There are no main primary species. 80 b. There is uncertainty if there are any minor primary species 80
		2.1.2	Management strategy	≥80		a. There are no main primary species. 80 b. There are no main primary species 80 c. CeDePesca (2016) serves as evidence that the fishing strategy using traps works to prevent catch of main primary species. 80 d. There are no sharks capture by the UoA. N/A e. There is no unwanted catch of main primary species, although there is no review of alternative measures to reduce unwanted catch or of lost traps. N/A
		2.1.3	Information	<60		a. CeDePesca (2016) serves as some quantitative evidence available, but this evidence is not adequate to assess the impact of the fishery, while there is information from stakeholders that bycatch may occur 60-79 b. There are no minor primary species but there is also no information on lost traps and their impact 80 c. The information available is not adequate to support measures to manage main primary species <60

	Secondary species	2.2.1	Outcome	≥80		a. There are no main secondary species. 80 b. There is uncertainty if there are any minor secondary species such as whelks (discarded alive) or octopus, that may come to the traps to prey on the lobsters and are retained on board. 80
		2.2.2	Management strategy	≥80		a. There are no main secondary species. 80 b. There are no main secondary species. 80 c. CeDePesca (2016) serves as evidence that the fishing strategy using traps works to prevent catch of main secondary species. 80 d. There are no sharks capture by the UoA. N/A e. There is no unwanted catch of main secondary species, but there is no review of alternative measures to reduce unwanted catch or of lost traps. N/A
		2.2.3	Information	<60		a. CeDePesca (2016) serves as some quantitative evidence available, but this evidence is not adequate to assess the impact of the fishery, while there is information from stakeholders that bycatch may occur 60-79 b. There are no minor primary species but there is also no information on lost traps and their impact 80 c. The information available is not adequate to support measures to manage main secondary species <60
	ETP species	2.3.1	Outcome	≥80	60-79	a. There are no set limits for ETP species. N/A b. There is little information on likely interaction of UoA with any ETP species (marine mammals, turtles, etc). Stakeholders interviews refer to the occasional interaction of turtles that come to prey on lobster, and it was stated that they are not caught in the trap. 60-79 c. Stakeholders interviews refer to the occasional interaction of turtles that come to prey on lobster, and it was stated that they are not caught in the trap. 60-79
		2.3.2	Management strategy	≥80	60-79	a. No national or international requirements for the protection of ETPs N/A b. Traps deployment and lifting only allows for limited interaction with ETP species, and the possibility of release of unwanted catch. 60-79 c. Traps deployment are likely to work. 60-79

						d. Illegal fishing with other gears than traps, such as nets is widespread. 60-79 e. For turtles they do not seem to be caught by the traps so there is no unwanted catch. Lost traps (and ghost fishing) do not seem to be a problem as the traps are made of wood and only resist a fishing season in salt water, while traps are usually "taken" by fishers and not lost at sea. N/A
		2.3.3	Information	<60		a. CeDePesca (2016) serves as some quantitative evidence available, but this evidence is not adequate to assess the impact of the fishery, while there is information from stakeholders that ETP interaction can occur. 60-79 b. The information available is not adequate to support measures to manage ETP species <60
	Habitats	2.4.1	Outcome	≥80		The CSA elaborated by CeDePesca (2020) provides a scoring for status of habitat that reached a score of 85.
		2.4.2	Management strategy	<60		a. There are some management measures in place that limit fishing in coastal areas, even if the gear has low impact in habitats 60-79 b. There is no requirement for vessels spatial information to be reported and there is little monitor and control. Therefore, the area-based limits are not likely to work, even if the gear has low impact in habitat <60 c. There is some quantitative evidence the gear has low impact in the habitat, but there is no information available (no VMS onboard vessels) if the area-based fishing limits are being followed 60-79 d. The are no VMEs requirements N/A
		2.4.3	Information	<60	60-79	a. Qualitative information is available 60-79 b. Qualitative information is available 60-79 c. But no further information is being collected 60-79
	Ecosystem	2.5.1	Outcome	60-79		The lobster trap fishery is unlikely to disrupt the key elements underlaying the ecosystem dues to their high selectivity and low habitat impact. However, there are significant information shortfalls that prevent a higher score. 60-79
		2.5.2	Management strategy	<60		a. There are no measures to manage the fishery and its bycatch and impact on habitat <60 b. There are no measures to manage the fishery impact on key elements of the ecosystem <60

						c. There are no measures 60-79
		2.5.3	Information	<60		a. there are significant information shortfalls that prevent identification of key elements of the ecosystem <60 b. the main impact of UoA can be inferred base on the light nature of the gear 60-79 c. the main function of the ecosystem components are not known 60-79 d. there are significant information gaps 60-79 e. Information is not continued to be collected 60-79
3	Governance and Policy	3.1.1	Legal and customary framework	60-79		a. There is an effective national legal system 80 b. There is a mechanism for resolution of disputes but not necessarily transparent or effective 60-79 c. The management system has a mechanism to generally respect the legal rights of people dependent on fishing contemplated in the National Fisheries Law. 60-79
		3.1.2	Consultation, roles and responsibilities	60-79		a. The major institutions involved in the management of the Brazilian lobster trap fishery are well known but their functions and roles are not clearly defined or well understood. 60-79 b. The law to form the Permanent Management Committee (CPG) has been published, and the recent Portaria of 22 February 2022 opens a call for application for members of the CPGs. Therefore, although there was progress in re-establishing the co-management groups, these are not yet operational. 60-79 c. The CPGs, that provide an opportunity for all interested and affected parties to be involved, are not yet operational 60-79.
		3.1.3	Long term objectives	60-79		a. Brazilian general fisheries law has implicit but not explicit long-term objectives. 60-79
	Fishery specific management system	3.2.1	Fishery specific objectives	60-79		a. There are implicit (but not explicit) fisheries objectives of conservation and recovery of species which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2 60-79
		3.2.2	Decision making processes	60-79	<60	a. There are some decision-making processes in place, such as establishing specific technical measures like minimum size by co-decision in the past, while measures discussed in the past CPGs have now been adopted (Portaria SAP/MAPA Nº

						22 of 8th June 2021) and the CPGs are currently being re-instated. 60-79 b. Decision-making processes respond to serious issues identified in relevant research, monitoring, evaluation and consultation. This was the case of in the past the status of the stock and the introduction of the closed season. 60-79 c. It is unclear if the decision-making processes use the precautionary approach (no reference to PA in the Brazilian National Fisheries Law) and are based on best available information. 60-79 d. Some information on the fishery's performance and management action is generally available on request to stakeholders. The formal and informal exchanges that have taken place between CeDePesca and fishery managers in recent years (especially in regards to the latest Portaria) is proof of this. 60-79 e. There is evidence that the fishery repeatedly violates several fisheries laws necessary for the sustainability for the fishery, namely minimum size, gear restrictions, market restrictions, closed season etc. <60
		3.2.3	Compliance and enforcement	<60		a. the MCS mechanisms, if exist, are not effective. <60 b. sanctions exist but there is no evidence they are being applied. <60 c. Fishers are not generally thought to comply with the management measures in place. <60 d. There is evidence of systematic non-compliance. 60-79
		3.2.4	Management performance evaluation	<60		a. There are no mechanisms in place to evaluate the fishery-specific management system. <60 b. There reinstatement of the CPGs reflects that the fishery-specific management system is subject to at least occasional reviews. 60-79

Environmental Workplan Results

Action 2 of the WorkPlan relates to the "Project Lobster" that was suspended and is no longer included in the workplan. Therefore, Project Lobster was not reviewed.

Result	Related Action on FisheryProgress	Related MSC Performance Indicator	Explanation
Task 1.1. Participate in meetings with national fisheries authorities to advance the improvement and improvement of fishery management, monitoring and research systems **On going** Task 1.2. Participate formally or informally in the meetings of the CPGL and SCC and to follow up the discussions on the proposals adopted at the 9th Meeting of the CPG, and in line with FIP **On going** Task 1.3. Follow the regulatory process of the recommendations adopted at the 9th Meeting of the CPG to ensure that they are implemented **Ongoing** Task 1.4. Participate in a working group to define the start-up and control mechanisms for the implementation of the quota system **Suspended** Task 1.5. Promote the recreate of the Permanent Management Committee (CPG) **Completed** Task 1.6. Accompany the implementation of the measures regulated by SAP /	Promotion of improvements in fishery management and research systems	1.2.2, 1.2.1, 1.2.3, 1.1.2, 2.3.3, 2.3.2, 2.5.3, 2.5.2, 2.5.1, 2.4.3, 2.4.2, 2.1.2, 2.2.3, 2.2.2, 3.2.3, 3.1.2, 3.2.2, 3.2.1, 3.1.3, 3.1.1, 3.2.4	Task 1.1. CeDePesca has participated in several meeting over the years with nation fisheries authorities, notably at state level, to promote data collection and improvement in fisheries governance and management. Task 1.2. CeDePesca has continue to be available and willing to participate in the CPGs whenever they will be formed and established. Task 1.3. The recommendations adopted at the 9th Meeting of the CPG included those recently adopted in the latest Portaria SAP/MAPA Nº 22 of 8th June 2021. The one recommendation that has still not been adopted relates to the establishment of fishing quotas and/or export quotas. Task 1.4. The working group for which this task refers to was extinguished before the CPGs were themselves extinguished, and before 2019 which is the start year of this review (2019-2021). However, they did meet a couple of times in the past but in the present CPGs that are being reinstated, there is no indication that the control group will also be reinstated. Task 1.5. Decree Nº 10.736 of June 29, 2021, was published establishing the Rede Nacional Colaborativa para a Gestão Sustentável dos Recursos Pesqueiros- Rede Pesca Brasil, which will be structured with a technical working group and 10 permanent management committees (CPGs), including the Permanent Committee for Fisheries Management and the Sustainable Use of Lobsters. The members will be selected through a public call for proposals elaborated by the Secretariat of Aquaculture and Fisheries, which has not yet been published and no meeting has been called. CeDePesca has continue to promote the reinstatement of the CPGs by participating in several meetings. Task 1.6. The SAP / MAPA Ordinance No. 221 of 8th June 2021 establishes the rules for the management, monitoring and control of fishing, transport, processing, storage, and marketing of *Panulirus argus*, *Panulirus laevicauda*

MAPA Ordinance No. 221, of June 8, 2021: prohibition of the sale of lobsters in the domestic market in the last 3 months of closed season (February 1 to April 30) and mandatory delivery of whole lobsters in processing plants in 2022 and from 2023 onwards, alive only. **On going** Task 1.7. Promote the establishment of a maximum allowable capture for the resource and participate in the process to define the functioning and control mechanisms of the system. **On going** Task 1.8. To encourage government institutions to resume data collection programs and to include aspects related to other components of the ecosystem (secondary species, ETP and habitats). **On going** Task 1.9. Promote a discussion based on social and technical data about the possibilities and conditions to legalize diving. **On going**			and *Panulirus echinatus*. The ordinance has only been in place for 9 months, so it is early to evaluate its implementation. However, at present there is a prohibition of the sale of lobsters in the domestic market, which continues to be followed by CeDePesca. Task 1.7. CeDePesca continues to promote and discuss the establishment of a maximum allowable capture for the resources in formal and informal meetings with government representatives. Task 1.8. CeDePesca continues to have frequent contacts and a good relationship with representatives of the Secretaria das Pescas and other government institutions, to continue to incentivize the collection of scientific data. Note that it is suggested that a new Action 1 is created, where the monitoring programme and data collections is incentivized through official government channels, but also through private industry related companies (current task 1.8, new task related to industry collecting data). Task 1.9. In 2021 SAP placed for Public Consultation the Ordinance SAP / MAPA Nº. 159, of May 10, 2021, where they approve the general rules and organization of the permission system for fishing vessels. This Ordinance would add diving as a fishing method to capture lobster, through scuba diving and free diving and its authorization will depend on the regulation of a specific act. SAP will analyze the proposals and then publish the Matrix of Fishing Modalities for the concession of Prior Fishing Permits and Fishing Authorizations for Brazilian fishing vessels for the sustainable use of fishing resources.
Task 3.1. Complete the stock assessment of *Panulirus argus* with the data corresponding to the "2004-2017" fishing seasons and present the results to the partners. **Completed**	Task 3. Updating the stock assessment for Brazilian lobster with the export data by commercial category.	1.2.4, 1.2.3, 1.1.1, 2.1.3, 2.1.2, 2.1.1, 3.2.3, 3.1.2	Task 3.1,3,5,7. The stock assessment of *Panulirus argus* has been completed by CeDePesca, and was update annually and available publicly on the FIP page.

Task 3.2,4,6,8. Collect and systematize export data by commercial category, annually, in the companies involved with FIP. **Completed** Task 3.3,5,7. Conduct stock assessments update annually. **Completed** Task 3.9. Conduct Stocks Assessment update with export for 2021 **Completed** Task 3.10. Disseminate stock assessment of *Panulirus argus* and *Panulirus laevicauda* lobsters with its findings and recommendations to raise awareness of the authorities and the entire value chain at the national level **Completed** Task 3.11. Conduct stock assessment of *Panulirus laevicauda* with the data corresponding to the "2004-2020" fishing seasons and present the results to the partners **Completed**			Task 3.2,4,6,8. The export data of the companies involved with FIP has been compiled and systematize by CeDePesca by commercial category, annually. These data have allowed for the stock assessments to be carried out. Task 3.9. The stock assessment of *Panulirus argus* has been completed by Canales & Ibarra (2021a) and is available publicly on the FIP page. Task 3.10. The results of the two species stock assessments have been shared with the authorities and the FIP Partners. Task 3.11. The stock assessment of *Panulirus laevicauda* has been completed by Canales & Ibarra (2021b) and is available publicly on the FIP page.
Task 4.1. Conduct a Consequence Spatial Analysis (CSA) to assess the impact of fishing activity on habitat structure and function. **Completed** Task 4.2. Disseminate the results of the risk assessment **Completed**	Task 4. Conducting Ecological Risk Assessments for the Effects of Fishing	2.4.3, 2.4.2, 2.4.1	Task 4.1. Consequence Spatial Analysis (CSA) to assess the impact of fishing activity on habitat structure and function was carried out in 2020 by CeDePesca. The report is publicly available on the FIP page. Task 4.2. The CSA report is available in the FIP report page, but has also been disseminated to FIP partners, namely the exporting companies and …. Task 4.3. As the CSA analysis resulted in a score of 85 no immediate necessary management measures or changes in fishing practices are necessary.

Task 4.3. Promote management measures or changes in fishing practices in light of the CSA results, if necessary. **Completed**			

Supporting References

Canales & Ibarra, 2021a.
CeDePesca. 2016. Relatório de Observação-Redonda (Icapuí)- Junho de 2015.
CeDePesca. 2020. Analise Espacial e de Consequência. Analise de Risco de Habitat. Dezembro 2020.
CeDePesca. 2021. FIP WorkPlan.