



# BIOAMAZON PROJECT

Conservation of species threatened by unsustainable trade



# ACTO

Amazon Cooperation Treaty Organization

EDITION N.11, SEPTEMBER-OCTOBER 2021



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***Proposal for a Fisheries management plan for the responsible and sustainable use of Arapaima in the Ecuadorian Amazon***

**The Amazon Regional Observatory is launched**

This is the Bioamazon Project Newsletter, of the Amazon Cooperation Treaty Organization (ACTO). It is published every two months to disseminate the actions and results of the Project and its partners.



Bolivia



Brazil



Colombia



Ecuador



Guyana



Peru



Suriname



Venezuela

# Dear readers,

It is with great pleasure that the Amazon Cooperation Treaty Organization (ACTO) celebrates the launch of the Amazon Regional Observatory (ARO), which took place on November 10. The ARO is a strategic tool for the design and implementation of actions to manage our Amazon more efficiently, in addition to representing an opportunity for multiple alliances, creating a group of different actors who live inside and outside the Amazon.

The development and installation of the ARO were carried out with the support of German international cooperation, with resources from the Ministry of Economic Cooperation and Development (BMZ) through the Development Bank (KfW), and the Bioamazonia Project.

The launch of the ARO took place a few days after the inauguration, on 10/21, of the new and final ACTO headquarters in Brasilia, in an event that was attended by the Vice President of Brazil, Hamilton Mourão, and the Minister of Foreign Affairs of Brazil, Ambassador Carlos França, among other authorities. The Foreign Ministers of the Member Countries sent recorded videos greeting the occasion.

This electronic bulletin provides information on field work, such as that of the technical mission in the triple border Brazil, Peru and Colombia, within the framework of the Contingency Plan for Health Protection in Highly Vulnerable Indigenous Peoples and in Initial Contact project. In Peru, within the scope of the Bioamazon Project, a manual for the silvestry management of Yellow-spotted River Turtle (*Podocnemis unifilis*) is being prepared, outside and inside Protected Areas.

And last, but not least, in the Agenda session, an invitation to the launch of the First Atlas of Hydroclimatic Vulnerability of the Amazon Region, on November 30, 2021, at 11:00 a.m. (Brasilia time), in an international event that will have the participation of representatives and officials of the entities in charge of water resources and the environment of the Member Countries, and UNEP and the GEF.

Good reading.

**Alexandra Moreira**

General Secretary

Permanent Secretariat / Amazon Cooperation Treaty Organization

# The Amazon Regional Observatory is launched

*The launch ceremony was on November 10 at ACTO headquarters in Brasília.*

*Information on Amazonian biodiversity and endangered species is available on the internet.*



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Observing the guidelines of the Amazon Cooperation Treaty (TCA) signed by eight Amazon countries, the Amazon Cooperation Treaty Organization (ACTO) launched this Wednesday, November 10, 2021, the **Amazon Regional Observatory (ARO)**, a reference center for information on the Amazon Region in the themes Biodiversity, Species Listed in the CITES Convention, Forests, Water Resources, and Indigenous Peoples.

Installed at ACTO headquarters, the Observatory promotes access to information and data produced and made available by the eight ACTO Member Countries – Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela. Scientific institutions of Member Countries provide data to feed the ORA.

The Observatory fosters the flow and exchange of information among institutions, government authorities, the scientific and academic community, and civil society in the Amazonian countries. Information is presented through reports, dynamic panels, and geographic displays, and data and thematic indicators for the Amazon Region are made accessible. The ARO will be in permanent evolution according to the needs of the countries and to the orientations of the Amazonian Strategic Cooperation Agenda. The Biodiversity and CITES modules are complete, while the Water Resources and Forests modules are in the data validation process. In 2022, the development of the Indigenous Peoples module will begin.

ARO's main objectives are to facilitate and promote access to information produced by the Member Countries through a virtual space for storing, exchanging, and

sharing information about the Amazon Region; to prepare and disseminate regional reports and documents on priority thematic content; to establish a mechanism for the dissemination, visibility, and standardization of information flow that will be available at the regional level; and carry out the monitoring of thematic indicators and generation of predictive models.

The development and the installation of the ARO were funded by the Ministry of Economic Cooperation and Development (BMZ) of the Federal Republic of Germany through KfW – Development Bank, under the Bioamazon Project implemented by ACTO. Between 2019 and 2021, approximately 1 million dollars were invested in the Observatory for infrastructure work, purchase of equipment, and development of the platform. The Brazilian Cooperation Agency (ABC) and the National Water and Basic Sanitation Agency (ANA) also supported the observatory with investments in the order of 180 thousand dollars.



ACTO General Secretary, Alexandra Moreira, speaks at the inauguration of the Amazon Regional Observatory, held today at ACTO headquarters.

## The launching

The face-to-face event, was transmitted live through ACTO channels on social networks, and was attended by **ACTO General Secretary**, Alexandra Moreira; the **German Ambassador to Brazil**, Heiko Thoms, the **Director of KfW in Brazil**, Martin Schröder, as well as officials from the Diplomatic Corps based in Brasilia, among which are the ambassadors of the Amazon countries.

Alexandra Moreira recalled that the Regional Observatory has been a desire of countries since the conception of the Amazon Cooperation Treaty. "In 1978, the Member Countries understood the urgency and need for the sustainable management of the natural resources of this region, through the monitoring and control of wild flora

and fauna species, the exchange of information, good practices, the establishment of joint management systems and cooperation at the different levels of government, academia, science and society in general”, she explained.

In his speech, the ambassador of Germany, Heiko Thoms, expressed that the Amazon Regional Observatory is an important milestone for ACTO and stressed its great potential to contribute to the conservation of Amazonian forests and species with integrated and sustainable management. “The cooperative relations with ACTO started in 2002 focused on supporting the implementation of CITES, and the launching of the Observatory today should be an important contribution to the sustainable development of the Amazon”, said Heiko Thoms, Ambassador of Germany in Brazil during the inauguration of ARO.



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The director of KfW in Brazil, Martin Schröder, during the opening of the ORA.

Martin Schröder, director of KfW in Brazil, said that the Amazon Regional Observatory increases transparency in the management of knowledge about the Amazon. He also highlighted the importance of ACTO as the articulating instance in the issues of countries of the region. “We appreciate the technical dialogue with ACTO with a view to promoting the conservation and sustainable use of biodiversity”, he said.

The Secretary-General of [CITES](#) (the Convention on International Trade in Endangered Species of Wild Fauna and Flora), Ivonne Higuero, and the Executive Secretary of GBIF (Global Biodiversity Information Infrastructure), Joe Miller, sent videotaped messages greeting the launching of the Observatory. Recently, ACTO has joined the GBIF as an associated institution.

Ivonne Higuero congratulated ACTO and commented that “the center will formalize the exchange of information between institutions, government authorities, scientists,



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ACTO General Secretariat, Alexandra Moreira, and the German Ambassador, Heiko Thoms, during the inauguration of the ORA

academics and civil society from Amazonian countries, thus supporting our common work. We also welcome that CITES is one of the thematic modules of the Observatory”, she said.

GBIF Executive Secretary Joe Miller highlighted that it includes 41 voting participants and 20 associated countries, adding ACTO. “GBIF looks forward to working with the Amazon Cooperation Treaty Organization to increase the amount of data that is available to the Amazon Regional Observatory for evidence-based decision-making,” he said.

Thematic examples were presented. ANA’s Deputy Superintendent of Operations and Critical Events, Alessandra Daibert Couri, presented the Water Resources Situation Room and the Regional Water Quality Monitoring Network (RR-MCA). The Earth Sciences General Coordinator, deputy of the National Institute for Space Research (INPE), Luiz Eduardo Oliveira and Cruz de Aragão, presented INPE monitoring systems.

## Learn more about the Amazon Regional Observatory

Folder available at this link

[http://otca.org/en/wp-content/uploads/2021/11/livretoORA\\_en\\_digital.pdf](http://otca.org/en/wp-content/uploads/2021/11/livretoORA_en_digital.pdf)

Video available on this link

<https://www.youtube.com/watch?v=uPt10I52ymQ>

ARO Platform

<https://oraotca.org/pt/>

# ACTO and GBIF join efforts for biodiversity

*Biodiversity data will be shared in the Amazon Regional Observatory (ARO). The Memorandum of Understanding was signed on October 29.*



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Pink river-dolphin (*Inia geoffrensis*).

The Amazon Cooperation Treaty Organization (ACTO) and the Global Biodiversity Information System (GBIF) signed a Memorandum of Understanding (MoU) for cooperation in sharing data on biodiversity. With the subscription, ACTO becomes part of GBIF as a participating member. The data will be shared at the Amazon Regional Observatory (ORA), a reference center for information about the Amazon Region in the areas of Biodiversity, Species Listed in the CITES Convention, Forests, Water Resources and Indigenous Peoples, launched by ACTO on November 10th.

GBIF is an international network and data infrastructure funded by governments around the world, with the goal of giving anyone, anywhere, open access to data about all life on Earth. The GBIF network uses common standards and open source tools to share information about where and when species have been registered. The Darwin Core standard forms the basis of the GBIF.org index of hundreds of millions of species occurrence records. Publishers provide open access to their datasets using machine-readable Creative Commons license definitions, allowing scientists, researchers and others to apply the data to hundreds of peer-reviewed publications and decision support documents each year.

“Signing the GBIF Memorandum of Understanding reflects ACTO’s concordance of views on the need to join efforts, financial resources, capacities and technologies,” said Alexandra Moreira, ACTO General Secretary. “By providing those who want access to data on Amazonian biodiversity through both the ARO and GBIF platforms, our collaboration will promote the development of scientific research and the generation of new knowledge and biotechnologies in keeping with sustainable development objectives for the Amazon Region.”

“Having ACTO join as a GBIF participant offers a promising opportunity to expand the network and build capacity within the region,” said Joe Miller, GBIF executive secretary. “Increased participation and collaboration in the Amazon—one of the planet’s most valuable and megadiverse regions—is critical to mobilizing the data we need both to understand and to protect its biodiversity.”

With information from GBIF

<https://www.gbif.org/news/3gAVc0NNqDHMMj8iuRQa0s/the-amazon-cooperation-treaty-organization-joins-gbif-as-a-participant>



© ISTOCK

Toucan (*Ramphastos toco*).



## Bioamazon Project launches video on endangered species conservation work

*The video is available in three languages on the ACTO YouTube channel.*

All the details about the work of the Bioamazon Project are available in video-animation format. Lasting approximately 10 minutes, and published with narration in the three official languages of ACTO Portuguese, Spanish and English, the Bioamazon video mixes an animation format with photographs and moving images to show the importance of the region, the threats and the actions that are taking place. being carried out in conjunction with ACTO Member Countries in supporting the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

The main objective of the Bioamazon Project is to guarantee that the international trade in specimens of wild animals and plants is not a threat to the survival of these species. Diagnoses are carried out on the status of the species and equipment and systems are made available for greater efficiency in the control of international trade. These are ways to contribute to the improvement of management, management, monitoring and control of wild endangered species in ACTO Member Countries – Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela.

Formally called the Regional Project for the Management, Monitoring and Control of Species of Fauna and Flora Endangered by Trade, the Bioamazon Project is divided into three components, seeking to reduce asymmetries between Member Countries.

In the years 2020 and 2021, nearly three million dollars were invested in the eight countries considering the actions of the three components. Around 1 million dollars were also invested in the infrastructure work, purchase of equipment and

development of the platform for the Amazon Regional Observatory (ORA). The resources of the Bioamazon Project come from German cooperation through the KfW Development Bank.

## Components

Through **Component 1**, investments are made in the development and/or improvement of information systems on biodiversity and CITES species and interoperability with the Amazon Regional Observatory (ORA). Among the examples are the development and implementation of the Biodiversity Information System of the National Museum of Natural History (MNHN) and articulation with the National Biodiversity Information System of the Ministry of Environment and Water (MMAyA) in Bolivia and the preparation of national lists of species of wild fauna included in the CITES Convention and species pressured by trade for the National Environmental Information System of Peru.

Under **Component 2**, investments are made in the development and/or improvement of systems for the electronic issuance of CITES licenses and their articulation with the single window systems for foreign trade. Some examples of actions are the development and implementation of the module for the use of wood and non-wood flora resources, under the National Biodiversity Traceability System of Colombia and the development and implementation of a Suriname Wildlife Management Information System, among others.

In **Component 3**, investments are made in studies and in the development of management and traceability systems for threatened species. Among the various examples of actions in this component are studies, in Brazil, on the population and demographic dynamics of freshwater ray species *Potamotrygon wallacei* (River Negro) and *Potamotrygon leopoldi* (River Xingu) and a study on the dynamics and evolution of international ornamental market for freshwater rays and, in Ecuador, the elaboration of a proposal for the strengthening of the orchid value chain in the Amazon region.

Learn more about the Bioamazon Project – Conservation of Endangered Species by Trade – watching the videos on ACTO’s YouTube channel.

<https://www.youtube.com/watch?v=lqM2teq1fWg>



# New ACTO headquarters strengthens partnerships for the Amazon

## *The Amazon Cooperation Treaty Organization implements the Amazon Cooperation Treaty, signed by eight Amazonian countries*

The Amazon Cooperation Treaty Organization (ACTO) is in a new home. The inauguration of its new headquarters in Brasília, held on Thursday, October 21, 2021, was attended by ACTO General Secretary, Alexandra Moreira; the Vice President of Brazil and President of the National Council for the Legal Amazon (CNAL), Hamilton Mourão, and the Minister of Foreign Affairs of Brazil, Ambassador Carlos França, as well as authorities from the diplomatic body based in Brasília.

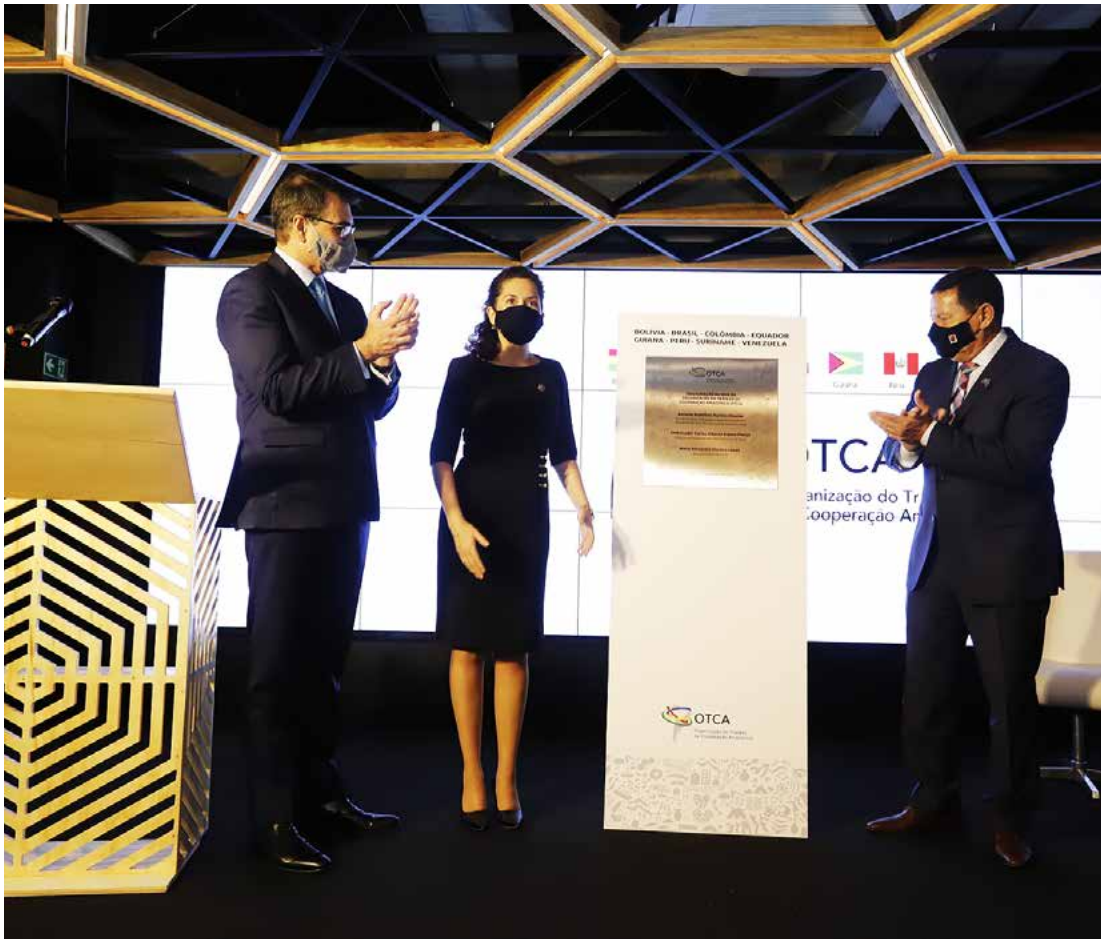
ACTO is an intergovernmental organization made up of eight Member Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela. As an intergovernmental organization, ACTO implements the Amazon Cooperation Treaty (ACT), signed by the eight Amazon countries, and streamlines the execution of its decisions. The various dimensions of ACTO action – diplomatic, strategic and technical policy – correspond to the different instances of the Amazon Cooperation Treaty and encourage sustainable development and social inclusion in the Amazon Region.

The event was opened by the Secretary General of ACTO, Alexandra Moreira. She noted that ACTO's new facilities are a space for strengthening partnerships in favor of the Amazon. "Today another historic milestone is materialized, with the inauguration of ACTO's first definitive headquarters. We thank Brazil for providing this space and extend our greetings to the eight ACTO Member Countries. Working for Amazon is complex, difficult and time-consuming and you have to be creative and innovative. We are dealing with a complex system with more than 48 million inhabitants, including indigenous peoples", he emphasized.

Among ACTO's responsibilities is to promote cooperation in scientific research and the exchange of information about the Amazon at a regional level, in order to increase knowledge about the flora and fauna resources of the Amazon territories. "This new environment will allow us to do this work better and to further strengthen relations with the authorities of the Amazon countries based in Brasília," stated Alexandra Moreira.

The vice president of the Republic of Brazil and president of the National Council for the Legal Amazon, General Hamilton Mourão, highlighted the importance of strengthening cooperation between countries that share the Amazon Region.

"It is with great satisfaction that I participate in the inauguration of this headquarters, as Brazil is strengthening its dialogue and cooperation with the Member Countries.



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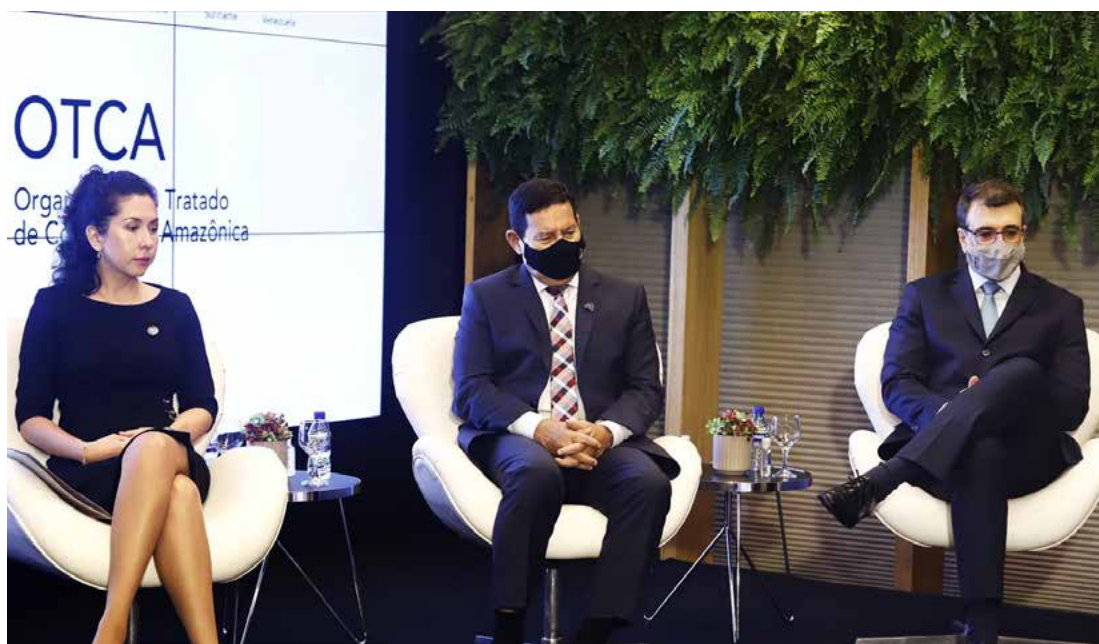
The Minister of Foreign Affairs of Brazil, Ambassador Carlos França; the Secretary General of ACTO, Alexandra Moreira; and the Vice President of Brazil and President of the National Council of the Legal Amazon (CNAL), Hamilton Mourão, during the inauguration of the new ACTO headquarters.

Our countries share among themselves the challenges of preserving one of the richest biomes on the planet and promoting the well-being and dignity of the region's inhabitants," said Mourão.

He stated that ACTO has the political support and technical capacity to coordinate the different national agendas in favor of the biome and that the "Amazon brand" will grow, as it is associated with inclusive and sustainable activities.

In his speech, the Minister of Foreign Affairs of Brazil, Ambassador Carlos França, reinforced that ACTO is a central actor in the governance of the preservation of the Amazon and that the new headquarters is a showcase for the organization. "This space will reinforce the organization's positive image with partners and external interlocutors. ACTO removed from the paper discussions initiated in the countries of the region and has stimulated scientific research and the exchange of information. The Amazon Regional Observatory is a relevant advance in this direction", quoted.

França highlighted the work carried out by General Hamilton Mourão, in the Legal Amazon Council, and the reduction of deforestation in Brazil, according to INPE data. "Deforestation between August 2020 and July 2021 reduced 5%. If we consider only the month of August, the reduction is more significant at 32%, compared to August 2020".



ACTO General Secretary, Alexandra Moreira; the Vice President of Brazil and President of the National Council from the Legal Amazon (CNAL), Hamilton Mourão, and the Minister of Foreign Affairs of Brazil, Ambassador Carlos França, during the inauguration of the new ACTO headquarters.

The ceremony included the presentation of recorded messages from ACTO's first general secretary, Rosalia Arteaga from the vice president and chancellor of Colombia, and the foreign ministers of Ecuador, Guyana, Peru, and Suriname.

ACTO installations were carried out with the support of German international cooperation, with resources from the Ministry of Economic Cooperation and Development (BMZ) of the Federal Republic of Germany through the German Development Bank (KfW).

# ACTO's Technical Mission to the Triple Border Brazil, Peru and Colombia

In the context of the project *Contingency Plan for Health Protection in Highly Vulnerable Indigenous Peoples and in Initial Contact*, the technical team that prepares the Situational Health Studies with Territorial Base in the tri-border region (Yavari-BRA, Loreto-PER and Leticia-COL), together with the project coordinator, carried out a technical mission.



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This 8-day mission began in the city of Iquitos (Peru), where the ACTO delegation departed by boat, sailing down the Amazon River to the tri-border region, including the main urban centers where the health services are located: Tabatinga (BRA), Benjamin Constant (BRA), Atalaia do Norte (BRA), Leticia (COL), Santa Rosa (PER) and Islandia (PER).

During the visits, government representatives, indigenous peoples and organizations, and NGOs were interviewed about the health situation in the Peru-Brazil-Colombia Triple Border, including the situation of COVID-19. The objective was to collect suggestions and information that can contribute to the project activities Contingency Plans for Health Protection in Highly Vulnerable Indigenous Peoples and in Initial

Contact which are implemented together with the Pan American Health Organization (PAHO), with funding from the Inter-American Development Bank (IDB).

The planned agenda was fulfilled without difficulties, respecting all COVID-19 protocols. Previously, the ACTO Delegation participated, in Iquitos, in the Tri-National Meeting of Health Secretariats on the Peru-Brazil-Colombia Triple Border and also in meetings with the Loreto Regional Health Directorate (DIRESA-Loreto), where updated epidemiological information on health in the region was obtained.

It is important to note that the data collected are of great relevance for the technical consultancies linked to this region and to the work that the project is carrying out in the region of the Yavari Valley, border Peru/Brazil, in the region of the Putumayo/Içá river in the border region Peru/Colombia/Brazil, and in the region of the Napo, Curaray and Tigre rivers, in the border Peru/Ecuador.



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ACTO technical team embarking in Iquitos-Peru

## Atalaia do Norte (Brazil)

In Atalaia do Norte, Brazil, a meeting was held with representatives of the Marubo, Matis, Matsés, Kanamary and Kulina indigenous peoples, members of the indigenous organization União dos Povos Indígenas do Vale do Javari (UNIVAJA), in the state of Amazonas. On this occasion, information was verified on threats in the region and in particular on the health situation.

During the interventions of the indigenous representatives, the importance of traditional medicine and an effective intercultural dialogue for the treatment of their diseases and health care was highlighted – including the fight against COVID-19. Participants also emphasized the need to develop regional and cross-border contingency plans, with the full participation of indigenous representatives, local health authorities and support organizations.

In addition, the cases and deaths that occurred in the communities, the progress of vaccination and the need for the bodies responsible for indigenous health to proceed with the follow-up of the sequelae caused by COVID-19 in people who were infected were reported. Finally, a technical mission was agreed to very remote communities to know the real situation of vulnerability and threats in which they live.

In addition, contacts were established with the local hospital and the staff of the Special Indigenous Health District (DSEI) for the Yavari region were interviewed with

a questionnaire prepared by ACTO technicians to gather the opinions and information of the main actors involved in contingency plans for the health protection of vulnerable indigenous peoples.



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Meeting with representatives of the indigenous peoples of the Vale do Javari-Atalaia do Norte-Brazil (Marubo, Matis, Matsés, Kanamary and Kulina). Meeting with representatives of the indigenous peoples of the Vale do Javari-Atalaia do Norte-Brazil (Marubo, Matis, Matsés, Kanamary and Kulina).

## Tabatinga (Brazil)

In the city of Tabatinga, Brazil, the mission visited the local headquarters of the National Indian Foundation unit (FUNAI) responsible for actions to protect Indigenous Peoples in Isolation and in Initial Contact (PIACI) and the unit of the body directly linked to indigenous peoples in the Brazilian tri-border region, which monitors the situation of the Tikuna people, given their cross-border dimension in the three countries of the region.

In addition to discussions with federal agents of the indigenist body, the technical team held a meeting with the Special Secretariat for Indigenous Health (SESAI) of the Upper Solimões River, in which the emergency situation to which the indigenous peoples were subjected due to the COVID-19 Pandemic was reported. An interview was also conducted with the Director of the Tabatinga Garrison Hospital, Colonel Pedro Leopoldo, one of the health institutions of reference for the treatment of indigenous patients of medium complexity from newly contacted groups.

In the field of civil society, a visit was made to the regional office of the Center for Indigenous Work (CTI), where the delegation of ACTO was received by the staff of the *Program Javari*. At this meeting, the situation of indigenous peoples and

communities in the Yavari Valley was discussed and contributions were presented for the preparation of contingency plans for this region.



© ACTO'S PHOTO GALLERY

Port of Tabatinga-Brazil



© ACTO'S PHOTO GALLERY

Regional Office of CTI-Tabatinga-Brasil

## Leticia (Colombia)

In the city of Leticia, Colombia, the technical team met with Paola Chaparro, Public Health Coordinator of the Regional Health Secretariat of the Department of Amazonas and her professional team of ethnic groups who made some suggestions for the achievement of the project activities and shared data information that will contribute to the study on the health situation with a territorial basis. Likewise, they extended the invitation to the technical team of ACTO to the inter-sectoral dialogue table with all the indigenous representatives of the Amazon for the month of December of this year. Important space to establish dialogues and articulation with all governmental and non-governmental sectors, indigenous and non-indigenous, with a territorial base in the Amazonian trapezium.

Following up on the mission, a meeting was also held with *National Natural Parks of Colombia-Amazon Region* who, from the protection of the flora, fauna and environment of the Amazon ensure the health care and rights of the PIACI.

Finally, contacts and dialogue agenda were established with the NGO *Amazonas Conservation Team (ACT)*, with strong activity in the vicinity where indigenous

peoples live in isolation and in initial contact (Puré river, Caquetá river and Putumayo river) that in cooperation with the Ministry of the Interior of Colombia and with the support of the indigenous communities of the region, implement territorial protection for these highly vulnerable peoples..



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Port of Leticia-Colômbia

## Islandia (Peru)

In Islandia, Peru, the local Health Center was visited, led by Sanitarist Mario Gomez, who described the situation of the Health District under his jurisdiction and highlighted the difficulties in vaccination, caused by religious groups with strong interference in the local population. The CS Islandia team provided relevant information to the ACTO technical team on the health situation in the Yavari district.



Health Center in Islandia-Peru



Epidemiological data in Iceland-Peru

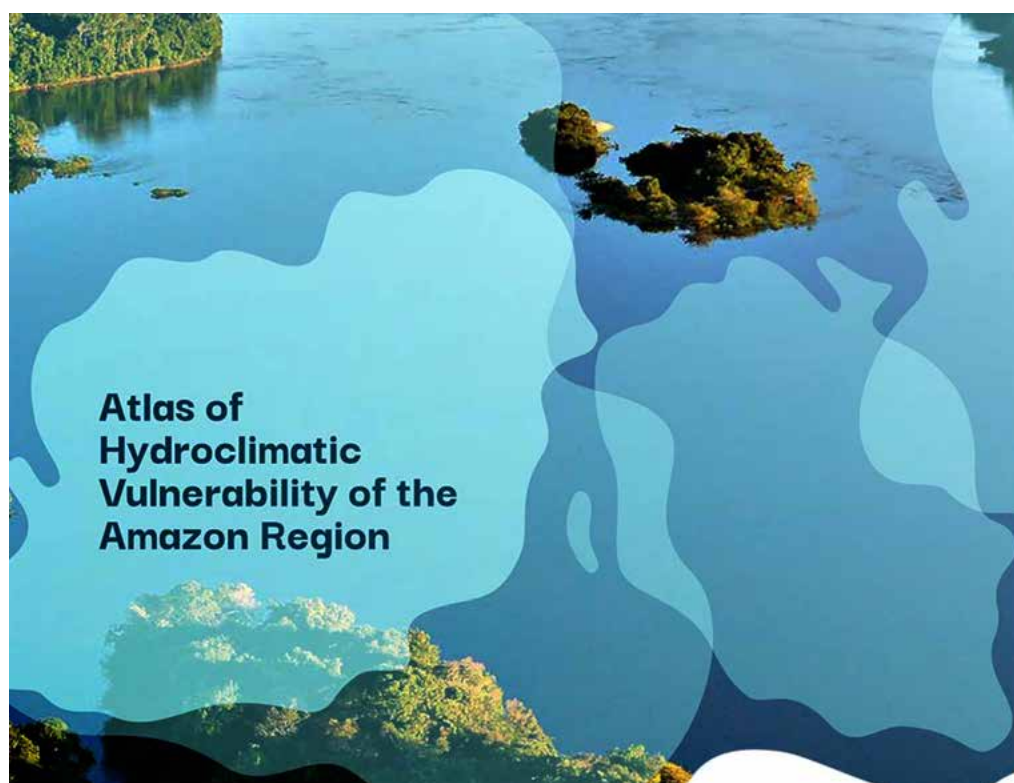
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## November

### Launch of the Amazon Basin Program and the First Atlas of Hydroclimatic Vulnerability of the Amazon Region

The eight Member Countries of the Amazon Cooperation Treaty Organization, ACTO, will launch the virtual launch of the First Atlas of Hydroclimatic Vulnerability of the Amazon Region on **November 30, 2021, at 11:00 a.m. (Brasilia time)**.

It will be an international event with the participation of representatives and officials of the entities in charge of water resources and the environment of the countries, UNEP and the GEF.



Find out more

<http://otca.org/en/launch-of-the-first-atlas-of-hydroclimatic-vulnerability-in-the-amazon-region/>

Broadcast on the OTCA channel on YouTube

<https://www.youtube.com/c/OTCAvideo>

## December

On December 7, at 10:30 - Brasília time, launch of the

# ACTO Forest Program for the Amazon Basin and Region

Registration here

[https://us02web.zoom.us/webinar/register/WN\\_KaMeA6nmQvOjkfwrZ7bUJw](https://us02web.zoom.us/webinar/register/WN_KaMeA6nmQvOjkfwrZ7bUJw)



The poster features a background image of a lush green forest with a river. On the left, a green banner reads "LAUNCH EVENT". The ACTO logo, "Amazon Cooperation Treaty Organization", is at the top right. The main title is "ACTO REGIONAL FORESTS PROGRAM FOR THE BASIN AND AMAZON REGION". Event details include: "December 07th, 2021", "10:30 – 12:30 BRT (UTC -3h)", and "English | Spanish | Portuguese". It also states "Live broadcast by ACTO's Youtube Account" with the handle "/OTCAvideo". A QR code is provided for registration, with the text "Register here:" above it and "Or by the following link: https://bit.ly/3CYR1pu" below it.

**LAUNCH EVENT**

**ACTO**  
Amazon Cooperation  
Treaty Organization

**ACTO REGIONAL FORESTS  
PROGRAM FOR THE BASIN  
AND AMAZON REGION**

**December 07th, 2021**

**10:30 – 12:30 BRT (UTC -3h)**

**English | Spanish | Portuguese**

**Live broadcast by  
ACTO's Youtube Account**

**/OTCAvideo**

**Zoom Platform**

**Register here:**

**Or by the following link:  
https://bit.ly/3CYR1pu**



# Proposal for a Fisheries management plan for the responsible and sustainable use of Arapaima in the Ecuadorian Amazon

**Autor:** Blgo. Msc. Ricardo Burgos-Morán<sup>1, 2</sup>

**Abstract:** This document aims to provide the technical bases for the implementation of a fisheries management plan focused on the responsible and sustainable use of the Arapaima in the Ecuadorian Amazon. It should standardize environmental, social, economic, and institutional criteria. The information contained in the manual is based on field surveys conducted during the months of August 2020 and March 2021, with key informants, generating and obtaining information, and consulting official records of the Ministry of Environment, Water and Ecological Transition (MAATE acronym in Spanish); Vice Ministry of Fisheries and Aquaculture (VPA acronym in Spanish), Directorate of Amazonian Aquatic Spaces of the National Navy (DIRAMA acronym in Spanish); and the Environmental Police Unit (UPMA acronym in Spanish). Forty-three local participants were interviewed, including representatives of indigenous and mestizo riverine communities, and institutions from Ecuador and Peru. The proposal examines the natural distribution of the species, the context of its wild use for subsistence, illegal commercial extraction of meat and juveniles to assess management measures focused on the institutional framework of the fishing sector in the Ecuadorian Amazon, to promote its governance; aquaculture restocking; fishing management tools such as closures, minimum sizes, extraction quotas, fishermen's registry; as well as generate scientific information.

**Key words:** *Arapaima gigas*, Arapaima, responsible and sustainable management, Ecuador.

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## Introduction

Thanks to the Regional Project for the management, monitoring and control of species of wild fauna and flora threatened by trade (Bioamazon Project), this proposal is a commitment between the Amazon Cooperation Treaty Organization (ACTO), and the German Government through the non-reimbursable financial cooperation channeled by the German Development Bank (KfW). The proposal will contribute to the conservation of the Amazonian biodiversity, especially, of the species included in the CITES Appendices, by increasing the efficiency and effectiveness of the management, monitoring and control of species of fauna and wild flora threatened by trade in ACTO Member Countries.

The few studies that have been carried out in Ecuador on *Arapaima aff. gigas*, both in the natural environment (Burgos-Morán, 2018; Salvador & Zapata-Ríos, 2018) and in captivity (Burgos-Morán, Ortega, Silva, Sanchez, et al., 2018; Burgos-Morán, Sánchez, Andino, Torres, Salazar, Ortega, et al., 2018; Burton et al., 2016; Ligña-Navarrete et al., 2018), provide clues to their management; however, the status of their wild populations, as well as their spatio-temporal dynamics, is still unknown. These data are extremely important, as there is evidence of large population variations, with reductions due to fishing activity during the decades from 1970 to 1990 in Brazil and Peru (Petersen, Brum, Rossoni, Silveira & Castello, 2016), data that were later recovered through consultation processes thanks to community management (Campos-Silva & Peres, 2016). Invasive processes documented in the last 20 years in the Bolivian Amazon (Carvajal-Vallejos, Van Damme, Cordova, & Coca, 2011; Macnaughton et al., 2015; Watson et al., 2013), and perspectives of geographic displacement due to climate change (Oliveira et al., 2020) in the near

future, guide the implementation of precautionary management actions and new technologies, especially related to the genetic record of the species such as the advances made from Brazil and Germany (Du et al., 2019; Vialle et al., 2018) with the publication of its genome; in addition to environmental monitoring techniques with eDNA barcoding carried out in Peru (García-Dávila et al., 2014; García-Dávila et al., 2018).

In this sense, the management in nature and in captivity must have clear scientific and administrative guiding principles for the correct traceability of populations to provide food and economic security to those communities, for which this resource is one of their livelihoods, considering practical examples for cases of fisheries management in Brazil (Campos-Silva & Peres, 2016; Campos-Silva, Hawes, Andrade, & Peres, 2018), Peru (IIAP, 2012; Rojas & Noriega, 2006), Colombia (Rojas, 2019) and Bolivia (SERNAP, 2020), all within the Amazon Basin.

This document focuses on: "Providing the technical bases for the implementation of a fisheries management plan focused on the responsible and sustainable use of the *Arapaima* in the Ecuadorian Amazon. It should standardize environmental, social, economic, institutional (administrative, technical, normative), and organization criteria. Specifically, it was proposed to: i) Conduct a preliminary assessment of the state of the native populations of *Arapaima aff. gigas* and its probable natural distribution in the Ecuadorian Amazonian aquatic environments; ii) clarify the state of subsistence, commercial and recreational fisheries on *Arapaima aff. gigas* in the Ecuadorian Amazon; and iii) establish fishing management guidelines for the responsible and sustainable use of *Arapaima aff. gigas* in the Ecuadorian Amazon.

## Methodology

### Area of study

The Ecuadorian Amazon represents only 2% of the Amazon basin. Its population is approximately 0.9 million, 65% concentrated in urban (Charity, Dudley, Oliveira, & Stolton, 2016) areas, with the highest inequality due to economic income and high informality; depending on subsistence agriculture, forestry, and fishing. This situation accounts for at least 10% of child malnutrition (ARA, 2011; Gray & Bilsborrow, 2020). The lower river courses with varzea areas and meandering lagoons of the Napo, Pastaza and Morona rivers have been considered in this study, and they have also been identified with the code 316 of the world ecoregions of freshwater ecosystems, corresponding to the Amazon lowlands (Abell *et al.*, 2008). This corresponds to the westernmost area of the Amazon biome with a noticeably short transition in the ecological continuum that composes them.

The protected areas of the Yasuní National Park (PNY) and the Cuyabeno Fauna Production Reserve (RPFC) stand out; the National System of Protected Areas of the Ministry of the Environment, Water and Ecological Transition (MAATE); in addition to the Tagaeri-Taromenane Intangible Zone (ZITT), considering this set a landscape of flooded forests, within the Napo basin, in the so-called "Cuyabeno-Lagartococha-Yasuní wetland complex" where several river axes (Tirira & Rios, 2019) are connected, which are beyond the 2018 Ramsar declaration (MAAE, CI-Ecuador, & SEDEFA, 2019). In addition to the areas mentioned, there are other conservation proposals through civil society such as the Initiative "Sacred Basins, Territories for Life" ("Informes – Cuencas Sagradas", 2021), which includes a landscape scale especially

focused on indigenous communities on the Ecuador-Peru border. Towards the South, however, there are large gaps in conservation efforts with respect to aquatic habitats, such as the Morona River.

### Local participation

The information here contained is based on field surveys conducted during the months of August 2020 and March 2021, through the identification and direct consultation with key informants, generation and obtaining information, and official records of the Ministry of Environment, Water and Ecological Transition (MAATE); Vice Ministry of Fisheries and Aquaculture (VPA), Directorate of Amazonian Aquatic Spaces of the National Navy (DIRAMA); and the Environmental Police Unit (UPMA). Therefore, forty-three local participants were interviewed, including representatives of indigenous and mestizo riverine communities, and institutions from Ecuador and Peru as direct input for the generation of this proposal.

### Diagnostic

A survey was conducted on the state of the native populations and the fishing pressure of *Arapaima aff. gigas*, such as IUU fishing (illegal, unreported and unregulated), adapting FAO guidelines based on Agnew *et al.*, (2009); y Macfadyen, Caillart & Agnew (2016).

Based on this guide, simplified models of fishing<sup>3</sup> extraction were developed, contrasting with the fishing situation in the Amazon Basin and its current institutional and legal framework. All the information presented was compared with that of official databases such as CITES and FAO FishStatJ. In addition, the legal frameworks of Amazonian countries and available scientific

<sup>3</sup> The analysis models are explained in the extended version of this document.

research were compared through an in-depth bibliographic review.

### Fisheries management proposal

The proposal was the result of selected strategies and guidelines with data generated from a SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats), identifying vulnerabilities observing the code of conduct for responsible fishing in small-scale FAO fisheries, management opportunities, and proposals from the local community and institutional actors.

## Results and discussions

### Natural distribution records

Ecuador still has no systematized or official updated distribution record on *A. aff. gigas*, and there are only general criteria for its inclusion in the red list of species, in addition to the guide to its population (Aguirre *et al.*, 2019) status. These populations are the westernmost in the Amazon Basin and have the greatest hydrological distance between them. With these records:

**Table 1, Records of *Arapaima aff. gigas* in Ecuador**

River axis	Registration sites	Type of study	Source
<b>Aguarico</b>	Cuyabeno, Cocaya - Complejo lacustre Lagartococha, Zancudo cocha, Garza cocha	Estado populacional Inventário geral Meios de vida	Burgos-Morán, 2018 Barriga, 1986 Vickers, 1989
<b>Napo</b>	- Pañacocha, Jatuncocha, río Yasuní - Añangu - Yuturi, Wiririma	Inventário geral Ecotoxicologia Estado populacional	Stewart <i>et al.</i> , 1987 Webb <i>et al.</i> , 2004 Salvador & Zapata-Ríos, 2018
<b>Curaray</b>	- Lorocachi - Zueilan, Dantacocha, Wiñacocha	Etno ictiología Pesca	Guarderas <i>et al.</i> , 2013 Burgos-Morán <i>et al.</i> , 2014
<b>Pastaza / Río Corrientes</b>	- Territorio Achuar, Kapawi, Charapacocha	Meios de vida	Descola, 1988
<b>Morona</b>	- Laguna CREA - Laguna Negra	nd	Obs. Pessoal / Nugra com. Pers.

In Table 1, the records of *A. aff. Gigas* are observed, which are circumscribed to scientific or development studies, without fishing statistics as in the cases of Brazil, Peru, Colombia, and even Bolivia (Doria *et al.*, 2018; Jézéquel *et al.*, 2020; PROMPEX, 2006; Salinas-Coy & Agudelo-Cordoba, 2000;

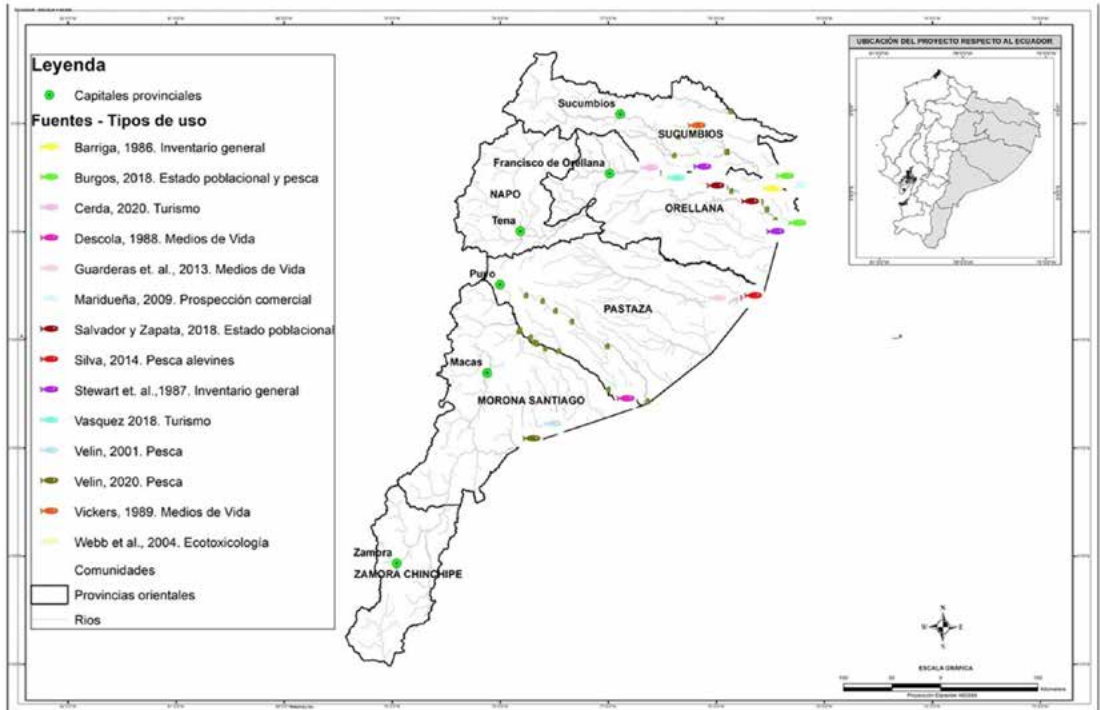
SERNAP, 2020), being necessary to complement data such as:

- Demographics (number of individuals, age structure, sex ratio),
- Genetic variability (polymorphism), population genetic structuring, inter- and intra-population gene flow.

Social structuring, territoriality in relation to age and gender, and anthropogenic impact assessment.

In accordance with the descriptions made, the places of registration of natural populations are depicted.

**Map 1. Approximation to the natural distribution of *Arapaima aff. gigas* in Ecuador.**



Source: Those cited on the map.

The information contained in table 1 and in map 1, guide the conservation, fisheries, and aquaculture management actions of *A. aff. gigas* (Cavole, Arantes, & Castello, 2015).

## The status of the fishing of *A. aff. gigas* in the Ecuadorian Amazon

From the information obtained, these are classified into three subgroups:

i) formal, immersed in the Río Napo Association, which is the only officially recognized fishermen’s association in the Amazon province of Orellana, but it does not comply with the landing

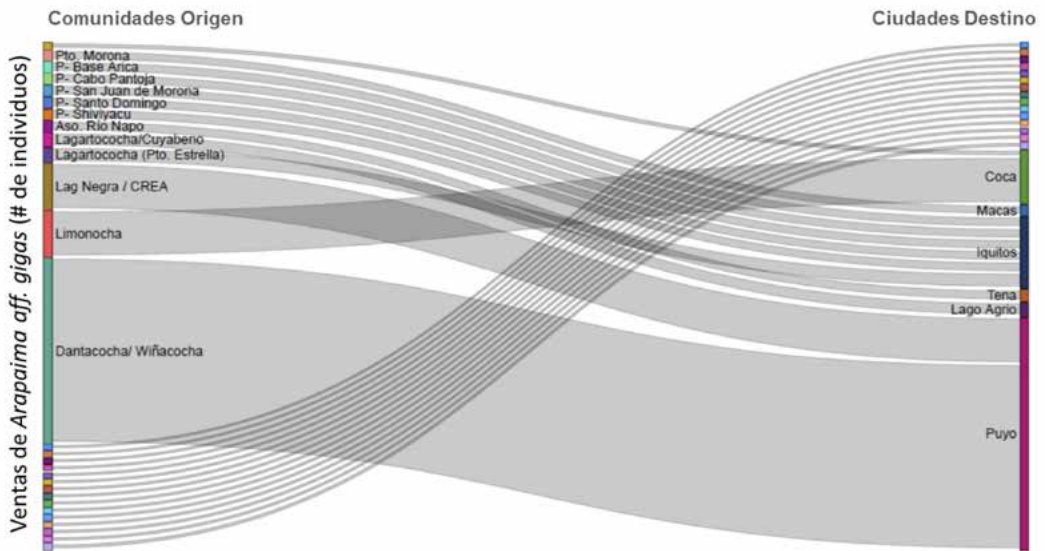
declaration processes due to the absence of government support;

ii) informal, presumably foreigners with access to cross-border populations or close to the border, especially in Sucumbíos, Orellana, and Pastaza; and,

iii) “ranchers” of juveniles, that is, they capture live fish in specific areas of Cuyabeno, Curaray, and Morona to supply initiatives for species cultivation.

The modeled fishing scenarios allow to explain the links of detected catches, their monetary value, the extraction arapaima fishing; according to graphs 1 sites, and the final destination of the and 2:

**Figure 1, Sales flow of *A. aff. gigas* captured in the Ecuadorian Amazon expressed in number of individuals**

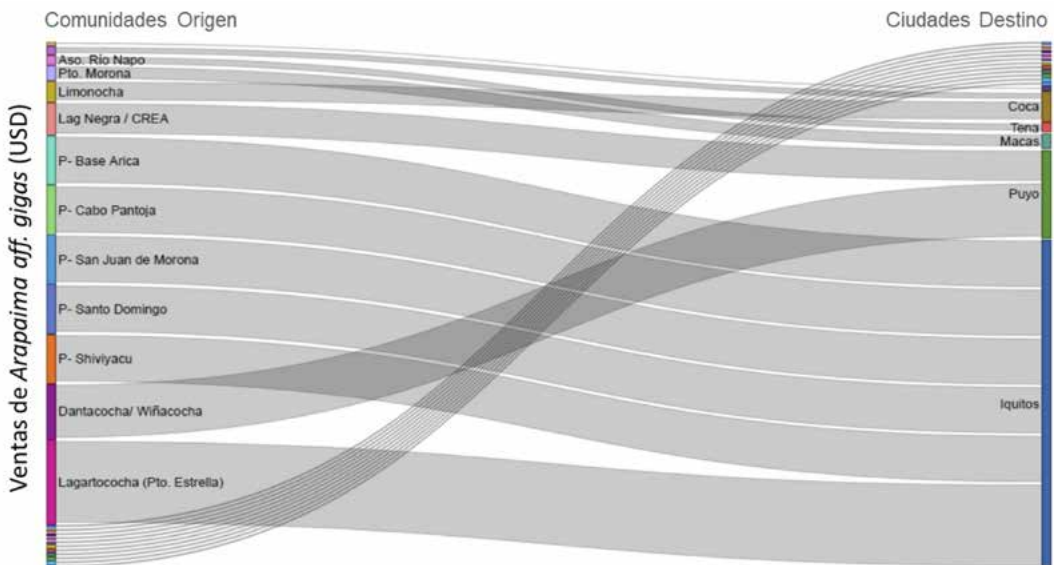


**Note:** Sankey chart for superior simulation scenario of individual sales. The bands' width represent the magnitudes of the quantities

Graph 1, illustrates that the greatest source of extraction of *A. aff. gigas* occurs in the places identified as capture areas to supply aquaculture systems such as the Dantacocha,

Laguna Negra (or nearby), Limoncocha and the Lagartococha - Cuyabeno lake complex, accounting for approximately 70% of the catches.

**Figure 2, Sales flow of *A. aff. gigas* captured in the Ecuadorian Amazon expressed in monetary values (USD)**



**Note:** Sankey chart for superior simulation scenario of sales in monetary value. The bands' width represent the magnitudes of the quantities

Graph 2, depicts that, when considering the monetary value of the catches, there is more balanced participation of all the communities of origin; However, in the destinations, there is relevant participation of the city of Iquitos as the main market for Arapaima meat; meanwhile, the economic contribution from the commercialization of wild-caught juveniles would be much

lower (close to 15%), whereby the city of Puyo is the main destination and center for the brooding of juveniles, mainly destined for aquaculture.

As a reference to the detection of illegal fishing of *A. aff. gigas*, it can be seen in photograph 1, two adult individuals caught in the control of Tambococha, Nuevo Rocafuerte.



Arapaima confiscation in Yasuní National Park. .

## Analysis and identification of measures for sustainable fisheries management

Considering the Amazonian context and guiding criteria regarding the

FAO global fishing code of conduct, a set of measures have been identified through interviews that reflect both the expectations of local communities and technical factors that could make their adoption feasible.

**Table 2: Identification and analysis of guidelines to be implemented**

Fisheries management guidelines (strategies / tools)	Contribution						Priority
	Criteria			Aspects			
	CC	MO	KS	B	SE	LP	
<b>Basic regulation tools</b>							
<b>Basic driving practices</b>							
Implementation of administrative measures for closures, minimum catch sizes (TMC) and fishing efforts.	3	3	3	3	2	2	16
<b>Producing scientific generation</b>							
Monitoring and handling of databases for adequate fisheries management, such as fish populations, catch sizes, landings, among others.	3	3	3	3	2	1	15

## Fishing resource management proposals

### Resource governance

Associated community fishermen formalize their interaction with local authorities to provide control and technical support. 3 3 3 3 3 2 17

### Restocking aquaculture

In key species cases for *A. gigas*, produced or captured juveniles are submitted to temporary captivity to increase their survival and restock in local water bodies. They are previously marked with pit tags (chips). Tourists would have the opportunity to adopt individuals. 3 2 2 3 3 3 16

### Catchment quota agreements

A participatory consensus of all actors related to fishing, including of binational nature. 3 1 2 2 3 2 13

### Equitable distribution of benefits

Direct actors share income with emphasis on indigenous communities and women. 3 2 2 0 3 2 12

### Experiential fishing and quota exchange

Diversification of tourist activities that offer recreational fishing with local indigenous fishermen in possession of a quota agreement or territorial right of use. 2 2 2 2 3 1 12

### Opening to artisanal fishing

To formally take advantage of catches to be sold in local markets and tourist restoration ventures. 1 1 2 0 3 2 9

## Fishing vessel management

### Improvement of river transport efficiency

Regulation of vessels, autonomy, load capacities, and engines (noise) with clear zoning of permissible routes and restrictions. 0 2 2 3 1 1 9

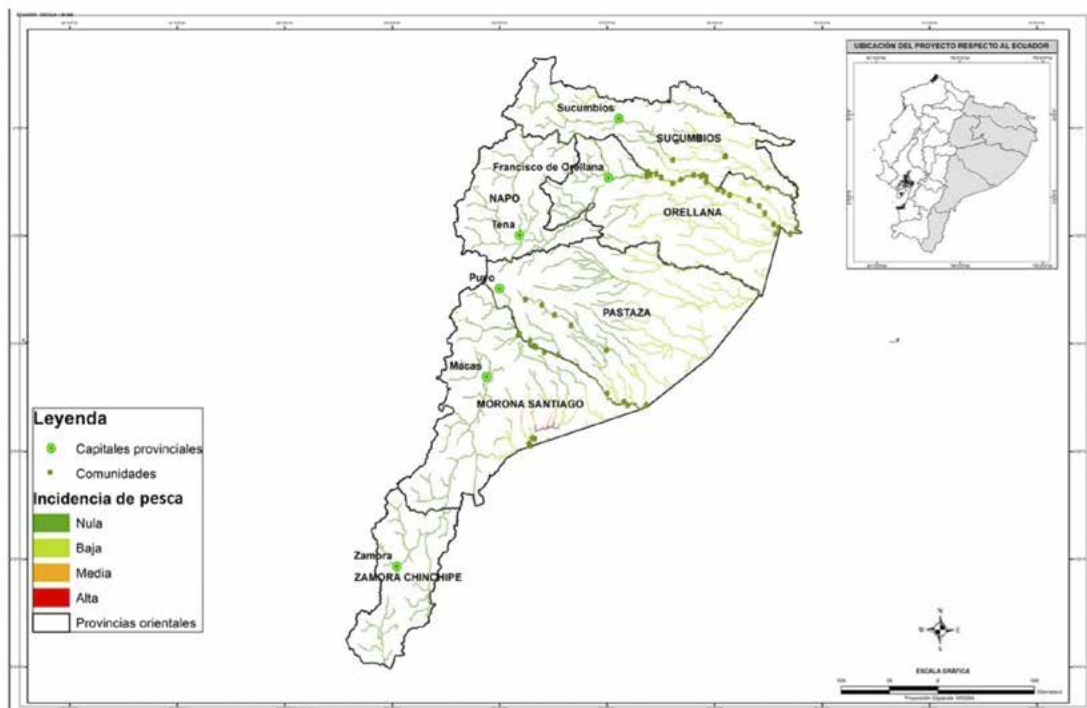
**Notes:** CC, Code of Conduct; MO, Management opportunities; KS, key species; B, Biologicals; SE, Socioeconomic; LP, Legal and Political.

A simplified weight was given for each strategy identified in order to prioritize future implementation, as follows: High (3), significant contribution to strengthening management or sustainability issues in the territory; Medium (2), medium contribution to strengthening management or sustainability issues; Low (1), not significant in strengthening management or sustainability; and, not applicable (0), no evaluation and no apparent interaction.

The risks of pressure due to the incidence of fishing should also be considered in

the guidelines, identifying that the southern Amazon, specifically, the arapaima population in lagoons of the Morona river fluvial axis, is subject to the highest pressure due to lack of protected areas, which generate at least a large-scale catch deterrent effect. This phenomenon is observed in the northern Amazon, classified as low-risk, since the presence of fishermen from communities on the other side of the border has been identified fishing with their larger nets, but limited by the transport capacity of their boats.

Map 2, classification of fishing incidence risks for *Arapaima aff. gigas*.



## Conclusions and recommendations

### Biological aspects

From the biological point of view, these guidelines are intended to contribute to making visible the nutritional, economic and tourist importance of *Arapaima aff. gigas* in the Ecuadorian Amazon Region (RAE), starting with a focus on the use, management, and conservation of local fish species, with special emphasis on *Arapaima aff. gigas*. This could be considered an example at the national and international level considering the situation of the species in international river waters.

The “charisma” of the species in a landscape with a high incidence of aquatic ecosystems, although it is not perceived with the naked eye, generates great responsibility with reference to the administration of its use. The good application of the measures proposed in this study could help to obtain a better

impact on the populations identified, as well as on public opinion.

There are still important gaps in terms of knowledge of the interrelationships and ecological processes in the aquatic ecosystems of the western Amazon, as is the case of the RAE. In this sense, it is recommended to consistently support scientific studies, which may impact directly on the benefit of local communities, such as their application in the other countries of the Amazon Basin, with cases of resounding success, such as those of the Mamirauá Sustainable Management Reserve in Brazil.

### Socioeconomic aspects

Proper management of small-scale inland fisheries is a delicate process that, if well managed, generates a social and economic impact on local communities. In the case of the RAE, there is great potential due to the fact that there is a tourist demand, although diminished, due to the current pandemic. However, local Amazonian capacities in Ecuador is

still a needed, as there are still no similar management experiences in this country. The application of these guidelines could generate new local jobs, with the potential to extend to the entire species' distribution area in Ecuador, since all areas of the Amazonian territory with water bodies and floodplains have INDNR fishing pressure.

### Legal aspects

Ecuador still does not have specific legislation for fisheries management in Amazonian conditions, worse still, in protected areas, so this document can contribute to establish a discussion in this regard, which should be taken in an intersectoral manner, considering cross-sectional small-scale fishing with vulnerable populations that live in conditions of limited income and need to boost their economy.

### Institutional aspects

The institutional presence of entities related to fishing is incipient, since this activity is concentrated on the Pacific coast of the country, with very few technical visits from the Public Institute for Aquaculture and Fisheries Research (IPIAP), due to the closure of the Fishing Inspectorate in the Amazon since 2017.

In this context, the presence of the Vice Ministry of Aquaculture and Fisheries (VAP) should be strengthened and should coordinate actions with the MAATE to implement these guidelines. Likewise, local fishermen must be formalized and the actions of local Decentralized Autonomous Governments (GADs) must be integrated in order to facilitate and initiate records of fishing landings to facilitate control of the activity in the RAE.

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# Handbook for management of yellow-spotted river turtle (*Podocnemis unifilis*), in wildness

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**SUMMARY:** The experience in the management of the species *Podocnemis unifilis* in the Peruvian Amazon, with its innumerable stages of advances and setbacks, became a case of successful methodological applications in the management and recovery of a species population for the sustainable use in the Amazon. In this sense, in 2007 the first export of *Podocnemis unifilis* was achieved from a protected natural area – Pacaya Samiria National Reserve (RNPS); however, since 2001, there were already exports from captive breeding centers. Until 2018, the export of the species exceeded eight million dollars, whose main destination was the Asian market with more than 97% of sales<sup>1</sup>. The diagnosis conducted for the handbook preparation led to identify the need to improve management practices in wildness, ensuring the well-being of managed specimens..

**Key words:** *Podocnemis unifilis*; sustainable management; handbook.

## Background

PEKKA SOINI, in the 70s, the first experiences with aquatic chelonians began in the Peruvian Amazon. The work consisted on the transfer of nests in order to reduce mortality rates due to predation and looting, developing other management activities that, until now, have ensured the recovery and survival of the species, mainly in the RNPS (VÁSQUEZ , 2016).

At the beginning of the 90s, the organized local communities of the Pacaya Samiria National Reserve became involved in the resources conservation programs, using as strategy control and surveillance sharing with local management groups and community guards, enabling access to resources in an orderly manner and under management plans as retribution (VÁSQUEZ, 2014; 2015; 2016).

<sup>1</sup> Freitas & Vásquez, 2018.



Yellow-spotted river turtle (*Podocnemis unifilis*).  
Photos Joao Freitas Cordova.

In 1998, a *handbook for the management of aquatic chelonians in the Peruvian Amazon* (South American river turtle, yellow-spotted river turtle and Six-tubercled Amazon river turtle), authored by Pekka Soini, was published supported by the Peruvian Amazon Research Institute (IIAP for its acronym in Spanish). Even with incomplete information, this handbook laid the foundations for what is known nowadays as one of the most successful cases of management and recovery for the exploitation of wildlife. This handbook was republished in 1999. The yellow-spotted river turtle (*Podocnemis unifilis*), the South American river turtle (*Podocnemis expansa*) and the Six-tubercled Amazon river turtle (*Podocnemis sextuberculata*) historically experienced population reductions, mainly due to the growing and uncontrolled exploitation of their individuals and eggs for commercial purposes; this situation is still being experienced by the South American river turtle (SOINI, 1999).

In June 1979, within the framework of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the inclusion in Appendix II of the yellow-spotted River Turtle was approved through the taxon *Podocnemis* spp. Consequently, as a State Party to the Convention, Peru adopted measures to

guarantee the sustainable management and use of the species, ensuring that trade does not affect their long-term conservation and survival.

To date, various reports have been issued for management experiences in the Peruvian Amazon, both in protected natural areas and in indigenous communities' territories. These advances have allowed yellow-spotted river turtle to be the second wildlife resource reporting the highest value of its exports, surpassed only by vicuña fiber.



Yellow-spotted river turtle (*Podocnemis unifilis*).  
Photos Joao Freitas Cordova

## Goal fulfilment

The preparation of this handbook covers the need to guide the administrations and competent authorities for the management of the species *Podocnemis unifilis* "yellow-spotted river turtle", including technical aspects to ensure the traceability and well-being of the specimens to its trade, at the request of SERFOR and with the support of the BIOAMAZON - ACTO Project, which will allow to identify the need of improving management practices in wildness and ensuring the well-being of managed specimens and their traceability. The handbook is based on:

- 1) Technical and scientific information related to the *Podocnemis unifilis* "yellow-

spotted river turtle" species and the wildlife management plan (facilities, feeding, sanitary management, biosecurity, records management, conservation program, and reproductive management);

2) Identification and traceability system from egg-laying, birth and trade, records and use of cards to determine reproductive success and mortality rate from egg-laying to trade, release process; and

3) Identification of the stakeholders involved in this value chain, in order to ensure traceability, from brood to export, transport and maintenance of hatchlings in tanks to export, verifications by the regional forest and wildlife authority, and documentation required for export.

## Key Stakeholder Mapping - KSM

The analysis from the perspective of the stakeholders, as well as the view on how they are linked, related and developed in a given context through the use of diagrams to represent social reality, allows us to understand it in its most complex extension, and establish changing strategies to this reality (GUTIÉRREZ, 2007).

Although each management context (outside and within the Protected Natural Areas PNA) has its own characteristics in terms of stakeholders' interaction, the panorama is similar in terms of conflicts, the main ones being the lack of financing of management groups and management associations, the lack of business training, illegal extraction, licensing, and post-export information gaps, as the most critical and more harmful to management spotted river turtle, so it is important to focus on this great advantage and sustain it.

From the previous mapping, a total of seventy-five stakeholders were identified among public and private institutions, academia, enablers, and the illegal party such as illegal extractors. However, this number should be considered with caution, since the information available does not cover all civil organizations involved in the management of yellow-spotted river turtle, nor is there enough data on the number of enabling companies or of illegal extractors.

## Recommendations for improvement and good management practices of communities outside of Protected Natural Areas

-Consider the reactivation of management activities developed by the communities settled outside the ANPs, previously confirming their desire to continue with the management to trade more eggs than hatchlings, as compensation for the low prices they receive for the yellow-spotted river turtle hatchlings. It should be accompanied by the strengthening of capacities of members of management associations and allies in communities such as schools. In addition, it is necessary to provide technical support for an adequate financial management of the associations, together with the possibility of financial support to improve the activity.

**Mortality rate throughout the management process: from the eggs to the moment prior to export** - Review the administrative processes in the Loreto Region, since weak procedures were detected at this stage in terms of their application, which raises many questions

regarding real mortality versus reported mortality; and seek alternatives for improvement, with an emphasis on real and continuous inspection, in addition, it is proposed to give priority to ocular inspections that should be monitored by a representative of the CITES Management Authority. This will help to improve and strengthen control channels with a view to combating wildlife trafficking and, therefore, to know the real incidence of mortality in all stages of transportation and trade.



Yellow-spotted river turtle eggs. Photo Joao Freitas Cordova.

**Capacity building** - Prepare a capacity building plan for the communities outside the ANPs and management groups within the ANPs in order to regain the interest of the beneficiaries and maintain the activity over time. It is also important to update the management plans in force until the end of 2020. In the case of the Marañón River and Abanico del Pastaza communities, this initiative should seek the independence of the communities and the management groups towards the exporting traders, allowing to obtain better prices for yellow-spotted river turtle hatchlings, which are their harvest products.

**Establishment of a new traceability system for *Podocnemis unifilis* offspring** - Throughout the

investigations carried out during this consultancy, and the previous one, different critical points were detected in traceability to determine the reported mortality versus the real one. Therefore, a lot of information is being lost on the subsequent stages of in situ management, which sets up an urgent need to establish new systems in the chain of custody of the offspring. In addition, it should be kept in mind that wildlife trafficking is a real and latent threat in this type of activity, so this recommendation should be prioritized, and the control and oversight capacities of the regional authority should be strengthened where weak handling of the information and the lack of capacities in the inspection is detected. With this change it will be possible to collect real information on the activity and make the appropriate decisions, with the aim of improving the activity and favor the direct beneficiaries.

**Strengthening capacities in the handling and information processing of the management in question** - One

of the common problems found in the different management areas is information management due to the lack of uniformity in data collection, much less a standardized table for a later comparison of the information generated between these areas. Although it is understandable that each management zone has its own characteristics and inherent to the human groups that comprise it, there must be coordination between them and a single criterion for all the initiatives that are being implemented and future ones, since the lack of standard methods makes it difficult to analyze the activity at a macro level, perhaps leading to poor decision-making about the activity. This could be overcome with the standardization of data collection criteria through capacity building.

**Establishment of a consolidated database on the management of *Podocnemis unifilis* from outside and within ANPs** - In accordance with the previous recommendation, information handling is a priority to adequately guide decisions on species and wildlife management in Peru. Under the premise of 'good inputs for good results' it is pertinent to recognize the urgency of consolidating the information generated on the management of the species, with standard methodologies in data collection. The search for public and private partners is essential, improving what has been advanced so far, which will serve as a starting point for the management of other resources, whose potential is already recognized and, with the experience acquired so far, important advances can be made on the resources.



Yellow-spotted river turtle (*Podocnemis unifilis*).  
Photos Joao Freitas Cordova.

**Capacity building for management groups and communities whose management mortality rates were the highest in recent years** - The little experience in managing the species is often reflected in figures such as mortality rates, hatching success, hatchlings born, etc., in addition to mortality due to transport which could occur in all transportation phases, as mentioned

before. Accordingly, it is important to consider the need for capacity building in management, sharing the great experience in other areas, allowing for activities improvement in areas where higher mortality figures are perceived in the different phases.

## Conclusions and recommendations

Each management context (outside and within the PNA) has its own characteristics in terms of stakeholders' interaction, the panorama is similar in terms of conflicts, were the lack of financing of management groups and management associations stand out, along with the lack of business training, illegal extraction, licensing and post-export information gaps, which are the most critical and harmful to management. From the previous mapping, a total of seventy-five actors were identified. However, this number should be read with caution, since the information available does not cover all civil organizations involved in the management of yellow-spotted river turtle, nor is there sufficient data on the number of enabling companies or on the number of illegal extractors.

The verifications conducted by the authorities are orderly and well-typified processes in the texts of administrative procedures (TUPA) of each institution. However, the application of these procedures should be reviewed in detail since information on the real mortality is being lost throughout the process from the moment after the hatchlings stage to the previous deposits for export, both inside and outside of ANPs.

The documentation required for export is obtained through an orderly and easily compliant process for the promotion of international trade, based on documents

issued by the regional authority and the CITES administrative authority. However, weaknesses and deficiencies were detected in the application of the procedures by the regional authority, mainly in the supervision and granting of transport guides, as well as in the control and supervision in the warehouses, since there was no official information on mortality. It may be concluded that there are still points that require institutional strengthening.

The recommendations issued for improvement and good management practices were made taking into consideration all the aspects detected throughout this consultancy, so they relevant and require the appropriate level of priority to start the implementation and compliance process, which, although it may mean changes at the regional level, these will be made to seek the improvement of the activity, to combat the trafficking of wildlife and avoid loss of information in the management and trade process of *Podocnemis unifilis* hatchlings.

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# Produce and regions of the Amazon reinforce actions to protect wild species

*The Ministry of Production delivered equipment and goods to the regional governments of Loreto, Madre de Dios and Ucayali that will improve the monitoring and control of species of wild fauna and flora of the Peruvian Amazon threatened by trade.*

*The equipments delivered include GPS, computers, laptops and multifunctional printers, which were acquired by the Amazon Cooperation Treaty Organization (OTCA) and received by Produce, within the framework of the Bioamazonia Project, of which Peru is part.*

Read the note from the Ministry of Production, in Spanish, here:

<https://www.gob.pe/institucion/produce/noticias/562813-produce-y-regiones-de-la-amazonia-refuerzan-acciones-para-proteger-especies-silvestres>



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Inicio > El Estado > PRODUCE > Noticias > Produce y regiones de la Amazonia refuerzan acciones ...

Ministerio de la Producción

## Produce y regiones de la Amazonía refuerzan acciones para proteger especies silvestres

Nota de Prensa

Source: Ministry of Production / Peru

## Vídeos

### Video of the solemnity of the launch of the Amazon Regional Observatory

Available on the ACTO channel on YouTube here

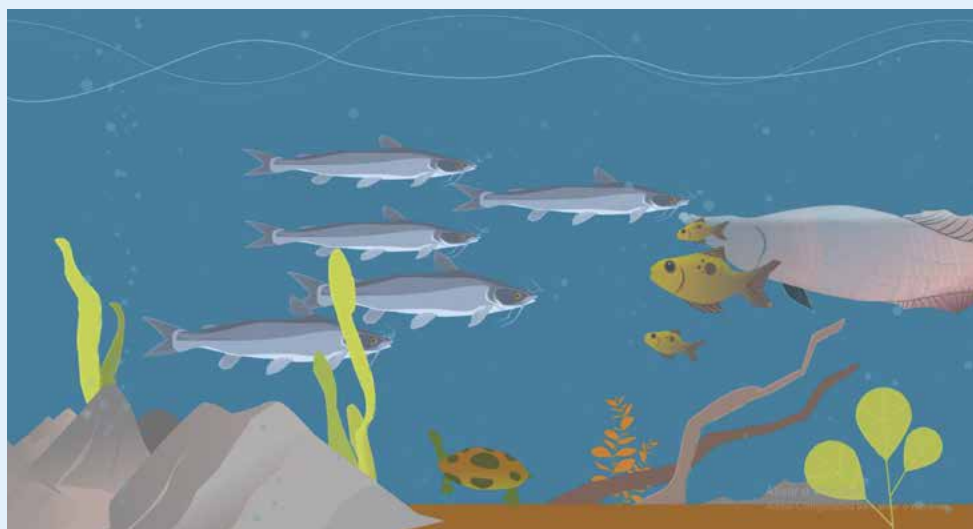
<https://www.youtube.com/watch?v=IQG9jTV-DQ&t=83s>



### Video-animation about the Amazon Regional Observatory

Available on the ACTO channel on YouTube here

<https://www.youtube.com/watch?v=uPt10I52ymQ>



## ACTO's Publications

Learn more about the ARO by reading the booklet

Available on this link

[http://otca.org/en/wp-content/uploads/2021/11/livretoORA\\_en\\_digital.pdf](http://otca.org/en/wp-content/uploads/2021/11/livretoORA_en_digital.pdf)

The Bioamazon Bulletin n. 10 is available in PDF format here

[http://otca.org/en/wp-content/uploads/2021/10/2021\\_ACTO\\_Bioamazon\\_NEWSLETTER-010\\_ENG.pdf](http://otca.org/en/wp-content/uploads/2021/10/2021_ACTO_Bioamazon_NEWSLETTER-010_ENG.pdf)

The Bioamazon Bulletin n. 09 is available in PDF format here

[http://otca.org/en/wp-content/uploads/2021/09/2021\\_ACTO\\_Bioamazon\\_Newsletter-009\\_ENG.pdf](http://otca.org/en/wp-content/uploads/2021/09/2021_ACTO_Bioamazon_Newsletter-009_ENG.pdf)

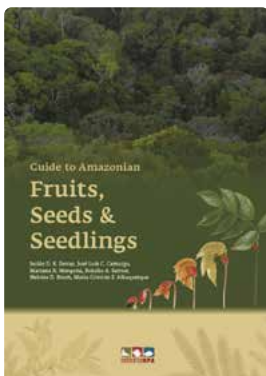
## Publications about the Amazon



The Research Institute of the Peruvian Amazon makes available the book "Ornamental fishes of the Peruvian Amazon". Available in Spanish.

Find out more here

<https://www.gob.pe/th/institucion/iiap/noticias/523697-presentan-libro-peces-ornamentales-de-la-amazonia-peruana-en-el-iiap>



The *Instituto Nacional de Pesquisas da Amazônia* (INPA) published a book on fruits and seeds. Available in English.

Find out more here

<https://repositorio.inpa.gov.br/handle/1/36025>

## About the Bioamazon Project

Bioamazon is a **regional project in the ACTO's framework** that contributes to the **conservation of Amazon Biodiversity**, especially the species included in the CITES Convention.

To this end, it seeks to **increase the efficiency and effectiveness of the management, monitoring and control of species of wild fauna and flora threatened by trade** in ACTO member countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname and Venezuela.

It is part of a Cooperation Agreement between the Federal Government of Germany and ACTO with implementation through the KfW.

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### **Images:**

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### **Contributions for this edition from:**

**Ecuador:** Ministerio del Ambiente, Agua y Transición Ecológica; **Perú:** Servicio Nacional Forestal y de Fauna Silvestre (SERFOR) y Ministerio de la Producción. **Consultores:** Joao D. Freitas Córdova; Ricardo Burgos-Morán.



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