Cuidamar

FISHING
MANAGEMENT
MODEL

TASA

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CONTENT

NTRODUCTION

Sustainability is one of the main challenges of this century, for both governments and companies, and for citizens. The private sector has increasingly adopted good sustainable practices, seeking to positively influence our environment. However, these initiatives require demonstrating concrete results so as to encourage others to follow their good example.

In the Peruvian fishing sector, there is an emblematic case that has already done this: Cuidamar ©. The sustainable fishing model that has been promoted since 2008 by TASA– the Peruvian leader in global marine ingredients. This document exhibits the Cuidamar model, which consists of guidelines, objectives and actions, as well as elements that make it replicable.

There is more than one element that contributes to the success of Cuidamar. The first one has to do with the protagonists of fishing: the crew of our vessels. Cuidamar has always emphasized that sustainable fishing requires constant awareness and training in monitoring and conservation of the marine ecosystem. In fact, Cuidamar has been demonstrating that the crew is able to be the real agents of change and ambassadors of good practices in the peruvian fishing industry.

Another vital aspect of the Cuidamar model is its approach to the methodology and practice of responsible fishing. The program was de-

A sector with tradition

We are TASA, a Breca group company, one of the most prestigious economic conglomerates in the country.

We were born in August 2002, and are currently a leading company in the Peruvian fishing industry, with four business units (fishing, fishmeal and fish oil, omega 3 and shipyard), 10 processing plants, 48 operating vessels and more 2,700 employees, of whom 70% are engaged in fishing and production.

signed according to the principles of the Ecosystem Approach to Fisheries (EAF)[2] and the Code of Conduct for Responsible Fisheries of the Food and Agriculture Organization of the United Nations (FAO)[3], which consider that fisheries management must be developed in an integrated and sustainable way.

Thus, we have become pioneers in working with these approaches and introducing sustainable practices in the industrial purse seine fishing activity in Peru. This drive has been consolidated with the development and improvement of a management model based on technical, methodological, logistical and organizational instruments. Furthermore, we are sure of the academic asset of Cuidamar in promoting scientific research in the field of biodiversity and sustainable fisheries. On the other hand, at an institutional level, our model can help to develop public policies focused on the management of biodiversity during fishing activities.

We invite you to learn about this experience and we hope that it will provide you with a path towards sustainable fishing, which will make us allies of the Peruvian sea.

Cuidamar complies with national and international agreements and commitments

- Sustainable Development Goals (SDG)

- Aichi Biodiversity Targets

- Convention on Biological Diversity

- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

- Alignment to national regulations, national conservation plans for marine fauna, categories and conservation status criteria according to the IUCN Red List[4].

- Sustainable fishing certification criteria, such as the Marine Stewardship Council (MSC), Friends of the Sea (FOS) and new regulations imposed by the United States through the Marine Mammal Protection Act (MMPA).

[2] The Ecosystem Approach to Fisheries, is a strategy that has the main objective of keeping the entire ecosystem healthy and each of its parts in the fishing activity.
[3] The objective of the code of conduct for responsible fishing is to provide international norms or standards in order to carry out good practices in responsible fishing.
[4] IUCN Red List is where the categories and criteria of the conservation states of species are found at an international level.

Photo: MINAM

2. BRIEF FRAMI

EWORK

In terms of production, the Peruvian marine ecosystem is one of the largest and has the most abundant pelagic fish population in the world (Bakun A. & Weeks. S., 2008), the anchovy. Thanks to this, the national fishing industry is considered a global benchmark, in terms of the Peruvian anchovy (Engraulis ringens) fishery, which is the second most caught species worldwide (FAO, 2018). In Peru, anchovy represents 75% of the catches, above species such as jumbo flying squid, horse mackerel, eastern pacific bonito and mahi mahi (Anuario Estadístico Pesquero y Acuícola 2017, PRODUCE, 2017).

Anchovy, in addition to being the most abundant pelagic fish in the Peruvian marine ecosystem, has great ecological importance given its role in energy transfer from primary, secondary, and higher trophic production levels (Espinoza P. & Bertrand A., 2014)[5].

That said, an important aspect to consider in the upwelling systems, and especially in Peru, is its high dynamics and variability in all space and time scales, as well as its high productivity in plankton and pelagic fish (Freon et al. 2009). For this reason, the Peruvian marine ecosystem is home to diverse species of flora and fauna at different trophic levels, from diatoms to top predators, where the interaction between its different species allows a marine balance. Given this, it is essential to understand that at different levels, the negative impact on marine diversity, can reduce its resilience and increase the vulnerability of populations and ecosystems to variability and climate change (Planque et al. 2010).

What is described above is key because ecosystems have the capacity to generate ecosystem services, providing benefits to human beings. For example, marine ecosystems bring marine resources and some of them support the development of the fishing industry. If a fishery is not properly managed can help to degrade the ecosystem and even harm fishing activity itself

In sum, the reduction of biodiversity in marine ecosystems could not only alter the structure and its functioning, but it can also reduce the potential to adapt to new challenges, such as population growth and climate change (FAO, 2018).

Faced with these challenges, it is imperative that the fishing sector commits to a responsible management of its activity, which in addition, contributes to the balance of the ecosystem and its biodiversity.

[4]There are other species that would also be acquiring notorious importance in the ecosystem, such as the munida or red squat lobster (Pleuroconodes monodon). (Espinoza et al., 2017).

UIDAMAR ODEL©

Our initiative, which parts from a scientific approach, has developed a clear strategy and systematic intervention, which relies especially on a team in direct contact with the marine ecosystem, our crew.

3.1 Objective and Stakeholders of the Program

The Cuidamar program, aims to implement sustainable fishing practices in order to contribute to continuous monitoring and balance of the marine ecosystem and biodiversity.
The stakeholders directly involved in the program are the following:

Users:
- The Cuidamar team, the fishermen onboard the vessels that have been commissioned to perform that role, after being trained accordingly.
- The Skipper (Lead of the vessel)

Internal allies:
Internal areas of our organization, TASA, which implemented and developed the program, as well as its growth and internal and external positioning. The area responsible for implementing the initiative is the area of Oceanography and Fisheries Sustainability.

External allies:
Institutions that help to strengthen the program technically. The main ally of this kind was Pro Delphinus, which collaborated with the formative processes of the Cuidamar.

3.2 The Model Approach

Sustainable fishing requires a paradigm shift in the traditional way to develop the fishing activity. For this, the commitment of all the members is fundamental: from the leaders of the company to the crew onboard our vessels.

At TASA, we have turned all this experience into a management model that allows us to collect data from the marine ecosystem, in order to measure impacts and find mitigation solutions.

This model seeks the private sector could contribute to the principles of the ecosystem approach, especially with the especially with the ETP species, contributing to the of biodiversity and the marine ecosystem during the development of the fishing activity.

Sustainable Fishing

Carrying out sustainable fishing consists of "ensuring the effective conservation, management and development of living aquatic resources, with due respect for the ecosystem and biodiversity, taking into account their environment and the interests of consumers and other users." (FAO, 1995).

3.3 Our Implementation Strategy

The Cuidamar model includes an implementation strategy consists of four strategic and two transverse axes. As follows, we share the detail of the model deploy in practice.

THE CUIDAMAR
MODEL©

Capacity building and generate culture

Continuous monitoring of the "Marine Ecosystem"

Conservation and management of marine biodiversity

Administration information

CULTURE / COMMUNICATION

- Conservation of hydrobiological resources and Protected Natural Areas.
- Conservation of Marine Fauna.

STRATEGIC ALLIANCES
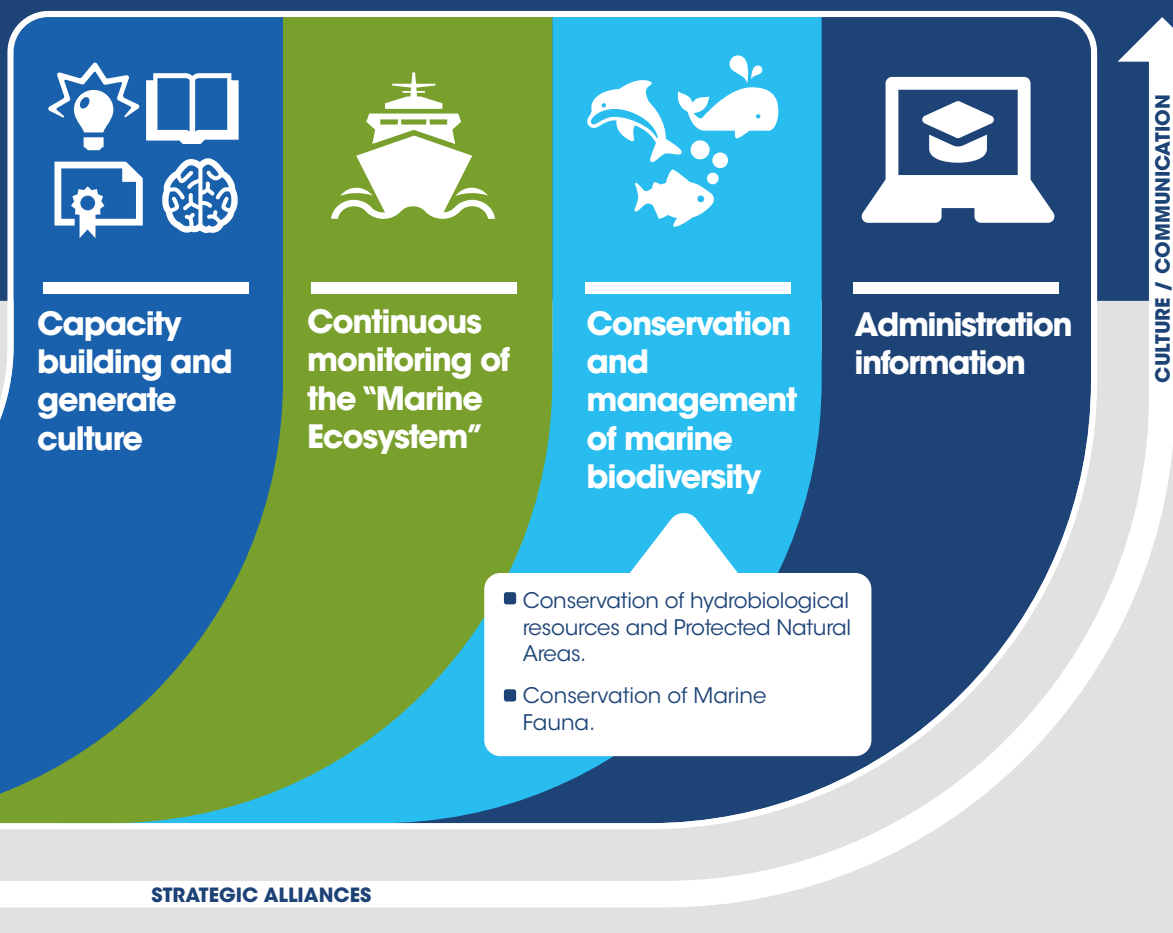
STRATEGIC
AXES

Capacity Building and Culture

Lays the foundation for our model. It consists of developing capacities, skills and attitudes within the Cuidamar team, which will develop their awareness of sustainable fishing, as well as the monitoring and care of marine biodiversity.

It includes training in technical aspects, such as the importance and behavior of the Peruvian marine ecosystem and the role we play in it, concepts such as "sustainable fishing", "ecosystem approach" and "conservation practices".

The knowledge and empowerment the fishermen acquire, will allow for the implementation of constant monitoring, recordings of sightings, bycatch, discards and release. Furthermore, it will allow them to develop correct practices of handling and release of various species of marine fauna on board.

Constant Monitoring of the Marine Ecosystem

It refers to all the possible monitoring activities develop onboard a fishing vessel, conceived as a platform for continuous and systematic information. The information is taken in logbook during the fishing operation, as well as any movement carried out by the vessel or while prospecting along the Peruvian sea.

Monitoring activities include the recording of sightings of marine fauna, bycatch, discard, releases, on-site oceanographic information, acoustic information, as well as spatial and temporal information on the fleet. To implement this axis, there must be a series of tools, materials, protocols, and methodologies in order to record the information.

Conservation and management of marine biodiversity

Diverse techniques, methodologies, and tools are implemented with the purpose of strengthening the registration and awareness process. It also involves mitigating the impact of the activity through conservation and management practices of marine biodiversity during fishing activities.

Some of these practices are the respect for marine protected areas, self-generated restricted fishing areas in order to mitigate the impact on juvenile fishing, the implementation of good practices for handling and releasing marine fauna, and the implementation of mitigation devices in the fishing gear.

Information Management

The great potential evidenced is the abundant data collected, which should be used in order to generate scientific and technical documents that make it possible to strengthen not only the program itself; also to prepare and publish scientific publications that can contribute to the management of ETP in Peru and the design of management plans for the fishing sector.

#1 Capacities and culture

#2 Continuous monitoring of the marine ecosystem

1.1
Position the fisherman as the protagonist of sustainable fishing through awareness strategies, education and the development of their skills.

2.1
Systemize and integrate the recording of oceanographic parameters, acoustic information and marina fauna by using boats during fleet operations and periodic prospecting.

2.2
Automate continuous monitoring of the marine ecosystem.

1.1.1
Training

1. Develop training and awareness methodology in sustainable fishing for the main stakeholders of the fishing activity (fishermen and ground staff).
2. Implement virtual and/or face-to-face classes. Levels will be divided between basic, intermediate and advanced.
3. Measure knowledge and skills achieved.

1.1.2
Continuous reinforcement

1. Create and manage a means of communication for the Cuidamar Group in order to get feedback from the program's activities and the implementation of learned skills.
2. Elaborate a checklist of activities performed onboard and during fishing duties, in addition to monitoring completed tasks.
3. Analyze, through participatory workshops, feedback of the users towards the program in order to elaborate improvement or reinforcement plans and propose new topics in the training content.
4. Design and implement continuous reinforcement plans based on the above mentioned analysis.

1.1.3
Recognize

1. Monitor the performance and evolution of program users.
2. Develop a recognition plan for users of the program (Cuidamar), that considers their performance.
3. Execute the recognition plan.
4. Continuosly evaluate the recognition plan in order to define new ways to encourage the development and progress of program users.

1.1.4
Empower

1. Encourage empowerment and culture of the Cuidamar crew during sail.
2. Carry out broadcasting and access events to media and communication channels in different ports, coves and fishing areas, on behalf of the CuidaMar.
3. Develop the Cuidamar culture among all the crew on board and related stakeholders in a space where the Cuidamar is the trainer or exhibitor.

2.1.1
Monitor environmental and oceanographic conditions

1. Monitor the main oceanographic and meteorological indices.
2. Conduct oceanographic surveys with profilers such as CTD-CTDO, aboard fishing vessels.
3. Register the main oceanographic and meteorological variables during any operation carried out by the fishing vessel.
4. Systematize and automate the system for downloading, sending and processing collected data

2.1.2
Acoustic monitoring

1. Calibrate the echo sounder.
2. Program the echo sounder in order to properly record from the boat.
3. Download the acoustic information for ground processing.
4. Detect echograms from the cabinet in order to export into acoustic logs.
5. Automate process and analysis of the acoustic logbook.

2.1.3
Satellite monitoring of the fishing fleet

1. Monitor through satellite the movements of the vessels during 24 hours, following the monitoring protocol.
2. Automate the download and process of satellite information.
3. Systemize the analysis of spatial indicators of the fleet.

2.1.4
Monitor marine fauna

1. Monitor any movement of the boat for all sightings of marine fauna on and below the sea surface.
2. Correctly identify the species or school sighted.
3. Record of sightings in a logbook, following the respective protocol.
4. Systemize the recording and processing of sighting data.
5. Validate information from sightings logs.
6. Visualize sighting records on a free platform.

2.1.5
Monitoring of the catch composition

1. Implement a pelagic fish sampling procedure during fishing trips.
2. Disseminate the pelagic fish sampling manual on each vessel on board.
3. Correctly identify the target species and composition of incidental catch.
4. Perform the correct sampling in each catch and record the values in the manual or digital logbook.
5. Systemize and automate the delivery of the pelagic fish sampling sheet.
6. Validate the information of catch sample logbook.

2.2.1
Autonomous monitoring of the marine ecosystem

1. Carry out periodic prospecting with the Cuidamar AUV.
2. Automate information transfer.
3. Systemize and analyze all the gathered information in each prospecting.

#5 Alliances Strategic
TRANSVERSE AXIS

Have technical and specialized support for the growth and strengthening of the model

#6 Communication and Incidence
TRANSVERSE AXIS

Have a formal communication plan of the model, relevant information, dissemination and recognition of fishermen.

#3 Preservation and management of marine biodiversity

#4 Information management

3.1
Contribute to the balance of the marine ecosystem by releasing marine species and using mitigation mechanisms.

3.2
Respect the Marine and Coastal Natural Protected Areas.

3.3
Contribute to maintain sustainable management of stock and effort over the target fishery.

4.1
Produce integrated information of the Peruvian marine ecosystem, through the main actors of the program, in order to contribute to scientific research.

3.1.1
Conserve marine fauna (mainly ETP species)

1. Record every bycatch during each fishing trip.
2. Correctly identify species, including ETP species, by their common name, using a guide, poster or catalog of species of marine fauna on board.
3. Identify the conservation status of the species, according to the IUCN Red List, CITES and Supreme Decree N° 004-2014-MINAGRI (Peruvian Ministry of Agriculture and Irrigation) and other Peruvian regulations on its conservation status.
4. Correctly register the date, time and geographical position in the logbook, following the registration protocol.
5. Accounting for the number of individuals per identified species, in addition to quantifying and identifying the condition in which it was incidentally caught and the destination in which it was released
6. Photographically record of the species.
7. Correctly apply the use of handling, recovery and release techniques with the help of our Good Practice Guide of for Release of Marine Top Predators
8. Automate sending files and photos of each release, using the digital application.
9. Systemize registration and processing of release records.
10. Validate records through an evaluation of the logbook sheet, photo ID, and correct geographical position.
11. Use mitigation devices for different species according to the fishing gear.
12. Visualization of the updated records through the sighting platform"

3.3.1
Reduce the impact on juveniles and bycatch

1. Autogenerate closed areas in determined spaces, that is, implement closure protocols in these spaces using geofences, given the presence of juveniles or bycatch fishing.
2. Determine the center of gravity of each catch with incidence of juveniles and bycatch fishing greater than allowed by law (the report of these records will be made with the information of the catch of each one of the vessels).
3. Define the size of the closed area based on the analysis and distribution of the centers of gravity (the closed areas usually have a size of 10x10 nm or 20x20 nm, and a duration of two to three days).
4. Plot the closed area on the satellite tracking platform and on the news bulletins for each vessel.
5. Develop projects to estimate and reduce the impact on juveniles and bycatch.

4.1.1
Validate the program and the data collected

1. Validate the on-board program by evaluating the results of the check list by third parties.
2. Generate instructions for the validation of the data registered by each vessel.
3. Define indicators in order measure the continuity and precision of the recorded data.

4.1.2
Contribute to the scientific and academic community

1. Share relevant data from the program to the scientific and academic community.
2. Generate indicators that help the development of models or tools for the sustainable management of fisheries.
3. Create of a virtual platform that shares the collected data and the developed materials.
4. Produce scientific articles that contribute new knowledge and lines of research.

3.2.1
Implement protection measures for prohibited and restricted Marine Protected Areas (MPA)

1. Develop a catalog or digital maps of marine protected, prohibited and restricted areas according to national regulations on board of the vessel.
2. Incorporate 2 nm of additional preventive framework for restricted and suspended areas (case of 5 nm and 10 nm), as well as for preventive suspension areas.
3. Limit transit of large-scale vessels around protected areas in order to avoid disturbing the surrounding flora and fauna.
4. Broadcast of the navigation protocol on prohibited and restricted protected areas, thus avoiding navigation speeds of less than 2 knots and unnecessary roaming of the boats.
5. Comply with the warning protocol of the satellite equipment in the event of any incident or failure.
6. Prohibit the extraction of marine resources in protected, prohibited and restricted marine areas.
7. Establish an area or put staff in charge of monitoring the fishing operation of the vessels through the 24-hour satellite system.

1. Generate strategic alliances with NGOs or specialized institutions in order to receive technical support in training and development of materials and content.
2. Identify strategic allies in the fishing academia and civil society.
3. Sign a framework agreement with specialized institutions in order to improve processes and develop new projects.

1. Generate an internal and external means of communication as a means of diffusion.
2. Encourage the users of the program, to be the communicators.

3.4 The Value of the Cuidamar Crew

The participation of local fishermen in research and monitoring is essential for the success of any mitigation plan (Alava, et al. In press, 2017).

Therefore, the key to the success of our model is in the empowerment and awareness achieved by the Cuidamar team. It is them who can carry out best fishing practices during fishing operations, only after having been trained in sustainable fishing, conservation and care of marine species and the marine ecosystem.

> ""The importance of understanding the work of the fisherman is crucial, given it has allowed us to develop strategies that are closer to the reality of the users during the time of their activities on the boats."
>
> **TASA**

The Cuidamar program even generates incentives through recognitions and empowerment mechanisms. We publish their work on our social networks and media, they receive acknowledgements from our senior management, etc. At TASA, we promote the importance of each fisherman internalize the significance of their role within the marine ecosystem and be proud to conserve it. Without awareness and committed fishermen, our model would not work.


The Protagonists of Change

The figure of the Cuidamar has gradually become the one of an ambassadors for the care of the marine environment, in other words, an agent of change that inspires other fishermen in the sector.

On the other hand, an important factor has been the awareness methodology, based on a relational approach where the users of the program- leaders, crew and Cuidamar, have been formed to be active members of the program.

Below are five skills that the Cuidamar acquire by participating in the program:

- **Future vision:** To relate their personal contribution with the purpose of the Cuidamar sustainable development program.

- **Sustainable practices:** To identify the need for good practices in order to achieve sustainable fishing in the Peruvian sea.

- **Development as a fisherman:** To feel that they acquire better skills as fishermen.

- **Commitment:** To emphasize on the will and consciousness they need in order to perform tasks that generate a positive impact.

- **Personal growth:** To identify feelings of pride when noticing that their actions benefit marine species and the sea.
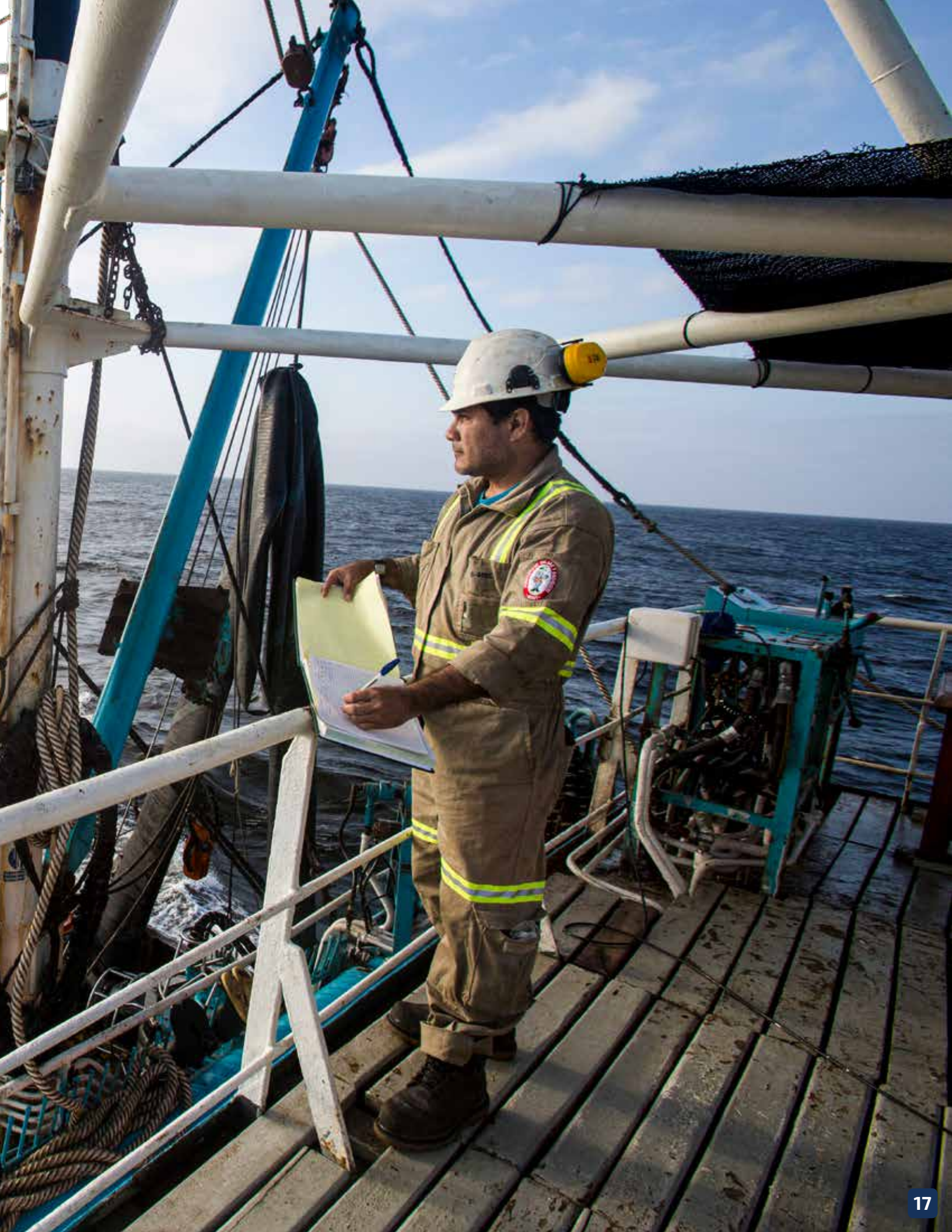
4. DEVELOPMENT

The current assemblage of the Cuidamar program responds to a permanent evolution of its actions, which have been influenced mainly by the vision of the leaders in the area of Oceanography and Fisheries Sustainability; the commitment of the users (captains and fishermen) of the program, and the support of the Fisheries Management, Central Fisheries Management, and the CEO of TASA.

4.1 Milestones that Created and Consolidated the Cuidamar Model

2008   **2012**   **2014**   **2016**
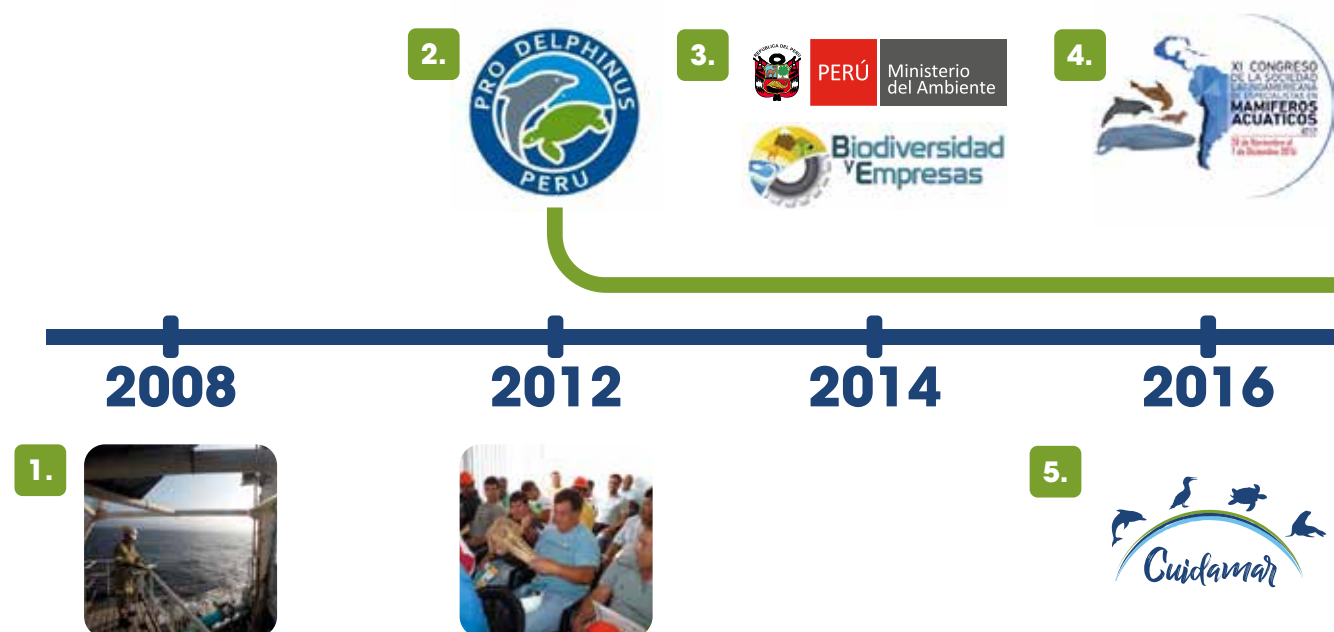
1. Implementation of the marine ecosystem's continuous monitoring initiative by using manual fishing logbooks, for which internal training programs were developed.
2. The training for the correct identification and release of marine wildlife began with the support of Pro Delphinus. This agreement took place in 2013.
3. Winners of the second place in the national environmental prize in the category of Biodiversity Management awarded by the Ministry of Environment. We were invited to be part of the Biodiversity and Companies Initiative by the same ministry.
4. The first presentation of the program was at an international scientific event at the SOLAMAC congress in Chile, 2016.
5. Creation of the Cuidamar group, 48 Cuidamar on board of vessels.
6. Reassurance of our commitment by registering at the United Nations' platform which objective is supporting the SDG 14 Marine Wildlife's initiatives.
7. The second presentation was at an international level at the International Council for the Exploration of the SEA ASC 2017 in the USA.
8. Registration of TASA's Responsible Fishing Manual where we submitted all our programs, syllabi, training materials, guides, and files at INDECOPI. Registration file number 1058-2017.

6.

7.

10.

12.

13.

8.

9.

11.

14.

2017   2018   2019   2020

9.	First capacitation lead by the Cuidamar to other industrial fishermen that are part of the National Fishing Society for its program Salvamar in 2017.
10.	TASA began capacitation to third party fishing crews.
11.	Creation of the Cuidamar brand, as the Cuidamar management model, with certification number 25258 and resolution N°023203-2019/DSD-INDECOPI.
12.	PROYECTO PNIPA-SREX-PES-128 strengthening of the capacities for the promotion of sustainable fishing at the industrial fishing sector, where we participated with Pro Delphinus.
13.	Generation of the "Sustainable fishing manual" aligned with the Code of conduct standard for responsible fishing from the FAO for internal use at our integrated management system.
14.	Launch of the Cuidamar App for mobile devices.

Tecnológica de Alimentos
TASA
BITÁCORA DE PESCA

TASA

Guía de Zonas Restringidas

Sistema de Islas, Islotes,
Puntas Guaneras y Reservas
Nacionales

Tecnológica de Alimentos
S.A.

PRINCIPALES ESPECIES EN EL MAR PERUANO

Cuidamar

Manual de muestreo de peces pelágicos

6. Pasos para el muestreo

TASA

GUÍA DE BUENAS PRÁCTICAS de Liberación de Depredadores Superiores Marinos

LIBERACIÓN DE TORTUGAS MARINAS

NO SE DEBE HACER

4.2 Developed Material Used on Board

As the level of learning increased among our users, so did the development and updating of the guides and logbooks. By using the Cuidamar App application, we are now moving to a digital version of these logbooks, files, short videos of the release practices, virtual courses, digital guides, manuals and protocols, are included. Furthermore, these files are updated using the periodic feedback provided by our Cuidamar.

5. RESUL

LTS

Thanks to the implementation of the Cuidamar model, the following results have been achieved from the beginning of its implementation in 2008, until 2019:

#1

Have a **continuous monitoring system** of some indicators of the Peruvian sea from our vessels (n = 48), in an area of ~ 500,000 km^2 along the Peruvian coast during ~ 300 days of the year, which all of our fishermen (n = ~ 1,000) fulfill the role of onboard observers and conservation keepers..

#2

Implement a continuous education and training system for fishermen in concepts of "sustainable fishing", "functioning of the marine ecosystem" and "conservation of marine fauna". Thanks to the training developed along with Pro Delphinus, 95% of our fishermen (n = 1,000) were trained: 89% of them are aware of the existence of endangered species and their importance, and 98% are aware of and committed to the conservation and care of the Peruvian sea.

Photo: MINAM

#3

The 100% of our skippers, second skippers and navigation pilots (n = ~ 120) have received a continuous education and training system on the functioning of the Peruvian ecosystem, the main oceanographic and meteorological characteristics, the basic concepts of "fishing acoustics" and **"identification by type of schools.**

Thanks to these courses and feedback spaces, it has been achieved that they understand and share their experience to determine probable areas with anchovy presence, horse mackerel and jack mackerel in relation to oceanographic parameters, effectiveness of the fishing zones recommendations going from an from 11% in 2011 to ~ 50% at the end of 2019.

#4

Have **48 Cuidamar** since 2016, who fulfill the role of observers onboard and are responsible for the conservation of marine species while on board. Furthermore, they have developed capacities to be future trainers of what has been learned within their fishing community. Therefore, the Cuidamar can be the trainers of the model to other fishermen or even to withing their respective communities.

#5

Have about ~ 100,000 sightings of different species of schools, seabirds, cetaceans like dolphins and whales, southern fur seals, sea turtles and elasmobranchs, as well as oceanographic conditions in the period 2008-2019.

Having registered about ~ 17,000 individuals released as bycatch, among them, seabirds, southern fur seals, cetaceans, sea turtles and elasmobranchs. From these, 93% were released alive[6] and 7% were released in poor condition or dead in the period 2013-2019. The rate of vessels recorded releases increased from 26% in 2016, to 90% in 2019.

#6

Since 2012, fishermen have identified ~ 15,000 individuals of the total sightings by their common name: southern fur seals 24%, dusky dolphin 18.2%, Peruvian booby 13.3%, Sooty Shearwater 11%, Peruvian gull 7%, pelican 4% and whale humpback 4%, among the main ones.

#7

Using a photo ID test for each release with photographic record[7], the Cuidamar accurately identified the species in 68% of the events.

#8

TASA has developed trainings of the Cuidamar model for different companies and fishermen in the sector, in addition to having diffused it at fairs, congresses and forums between 2014 and 2019.

#9

TASA
Cuidamar

[6] The word "alive" considers individuals released as living.
[7] By the end of 2019, 17% of the total release records (n = ~ 2614), had a photographic record.

6. UPC
CHAL

COMING CHALLENGES

The success factors of the Cuidamar model have allowed us to conceptualize it. Now, we seek to systematize it and disseminate it, in order to foster its replicability and collect valuable feedback, which will be incorporated in future adjustments.

The following are some of the crucial challenges Cuidamar has in order to continue expanding beyond TASA:

- Raise awareness of the entire production chain in the fishing industry

- Raise awareness into other fishermen who are not part of TASA, including artisanal fishermen

- Help develop related national public policies, etc.

We will continue looking for strategic alliances that allow our growth and strengthening. Furthermore, we will continue working hand in hand with our Cuidamar crew under a common goal: care for the ecosystem and be allies of the Peruvian sea.

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We know Cuidamar is a small step, but it is the step to change.

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