**INSPECTION AND SURVEILLANCE PROGRAMME FOR THE FISHERY IN**

**NATIONAL MARSHES, MEXICO**



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| 3.1.3 Develop and implement an inspection and surveillance program for the white shrimp fishery. |
| 3.1.4 Design and implement a plan to sanction fishermen who carry out activities outside the rules. |

**Introduction**

Nayarit ranks fifth nationally in fish production volume and third in production value, with shrimp, with 26.65%, being the main species caught in the state. Historical data shows that the catch effort continued to rise from 2013 onwards and more than 2,500 active riverine vessels have been identified; Similarly, the total value of production in 2021 reached 5,303,769 thousand pesos (CONAPESCA, 2021)

Despite this, it is identified, through various studies, that there are 20% of overexploited fisheries in the country and 63% are at their maximum capacity (OECD, 2012). While 25% of the world's commercial fisheries-related species are under a potential for development status, more than 50% are within their maximum capacity, and 19% are classified as overexploited.

Thus, situations such as the violation of closed periods, the use of prohibited fishing gear, fishing without corresponding permits, and the illegal capture of protected species or species that do not have conservation regulations or measures, contribute to the overexploitation and detriment of fishing resources. According to the Food and Agriculture Organization of the United Nations, this situation is defined as "illegal, unreported and unregulated fishing" (FAO, 2023).

This type of fishing generates impacts at various levels, such as a decrease in the quality of available information, ecological damage to sensitive ecosystems, social conflicts derived from the loss of income for regular fishermen, impact on prices in the fishing market and normalization of irregular activity, among many others (Cisneros and Rolón, 2020).

Especially in the case of coastal fleets, the regulation of the sector is complicated due to the large number of fishermen (between 110 and 190 thousand) identified, making it vulnerable to cases of irregularity. The monitoring process of this type of small vessels is also complicated due to the high number of units, the ease of adaptation of the vessels (change of techniques, free landings, etc.), and the fishing of various species throughout each year (CCC, 2017).

In the case of the RBMNN and within the areas in which the Llano del Tigre and Ignlogar SCPPAs are located, according to the Reserve's management plan, the following are not allowed (CONANP, 2010):

1. *Construct containments for solid waste, as well as hazardous materials and substances*
2. *Interrupting, refilling, dewatering, or diverting hydraulic flows*
3. *Introduce exotic specimens or populations of wildlife*
4. *Modify the natural conditions of aquifers, hydrological basins, natural streams, springs, riverbanks and basins*
5. *Fishing, using fixed fishing gear without regulatory control and technical management, as well as the use of poisons, explosives or processed foods as attractants*
6. *Removing, filling, transplanting, pruning or carrying out any work or activity that affects the integrity of the hydrological flow of the mangrove swamp, except for works or activities that aim to protect, restore, research or conserve mangrove areas*
7. *Carry out mining exploration or exploitation works or activities*
8. *Tourism*
9. *Throwing or abandoning waste outside the authorized sites for this purpose*
10. *Dumping or discharging solid waste into any kind of watercourse, basin or aquifer*
11. *Use of explosives*

The fishery improvement process also requires a monitoring process to ensure compliance with current legal provisions and applicable management programs, as well as the internal regulations of each fishing cooperative. To the extent that surveillance capacities within the fisheries sector are strengthened, it will contribute to a better use of resources and to the strengthening of governance and internal organizational processes.

**Specific objectives:**

1. Develop, in conjunction with each fishing cooperative, an inspection and surveillance plan appropriate to Mexican legislation and the local context.

**Activities and results:**

As part of the surveillance actions, the following activities were carried out:

1. **Threat Identification**

Within both cooperatives, the monitoring processes that are already implemented within each of the corresponding fishing zones were identified. Thus, we worked directly with the supervisory boards of each board, interviewing:

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| **Number** | **Charge** | **Cooperative** |
| Lucio López Segura | President of the cooperative | SCPPA IgnLoGar (Antonio R. Laureles) |
| Hugo Cervantes Villareal | Supervisory Board Leader |
| Fabián López Delgado | Driver |
| Antonio Segura Vela |
| Carlos Quezada | Supervisory Board Leader | SCPPA Llano del Tigre (Llano del Tigre) |
| Jesús Atilano Flores | Driver |

1. *Organization*

Within SCPPA Ignlogar, the supervisory board is composed of a leader and one or more motorcyclists. The leader of the council is part of the board of directors of the cooperative, who appoints 2 motorists, in charge of taking the inspectors and/or organizing groups for the surveillance tours. The motorists answer to the leader of the supervisory council, who defines the community routes and defines logistics with authorities for the surveillance of government inspectors. Within the cooperative, there is a voluntary group of 10 people who support during the monitoring processes (the number of members can change and be higher or smaller). Participants (mostly men) are paid 150 MXN per shift (1 day shift and 1 night shift).

On the other hand, within the SCPPA Llano del Tigre, there is only one motorcyclist, who reports to both the president of the cooperative and the leader of the supervisory council. This biker conducts surveillance tours together with an aide or sometimes the council leader.

1. *Monitoring process*

At Antonio R. Laureles they do the tours in shifts: one during the day and one at night. Intermittent surveillance has been maintained around all lagoons, from La Colorada Lagoon to La Sal Lagoon. The month of June is the time when surveillance processes are strengthened and the La Colorada lagoon is always the most monitored. People generally enter the lagoon on foot (to fish illegally on the shore), so the banks are mainly monitored, however, it is often difficult to move around with motor boats (pangas).

It is identified that there are people fishing because their trail is visible in the Lagoon. Once they are found, the first approach is calm, with a first verbal warning. Illegal fishermen have even been invited to support the preliminary work, which would give them the benefit of having a special permit from the cooperative to fish, handing over 20% of what is obtained. The motorist on duty reports the incidents to the security officer. After the warning, if there is a repeat offense, the illegal fishermen's equipment (equipment such as cast nets, purine, characa) is taken away. Sometimes people come back after that, and some other times they move areas. It continues to be confiscated, however, after the second recidivism the authorities are summoned.

This process was defined with the entry of the current directive, since in previous years "confiscations" and abrupt processes were carried out: confiscated motorcycles and bicycles were kept in the cooperative's facilities (never returned and often also used by the people of the community) and even the clothes or belongings kept in the vehicles were confiscated. Currently, when the things of external fishermen are confiscated, they are stored inside the cooperative's warehouse. Sometimes, people take things or sometimes, they give them away. In the same way, checkpoints are sometimes made on the way to the pier (in which approximately 8 people participate blocking the way).

On the other hand, in Llano del Tigre, surveillance is carried out almost daily during the fishing season, and every 2 or 3 days at the end of it. You enter the marsh at 11:00 pm or midnight, the visit lasts 4 hours. As in Laureles, all the shores are covered, however, in Llano del Tigre the nets are checked for accommodation (if the troll is down), since the fishing area is delimited by the mesh. There is no set route, the visits vary according to the need for surveillance. The fishing area is delimited by the mesh, sometimes illegal fishermen drill holes in the mesh to access the resource. Sometimes, during the check of nets, they find people fishing illegally, when this happens, if the government (state, sometimes municipal) goes, they take their things away (although many times the fishermen resist the seizure).

There are 2 pangas constantly watching inside the marsh: people stay overnight for a day and a full night (they come in the day and come back the next day). This process is done daily, in addition, there is a candle on site. The guards and the watchman are paid by the day. People change according to the change in directive, but it is possible that they will stay. When crowds of people are seen, reports are made over the phone. The protocol is also to call their attention during the first incident, they are warned that things are going to be taken away from them. The supervisory committee proceeds to remove things if there is a repeat offence. What is confiscated, is taken to the cooperative and here it remains under the status of forbidden things (they accumulate within the cooperative). Checkpoints are sometimes made to check that purine is not used in the marsh, but this is not common. Sometimes, people recognize that they are committing an illegal act, yet they resist the seizure of their fishing equipment.

In both cooperatives, when there are "strong" incidents and there is government incidence, an assembly is called and a conflict is notified. The idea of the assembly is to summon the whole community to show support and go out into the marsh. When illegal fishermen see a lot of people on surveillance, they go out on their own. At Laureles, all members have the obligation to accompany the surveillance process when extraordinary events of illegal fishing occur, as the entire community must show support for the security of the area.

1. *Incidents identified*

In Antonio R. Laureles the conflicts are mostly with free fishermen from 4 nearby communities. Some fishermen who enter the Laureles fishing zone illegally are part of the cooperatives in their respective communities.

In Llano del Tigre the conflicts take place with free fishermen (called charaqueros) from 2 nearby communities, who enter on foot (arriving on horseback) to the banks of the estuary, mainly in the area called "Los Puyeques".

1. *Authorities involved*

The surveillance processes in Antonio R. Laureles are carried out with the Fisheries Officers of CONAPESCA, whose job is to carry out tours within the estuaries. Many times, the institution argues that it does not have the power to resolve conflicts because many communities do not identify exactly what the fishing areas in the area are, despite the fact that there are defined coordinates. The cooperatives have fishing permits and there are minutes of agreement in which the lagoons in which they can fish are defined, this information was defined in 2001. However, it was mentioned that it is necessary to regulate CONAPESCA's fisheries management.

The monitoring process is as follows: CONAPESCA communicates with the cooperative through a telephone call and arrives with inspectors to make tours 2 times a week. In these surveillance sessions, you enter the estuary for approximately 2 hours. Motorists define which areas are watched, but inspectors can decide which areas to go to without restrictions. When an illegal fisherman is identified, they often consult local watchdogs on what to do. First, the fishing permit is requested and the illegal fisherman is identified; Subsequently, a warning can be given or a report can be generated (CONAPESCA has the power to confiscate materials).

In Llano del Tigre, since there are guards day and night, the Navy and the State Government are contacted when those in charge identify a risk.

We work together with inspectors from CONAPESCA, the state police, and the Navy (only 2 or 3 times).

1. *Current Capabilities & Tools*

The cooperative of Antonio R. Laureles has pangas to carry out surveillance trips and telephones to have evidence and record people who are committing some type of illegality.

On the other hand, in Llano del Tigre they also have small boats for surveillance, and telephones, to report illegalities within the marsh. They also use satellite radios in places where there is no telephone signal.

1. *Needs identified within the*

In the Ignlogar cooperative, it is mentioned that the guards can be attacked because people "take courage" when there are incidents of illegal fishing. Similarly, many problems with illegal fishermen were mentioned, which can become aggressive. It was mentioned that they need to increase the number of radios to improve communication between the cooperatives because many times there is no signal within the National Ministries. This will allow you to communicate with the surrounding communities of Pescadero and Llano del Tigre. In addition, they mention that communication with the Federal Attorney for Environmental Protection (PROFEPA) must be improved to increase the protection of the lagoons and fishing areas of the National Marshes.

In Llano del Tigre they mention that they have many problems with the monkeys (the meshes with buoys that cover the estuaries), however, the cooperative perceives that they are well organized. This cooperative has a relationship with PROFEPA and makes surveillance tours, however, it is necessary to increase collaboration to obtain better surveillance in its fishing area within the Marsh.

1. **Definition of sanctions**

SCPPA Ignogar implements a fine of 2,000 MXN to members who are caught "changue" (not delivering the product to the cooperative), or fishing during the closure. With partners, the process is 1) warning, 2) fine.

In Llano del Tigre, members who use fishmeal during fishing activities can pay a fine of up to 10,000 MXN. If there is a repeat of the illegal activity, themembers may be expelled from the cooperative. Also, in each fishing season, the cast nets used by the members for fishing are checked, with the aim that they use the mesh light that is in their permit, if they do not use a mesh light that is not allowed, they are also fined.

1. **Technification of surveillance activities**

It has beenidentified that conflicts within the area of policing require an effort of more than one fiscal year, so the following work plan is proposed, with a view to further strengthening community capacities and linkages with local authorities:

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| **Activities** | **One-off actions** |
| **Phase 1. Development of the surveillance system and tool for data collection.** | |
| **a.** Action and coordination plans | **1.** Electronic delimitation of surveillance zones and sites (georeferencing process of sites and routes).  **2.** Surveillance and monitoring needs of the area (define activities to be recorded in the log).  **3.** Review of surveillance indicators. |
| **Phase 2. Capacity building for the inspection and surveillance of the white shrimp fishery in National Marshes.** | |
| **a.** Development of technological tools for surveillance | **1.** Construction and revision of the electronic log. |
| **b.** Installation and Use and Testing of Logs | **1.** Install the app on the devices designated for surveillance.  **2.** The tools to understand the structure and filling flow of the log will be provided.  **3.** Field tests (drills) will be carried out focused on the use of the tool. |
| **d.** Curation of information (7 business days from the cut-off date). | **1.** The database update period must be planned.  **2.** For each update, it must be considered that the database must be integrated and reviewed (complete filling of the information). |
| **e.** Comprehensive analysis of information, based on 12 months of data collection. | **1.** Develop the relevant analyses to describe the activities recorded in the field. |
| **Phase 3. Implementation of the surveillance and data collection system.** | |
| **a.** To carry out an exchange of experiences for the organization and logistical preparation of surveillance tours (prospecting, testing). | **1.** Inspection of surveillance equipment, security, boat, engine.  **2.** Fuel calculation for planned routes.  **3.** Definition of routes based on specific requirements.  **4.** Definition of crew members (watchmen): captain and operational technician. |
| **b.** Define the operational scope of community policing: capacities, opportunities. | **1.** Working groups for the period of monitoring and evaluation of the operation to improve the actions of |