REPUBLIC OF PERU

II UNITED NATIONS OCEAN CONFERENCE

INTERACTIVE DIALOGUES

Dialogue 2: Manage, protect, conserve, and restore marine and coastal ecosystems

Estimation of the Ocean Health Index (OHI)

I. Introduction

Peru made an estimate of the Ocean Health Index (OHI) in the maritime space of Sechura Bay, Peru (OHI+BSP[1]), utilizing the “IdSO 20201” methodology. The evaluation was developed through a partnership between Conservation International (“CI , Peru and Ecuador) and the Ecuadorian consulting company BIÓTICA2, through a case study carried out within the framework of the project "Coastal Fisheries Initiative - Latin America" (CFILA) financed by the Global Environment Fund (GEF)” and implemented jointly by the fishing and environmental authorities of Peru and Ecuador.

The OHI is calculated as a weighted average of all the scores for each goal and spatial units of analysis that have been determined in the study area. The OHI estimated in the Sechura Bay area obtained a high score (76 points), which expresses the existing natural, social, and economic value in the study area.

In relation to the scores obtained for the conservation goals, these scores presented a notable contrast since three of them (carbon storage, coastal protection, and biodiversity) occupy the first places in terms of score, evidencing the high natural value of the study area, while the clean water goal registers the lowest score. On the other hand, the sense of belonging goal, although it qualifies above the average of the OHI+BSP with a high score, indicates that greater efforts are still required to achieve the objectives set as benchmarks.

Likewise, the scores of the production goals (natural products, food supply and artisanal fishing) obtained a high score, proving the wealth of existing resources, but whose decrease indicates that the limits of sustainability have been exceeded, which is reflected in the socioeconomic indicators that evaluate the means of subsistence goal and the coastal economy, as well as the poverty gap and access to opportunities that the artisanal fishing opportunities goal measures. For its part, the low score of the tourism goal indicates the low development of the non-extractive use of spaces and resources.

II. Status and Trends

The trend is the proportional change in the current state of the goals that is predicted to occur in 5 years. In most cases, this is calculated by estimating the annual change in status using a linear regression model (i.e. slope estimation) of the last five years of

[1] Sechura Bay of Perú

status data and multiplying this value by 5 to estimate the change in five years. To determine the proportional change, divide the estimated slope by the state value for the first year of data used in the trend calculation.

Production Goal

Sub-goal #1: Economy

The main economic activities in the study area are aquaculture, fishing, tourism, and transportation, for which the gross value added (GVA) analysis was carried out for these activities, in order to capture their economic value. It is observed that the coastal economic activities of Sechura generate income that fluctuates over time, being the maximum in 2010 (517.3 million soles) and the minimum in 2012 (133.6 million soles), while in 2019 were generated 300 million peruvian soles (PEN).

The trend values show different patterns between the different sectors analyzed:

• Fishing and aquaculture presents a value of significant trend towards increase.

• Tourism registers a trend close to zero, which indicates an insignificant variation, but towards an increase.

• Transportation reports a positive trend very close to fishing and aquaculture.

Sub-goal #2: Subsistence

During the 2008-2018 period, the main productive sectors related to the marine environment generated an average of 45.3% of jobs, reaching a maximum in 2014 (46.6%). The annual variation is insignificant, producing an increase of 1.3%. The fishing and agriculture activity generates the highest percentage of jobs in Piura, followed by transportation and tourism.

Regarding monthly income from work (jobs), it can be seen an increasing trend in the analyzed period, starting in 2008 with 621 soles, until 2018 with 1,104 soles. The results of employment and salary trends obtained through the indicated procedure are presented, which indicates a negative trend.

III. Challenges and Opportunities

The OHI+BSP obtains a high score (76 points) regarding compliance with the sustainability objectives (environmental, social and economic) evaluated based on Reference Points established in accordance with the local reality.

Despite the high score obtained in the case study (OHI+BSP 2021), it is necessary to consider that there is still a significant gap of 24 points (close to a quarter of the total) to achieve the desired sustainability objectives in a model balance between production and conservation with which the evaluation of the Bay of Sechura -Piura was carried out.

The highest score (100 points) obtained in the Carbon Storage and Coastal Protection goals reflects the excellent state of conservation of the coastal habitats evaluated, particularly ecologically vulnerable habitats such as mangroves and salt marshes.

The biodiversity goal obtains a very high valuation (94.9 points) that responds to the richness of the existing natural capital in the study area, but which is diminished by the increased risk of extinction of certain species for commercial use, including ecologically sound taxonomic groups, vulnerable as sharks, rays and serranids.

The natural products goal (90 points) still qualifies in the very high category, although it reflects a notable decline of 10 points due to the reduced biomass of the main resource considered for the evaluation of this goal: anchoveta.

The means of subsistence and economy goal is also located in the very high category (87.1 points) but shows a significant decline during the last decade analyzed, which is approximately just over a decile (12.9 points). It should be noted that the data showed a pulse of recovery in recent years (until 2019) due to conditions that will surely be altered soon in the face of the pandemic scenario due to the effect of COVID 19.

The food supply goal is still in the very high category (83.8), but its decline is close to a quintile (16.2 points), which is due both to the punctual decrease in commercial species that support it (assessed in the Fishing sub-goal), as well as the high expectations for the development of mariculture, whose production has been reduced in recent years.

The sense of belonging goal (81.8 points) is in the very high category thanks to the considerable protected space on the coastline. Therefore, the existing gap (18.2 points), close to a quintile, is due both to the notorious conservation gap in the offshore marine space, as well as to the punctual increase in the risk of extinction of species considered iconic in the study area.

Although the artisanal fishing opportunities goal obtains a high score (76.4 points), it is necessary to consider that it is behind in eighth place in the ranking of the 10 goals evaluated. In this case, the gap also exceeds one quintile (23.6 points) and reflects the need to deepen efforts to reduce poverty, which is one of the indicators that affects the performance of this goal in the study area, as well as considering that this situation could be aggravated due to the decrease in fishing resources, as has been evaluated in the food supply goal.

The tourism and recreation goal obtains a low score (25 points) and occupies the penultimate position among the goals evaluated. This situation is due to the incipient development of this non-extractive productive activity in the study area, as well as to the lack of existing sanitary quality in its beaches with public recreational facilities; a reality that contrasts with the abundant existing natural wealth, which offers opportunities to imagine a change in the development model based on the non-extractive use of nature with a community base.

The clean water goal, on the other hand, barely manages to qualify in the low category (20 points) and shows the increase in pollution, caused by the limitations of having a sanitary infrastructure and the increase in pressure from land-based sources of marine pollution.

IV. Existing Alliances

Coordination has been carried out to give sustainability to the estimation of the Ocean Health Index, through the Follow-up and Monitoring platform that will be implemented by the Ricardo Palma Private University.

V. Possible Areas for new Alliances

The lessons learned in the present estimation of the Ocean Health Index (OHI) in the maritime space in front of the Sechura Bay, Peru, will serve as the basis for other public, private, or international cooperation initiatives to take up the leadership and develop case studies for estimating the OHI in other coastal marine geographic spaces.

Along these lines, the area corresponding to the Bay of Paracas, located on the center-south coast of Peru in the Ica region, has been identified as a potential area to develop a new OHI estimate, and as a possible initiative for the development of the estimate of the OHI in the Bay of Paracas to the Chile-Peru GEF/UNDP binational project "Catalyzing the Implementation of a Strategic Action Program for the Sustainable Management of Shared Living Marine Resources in the Humboldt Current System" (UNDP/GEF Chile-Peru “Humboldt 2”).

VI. Conclusions and recommendations

Conclusions

• Three of the five goals of the Production block have Very High scores that exceed the OHI+BSP average (75.89), highlighting the Natural Products (90), Local Economy and Subsistence (87.12) and Food Provision (83.8) goals. The Artisanal Fishing Opportunities goal reaches a High score (76.38) that slightly exceeds the OHI+BSP average and shows a lag in the progress of the fishing community.

• The Tourism and Recreation goal contrasts with the other Production goals as it reaches a Low score (24.96 points), which shows the limited development of this productive activity based on the non-extractive use of coastal resources.

• Four of the five Conservation block goals record Very High scores that exceed the OHI+BSP average (75.89). The goals related to the conservation of the coastal habitat prevail in score, such as Coastal Protection (100) and Carbon Storage (100), compared to the decreased score of Biodiversity of species (94.8) and Sense of Belonging (81.78).

• The Clean Water goal, on the other hand, barely reaches the Low score. This is due to the increase in pressure from land-based sources of marine pollution, and the deficiencies of the existing sanitary infrastructure in the study area and weak and insufficient resilience measures for monitoring and controlling pollution.

• The evaluation of the goals of the conservation block evidences the richness of the existing natural capital in the study area and the efforts of its conservation in the coastal strip. This situation contrasts with the lack of conservation in the marine environment, particularly offshore, and the increase in fishing pressure on certain ecologically sensitive species such as sharks, rays and serranids whose risk of extinction has increased globally; to which must be added the conservation gap in the marine space.

Recommendations

• Analyze the change from the conventional management model of Sechura Bay (based on the extraction of marine resources) to a model that favors non-extractive use (sustainable tourism) to capitalize on the richness and abundance of existing marine-coastal biodiversity in the study area and extend it to the marine area, in order to diversify production opportunities with nature-based solutions whose main beneficiaries are the coastal communities.

• Evaluation of the impact of economic activities on ecologically sensitive habitats such as mangroves and marshes, both within protected areas and in their area of influence; which allows the design of strategies to promote innovative initiatives within the framework of the blue economy, green economy, purple economy, orange economy, circular economy, organic production, clean production, energy efficiency, among others, accompanied by mechanisms of instruments and financial mechanisms within the

framework of the SDGs, aimed at reducing poverty and promoting a style of development consistent with the valuable natural capital existing in the study area.

• Evaluate the potential application of the concept of Biosphere Reserve in Sechura Bay to propose its declaration to UNESCO given the existing high natural and cultural value, considering that said initiative would entail the strengthening of local institutions and medium and long-term processes, including education and environmental awareness.

VII. Key questions for dialogue at the 2022 United Nations Ocean Conference

1.- What management and diagnosis tools can be used in the environmental quality of marine-coastal areas?

2.- What opportunities does the Estimation of the Ocean Index offer us, considering the experience of Bahía de Sechura - Peru?

3.- How is the OHI integrated to the Coastal Marine Spatial Planning?

This document has been prepared based on the information generated within the framework of the project "Coastal Fisheries Initiative - Latin America" (CFILA), whose national coordination is in charge of the General Directorate of Biological Diversity of the Ministry of the Environment of Peru.

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INTERACTIVE DIALOGUES

Dialogue 2: Manage, protect, conserve, and restore marine and coastal ecosystems under Natural Protected Areas

I. Introduction

The National Service of Natural Areas Protected by the State – SERNANP, administers five marine-coastal natural protected areas (NPA) of Peru: i) Paracas National Reserve, ii) San Fernando National Reserve, iii) National Reserve System of Islands, Islets and Guanera Points, iv) Ancón Reserved Zone, and v) the recently established Dorsal de Nasca National Reserve, which has a 7.6% of representativeness in the Peruvian marine ecosystem. There are also four coastal NPA's that have connectivity with the marine environment. These marine and marine-coastal protected natural areas are home to a biodiversity of more than 1500 identified species, including birds, mammals, reptiles, mollusks, fish, arthropods, annelids and algae, and a fantastic opportunity for research into the biodiversity of the ecosystem of mountain ranges and seamounts.

They are also a refuge for endemic species of the Humboldt Current such as sea lions, potoyunco, Humboldt penguin and guanera birds: pelican, guanay and booby. They are also areas of importance for the conservation of migratory species such as sea turtles, migratory birds, whales, and others.

Based on policies of conservation and sustainable use of hydrobiological natural resources, a model of sustainable artisanal fisheries is being considered for the NPA.

Likewise, for the sustainable use of hydrobiological resources within the NPA, measures for the conservation and management of hydrobiological resources, designed based on an ecosystem and adaptive management approach, have been promoted in an articulated manner with the Ministry of Production, the Peruvian Sea Institute (IMARPE) and the local governments ("GORE's"), which regulates the quotas, weight, reproductive closures and periods of use, ensuring the sustainability and increase of the biomass (productivity) of the resource for the benefit of the local population.

The establishment of the Nasca Dorsal National Reserve constitutes a challenge for the generation of technical and scientific information on these ecosystems and an opportunity for the development of research that allows the characterization of the "Resource-Environment" relationship in deep systems to expand biodiversity inventories including the genetic bank of the Nasca Dorsal National Reserve.

II. Status and trends

Of the 76 natural protected areas (NPA) of the National System of Natural Areas Protected by the State (SINANPE), nine (9) of them conserve marine and coastal ecosystems, such as: SN Los Manglares de Tumbes (SNLMT), RN Illescas (RNI), RN Sistema de Islas, Islotes y Puntas Guaneras (RNSIIPG), RN San Fernando (RNSF), RN de Paracas (RNP), RVS Los Pantanos de Villa (RVSLPV), ZR Ancón (ZRA), SN Lagunas de Mejía (SNLM) and RN Dorsal de Nasca (RNDN).

The conservation status for 2021 and the management effectiveness assessment tool (METT) score of the 09 NPAs is presented below:

N°	ANP	Estado de Conservación 2021	METT 2020	
		(%)	(%)	Clasificación
01	SN Los Manglares de Tumbes	63.30	78.13	Importante progreso
02	RN Sistema de Islas, Islotes y Puntas Guaneras	91.53	70.83	Importante progreso
03	RN San Fernando	85.84	64.58	Importante progreso
04	RN de Paracas	95.87	73.96	Importante progreso
05	RVS Los Pantanos de Villa	58.87	50.00	Algún progreso
06	*RN Illescas	96.85	47.62	Algún progreso
07	ZR Ancón	90.91	66.67	Importante progreso
08	SN Lagunas de Mejía	77.03	60.22	Importante progreso
09	RN Dorsal de Nasca	Sin datos	Sin datos	
	Promedio	**82.53**	**64.00**	**Importante progreso**

As can be seen in the previous table, the average state of conservation of the NPA is high, with a value of 82.53%, the same as this correlated with the average score of the evaluation tool of the effectiveness of the ANP, whose value is 64.00%, which is equivalent to a rating of Important progress, in terms of management conditions.

A particular case is the establishment of the Dorsal de Nasca National Reserve, (D.S. No. 008-2021-MINAM), through which approximately 8% of Peru's marine surface is protected, thus contributing to the fulfillment of its international commitments such as the United Nations Convention on Biological Diversity and goal eleven of the Aichi Biodiversity Targets, which proposes to conserve at least 10% of marine areas as protected natural areas. This recently established NPA is in the process of starting management so that conservation status measurement tools, METT, among others, have not yet been applied, with gaps in the basic management level. SERNANP is deploying its best efforts to achieve advances in planning and management of this NPA in a collaborative manner with strategic actors related to the marine field.

On the other hand, the Master Plans of the categorized NPA, as well as the management documents of greater hierarchy contain information related to the recovery areas and to the restoration actions, which can be observed in greater detail, in the following links: Master Plan of SN Los Manglares de Tumbes: https://sinia.minam.gob.pe/normas/aprueban-actualizacion-plan-maestro-santuario-nacional-manglares-tumbes; RN San Fernando Master Plan:

https://sinia.minam.gob.pe/download/file/fid/49380; Paracas RN Master Plan: https://old.sernanp.gob.pe/sernanp/archivos/baselegal/Resoluciones_Presidenciales/2016/RP%20N%20020-2016-SERNANP.pdf; Master Plan of RVS Los Pantanos de Villa: https://old.sernanp.gob.pe/sernanp/archivos/baselegal/Resoluciones_Presidenciales/2016/RP%20N%20169-2016-SERNANP.pdf

As can be seen, there are some gaps in the results of the evaluation of impacts and in the management processes, which correspond, mainly, to needs identified at the impact level. Although there is a significant percentage of progress associated to the state of conservation, the gap in recovery status is around 27%. With respect to the management conditions according to the effectiveness evaluation tool, there is an important progress, eventhought there are gaps associated with planning instruments, capacity building, legal physical sanitation, surveillance and control gaps, among others, which should be the next challenges.

In terms of participation, we have some instruments to monitor and evaluate participatory management, like the Map of Actors and Radar of Participation, as well as the Stakeholder Map.

The Stakeholder Map measures the collaboration of strategic actors based on their position, as they contribute to the fulfillment of the objectives and goals of the NPA. It allows: i) to see and measure the changes in the position of the different strategic actors; and ii) to detail the reason for the change, to adopt strategies focused on maintaining employees, bringing neutral, and dissenting closer to the management of the NPA.

The Participation Radar measures the organization, structure and functioning of participatory management. It graphically visualizes those aspects that are advancing or not advancing, based on the principles (inclusion, integration, communication, transparency, and efficiency) of the participatory management of the NPA. Below is the chart with the Participation Radar score and the Actor Map index.

N°	ANP	Radar de Participación	Mapa de Actores	
		Puntaje	Índice	Clasificación
01	SN Los Manglares de Tumbes	52	0.57	Buena Colaboración
02	RN Sistema de Islas, Islotes y Puntas Guaneras	31	0.30	Regular Colaboración
03	RN San Fernando	54	0.78	Alto nivel de compromiso
04	RN de Paracas	39	0.58	Buena Colaboración
05	RVS Los Pantanos de Villa	9	0.21	Baja Colaboración
06	*RN Illescas	34	0.46	Buena Colaboración
07	ZR Ancón	8	0.35	Regular Colaboración
08	SN Lagunas de Mejía	33	0.37	Regular Colaboración
09	RN Dorsal de Nasca	Sin datos	Sin datos	

As can be seen in most NPAs, there is a high level of collaboration between the strategic actors that allows an elevated level of compliance with commitments.

However, there is a regular level of collaboration between actors within the RN System of Islands, Islets and Puntas Guaneras that generates an average score on the organization because of the complexity of the NPA. According to what was stated and coordinated with the respective authorities, it is being seen how to improve the radar score and the index of the map, mainly by sectors, according to the reality of the system.

With respect to the data of the RVS Los Pantanos de Villa, it is important to highlight that these data refer to the year 2020, which responded to a pandemic context. In this regard, it would be usefull to recall that the pandemic context has not offered the necessary conditions for the work of generating strategies with the actors or improving the organization because they have not been able to develop the relevant spaces for this. Finally, it is important to mention that the score of the radar of participation of the ZR Ancón respond to the fact that this Reserved Zone does not yet have a management committee which does not allow to implement many of the radar variables, which are linked to the existence of this management committee.

Finally, it is important to specify that the values of the radar and of the index of the map of actors, at the level of these NPA, with the exception of the RVS Los Pantanos de Villa and the ZR Ancón, are increasing, so we can infer that the strategies that are being developed allows the collaborating strategic actors to fulfill their commitments and to improve the level of organization and management of theses NPAs under the principles mentioned above, despite the pandemic.

III. Challenges and opportunities

One of the main challenges faced by the NPAs is to make the different economic activities compatible with conservation. For this purpose, there have been developed adaptive instruments that allow a sustainable use of benthic resources, algae, tourism development, among others, which facilitate the integration of these spaces as a development asset.

Another challenge is to have “strategic plans” that allow prompt action against events that affect the conservation of these spaces, such as what happened due to the oil spill of the REPSOL company, which have been affecting the Ancón Reserved Zone (approximately 80% of the scope of affectation), the Pescadores Islands sector (approximately 30%) and Punta Salinas (indirect affectation) of the RN Sistema de Islas, Islets, and Puntas Guaneras.

To date, around 7,000 gallons of oil have been extracted by SERNANP in the Playa Pocitos area of the ZR Ancón, where surveillance and monitoring activities have been carried out on the work of the companies that REPSOL has contracted for the cleaning of rocks and for the oil extraction from the marine environment. These work on the seashore covers approximately 4.4 kilometers, (from Playa Miramar to Playa Infantería).

Another of the main challenges of all the PNAs affected by the oil spill is the quantification of the damage and the development of actions to restore the affected marine-coastal environment, the economic reactivation of fishing, tourism and other activities associated with the affected sea. These economic activities are already being severely affected by the COVID-2019 pandemic.

Another challenge is to overcome the effects of the pandemic, which paralyzed all economic activities, causing a real affectation to the income of many fishermen and the deterioration of their equipment, which affects the restart of their activities. A similar situation affects the groups that are dedicated to the tourism activities, who to date have

not been able to fully reactivate, further aggravating the economic situation of many families that complemented their economic activities with tourism.

Among the opportunities, there is important to highlight the development of various projects that are being executed and will be executed during this year, contributing to implement strategic actions of the Master Plans of each NPA, for the conservation of these spaces and strengthening of compatible economic activities.

Finally, the establishment of the first marine NPA in Peru (Nasca National Reserve), constitutes a great opportunity for the development of research on the biodiversity of the ecosystem of mountain ranges and seamounts, so it is of the utmost importance to have the technology or experiences of other countries for the on-site study of these ecosystems, essential information for the management of the NPA.

IV. Existing partnerships

There are agreements with institutions linked to research in the marine-coastal field such as the agreement with the Institute of the Sea of Peru, with whom information has been generated on the biological and environmental baseline of the marine ecosystem of the Nasca National Reserve, with the aim of supporting and updating the zoning of said ecosystem, as well as to promote the management and sustainable use of artisanal fisheries.

On the Peruvian coast, the level of informality of the artisanal fishery has a high percentage of artisanal fishermen who do not have a fishing permit, crew license, artisanal diver license, registration, etc. Under this reality, the hydrobiological resources on the coastal zone are exploited without major environmental considerations. In this regard, the existing marine areas in the Coastal Marine NPA has allowed to promote and implement a fishery with environmental and ecosystem responsibility, having as axes of intervention the formalization of the community of artisanal fishermen linked to the NPA, the development of biodiversity research through the baselines of species identified as important for the ecosystem and economy, as well as promoting the use of resources with environmental responsibility.

In this context, the authorities responsible for coastal marine NPA such as the RN San Fernando and the RNSIIPG have been signing conservation agreements with social organizations of artisanal fishermen of different localities with the purpose to achieve the objectives and commitments raised according to the needs of support to the management of each ANP.

It should be noted that the conservation agreement is a mechanism of voluntary participation and does not grant rights over natural resources, the aquatic area or the soil (property or possession) within an NPA, rather it is aimed at strengthening the effective management of the NPA through alliances with users (artisanal fishermen), which contributes to guaranteeing the ecosystem services provided by the NPA, generating well-being for the people who make use of its resources. These commitments benefit both parties and are aligned with the Master Plan and other specific planning instruments of the NPA.

V. Possible areas for new alliances

In addition to the existing protected natural areas, there is some work being done on the proposal of a new protected natural area located in the transition zone of the Guayaquil Ecoregion, which is characterized by having diverse ecosystems with key species, likely endemic, and biological communities that host a high biodiversity of marine species,

many of them endangered (critically endangered, endangered and vulnerable). This transition zone is also characterized for being a breeding and feeding area for mammals, turtles and seabirds, as well as for having natural shoal of invertebrates and fish of commercial interest that support local fisheries.

With the establishment of this NPA it is not only expected to conserve a representative sample of the marine ecosystems of the Guayaquil Ecoregion for the Peruvian sea, but also to contribute to the sustainable development of the country in the fishing, tourism, and recreation sectors. The management of this area would involve the challenge of an articulated management with all institutions with competences in the field and with the participation of all the various actors, seeking to establish commitments, joint and coordinated actions, aimed at contributing to the recovery of biodiversity for the benefit of local artisanal fishing and food security.

In the fisheries field, the main use of marine resources occurs through artisanal fishing that has a pre-existing right and that is exercised by the surrounding population, which feels that it has been affected both by illegal fishing, overfishing of key and commercial species that alter food chains, as well as by environmental impacts negatively affecting its economy. Another pre-existing right is associated to the hydrocarbons activity, with oil lots concessions through exploration and exploitation contracts within the scope of the proposal, as well as aquaculture rights and non-metallic mining concessions.

There has also been evidence of a growth in the tourist activity due to the potential that the area presents for the sighting of mammals, turtles, and seabirds, as well as the attractiveness of its beaches adjacent to the scope of the proposal and its areas for recreational diving, which, although it was affected by the pandemic context, his speedy post-COVID recovery is expected.

VI. Conclusions and recommendations

There is an important progress of conservation in the NPA marine and marine coastal, although there is still a gap of 27% for recovery actions (measurement of conservation status).

There is a high degree of participation of society in the management of the NPAs, however, it is still necessary to overcome some challenges, especially in the RN System of Islands, islets and Puntas Guarenas since its size makes coordination between sectors difficult.

The challenges identified in the conservation processes within the NPAs are related to the i) update/development/implementation of management instruments, under an Effective Management approach; ii) Develop multi-institutional strategies for the economic reactivation of this post-pandemic area; iii) the dimensioning of the ecological disaster due to the oil spill and iv) the design/implementation of a multi-stakeholder strategy for its recovery.

The opportunities identified are associated to the good status and provision of natural resources, which could contribute to improve the consumption and to reactivate economic and recreational activities. Nevertheless, the economic activities also pose a risk to the conservation objectives, because without an adequate management of the hidrobiologic resources, there is a potential negative affectation to the ecosystem.

VII. Key questions for dialogue at the 2022 United Nations Ocean Conference

- How is the connectivity in the coastal marine environment, considering the constant urban growth?
- What is the socio-economic impact of the pandemic on fishing communities and its impact on the conservation of NPAs.
- What opportunities exists for diversification of economic activities for conservation?
- Advantages and challenges in the development of tourism activities in post-COVID fishing communities.
- What are the challenges for regulation of the use of benthic resources, in a post-pandemic context?
- What opportunities exists for other conservation modalities, associated with fishing communities?
- What can be done about carbon sequestration in the marine environment?
- What can be said about the issue of pollution, by extractive activities and others associated with human activities in the areas of coastal marine areas?
- The ordering, planning and marine management, as a key point in the management of marine, marine coastal and coastal spaces.