

**INTEGRATED MANAGEMENT PROJECT FOR THE PUTUMAYO-IÇÁ RIVER
BASIN**

**ENVIRONMENTAL AND SOCIAL MANAGEMENT
FRAMEWORK
Version 2**

**REGIONAL EXECUTIVE AGENCY
Wildlife Conservation Society - WCS**

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Abbreviations and Acronyms

AAO	Andes Amazon Orinoquía
ACR	Regional Conservation Area
AIDSESP	Interethnic Association for the Development of the Peruvian Rainforest
AP	Protected area
ASGM	Artisanal and small-scale gold mining
WB	World Bank
BRA	Brazil
BTEX	Benzene, Toluene, Ethylbenzene, and Xylene
CAN	Andean Community
IACHR	International Court of Human Rights
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CLPI	Conservation based on rights and free, prior, and informed consent
UNFCCC	United Nations Framework Convention on Climate Change
CNTI	National Commission on Indigenous Territories
COF	Covalent Organic Frameworks
COIAB	Coordination of Indigenous Organizations of the Brazilian Amazon
COICA	Indigenous Coordination of the Amazon Basin
COL	Colombia
CONAIE	Confederation of Indigenous Nationalities of Ecuador
CORPOAMAZONIA	Corporation for the Sustainable Development of the Southern Amazon
CORPONARIÑO	Regional Autonomous Corporation of Nariño
DPLF	Foundation for Due Process
ECA	Administration Contract Executor
ECU	Ecuador
U.S.	United States
EPA	United States Environmental Protection Agency
EPT	Elements Potentially Toxic
ERP	Enterprise Resource Planning
ESP	Electrostatic Precipitation
FECOIBAP	Federation of Indigenous Communities of Lower Putumayo
FECONAFROPU	Federation of Native Border Communities of Putumayo
FEINCE	Cofán Nationality
FWA	Comprehensive Federal Guarantee
GOREL	Regional Government of Loreto
GRS	Wrongful Injury Remedy Service
HAP	Polycyclic aromatic hydrocarbon
HTP	Hydroxytryptophan
IBA	Site of importance for birds and biodiversity
IBR	Rapid Biological Inventories
IRB	Institutional Review Board
KBA	Key Biodiversity Area
LDH	Layered Double Hydroxides
MADS	Colombian Ministry of Environment and Sustainable Development
MAE	Ministry of the Environment
MAQR	Complaints and Claims Handling Mechanism
MGAS	Environmental and Social Management Framework
MINAM	Peruvian Ministry of the Environment

MOF	Metal Organic Frameworks
MPC	Permanent Consultation Table
MRA	Global Mechanism for Remediation of Harm
MTBE	Methyl tert-butyl ether
NGO	Non-Governmental Organization
SDG	Sustainable Development Goals
ILO	International Labor Organization
ONIC	National Organization of Indigenous Peoples of Colombia
CSO	Civil Society Organizations
ACTO	Amazon Cooperation Treaty Organization
OXFAM	Oxford Committee for Famine Relief
OZIP	Putumayo Indigenous Zone Organization
PANE	State Natural Areas Heritage Subsystem
PBT	Persistent, bioaccumulative and toxic substances
PCAS	Environmental and Social Commitment Plan
PCB	Polychlorinated biphenyls (polychlorinated biphenyls)
PER	Peru
PNN	National Natural Park
POP	Persistent Organic Pollutants
PPCP	Pharmaceutical and personal care products
CSR	Regional Steering Committee
SAP	Strategic Action Program
SEP	Stakeholder Engagement Plan
SERNANP	National Service of Natural Protected Areas (Peru)
SFF	Fauna and Flora Sanctuary
SNAPP	Science for Nature and People Partnership
SSMT	Social Safeguards Management Team
TPH	Total Petroleum Hydrocarbons
UCP	Project Coordination Unit
IUCN	International Union for Conservation of Nature
USDA	United States Department of Agriculture
WCS	Wildlife Conservation Society
WFGD	Wet flue gas desulfurization
WWTP	Wastewater Treatment Plants

1. Introduction

This document sets out the Environmental and Social Management Framework (ESMF) for the proposed activities of the "Integrated Management of the Putumayo-Içá River Basin" project, as part of the process of compliance with the World Bank's (WB) Social and Environmental Standards by the Wildlife Conservation Society (WCS), as the regional implementing agency.

Within the framework of the EAS 1, the following instruments have been prepared: an Environmental and Social Assessment (EAS) to identify potential environmental and social risks and impacts, and the Environmental and Social Management Framework (MGAS) in line with the World Bank's Environmental and Social Standards (EAS). In this context, the EAS and MGAS include a description and background of the project, the social and environmental situation of the intervention area, the legal and institutional framework of the countries where the project will be developed, the institutional framework of the executing and implementing agencies, and establish the principles, guidelines, and procedures for the environmental and social management of the project, identifying the potential impacts or risks associated with the implementation activities. Additionally, it contains proposals for measures to reduce, mitigate, and/or compensate for negative impacts and enhance positive ones, defining the agencies and institutions responsible for environmental management and monitoring. It is important to note that, based on the initial analyses carried out by the WCS environmental and social risk management team during the project formulation phase, no significant negative environmental and social impacts are expected as a result of the project's implementation, and the potential negative impacts identified are limited, localized, and reversible. In this regard, the MGAS identifies prevention, mitigation, and monitoring measures for these potential negative impacts and additionally establishes the path for participation, consultation, and implementation of activities with stakeholders, with particular attention to the protection and recognition of the rights of indigenous peoples in decisions that may benefit or affect their territories.

During the execution of the project, the accompanying missions, Regional Steering Committees, Technical Committees, and Working Groups have identified new actions, actors, changes in regulations, etc., that must be taken into account for the implementation of the Environmental and Social Standards. In this regard, it is important to mention that this document is an update of the first version of the MGAS, with a date of no objection by the World Bank of December 19, 2022. The new activities proposed within the framework of the Project restructuring do not imply new environmental and social risks, nor will they be developed in new areas of implementation.

2. Objectives of the Environmental and Social Management Framework

2.1 General objective

To establish the principles, standards, guidelines, and procedures for the environmental and social management of the project, in accordance with the nature and magnitude of the risks identified in the project.

2.2 Specific objectives

- Identify and assess the potential environmental and social impacts or risks associated with the project implementation activities.
- Define proposed measures, including strategic instruments, to reduce, mitigate, and/or offset negative impacts and enhance positive ones.
- Define the agencies and institutions responsible for environmental and social management and monitoring.

3. Description of the Putumayo-Içá Basin Project

3.1 Objective of the Putumayo-Içá Basin Project

The project seeks to improve the capacity of Brazil, Colombia, Ecuador, and Peru to work collectively to promote the conservation and sustainable use of water and hydrobiological resources, mobilizing local, subnational, national, and multinational actions for a comprehensive intervention that strengthens knowledge and governance in the Putumayo-Içá Basin. It should be noted that actions related to traditional and scientific knowledge for decision-making will have a basin-wide scope; however, pilot investments will be carried out through subprojects in sites that have been technically prioritized, but whose exact location will be determined in the project.

3.2 Components and activities

3.2.1 Component 1. Strengthening governance and capacity for informed decision-making for integrated water resource management (IWRM).

The project will strengthen the conditions for shared management of the basin's water resources through improved governance structures and a knowledge management system designed and implemented to improve accessible information that responds to the multicultural, multigenerational, and multisectoral nature of the basin. This component has two subcomponents, which are presented below:

Subcomponent 1.1. Traditional and scientific knowledge. The project will improve access to relevant knowledge to support better decision-making and inform collaborative actions for IWRM. An essential element will be the design and development of a knowledge management system that collects, systematizes, generates, and shares relevant knowledge produced at different scales and that is accessible to diverse audiences and stakeholders. In general, the design and implementation of the knowledge management system will be highly participatory and will consider technological and innovative tools to collect, organize, and analyze information in a way that is accessible and available. Capacity-building activities will be carried out to enable relevant stakeholders to access and use knowledge, information, and data. The system will also contribute to and be strengthened by the integrated regional information platform on water resources in the Amazon basin that has been identified in the Strategic Action Program (SAP) for the Amazon region agreed upon by the participating countries to be implemented by ACTO. WCS will facilitate the design and operation of the system, and the operating manual will provide details on the participation and involvement of national partner organizations and other key stakeholders and beneficiaries. The activities and actions associated with this subcomponent are:

1.1.1 Establish and agree on inclusive guiding principles for information management.

Conceptual model for the knowledge management system. The project will refine a conceptual model for the knowledge management system that will identify the knowledge needed, from a scientific and traditional perspective, for IWRM in the Putumayo-Icá. This model will specify the dimensions of knowledge to be included in the system (e.g., hydrology, connectivity, water quality, and hydrobiological resources), the specific information within each dimension (e.g., variables), and the specific data required for each variable. Additional information needs will be identified through a participatory process with local communities and local governance structures.

Analysis of knowledge gaps. The project will conduct an analysis to identify what exists and what is missing, including an assessment of the knowledge, information, and data available on platforms, technologies, databases, and others. It will also assess the overall capacity, strengths, and weaknesses of existing platforms and their interoperability to manage and disseminate priority knowledge for IWRM in Putumayo-Icá to various audiences.

Guiding principles for information management. Based on the analysis of knowledge gaps and through dialogue among project stakeholders, particularly decision-makers who will use the information (indigenous and local communities, government agencies, and civil society organizations), guidelines will be developed to ensure that priority knowledge, information, and data are available through existing knowledge-sharing platforms and mechanisms.

1.1.2 Systematization and analysis of existing knowledge relevant to IWRM

Systematization and synthesis of existing knowledge. Progress will be made in compiling priority knowledge for IWRM decision-making that is currently scattered or unavailable, including academic literature, gray reports, institutional databases, etc., which could benefit from being made available through the project's Knowledge Management System. It also includes the endogenous recovery of traditional knowledge by indigenous communities in relation to sustainable resource management, and intercultural and interdisciplinary discussions will be encouraged to recover, value, recognize, and integrate traditional knowledge into sustainable resource management activities.

Information processing and analysis. The information and data collected will be processed and analyzed to convert it into strategic knowledge for decision-making processes. In addition, further and more comprehensive analyses and models will be carried out to generate a greater understanding at the basin level of the dimensions of knowledge identified as priorities, such as hydrology, connectivity, water quality/pollutants, and hydrobiological resources, with a specific emphasis on supporting project activities.

1.1.3 Studies and analyses at the basin scale relevant to IWRM.

Systematic collection of relevant information. The project will support the collection and systematization of information and data identified as priorities for the information management system and which do not yet exist on current platforms. This will include information and data that is only needed once (baseline information), as well as information that will be needed on a recurring basis to track changes and trends. The activity will include both scientific research and studies as well as traditional knowledge, involving local communities in data collection and analysis. In

addition, it will be essential to empower communities to conduct research related to the ecosystems where they live and the natural resources on which they depend. On the other hand, based on WCS's experience with the Amazon Waters Alliance (AAA) and the Citizen Science for the Amazon project, the aim will be to align protocols and develop guidelines and methodologies for monitoring and research within and between the four countries; socialize and train local actors and authorities in the implementation of systematic monitoring; and analyze and disseminate the results of the monitoring at all levels.

Determination of pollution and pollutant dynamics in the basin. Current levels of mercury and other chemical compounds will be defined based on analyses in priority areas of the basin. This will be carried out once the Minamata Convention guidelines are produced and harmonized tools and protocols are prepared. Finally, the project will leverage innovative solutions and technologies to measure mercury and other pollutants.

Analysis of mercury trade dynamics. This analysis will consider the demand, supply, and trade of mercury produced in the basin based on existing studies conducted by WCS and other partners. The analysis will be based primarily on regional and national mercury trade studies and will be adjusted with specific information obtained with the participation of key stakeholders in the basin. For demand, legal gold mining activities will be identified and mercury use will be estimated. In addition, official mining reports and registered operations will be reviewed. This analysis will be key to informing decision-makers and policymakers about the effectiveness of mercury control rules and regulations and will be strategic in identifying actions to strengthen institutional management.

Georeferenced analysis of activities that cause water pollution. The project will implement a continuous georeferencing system for activities that are potentially generating water pollution in the basin. The sources of information mainly include secondary information, mining and oil cadastres, data collected by relevant public institutions, and use remote sensing technologies such as those identified by ConservationX Labs. The georeferenced analysis will work in an integrated manner with the Knowledge Management System and Early Warning System developed by the project. It is important to note that privacy and security policies will be complied with to safeguard information and the integrity of individuals.

Assessment of socioeconomic and health impacts. The project will support the assessment of the multidimensional impacts of water pollution in the prioritized areas. This will make it possible to link sources of water pollution to sensitive receptors (human and environmental) and quantify their effects on economic, environmental, and social conditions. With this information, it is hoped to establish significant impacts and design interventions to mitigate the negative effects of pollution. In addition, h y studies will be conducted to assess the economic and human health impacts of water pollution in the basin.

1.1.4 Develop knowledge-sharing events

Knowledge exchange events. Events will be supported to strengthen dialogue between project beneficiaries and other stakeholders and partners on key priority issues, through virtual and in-person events including workshops, internships, joint research activities, webinars, and conferences.

Community knowledge exchange. Dialogue and exchange between indigenous communities in the basin will be promoted to discuss issues of common interest, strengthen cultural values, support intergenerational knowledge exchange, and strengthen their capacities, ensuring that these spaces respond to local needs and contexts and promote social well-being, cultural survival, and the conservation of the territory of Amazonian indigenous peoples. The activity will contribute to addressing the issue that traditional knowledge is disappearing at an alarming rate with the migration of young people and the death of elders (currently exacerbated by COVID-19).

Strengthening local capacities for knowledge management. Work will be carried out with relevant stakeholders, particularly decision-makers, local communities, and indigenous peoples, to improve existing capacities for knowledge management. Capacity building will involve training in the form of workshops or courses on interpreting information and using it for decision-making. Appropriate hardware (e.g., smartphones, tablets, online conferencing, software, data subscriptions, among others) may be provided to improve access and connectivity.

Subcomponent 1.2. Governance for integrated water resources management. This subcomponent will aim to strengthen multilevel, multisectoral, and multistakeholder governance as a key enabling condition for IWRM in the basin and promote equitable access for women and other vulnerable populations. The project will help indigenous, peasant, and riverside communities, as well as local institutions, environmental authorities, organizations, the public sector, and research institutions to organize and meet regularly to discuss common challenges in working groups and make informed decisions for regional IWRM. These processes will also involve representatives from other sectors that influence the environmental outcomes of the basin. The dialogue and agreements through the working groups will result in an agreed strategic action plan for the basin that reflects the shared vision. As part of this action plan, the project will support more detailed assessments of legal, institutional, and policy frameworks and planning instruments that lead to IWRM, in order to prepare proposals for the harmonization of legal and policy frameworks that enable shared management (e.g., in the use of key species). Within the strategic plan, the project will also support financial sustainability analyses to estimate the medium- and long-term costs of implementation, assessing existing and potential sources of financing.

In addition, the subcomponent will promote and support sectoral agreements for the sustainable use of water resources in the basin, and environmental recommendations and guidelines will be provided for the adoption of best management practices in specific sector industries that are a source of pollutants. Furthermore, the project will promote the development of guidelines and information to strengthen territorial environmental planning in order to incorporate elements of the integrated regional approach to water resources in line with the shared vision, as well as to increase the capacity to apply regulatory frameworks to stop illegal and unsustainable activities. Finally, governance will be strengthened by supporting the implementation of relevant multinational agreements, including the Minamata and Stockholm Conventions, the 2019 Pucallpa Action Plan, and the 2019 Leticia Pact for regional environmental management, among others that involve collaboration between more than one of the participating countries.

1.2.1 Establishment and/or strengthening of multisectoral and regional working groups and thematic roundtables to agree on joint activities and proposals aligned with a common vision.

Mapping of actors, initiatives, and governance structures. The analysis carried out during the preparation of the project, included in the Stakeholder Participation Plan, on relevant stakeholders

and existing initiatives and governance structures around issues relevant to the project will be updated. This mapping will support the creation and/or strengthening of thematic working groups.

Establishment and strengthening of thematic working groups. This activity will facilitate the creation and operationalization of thematic working groups on issues relevant to the project, as spaces to guide the process towards a shared vision of the basin and discuss joint actions. Depending on the specific issue, the working groups will include representatives from the private sector, environmental authorities, research institutes, municipal governments, indigenous leaders, and leaders of producer associations, promoting indigenous participation, gender balance, and the empowerment of women representatives.

1.2.2 Design of the Strategic Action Plan for the basin, including:

Proposals for the harmonization of legal and policy frameworks to enable shared management and sustainable use of water resources in the basin.

Financial sustainability analysis.

Expanding the ongoing process towards a shared regional vision. This activity will support the ongoing regional process that has been developed between Peru and Colombia since 2017 towards the establishment of a vision for a cultural and biological corridor for the basin, which has resulted in a binational action plan between indigenous communities, government agencies, NGOs, and research institutions for the conservation of the Putumayo basin. Strengthening this process by adding the participation of Brazil and Ecuador will seek to consolidate the commitment to building a shared vision, facilitating the actions agreed upon in the region. This activity will include the design and implementation of a series of events and workshops guided by participatory methodologies that recognize the multicultural and multi-stakeholder environment of the basin.

Regulatory and policy gaps for integrated watershed management. Based on an assessment of the legal, institutional, and policy framework and planning instruments, this activity will identify gaps and areas for improvement for decision-makers and policymakers, providing recommendations for adjustments toward better watershed management at the national, multinational, or regional level.

Support for the harmonization of legal and policy frameworks. Based on the analysis of regulatory and policy gaps, this activity will incorporate into the tasks of the working groups a series of discussions, led by representatives of the relevant authorities and other members of the thematic groups, to suggest adjustments that will lead to better basin management. This will consider proposals for the harmonization of planning and management instruments for selected protected areas towards joint conservation activities and in line with the shared vision for the basin. The project will also provide legal advice to ensure the relevance and applicability of the resulting proposals.

Financial sustainability analysis. A study will be funded to estimate the medium- and long-term costs of continuing project activities for integrated watershed management and to assess existing and potential sources of financing.

Regulatory environment conducive to the use of key species of commercial interest. Support will be provided for the analysis and harmonization of regulations to improve practices for the use of key species, including, among others, fish (*Arapaima gigas*, *Osteoglossum bicirrhosum*), turtles (*Podocnemis unifilis*), and prioritized non-timber forest products (NTFPs). A regional assessment of

current regulations for key species will be carried out, and based on its results, adjustments will be proposed and inputs will be provided to decision-makers. Support will also be provided for the strengthening and implementation of fisheries management regulations within the basin, so that each participating country has compatible regulations on key issues such as: i) minimum size of fish for capture, consumption, and commercialization (by species); ii) type of fishing gear allowed; iii) fishing seasons and closures.

1.2.3 Promotion of sectoral agreements on good practices and territorial planning in line with the shared vision

Support for sectoral agreements for IWRM: Support will be provided for sectoral agreements to strengthen territorial environmental planning for IWRM, promoting dialogue and intersectoral coordination to include environmental considerations in key sectors that are driving water pollution in the basin and influencing land use planning. The project will support technical discussions and the development of guidelines to improve selected existing practices, including pollution reduction at source, zero water discharges, low-pollution technologies, and best water management practices. In addition, the project will promote the development of guidelines and information to strengthen territorial environmental planning for natural resource management and enforce regulatory frameworks to stop illegal and unsustainable practices in key areas, including protected area systems and other conservation strategies (indigenous lands, among others).

1.2.4 Activities to advance the implementation of relevant multinational agreements, including the Minamata and Stockholm Conventions.

Support for the implementation of selected multinational agreements. This activity will support analysis and discussion among relevant stakeholders regarding the implementation and inclusion of basin-wide water resource management considerations in selected agreements as a key means to facilitate, support, and encourage the adoption of a shared vision for the basin and informed decision-making.

Support for Minamata action plans and other related official initiatives. Key information will be generated at the basin level to inform the working groups that have been established to develop and operationalize national action plans for the implementation of the Minamata Convention. This activity will contribute to incorporating considerations specifically related to specific contexts such as that of Putumayo-Içá into national action plans. This, in turn, will strengthen multisectoral capacity to implement the Convention and promote coordinated action among countries.

3.2.2 Component 2. Improving management interventions towards shared IWRM.

The project will promote different approaches to address the potential effects of water pollution from mercury and other pollutants derived from legal and illegal activities; and will identify and strengthen the sustainable management of water resources and ecosystems, including market-based and non-market-based approaches. It will also support communities whose livelihoods have been affected by disease and/or social distancing measures to prevent the spread of COVID-19, through employment/livelihood-generating activities such as community surveillance and productive systems.

Subcomponent 2.1 Water and environmental pollution associated with mercury and other contaminants. The subcomponent will design and support the implementation of a regional strategy for the prevention and control of water pollution by mercury and other contaminants released by legal and illegal activities throughout the basin, through pilots at selected sites. The design of the strategy and the implementation of pilots will be based on the project's knowledge management system and existing collaborative efforts in the basin, and will include activities to strengthen the capacity of environmental authorities to carry out joint prevention and control actions, including: monitoring, community work, and training on issues related to water pollution and its impacts. The project does not plan to work directly with mining operations to formalize and/or improve their techniques, as mining, particularly gold mining, is considered illegal in most of the basin. Law enforcement will be strengthened by developing the capacity of agencies in accordance with the institutional framework and respective competencies in each country, and by providing information and tools to better enforce and prosecute the illegal use of mercury.

As a tool for prevention and control activities, an early warning system will be designed to quickly identify events such as oil or chemical spills that alter water quality and affect the availability of associated resources for local communities. In addition, the strategy will enable local communities to identify changes in water quality using reliable, low-cost, low-maintenance basic detection equipment and participatory monitoring protocols. Finally, the strategy will also include the implementation of pilot remediation projects in prioritized areas. Detailed criteria for the implementation of pilot projects will be included in the operating manual, but the techniques selected will be those that:

- Minimize the production of ordinary and hazardous waste
- Consider mercury remediation by cyanidation
- Prove to be safe for the inhabitants and animals of the treated areas, as well as for the personnel applying them
- Avoid activities related to the exploitation of any plant or animal species and/or involving significant conversion or degradation of natural or critical habitats
- Avoid the introduction or promotion of invasive species not native to the intervention area
- Avoid significant conversion or degradation of critical or other natural habitats
- Avoid activities that have not been properly socialized and that could potentially cause damage to sites or resources considered sacred to indigenous peoples and other groups
- Do not harm the sustainable livelihoods or food security of local communities
- Ensure compliance with applicable regulations in the areas of intervention

2.1.1 Joint prevention and control efforts.

Joint regional prevention and control action plan: The project will support environmental authorities in carrying out joint prevention and control actions, including monitoring, technical assistance, community work, and training on issues related to water pollution and its impacts. These joint actions will be developed for priority areas and will include protected areas and indigenous reserves. Finally, a regional action plan for the prevention and control of water pollution will be designed, aligning the existing efforts and commitments of each country.

2.1.2 Capacity building for law enforcement and prosecution.

The project will support environmental authorities and other types of organizations in carrying out joint prevention and control actions, including surveillance, technical assistance, community work, and training on issues related to water pollution and its impacts. Capacity building to improve coordination and joint action between law enforcement agencies and other authorities with jurisdiction in the basin will support these efforts.

2.1.3 Establishment of an early warning system for water pollution at priority sites.

As a result of the regional action plan for the prevention and control of water pollution, and based on the data collected and systematized, an early warning system will be established to quickly identify the presence of hydrocarbons in the water (oil spills), considering color, odor, and other characteristics that are easily identifiable through the senses. Confirmation of the presence of hydrocarbons in the water will be communicated to local and regional emergency management agencies, which in turn must initiate contingency plans and, above all, prioritize attention to local communities located downstream. For its successful implementation, the promotion of agreements with oil companies will be part of the activities included in component 2. Additionally, the early warning system will be designed to allow local communities to identify changes in water quality using reliable, low-cost, low-tection equipment and participatory monitoring protocols.

2.1.4 Water pollution mitigation and remediation activities.

Design and implementation of remediation, restoration, and mitigation pilots: The pilots will be designed based on information gathered from other project activities and the participatory characterization of contaminated sites. Site selection will be based on criteria of importance, urgency, and opportunity, including replication potential, benefits to local communities, adaptability to local conditions, feasibility for adoption and implementation by local communities, and sustainability. These activities will be consulted and agreed upon with local communities to ensure their participation.

Strengthening the local community's response capacity to water contamination: To ensure the use and benefit of the early warning system for communities so that they can take preventive measures in the event of a contamination alert, the project will strengthen the capacity of local communities to adopt and implement practices to mitigate potential impacts. In addition, informational materials on best practices to mitigate the potential impacts of exposure to various pollutants will be developed as part of a comprehensive education campaign designed for communities most exposed and vulnerable to pollution events.

Subcomponent 2.2. Sustainable management and value chains for selected natural resources.

Sustainable management practices and value chains for selected hydrobiological resources will be promoted at pilot sites. In addition, support will be provided for the development of key activities for the food security of local communities, such as local agricultural plots (chagras) and small fish farms with native species, among others, in order to offset the negative effects of the COVID-19 pandemic.

2.2.1 Design of management plans for non-timber forest products (NTFPs), fisheries, and turtles

Design of fisheries management plans/agreements: Support will be provided for the establishment, strengthening, and implementation of fisheries management plans in strategic areas of the basin, focusing on local management plans that include agreements between associations and

communities in at least more than one country. The priority species currently identified are the pirarucu (*Arapaima gigas*) and the silver arawana (*Osteoglossum bicirrhosum*). In addition, the project will develop an assessment of current value chains for fishery products in the region, including an analysis of their strengths and weaknesses in the value chain (e.g., connectivity, established infrastructure, formalized fishing associations).

Design of conservation and sustainable management strategies for turtles: The project will support the establishment of participatory conservation and sustainable use strategies for turtles, focusing on *Podocnemis unifilis*, *Podocnemis expansa*, and *Chelonoidis denticulata*. To this end, turtle management experiences in the basin will be systematized and opportunities to improve the conservation and sustainable management of these species will be analyzed according to biological, socioeconomic, and regulatory criteria. In addition, an analysis will be conducted of the impact of the COVID-19 pandemic on wildlife consumption and the commercialization of turtles in national and international markets. Finally, to strengthen monitoring, , and control of turtle use, the capacities of government agencies and communities involved in participatory monitoring will be strengthened.

Design of non-timber forest product (NTFP) management plans: Support will be provided for the development of regional management plans for selected NTFPs such as camu camu (*Myrciaria dubia*), copaiba (*Copaifera officinalis*), aguaje (*Mauritia flexuosa*), andiroba (*Carapa guianensis*), and acai (*Euterpe oleracea*), among others, as economic alternatives for local communities. and management plans with a regional focus will be formulated for prioritized products as input to strengthen value chains.

2.2.2 Strengthening the capacities of communities and key stakeholders in natural resource management

The project will strengthen the capacities of stakeholders in the sustainable management of resources for prioritized fish, turtle, and NTFP species, with an emphasis on capacity building to generate partnerships within communities. In addition, support will be provided to strengthen the skills of government agencies to monitor and control the use of natural resources.

2.2.3 Activities to promote regional fisheries and NTFP value chains

The project will provide minor infrastructure and technical assistance to associations and communities to strengthen the value chains of priority fishery products currently traded in and from the Putumayo-Içá basin. Depending on the pilots implemented, the project will strengthen specific aspects along the value chain, including warehouses and the necessary infrastructure for cold storage, value-added equipment, and transportation. In addition, research, technology, and innovation services will be provided to add value to the selected products. The project will also aim to facilitate regional business rounds between producer associations and entrepreneurs to create market conditions with a price differential that reflects the origin and sustainable practices of the selected products.

On the other hand, the project will strengthen pilot value chains for prioritized NTFPs, promoting coordination with other initiatives to strengthen existing efforts, especially in chains involving more than one country. To this end, minor infrastructure and technical assistance will also be provided as needed, as well as research, technology, and innovation services to add value to selected products.

2.2.4 Alternative livelihoods for food security in the Basin.

The project will support activities that provide sources of protein and essential nutrients to local communities and/or support nutritional programs that are particularly relevant to recovering local economies impacted by Covid-19. In this regard, the project will strengthen local agricultural plots, known as chagras, small fish farms, and other sustainable activities to ensure food security for the most vulnerable populations. In specific areas of the basin, pilot fish farming projects will be designed for short-cycle native species such as paco (*Piaractus brachypomus*), gamitana (*Colossoma macropomum*), and sábalo (*Brycon amazonicus*). Additional support will be provided through: i) capacity building and organizational support (training community leaders in the management of captive species); ii) technical advice in partnership with research institutes and fisheries agencies; and iii) construction of the necessary infrastructure.

3.2.3 Component 3. Project management, monitoring, and evaluation.

This component supports cross-cutting activities designed to strengthen project coordination, communication, management, and monitoring and evaluation (M&E). It aims to ensure the efficiency and effectiveness of the project by establishing a satisfactory management system and maintaining the project's participation and consultation mechanisms.

It includes the design and implementation of the Communication Strategy, which aims to ensure that the knowledge generated by the Project reaches the target audiences, through appropriate languages and formats, taking into account ethnic and gender approaches, and with the purpose of serving as input for planning, management, policy formulation, and decision-making. This communication strategy will consist of three lines of action:

- i. internal communication, aimed at the implementation team and project partners in each of the countries, in order to keep them updated on the progress of the different components;
- ii. community communication, aimed at project beneficiaries in order to generate ownership of both the project and the proposed conservation actions, promoting spaces and communication channels managed by and for local communities to socialize the progress of the project. Community communication will be participatory and inclusive, additionally seeking to train beneficiaries in communication techniques and tools to better convey their activities and processes;
- iii. external communication, aimed at a universal audience directly or indirectly related to the project, such as local communities and other users of the basin, the private sector, government institutions, among others, with the aim of disseminating information to raise awareness of key issues such as the importance of water resources and their sustainable management, associated ecosystems, traditional knowledge, impacts on habitats and human health due to water pollution by mercury and other contaminants, among other aspects.

In structuring with the World Bank for the development of the components and activities mentioned above, the disbursement categories under which financial information would be reported were determined. These categories are a guidance and monitoring tool that allows for the planning of resource use based on the definition of technical project activities. In this regard, in accordance with the GA, the budget by disbursement category is established in Section III of SCHEDULE 2 as follows (amendment approved in December 2025):

Disbursement category	TOTAL USD
(1) Goods, minor works, consulting services, non-consulting services, training, and operating costs for Components 1 and 2 of the Project	5,762,522
(2) Subprojects	4,875,306
(3) Goods, minor works, consulting services, non-consulting services, training, and operating costs for Component 3	2,206,209
TOTAL	12,844,037

The subprojects were identified in the procurement strategy and in the PAD¹ as an implementation modality to be carried out by *different organizations*, which will implement actions from components 1 and 2, with a defined range of amounts:

- >USD 10,000 - <= USD40,000: Smaller subprojects.
- >= \$40,000 to \$300,000: Subprojects, in general

If, during project implementation, there is a need to update the subproject allocation ranges, this will be adjusted within the project procurement strategy and the MOP will use the new values established therein as a reference, once approved by the World Bank.

The budgeted amount for financing subprojects is \$4,875,306 USD. Likewise, the topics financed by component, as defined in the PAD and the grant agreement, are:

- Component 1 – Subcomponent 1.1, in the actions:
 - Collection, systematization, research, and analysis of relevant scientific knowledge to promote shared MIRH
 - Research by and for indigenous communities
- Component 2 - Subcomponent 2.1, in the actions:
 - Pollution prevention and control – Support for legally registered communities selected to carry out ASM.
 - Strengthening joint efforts by authorities and CSOs to prevent and control pollution.
 - Development of institutional training on environmental issues, specifically the use of pollutants and their impacts on communities and ecosystems.
 - Mitigation, recovery or remediation, and small-scale restoration of water pollution
- Component 2 - Subcomponent 2.2, in the actions:
 - Design, strengthening, and implementation of pilot plans for sustainable management and value chains for selected hydrobiological resources.
 - Small-scale alternative livelihoods
 - Activities aimed at training key stakeholders, including, inter alia, associated public agencies and communities, in natural resource management to improve dissemination mechanisms and participatory support.

The smaller subprojects, which may work on the same issues, are the result of discussions with indigenous and local communities, who see them as an opportunity to strengthen and develop the

¹ [PAD Annex 1, point 13 Subprojects](#)

actions they have been carrying out. This implementation proposal was presented by WCS, as the project executor, and was approved at the World Bank's midterm evaluation mission (December 2025). As a result, it was decided that the evaluation of proposals for this type of subproject will be carried out in two phases:

- An initial phase that will evaluate the proposed idea and the information provided in the basic format included in the Terms of Reference of the call for proposals and in the audiovisual annexes, in order to assess compliance with the minimum requirements of the organization and the proposed project (objective, alignment of lines of work with the call for proposals, proposed location of implementation, and main expected results);
- Proposals that are positively evaluated will be invited to develop a detailed proposal (phase 2). The project team will provide the necessary technical support for its consolidation and systematization in the formats designed for this purpose. This detailed proposal will be reviewed by the Project Management Unit team to ensure its consistency with the legal, procurement, and environmental standards procedures that apply to all subprojects; to this end, they will also take into account the recommendations of the evaluators of the basic proposal submitted in the first phase.

4. Regulatory, political, and institutional framework

The following is a general overview of the national and international legal regulatory framework, including bilateral and multilateral agreements, relating to land use planning and management, biodiversity and protected area management, climate change, indigenous peoples, information and transparency, which regulate the project's activities, as well as the policies and procedures established by WCS and the World Bank.

Subsequently, in institutional matters, an analysis of the institutional capacity of WCS, as the executing agency, and the institutional arrangement defined for the implementation of the Project is presented.

4.1 National regulations

The countries of the Putumayo-Icá basin have a comprehensive regulatory framework on environmental issues, which recognizes natural resources as a public good that must be protected to ensure their ecological integrity and contribute to the well-being of human populations. Noteworthy examples include Brazil's General National Environmental Policy (Law 6938 of 1981), Law 99 of 1993 in Colombia, Ecuador's Environmental Management Law (1999), specifically Codification 19 (2004), and Peru's General Environmental Law (Law 28611, 2005), which dictate the principles, norms, and institutions responsible for natural resource management.

The specific legislation and regulations of these countries include guidelines for the management of water resources and biological and cultural diversity, governance and monitoring actions, information generation and exchange, environmental education, and the commitment and participation of the population in sustainable environmental actions, among others.

On the other hand, the legislation, specific regulations, and plans and programs that complement the general laws and policies and are strategic for the components of the Putumayo-Icá Project are presented in Table 1.

Table 1. Legislation and regulations guiding the development of the components of the Putumayo-Içá Project.

Country	Policies / Legislation / Programs / Plan / Strategies	Description
Brazil	Action Plan for the Prevention and Control of Deforestation in the Amazon	The plan aims to reduce deforestation rates and create the conditions for a transition to a sustainable development model in the region. Its actions focus on land tenure and land use planning; environmental monitoring and control; and the promotion of sustainable production.
	Amazonas Mais Verde Program	Launched in September 2020. It includes activities for the prevention and control of deforestation, support for sustainable production activities, and regularization of land tenure. The Secretariat of Economic Development, Science, Technology, and Innovation (Sedecti) will coordinate the program. It will be implemented by the Secretariat of the Environment of the State of Amazonas (Sema) and the Secretariat of Cities and Territories (Secti).
	National Landscape Connectivity Program.	Its objective is to promote ecosystem connectivity and landscape management through a combination of integrated public policies to promote sustainable development, reinforcing synergies between nature conservation, the maintenance of ecological processes, and social, economic, and cultural prosperity, seeking to further contribute to reducing the effects of climate change. The Amazon is one of its priority biomes.
	National Biological Diversity Program	Established by Decree No. 1,354 of December 29, 1994, with the purpose of coordinating the implementation of national commitments under the CBD.
	National Biodiversity Commission	In 2003, Decree No. 4,703 amended Pronabio to bring it into line with the principles and guidelines of the National Biodiversity Program and established the National Biodiversity Commission (Conabio), responsible for coordinating, monitoring, and evaluating Pronabio's actions.
	Law 9,985 of 2000	Establishes the National System for the Management of Protected Areas (SNUC).
	CONAMA Resolution 357/2005	Establishes guidelines for setting conditions and standards related to effluent emissions.
	Decree 8.425 of 2015	Regulates the criteria for registering with the General Registry of Fishing Activities and for granting authorization, permits, and licenses for fishing activities based on Articles 24 and 25 of Law 11,959 (2009).
	Resolutions No. 344, 2004, and No. 420, 2009	The resolutions recommend the maximum acceptable limits for mercury in sediments and soil, setting as the mercury limit in sediment level 1: 0.170 mg/kg and for

Country	Policies / Legislation / Programs / Plan / Strategies	Description
		level 2: 0.486 mg/kg. In soil, the reference value is 0.05 mg/kg.
	National Climate Change Policy (2009)	Establishes a commitment to reduce projected greenhouse gas emissions within limits ranging from 36.1% to 38.9% by 2020. Its main objectives are to reconcile economic and social development with the protection of the climate system and to promote the reduction of GHG emissions by encouraging the use of clean energy. The document also paves the way for the implementation of climate adaptation and mitigation measures at the federal, state, and municipal levels. The tools for implementing the policy are the National Climate Change Plan, the National Climate Change Fund, and the Brazilian National Communication to the UNFCCC.
	Amazon Environmental Services Policy (Law No. 4,266/2015).	It proposes the creation of seven programs, including the Climate and Carbon Regulation Program.
	National REDD+ Strategy (2015)	Its objectives are to reduce illegal deforestation; conserve and restore forest systems; and generate economic, social, and environmental co-benefits.
Colombia	Amazon Vision	Launched in 2013 by the Colombian government as an initiative to promote a low-carbon development model. The initiative is structured around five pillars: (i) improving forest governance, (ii) sustainable sectoral development and planning, (iii) agro-environmental development, (iv) environmental governance with indigenous populations, and (v) enabling activities.
	Decree No. 1076 of 2015. Single Regulatory Decree for the Environment and Sustainable Development Sector.	This decree is a compilation of the environmental regulations issued by the National Government as of 2015, allowing for the identification of where to locate environmental and sectoral regulations. Given this purpose, this decree does not contain any new provisions, nor does it modify existing ones. The regulatory issues covered in this Decree are Biodiversity, Environmental Management, Non-Marine Waters, Marine Waters, Air, Hazardous Waste, Institutional Management, Financial, Economic, and Tax Instruments, and the Sanctions Regime.
	Ruling of the Supreme Court of Justice of Colombia - STC 4360-2018	The ruling recognizes the Colombian Amazon as a "subject of rights" due to its intrinsic value and, therefore, a region legally entitled to protection, conservation, maintenance, and restoration. This ruling ordered the preparation of a government action plan that will define preventive, educational, mandatory, and corrective measures at the

Country	Policies / Legislation / Programs / Plan / Strategies	Description
		national, subregional, and local levels to reduce net deforestation to zero and ensure the Colombian government's low-carbon development strategy.
	Institutional Action Plan "Amazonias Vivas 2020-2023" Corpoamazonia	The objectives include: (i) enforcing environmental legislation; (ii) boosting environmental land use planning; (iii) supporting knowledge about natural resources and their potential; (iv) boosting sustainable productive development; (v) activating social inclusion and a differential approach to environmental management.
	Decree 2372 of 2010	Regulates matters related to the National System of Protected Areas
	National Policy Document - Conpes 3680	Provides guidelines for the National System of Protected Areas to be ecologically representative and efficiently managed in a manner that contributes to conservation and sustainable development objectives.
	Water Use Law (Decree 3.930 of 2010)	Sets guidelines related to the use and management of water resources, and discharge into water resources and sewers.
	Macro-Basin Strategic Plans	These are a long-term environmental planning tool that provides the framework for the design, adjustment, and/or implementation of the different policy, planning, and management instruments for each of the macro-basins. The Strategic Plan for the Amazon Macro-Basin was developed under the leadership of the SINCHI institute.
	National Plan for Sustainable Aquaculture	Its objectives are (i) to support the development of sustainable production systems that protect the environment; (ii) to strengthen institutions, institutional coordination, and adjust the legal framework; (iii) to promote scientific research, innovation, technological development, capacity building, and technology transfer; (iv) to support low-income producers in formalization, organization, and technical and economic improvement.
	General and Agrarian Law for Fisheries Development (Law 101 of 1993)	Its objective is to protect the development of agricultural and fishing activities and stimulate the improvement of the income and well-being of rural producers.
	Decree 2372 (July 1, 2010)	Regulates the management and comprehensive use of fishery resources to ensure their sustainability.
	National Mercury Plan	Establishes guidelines for technology transfer, clean energy use, capacity building, and awareness of the use of mercury and mercury-containing products, minimizing their impact and protecting human and environmental health. The goal is to progressively reduce and eliminate

Country	Policies / Legislation / Programs / Plan / Strategies	Description
		the use of mercury nationwide and in mining by July 2018, and in all industrial and production processes by July 2023.
	Sectoral Environmental Action Plan for Mercury	It has three main programs: (i) strengthening environmental institutions; (ii) institutional environmental management; and (iii) monitoring and evaluation of the plan. Ruling T-106/25. Right to a healthy environment. Contamination of land and water sources by mercury mining activities.
	Green Growth Policy	The objective of the policy is to support, until 2030, an increase in the country's productivity and competitiveness while ensuring the sustainable use of natural capital and social inclusion. It has five strategic pillars: (i) encouraging economic activities based on natural capital; (ii) optimizing the use of natural resources; (iii) human capital; (iv) science, technology, and innovation; (v) institutional coordination and knowledge management for policy formulation.
	National Policy Document for the coordination of climate change policies and actions - Conpes 3700, 2011	The objective is to facilitate and promote the formulation and implementation of policies, plans, programs, incentives, projects, and methodologies related to climate change to achieve the inclusion of climate variables in the design and planning of development activities through the configuration of an intersectoral coordination scheme, through key actions such as: the development of the National Plan for Adaptation to Climate Change, the low-carbon development strategy, and the National REDD+ Strategy, among others.
Ecuador	Organic Environmental Code (2017)	The objective is to guarantee the right of people to live in a healthy and ecologically balanced environment, as well as to protect the rights of nature for the well-being of the human population.
	Comprehensive Plan for the Amazon (2016)	Expresses the vision of the Amazon by 2035 as a model of sustainable development that prioritizes ecological and cultural conservation, the strengthening of local capacities, and the diversification of productive systems.
	Organic Law for the Sustainable Management of Natural Resources (Law 26821)	Its objective is to support and regulate the sustainable use of renewable and non-renewable natural resources, establishing an adequate framework to encourage sustainable investment, seeking a dynamic balance between economic growth, the conservation of natural resources and the environment, and the comprehensive development of human populations.

Country	Policies / Legislation / Programs / Plan / Strategies	Description
	Forestry and Conservation of Natural Areas and Wildlife Act (2004) - Codification 17 (2004)	Defines forest lands and national natural areas (e.g., national parks, ecological reserves, wildlife areas, biological reserves) in the country, dictates the responsibility of the Ministry of the Environment to conserve and ensure sustainable management of forests and natural resources.
	Codification 21 (2004)	The law establishes that biological diversity is a national asset for public use; that the Ecuadorian State has the right to use its resources in accordance with its environmental policy; and that the commercial use of biological diversity is subject to current legislation and must respect the rights of Indigenous and Afro-Ecuadorian peoples.
	National Plan for Integrated Management of Water Resources in Basins and Microbasins of Ecuador	Its objective is to promote the integrated management of water resources (based on a diagnosis at the basin and micro-basin level) that promotes their conservation, sustainable use, and equitable redistribution of water resources, constituting a fundamental contribution to the land use plans of subnational governments.
	Environmental regulation for hydrocarbon activities (2010)	It regulates hydrocarbon activities such as exploration, development, and production; storage; transportation; industrialization; and commercialization of crude oil, natural gas, and others that may have environmental impacts in the area of direct influence based on the study that must be carried out. Article 12 establishes the need to conduct periodic environmental monitoring of emissions into the atmosphere, liquid and solid waste, and remediation of contaminated soil and pools.
	National Water Quality Strategy (2016-2030)	It has three strategic axes: (i) diagnosis of the water quality of water resources; (ii) prevention of impact, control, and improvement of water quality; and (iii) conservation and protection of water quality.
	REDD+ Action Plan (2016) "Forests for Good Living" 2016-2025	The main objective is to contribute to the reduction of deforestation and forest degradation through conservation, sustainable forest management, and optimization of other land uses to reduce pressure on forests and contribute to GHG reduction.
Peru	National Law on Protected Areas (26,834)	Defines actions related to the management and conservation of protected natural areas, taking into account Article 68 of the National Constitution of Peru.
	Regional Ordinance No. 03-2018-GRL-CR	This regional ordinance recognized the Regional System for the Conservation of Biological Diversity in the Loreto Region.
	Forest and Wildlife Law 29763, 2011	It dictates the principles for forest and wildlife management, which are: (i) forest and wildlife governance

Country	Policies / Legislation / Programs / Plan / Strategies	Description
		(policy harmonization); (ii) participation in forest resource management; (iii) free, prior, and informed consultation; (iv) equity and social inclusion; (v) interculturalism, traditional knowledge, and worldview; (vi) ecosystem approach; (vii) sustainable management, among others.
	National Water Resources Plan (2015)	The objective of the Plan is to define guidelines and programs related to water policy in Peru and to coordinate planning for water management.
	Water Resource Management Plans in the Basin	The Plans are developed with the participation of relevant public entities, water user organizations, and water operators with the aim of balancing the dynamics of supply and demand among users and assigning responsibilities to key actors in the implementation of coordinated actions for the conservation and protection of water resources.
	Regulations of the Water Resources Law (Law No. 29338)	Regulates the use and management of water resources that make up continental water: surface and groundwater and associated assets. It also regulates the role of the State and civil society in management in accordance with the provisions of the Water Resources Law (No. 29338).
	Water Users Organizations Act (30,157, 2014)	The purpose of the Law is to regulate the design and operation of water user organizations referred to in the Water Resources Law.
	Law on Aquaculture Development and Support (27,460) (2001)	The Act regulates and promotes aquaculture in coastal waters and inland waters as a source of food, employment, income, and optimization of economic benefits in harmony with environmental preservation and biodiversity conservation.
	Fisheries Policy Guidelines for the Sustainable Development of Fisheries and Aquaculture (1997)	Contains 16 policy guidelines, including: support for scientific research; strengthening the capacities of relevant institutions in the sector; promoting technical and economic cooperation at the national and international levels for the development of the sector; promoting responsible fishing aimed at meeting the food needs of the population and generating employment; developing and implementing Fisheries and Aquaculture Management Plans; supporting the development and diversification of artisanal fishing to increase the socioeconomic status of artisanal fishers; and promotion of subsistence aquaculture, among others.
	Decree No. 012-2019-MINAM	Approves criteria for the management of contaminated sites, with the aim of guiding their management, including impact assessment and remediation to protect human health and the environment.
	Decree No. 004-2017-MINAM	Approves the Environmental Quality Standard for water and establishes additional considerations. The categories

Country	Policies / Legislation / Programs / Plan / Strategies	Description
		to be evaluated include: (i) population and recreation; (ii) extraction, cultivation, and other activities; (iii) irrigation and water for animals; and (iv) conservation of water resources.
	National Strategy on Forests and Climate Change (including REDD) until 2030	The Strategy has an approach based on sustainable landscape management. The overall objective is to reduce deforestation and forest degradation and improve the resilience of ecosystems with an emphasis on Indigenous Peoples and small farmers.

Furthermore, in recognition of the importance of recognizing and consolidating the broad and informed participation of indigenous peoples in the various actions to be implemented by the Putumayo-Icá Project, an assessment of the legal framework in Brazil, Colombia, Ecuador, and Peru with regard to the protection of the rights of indigenous peoples is presented (Table 2). It is important to note that since the adoption of ILO Convention 169 (1989), countries have recognized a set of rights for indigenous peoples to participate and be consulted on their lands, territories, and natural resources, in addition to linguistic and cultural rights, although there are notable gaps in the implementation of these standards. Likewise, the jurisprudence generated by the Inter-American Court of Human Rights (IACHR) has contributed to the protection of these rights.

Table 2. Regulatory and policy framework in each country for the protection of the rights of Indigenous Peoples.

Country	Approving body	Standards recognizing the rights of indigenous peoples	
Brazil	National Constituent Assembly	Political Constitution – 1988	Recognizes and protects indigenous cultural diversity and recognizes their rights to land
	National Congress	Legislative Decree No. 143/2002	Ratifies ILO Convention 169
	--	Autonomous consultation protocols	Consultation protocols developed by indigenous peoples, based on their rights to autonomy and self-determination
	Presidency of the Republic	Law No. 13123/2015	Law on Access to and Participation in the Benefits Derived from Genetic Resources and Related Traditional Knowledge ()
Colombia	National Constituent Assembly	Political Constitution – 1991	Contains provisions on the rights of indigenous peoples
	Congress of the Republic	Law 21/1991	Approves Convention 169

Country	Approving body	Standards recognizing the rights of indigenous peoples	
	Congress of the Republic	General Environmental Law (Law No. 99/1993)	Sectoral laws on participation, consultation, and access to information. These laws recognize and regulate consultation with indigenous peoples in processes involving the exploitation of natural resources in their territories.
	Congress of the Republic	Law 70/1993	
	President of the Republic	Decree Law No. 1320	
	President of the Republic	Decree No. 1397/1996	Creates the National Commission on Indigenous Territories and the Permanent Roundtable for Consultation (MPC).
	President of the Republic	Presidential Directive No. 001/2010	Establishes the actions that require consultation, those that do not, and the mechanisms for carrying it out.
	President of the Republic	Decree 2613/2013	Indirectly regulates prior consultation
	President of the Republic	Presidential Directive 10/2013	
	----	Protocols for indigenous peoples and Afro-descendant communities for relations	They cover strategies for exercising consultation rights.
Colombia	President of the Republic	Decree 488 of 2025	Which establishes the necessary fiscal regulations and others related to the functioning of indigenous territories and their coordination with other territorial entities.
Ecuador	National Constituent Assembly	Political Constitution of Ecuador	Recognizes the diversity of peoples and nations and the plurinational character of the State, and includes a set of rights for good living.
	National Congress	Resolution No. 304/1998	Ratifies Convention 169
	President of the Republic	Decree 1247/2012	Issues regulations for the implementation of free, prior, and informed consultation in the bidding and allocation processes for hydrocarbon areas and blocks. The analysis

Country	Approving body	Standards recognizing the rights of indigenous peoples	
			carried out (DPLF, OXFAM, 2018) ² indicates that it is incompatible with international standards, among other reasons because it limits consultation to an instrument of participation and information.
	National Assembly	Organic Law on Water Resources, Uses, and Exploitation	Sectoral rules and regulations that recognize the right to consultation
	National Assembly	Organic Law on Citizen Participation	
	National Assembly	Mining Law	
	National Assembly	Organic Code on Territorial Organization	
	President of the Republic	Decree 1040	
	Plenary Session of the Constitutional Court	Criteria established by the Constitutional Court (March 2010)	These include the public and informed nature of the consultation; the definition as a systematic process of dialogue between the legitimate representatives of the parties
Peru	Democratic Constituent Congress	Political Constitution of Peru (1983)	Recognizes the rights of indigenous peoples
	Congress of the Republic	Legislative Resolution No. 26253/1993	Approves Convention 169
	Congress of the Republic/Executive Branch	Law No. 29785/2011 and Legislative Decree No. 001-2012-MC/2012	Law on the right to prior consultation of indigenous or native peoples and its Regulations
	Congress of the Republic	Law No. 27811/2011	Establishes the regime for the protection of the collective knowledge of indigenous peoples related to biological resources
	Congress of the Republic	Law No. 29735/2011	Regulates the use, preservation, development, recovery, promotion, and dissemination of the native languages of Peru

² Due Process Foundation, OXFAM. 2018. Implementation of Free, Prior, and Informed Consultation and Consent. Comparative experiences in Latin America and discussions on a consultation law in Mexico. Accessed on November 6, 2020, website of the Due Process Foundation: http://www.dplf.org/sites/default/files/informe_sobre_consulta_y_cpli_mexico_final_web.pdf

Country	Approving body	Standards recognizing the rights of indigenous peoples	
	De facto government	Decree Law No. 22175/1978	Law on Native Communities and Agricultural Development in the Jungle and Jungle Edge, with the aim of ensuring that the populations of these areas achieve standards of living compatible with human dignity
	Executive Council of the Judiciary	Administrative Resolution No. 266-2010-CE-PJ (Executive Council of the Judiciary)	Brasilia Rules on Access to Justice for Persons in Vulnerable Situations

4.2 International regulations.

The four countries have signed a series of **international environmental instruments through which their governments have ratified their commitment to the protection and sustainable use of natural resources**. Table 3 presents the main agreements, conventions, or treaties that have been ratified by all four countries of the Putumayo-Içá basin through their regulations.

Table 3. International regulations

Instrument	Description
Paris Agreement (2016)	Establishes a global goal of increasing adaptation capacity, strengthening resilience, and reducing vulnerability to climate change.
American Convention on Human Rights	Commits States to respect the rights and freedoms recognized therein and to guarantee their free and full exercise to all persons subject to their jurisdiction, without discrimination.
United Nations Framework Convention on Climate Change (UNFCCC)	Seeks to stabilize GHG concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference with the climate system.
Convention on the Conservation of Migratory Species of Wild Animals	Seeks to conserve wildlife species that migrate across national borders through the development and implementation of cooperative agreements, the prohibition of the removal of threatened species, habitat conservation, and the control of adverse factors that threaten those species.
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	Its purpose is to ensure that international trade in wild animal and plant specimens does not threaten their survival.
Convention for the Protection of the World Cultural and Natural Heritage	Recognizes the obligation of the signatory parties to identify, protect, conserve, rehabilitate, and transmit to future generations the cultural and natural heritage located in their territories
Convention on Biological Diversity	Its purpose is the conservation of biological diversity, the sustainable use of its components, and the fair and equitable

Instrument	Description
	sharing of the benefits arising from the use of genetic resources
RAMSAR Convention	Convention on Wetlands of International Importance especially as Waterfowl Habitat. Seeks to conserve and ensure the appropriate use of wetlands
Nagoya Protocol on Access to Genetic Resources	Its objective is the fair and equitable sharing of the benefits arising from the utilization of genetic resources
Convention concerning Indigenous and Tribal Peoples (ILO Convention No. 169) Countries: Peru, Brazil, Ecuador, Colombia	Seeks to ensure that countries guarantee the right of indigenous and tribal peoples to decide their own development priorities. It states that the peoples concerned must be consulted, through appropriate procedures and in particular through their representative institutions, whenever legislative or administrative measures that may affect them directly are being considered.
United Nations Declaration on the Rights of Indigenous Peoples Countries: Peru, Ecuador, Colombia, Brazil	Establishes minimum standards for respect for the collective and individual rights of indigenous peoples, especially their rights to their lands, property, vital resources, territories, and resources, to their culture, identity, and language, to employment, health, education, prior consultation, and to freely determine their political status and economic development.

4.3 Binding agreements.

There are multilateral and bilateral agreements that demonstrate initial efforts at cross-border collaboration for environmental protection and sustainable use of natural resources, requiring their implementation (Table 4).

Table 4. Binding agreements.

Agreement	Subject of Commitments/Mandates
Pucallpa Declaration Year: 2019 Countries: Peru and Colombia.	Axis 1. Social and governance issues
	Axis 2. Environmental and mining and energy issues
	Axis 3. Trade, economic development, and tourism
	Axis 5. Border and migration issues
Leticia Agreement Year: 2019 Countries: Brazil, Peru, Ecuador, Colombia, Bolivia, Guyana, Suriname	Axis I: Reforestation, conservation, sustainable use of forests and biodiversity, and promotion of the bioeconomy
	Axis II: Amazonian security
	Axis III: Information and knowledge management.
	Axis IV: Empowerment of women and indigenous peoples.
	Axis V: Financing and international cooperation
Amazon Cooperation Treaty Year: 1978	Promotes the coordinated development of the Amazon region: (iii) Information and knowledge management (iv) Empowerment of women and indigenous peoples

Agreement	Subject of Commitments/Mandates
Countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela	(v) Financing and international cooperation.
Cartagena Agreement Year: 1969 Countries: Colombia, Ecuador, and Peru	Establishes that member countries will take action for the comprehensive development of the region and created the Andean Community (CAN)
Memorandum of Understanding for the implementation of the tri-national program for the conservation and sustainable development of the PNN La Paya – ZR Gueppí – RPF Cuyabeno protected areas corridor. Countries: Ecuador, Colombia, Peru	Signed within the framework of ACTO and CAN. Defines the following management guidelines: 1. Management of protected areas and their zones of influence 2. Social participation 3. Strengthening of institutional capacities
Binational Commission for the Integrated Management of Water Resources in Transboundary Basins between Ecuador and Peru Year: 2018 Countries: Ecuador, Peru	<ul style="list-style-type: none"> Integrated management of water resources in transboundary basins.
Joint Presidential Declaration - VII Ecuador-Colombia Binational Cabinet Year: 2018 Countries: Ecuador, Colombia	Environmental issues
	Binational Border Integration Plan
Presidential Declaration of Tumbes Year: 2019 Countries: Peru, Colombia	Environmental issues and sustainable forest management. * Transboundary environmental management * Protected natural areas * Forest resources and wildlife
	Focus: Integrated water resource management in transboundary watersheds * Transboundary water management
	Axis Environmental management of transboundary watersheds
Memorandum of Understanding to establish the Binational Management Network for Protected Areas in southern Ecuador and northern Peru Year: 2014 Countries: Peru, Colombia	The 2016-2021 Strategic Plan, in pursuit of Strategic Objective 1, seeks to contribute to the management of the Binational Network of Protected Areas and its area of influence, promoting biodiversity conservation and sustainable development.
	Strategic Objective 2. Promote, develop, and monitor conservation and connectivity activities.
	Strategic Objective 3. Strengthen agreed mechanisms for binational action, exchange of experience, and good

Agreement	Subject of Commitments/Mandates
	<p>practices for the consolidation of the Network. Strategic Objective 4. Promote the participation and empowerment of social and institutional actors in the management of the Binational Network.</p>
<p>Memorandum of Understanding between the Ministry of the Environment of Peru and the Ministry of the Environment of Brazil on cooperation in the promotion of sustainable development and environmental protection. Year: 2014. Countries: Peru, Brazil</p>	<p>Areas of cooperation:</p> <ul style="list-style-type: none"> - Coordinated management of neighboring or adjacent protected natural areas. - Sustainable management of natural resources, with an emphasis on forests, forest resources, <i>in situ</i> fauna, and Amazonian biodiversity. - Climate change, desertification, and drought. - Environmental remediation. - Economic valuation of natural heritage. - Inventory and assessment of natural heritage. - Ecological Economic Zoning / Land Use Planning (public policies aimed at comprehensive land development). - Incentive mechanisms for ecosystem conservation. - Strategies to combat environmental crimes in border regions. - Water resource management. - Environmental impact of illegal mining in the Amazon. - Exchange of information on SDGs. - Programs for the conservation and control of trade in endangered species. - Sustainable development strategies for traditional peoples and communities and family farmers. - Recovery and use of degraded areas. - Protection and sustainable consumption.
<p>Minamata Convention. Year: 2013. It entered into force on August 16, 2017, and has 123 parties, including Brazil, Colombia, Ecuador, and Peru.</p>	<p>It establishes that on the date of its entry into force:</p> <ul style="list-style-type: none"> - New primary mercury mining is prohibited. - A period of 15 years is established to phase out existing primary mercury mining. - Mercury from primary mining may only be used for permitted uses in certain products and manufacturing processes (according to Articles 4 and 5 of the Convention, respectively), or it will be disposed of as waste (according to Article 11 of the Convention). - Article 7 establishes that Parties in whose territory artisanal and small-scale gold mining and processing using mercury amalgam takes place shall take measures to reduce and, where feasible, eliminate the use of mercury and mercury compounds. In addition, they shall develop national action plans within three years of the entry into force of the Convention. - Article 12 establishes that each Party shall endeavor to develop appropriate strategies to identify and assess sites contaminated with mercury or mercury compounds.

Agreement	Subject of Commitments/Mandates
	- In health-related matters (Article 16 of the Convention), the development and implementation of strategies and programs to identify and protect populations at risk, especially vulnerable populations, is promoted.

4.4 World Bank Policies

The Bank's Environmental and Social Standards (ESS) establish the requirements that Borrowers must meet in relation to the identification and assessment of environmental and social risks and impacts associated with Bank-supported projects (Table 5). The Bank believes that the application of the ESAs will improve actions aimed at non-discrimination, transparency, participation, accountability, and governance; and improve sustainable development outcomes through the continued participation of stakeholders, among other aspects (World Bank, 2016).

Table 5. WB EAS relevant to the operation of the Putumayo-Içá Basin Project ()

EAS	Scope and objective
EAS 1	Environmental and Social Risk and Impact Assessment and Management. This is mandatory for all projects and includes the development of an Environmental and Social Assessment and an Environmental and Social Commitment Plan.
EAS 2	Promotes occupational health and safety, in this case associated with the potential impact on human health from direct exposure to mercury during monitoring and sampling. The Occupational Health and Safety measures applicable to the project will be stipulated in the legal agreement and the PCAS.
EAS 3	Aims to prevent or minimize adverse impacts on human health and the environment by reducing or preventing pollution from project activities associated with the georeferencing of polluting activities, collection and storage of water samples, and design and implementation of mitigation, remediation, and restoration pilots.
EAS 4	Recognizes that project activities, equipment, and infrastructure may increase community exposure to risks and impacts, in this case associated with the georeferencing of polluting activities, implementation of the early warning system for water pollution, and design and implementation of restoration and remediation pilots.
EAS 5	Recognizes that project-related land use restrictions can have adverse impacts on communities and individuals, leading to economic or physical displacement and loss of access to sources of income or livelihoods, for example, when implementing pilot projects to develop fishing value chains, designing turtle conservation and management strategies, designing fisheries management plans/agreements, and the Regional Joint Prevention and Control Action Plan.
EAS 6	Biodiversity Conservation and Sustainable Management of Living Natural Resources. Recognizes that the protection and conservation of biodiversity and the sustainable management of natural resources are fundamental to sustainable development. It also recognizes the importance of maintaining the core ecological functions of habitats, including forests, and the biodiversity they support. EAS 6 also addresses the sustainable management of primary production and harvesting of living natural resources, and recognizes the need to consider the livelihoods of communities

EAS	Scope and objective
	affected by projects, including indigenous peoples, whose access to or use of biodiversity or living natural resources may be affected by a project.
EAS 7	The standard recognizes that indigenous peoples have identities and aspirations that differ from those of the predominant social groups in national societies, and that their economic, social, and legal status often limits their ability to defend their rights to lands, territories, and natural and cultural resources, as well as their interests in those rights, territories, and resources, and may restrict their ability to participate in and benefit from development projects. It includes obtaining the Free, Prior, and Informed Consent (FPIC) of the indigenous peoples who will be affected and conducting a meaningful consultation designed for indigenous peoples. Related project activities Expand the scope of the ongoing process toward a shared regional vision.
EAS 8	Promotes meaningful consultation with stakeholders in relation to tangible and intangible cultural heritage, in this case associated with strengthening local capacities for knowledge management and the design of fisheries management plans.
EAS 10	Recognizes the importance of open and transparent interaction between the Borrower and affected stakeholders ³ , and includes provisions for participation during project formulation and execution, as well as a mechanism for addressing complaints and claims. Includes the development and implementation of the SEP, the mechanism for addressing complaints and claims, and the implementation of PCAS mitigation measures.

4.5 WCS Policies

WCS believes that the conservation of nature and natural resources is essential for life on earth, the future of humanity, and the well-being and cultural identities of Indigenous Peoples and traditional and local communities. The policies and procedures employed by WCS in the field with community partners, governments, and the private sector are designed to ensure that conservation actions are consistent with best practices in social safeguarding and comply with international human rights standards (see <https://www.wcs.org/about-us/literature/conservation-and-human-rights>).

Table 6 below summarizes WCS policies and procedures to ensure compliance with international human rights standards, such as the [World Bank's Environmental and Social Framework](#), [the Declaration of United Nations Declaration on the Rights of Indigenous Peoples](#), [the Universal Declaration of Human Rights](#), and [the Belmont Report](#) on ethical principles and guidelines for the protection of human subjects in research.

Table 6. *WCS policies and procedures relevant to the Putumayo Ica Project in terms of human rights.*

Policy	Description
WCS Code of Conduct	Adopted in February 2019. Sets standards of conduct for WCS staff, regardless of location, position, and level of responsibility, as well as for those acting on behalf of WCS. Requires compliance with a set of organizational principles and policies, including respect for human rights, protection of children and vulnerable adults, combating human trafficking,

³ Refers to individuals or groups who: a) are affected or may be affected by the project (project-affected parties), and b) may have an interest in the project (other stakeholders) (World Bank, 2016).

Policy	Description
	respect in the workplace, and protection of whistleblowers. Failure to comply with the Code of Conduct and its specific social safeguards is subject to disciplinary action, including termination of employment.
Rights-based conservation and free, prior, and informed consent (FPIC)	WCS's long-term commitment includes building effective and lasting partnerships with Indigenous Peoples and local communities, adhering to international standards to ensure their full participation, through the FPIC process, in decisions related to the development and management of state-governed natural resources, including all categories of conservation areas, and ensuring that they are not involuntarily displaced, either physically or economically.
Stakeholder Participation	In 2009, WCS approved the document " Conservation and Human Rights: A Framework for Action ," affirming its commitment to a set of principles on respecting and promoting global human rights standards in the course of its conservation work, highlighting stakeholder participation as a fundamental component.
Policy on Human Displacement	This policy establishes that physical and economic displacement should be treated as a last resort, and that when it must be undertaken, it should be carried out in accordance with the highest international standards. In practice, this means complying with the United Nations Guiding Principles on Internal Displacement (E/CN.4/1998/53/Add.2) and best practices in the field (e.g., World Bank Environmental and Social Standards 5).
Global Grievance Redress Mechanism	This mechanism allows external stakeholders, as well as WCS staff, to report any allegations made in good faith about a project or activity executed or sponsored by WCS that reasonably contribute to or cause human rights abuses, violations of the human rights of individuals or communities, or violations of other social safeguards. This global mechanism may be supplemented by additional, site-based and locally adapted procedures developed by country programs and projects, as appropriate.
Internal Review of Research Involving Human Subjects	WCS has signed a Federal Wide Assurance (FWA), which guarantees that all personnel involved in the collection of data on human subjects must first complete training on research involving human subjects and that all research involving human subjects must be approved by the WCS Institutional Review Board.
Training and Capacity Building	Incorporates appropriate training and capacity building into all of its programs, including specialized human rights training for ecoguards and other law enforcement personnel where we support protected areas, and for staff working with indigenous peoples and local communities where we participate in community programs and projects.
Safety and Security	The WCS Safety Standards and WCS-GCP Crisis Management Plan state that when the location where WCS works presents safety and security challenges, such as active conflict zones, areas of weak governance, and remote areas with limited medical or transportation facilities, WCS managers are responsible for having adequate safety and security planning in place and to have the necessary resources and equipment available to protect the personnel under their supervision. At the individual level, responsibility includes complying with health, safety, and security recommendations, guidelines, and protocols; attending training when necessary or mandatory;

Policy	Description
	being alert to safety and threats in the environment where we work; and making prudent decisions that do not place life or physical integrity at unreasonable risk.
Child labor	The WCS Safeguarding Policy establishes WCS's commitment to protecting individuals—particularly children, vulnerable adults, and communities—from abuse or exploitation that could be caused by their contact with WCS work and programs. With regard to minors (under 18 years of age), WCS does not tolerate physical or emotional abuse, sexual abuse, neglect, exploitation, or any other activity that could cause harm to the health, safety, survival, development, or dignity of any person.

Additionally, as an environmental project management tool, WCS has an Environmental Mitigation Report (EMR) which seeks, through a form (Annex 5), to identify the environmental impacts associated with activities carried out in the course of WCS conservation activities, support the definition of appropriate mitigation measures, and monitor the implementation of those measures.

Finally, as part of its Code of Conduct, WCS honors human rights principles, obeys human rights laws, and respects the cultures, structures, and customs of the communities and countries where it works, with due respect for traditional knowledge, genetic resources, and traditional cultural expressions. The adopted Human Rights Principles affirm the following commitments in the context of WCS's conservation work:

- Respect internationally proclaimed human rights and ensure that we are not complicit in or contributing to human rights abuses.
- Support and promote the realization of human rights within the focus of WCS conservation programs.
- Support the improvement of governance systems that can contribute to securing the rights of local peoples in the context of conservation and natural resource use.

5. Environmental and social baseline

5.1 Environmental characterization of the implementation area

The project will be implemented in the Putumayo-Içá River Basin, the tenth longest tributary of the Amazon River, with approximately 2,000 km. Its basin covers 118,000 km² (approximately 1.7% of the Amazon basin) in Colombia, Ecuador, Peru, and Brazil, where it flows into the Amazon River, connecting the Andes mountains with an intricate network of rivers, lakes, and flooded forests (Figure 1). Along its course, the Putumayo-Içá receives water from the Yaguas and Cotuhé rivers, two of the most biodiverse river basins in the world. Of the large rivers in the Amazon, the Putumayo-Içá is probably the only one that has remained a free-flowing river, considering the absence of hydroelectric plans along its course.

In order to better describe the different characteristics of the basin, a geographical reference framework was established according to different parameters, including geophysical and ecosystem parameters (Figure 2). Some of the criteria used to make the division are as follows:

- Delimitation of level 6 sub-basins (SNAPP - WSC Amazon Waters Initiative Amazon Aquatic Ecosystem Spatial Framework), without fragmenting the sub-basins of the direct tributaries of the Putumayo-Içá River.
- Geomorphology: slope and contour lines (altitude above sea level).
- Connectivity of key sectors and locations for operations and logistics (population centers).
- Location of triple borders (Colombia-Ecuador-Peru and Colombia-Peru-Brazil) in single sections respectively.
- No fragmentation of protected areas.

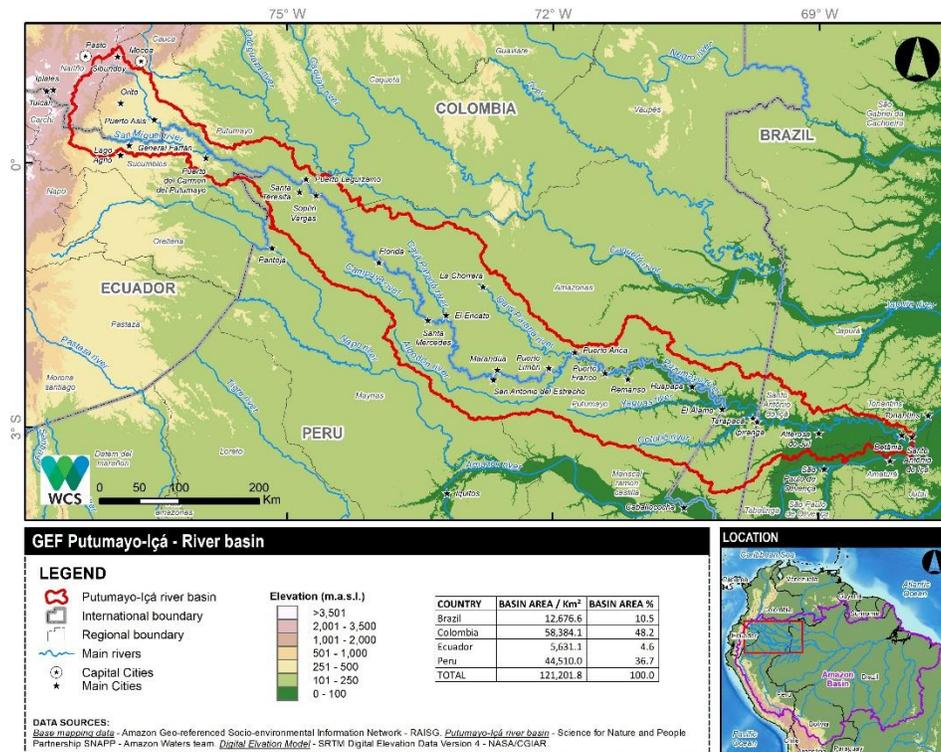


Figure 1. Putumayo-Içá River Basin. Source: WCS, 2020.

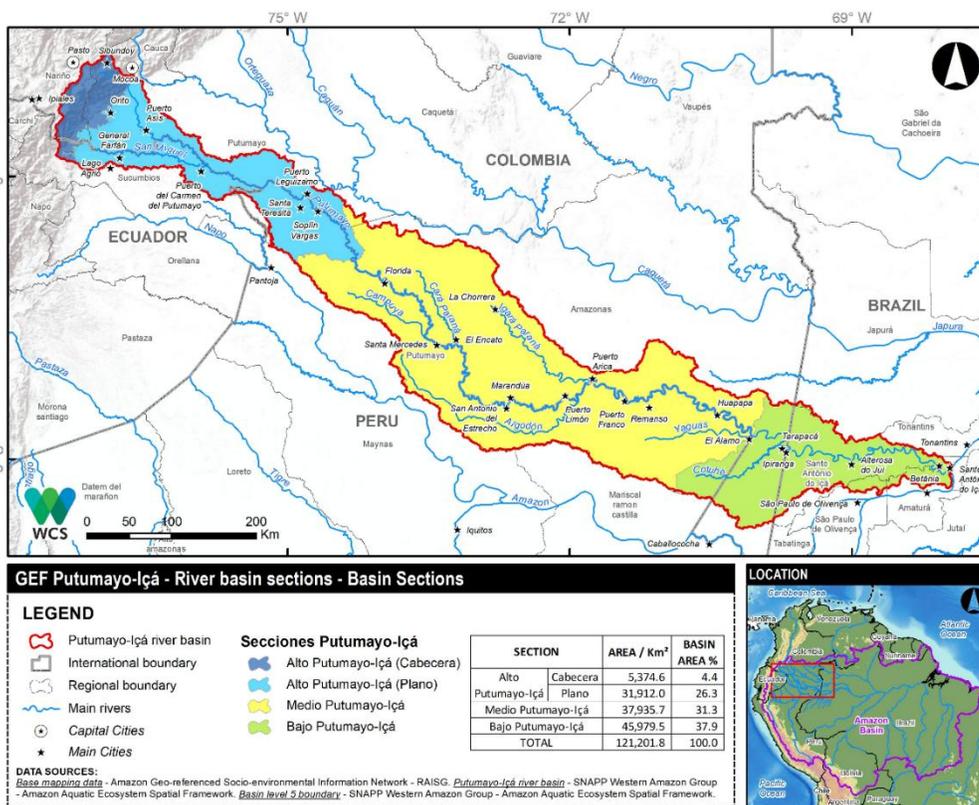


Figure 2. Division of the Putumayo-Içá River basin according to defined geophysical and ecosystem criteria. Source: WCS, 2020.

- Consideration of the centers of anthropogenic pressures, activities, and threats, as well as the context and dynamics of the sector.
- Presence of at least two countries in each section.

Below is a description of each of the sections into which the basin has been divided:

- **Upper Putumayo-Içá.** It extends from the watershed in the Andes Mountains downstream to approximately the location of the Quechua community of Nueva Angusilla (Peru), halfway between Soplín Vargas and Florida (Peru). Within it lies the triple border COL-ECU-PER; the Cofán Bermejo Ecological Reserve and part of the Cuyabeno Wildlife Reserve (Ecuador); and the Güeppí-Sekime National Park and the Humeki and Airo Pai Communal Reserves (Peru). It is characterized by a high concentration of anthropogenic pressures such as road infrastructure, population density, mining titles, deforestation, and pollutant generation, among others. Within this area, a subdivision was made to distinguish the headwaters of the river, which is a unique sector characterized by slopes greater than 12% with an altitudinal gradient of 500 to 4,035 meters above sea level, giving rise to unique ecosystems such as the páramo, as well as aquifer recharge areas.
- **Middle Putumayo-Içá.** This area extends approximately from the location of the Quechua community of Nueva Angusilla (Peru), halfway between Soplín Vargas and Florida (Peru), to the mouth of the Yaguas River near the town of Yaguas (Peru). It is only present in Colombia and Peru and is characterized by slopes of less than 3%, floodable ecosystems, high forest integrity, and pressure from illegal mining and fishing activities. Within it are the towns of El Encanto, La

Chorrera, Marandúa, Puerto Arica, and Puerto Limón (Colombia); and Florida, Huapapa, Puerto Franco, Remanso, San Antonio del Estrecho, Santa Mercedes, and Yaguas (Peru), as well as the Yaguas National Park (Peru).

- **Lower Putumayo-Içá.** It extends from the mouth of the Yaguas River near the city of Yaguas (Peru) to the mouth of the Putumayo-Içá River at the Amazon River (Brazil). It encompasses Colombia, Peru, and Brazil (the Amazonian trapezoid) and is characterized by slopes of less than 3%, highly flood-prone ecosystems, high forest integrity, and pressure from illegal mining and fishing activities (especially the direct connection to the Amazon River). The lower basin includes the cities of Tarapacá (Colombia) and Santo Antônio do Içá, Betânia, Alterosa do Juí, and Ipiranga (Brazil), as well as Amacayacu National Park (Colombia).

On the other hand, in order to establish a geographical reference framework that facilitates the identification of the areas where the project will carry out the actions corresponding to the different subprojects, an exercise was carried out to prioritize areas of interest according to each of the activities that will be carried out in the different components of the project (Annex 1). Based on this exercise, which has been shared with the project partners, Figure 3 shows the map with the areas preliminarily identified for the implementation of the different project activities. Subsequent adjustments to this prioritization will also be shared with the partners, and the necessary adjustments will be made to the documents associated with the project.

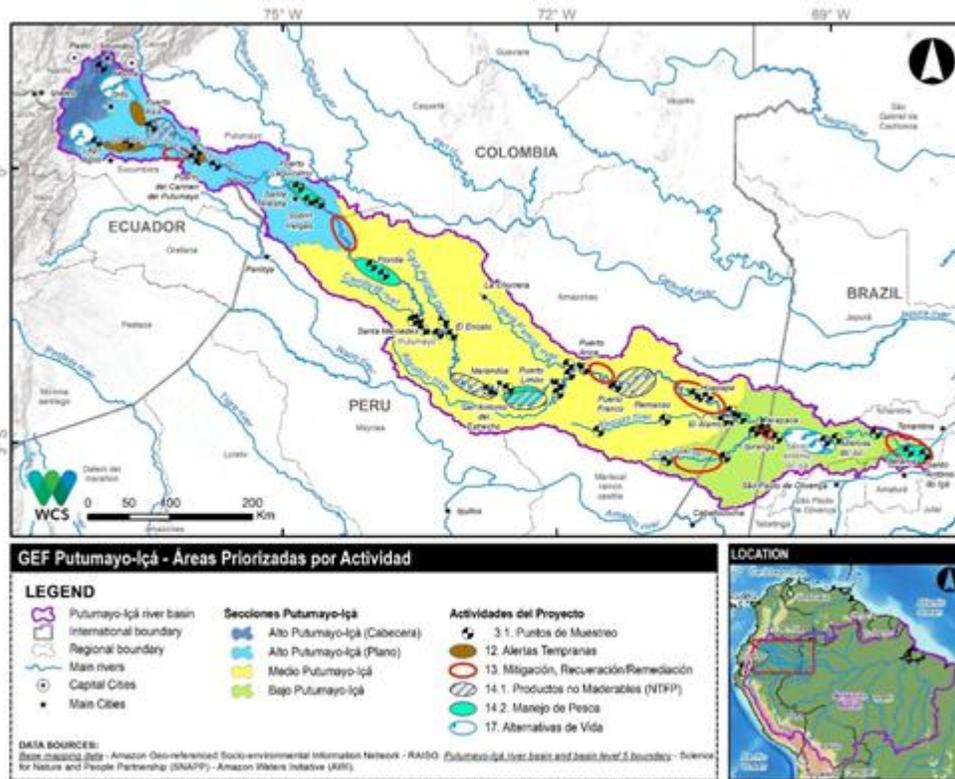


Figure 3. Map showing the areas selected for the implementation of project activities. Source: WCS, 2020.

5.1.1 Hydrology

The Putumayo-Içá River originates in the Western Andes in the Nudo de los Pastos and flows southeast for about 2,000 km until it empties into the Amazon (Solimões, in Brazil), with the headwaters of the basin being a priority area for aquifer recharge. Near the town of Puerto Asís

(Colombia), it becomes a navigable river, generally maintaining navigability conditions throughout the year.

In its upper course, the first tributary is the Gamués River, which originates in Laguna La Cocha (Colombia), and the second is the San Miguel River, which originates in the foothills of the eastern mountain range, northwest of the province of Napo, and flows into the Putumayo near the town of Puerto El Carmen del Putumayo (Ecuador), serving as the international border between Ecuador and Colombia. Another tributary, the Gueppi River, is a blackwater river of Amazonian origin and represents the international border between Peru and Ecuador, flowing into the Putumayo near the town of Tres Fronteras (Peru).

Other important tributaries are the Campuya, Algodón, Yaguas, Cará Paraná, and Igará Paraná rivers. In Brazil, the river is called the Içá. In this section, it receives the Cotuhé River, which is of high priority and importance for aquifer recharge, and downstream the Puruté River. Its basin becomes increasingly narrow and extensive over a distance of approximately 320 km until it flows into the left bank of the Amazon or Solimões River, near the town of Santo Antônio do Içá.

5.1.2 Meteorology

Throughout the basin, the precipitation regime differs between the upper, middle, and lower parts of the basin. In the headwaters, in the Guames River basin in Colombia, the climate is extremely humid, with a single wet season and precipitation ranging from 2,000 to 3,800 mm, with heavier rains between April and August and lighter rains in December. In the Cofán Mountains, also in the headwaters on the Ecuadorian side, the climate is persistently humid. Annual precipitation fluctuates between 2,500 and 6,000 mm, with maximum values at intermediate elevations, but the precipitation pattern is complex due to the topography of the terrain. It rains throughout the year, with short periods of dry seasons, most marked in January and February, which correspond to the northern hemisphere, but there can also be short and unpredictable dry periods, most likely in August, which corresponds to the dry season in the southern hemisphere. From the Güeppi River area and the entire middle portion of the basin, precipitation remains relatively constant with values reaching 3,200 mm, and in the lower portion of the basin, precipitation reaches 2,600 mm.

The average temperature gradient in the project area is wide and increases as we descend in altitude. According to the Regional Autonomous Corporation of Nariño (Corponariño, 1994), in the Guames River area at the headwaters, the temperature varies between 8° and 12° C, with an average of 11.6° C. At 2,000 meters above sea level, it rises to 15°C, at 1,000 meters to 20°C, and in the lowland forests it reaches an average of 25°C throughout the year. In the Güeppi River basin, the average monthly temperature varies between 25.9 and 27.08°C and remains relatively constant throughout the middle and lower parts of the basin. Between June and August, cold, dry air waves cross the Amazon, accompanied by strong winds that can cause temperatures to drop to 10°C.

Due to its location and hydrological characteristics, the calculated water deficit in the basin is very low, with values of 0 in the steep headwaters and around 100 mm in the rest of the basin⁴. However, there are areas at risk of drought in the Colombian municipalities of Ipiales, Potosí, Puerres, and Puerto Asís. The risk of flooding is present in much of the basin, associated with increased rainfall and the flow of the Putumayo River, and subsequent overflows. The impacts recorded involve human lives, homes, crop areas, and service infrastructure such as schools and bridges. On the Peruvian side, the risk is very high and high in areas near the riverbed, throughout the province of Putumayo. In Colombia, the risk is present in the municipalities of Tagua, Funes, Ipiales, Puerres, and Pasto in the department of Nariño, and in all the municipalities of Amazonas and Putumayo. In Ecuador, the risk of flooding is high in the parish of Santa Rosa de Sucumbíos, medium in Pueblo Libre, and in the cantons of Cuyabeno and Putumayo. In Brazil, the risk is present in the municipality of Amaturá.

Forest fires associated with droughts and agricultural burning are recorded in Colombia in the municipalities of Pasto, Ipiales, Puerres, Potosí, Córdoba, and Tangua in Nariño; Leticia in Amazonas; Colón, Leguizamó; Mocoa, Santiago, Sibundoy, and Guamuez in Putumayo. In Peru, the risk is mostly low, and medium in the towns of Puerto Leguizamó and El Refugio. Burning increases in the summer months and when winds are stronger, occurring between July and September in some areas and between November and December and January and March in others.

5.1.3 Geology and relief

⁴ Estimates made using the Earth Map platform.

At the headwaters of the Putumayo basin, the geology of the upper Guamués River basin is characterized by the presence of the oldest rocks in the department of Nariño, which are metamorphic igneous, intrusive igneous, and effusive igneous rocks dating from the Precambrian to the late Quaternary⁵. The terrain is very steep, with slopes between 12 and 100%.

The landscape around Bermejo features a mixture of different geological formations and rock types. Much of the rock is from the Cretaceous period, but there are Jurassic and even older Precambrian formations dotted throughout the landscape. The different rock groups include individual strata ranging from schists to conglomerates, limestones, and sandstones, which give the soils their particular characteristics. The topography is very varied. In the lowlands, most of the geological blocks have risen without much inclination, resulting in flat terraces just north of the Bermejo and Aguarico rivers. Closer to the main body of the Andes, around Cerro Sur Pax and the Cofanes River, there are steep ravines⁶.

Even in the upper part of the basin, in the Cuyabeno-Gueppí landscape, the Marañón formation overlaps the Pebas and Curaray formations. Pebas is the formation that provides much of the region's salts and nutrients, for example, the salt licks. The landscape is dominated by a mosaic of terraces, hills, and wetlands. The clay soils cause water to flow from the hilltops to clear streams or pool in the lower valleys and swamps. In the middle Putumayo, five geological formations are exposed: Pebas, Bajo Nauta, Alto Nauta, sediments⁷. The Alto and Bajo Nauta formations dominate the area and currently occupy the highest elevations in the area. Unlike Pebas, the Nauta formations contain few salts and produce poor soils⁸. The Putumayo and Algodón rivers have large active floodplains where they deposit sediments (clay, silt, and sand) and peat. These plains promote the development of swamps and the accumulation of organic matter in peat bogs.

Associated with the geology of the area, the risk of landslides has been identified in the municipalities of Ipiales and Pasto in Nariño; in the municipality of Leticia in Amazonas; with high frequency in the municipalities of Mocoa, Colón, and San Francisco in Putumayo; and with lower frequency in other municipalities in this province, all in Colombia. In Ecuador, this risk is present in the cantons of Sucumbios, Cuyabeno, and Putumayo, and in Brazil in the municipality of Amaturá.

5.1.4 Ecosystems

The steep upper reaches of the basin are home to high and very high levels of natural ecosystem diversity, with small areas containing up to 28 types of ecosystems (Figure 4). In the flat section of the headwaters, the forests of the sedimentary plain of western Amazonia (50%) predominate, followed at a distance by the forests of the sedimentary plain of northwestern Amazonia (18%). Twenty-one percent of the area is degraded or converted.

The middle section of the basin has low and very low levels of ecosystem abundance, except on both banks between the towns of Puerto Franco and El Álamo, where abundance is moderate. The predominant ecosystem is the forests of the sedimentary plain of the western Amazon (85%),

⁵ <https://rsis Ramsar.org/RISapp/files/RISrep/CO1047RIS.pdf>

⁶ IBR Ecuador: Cofán-Bermejo Mountains, Sinangoe. Field Museum, 2001

⁷ IBR Peru: Medio Putumayo – Algodón. Field Museum, 2016

⁸ During the IBR conducted in Medio Algodón (Field Museum, 2016), the concentration of salts in streams draining the highlands and floodplains of this region was measured, and the lowest values for the Amazon and Orinoco basins were recorded.

followed by a much smaller percentage of floodplain forests of whitewater rivers in the western Amazon (7%), well-drained forests of whitewater river terraces in the northwest Amazon (5%), among other ecosystems present in small areas. 0.06% corresponds to converted or degraded areas.

In the lower portion of the basin, diversity is moderate, with a predominance of forests on the sedimentary plains of the western Amazon (55%), flooded forests on the floodplains of whitewater rivers in the western Amazon (33%), and other ecosystems covering small areas. The area of degraded land is insignificant (0.04%).

On the other hand, wetland diversity is a very high priority throughout the basin, with patches of medium and high priority, especially in the middle portion. Flooded ecosystems represent 15% of the basin's surface area, with seasonal flooding in the middle and lower parts and permanent flooding mainly in the middle portion (Figure 5).

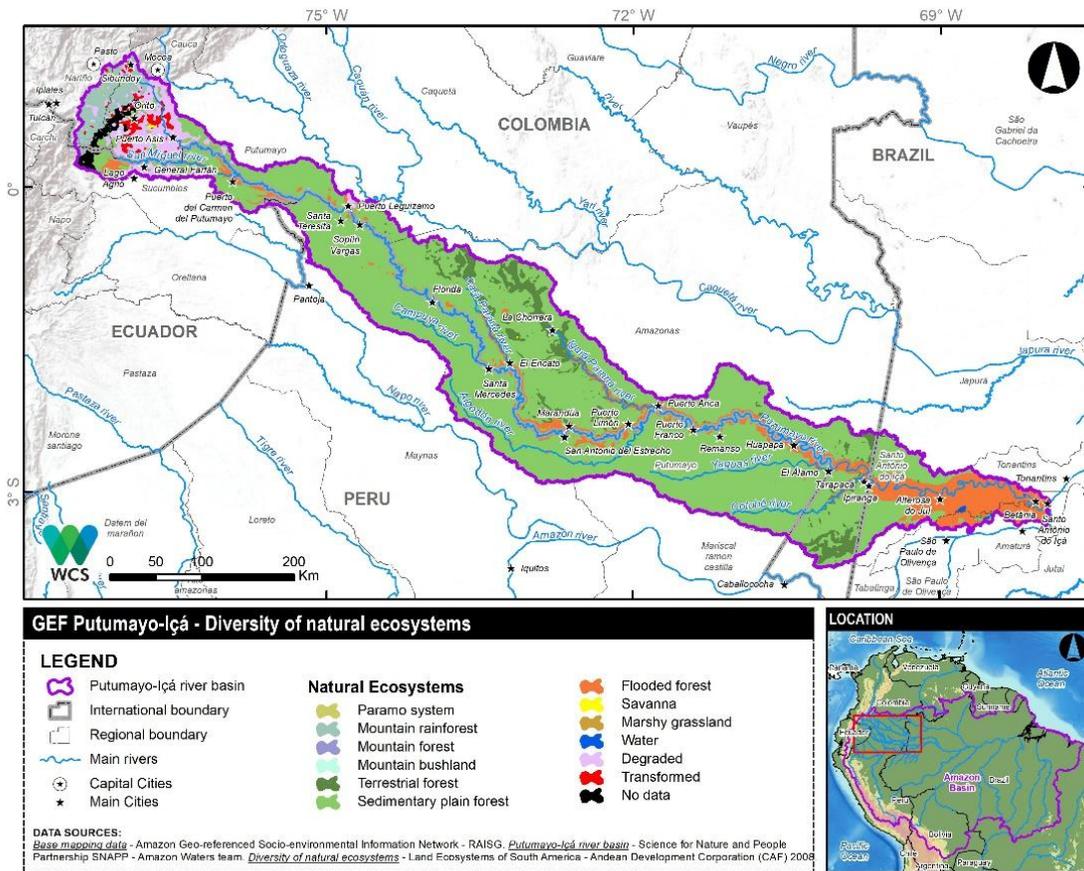


Figure 4. Diversity of natural ecosystems. Source: Land Ecosystems of South America - Andean Development Corporation (CAF), 2008, adapted by WCS, 2020.

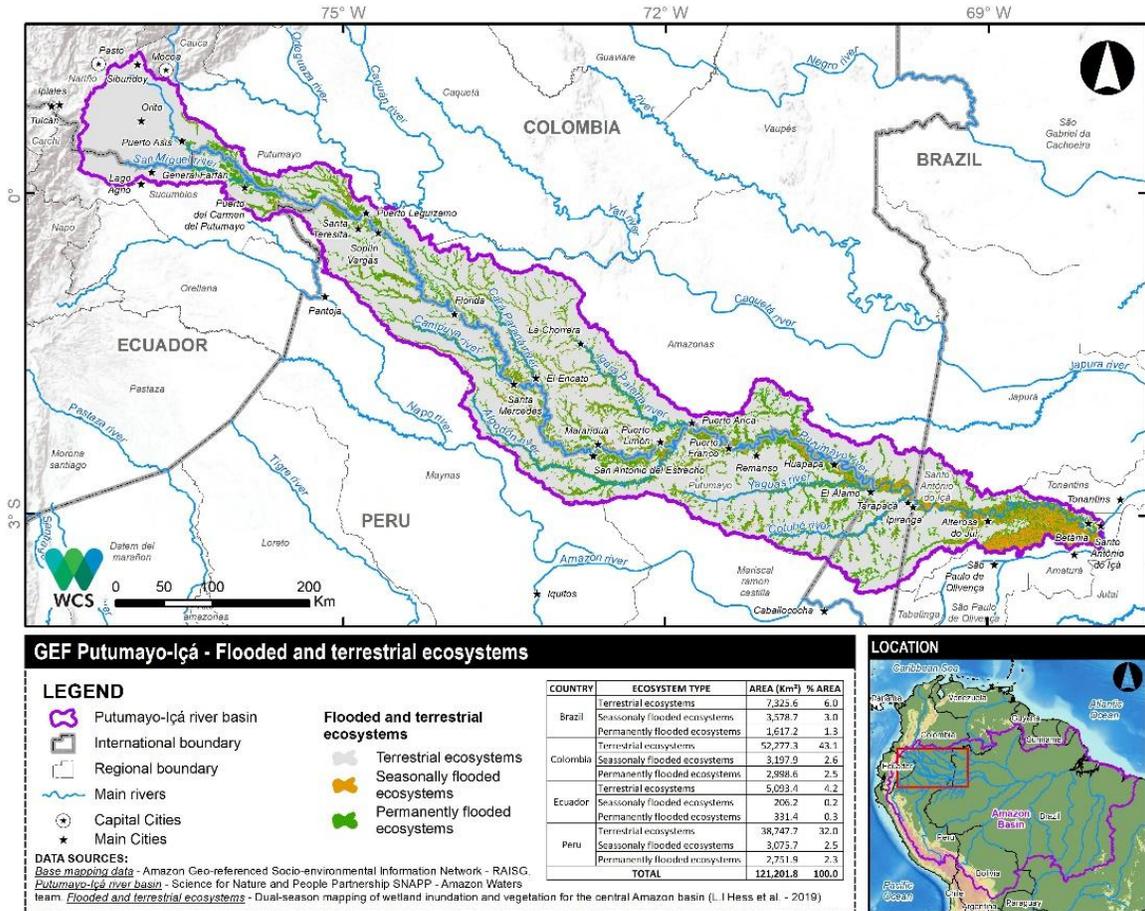


Figure 5. Terrestrial and floodplain ecosystems. Source: Dual-season mapping of wetland inundation and vegetation for the central Amazon basin (L.I Hess et al. - 2019), adapted by WCS, 2020.

5.1.5 Fauna

The richness of terrestrial fauna is significantly greater on the right bank of the Putumayo River, from the headwaters to the lower part of the basin, reaching very high and high priority levels, while on the left bank the richness is lower (Figure 6). With regard to threatened terrestrial fauna species, the rugged area from the headwaters of the basin to the confluence of the San Miguel River with the Putumayo River has the highest levels of richness, and the middle and lower sections on both banks have low and very low levels (Figure 7; IUCN, 2020)⁹.

⁹ Source: IUCN Red List, at <https://www.iucnredlist.org/es/>

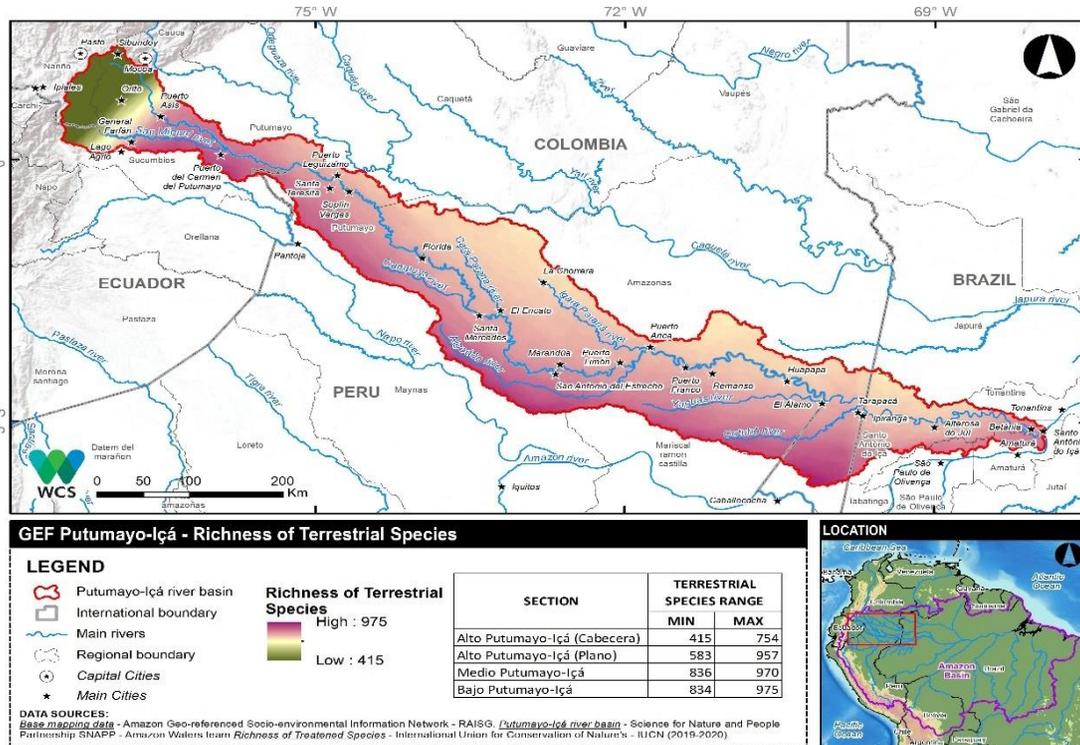


Figure 6. Terrestrial species richness. Source: IUCN (2020), adapted by WCS, 2020.

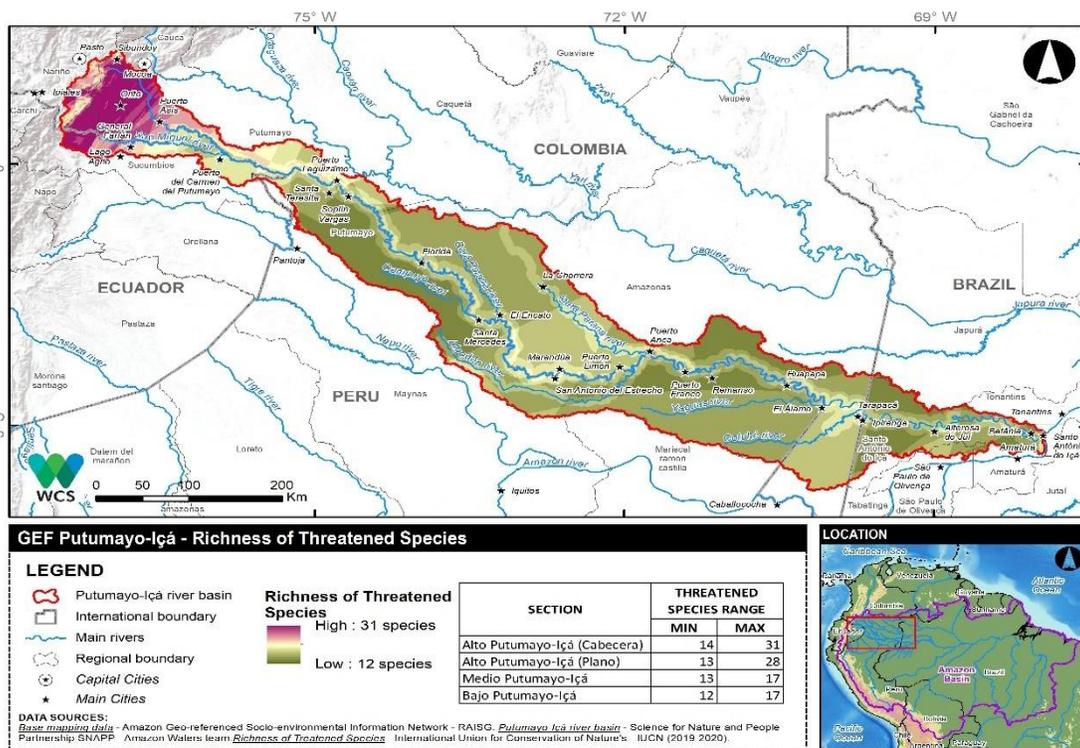


Figure 7. Richness of threatened species. Source: IUCN (2020), adapted by WCS, 2020.

On the other hand, aquatic species richness reaches its highest levels in the middle portion of the basin, and is very high in the Yaguas National Park area, while in the headwaters it is mostly of

medium level, and in the lower part mostly low. Below are more details on the species present in the basin, at the taxonomic group level.

Fish

For Putumayo, there is a total record of approximately 564 fish species (Amazon Fish Database, 2016), and it is noted that information from recent inventories on the Peruvian side has not been incorporated into regional estimates¹⁰. At the headwaters, in the Laguna de la Cocha wetlands, the presence of capitán (*Eremophilus mutisii*) and guapucha (*Grandulus bogotensis*) has been recorded, as well as four species of trout¹¹. In the Güeppi-Cuyabeno landscape, also at the headwaters, 184 fish species were recorded, representing 61% of the known diversity of the Putumayo River, with an estimated 260 to 300 species. Twenty-three species are new records for Peru or Ecuador, and three appear to be new to science. Abundant populations of commercially important species such as paiche (*Arapaima gigas*), arahuana (*Osteoglossum bicirrhosum*), tucunaré (*Cichla monoculus*), and acarahuzú (*Astronotus ocellatus*) were recorded, and small species highly exploited in the ornamental fishery of the genera *Hyphessobrycon*, *Carnegiella*, *Corydoras*, *Apistogramma*, and *Mesonauta*¹².

According to a study conducted by the Field Museum in the Putumayo region, in the Algodón River basin¹³, diversity fluctuates from one area to another, with Yaguas being the most diverse area (294 species), followed by the vicinity of the Algodón River (232 species). It is estimated that the Algodón basin alone is home to 450 species of fish. Seven new species for Peru were found in this area (*Copella* cf. *nattereri*, *Nannostomus unifasciatus*, *Metynnis altidorsalis*, *Myloplus asterias*, *Serrasalmus hollandi*, *Amblydoras affinis*, and *Satanoperca acuticeps*) and 12 species possibly not described in the genera *Hyphessobrycon*, *Hemigrammus*, *Moenkhausia*, *Pimelodella*, *Satanoperca*, and *Aequidens*. The area is dominated by various genera (*Hemigrammus*, *Hyphessobrycon*, *Moenkhausia*) of small fish adapted to black waters with low nutrient content or clear water streams. Other species of Characiformes (*Potamorhina* spp., *Triportheus* spp., *Hemiodus atranalis*, *Anodus elongatus*) dominate the main channel of the Algodón River. Other species of ecological and economic importance include arapaima (*Arapaima* sp.), silver arahuana (*Osteoglossum bicirrhosum*), *Cichla monoculus*, and the catfish *Pseudoplatystoma punctifer*, *Phractocephalus hemiliopterus*, *Aguarunichthys torosus*, and *Platynemichthys notatus*. In the lower part of the basin, in the Tarapoto Wetlands Complex RAMSAR Site, adjacent to the project area, more than 131 fish species have been described (Jiménez, 1994), several of which are endemic to Colombia and Peru, such as the pintadillo (*Pseudoplatystoma punctifer*), dorado (*Zungaro zungaro*), and pirabutón (*Brachyplatystoma vaillantii*). Other species have suffered a drastic decline in minimum catch sizes, such as the baboso (*Brachyplatystoma platynemum*), tigre (*Pseudoplatystoma tigrinum*), pirahiba (*Brachyplatystoma filamentosum*), arahuana (*Osteoglossum bicirrhosum*), and pirarucú or paiche (*Arapaima gigas*)¹⁴.

¹⁰ IBR Peru: Medio Putumayo – Algodón. Field Museum, 2016

¹¹ <https://rsis.ramsar.org/RISapp/files/RISrep/CO1047RIS.pdf>

¹² IBR Ecuador, Peru: Cuyabeno – Güeppi, 2008

¹³ IBR Peru: Middle Putumayo – Algodón. Field Museum, 2016

¹⁴ https://rsis.ramsar.org/RISapp/files/RISrep/CO2336RIS_1806_es.pdf?language=es

Reptiles and amphibians

¹⁵The abundance of amphibians in the basin is lowest in the rugged headwaters area and increases to its highest levels near the triple border of Ecuador, Peru, and Colombia, remaining relatively constant down to the lower reaches of the Cuenca del Amazonas.

In the Cofán Bermejo Reserve, 31 species have been recorded (17 amphibians, 6 snakes, 5 lizards, 1 salamander, and 1 caecilian) (Pitman et al. 2002), including potentially new species of the genus *Dactyloa*. In the Güeppi-Cuyabeno landscape, 107 species (59 amphibians, 48 reptiles) were recorded, and it is estimated that there are 150 species (90 amphibians, 60 reptiles). The study conducted by the Field Museum¹⁶ revealed 19 records for the Cuyabeno Wildlife Production Reserve; new records of frogs for Ecuador (*Pristimantis delius*) and Peru (*Allobates insperatus*); and a species potentially new to science, a frog of the genus *Rhinella*. Commercially important and globally threatened species were also recorded, such as the black caiman (*Melanosuchus niger*), white caiman (*Caiman crocodilus*), taricaya (*Podocnemis unifilis*), yellow-footed tortoise or motelo (*Chelonoidis denticulata*), and tree boa (*Corallus hortulanus*). The Putumayo region recorded greater diversity than other areas: 142 species (90 amphibians and 52 reptiles) typical of Amazonian highland forests, floodplain forests, and wetlands; and an estimated 150 to 200 species of amphibians and 150 to 200 species of reptiles. Notable records include the first record for Peru of the frog *Pristimantis librarius*, the second Peruvian population known to date of the frog *Ameerega bilinguis*, and two undescribed frog species in the genera *Osteocephalus* and *Synapturanus*. Several little-known species were also found, such as *Cochranella resplendens*, *Pristimantis aaptus*, and *Ecnomiohyla tuberculosa*. Among the globally threatened reptiles, the presence of the black caiman (*M. niger*), the dwarf caiman (*Paleosuchus trigonatus*), the motelo (*C. denticulata*), the charapa (*Podocnemis expansa*), and the taricaya (*P. unifilis*) was recorded¹⁷.

Birds

The richness of birds in the basin shows average values in a small portion at the beginning of the steep area of the headwaters, and then reaches its maximum values, remaining relatively constant until the lower part¹⁸.

There are four IBAs (Important Bird Areas) in the Putumayo basin: the Cofán-Bermejo Ecological Reserve, the Cuyabeno Wildlife Reserve, La Paya National Natural Park, and Amacayacu National Natural Park. Two RAMSAR sites have also been designated for their importance in providing ecosystem services at the international level, including providing habitat for migratory bird species. These are the Laguna de la Cocha Wetland (Colombia) and the Cuyabeno Lagartococha Yasuní Wetland Complex (¹⁹, Ecuador), located at the headwaters of the basin. In the Laguna de la Cocha Wetland, 52 species in 22 families native to the azonal páramos have been recorded. On the left side of the wetland, waterfowl of the Anatidae family were recorded: the red teal, endemic to the area (*Anas cyanoptera*) and *A. flavirostris*. In Lake Guamués, endangered species were recorded, including the western grebe (*Podiceps occidentalis*), endemic to the area, and the Niceforo's duck

¹⁵ Carrasco, F. (n/d). Rowing together for the conservation of the Putumayo: Putumayo Biological and Cultural Corridor Initiative. Field Museum, IBC, Foundation for Conservation and Sustainable Development

¹⁶ IBR Ecuador, Peru: Cuyabeno – Güeppi, 2008

¹⁷ IBR Peru: Middle Putumayo – Algodón. Field Museum, 2016

¹⁸ Carrasco, F. (n/d). Rowing together for the conservation of the Putumayo: Putumayo Biological and Cultural Corridor Initiative. Field Museum, IBC, Foundation for Conservation and Sustainable Development.

¹⁹ https://rsis Ramsar.org/RISapp/files/RISrep/EC2332RIS_1806_es.pdf

(*Anas niceforoi*), the golden-billed duck (*Anas georgica*), and the ferruginous duck (*Oxyura jamaicensis ferruginea*)²⁰. Also at the headwaters of the basin, a study conducted in the Cofán Bermejo Reserve²¹ indicates that up to 700 bird species could be found in the area. The area is home to the species endemic to Ecuador, *Tinamus osgoodi*, and one of the few where *Myiopagis olallai* lives. There are also significant populations of little-known species with restricted distribution or threatened with extinction, such as *Ara militaris*, *Touit stictoptera*, *Aegolius harrisi*, and *Eriocnemis alinae*. Throughout the area, and particularly at higher elevations, there are large populations of species vulnerable to hunting, including the Salvini's curassow (*Crax salvini* or *Mitu salvini*) and the carunculated guan (*Aburria aburri*). According to monitoring carried out in 2005 for the IBA site, it is highly threatened (Annex 2).

In the Güeppi-Cuyabeno landscape, a study conducted by the Field Museum²² recorded 437 bird species, with an estimated 550 species including forest birds and a diversity of water birds, especially herons, kingfishers, and grebes. Ten range extensions were recorded; two rare waterbirds, the yellow-billed coot (*Porphyrio flavirostris*) and the white-necked crane (*Porzana albicollis*); and nine species endemic to the northwestern Amazon. Along the banks of rivers and lakes and in Tres Fronteras, boreal migratory species were recorded, including sandpipers, yellow-legged sandpipers (*Tringa flavipes* and *T. melanoleuca*), solitary sandpipers (*Tringa solitaria*), and spotted sandpipers (*Actitis macularius*); migratory swallow species such as barn swallows (*Hirundo rustica*), sand martins or river swallows (*Riparia riparia*) and crag martins or cliff swallows (*Petrochelidon pyrrhonota*); and northern flycatchers (*Tyrannus tyrannus*). Forest-associated migratory birds recorded include the Eastern Wood-Pewee (*Contopus virens*), Swainson's Thrush (*Catharus ustulatus*), Red Piranga (*Piranga rubra*), and a rare sighting of a Canada Warbler (*Wilsonia canadensis*) in the area. Sustainable populations of regularly hunted birds were also reported, especially Salvini's curassow (*Mitu salvini*), which is also found in Cofán Bermejos, trumpeter birds, and partridges; large populations of parrots, including large macaws and Amazon parrots (*Amazona* spp.); large populations of herons and other birds; and populations of large hawks and eagles, including the harpy eagle (*Harpia harpyja*), whose presence requires intact forests. The presence of the globally threatened curassow (*Crax globulosa*) was recorded, although its presence in Ecuador has not been confirmed with certainty²³. According to the IBA monitoring carried out in 2003, the site is at a very high level of threat, although very few threatened species were recorded (Annex 2).

Adjacent to the Güeppi Cuyabeno landscape, in La Paya National Natural Park, IBA monitoring conducted in 2017 indicates that the site is at very high risk. The species recorded were the harpy eagle, red-bellied pigeon (*Patagioenas subvinacea*), brown tit (*Nonnula brunnea*), (*Ramphastos vitellinus*), black-headed parrot (*barrabandi*), golden-spotted toucanet (*Poecilatriccus calopterus*), and Ecuadorian cacique (*Cacicus sclateri*) (Annex 2). In the Putumayo region on the Peruvian side, in the Algodón River area, 349 bird species were recorded, with an estimated total of around 500 species. Records of particular interest for conservation include the harpy eagle (*Harpia harpyja*), whose presence has been recorded from the headwaters in Güeppi Cuyabeno. There is also a group of six specialists, including an undescribed species of the genus *Herpsilochmus*, the orange-crowned flycatcher (*Heterocercus aurantiivertex*), and the rufous-tailed owlet-nightjar (*Nyctibius bracteatus*).

²⁰ <https://rsis Ramsar.org/RISapp/files/RISrep/CO1047RIS.pdf>

²¹ Field Museum of Natural History (Schulenberg 2002). <http://datazone.birdlife.org/site/factsheet/reserva-ecol%C3%B3gica-cof%C3%A1n-bermejo-iba-ecuador/text>

²² IBR Ecuador, Peru: Cuyabeno – Güeppi, 2008

²³ <http://datazone.birdlife.org/site/factsheet/14559>

Four of the recorded species are considered globally threatened, and two are vulnerable in Peru. There were also unconfirmed reports of a population of *Crax globulosa* and²⁴ .

In the lower part of the basin, within the Amacayacu National Natural Park, almost 500 bird species have been recorded. Monitoring of the IBA index carried out in 2008 indicates that the site is at a low level of threat. The species recorded and associated with this index are: olive-green hummingbird (*Leucippus chlorocercus*), crested eagle (*Morphnus guianensis*), whose presence was also recorded in the Cuyabeno Wildlife Production Reserve, white-eared jacamar (*Galbalcyrrhynchus leucotis*), black-headed caique (*Pionites melanocephalus*), Napo tororoí (*Grallaria dignissima*), yellow-throated flycatcher (*Conopias parvus*), collared soterillo (*Microbates collaris*)²⁵ . In addition, in the Tarapoto Wetlands complex, adjacent to the project area and partially overlapping with Amacayacu Park, between 118 and 153 species of mainly aquatic birds were reported from the families Ardeidae, Scolopacidae, and Tyrannidae, species from riparian habitats of the Tyrannidae and Accipitridae families, and species restricted to flooded forests such as *Busarellus nigricolis*, *Cerlye torquata*, *Heliornis fulica*²⁶ .

Mammals

The abundance of mammals is relatively constant throughout the basin, with relatively lower values in the rugged headwater area²⁷ .

In the headwaters, specifically in the RAMSAR Site Laguna de la Cocha Wetland Complex²⁸ , around 11 species of mammals belonging to the Canidae, Cervidae, Didelphidae, Felidae, Leporidae, Muridae, Mustelidae, Tapiridae, and Ursidae families have been recorded. Among the endangered or vulnerable species, the presence of the Andean tapir (*Tapirus pinchaque*), the Andean bear or spectacled bear (*Tremarctos ornatus*), and the northern pudu or rabbit deer (*Mephistophiles pudu*) has been recorded. In the Cofán Bermejo Reserve, 42 species of large mammals were recorded, more than half of which are rare or globally threatened species (Annex 3). Twenty-five species on the list are included in CITES Appendices I or II, such as the neotropical otter (*Lontra longicaudis*), jaguar (*Panthera onca*), giant armadillo (*Priodontes maximus*), bush dog (*Speothos venaticus*), tapir (*Tapirus terrestris*), collared peccary (*Tayassu pecari*), and spectacled bear (*Tremarctos ornatus*). One of the most notable records was the short-eared dog (*Atelocynus microtis*) at the highest elevation (1,200 m) recorded for this species. Also noteworthy is the presence of 12 primate species, including *Lagothrix lagothricha* and *Ateles belzebuth*, and other large mammals such as peccaries (*Tayassu tajacu*), and potential new species such as the large gray squirrel. Additionally, there are local references to the presence of other species new to science, including a fox and a small chorongó monkey²⁹ . Among the vulnerable species of importance to the Cuyabeno Lagartococha Yasuní Wetlands Complex RAMSAR Site are the pygmy marmoset (*Cebuella pygmaea*), black-collared marmoset (*Saguinus nigricollis*), silvery woolly monkey (*Lagothrix lagotricha*), the hairy-tailed fox (*Glironia venusta*), the ocelot (*Leopardus pardalis*), the giant anteater (*Myrmecophaga tridactyla*), the jaguar (*Panthera onca*), the giant armadillo (*Priodontes maximus*), the huangana (*Tayassu pecari*), the sachavaca (*Tapirus terrestris*), bush dog (*Speothos venaticus*), pink river

²⁴ IBR Peru: Medio Putumayo – Algodón. Field Museum, 2016

²⁵ <http://datazone.birdlife.org/site/factsheet/14433>

²⁶ https://rsis Ramsar.org/RISapp/files/RISrep/CO2336RIS_1806_es.pdf?language=es

²⁷ Carrasco, F. (n/d). Rowing together for the conservation of Putumayo: Putumayo Biological and Cultural Corridor Initiative. Field Museum, IBC, Foundation for Conservation and Sustainable Development.

²⁸ <https://rsis Ramsar.org/RISapp/files/RISrep/CO1047RIS.pdf>

²⁹ IBR Ecuador: Cofán-Bermejo Mountains, Sinangoe. Field Museum, 2001

dolphin (*Inia geoffrensis*), gray river dolphin (*Sotalia fluviatilis*), giant otter (*Pteronura brasiliensis*), otter (*Lontra longicaudis*), and Amazonian manatee (*Trichechus inunguis*)³⁰. In the lower part of the basin, in the Amacayacu National Natural Park, around 150 species of mammals have been recorded (Castaño-Urbe and Cano 1998).

5.1.6 Flora

At the headwaters of the basin, in the Laguna de la Cocha wetland complex, there are plant formations such as azonal páramos, with peat bogs where mosses (*Sphagnum* sp.), ferns (*Blechnum loxense*), frailejón (*Espeletia cochensis*), and páramo grass (*Calamagrostis effusa*), among others. Other important aquatic plants in lotic and lentic systems are Cyperaceae, totora (*Scirpus californicus*), and, to a lesser extent, totorilla (*Juncus bogotensis*). There are primary forests, where the dominant tree layer is uraco (*Ocotea guianensis*) and oak (*Weinmannia pubescens*); in the shrub layer, amarillo (*Miconia* sp. and *Miconia harlineii*) and espinudo fern (*Ascotrichyum arborium*) dominate; and in the herbaceous layer, cuy helecho (*Polipodio* sp.), horqueta (*Anthurium* sp.) and uvo (*Cavendishia* sp.) dominate. Among the endangered species is the hayuelo pine (*Podocarpus oleifolius*). Other species that have lost populations in several areas are orange (*Ocotea* sp.) and yellow (*Nectandra* sp.). In addition, there are many species of orchids in the region, such as *Masdevallia cucullata*, *M. ensifera*, *M. rosea*, *Odontoglossum crispum lehmanii*, *O. cristatellum*, *O. ramosissimum*, and *O*³¹.

Moving further into the basin, the Cofán Bermejo Ecological Reserve is a transition zone between the flora of the low Amazon rainforest and that of the Andean forests, along a large altitudinal gradient between 2,200 and 4,000 meters above sea level. Studies conducted at³² report the existence of at least 800 plant species, with estimates ranging from 2,000 to 3,000 species. At least 15 of the plant species recorded in the IBR are endemic to Ecuador, particularly from the Orchidaceae, Bromeliaceae, Gesneriaceae, and Araceae families. A new species of the Bromeliaceae family was discovered, apparently preferred by *Tremarctos ornatus*. In addition, the site could be a center of diversity for the Rubiaceae family, and half of the palms known in the eastern region were found there. The landscape consists of low-slope forests (400-950 m), with plant families and genera typical of the Amazon and similar to those found in the Cuyabeno Wildlife Reserve, where palms are a dominant family, particularly *Iriartea deltoidea*, along with Fabaceae, Meliaceae, and Myristicaceae. On the red clay walls characteristic of the Bermejo River, species not found elsewhere, such as *Humirastrum diguense*, were recorded. In the high slope forests (950-1,500 m), changes in species begin to be apparent according to altitude range, with tree richness beginning to decline while the diversity of terrestrial and epiphytic herbs increases. Flora characteristic of acidic soils is present, with species such as *Purdiaea nutans* (Cyrillaceae), whose distribution in Ecuador was considered restricted to the acidic mountains of the southern provinces. A new species of terrestrial bromeliad of the genus *Pitcairnia* () was recorded (J. M. Manzanares, pers. comm.), and the first record for Ecuador of the genus *Basistemon* (Scrophulariaceae) was made. Above 1,500 m are the montane forests, where the flora changes definitively and families such as Podocarpaceae, Brunelliaceae, Cunoniaceae, and Clethraceae are found. The forest canopy is noticeably lower and more humid, orchids, ferns, and araceae are abundant, and the ground is covered with moss. A new species of *terrestrial* bromeliad *Guzmania* was recorded (J. M. Manzanares, pers. comm.), which is very common in this area.

³⁰ https://rsis Ramsar.org/RISapp/files/RISrep/EC2332RIS_1806_es.pdf

³¹ <https://rsis Ramsar.org/RISapp/files/RISrep/CO1047RIS.pdf>

³² IBR Ecuador: Cofán-Bermejo Mountains, Sinangoe. Field Museum, 2001

emblematic species *Victoria amazonica*, restricted to the biogeographic region, and Carana bravo (*Itaya amicomum*), which has been reported as the only species of this genus in the park (Forero et al. 2014)³⁸.

5.1.7 Protected areas and sites of importance for biodiversity

Eighteen protected areas (PAs) have been declared in the basin, created under the regulations of each country (Figure 8; Table 7). There are no PAs in the area of intervention corresponding to Brazil. Four of these areas are recognized as Key Biodiversity Areas (KBAs) and Important Bird and Biodiversity Areas (IBAs): the Cofán Bermejo Ecological Reserve, the Cuyabeno Wildlife Reserve, La Paya National Natural Park, and Amacayacu National Natural Park. In Peru, Ecuador, and Colombia, PAs are managed under the concept of conservation systems³⁹, consisting of areas with different management categories⁴⁰ ranging from strict protection to direct use of natural resources (Annex 4). In accordance with the IUCN guidelines for standardizing PA categories across countries⁴¹, the basin includes strictly protected areas corresponding to categories II and IV, and natural areas for biodiversity conservation and sustainable use of natural resources corresponding to category VI.

Table 7. Protected areas in the Putumayo-Içá watershed. Source: WCS, 2025.

Protected area	Country	IUCN category	Management level	Management body
Güeppei Sekime National Park	Peru	II	National	SERNANP
Yaguas National Park	Peru	II	National	SERNANP
Cofán Bermejo Ecological Reserve	Ecuador	Not reported	Communal	MAE/ National Directorate of Biodiversity and FEINCE
La Paya National Park	Colombia	II	National	PNN
PNN Amacayacu	Colombia	II	National	PNN
Cuyabeno Wildlife Production Reserve	Ecuador	VI	State	MAE - National Directorate of Biodiversity
RAMSAR Site Cuyabeno Lagartococha Yasuní Wetlands Complex	Ecuador	II	International	Yasuní National Park Administration, Provincial Directorate of Environment of Orellana, MAE
Huimeki Communal Reserve	Peru	VI	National	SERNANP and ECA
AiroPai Communal Reserve	Peru	VI	National	SERNANP and ECA
Bajo Putumayo Yaguas Communal Reserve	Peru	Not reported	National	SERNANP and ECA
Medio Putumayo Algodón Regional Conservation Area	Peru	Not reported	National	GOREL
Maijuna Kiwcha Regional Conservation Area	Peru	VI	Regional	GOREL

³⁸ <http://datazone.birdlife.org/site/factsheet/14433>

³⁹ Peru: National System of Natural Areas Protected by the State – SINANPE, Colombia: National System of Protected Areas – SINAP, Brazil: National System of Nature Conservation Units – SNUC, Ecuador: National System of Protected Areas of Ecuador – SNAP

⁴⁰ Colombia: <https://www.parquesnacionales.gov.co/portal/es/sistema-de-parques-nacionales-naturales/categorias-de-areas-protegidas/> Ecuador: <http://areasprotegidas.ambiente.gob.ec/es/content/categor%C3%ADas-de-manejo> Brazil: https://www.mma.gov.br/estruturas/sbf2008_dap/_publicacao/149_publicacao16122010111031.pdf

Peru: <https://www.sernanp.gob.pe/el-sinanpe>

⁴¹ <https://portals.iucn.org/library/efiles/documents/PAPS-016-Es.pdf>

Protected area	Country	IUCN category	Management level	Management body
Ampiyacu Apayacu Regional Conservation Area	Peru	VI	Regional	GOREL
Orito Ingi Ande Medicinal Plant Sanctuary	Colombia	IV	National	PNN
Regional Natural Parks Páramo de las Ovejas – Tauso	Colombia	II	National	CORPONARIÑO
National Protective Forest Reserves Laguna La Cocha Cerro Patascoy	Colombia	VI	National	MADS
SFF Isla de la Corota	Colombia	IV	National	PNN
RAMSAR Site Laguna de la Cocha	Colombia	Not reported	International	CORPONARIÑO

On the other hand, two wetlands have been designated as RAMSAR Sites due to their international importance for the provision of ecosystem services (Figure 8). One is the Laguna de la Cocha Wetland Complex in Colombia, which partially overlaps with the Isla de la Corota Wildlife Sanctuary and the Laguna La Cocha Cerro Patascoy National Protected Forest Reserves, and is administered by CORPONARIÑO. This complex is home to several endangered or vulnerable species, such as the Andean tapir (*Tapirus pinchaque*), the northern pudu (*Pudu mefistófeles*), and the Andean spectacled bear (*Tremarctos ornatus*). In terms of birds, the western grebe (*Podiceps occidentalis*), the golden-billed duck (*Anas georgicaspicauda*), the red-crested pochard (*Anas cyanoptera*), and the ferruginous duck (*Oxyura jamaicensis ferruginea*) are important and all endemic to the area. In terms of vegetation, there are important formations of very humid low montane forest and azonal páramo with swamps and endemic species such as the frailejón (*Espeletia cochensis* and *E. schultesiana*). The La Cocha region was partly occupied by the Quillacinga ethnic group, and the current population is made up of descendants of that ethnic group. This area is of archaeological importance, as there are remains related to the distribution of ceramics from the Piartal complex in the surroundings of La Cocha and in the Atriz Valley. There are also cave paintings that show the rock art of Quillacinga. La Cocha is considered a sacred site of purification and fertility by other indigenous cultures in the area.

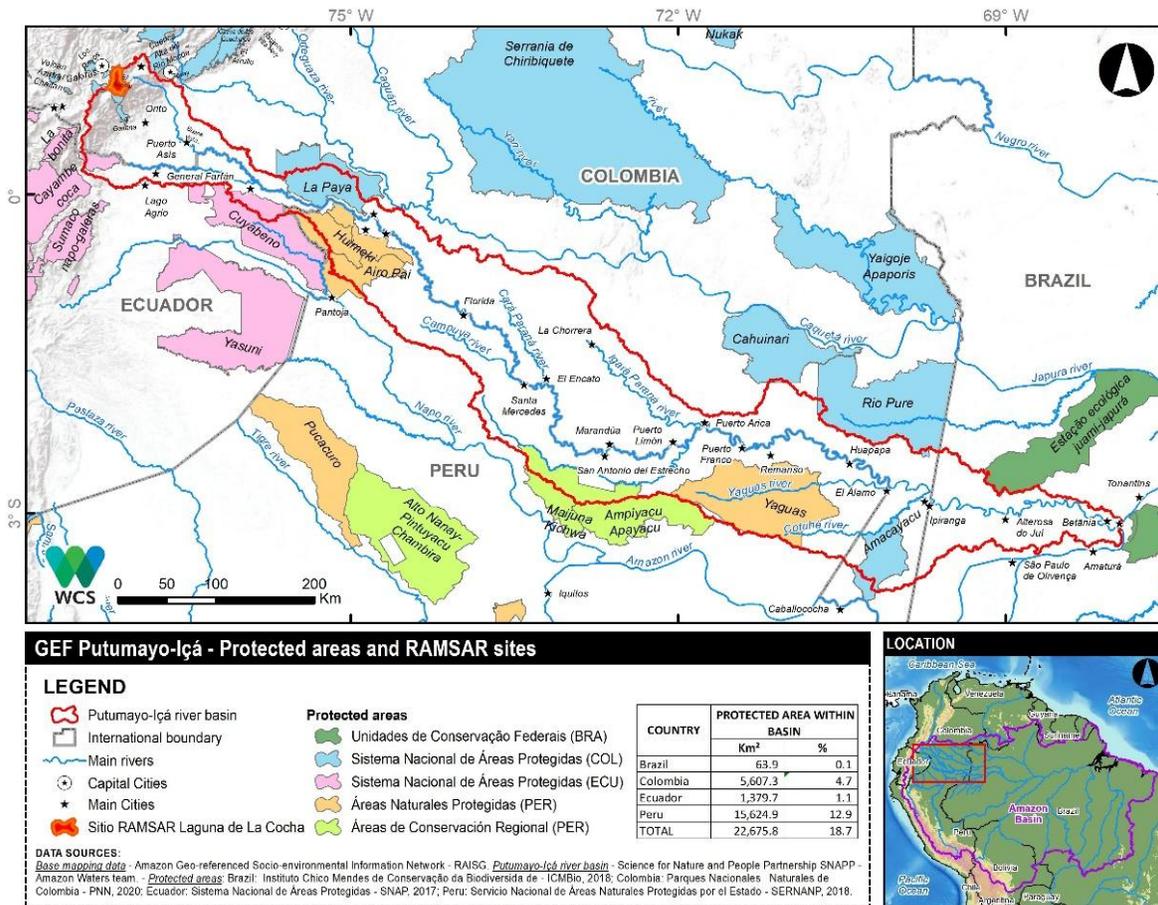


Figure 8. Protected areas and Ramsar sites. Source: WCS, 2020.

The second Ramsar site in the Basin is the Cuyabeno Lagartococha Yasuní Wetlands Complex in Ecuador, which overlaps with the Cuyabeno Wildlife Production Reserve and is administered by the Yasuní National Park, Provincial Directorate of Environment of Orellana of the Ministry of the Environment. This complex covers an area of 773,668 ha in the provinces of Sucumbios and Orellana, Ecuador, near the international border with Peru. It belongs to the Napo River basin, a sub-basin of the Aguarico and Cuyabeno rivers. It overlaps with the Cuyabeno Wildlife Production Reserve and its buffer zone, bordering the Yasuní National Park. It is part of the "Napo Wet Forests" Ecoregion of the Ecuadorian Amazon, an exclusive area with unusual edaphic and geological conditions that contains the highest levels of endemism and diversity in the world, characteristic of the Napo-Putumayo Pleistocene refuge (Dinerstein et al., 1995). At least 50% of Ecuador's mammal species (167) and more than 30% of the country's bird species (518) (Albuja & Arcos, 2007; Tirira, 2007; Campos, 2011) and is home to around 1,500 plant species (9% of the national total). There are threatened ecological communities of Moriche or Morete palm (*Mauritia flexuosa*), populations of camu camu (*Myrciaria dubia*) considered to be among the densest, and endemic and vulnerable plant species such as *Besleria*, *Columnea*, *Cremosperma*, *Nautilocalyx*, and *Reldia*. Noteworthy is the presence of endangered aquatic mammals such as the Amazonian manatee (*Trichechus inunguis*), giant otters (*Pteronura brasiliensis*), and river dolphins (*Inia geoffrensis*, *Sotalia fluviatilis*). Around 135 species of herpetofauna (81 amphibians and 54 reptiles) have been recorded, and an estimated

470 fish species from 225 genera (Stewart et al., 1987) have been identified. In Lagartococha alone, 76 species from 57 genera have been reported (The Field Museum, 2008). It provides resources for the Cofán, Kichwa, Huaorani, Shuar, Secoyas, and Siona communities for their own consumption. Its main threats are oil and natural gas exploration and drilling, hunting and fishing, the presence of invasive species, and changes in land use.

The management of the protected areas in the basin is the responsibility of national or local authorities. In Peru, the management of national areas is the responsibility of the National Service of Natural Areas Managed by the State (SERNANP), an agency attached to the Ministry of the Environment (MINAM). Communal reserves are managed under a special administration regime⁴² called co-management, which involves the participation of the communities that benefit from the reserves, organized into an Administration Contract Executor (ECA). The management of Regional Conservation Areas falls to the Regional Government of Loreto (GOREL). In Ecuador, state areas are part of the State Natural Areas Heritage Subsystem (PANE) and are under the authority of the Ministry of the Environment (MAE) through the National Directorate of Biodiversity. The Cofán-Bermejo Ecological Reserve is the only protected area that is jointly managed by the indigenous populations, represented by the Indigenous Federation of the Cofán Nationality of Ecuador (FEINCE), and the National Directorate of Biodiversity of the MAE. In Colombia, areas within the National Natural Parks System, such as National Natural Parks and Flora and Fauna Sanctuaries, are administered by a Special Administrative Unit called National Natural Parks (PNN), which is a national entity. The Páramo de las Ovejas-Tauso Regional Natural Park has a subnational administration that falls under the Regional Autonomous Corporation of Nariño (Corponariño). National Protected Forest Reserves are administered by the Ministry of Environment and Sustainable Development (MADS).

5.1.8 Environmental Liabilities

Based on the literature review and analysis in the previous sections, it can be inferred that environmental liabilities in the basin are associated with drug trafficking, mining, and hydrocarbon activity.

Drug trafficking.

As of 2015, the departments of Nariño and Putumayo were among those with the highest density of coca crops in Colombia (Gutiérrez, 2018). At the basin level, illicit crops are most prevalent in the headwaters up to Puerto Leguizamo and in areas near the Putumayo River: between the town of Soplín Vargas and the mouth of the Campuya River, upstream from the towns of San Antonio del Estrecho and Marandúa, at the headwaters of the Igará Paraná River near the town of La Chorrera, and between the confluence of this river with the Putumayo and the mouth of the Yaguas River. In the lower part of the basin, these crops extend along the Cotuhé River. The environmental liabilities of drug trafficking are associated with deforestation during the land preparation stage for cultivation; soil degradation associated with the use of synthetic nitrogen fertilizers, fungicides, herbicides, and insecticides, and erosion processes; and contamination of waterways, groundwater, and soil by highly toxic chemicals such as sulfuric acid, calcium oxide, potassium permanganate, and

⁴² Intendance Resolution No. 019-2005-INRENA-IANP approving the Special Regime for the Administration of Communal Reserves

fuel during drug processing and eradication⁴³. Field Museum studies report contamination of the San Miguel River in the vicinity of Cofán Bermejos in Ecuador.

Alluvial mining.

As of 2018, most mining concessions are located in the upper part of the basin, and to a much lesser extent in the lower and middle parts, in Ecuador, Brazil, and Colombia, respectively. Illegal mining takes place practically along the entire course of the Putumayo-Içá River, approximately from the Colombia-Ecuador-Peru triple border to its mouth at the Amazon River, and in the Cotuhé River. Likewise, there are numerous records along the Yaguas (Peru) and Cotuhé (Colombia) rivers. The environmental liabilities of alluvial mining are associated with the mercury used in gold extraction, which is then released into the environment and ultimately deposited in the soil; in the aquatic environment, it is transformed by microorganisms into a neurotoxic compound called methylmercury. This compound adheres to the organism and concentrates in food chains⁴⁴.

The Field Museum (2001) reports contamination associated with mining in the lower Bermejo River valley and the Cofanes River. A study conducted by SINCHI (2015) in the Amazon River in areas near Leticia, Putumayo in Puerto Leguizamo, and Tarapacá reports that several fish species have mercury concentrations above the maximum permissible value for Colombia (0.5 mg/kg), with the highest concentrations of the metal found in Puerto Leguizamo, in high trophic level fish that are also migratory (as cited in Gómez, 2018). Likewise, Cano, A. (2016) points out that the results of the evaluation of mercury traces in the Cotuhé River indicated representative levels of mercury that exceed the maximum acceptable value for human consumption and for the preservation of fauna and flora (as cited in Gómez, 2018). A study conducted in indigenous communities in Tarapacá reports that the overall average level of T Hg for all samples was $10.6 \pm 0.4 \mu\text{g/g}$, with values ranging from 0.61 to 31.1 $\mu\text{g/g}$, with 1.0 $\mu\text{g/g}$ being the maximum permissible value recommended by the EPA⁴⁵.

Although there are no official data, UNODC and NGO records show an increase in the number of rafts, dredges, and machinery from 2022 onwards, with very significant increases compared to previous periods.

Oil exploration and exploitation.

Concessions for oil exploration and exploitation are located in the upper part of the Putumayo basin, in Colombia and Ecuador. According to the Environmental and Social Reparation Program (PRAS), the environmental liabilities of oil activity are associated with spills, the construction of pools without technical design, the dumping of formation water, and gas flaring. Ecuador's National Plan for Good Living 2013-2017 indicates that by 2011, 19% of the sources generating environmental

⁴³ Bernex, N. (2009). The impact of drug trafficking on the environment. Illicit coca cultivation. A crime against ecosystems and society. Accessed November 22, 2020. Source: Pontifical Catholic University of Peru: http://repositorio.pucp.edu.pe/index/bitstream/handle/123456789/39934/4_impacto_environment.pdf?sequence=4&isAllowed=y

⁴⁴ Gómez, Y. (2018). Analysis of the feasibility of regulating the use, movement, and transport of the main heavy machinery and equipment used in illegal gold mining in the jurisdiction of CORPOAMAZONIA. Source: https://www.corpoamazonia.gov.co/images/2018/Consultas/20181207_tecnico.pdf Accessed on November 22, 2020.

⁴⁵ Alcalá, M; Caballero, K; Olivero, J. 2019. Mercury exposure assessment in indigenous communities from Tarapaca village, Cotuhe and Putumayo Rivers, Colombian Amazon. Environmental Science and Pollution Research.

liabilities had been eliminated. Likewise, studies by the Field Museum (2001) report contamination of the lower Bermejo River valley, the Cofanes River and its tributaries, and the San Miguel River.

The analysis of Total Petroleum Hydrocarbons (TPH) at various sampling points along the basin on the Peruvian side⁴⁶ shows values below the intervention value of 5000mg/kg according to the Netherlands Guide (New Dutchlist - 2000). At nine monitoring points, TPH concentrations above the optimal value of 50 mg/kg were recorded, with the highest values in the San Pedro River (180.7 mg/kg), Güeppi River (136.30 mg/kg), and Algodón River (76.20 mg/kg) (Table 8).

Table 8. TPH concentration at sampling sites on the Peruvian side. Source: ANA. 2019.

Sampling point	HTP concentration mg/kg
Gueppi River	136.30
Tres Fronteras locality	44.30
Penaya River	35.70
Soplin Vargas locality	48.10
Angusilla River	71.00
Nueva Angusilla locality	42.20
Urco Miraño locality	74.80
Yubinetto River	52.6
Pampa Hermosa locality	36
Campuya River	31.30
Santa Mercedes area	44.9
Campana Cocha Ravine	28.20
Ere Ravine	62.10
San Antonio de El Estrecho	--
Sabalazo Ravine	65.80
Algodón River	76.20
Bufo locality	65.10
Remanso locality	--
San Pedro River	180.70
Location San Martín Libertador	26.60
Yagua River	--
Cocha Huapapa	--

5.2 Social characteristics

This section provides a detailed description of the social characteristics of the areas of interest in the project.

5.2.1 Political-administrative units

In political-administrative terms, the basin comprises four (4) national states: Brazil, Colombia, Ecuador, and Peru. Depending on the political-administrative structure of each country, the area involved in the project affects four departments, five provinces, and, at the local level, four districts, 29 municipalities, 6 cantons, and 17 parishes (Table 9).

⁴⁶ ANA. 2019. Second monitoring of surface water and sediment quality in the Putumayo River basin. Technical Report No. 008-2019-ANA-ALA-IQUITOS/EJDG

Table 9. Political-administrative units in the Putumayo-Içá Basin

Country	Political-administrative units
Brazil	Municipalities: Amaturá, Santo Antônio do Içá, São Paulo de Olivença.
Colombia	Municipalities: El Encanto, La Chorrera, Leticia, Puerto Alegría, Puerto Arica, Puerto Nariño, Puerto Santander, Tarapacá, Córdoba, Funes, Ipiales, Potosí, Puerres, Pasto, Colón, Mocoa, Orito, Puerto Asís, Puerto Caicedo, Puerto Leguizamo, San Francisco, San Miguel, Santiago, Sibundoy, Valle del Guamuéz, Villagarzón.
Ecuador	Parishes: El Dorado de Cascales, Santa Rosa de Sucumbios, Sevilla, Cuyabeno, Puerto Libre, Dureno, General Farfan, Jambeli, Nueva Loja, Pacayacu, Santa Cecilia, Palma Roja, Puerto Bolívar, Puerto el Carmen del Putumayo, Puerto Rodríguez, Santa Elena, Rosa Florida.
Peru	Districts: Putumayo, Rosa Panduro, Teniente Manuel Clavero, Yaguas.

5.2.2 Demographic and socioeconomic characteristics

The overall population density of the basin is <14 people/km². The highest densities⁴⁷ occur in the four Colombian municipalities of Upper Putumayo, and the lowest densities are reported in Amazonas (Colombia) and the Peruvian province of Putumayo, with 1 inhabitant per 7 km² and 1 inhabitant per 10 km², respectively⁴⁸. Table 10 shows the density at the department, province, or municipality level in the four countries.

Table 10. Population density by political-administrative unit in the four countries.

Political-administrative unit		Country	Density - inhabitants/km ²
Department	Nariño	Colombia	51.9
Department	Putumayo	Colombia	13.6
Province	Sucumbíos	Ecuador	12.5
Municipality	Amaturá	Brazil	2.4
Municipality	São Paulo de Olivença	Brazil	2
Municipality	Santo Antônio do Içá	Brazil	1.8
Department	Amazon	Colombia	0.7
Province	Putumayo	Peru	0.1

Socioeconomic conditions and basin dynamics vary across the region. Most of the watershed is an area almost completely without roads, with the exception of the road network in the upper reaches in Ecuador and Colombia that supports larger cities and oil exploration and exploitation. There are occasional flights to major cities in the middle and lower parts of the basin. Most communities are located along the banks of rivers that are navigable year-round, ensuring easy access on both sides of the Peru-Colombia border and the Peru-Colombia-Ecuador border, as well as downstream toward Brazil. Communities generally obtain their drinking water from nearby rivers, lakes, wells, and streams. Street lighting is only available in some communities, and electricity is generally only

⁴⁷Management Plan for the Upper Putumayo River Basin; Corporation for the Sustainable Development of the Southern Amazon-CorpoAmazonia, 2009. Ministry of Environment, Housing, and Territorial Development.

⁴⁸See, for example, Field Museum Rapid Biological and Social Inventories # 25 (Pitman, N., E. Ruelas Inzunza, C. Vriesendorp, DF Stotz, T. Wachter, Á. del Campo, D. Alvira, B. Rodríguez Grández, RC Smith, AR Sáenz Rodríguez, and P. Soria Ruiz, eds. 2013. Peru: Ere-Campuyá-Algodón. Rapid Biological and Social Inventory Report 25. The Field Museum, Chicago.) And #28 (Pitman, N., A. Bravo, S. Claramunt, C. Vriesendorp, D. Alvira Reyes, A. Ravikumar, Á. Del Campo, DF Stotz, T. Wachter, S. Heilpern, B. Rodríguez Grández, AR Sáenz Rodríguez, and RC Smith, eds. 2016. Peru: Middle Putumayo-Algodón. Rapid Report of Biological and Social Inventories 28. The Field Museum, Chicago. Please note that data is only partially available for the basin given its remoteness, as well as conflicts in some of the areas belonging to Colombia.

available in health clinics and in the homes of those few families who have their own generators. The middle part of the basin has more traffic and trade in natural resources (e.g., fish, timber, and non-timber products) and agricultural products than the lower part.

Peru - Province of Putumayo:

According to the 2007 National Censuses: XI Population and VI Housing, the population of the province of Putumayo is 5,638 inhabitants, which corresponds to 0.5% of the population of the department of Loreto. The majority (56.9%) are men; most are between 15 and 64 years old (58.5%), and 51.5% live in urban areas. The indigenous population is estimated at 5,239 inhabitants⁴⁹ distributed among 57 communities, representing 93% of the provincial population. Table 11 shows the values by demographic variable in the Province of Putumayo.

Table 11. Absolute and percentage values by demographic variable in the Province of Putumayo - Peru

Demographic variable	Inhabitants of the Province of Putumayo	
	Absolute value	Percentage
Census population	5,638	10
Men	3,207	56.9
Women	2,431	43.1
Population by major age groups		
0	2168	38.5
15-64	3300	58.5
65 and over	170	3.0
Population by area of residence		
Urban	2902	51.5
Rural	2736	48.5
Population by ethnic origin*		
Indigenous	5,239	93.0

Source: INEI - 2007 National Censuses: XI Population and VI Housing

* WCS (2020). Community Assessment. GEF Putumayo Project.

According to the 2018 Provincial and District Monetary Poverty Map⁵⁰, in part of the Putumayo province corresponding to the Putumayo and Yaguas districts, monetary poverty increased between 10 and 19 points in the period 2013-2018, while in the districts of Rosa Panduro and Teniente Manuel Clavero, poverty fell by 20 points or more during the same period.

The Human Development Index (HDI) for 2019 (Table 12) for the province of Putumayo (0.3989) is below the national HDI (0.5858), reflecting the gaps faced by Amazonian populations, mainly in relation to complete secondary education (27%) and per capita family income for meeting basic needs (S/. 679) compared to the national values, 67%, and S/. 1032, respectively. At the district level, Yaguas has the highest HDI (0.4723) and Teniente Manuel Clavero has the lowest value (0.3023).

Table 12. HDI of the Province of Putumayo compared to national values

⁴⁹ WCS (2020). Community Assessment. GEF Putumayo Project.

⁵⁰ INEI (2018). Provincial and District Monetary Poverty Map 2018. Consulted on the INEI website: http://inei.inei.gob.pe/inei/srienaho/Descarga/DocumentosMetodologicos/2018-87/3_Documento_Mapa_de_Pobreza_2018.pdf

Level		Population		HDI		Life expectancy at birth		With complete secondary education (population aged 18)		Years of education (population aged 25 and over)		Per capita family income	
		Population	Ranking	HDI	Ranking	Years	Rank	%	Ranking	Years	Rank	N.S. month	Ranking
National	Peru	31,296.14		0.585		75.42		67.6		9.14		1,032.2	
Provincial	Putumayo	8,006	188	0.398	110	78.08	34	27.3	193	5.71	142	679.4	79
District	Yaguas	1,091	1576	0.472	579	76.63	559	27.2	1796	5.41	1256	1,181.9	141
	Putumayo	2,611	1,163	0.455	645	75.82	670	34.9	1656	6.73	800	826.4	449
	Rosa Panduro	444	1813	0.365	1048	78.32	368	12.8	1871	6.02	1034	725.6	568
	Lieutenant Manuel Clavero	3,859	962	0.302	1,411	76.60	567	17.2	1864	5.07	1389	432.6	1086

Source: UNDP

Colombia – Departments of Nariño, Putumayo, and Amazonas:

The population of the three departments totals 1,690,512, with 79% living in Nariño, followed by Putumayo (17%) and Amazonas (4%). On average, more than 60% are between 15 and 64 years old; and in the national context, Amazonas and Putumayo are among the departments with the highest percentage of young people. In all three cases, women represent more than 50% of the population per department; and on average, more than 52% is urban population (municipal capitals)⁵¹.

The indigenous population in the intervention departments amounts to 295,279 inhabitants and represents 17% of the total population of the three departments. It is mainly located in Nariño, however, for this department it only represents 16%, unlike Amazonas, where the indigenous population represents more than 86%. The variables of sex and majority age group follow the same trend as at the departmental level. Similarly, the aging index of Nariño, the highest in the country, seems to be replicated in the indigenous population of this department.

The Afro-descendant population in the intervention departments totals 243,810 inhabitants and represents 14% of the population of the three departments. They are mainly located in Nariño, with 49.7% being men and 50.3% women (Table 13). Multidimensional poverty among the national NARP group stands at 30.6%, which is 11.0 percentage points above the national poverty rate for this domain. Nariño is one of the departments where the multidimensional poverty rate among this group is higher than the departmental total, with a gap of 23.4 percentage points.⁵²

Table 13. Absolute and percentage values by demographic variable in the departments of Amazonas, Nariño, and Putumayo – Colombia.

Demographic variable	Inhabitants per department		
	Amazon	Nariño	Putumayo

⁵¹ DANE (2018). Results of the 2018 National Population and Housing Census. Government of Colombia. Accessed on November 26, 2020, on the DANE website: <https://www.dane.gov.co/files/censo2018/informacion-tecnica/cnpv-2018-presentacion-3ra-entrega.pdf>

⁵² DANE (2019). Black, Afro-Colombian, Raizal, and Palenquera Population Results of the 2018 National Population and Housing Census.

	Absolute value	%	Absolute value	%	Absolute value	%
Census population	66,056.0	100	1,335,521.0	100	283,197.0	100
Men		47.9		49.0		49.5
Women		52.1		51.0		50.5
Population by major age groups						
0	23,342.0	35.3	2,998,819.0	22.4	76,490.0	27.0
15-64	39,887.0	60.4	906,514.0	67.9	189,001.0	66.7
65 and over	2,827.0	4.3	130,188.0	9.7	17,706.0	6.3
Population by area of residence						
Municipal capital	34,596.0	52.4	647,595.0	48.5	158,643.0	56.0
Populated centers	15,966.0	24.2	162,497.0	12.2	24,198.0	8.5
Scattered rural areas	15,494.0	23.5	525,429.0	39.3	100,356.0	35.4
Population by ethnic origin						
Indigenous population	38,130.00	86.22	206,455.0	16.34	50,694.0	23.95
Population NARF	486.0	0.69	233,062.0	14.1	10,262.0	3.21
Indigenous population by sex						
Women		48.3		50.7		50.3
Men		51.7		49.3		49.7
Indigenous population by broad age groups						
00-14		38		26.1		30.5
15-64		57.9		66		64
65 and over		4.1		7.9		5.5

Source: DANE - 2018 National Population and Housing Census

Ecuador – Province of Sucumbíos:

The population of the Province of Sucumbíos is 176,472, mostly located in the Lago Agrio canton (52%). The population is predominantly male (52.6%), and the largest age group is between 15 and 64 years old⁵³. The population identifies as mestizo (75%), indigenous (13%), and, in smaller percentages, Afro-Ecuadorian, black, mulatto, Montubio, and white (Table 14). The largest percentage of the population of the province of Sucumbíos lives in urban areas (59%).

Table 14. Absolute and percentage values by demographic variable in the province of Sucumbíos, Ecuador.

Demographic variable	Inhabitants of the province of Sucumbíos	
	Absolute value	%
Census population	176,472.0	100.0
Men	92,824.3	52.6
Women	83,647.7	47.4
Population by major age groups		
0	64,512.0	36.6
15-64	105,407	59.7

⁵³ INEC (n.d.). Results of the 2010 Population and Housing Census in Ecuador. Sucumbíos Provincial Fascicle. Accessed on November 26, 2020, on the website of the National Institute of Statistics and Census: <https://www.ecuadorencifras.gob.ec/wp-content/descargas/Manu-lateral/Resultados-provinciales/sucumbios.pdf>

Demographic variable	Inhabitants of the province of Sucumbíos	
	Absolute value	%
65 and over	6553	3.7
Population by area of residence*		
Urban	104,442	59.18
Rural	72,030	40.82
Population by ethnic origin (self-identification)*		
White	8015	4.5
Mestizo	132,354	75.0
Indigenous	23,684	13.4
Montubio	1682	0.95
Afro-Ecuadorian	4281	2.43
Black	2269	1.29
Mulatto	3801	2.15
Others	386	0.22

Source: INEC – 2010 Population and Housing Census in Ecuador

* GAD Sucumbíos (2015) – Development and Land Use Plan

Brazil – Municipalities of Amaturá, São Paulo de Olivença, Santo Antônio do Içá:

The population in the three municipalities totals 65,370 inhabitants, located mainly in São Paulo de Olivença (48%) and Santo Antônio do Içá (37%). In all three cases, more than 50% of the population is male, and in Amaturá and Santo Antônio do Içá, the population is mainly urban. Information on the number of inhabitants by ethnicity was not available (Table 15).

Table 15. Absolute and percentage values by demographic variable in the municipalities of Amaturá, São Paulo de Olivença, and Santo Antônio do Içá, Brazil.

Demographic variable	Inhabitants per municipality					
	Amaturá		São Paulo de Olivença		Santo Antônio do Içá	
	Absolute value	%	Absolute value	%	Absolute value	%
Census population	9,467		31,422		24,481	
Men		51.8		51.8		51.4
Women		48.2		48.2		48.6
Population by major age groups						
00-14		39.0		41		43
15-64		56		53		53
65 and over		5		6		4
Population by area of residence						
Urban		52.4		45.4		52.9
Rural		47.6		54.6		47.1
Population by ethnic origin (self-identification)						
White (Branca)	n/a		n/a		n/a	
Mestizo (Brown)	n/a		n/a		n/a	

Demographic variable	Inhabitants per municipality					
	Amaturá		São Paulo de Olivença		Santo Antônio do Içá	
	Absolute value	%	Absolute value	%	Absolute value	%
Indigenous (Indigenous)	n/a		n/a		n/a	
Black (Black)	n/a		n/a		n/a	
Yellow	n/a		n/a		n/a	

Source: IBGE, 2010 Demographic Census. Universe Results.

5.2.3 Predominant productive/economic activities

The economy of Putumayo-Içá has been very dynamic and generally determined by a booming product or activity: quinine (1616-1885), rubber (1880-1912), leather (early 1960s), coca (1980 to present) and oil (1957 to present). These activities have largely determined the type and level of pressure exerted on natural resources, including the conversion of natural areas. The extractive industry has been fundamental in defining the population dynamics and landscape configuration of the upper basin, through activities such as road construction and the establishment and expansion of settlements. More recently, other productive activities, such as agriculture, livestock, mining, and logging, particularly in the upper reaches, have contributed significantly to local economies.

Hydrocarbon exploration and exploitation.

Oil activity is concentrated at the headwaters of the basin, in Ecuador and Colombia. The Colombian National Hydrocarbons Agency notes that the Putumayo basin is one of the most active in terms of exploration (33 concessions), with an additional 12 concessions in operation, run by four companies. In Ecuador, the territory covered by the intervention is part of an economically attractive area due to its great potential for oil development⁵⁴, with 28 concessions in operation run by four companies, including the state oil company.

Mining.

Mining concessions for gold extraction are concentrated at the headwaters of the basin, with 63 in operation and 2 in exploration, as well as 158 applications, mainly in Colombia, from companies and individuals. In the middle portion of the basin, on the Colombian side, there are three applications from one company, and in the lower portion in Brazil, there are 22 applications for mining concessions, mainly from two cooperatives. As described in the section on environmental liabilities, illegal mining activity takes place along the entire course of the Putumayo River, from the triple border of Ecuador, Peru, and Colombia to the lower part of the basin, including its tributaries Yaguas and Cotuhé. This activity is mainly carried out by immigrants, using rafts and dredges on the river (Field Museum, 2020).

In the basin, the local population carries out traditional subsistence activities to ensure their food sovereignty, as well as commercial activities in small urban areas⁵⁵ to access economic resources

⁵⁴ PETROECUADOR (2013). Oil in Ecuador Oil: its formation, development, and market. Retrieved November 25, 2020, from the PETROECUADOR website: <https://www.eppetroecuador.ec/wp-content/uploads/downloads/2015/03/El-Petr%C3%B3leo-en-el-Ecuador-La-Nueva-Era.pdf>

⁵⁵ Such as Orito, Puerto Asís, Puerto Leguizamo, El Estrecho, Tarapacá, and San Antonio de Içá.

that allow them to cover their family expenses. These activities include fishing, hunting, timber and non-timber resource extraction, and agriculture. In the Upper Putumayo, Güeppi-Cuyabeno sector, the family economy is complemented by small-scale animal husbandry (mainly poultry) and pigs and cattle, which are sold in Puerto Leguízamo in Colombia (Field Museum, 2008).

On the other hand, in the Lower Putumayo, there are productive associations dedicated to fishing, timber extraction, and non-timber trade, which have been formalizing their activities in order to access government programs or support (Field Museum, 2020).

Fishing.

Fishing is mainly organized through informal agreements between communities, which are implicit for access to water bodies for subsistence purposes and explicit when fishing is for commercial purposes, for example, for the capture of arahuana and paiche in the Putumayo Algodón and Yaguas-Cotuhé sectors, and also for the use of water bodies on the other side of the border. There is a single organization in the Putumayo area, the San Antonio de El Estrecho Fishermen's Association (ASPES). In Yaguas Cotuhé, in the Peruvian sector, the Associations of Fishermen and Artisanal Processors (APPAs) exploit their fish resources through the implementation of a Fisheries Management Program (PROMAPE), and have a formal written agreement with the Iquitos Aquarium to sell arahuana fry. In Tarapacá, Colombia, there are two fishing associations: the Tarapacá Fishermen's Association (ASOPESTAR), which is not currently operational, and the Tarapacá Amazonas Ornamental and Artisanal Fish Production Association (APIPOATA), which was recently formed to exploit and market ornamental species. In the section of the Putumayo River from the native community of Puerto Franco to the Cotuhé River on the Colombian side, there are no formal fish management schemes or associations. Fishing is for subsistence and sale to intermediaries (Field Museum, 2020)⁵⁶.

Timber extraction.

This activity takes place throughout the entire basin. In Güeppi-Cuyabeno, commercial timber extraction has a long history, and some species such as cedar have been depleted. By 2008, the activity was reemerging with the extraction of more varied species, such as azúcar huayo, huimba, granadillo, and cahuiche. (Field Museum, 2008). In the Middle Putumayo, Algodón sector, it is noted that extraction can be formal with the support of the PEBDICP or illegal, in which case it is causing the constant depletion of timber resources in the area. The volume of extraction varies and focuses on a few species of high commercial value such as cedar (*Cedrela* sp.), sugar huayo (*Hymenaea* spp.), shihuahuaco or charapilla (*Dipteryx micrantha*), tornillo or achapo (*Cedrelinga cateniformis*), and granadillo (*Platymiscium pinnatum*). The main trading center is El Estrecho (Field Museum, 2016). In the Yaguas – Cotuhé sector, logging is generally selective and small-scale, with tornillo (*Cedrelinga cateniformis*), fono negro and mari mari (*Lecythydaceae* sp.), arenillo (*Erismia uncinatum*), creolino (*Monopterix uauacu*) and cumala (*Virola sebifera* aubl), among other species, being exploited. Most extraction is informal, with little government control due to the weak presence of the state in border areas. Management declarations granted to communities in Peru are often used to endorse illegal timber. On the Colombian side of this region, legal timber harvesting is carried out within the Ley Segunda Forest Reserve through persistent forest harvesting permits (valid for five years) and permits for isolated trees (valid for six months), taking into account the zoning of the Reserve. A

⁵⁶ Jarrett, C., Alvira, D., Salazar, A. (2020). Use of Natural Resources and Family Economy in the Lower Putumayo-Yaguas-Cotuhé Region.

good example of community forest management is being developed by the Association of Timber Producers of Tarapacá – ASOPROMATA (Field Museum, 2020). ASOPROMATA has evolved from an incipient initiative, documented by the Field Museum, to a technological benchmark for Community Forest Management in Peru. By 2025, the association not only guarantees the legal and sustainable extraction of timber, but also uses advanced digital tools to ensure traceability and the protection of biodiversity in the heart of Putumayo.

Hunting.

It is mainly a subsistence activity that plays an important role in providing animal protein and cultural recreation for indigenous peoples, and is not considered to pose a threat to the health of the territory (Field Museum, 2020). In the middle Putumayo-Algodón sector, the most prized species, and probably those under the greatest hunting pressure, are Huangana/Puerco (*Tayassu peccari*), sajino/cerrillo (*Pecari tajacu*), majaz/borugo (*Cuniculus paca*), sacha vaca/danta (*Tapirus terrestris*), and in Yaguas Cotuhé also the paujil (*Mitu sp.*). Hunting is generally carried out around population centers and sometimes within PAs such as Yaguas National Park, where legislation allows hunting for subsistence purposes. In Colombia, it is possible to obtain hunting permits, but they are not usually processed, and in cases of overlap between indigenous reserves and protected areas, there are agreements for the use of resources for subsistence purposes. There are informal inter-community agreements in Peru; formal agreements between indigenous reserves in Colombia, with regulations on the amount of hunting and hunting sites; and agreements between populations on different sides of the Colombian-Peruvian border.

Agricultural production.

Agricultural production in the basin is small-scale, mainly for self-consumption, and is carried out on small farms or chagras where various crops are intercropped, such as pineapple (*Ananas comosus*), cassava (*Manihot esculenta*), vegetables, fruit trees, and medicinal plants, among others. The size of the farms varies according to the type of crop and availability of labor, ranging from 0.25 to 1.5 hectares in the Putumayo-Algodón and Yaguas-Cotuhé areas.

In the Putumayo-Algodón area, farms are less diverse than in other areas of the Amazon (Field Museum, 2016). Some communities develop agroforestry systems with support from the PEBDICP. In the Yaguas-Cotuhé sector, there are significant differences between the farms of the indigenous communities, the urban population of Tarapacá, and the Israelite population. For example, most commercial production corresponds to the Israelite communities, which have become the main suppliers of vegetables, dairy products, and meat from domestic animals in the area. Furthermore, given that most communities in Peru are located in the lowlands, they have farms on the Colombian side, in addition to those they have in their own territories (Field Museum, 2020).

Extraction of non-timber resources.

Fruits, seeds, fibers, roots, oils, resins, among others, both cultivated and wild, are exploited. Currently, most of these products are used for self-consumption and local trade. In the middle Putumayo-Algodón sector, the use of 63 wild species was recorded (Field Museum, 2016). Among the experiences that stand out in the Yaguas-Cotuhé sector are the use, processing, and marketing of camu camu (*Myrciaria dubia*), copazú (*Theobroma grandifolium*), pineapple (*Ananas comosus*),

arazá (*Eugenia stipitata*), and pomarrosa (*Syzygium jambos*) by the Tarapacá Community Women's Association (ASMUCOTAR).

Capture of aquatic and terrestrial turtles.

In the Putumayo-Algodón region, communities collect turtle eggs for local consumption and commercial purposes, such as the six-spined slider (*Podocnemis sextuberculata*), the broad-nosed turtle (*Podocnemis expansa*), and the green turtle (*Podocnemis unifilis*), and report a drastic decline in the populations of these species (Field Museum, 2016) due to the collection of eggs and capture of breeding females without management regulations, to be sold to Peruvian and Colombian traders. The collection of motelo (*Chelonoidis denticulata*) is a complementary activity to hunting or timber extraction, and according to the results of the Field Museum's IBR, the population is abundant.

5.2.4 Sociocultural dynamics

The cultural expressions of the indigenous peoples inhabiting the basin are described based on information from the Rapid Biological Inventories (RBI) carried out by the Field Museum in different sectors of the basin. Table 16 details the inventory sector and the indigenous peoples addressed in each case.

Table 16. Areas and indigenous peoples covered in The Field Museum study.

RBI sector	Indigenous peoples
Headwaters - Orito Ingi Ande Medicinal Plant Sanctuary	Cofán, Inga, Siona, Kamentsa, and Coreguaje
Güeppi Cuyabeno	Secoya, Kichwa, Huitoto, and mestizo population
Medio Putumayo Algodón	Murui, Kichwa, Ocaina, Bora, Maijuna, Tikuna, Kukama, Yagua
Yaguas Cotuhé	Kichwa, Yagua, Bora, Huitoto, Tikuna, and mestizo population in the community of Huapapa

Local knowledge and comprehensive use of the forest.

A constant feature in all the communities that participated in the studies is their extensive knowledge of the agricultural, botanical, and ichthyological diversity of their territories, the appropriate seasons or times for planting crops, gathering forest fruits, extracting wood, hunting, and fishing, and perceptions of climate change that allow them to identify unusual events, such as in Yaguas – Cotuhé communities report having identified unusual fish migrations and changes in the hydrological cycle. Another noteworthy aspect is the constant oral transfer of this traditional ecological knowledge from parents to children, whether indigenous or mestizo.

In Güeppi-Cuyabeno, the Airo Pai communities maintain migratory behavior within their ancestral territory, which has led to the displacement of families from outside their titled territory and concern among neighboring communities. In this sector, the use of traditional artifacts and tools in daily life was observed, as well as the use of the cushma by Airo Pai men. The use of traditional management techniques was also identified, such as diversified farms, crop rotation, hunting and fishing bans, and self-control norms through myths and oral stories (Field Museum, 2008). In the communities located between the Yaguas, Cotuhé, and Putumayo rivers, there is a deep knowledge of aquatic ecosystems (lakes, streams, and rivers) and the organisms that inhabit them. As in Güeppi

Cuyabeno, there is a great deal of knowledge about traditional management techniques compatible with conservation, diversified family farms and gardens, and secondary forest rotation.

Traditional medicine.

At the headwaters of the basin, the indigenous peoples of the Amazonian foothills, notably the Cofán, Inga, Siona, Kamentsa, and Coreguaje, maintain the "Yagué," also known as ayahwasca, as one of the strongest shamanic traditions currently existing on the planet. Today, this ritual has spread to urban audiences as a therapeutic or healing alternative with an important spiritual component, aimed especially at non-indigenous people.

In the Putumayo region, knowledge of medicinal plants is widespread among both men and women and is transmitted orally. During the IBR, 120 plants were recorded as being used to treat uta, malaria, snake bites, stingray stings, wounds, sprains, broken bones, stomach aches, fever, etc. including nettle, aloe vera, sangre de grado, cat's claw, oregano, basil, mallow, piri-piri, kión, chuchuhuasha, ajos sachá, ojé, lemon, cocona, tobacco, and coca. For the treatment of complex ailments, trees, vines, and ferns are collected, and prayers are said to complement the effects of the plant. The use of clays and loams for pottery, recreational/cultural purposes, and medicinal uses was also recorded. The most common use is in pottery; however, the practice is being lost because metal utensils are now available. Cultural/recreational uses include face painting during carnivals. The medicinal use of clays is for the treatment of fever, inflammation, and swelling, to absorb venom from animal bites such as stingrays or snakes, and for back pain.

Myths and legends.

In Güeppi-Cuyabeno, 26 sacred sites have been identified; the Airo Pai, Naporuna, Murui, and mestizos all designate them as prohibited or intangible areas. As part of their worldview, animals, trees, and bodies of water are represented by a mother or owner, who appear as spirits in the form of enormous rare animals or as goblins. Special rituals or the help of a shaman are required to access the products of these places. For example, the Airo Pai () respect enchanted lakes and the "chacras of the people who eat eyes," called Nacuano'a.

In the Putumayo region, communities refer to the presence of beings that regulate the use of the forest, lead to the care of important places such as enchanted lakes, stream headwaters, and primary forest, and punish people who prey on resources in various ways. The most commonly told stories refer to the yashingo, which appears in the forest in the guise of a familiar face and deceives people until they get lost in the forest, where it can hold them captive for long periods of time. The yanapuma, similar to a black puma, protects the forest, the animals, and the lakes, and is attributed with magical and healing properties. The mother boas of the lakes (anacondas) can generate torrential rains and strong winds when angry and can make people sick. These stories are transmitted orally and are highly valued by adults and young people in the communities.

Reciprocity and support systems.

In the communities of Güeppi-Cuyabeno, there are reciprocal relationships; for example, members share the fruits of the harvest, hunting, and fishing among themselves. These relationships are based on kinship, but reciprocity is also practiced in mestizo communities where kinship is not as strong a social bond. In Yaguas-Cotuhé, reciprocity mechanisms and support networks extend

beyond the community, allowing for a system of equality between residents and laborers for different activities. In both sectors, the practice of minga was also identified, for example, to work on farms.

With regard to women's participation, in Güeppi-Cuyabeno and Yaguas-Cotuhé, it was observed that women participate extensively in decision-making in the family and community environment, with notable participation in the Assemblies. In Colombia, the following women's organizations stand out:

- i. The Nìmaira Uaii Jagìyi Nìmaira Uaii Jagìyi group of wise women from the Uitoto ethnic group, originally from La Chorrera, who practice healing and medicine through the use of coca, tobacco, and sweet cassava.
- ii. Asociación de Mujeres Indígenas Ariana de la Comunidad de Puerto Nuevo, in Tarapaca, promoting productive farming without losing the traditional methods of crop rotation or the traditions of the Tikuna ethnic group to which most of the members belong. Among its main projects is the consolidation of a value chain for farifia in an associative and community-based manner.
- iii. Tarapacá Community Women's Association (ASMUCOTAR), made up of 30 women focused mainly on working with Amazonian fruit trees, such as camu-camu.
- iv. Association of Indigenous Women ASOMI⁵⁷, which seeks to contribute to the construction of territorial peace in the Department of Putumayo by strengthening indigenous medicine, rescuing medicinal chagra, and recognizing the women of the Colombian Amazon.

In Brazil, there are the Associação das Mulheres Indígenas Ticuna (AMIT) in Porto Cordeirinho, the Associação dos Witotas do Alto Solimões, the Organização Geral das Mulheres Indígenas Tikuna do Alto Solimões, and MOWACTHA - Associação de Mulheres Indígenas Ticuna da Comunidade de Paranapara I⁵⁸. In Peru, the Organización Nacional de Mujeres Indígenas Andinas y Amazónicas del Perú (ONAMIAP) stands out. It focuses on promoting the participation of indigenous women and the fulfillment of their individual and collective rights through the strengthening of grassroots organizations, the revaluation of their ancestral knowledge, and advocacy in the public agenda at the local, regional, national, and international levels. In the case of Ecuador, no information was found on indigenous women's organizations or associations based in the Putumayo-Içá Basin. In this regard, the Project will seek to identify and compile this information during the early stages of its implementation.

5.2.5. Security dynamics

The main armed conflict in the basin occurs in Colombia, which began after the second half of the 20th century. Since the 1970s and 1980s, the Revolutionary Armed Forces of Colombia (FARC) have begun to exert direct influence in the departments of Caquetá, Putumayo, and Amazonas. The neglect of the state, the lack of political interest in the Amazon, largely due to the low population density, coupled with the lack of roads and transport infrastructure and the breakdown in

⁵⁷ Ortiz, Claudia E. 2019. Association of Indigenous Chagra Women of Life ASOMI. A benchmark for territorial peacebuilding in the department of Putumayo. National University of Colombia. 60 p. In: <http://www.bivipas.unal.edu.co> Date consulted: November 11, 2020. ⁵⁸ Source: https://pib.socioambiental.org/pt/Lista_de_organiza%C3%A7%C3%B5es_ind%C3%ADgenas Date consulted: November 11, 2020.

communication with the interior of the country, provided favorable conditions for the FARC to consolidate its subversive military structures in this region⁵⁹.

Starting in 1982, the FARC rethought its military actions, turned to drug trafficking as its main source of financing, and began a process of expansion. After the constitutional process in 1991, departments with administrative and budgetary autonomy were created in the Amazon, and indigenous peoples were recognized as a collective subject and given special protection by the state as an ethnic minority. Despite these changes, the influence of the FARC did not allow for improvements in the region's socioeconomic landscape, and the dynamics of drug trafficking increased, turning it into a regional and national threat, alongside the political, military, and economic consolidation of the FARC. The 1990s were the period of greatest escalation and intensity of the armed conflict.

Starting in 2006, criminal gangs appeared and consolidated their presence in the territory disputed with the guerrillas. By 2011, drug trafficking was considered "the main source of income for a large number of indigenous people and settlers in the region, who maintain their coca leaf crops" (Trujillo, 2014). The implementation of Plan Colombia to combat drug trafficking weakened extensive coca production, leading to an increase in unemployment and population displacement, as well as environmental impacts associated with aerial spraying with the herbicide glyphosate. However, by 2012, there were no signs of a reduction in the area under cultivation.

The period from 2013 to 2016 represents the greatest de-escalation of the armed conflict, as a result of negotiations between the state and the guerrillas, with the lowest levels of armed action recorded at the end of this period. In 2016, the guerrillas signed the Peace Agreement and began an agenda whose implementation has been a challenge for all parties. It involves the laying down of arms, the reintegration of combatants into civilian and productive life, and mechanisms for the consolidation of a political movement based on what was formerly the armed guerrilla group⁶⁰. Starting this year, new forms of violence have emerged associated with residual FARC structures that did not accept the peace agreement, other armed groups, and drug cartels. The number of homicides has increased due to disputes over control of territories that supply resources associated with drug trafficking, illegal mining, and contraband. Echandía, C. and Cabrera point out that "drug trafficking... like the extraction of illegal mining resources and other criminal economies, has become a real threat to the consolidation of the peace agreement reached with this guerrilla group" (as cited in Salas, G., 2018). Failures to implement the 2016 peace agreement have created a power vacuum in the Putumayo basin, accelerating deforestation, the rise of illicit economies, and human rights violations in one of the most biodiverse regions in the world.

These new dynamics have had environmental and social implications related to the lack of control and environmental monitoring and new illicit economies. The lack of control has transformed the basin into a corridor for highly destructive extractive activities.

5.2.6 Gender considerations

59 Trujillo, H. (2014). Realities of the Colombian Amazon: Territory, Armed Conflict, and Socioecological Risk. Vol. 34, No. 48, (63–81). University of San Buena Ventura. Accessed November 23, 2020, at: <https://dialnet.unirioja.es/descarga/articulo/4792071.pdf>

60 Salas, G., Wolff, J., Camelo, F. (2018). Territorial dynamics of violence and armed conflict before and after the peace agreement with the FARC-EP. Case study: Municipality of Tumaco, Nariño. Working Paper. Accessed on November 24, 2020, on the website of the Colombian-German Peace Institute (CAPAZ): <https://www.instituto-capaz.org/wp-content/uploads/2018/11/Capaz-7-baja.pdf>

The World Economic Forum's Global Gender Gap Index measures countries' progress toward gender parity in (i) economic participation and opportunity, (ii) educational attainment, (iii) health and survival, and (iv) political empowerment. The 2018 report ranks Colombia 40th, followed by Ecuador (41st), Peru (52nd), and Brazil (95th), according to the weighted performance in the four dimensions. Table 17 presents the details for the four countries⁶¹.

Table 17. Global index for the gender gap for the countries of the Putumayo Içá Basin.

Country	Global index		Rank			
	Rank	Scoring	Economic participation and opportunities	Educational achievement	Health and survival	Political empowerment
Colombia	40	0.73	39	1	1	59
Ecuador	41	0.73	82	59	58	35
Peru	52	0.72	94	89	65	36
Brazil	95	0.68	92	1	1	112

The gender assessment carried out by PRO-AMAZONÍA (2020) highlights the barriers to women's empowerment in the Ecuadorian Amazon: a) In physical terms, gender-based violence rates are higher than the national average. In terms of sexual and reproductive health, the rate of teenage mothers is 70.1, which is 25 points higher than the national rate; and the rate of access to health services in the Amazon (2.01) is half the national rate (4.03). b) In economic terms, the sector in which women live (urban/rural) and the ethnic group with which they identify are determining factors in their inability to access formal employment. Indigenous women face greater inequality in terms of access to and stability of employment; they spend four times more time than men on unpaid work and devote less time than men to education, leisure, political participation, and self-care. In terms of access to land ownership, 88.2% of male producers are landowners, compared to 11.9% of women; and at the community level, ownership is predominantly in the hands of men. In terms of income control, women are at a disadvantage because they do not own land and have fewer opportunities to access formal employment. c) In the sociopolitical sphere, Amazonian women participate in various areas of public life, but with limited decision-making power. Their participation in public policy decision-making bodies is marginal, and in community spaces, their involvement is subject to the constraints of their socially assigned reproductive role. In the sphere of political power, there is male dominance in the composition of sectional elected offices⁶².

In Loreto (Peru), the gender assessment carried out by USAID (2013) identifies as one of the biggest gaps access to identity, which in turn limits women's access to state services and programs, the financial system, formal participation in organizations, and assumption of public office, among others. Similarly, there is an unmet demand for health services for women, and the rate of teenage and child pregnancy is 200% higher than the national average, constituting a public health problem. With regard to violence against women, there is a high incidence of psychological abuse, and

⁶¹ World Economic Forum (2018). The Global Gender Gap Report 2018. Insight report. Retrieved November 23, 2020, from the WEF website: http://www3.weforum.org/docs/WEF_GGGR_2018.pdf

⁶² PROAmazonia (2020). Diagnosis of the Situation of Amazonian Women. Accessed November 24, 2020, from the PROAmazonia website: <https://www.proamazonia.org/wp-content/uploads/2020/07/Diagnostico-de-mujeres-Amazonicas-3.pdf>

physical violence showed an upward trend in the period 2007–2009. With regard to education, there is a significant gap in illiteracy levels, to the detriment of women⁶³.

In Colombia, UN Women, UNFPA, and UNDP (2017) analyze gender gaps in the context of MDG achievement. With regard to eradicating extreme poverty and hunger (Goal 1), while poverty in the country fell by almost 21 percentage points for men, it fell by only 20.3 percentage points for women. By 2014, the unemployment rate showed a gap of 5 percentage points in favor of men, reflecting the difficulty women face in accessing work, and levels of informality among women affect more than 50% of the employed population.

In achieving universal primary education (Goal 2), while there is no gap between women and men in basic education, in secondary education this gap is almost 15 points in favor of women. In terms of illiteracy, for the period 2008-2014, a gap in favor of women persists. Goal 3 on gender equality and women's empowerment shows an increase in the percentage of women in Congress for the period 2000-2014⁶⁴. Regarding Goal 5 on reproductive health, for the period 2005-2010, it was found that the departments in the basin have higher percentages of unmet family planning needs. It was also found that the criterion that represents the greatest difference is educational level, since women without education have almost two more children than they desire, while those who have education have the children they desire. On the other hand, the figures for violence against women are extremely high in Amazonian departments, with percentages above 40% being reported⁶⁵.

For the period 2005-2015, violence in the context of the armed conflict in Colombia affected women to a greater extent, and nearly 90% of reports of victimization (abandonment, forced dispossession of land, displacement, and crimes against sexual freedom and integrity) correspond to complaints filed by women. Women belonging to indigenous and Afro-Colombian groups were disproportionately affected; of 3,445 cases of homicides of indigenous and Afro-Colombian people, 65.5% were women.

5.2.7 Indigenous peoples, Afro-descendant communities, and their grassroots organizations

Indigenous peoples have inhabited the basin for thousands of years, and currently live mainly in the middle and lower parts of the basin. In the second half of the last century, the upper part of the basin received large influxes of other indigenous groups (e.g., Nasa, Awá, Pasto, Emberá-Chami, Emberá-Katio, and Yanakona) and settlers (peasant and Afro-Colombian communities), who migrated after being displaced from their own territories in adjacent regions. Currently, approximately 45% of the basin's surface area corresponds to the indigenous territories of the Murui Muina, Murui, Bora, Miraña, Ocaina, Kichwa, Yagua, Tikuna, Maijuna, Secoya, Cofan, Cocama, Resigaró, Witoto, Tupi-Guaraní, Peba-Yagua, Quechua, and Tucano peoples, organized into 153 communities (55 in Brazil, 19 in Ecuador, and 79 in Peru) and 60 reserves in Colombia. Some of the communities are represented by 27 local indigenous organizations (1 in Brazil, 7 in Peru, 17 in Colombia, and 2 in Ecuador), which form the basis of national organizations: AIDSEP in Peru, ONIC

⁶³ USAID (2013). Gender Assessment in the Amazon: Amazonas, Loreto, Madre de Dios, San Martín, and Ucayali. Accessed November 24, 2020. At: https://www.researchgate.net/publication/258510530_Diagnostico_de_Gender_in_the_Amazon_Amazonas_Loreto_Madre_de_Dios_San_Martin_and_Ucayali

⁶⁴ UN Women (2016). In Colombia, training brings more women into politics. Accessed November 24, 2020, on the UN Women website: <https://lac.unwomen.org/es/noticias-y-eventos/articulos/2016/06/in-colombia-training-ushers-more-women-into-politics>

⁶⁵ UN Women UNFPA UNDP (2017). Gender gaps and inequality: from the Millennium Development Goals to the Sustainable Development Goals. Retrieved November 23, 2020, from <https://colombia.unfpa.org/sites/default/files/pub-pdf/PDF%20WEB%20GENDER%20GAPS%20AND%20INEQUALITY.pdf>

in Colombia, CONAIE in Ecuador, and COIAB in Brazil; and which are represented at the regional level by the Indigenous Coordinating Organization of the Amazon Basin (COICA)⁶⁶ .

The Afro-descendant population is mainly located in Colombia, with an estimated 14,654 inhabitants, and is represented by 19 grassroots organizations⁶⁷ .

In general terms, a total of 72 grassroots organizations representing indigenous peoples, Afro-descendant communities, artisans, women, and fishermen have been identified for the four countries (Table 18). With regard to indigenous communities, the Stakeholder Participation Plan will respond to the levels of organization of the communities and reserves, with the aim of reaching first-level organizations (community level) through socialization and consultation, also involving the higher levels of the organization (Table 19). It is important to highlight that the implementation of the Project will be based on respect for the indigenous and Afro-descendant peoples of the Basin and their traditional leaders through Councils of Elders, Territorial Governments, among others, who are responsible for representing them in decision-making on matters involving their territories and natural resources.

⁶⁶ WCS (2020). Stakeholder Engagement Plan – Integrated Management Project for the Putumayo-Içá River Basin.

⁶⁷ Idem.

Table 18. Number of grassroots organizations by sector represented, by country.

Type of social actor	Country				
	Brazil	Colombia	Ecuador	Peru	Total
Indigenous Peoples	4	17	2	6	29
Afro-descendant population		19			19
Fishermen	4	3		7	14
Women	4	4	1		9
Artisans	1 ⁶⁸				1
Total	13	43	3	13	72

Table 19. Levels of organization of indigenous communities and reserves.

Country	Organizational levels			
	First level	Second level	Third level	Total
Brazil	55			55
Colombia	15	1	44	60
Ecuador		19		19
Peru	32	47		79
Total	102	67	44	213

In the project area, the organizations representing the largest number of communities or reserves by country are: FECONAFROPU and FECOIBAP in Peru; OZIP and OPIAC in Colombia; and FEINCE in Ecuador. It should be noted that many communities are not represented by these organizations and that it will be necessary to reach out to them as they are affected by the project's actions, taking this characteristic into account. On the other hand, at the regional level, the indigenous organizations linked to the project in Peru, Brazil, Colombia, and Ecuador are represented by the Indigenous Coordinating Organization of the Amazon Basin (COICA). At the country level, the organizations representing Indigenous Peoples are: AIDSEP (Peru), ONIC (Colombia), CONAIE (Ecuador), and COIAB (Brazilian Amazon, with regional coordination for the Upper Solimões). These governance systems constitute the channel for the engagement process up to the top-level organizations.

In the case of Colombia, Decree-Law 1275 of 2024 establishes the rules for the environmental functioning of indigenous territories in Colombia. It recognizes their powers in conservation, land use planning, and natural resource management, integrating their worldviews into the National Environmental System (SINA). It promotes effective coordination with state authorities, respect for cultural diversity, and ecological sustainability. Traditional indigenous authorities, the authorities of indigenous territories, indigenous councils, and other similar structures of self-government in their indigenous reserves, indigenous territories, and areas owned by indigenous peoples under the terms of Article 4 of this decree are part of the National Environmental System and exercise powers in matters of environmental land use planning, determination of regulatory, management, and governance mechanisms for the purposes of preservation, conservation, restoration, protection, care, use, and management of natural resources in accordance with the provisions of Article 15 of ILO Convention 169, their elements or resources in accordance with their systems of knowledge, Greater Law, Own Law, Law of Origin, Natural Law, Word of Life, in accordance with the constitutional framework and the rules established herein.

⁶⁸ Tikuna Içaense Indigenous Handicraft Center.

In exercising their powers, the indigenous authorities provided for in this regulation and other State environmental authorities shall jointly establish direct mechanisms that allow for the proper application of the principles of coordination, concurrence, complementarity, and subsidiarity, respectful of the autonomy and knowledge systems of indigenous peoples, with the aim of ensuring the harmonious protection of ecosystems and territories.

6. Participation of interested parties

6.1. Identification of affected parties and other stakeholders

According to EAS 10 of the World Bank (World Bank, 2016), "stakeholder" means individuals or groups who:

- a) are affected or may be affected by the project (**project-affected parties**), including parties likely to be affected by actual impacts or potential risks to their physical environment, health, safety, cultural practices, well-being, or livelihoods. These stakeholders may include individuals or groups, as well as local communities,
- b) are more likely to be affected by the impacts of the project or who may be more limited than others in their ability to benefit from the project (**vulnerable and disadvantaged groups**),
- c) may have an interest in the project (**other stakeholders**), which may be due to its location, characteristics, impacts, or aspects related to the public interest. They may include, for example, regulatory entities, public officials, the private sector, the scientific community, academics, women's organizations, other civil society organizations, and cultural groups.

6.2. Affected parties

A total of 83 grassroots organizations representing indigenous peoples, Afro-descendants, artisans, women, and fishermen have been identified (Table 20). In accordance with the provisions of the Project Stakeholder Participation Plan, the project will respond to the levels of organization of the communities with the aim of reaching first-level organizations (community level) and will respect the organization of the communities and Afro-descendants of the Basin, who have traditional leadership for decision-making in their territories through their Councils of Elders, Territorial Governments, among others, which will be identified and characterized during the dialogues held in the processes of socialization and execution of the project activities.

Table 20. Number of grassroots organizations by sector they represent, by country.

Type of social actor	Country				
	Brazil	Colombia	Ecuador	Peru	Total
Indigenous peoples	13	17	2	6	38
Afro-descendant population		19			19
Fishermen	7	3		7	17
Women	3	4	1		8
Artisans	1 ⁶⁹				1

⁶⁹ Tikuna Içaense Indigenous Handicraft Center.

Type of social actor	Country				
	Brazil	Colombia	Ecuador	Peru	Total
Total	24	43	3	13	83

In the project area, the organizations representing the largest number of communities or reserves by country are: FECONAFROPU, FECOIBAP, and ORPIO in Peru; OZIP and OPIAC in Colombia; and FEINCE in Ecuador (Table 21). Considering that many communities are not formally organized or represented by existing organizations, the Project will make an effort to identify and involve these communities, as long as they interact with or are affected by the project.

Table 21. List of indigenous organizations by country.

Country	Indigenous organizations
Colombia:	<p>At the national level:</p> <ul style="list-style-type: none"> • OPIAC: Organization of Indigenous Peoples of the Colombian Amazon • ONIC: National Indigenous Organization of Colombia <p>In the department of Amazonas:</p> <ul style="list-style-type: none"> • COINPA: Indigenous Council of Puerto Alegría • ACIMA: Association of Indigenous Captains of Mirití Amazonas • ACITAM: Association of Indigenous Councils of the Amazonian Trapezoid • ACIYA: Association of Indigenous Captains of Yaigojé-Apaporis • AIPEA: Association of Indigenous Authorities of Pedrera Amazonas • AIPEA: Association of Indigenous Authorities of Pedrera Amazonas • AIZA: Association of Indigenous Authorities of the Puerto Arica Area • AIZA: Indigenous Association of the Arica Area • ASOINTAM: Association of Indigenous Authorities of Tarapacá Amazonas • AZCAITA: Association of Indigenous Councils and Authorities of Native Tradition – Amazonian Trapezoid • AZICATH: Indigenous Association of Councils and Traditional Authorities of La Chorrera • CIMPUM: Greater Indigenous Council of the Murui People • CIMTAR: Indigenous Council of Tarapacá • CRIMA: Regional Indigenous Council of the Middle Amazon • OIMA: Indigenous Organization of the Muruy People of the Amazon • PANI: Association of Indigenous Authorities of the Miraña and Bora Peoples of the Middle Amazon <p>In the department of Putumayo:</p> <ul style="list-style-type: none"> • ACILAP: Association of Indigenous Councils of Leguízamo and Alto Predio Putumayo

Country	Indigenous organizations
	<ul style="list-style-type: none"> • ACIMVIP: Association of Indigenous Councils of the Municipality of Villagarzón Caicedo • ACIPAP: Association of Indigenous Councils of the Awá People • ASCIPS: Association of Indigenous Councils of the Siona People • ASCINVAGUA: Association of Indigenous Councils of the Guamuéz Valley • ASOCIPCA: Association of Indigenous Councils of the Municipality of Puerto Caicedo • ASOINGA: Association of Inga Councils of the Municipality of Puerto Guzmán • ASONEWESH: Association of Indigenous Councils of the Páez People • ASOPPASTOS: Association of Indigenous Authorities of Pastos • CAIOP: Council of Indigenous Authorities of Orito • KIPARA: Association of Indigenous Councils of the Embera People • ÑUGPA YUYAY: Association of Inga Indigenous Councils of Mocoa • OCIMPA: Organization of Indigenous Communities of the Municipality of Puerto Asís • OPKAC: Organization of Kichwa Peoples of the Colombian Amazon • OZIP: Putumayo Indigenous Zone Organization
Ecuador:	<p>At the national level:</p> <ul style="list-style-type: none"> • CONAIE: Confederation of Indigenous Nationalities of Ecuador • CONFENIAE: Confederation of Indigenous Nationalities of the Ecuadorian Amazon <p>At the regional/local level:</p> <ul style="list-style-type: none"> • FONAKISE: Federation of the Kichwa Nationality of the Province of Sucumbíos, Ecuador. • FEPCESH-S: Provincial Federation of Shuar Centers of Sucumbíos. • FEINCE: Indigenous Federation of the Cofán Nationality of Ecuador. • ONISE: Organization of the Siona Indigenous Nationality of Ecuador. • NASIEPAI: Organization of the Siekopai Nationality. • FCAE: Federation of Awá Centers of Ecuador. • FOAES: Federation of Afro-Ecuadorian Organizations of Sucumbíos.
Peru:	<ul style="list-style-type: none"> • FIKAPIR: Kichwa Indigenous Federation of Upper Putumayo Inti Runa • OISPE: Indigenous Secoya Organization of Peru • OIMPRA: Indigenous Organization of the Middle Putumayo and Algodón • FECONAFROPU: Federation of Native Communities on the Putumayo River Border

Country	Indigenous organizations
	<ul style="list-style-type: none"> • FIKIMMEP: Kichwa Muruy Indigenous Federation of Middle Putumayo • FECOYBAP: Federation of Indigenous Communities of the Lower Putumayo • OCIBPRY: Organization of Indigenous Communities of the Lower Putumayo and Yaguas River • SEIKO PAI: SEIKO PAI Administration Contract Executor • ÑUKANCHIPA SUMAK SACHA: ÑUKANCHIPA SUMAK SACHA Administration Contract Executor
Brazil:	<ul style="list-style-type: none"> • APIB: Articulation of Indigenous Peoples of Brazil • COIAB: Coordination of Indigenous Organizations of the Brazilian Amazon • FOIRN: Federation of Indigenous Organizations of Rio Negro • Toru Dü'ugü Organization

At the regional level, indigenous organizations are represented by the Indigenous Coordination of the Amazon Basin (COICA) and at the country level by AIDSESP (Peru), ONIC and OPIAC (Colombia), CONAIE (Ecuador) and COIAB (Brazil). These governance systems constitute the channel for the engagement process.

With regard to the Afro-descendant population in the Basin, there are 15 organizations registered in Colombia (Table 22). In Peru (Loreto) and Brazil, a minimal percentage of the population identifies as Afro-descendant (4% of the population of Santo Antônio do Içá, according to the Brazilian Institute of Geography and Statistics), but there are no registered territories or established organizations. For Ecuador, there is still no information available to identify whether there are Afro-descendant communities settled specifically in the Basin. This information will be verified in the field at the beginning and during the implementation of the Project.

Table 22. Organizations representing the Afro-descendant population in Colombia.

Organization	Number of people represented
AFROMOCOENSES	1315
AFROPUERTOCOLONENSE	394
AFRODES	986
AFRO ORITENSES	1253
ASCAC	3084
ADAFROCOD	172
AFROCOBA	126
AFROLEGUIZAMO	1642
AFROTESALIA	578
AFRO VILLARBOLENSES	587

Organization	Number of people represented
FUNPRODECAFROCVAG	976
AFROASISENSE	992
Organization of the Afro-Colombian community of Villagarzón	1040
ORCONEPUL	1509
Community councils: Ranchería, San José de los Pinos, Tesalia, Versabal, and Puerto Limón.	
Grand total	14,654

Other important organizational structures representing artisanal fishers who do not necessarily belong to indigenous or Afro-descendant communities include seven associations in Brazil, three in Colombia, and seven in Peru (Table 23). No registered associations were found in Ecuador. It is important to mention that in the project area there are also various groups associated with agricultural, fishing, and productive activities; however, this information needs to be clarified and validated in the field during the implementation of the project.

Table 23. Organizations representing associations or colonies of artisanal fishers in Brazil, Colombia, and Peru.

Country	Organizations
Brazil	ASSCOMAL/Rio Içá (representing 76 fishermen), Associação de Pescadores de Santo Antônio do Içá, Colônia de Pescadores de Santo Antônio do Içá, FEPESCA, Colpesca-SPO, Ass. Pescadores de São Paulo de Olivença, Sindicato dos Pescadores do Amazonas.
Colombia	Asociación de Pescadores del Río Putumayo en Puerto Asís, ASOPESTAR, and APIPOATA
Peru	Associations of Artisanal Fishermen and Processors – APPA: Arahua, Fronteras Vivas, Lleego, Los Bufeos del Yaguas, Los Catalanes del Putumayo, Los Cocodrilos, Los Delfines del Muntúm.

Productive associations:

Productive associations have emerged as strategies for local and indigenous communities to generate income in a sustainable manner, strengthen the local economy, and reduce dependence on extractive or illegal activities. These productive associations are relevant to the sustainable management of natural resources, the promotion of biodiversity-based economies, and the strengthening of the organizational and commercial capacities of riverine and rural populations.

Similarly, they contribute to creating alternatives that improve the quality of life of communities and seek to establish relationships with local and regional markets. Despite this, productive associations have limited access to markets and financing, poor infrastructure and communication channels, require greater technical and commercial strengthening, and face pressure from extractive economies.

Country	Regional/Local Level
Colombia:	<ul style="list-style-type: none"> • AGROCAMUCAMU Leguizamo Producers' Association • Agroforestry Association of Amazonian and Alternative Crops of Leguizamo • El Paraíso Agricultural Producers Association - ASOPARAISO • Association of Bionativas Abejas del Putumayo Meliponiculture Producers • Putumayo Fruit Producers Association – ASOFRUMAYO • Association for Sustainable Integral Development - Perla Amazónica - ADISPA • ADMUCINAM - Departmental Association of Rural, Indigenous, and Black Women of Amazonas • Free and Productive Women's Fund • Association of Fishermen of the Putumayo River in Puerto Asís • ASOPESTAR • APIPOATA
Ecuador:	<ul style="list-style-type: none"> • CORPOSUCUMBIOS • Amazonian Aroma Association • Lago Agrio Agricultural Center • Association of Palm Oil Producers "Palma de Oro" of Shushufindi • Rivera Commune Agricultural Production Association • Aguas Blancas Agricultural Production Association • Virgen del Huayco Agricultural Production Association • Sinchi Runa Agricultural Production Association • Manzana Dos Agricultural Production Association • Due River Beaches Association • Amazon Breezes Association • Palma Roja Association • Primavera Oriental Association (Aroma Amazónico network) • APROCE El Eno (El Eno Coffee and Cocoa Producers Association) • APROCASH (Shushufindi Coffee and Cocoa Agricultural Production Association) • Shushufindi Cattle Ranchers Association • Shushufindi Palm Growers Association • Agro-productive Association "United for Work and Friendship" • Association of Rural Fish Farmers (Cuyabeno-Cascales)

Country	Regional/Local Level
Peru:	<ul style="list-style-type: none"> • Mashunta Agricultural and Fish Farmers Association • Association of Agricultural and Fish Producers of Soplin Vargas • Association of Agricultural and Fish Producers of Estrecho • Association of Artisanal Fishermen and Processors – APPA • Arahuaana • Living Borders • Lleego • The Bufeos of Yaguas • The Catalans of Putumayo • The Crocodiles • The Dolphins of Muntúm
Brazil:	<ul style="list-style-type: none"> • Vila de Betânia Mecürane Community (indigenous village of the Ticuna ethnic group) • Z54 Fishermen's Colony of Santo Antônio de Içá • Association of artisanal fishermen and fisherwomen, family farmers in the municipality of Santo Antônio do Içá.

Source: Environmental and social baseline for the project in Colombia, Ecuador, Peru, and Brazil, 2025

6.3 Other project stakeholders

Table 24 lists the stakeholders from public institutions and governments. The list is quite extensive in the area and consists of strategic actors who play a fundamental role in the management of the territory, natural resources, and the populations that inhabit the area. Each country exercises its sovereignty through ministries and public agencies responsible for different sectors, and local governments are closest to the population. These institutions often face major challenges in ensuring basic services, managing territorial and environmental conflicts, and coordinating with national and international policies.

Table 24. Project stakeholders and roles.

Country	National Level	Regional/Local Level
Colombia:	<ul style="list-style-type: none"> • PNN - National Natural Parks • AUNAP - National Aquaculture and Fisheries Authority 	<ul style="list-style-type: none"> • CORPOAMAZONIA • Government of Putumayo • Mayor's Office of San Miguel

Country	National Level	Regional/Local Level
	<ul style="list-style-type: none"> • MADS - Ministry of Environment and Sustainable Development • Ministry of Mines and Energy • DAFP - Administrative Department of Public Service • UPME - Mining and Energy Planning Unit • ECOPETROL • Attorney General's Office • ANH - National Hydrocarbons Agency • MADR - Ministry of Agriculture and Rural Development • Ministry of Finance • Ministry of Foreign Affairs and Foreign Service 	<ul style="list-style-type: none"> • Mayor's Office of Leguízamo • Mayor's Office of Puerto Asís • Orito City Hall • Puerto Caicedo City Hall • Villagarzón City Hall • Valle del Guamuez City Hall • Amazonas Provincial Government • Mayor's Office of Leticia • Puerto Nariño City Hall • Conflict Routes • CORPONARIÑO • Putumayo Chamber of Commerce • Amazonas Chamber of Commerce • Civil Society •
Ecuador:	<ul style="list-style-type: none"> • MAATE - Ministry of Environment, Water, and Ecological Transition • MAATE - Directorate of International Cooperation • MAATE - Undersecretary of Water Resources • MAATE - Undersecretary of Natural Heritage • MAATE - Undersecretary of Environmental Quality • FIAS - Sustainable Environmental Investment Fund - BioEmprende Program • Ministry of Energy and Mines • ARCOM - Mining Regulation and Control Agency • ARCOH - Hydrocarbons Regulation and Control Agency • MPCEIP - Ministry of Production, Foreign Trade, Investment, and Fisheries • PETROAMAZONAS EP 	<ul style="list-style-type: none"> • MAATE Sucumbíos - Regional Office 9 • MAG - Ministry of Agriculture and Livestock - Sucumbíos Directorate • STCTEA - Technical Secretariat of the Special Amazonian Territorial District • Provincial GAD of Sucumbíos • Cascales Cantonal GAD • Cuyabeno Cantonal GAD • Gonzalo Pizarro Cantonal GAD • Lago Agrio Cantonal GAD • Cantonal GAD of Putumayo • Cantonal GAD of Sucumbíos • Parish GAD of Cuyabeno • Parish GAD of Puerto Libre • Parish GAD of 10 de Agosto • Parish GAD of General Farfán • Parish GAD of Pacayacu • Parish GAD of Jambelí • Parish GAD of Santa Elena

Country	National Level	Regional/Local Level
		<ul style="list-style-type: none"> • Parish GAD of Puerto Rodríguez • Rosa Florida Parish GAD • MNE - Northern Ecuador Association
Peru:	<ul style="list-style-type: none"> • MINAM – Ministry of the Environment • MIDIS - Ministry of Development and Social Inclusion • MIDIS - National TAMBOS Program • MIDIS - National Program for Action Platforms for Social Inclusion - PAIS • MIDIS – National Program for Direct Support to the Poorest – JUNTOS • MIDIS – National Solidarity Assistance Program PENSIÓN 65 • Peruvian Navy - Itinerant Social Action Platforms Program (PIAS) • MINCULTURA - Ministry of Culture • MIDAGRI - Ministry of Agricultural Development and Irrigation • MIDAGRI-AGROIDEAS - Compensation Program for Competitiveness • ANA – National Water Authority • SERNANP – National Service of Natural Protected Areas • SERFOR - National Forestry and Wildlife Service • OSINFOR - Supervisory Body for Forest Resources and Wildlife • OEFA - Environmental Assessment and Enforcement Agency • DEVIDA - National Commission for Development and Life Without Drugs • Ombudsman • FEMA - Specialized Environmental Prosecutors 	<ul style="list-style-type: none"> • GERFOR - Regional Forestry and Wildlife Development Management • GRAM - Regional Environmental Management • GRDPO - Regional Office for Indigenous Peoples Development • GERDAGRI - Regional Management of Agricultural Development and Irrigation • GERESA - Regional Health Management • DREM - Regional Directorate of Energy and Mines • DIREPRO - Regional Directorate of Production • ANA - Local Water Administration Iquitos • Putumayo Subregional Management • GORE Loreto – Regional Government of Loreto • Provincial Municipality of Putumayo • District Municipality of Teniente Manuel Clavero • District Municipality of Rosa Panduro • District Municipality of Yaguas • PEDICP – Special Project for the Comprehensive Development of the Putumayo River Basin • SERNANP - Airo Pai Communal Reserve • SERNANP - Huimeki Communal Reserve • SERNANP - Gueppi Sekime National Park • SERNANP - Yaguas National Park • CITEproductivo - Maynas Center for Productive Innovation and Technology Transfer

Country	National Level	Regional/Local Level
	<ul style="list-style-type: none"> • ANECAP - National Association of Management Contract Executors 	
Brazil:	<ul style="list-style-type: none"> • MMA - Ministry of the Environment and Climate Change. • ANA – National Water Agency • IBAMA - • EMBRAPA • Ministry of Indigenous Peoples. Ministry of Indigenous Peoples 	<ul style="list-style-type: none"> • SEMA – State Secretariat for the Environment • State Secretariat for Social Assistance • IPAAM - Amazonas Environmental Protection Institute • IDAM – Amazonas Institute for Sustainable Development • Municipality of Santo Antônio do Içá

Source: Environmental and social baseline for the project in Colombia, Ecuador, Peru, and Brazil, 2025

Research Institutes:

These actors are important and potential partners that enable the exchange of information, the development of interdisciplinary research, and the generation of key data for decision-making on conservation and sustainable development in the basin.

Actors in the Putumayo-Içá basin: Research Institutes

Country	National Level	Regional/Local Level
Colombia:	<ul style="list-style-type: none"> • AGROSAVIA - Colombian Agricultural Research Corporation • IAVH - Alexander Von Humboldt Biological Resources Research Institute • IDEAM - Institute of Hydrology, Meteorology, and Environmental Studies • Field Museum – Institute for the Common Good • SINCHI - Amazonian Institute for Scientific Research 	
Ecuador:	<ul style="list-style-type: none"> • INABIO - National Institute of Biodiversity • IPIAP - Public Institute for Aquaculture and Fisheries Research • INAMHI - National Institute of Meteorology and Hydrology 	<ul style="list-style-type: none"> • INIAP - National Institute for Agricultural Research - Central Amazon Station

Country	National Level	Regional/Local Level
	<ul style="list-style-type: none"> LANCAS - INAMHI Water and Sediment Laboratory 	
Peru:	<ul style="list-style-type: none"> IGP - Geophysical Institute of Peru SENAMHI - National Meteorology and Hydrology Service of Peru INIA - National Institute for Agricultural Innovation INAIGEM - National Institute for Research on Glaciers and Mountain Ecosystems IRTP - National Radio and Television Institute of Peru IGN - National Geographic Institute INEI - National Institute of Statistics and Informatics INGEMMET - Geological, Mining, and Metallurgical Institute IPEN - Peruvian Institute of Nuclear Energy 	<ul style="list-style-type: none"> IIAP - Peruvian Amazon Research Institute CIRNA - UNAP Natural Resources Research Center UNAP Research Management CILIAP - UNAP Amazonian Indigenous Languages Research Center
Brazil:	<ul style="list-style-type: none"> Field Museum Emilio Goeldi Museum Swedish Museum of Natural History 	<ul style="list-style-type: none"> Magüta Museum

Source: Environmental and social baseline for the Colombia, Ecuador, Peru, and Brazil project, 2025

Academic Institutions:

The Putumayo-Içá basin is a territory of great academic interest due to its enormous natural and cultural wealth and its complex social and environmental dynamics. In this Amazonian space, various universities and higher education centers carry out educational, research, and social outreach activities, contributing to the generation of knowledge and the strengthening of local capacities. These are key actors that also face challenges; for example, they need to expand access to higher education in remote areas, seek to develop curricula that respond to the reality and needs of the Amazon, and require the integration of traditional indigenous knowledge into academic training.

Actors in the Putumayo-Içá basin: Academic Institutions

Country	National Level	Regional/Local Level
Colombia:	<ul style="list-style-type: none"> University of Magdalena National Open and Distance University (UNAD) 	<ul style="list-style-type: none"> Putumayo University Institute - UNIPUTUMAYO University of the Amazon

Country	National Level	Regional/Local Level
	<ul style="list-style-type: none"> • Minuto de Dios University Corporation • Cervantes San Agustín University Foundation - UNICERVANTES 	<ul style="list-style-type: none"> • SENA - National Learning Service - Putumayo
Ecuador:	<ul style="list-style-type: none"> • EPN - National Polytechnic School • FLACSO - Latin American Faculty of Social Sciences • PUCE - Pontifical Catholic University of Ecuador • UCE - Central University of Ecuador • USFQ - University of San Francisco de Quito • Simón Bolívar University 	<ul style="list-style-type: none"> • IKIAM - Amazon Regional University • UEA - Amazonian State University • PUCE Amazonas / ISTECA - Crecermas Higher Technological Institute
Peru:	<ul style="list-style-type: none"> • Polytechnic University of Peru S.A. • Federico Villarreal National University • Enrique Guzmán y Valle National University of Education • Norbert Wiener Private University • National Technological University of South Lima • National University of San Marcos • National University of Engineering • La Molina National Agrarian University • Polytechnic University of Peru S.A. • Technological University of Peru • Scientific University of the South • ESAN University • University of Sciences and Humanities • San Ignacio de Loyola University • Peruvian University of Applied Sciences • University of San Martín de Porres • Ricardo Palma University • Cayetano Heredia Peruvian University • University of the Pacific 	<ul style="list-style-type: none"> • UNAP - National University of the Peruvian Amazon • National Autonomous University of Alto Amazonas

Country	National Level	Regional/Local Level
	<ul style="list-style-type: none"> • University of Lima • Pontifical Catholic University of Peru • University of Engineering and Technology 	
Brazil:	<ul style="list-style-type: none"> • INPA – National Institute for Amazonian Research • UFPA – Federal University of Pará • IFAM – Federal Institute of Amazonas • UFAM – Federal University of Amazonas • UFOPA – Federal University of Western Pará • University of Central Florida • Federal University of Acre • University of Louisiana • University of Auckland • Northern Arizona University • UFRJ – Federal University of Rio de Janeiro • UnB – University of Brasilia • UFAL – Federal University of Alagoas • UFSC – Federal University of Santa Catarina • Paul Sabatier University • University of Washington 	<ul style="list-style-type: none"> • UNESP – São Paulo State University • UEM – State University of Maringá • USP – University of São Paulo

Source: Environmental and social baseline for the project in Colombia, Ecuador, Peru, and Brazil, 2025

Private Sector

In addition to the private community organizations mentioned above, which are potential beneficiaries of the project, the project will involve private sector companies linked to the use of natural resources in the basin.

As part of the project activities included in component 1, the private sector will be invited to participate in relevant thematic groups to build a shared vision and design the strategic plan for the basin. Their involvement will then make it possible to forge links with community productive sectors and create spaces for discussion where their perspectives can be heard.

For component 2, the project will provide technical assistance to private sector companies involved in activities that may lead to water pollution, with the aim of generating agreements and promoting better sustainable practices. Additionally, the private sector will play a crucial role as a project partner in the design and testing of the early warning system. The system will activate

communication with local and regional emergency management bodies, which in turn will have to initiate contingency plans and, above all, prioritize attention to local communities located in the lower areas of the basin. To successfully implement this approach, the project will offer technical assistance to private companies to improve their contingency plans.

In addition, the strengthening of productive value chains through subprojects will involve private actors with specific roles: (i) local private producer organizations as beneficiaries (including women-led organizations); (ii) private investors, contributing capital and knowledge on business development, entrepreneurship, and marketing; (iii) private research institutions offering scientific knowledge; (iv) regional environmental authorities, coordinating project activities with their Green Business programs and generating links with potential private buyers; and (v) other local NGOs and private institutions, sharing lessons learned from similar experiences in the region. Additionally, the project will develop market analysis to assess the viability of selected products to connect with markets at a premium price that reflects their origin and sustainable practices. This analysis will involve identifying potential challenges and opportunities, innovations to improve market access, and evaluating private sector participation, among other points.

During the formulation of the project, potential companies interested in marketing sustainably produced products at a higher price in recognition and promotion of good practices were identified. One of the companies identified is Natura, the largest Brazilian cosmetics multinational, which mainly uses local Amazonian products (Castanha, Açai, Ucuuba, Patauá, among others) and involves local communities in its value chains. Natura has initiatives in some areas of the Brazilian Amazon that are within the Putumayo-Içá basin and hopes to expand its operations to Peru, Ecuador, and Colombia. In this sense, its participation will be fundamental for the commercialization of NTFPs in the area.

Private community producer organizations will also benefit from the market and from courses taught by environmental authorities such as Corpoamazonia (Colombia) to strengthen their capacity to establish businesses with the private sector under fair trade agreements.

As part of fisheries management plans, the project will support beneficiary community organizations in the design and development of business plans and feasibility analyses, giving them the tools to negotiate on fair terms with private investors interested in supporting sustainable natural resource value chains.

As a noteworthy example, the National Association of Industrialists of Colombia (ANDI) has participated in the formulation of the project to identify areas of common interest and has also committed to providing co-financing support. Specifically, ANDI has identified the department of Putumayo as a priority area for channeling private sector resources due to its high conservation value.

Finally, the project, in collaboration with GEF GOLD projects, will seek to establish partnerships with private companies to advance joint efforts that ensure gold traceability, responsible consumption, and support awareness of the negative impacts of mercury use.

NGOs / Foundations / Donors / Solidarity Organizations:

The Putumayo-Içá basin is an important region for several national and international NGOs and foundations, which play an important role in defending the environment, protecting the rights of indigenous peoples and local communities, and promoting sustainable development in the territory.

Several of these organizations work in coordination with indigenous communities, local governments, and research institutions, forming cooperation networks that seek to strengthen comprehensive territorial management.

In addition, many international NGOs develop cross-border projects that address common issues. NGOs and foundations face the challenge of operating in territories that are difficult to access and in complex social and political contexts. However, their work has been key to raising awareness of socio-environmental issues in the basin, supporting indigenous land titling and self-government processes, promoting the conservation of one of the most biodiverse regions on the planet, and promoting alternative and sustainable development models.

Actors in the Putumayo-Içá basin: Non-governmental organizations and donors

Country	National Level	Regional/Local Level
Colombia:	<ul style="list-style-type: none"> • Wildlife Conservation Society (WCS) • Connection • Friedrich Ebert Foundation • Foundation for Conservation and Sustainable Development (FCDS) • Amazon Colombian Team (ACT) • Frankfurt Zoological Society - SFZ • World Wildlife Fund - WWF • Proa Group Foundation • CI - Conservation International • The Field Museum • TNC - The Nature Conservancy 	<ul style="list-style-type: none"> • Women Weavers of Life Alliance • Association of Indigenous Women ASOMI • Foundation for Conservation and Sustainable Development (FCDS) • Omacha Foundation • Gaia Amazonas Foundation
Ecuador:	<ul style="list-style-type: none"> • WCS - Wildlife Conservation Society • CI - Conservation International • TNC - The Nature Conservancy • WWF - World Wildlife Fund • EcoCiencia Foundation • Gustavo Orcés Herpetological Foundation 	<ul style="list-style-type: none"> • Lianas Center Foundation • CODESPA Foundation • Raíz Ecuador Foundation – Caemba
Peru:	<ul style="list-style-type: none"> • Institute for the Common Good • Nature and Culture International • ONE PLANET, • RE WILD 	<ul style="list-style-type: none"> • Apostolic Vicariate of San José del Amazonas • CEDIA - Center for the Development of Amazonian Indigenous Peoples

Country	National Level	Regional/Local Level
	<ul style="list-style-type: none"> • Wildlife Conservation Society (WCS) • Foundation for Conservation and Sustainable Development (FCDS) • Frankfurt Zoological Society - SFZ • World Wildlife Fund - WWF • ANECAP • DRIS 	<ul style="list-style-type: none"> • National Organization of Andean and Amazonian Indigenous Women of Peru – ONAMIAP • Women's Program of the Regional Organization of Indigenous Peoples of the East - ORPIO • National Women's Program of the Interethnic Association for the Development of the Peruvian Rainforest - AIDSESP • Women Leaders of the Federation of Native Communities of Ampiyacu - FECONA • PRISMA • GOLDEN TIES • PROPURUS • AMAZONIAN ECONOMIES • AMAZONIAN PANTRY • CEDIA • DAR • SPDA • RFUS
Brazil:	<ul style="list-style-type: none"> • TNC • CONSERVAÇÃO INTERNACIONAL • WWF Brazil • WCS Brazil • Mamirauá Sustainable Development Institute • Amazon Waters 	<ul style="list-style-type: none"> • ASSEMAE - National Association of Municipal Sanitation Services • Association of Indigenous Ticuna Women (AMIT) of Porto Cordeirinho • General Organization of Tikuna Indigenous Women of Alto Solimões • Network of Indigenous Women of the State of Amazonas - Makira-Êta

Source: Environmental and social baseline for the project in Colombia, Ecuador, Peru, and Brazil, 2025

Multilateral organizations:

Multilateral organizations have played an important role in the basin as financiers, facilitators of regional cooperation, and promoters of policies for biodiversity conservation, sustainable development, and the protection of human rights. Their participation has enabled the implementation of large-scale conservation and sustainable development projects, the facilitation

of dialogue between governments, communities, and other actors, the promotion of cross-border cooperation, and the strengthening of local governance and technical capacities.

However, they have faced challenges in achieving effective coordination with indigenous communities and grassroots organizations, overcoming overlapping interests and approaches among different actors, and addressing persistent structural problems that often hinder project implementation.

Actors in the Putumayo-Içá basin: Multilateral Organizations

Country	National Level
Colombia:	<ul style="list-style-type: none"> • OAS - Organization of American States – • ACTO - Amazon Cooperation Treaty Organization • Office of the United Nations High Commissioner for Human Rights
Ecuador:	<ul style="list-style-type: none"> • UNDP - United Nations Development Program • UNDP-MAATE - Payment for Results Program (formerly PROAmazonía) • FAO - Food and Agriculture Organization of the United Nations, Ecuador - • ACTO - Amazon Cooperation Treaty Organization
Peru:	<ul style="list-style-type: none"> • IFAD - International Fund for Agricultural Development • OTCA - Amazon Cooperation Treaty Organization
Brazil:	<ul style="list-style-type: none"> • OTCA - Organização do Tratado de Cooperação Amazônica • Amazon Waters

Source: Environmental and social baseline for the project in Colombia, Ecuador, Peru, and Brazil, 2025

The Amazon Cooperation Treaty Organization (ACTO), with the support of its eight member countries—Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela—is implementing the Amazon Regional Observatory as a virtual space for storing, exchanging, and sharing information generated in the Amazon region. Within this framework, it is strategic to coordinate this initiative with the GEF Project for the Integrated Management of the Putumayo-Içá River Basin, particularly in the Knowledge Management Strategy and the Governance Action Plan, addressing key issues such as water resources, aimed at providing information on the quality and quantity of surface and groundwater in the Amazon Basin based on the Pfafstetter methodology¹¹, and indigenous peoples, with the aim of strengthening the coordinated and culturally relevant response capacity of health services in the face of emergencies such as COVID-19 in indigenous border territories. This coordination contributes to strengthening the Action Plan, allowing for the establishment of coordination and decision-making mechanisms among key actors to achieve a common vision on the use, management, and conservation of the basin, based on the identification of problems, their possible solutions, and the exploitation of opportunities derived from the diagnosis of natural resource management.

In this context, the Amazon Cooperation Treaty Organization (ACTO) is a key player in regional governance of the Amazon, as it is the only intergovernmental organization that brings together the eight Amazonian countries. Its role has been fundamental in the formulation of cross-border cooperation mechanisms, such as the Strategic Action Program (PAE) for Integrated Water Resources Management (IWRM), the creation of the Amazon Network of Water Authorities (RADA), and the establishment of the Amazon Regional Observatory (ORA), which consolidate information and strengthen capacities throughout the basin. These instruments represent direct opportunities for Putumayo-Içá, as they provide methodologies for environmental monitoring, institutional coordination, and indigenous participation in governance processes. Likewise, ACTO promotes financial and technical partnerships—such as the "Resilient Amazon Economy 2030" agenda with CAF—that leverage resources for integrated action plans on water, biodiversity, and sustainable livelihoods.

6.4 Vulnerable and disadvantaged groups identified as stakeholders

As indicated above, there are indigenous peoples in the Putumayo-Içá Basin who are not represented by the organizations listed in Table 21. Additionally, in Ruling 004 of 2009, the Constitutional Court of Colombia identified the Siona, Murui, Kichwas, Awa, Korebaju, Embera Chami, Inga, Camëntsá, Kofán, Nasa, Yanacona, and Pijaos indigenous peoples living in the department of Putumayo on the border with Ecuador are at risk of physical and cultural extermination as a result of the Colombian armed conflict and environmental impacts related to the expansion of illicit crops, mining extraction, and hydrocarbon exploration and exploitation. This may increase their vulnerability and limit their ability to express themselves, participate, and benefit from the project. Consequently, actions such as the following will be guaranteed: the establishment of direct communication channels with communities that may be affected in any way by the project's activities, in accordance with their organizational structures (Council of Elders, etc.); recognition of early warnings about the risks of extinction of indigenous peoples and the protection measures carried out in the territories; coordination with other entities and initiatives that develop activities to protect the rights of indigenous peoples.

In the Basin, in terms of gender issues, women play important roles and carry out important activities in farming, indigenous, and peasant families, which are traditionally fundamental to social and family dynamics. However, they are not always recognized, and therefore interventions do not respond to differentiated approaches. In this area and in general in the countries of the Basin, women often face diverse and successive forms of historical discrimination that combine and overlap, exposing them to greater vulnerability in all aspects of their daily lives. Indigenous women are a particularly vulnerable group. According to ECLAC (2015), they experience higher rates of poverty, receive lower incomes, have very few opportunities to access the labor market, have lower levels of education, which leads to high rates of illiteracy, lower life expectancy, higher infant and maternal mortality, and less access to sanitation and drinking water⁷⁰. They also face limited access to social programs and services, low participation in political processes, and social marginalization, which means that their voice and participation are often limited, compounded by the scarcity of laws and public policies aimed at addressing their particular problems⁷¹. This is despite the fact that

⁷⁰ Economic Commission for Latin America and the Caribbean - ECLAC. 2014. Indigenous Women. New protagonists for new policies. Population Division and Gender Affairs Division. CEPAL Publishing House. 34 p. At: https://repositorio.cepal.org/bitstream/handle/11362/36779/1/S2014351_es.pdf

⁷¹ Inter-American Commission on Human Rights (IACHR). 2017. Indigenous Women and Their Human Rights in the Americas. p.157. ISBN 978-0-8270-6658-8. At: <http://www.oas.org/es/cidh/informes/pdfs/MujeresIndigenas.pdf>

indigenous women are recognized as the protectors and guardians of cultural values and the guarantors of the permanence of their peoples. In this context, the Project, through the implementation of the Gender Action Plan, will seek to recognize the contributions, capacities, and potential of indigenous women as active agents of change, promoting their participation and that of their organizations, which include the following (Table 25)⁷² :

Table 25. Women's organizations in Brazil, Colombia, and Peru.

Country	Organization
Brazil	Association of Indigenous Ticuna Women (AMIT) of Porto Cordeirinho
	General Organization of Indigenous Tikuna Women of Alto Solimões.
	Network of Indigenous Women of the State of Amazonas - Makira-Êta
Colombia	Nimaira Uaii Jagiyi Nimaira Uaii Jagiyi Group of Knowledgeable Women.
	Association of Ariana Indigenous Women of the Puerto Nuevo Community.
	Association of Community Women of Tarapacá – ASMUCOTAR.
	Association of Indigenous Women ASOMI.
Peru	National Organization of Andean and Amazonian Indigenous Women of Peru – ONAMIAP
	Women's Program of the Regional Organization of Indigenous Peoples of the East – ORPIO
	National Women's Program of the Interethnic Association for the Development of the Peruvian Rainforest – AIDSESEP
	Women leaders of the Federation of Native Communities of Ampiyacu (FECONA)
	Surveillance committees made up of 180 women
	Women organized in the communities of Tres Esquinas and San Martín for the management and commercialization of Arahauana

No information was found for Ecuador regarding women's associations, which will be validated in the territory during the implementation of the project.

Recognizing the situation of women in general within the Basin, the Project has a Gender Action Plan that will promote an approach that takes into account gender- ssues, with particular needs, priorities, power structures, situations, and relationships between men and women to be addressed in the design, implementation, and evaluation of activities. In this way, it seeks to ensure that women and men have equal opportunities to participate and obtain appropriate benefits for their empowerment.

Finally, the presence of indigenous peoples in voluntary isolation has been identified in the basin. These peoples are affected, among other factors, by mercury residues deposited in rivers by illegal mining in some areas of the basin, which causes high levels of contamination in fish that are subsequently consumed by the inhabitants. In this regard, these peoples are considered a vulnerable population, and the Project prioritizes the considerations defined in SEA 7, aimed at taking appropriate measures to recognize, respect, and protect their lands and territories, environment, health, and culture, as well as measures to avoid any unwanted contact with them as a result of the project.

⁷² De La Cruz, P. 2015. Chagras Fairs in the Colombian Amazon, contributions to traditional knowledge and the exchange of products by indigenous associations and women of Tarapacá. 218 p. In: https://www.researchgate.net/publication/287205299_Ferías_de_Chagras_en_la_Amazonia_colombiana_contribuciones_a_los_conocimientos_tradicionales_y_al_intercambio_de_productos_de_las_asociaciones_indigenas_y_de_mujeres_de_Tarapaca

6.5 Strategy for stakeholder participation in the project

The GEF Putumayo-Içá Project seeks to promote and ensure the participation of different stakeholders in identifying the benefits and opportunities of the Putumayo-Içá Project, based on a reflection on the value of biodiversity and cultural wealth present in the Basin. In this sense, all actors are key and their interactions are fundamental to aligning objectives, activities, and the work plan. To this end, progress has been made in formulating the project with a multiplicity of actors, ensuring a participatory and inclusive process throughout three phases.

In the first phase, starting in January 2020, consultations and virtual workspaces were launched with stakeholders from the four countries to formulate the Putumayo-Içá Project. Key stakeholders in the project include indigenous and Afro-descendant populations, as well as women and young people. However, due to the Covid-19 pandemic, face-to-face consultations with these communities were not feasible in this first phase. In response to this situation, and considering the governance networks described above, as well as literacy, language, and accessible media conditions, from the end of 2020 and during the first half of 2021, progress has been made in a second phase of virtual socialization of the project proposal to stakeholders, with an emphasis on the involvement of indigenous peoples, Afro-descendant communities, fishermen's associations, women's organizations, and artisans, key stakeholders in the project who could not be contacted given the restrictions on access to the region and the biosecurity measures defined by the governments of the four countries and by indigenous organizations and local communities in response to the current situation caused by the Covid-19 pandemic.

Finally, a third phase of in-person socialization is expected to be implemented with the main objective of ensuring the involvement of these social actors. To this end, during this phase, in-person activities—meetings and workshops—will be developed as spaces for dialogue with indigenous communities, Afro-descendant communities, and fishermen's and women's organizations, among others, to strengthen socialization and feedback on the project, within the framework of a collaborative and inclusive construction process. In addition to emphasizing fundamental aspects of the project such as its objective, components, and benefits, the potential risks and impacts identified will be socialized, as well as the corresponding measures proposed to mitigate them, which have been consolidated in project instruments such as the present MGAS and the Planning Framework for Indigenous Peoples.

This third phase, which is expected to begin in 2022, will be carefully planned and implemented progressively in accordance with each country's official COVID-19 risk monitoring systems and in line with the provisions and decisions expressed by the organizational structures of local communities, in order to ensure the well-being of the communities and the work team. In all cases, biosecurity measures will be guaranteed in these meeting spaces, following the protocols of national and local authorities and implementing institutions. On the other hand, the face-to-face workspaces will be coordinated with the respective project partner institutions in each country, which will provide technical, logistical, and operational support for socialization, and will count on the participation of the corresponding communal, territorial, and regional governments.

It is important to note that communication and dissemination of the project, in any of the three phases, takes into account the following emphases and audiences: (i) Internal communication that will keep the team and implementing partners such as environmental authorities, academia, NGOs, and research institutes in each of the countries informed about the progress of the project and will

support optimal decision-making; (ii) Community communications, which, taking into account the knowledge of local communities and indigenous peoples, will seek to strengthen spaces and channels that enhance their ability to convey their needs and expectations regarding project activities and processes; (iii) external communications that will promote and disseminate project information to a wider audience (local authorities, NGOs, research institutes, the private and business sectors, as well as communities not directly benefiting from the project), and seek to raise awareness of key issues such as the impacts of water pollution on the ecosystems and inhabitants of the basin. The above will be maintained throughout the project, with the aim of supporting dialogue between the different stakeholders, based on a common knowledge base, with a view to informed decision-making.

In this regard, specific language, approaches, and messages will be defined for each actor, with particular references that allow them to take ownership of the project in a natural way, based on identifying the advantages, benefits, and incentives of participating in it. Furthermore, the project website will continue to be strengthened as a space for receiving comments, queries, and concerns from the general public, positioning this tool as one of the main mechanisms for ongoing interactive communication.

6.6 Participation during project implementation.

Ensuring the timely and effective participation of stakeholders is essential to achieving favorable results for them. Therefore, the implementation of the project, like its formulation, will continue to be carried out in a highly participatory manner with these parties, under a model of dialogue, consensus, and participatory construction. This is expected to generate and consolidate a collaborative and trusting relationship with the different actors, encouraging them to interact, dialogue, and share knowledge. Based on this approach, one of the main objectives is to manage the expectations of the various stakeholders through good communication and a firm agreement on the regional scope and limitations of the project, continuously highlighting the value of diverse and inclusive participation in decision-making as the basis for open communication and transparency, ensuring that the project is launched and implemented legitimately.

To this end, the Project will start from the recognition of indigenous peoples, Afro-descendants, and local communities as stakeholders, partners, and rights holders who play an important role in the sustainable use, management, and conservation of the environment. In this regard, the Project will ensure the facilitation and creation of appropriate spaces for work and discussion with the project's beneficiaries, which will be designed and implemented in accordance with their culture, timelines, and organizational structures. Special attention will also be given to including women, elders, and youth, both indigenous and from other local communities, in recognition of their role in the maintenance, recovery, and transfer of traditional knowledge, supporting their inclusion and promoting their participation and that of other traditional experts in the different activities of the Project. This will be accompanied by informational material, which may be produced in native languages as agreed upon.

The participation of Indigenous Peoples is promoted in the different stages of the project, such as working groups and socialization, inclusion, and participation in subprojects and small grants. Within the framework of the subprojects, there is even a specific line of research by and for the communities, in which they can participate. In addition, the door is open for the participation, decision-making, and inclusion of Indigenous Peoples and Local Communities in the development

of the project to be strengthened through the hiring of a specialist in Indigenous issues, strengthening the relationship between the Project and the different stages with Indigenous Peoples and their communities.

On the other hand, the participation of indigenous representatives, who are officially delegated by their respective peoples, will be promoted in the different decision-making spaces of the Project, such as the Technical Committee and the Regional Steering Committee (CDR), which is essential for taking into account their interests and orienting activities based on their cultural realities.

During the implementation of the subprojects, indigenous and local communities are not mere recipients of aid; they are the protagonists and direct managers. Community participation in the subprojects is structured as follows: 1. Participatory Design and Prioritization 2. Alignment with Life Plans 3. Direct Implementation of Subprojects Communities assume operational and administrative roles in the following key areas: 4. Application of EAS. 5. Intercultural and Gender Approach. 6. Monitoring and Evaluation.

Finally, to ensure that all stakeholders can express their doubts, queries, and comments regarding the implementation of the Project, a mechanism for handling complaints and claims will be established, as described below in section 6.6.

6.6 Mechanism for handling requests, complaints, and claims

In order to address any questions, concerns, and complaints that may arise during both the preparation and implementation of the Project, a Complaints and Claims Handling Mechanism (MAQR) will be established, aimed at strengthening the direct participation of stakeholders. The MAQR will also link the Global Remediation Mechanisms of WCS and the World Bank, and its implementation is conceived as a process of improvement that will be refined over time. In this regard, the purpose of the MAQR is to provide a mechanism for affected individuals or communities, and others with knowledge of the circumstances, to file complaints and claims in good faith about the impacts of the Project, providing a structure that ensures that complaints and claims are addressed, responded to, and documented in a fair and timely manner. This will also provide input for improving the implementation and results of the Project and preventing conflicts by responding to complaints and suggestions promptly, always acting in accordance with the following principles:

- Freedom of expression,
- Respect for the worldview of indigenous peoples,
- Transparency and accessibility, strengthening participation channels for stakeholders and providing publicly accessible information on the issues addressed by the MAQR,
- Legitimacy, providing security and strengthening governance,
- Equity, with an emphasis on vulnerable groups with fewer opportunities, such as indigenous and Afro-descendant peoples, women, and young people, among others.

For the purposes of the MAQR, a complaint or claim shall be understood to be the presentation of a grievance made in good faith about the Project and its activities, where there are reasonable grounds to believe that it is contributing to or causing human rights abuses or violations of the human rights of individuals or communities. It is important to note that these can be made anonymously, so non-public, sensitive, and/or personally identifiable information will be treated as

confidential to the extent possible, depending on the circumstances. In cases where the submission of a complaint or claim involves risks to the reporter, WCS will respond in a manner that protects their privacy and ensures the confidentiality of the information provided, while allowing for the proper correction of any confirmed grievance. In certain circumstances, WCS may be legally required to disclose information provided under the MAQR.

To initiate the process, the following channels of access will be available and shared among stakeholders:

- (i) in person, through the leaders and representatives of the organizations and governance systems of indigenous peoples and local communities, who in turn will present the case to the UCP, thus contributing to feedback that is in line with the culture and customs of indigenous and Afro-descendant peoples in resolving disputes. At this point, it is important to note that leaders and representatives will be trained and involved in the operation of the MAQR.
- (ii) filing of complaints and claims in writing by email and/or through the websites of the Project and partner entities, which will be defined before the start of project activities. The Project website will have a link called "Contact Us," which will host a form for any interested party to enter their complaints and claims. Once submitted, an automatic response will be generated confirming receipt of the request, generating a file number, and informing the sender that a response will be provided within 15 business days. This mechanism will also protect the identity of individuals, as it is not mandatory to fill in the fields for name, ID number, and location.
- (iii) by telephone, to the lines set up for this purpose, which will be defined before the project activities begin.

In order to advance the respective investigation and generate an appropriate personalized response, the following information is requested:

- Name(s), affiliation(s), address(es), and other contact information of the person reporting the complaint and claim and/or their representative(s). Representatives must identify the person(s) on whose behalf the complaint and claim is being filed and provide evidence of their authority to represent that person(s). **In any case, it is reiterated that the reporter may remain anonymous.** However, it is important to note that anonymous reports may limit the ability of partner entities to investigate and respond appropriately to the complaint and claim.
- A description of the specific facts, circumstances, and events that gave rise to the complaint and claim: location, date, time, names and descriptions of the individuals involved, statements made including exact quotes when possible, actions observed or witnessed, and names or descriptions of any witnesses. The more specific and detailed the information provided, the more complete and effective the investigation and response will be.
- An explanation of the harm suffered and how the rights of an individual or community were violated. The person reporting a complaint or claim may refer to codes of conduct, standards, policies, or other frameworks relevant to the case and, where applicable, should describe any efforts to resolve the case through other available redress mechanisms.
- A description of the remedy sought, where relevant or appropriate.

Once a case is received, it is referred to the UMP, which will develop a review plan appropriate to the location, nature, seriousness, and complexity of the complaint or claim. This plan will define the process for investigating and responding, including the following steps (Figure 9):

i. Investigation: All complaints and claims will be classified into two broad categories: "Relevant to the Putumayo-Icá Project" or "Not relevant to the Putumayo-Icá Project." This classification is the responsibility of the UMP, led by the Project's Environmental and Social Standards Coordinator. Cases classified as "Relevant" will be reclassified into the following categories, depending on their nature:

- Request for information: refers to questions raised about responsibilities or dates for the execution of activities.
- Commitments made by the Project regarding the application of protocols or plans established for the implementation of the different Project activities, such as workshops, training, technical assistance, intervention activities, monitoring, and follow-up.
- Project compliance with the Safeguards Plans and Environmental and Social Management Framework.
- Institutional performance, which includes all issues raised in relation to the actions of the Project's partner institutions.

On the other hand, complaints that are determined to be false, frivolous, or submitted with malicious intent will be classified as "Not applicable," rejected, and excluded from further consideration. The interested parties will be notified of the determination, leading to the respective closure of the case. The investigation may include interviews with Project staff, witnesses, and affected persons (to the extent possible and appropriate), review of relevant documentation and other materials, taking photographs, and other information gathering to determine the factual basis of the case.

ii. Documentation: All cases processed under the MAQR will be documented and tracked. The results of the investigation and any recommendations for resolution or corrective action will be documented in writing.

iii. Communication: The reporter will be notified that the complaint has been received, and a point of contact will be identified. Upon completion of the investigation, the results of the investigation and relevant actions will be communicated through the mechanisms that the reporter has indicated for receiving a response.

iv. Monitoring: If recommended in the case investigation report, WCS will monitor the implementation of corrective measures taken and document progress.

For any complaint filed, the response shall not exceed 15 business days. In case of delay, the interested parties shall be notified explaining the reasons for the delay and the deadline for response.

Depending on the nature of the case, the UMP will assess the feasibility of addressing and resolving it directly. If required, the UMP may rely on partner entities to complement the response to a complaint or claim, or it may directly reassign it, in which case the partner entity will be responsible for taking over the process and providing the respective response within the defined time frame,

always informing the UMP. On the other hand, if the seriousness of the case warrants it, the Project Director may convene an extraordinary meeting of the CDR, before which all the documentation required to support decision-making will be presented.

In any case, communities and individuals who consider themselves negatively affected by a World Bank-supported project may also submit their complaints directly to the Bank through the Grievance Redress Mechanism via the following channels:

- By email: grievances@worldbank.org
- By fax: +1.202.614.7313
- By mail: World Bank, Grievance Redress Service, MSN MC10-1018, 1818 H Street Northwest, Washington, DC 20433, USA.

The subprojects implemented decided to adopt the GEF Project's own Complaints and Claims Handling Mechanism, which has resulted in compliance with the project's EAS, reduced operating costs, consolidated monitoring, and visibility of the subproject, ensuring that the process is transparent and efficient.

Finally, it is important to note that the PMU will document the entire complaint and claim process, generating the respective report to the CDR and consolidating the information in the semi-annual reports sent to the WB.

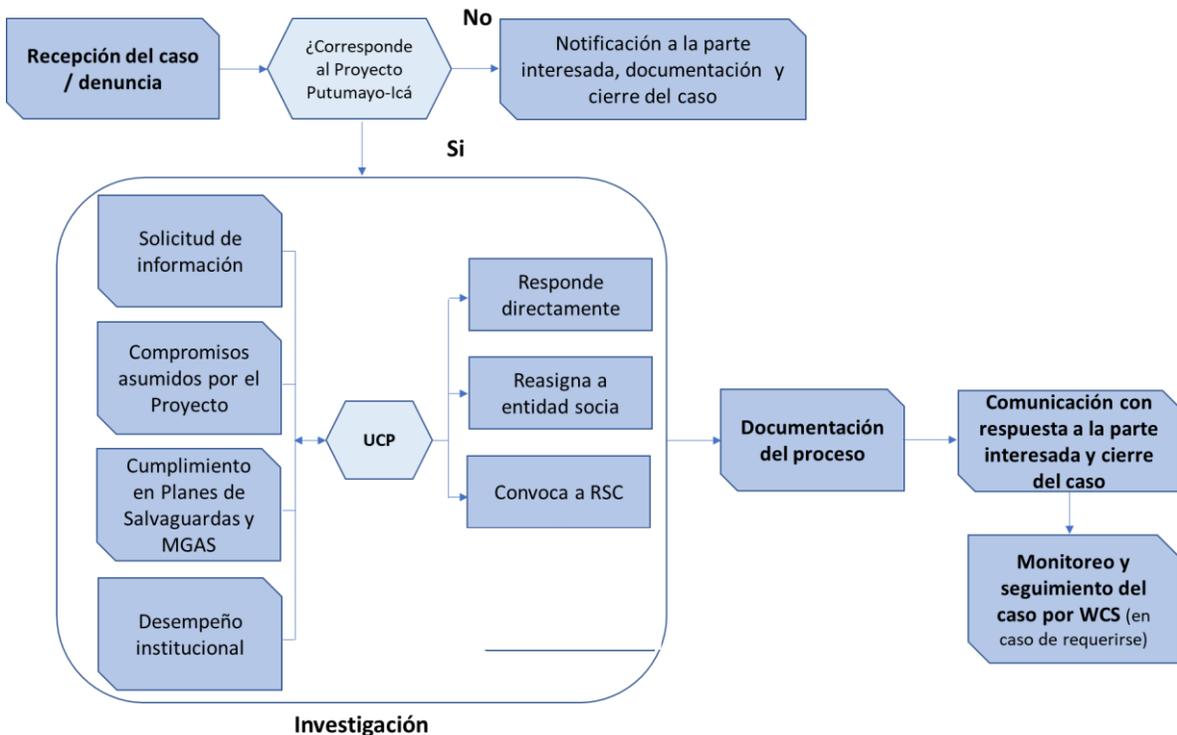


Figure 9. Scheme for analysis, response, and closure of complaints and claims received by the MAQR of the Putumayo-Içá Project.

7. Environmental and social assessment

The risk and impact management strategy includes identifying the potential environmental and social risks and impacts of the different project activities, with a proposal for mitigation measures and management tools that will enable the effective implementation of the proposed measures, such as environmental management plans and official procedures focused on natural resources, among others.

In order to identify and assess the potential risks and impacts of the activities proposed by component, and to define mechanisms to avoid or mitigate such risks and impacts, the following analyses were carried out:

- Identification of the general strategy for managing environmental and social impacts and risks.
- Definition of management tools that will be used to manage risks, e.g., Environmental Management Plans, establishment of specific plans, procedures, programs, general indicators to monitor the environmental and social management of the project, among others
- Identification of control and monitoring measures to address the impacts and risks identified in the impact and risk assessment.
- Definition of strategies according to the classification of identified risks and impacts:
 - Prevention programs or strategies (if applicable).
 - Mitigation programs or strategies (if applicable).

The methodology followed is detailed below, followed by the results of the analysis of potential environmental and social risks and impacts, with the respective definition of the environmental and social management instruments required for the prevention and mitigation of risks and impacts in the implementation of each component of the Project.

7.1 Definition of risks and impacts and management of prevention and mitigation measures.

For this assessment, the concepts established by the World Bank in the "Environmental and Social Framework" (2016) were used, which are described below:

- i) **Risk:** Risks can be environmental or social and represent a combination of the probability of certain hazards occurring and the severity of the resulting impacts.
- ii) **Impact:** Potential or actual impact on: i) the physical, natural, or cultural environment, and ii) the surrounding community and workers, as a result of the activity of the project to be supported. Three types of impacts are recognized:
 - **Direct impact:** the impact caused by the project that arises contemporaneously at the project site.
 - **Indirect impact:** the impact caused by the project that arises subsequently or at a much greater distance from the project than the direct impact, but is still reasonably foreseeable and does not include induced impacts.
 - **Cumulative impact:** the incremental impact that this has when added to the impacts of other past, present, and reasonably foreseeable events, as well as unplanned but predictable activities that are made possible by the project and that

could occur later or at a different location. Cumulative impacts may result from individually minor but collectively significant activities occurring over a period of time. The environmental and social assessment will consider cumulative impacts that are recognized as significant based on scientific concerns or that reflect the concerns of the parties affected by the project. Potential cumulative impacts will be determined as early as possible, ideally as part of the project scoping studies.

7.2 Identification and assessment of social and environmental risks

The types and levels of risks associated with the activities of each of the project components were identified, along with the mitigation measures that should be applied to avoid, reduce, or eliminate them, as well as the instruments and instances in which such measures should be applied. In addition, the assessment process specifies the World Bank's environmental and social standards linked to each of the risks, which outline the environmental and social norms that must be considered for project compliance.

In this context, risk scenarios were formulated, i.e., situations that could potentially cause damage to the environmental or social component. To this end, once the risks are identified, the probability of occurrence and the severity of their consequences are determined, and based on this, they are classified as very high, high, medium, moderate, or low risks, thus allowing the necessary measures to be proposed to prevent and/or mitigate them. For the assessment, a double-entry table was used in which each risk scenario is graphically displayed (Figure 10):

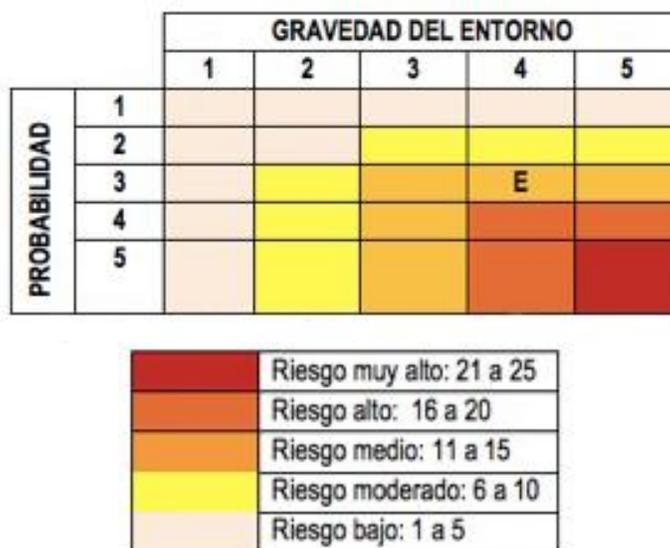


Figure 10. Risk scenarios (E) according to the severity of the environment and the probability of occurrence
Source: WCS, 2021.

Sources of risk perception

The source of risk refers to prior knowledge that allows for an objective analysis of the causes and consequences of the implementation of project activities. The identification of risks requires knowledge of various environments (environmental, political, social, legal, and cultural) associated with the area of intervention and the actors involved in the project implementation process. Four

possible sources were established for effective risk analysis: a) consultation with experts, b) secondary sources of information, c) comments from stakeholders (e.g., indigenous leaders, local authorities, among others), d) experiences in similar or local contexts.

Potentially affected elements

Risks can be classified as environmental or social, and within these categories are some elements that may be affected (Table 26).

Table 26. Elements of environmental and social risks that may be affected by the project.

Type of risk	Potentially affected elements
Environmental	Species (biodiversity)
	Ecosystems (habitat loss)
	Ecosystem services
	Water (hydrology, water quality)
	Air (noise, air quality)
	Soil (topography, relief, soil quality, land use)
Social	Culture (including indigenous and local knowledge)
	Economy
	Human rights
	Access to resources (including knowledge)
	Gender
	Health

Characterization and assessment of impacts

Once the risks have been identified and categorized, the potential impacts they may generate are assessed and both the type (direct, indirect, cumulative) and scope of these impacts are established.

It is important to note that "impact" is understood to mean environmental or social disruption caused directly or indirectly by a project or activity in a given area. In this sense, impacts can be negative, resulting from an uncontrolled or unmitigated risk, or positive, contributing to improving the current conditions of the intervention area (baseline) through actions such as restoring degraded ecosystems, reducing threats to vulnerable ecosystems, improving livelihoods and community governance, among others. Likewise, the analysis of positive impacts identifies those groups or sectors that will benefit, either directly or indirectly, from the project's activities, for example, threatened species, indigenous communities and peoples, local governments, the scientific sector, among others.

- **Type of impact:** The type of impact can be direct, indirect, or cumulative.
- **Scope or range:** Considering that the project focuses on integrated watershed management, three categories were established to define the scope of the impacts: (i) upper watershed, (ii) middle watershed, (iii) lower watershed. The categorization is based on a geospatial analysis of the watersheds and the area of implementation of the activities associated with each component.
- **Actions:** To define the type of measures or actions to be used to address a specific impact, the stages of the mitigation hierarchy (MH) were used as a basis. The MH establishes that impacts can be avoided, minimized, restored, or compensated based on a semi-quantitative

estimate and according to the project phase, whether it be design, implementation, or closure.

Once the project implementation phase is complete, an assessment of the impacts generated (positive and negative) and the effectiveness of the measures proposed for their prevention, mitigation, restoration, or compensation is required. To this end, during the planning phase, it is necessary to define indicators that allow for a subsequent comparison between the situational status of the intervention area prior to project implementation (baseline) and after it.

In this regard, the indicators will serve as the basis for analyzing the residual impact of the project, estimated through the application of the mitigation hierarchy. The assessment requires determining the priority conservation values in the project intervention area to which the change indicator metrics will be applied (e.g., presence/absence of priority species, species richness/uniformity, habitat loss, among others). The selected priority conservation values incorporate criteria with both a social and environmental focus and are described in Table 27.

Table 27. Criteria for identifying priority biodiversity and ecosystem conservation values.

Criteria	Ecosystems	Reference source
Vulnerability	Ecosystems that harbor priority species due to their vulnerability or threat level (IUCN threat category) Areas with high species richness	Table of species present in the area listed in the IUCN threat category. Map of species richness.
Irreplaceability	Ecosystems: <ul style="list-style-type: none"> • With a global presence of < 5 sites • With an area of occupation < 50 km² • That are home to priority species due to their irreplaceability. 	Map of priority ecosystems
Legal protection	Ecosystems protected by national legislation, international agreements, or regulations	Map of protected areas
Stakeholder concerns	Ecosystems essential to the survival of indigenous peoples (e.g., food provision, intrinsic and cultural value)	Map of indigenous peoples

7.3 Social Assessment

This section identifies the potential social risks and impacts of the activities presented in the Project, in each of its three components. The mitigation measures proposed for the risks and impacts identified are presented in section 8.3 – Environmental and Social Management Plan.

7.3.1 Potential social risks and impacts of Component 1

Tables 28 and 29 present the potential social risks and impacts identified in activities defined for each subcomponent of Component 1, "Strengthening governance and capacity for informed decision-making for integrated water resource management (IWRM)."

Subcomponent 1.1. Management of traditional and scientific knowledge for informed decision-making.

Table 28. Potential risks and impacts of activities under Subcomponent 1.1.

Activity	Risk description	Characterization of impact
Establish and agree on inclusive guiding principles for information management.	Failure to adequately involve indigenous peoples in the design of the knowledge management strategy and guiding principles for the development of an information management system.	Putting WCS at risk of violating U.S. federal regulations (45 CFR 46) on the protection of research subjects. Failure to create adequate conditions for applying indigenous knowledge with due consent.
	Failure to consider vulnerable groups in stakeholder analyses.	Disparity and/or underreporting of knowledge from underrepresented indigenous peoples.
Systematization and analysis of existing knowledge relevant to integrated watershed management.	Failure to identify when " <i>Research Involving Human Subjects</i> " is involved and failure to apply the corresponding procedures within the framework of WCS standards.	Violating confidentiality, privacy, or consultation rights. Putting WCS at risk of violating federal regulations (45 CFR 46).
	Weak enforcement of free, prior, and informed consent of indigenous peoples.	Failure to obtain free, prior, and informed consent from indigenous peoples.
	The analysis does not generate information that answers questions prioritized by indigenous peoples, and does not consider gaps in access to platforms.	Missing the opportunity to strengthen the capacity of indigenous peoples to influence decision-making.
Conducting studies and analyses at the watershed scale relevant to integrated management.	Failure to consider the differentiated impact of mercury water pollution according to gender, age, and social organization systems.	Omission of impacts on vulnerable populations.
Develop events for knowledge sharing	If field verifications are required, there would be a security risk due to the possible presence of insurgent groups, affecting the participation of isolated or vulnerable actors.	Exclusion of bearers of traditional knowledge and/or minority perspectives
	Failure to consider inequalities in power relations when establishing multi-stakeholder dialogue programs.	
	Ignoring the knowledge systems and worldviews of indigenous peoples.	

Subcomponent 1.2. Strengthening multi-level governance with multiple stakeholders and sectors

Table 29. Potential risks and impacts of Subcomponent 1.2 activities.

Activity	Risk description	Characterization of impact
Establish/strengthen multisectoral and regional thematic working groups and roundtables to agree on joint activities and proposals for the development of a joint vision.	Failure to consider traditionally excluded or vulnerable groups in the mapping of actors	Exclude actors who most need to be included in the stakeholder mapping
	Isolated or vulnerable actors cannot participate on equal terms	Working groups with low representation of different actors
Design the strategic action plan for the basin	Consultation and decision-making processes aimed at a shared vision	Simplification of cultural diversity and exclusion of the weakest and most vulnerable actors

Activity	Risk description	Characterization of impact
	limit the recognition of multiple worldviews	
	Binational mechanisms do not include strategies for indigenous peoples divided by international borders to maintain contact	Preventing indigenous peoples from acting in a coordinated and consistent manner in binational contexts
	Inputs generated do not take into account multiple worldviews	Agreements reached are not sufficiently broad and inclusive
	Failure to consider the differentiated impacts of gender, age, and different sociocultural groups from mercury water pollution.	Deepening gaps by not considering vulnerable groups in the implementation of binational treaties and in the monitoring system
	Failure to comply with regulations regarding access to genetic resources. Restriction of access to livelihoods in the short term.	Restricted access to livelihoods without proper consultation and definition of measures to manage the impact.
Promoting sectoral agreements towards best practices and territorial planning in line with the shared vision	Indigenous peoples' worldviews and associated uses are lost in the construction of an integrated vision	Restricted access to livelihoods without proper consultation and definition of measures to manage the impact

7.3.2 Potential social risks and impacts of Component 2

Tables 30 and 31 present the potential social risks and impacts identified in activities defined for each subcomponent of Component 2, "Improving management interventions towards shared IWRM."

Subcomponent 2.1. Mitigation of the impacts of pollution affecting the waters of the basin and its resources.

Table 30. Potential risks and impacts of activities under Subcomponent 2.1.

Activity	Risk description	Characterization of the impact
Joint efforts for prevention and control	Failure to strengthen the governance structures of indigenous peoples so that they can participate fully in the regional strategy with the capacity to enforce compliance in areas under their jurisdiction.	Loss of opportunity to strengthen indigenous peoples' governance bodies.
Strengthening capacities for law enforcement and prosecution	Low or insufficient knowledge transfer to improve response capacity for pollution events.	Missed opportunity for indigenous peoples and local communities to exercise their rights.
	Failure to build capacity in indigenous and local community governance bodies to interact on equal terms with other actors.	Deepening of inequalities by not considering the impacts of pollution differentiated by gender, age, and culture.
Establish an early warning system for water pollution in priority locations	Design a system that does not adequately consider mechanisms for the participation and involvement of local actors and those potentially affected	Increased exposure of communities to risks associated with water pollution due to lack of information.
Mitigation, recovery/remediation activities for water pollution	Increased exposure of individuals and communities to the polluting effects of mercury. Increase in concentrated waste streams. Secondary contamination by agents and/or products.	Impact on the health of workers and members of the communities involved. Contamination of soil and water. Several mercury removal technologies use chemical reagents

Activity	Risk description	Characterization of the impact
	Disturbance of tailings and release of sediments. Potential mobilization of residual mercury	or solvents, which may pose additional toxicity risks if discharged without prior treatment. Planned excavation or reprocessing of tailings may increase turbidity and sediment loads, affecting the surrounding environment (including aquatic habitats and water sources). Physical manipulation of old tailings will remobilize trapped mercury, possibly increasing exposure to vapors or runoff.

Subcomponent 2.2 Sustainable production and support for the sustainable and equitable use of natural resources.

Table 31. Potential risks and impacts of Subcomponent 2.2 activities.

Activity	Risk description	Impact characterization
Design management plans for NTFPs, fisheries, and turtles	Failure to consider gender and age roles and division of labor, or gender gaps in terms of education, access to identity cards, and public decision-making spaces, leading to greater inequalities in access to resources, distribution of workload, and benefits.	Measures to make exploitation sustainable affect livelihoods in the short term while seeking to make them sustainable in the long term, creating a short-term economic deficit that must be compensated for in some way.
	Failure to adequately consider indigenous knowledge about potential restrictions on access to ancestral territories and use of natural resources.	Restricted access to livelihoods without proper consultation and definition of measures to manage the impact.
Implement capacity-building activities for communities and key stakeholders in natural resource management.	Exclusion of vulnerable groups with little or no representation, deepening economic and social inequalities among disadvantaged groups.	Negative impact on the livelihoods of vulnerable groups whose needs and interests are poorly represented.
Implement activities to boost selected regional value chains for fish and NTFPs	Generate or exacerbate conflicts and weaken pre-existing governance systems, deepening socioeconomic and gender inequalities.	Increased imbalances and conflicts, weakening governance. The absence of a gender approach weakens the participation of women and children and deepens inequality gaps.
	Risk that activities will not be sustainable over time due to lack of support.	Abandonment of the initiative and return to unsustainable productive activities.
Implement alternative livelihood activities that promote food security.	Failure to consider the implications for decision-making on food security and the distribution of time among household members.	Unequal increase in the distribution of work, greater inequality in the distribution of costs and benefits, and greater losses in livelihoods

7.3.3 Potential social risks and impacts of Component 3 and proposed mitigation measures

For Component 3, "Project management, monitoring, and evaluation," specifically for the activity related to the communications strategy, non-compliance with regulations regarding respect for individual and collective intellectual property was identified as a potential risk, with the potential impact being the violation of rights and the generation of conflicts.

In view of this, the following actions are proposed as mitigation measures:

- Review and comply with each country's regulations and international regulations for disseminating and sharing information, respecting intellectual property rights.
- Agree in advance with key stakeholders on the procedures and methods through which individual and collective intellectual property rights will be recognized, documenting the agreements.
- implement the strategies defined in the SEP to mitigate this risk.

Likewise, international recommendations on intellectual property contained in international treaties and Andean Community Decisions 391 and 486 will be adopted.

7.4 Environmental assessment

This section identifies the potential environmental risks and impacts of the activities presented by the Project in each of its three components. The proposed mitigation measures for the identified risks and impacts are presented in section 8.3 – Environmental and Social Management Plan.

7.4.1 Potential environmental risks and impacts of Component 1

Tables 32, 33, and 34 below identify the potential environmental risks and impacts of the activities presented by the Project in Component 1, "Strengthening governance and capacity for informed decision-making for integrated water resource management (IWRM)."

Subcomponent 1.1. Management of traditional and scientific knowledge for informed decision-making.

Table 32. Potential risks and impacts of Subcomponent 1.1 activities

Activity	Risk description	Characterization of impact
Conducting studies and analyses at the basin scale relevant to its integrated management	Personnel are not sufficiently trained to collect samples, applying methods incorrectly.	Disruption of the ecosystem balance due to effects such as chemical spills in the water, sediment disturbance, and nutrient removal.
	Lack of instructions, materials, and/or infrastructure for waste management, leading to the improper use and disposal of waste from materials used for sample collection and storage.	Contamination of water and soil with waste. Air pollution due to the emission of foul odors, which could potentially attract disease-carrying animals (e.g., rodents, flies) or pests. Animals becoming entangled in trash. Accidental consumption of plastic or other harmful materials by animals.

7.4.2 Potential environmental risks and impacts of Component 2

Tables 33 and 34 present the potential environmental risks and impacts identified in activities defined for each subcomponent of Component 2, "Improving management interventions toward shared IWRM."

Subcomponent 2.1. Mitigation of pollution impacts affecting the basin's waters and resources.

Table 33. Potential risks and impacts of activities under Subcomponent 2.1.

Activity	Risk description	Characterization of the impact
Mitigation, recovery/remediation activities for water pollution	<p>Impacts on the environment caused by the inadequate implementation of restoration and/or remediation techniques due to a lack of specialized knowledge.</p> <p>Exposure of local community residents and site workers to mercury vapor.</p> <p>Displacement of informal miners or disruption of livelihoods linked to mining.</p> <p>Perception and trust issues</p> <p>Unequal distribution of benefits.</p> <p>Low adoption and post-project usage rates</p>	<p>Contamination of water, riverbeds, and riverbanks due to inadequate management of waste from the products and materials used.</p> <p>Impact on or loss of river flora and fauna and associated ecosystems.</p> <p>Sedimentation.</p> <p>Changes in the geomorphology and physical and chemical properties of the soil due to land preparation.</p> <p>Increase in airborne particulate matter and generation of unpleasant odors that could potentially attract animals that may be vectors of disease (e.g., rodents, flies) or pests.</p> <p>Imbalance in the ecosystem due to the introduction of foreign and invasive species.</p> <p>Displacement of animals due to noise caused by engines.</p> <p>Animals becoming entangled in trash.</p> <p>Accidental consumption of plastic or other harmful materials by animals.</p> <p>Without adequate protective measures, workers could inhale mercury vapors during extraction, and nearby residents could be exposed to emissions in the air, water, or soil.</p> <p>The introduction of new technologies could exclude or displace small-scale miners, reducing their access to resources or income; this may also decrease local demand for mercury.</p> <p>Communities may be wary of novel, externally introduced technologies, especially if their purpose or benefits are unclear.</p> <p>Benefits (e.g., income from recovered gold or remediated sites) may be captured by elites, middlemen, or outside contractors, and vulnerable community groups may be excluded from the project.</p> <p>Project partners (including communities, government agencies, NGOs, and private sector actors) may face difficulties in adopting or maintaining the use of technological solutions after the project ends, limiting replication and long-term impact.</p>

Subcomponent 2.2 Sustainable production and support for the sustainable and equitable use of natural resources.

Table 34. Potential risks and impacts of Subcomponent 2.2 activities.

Activity	Risk description	Impact characterization
Implement activities to promote selected regional value chains for fish and NTFPs	<p>- Implementation of technologies that generate negative environmental impacts during the implementation of initiatives.</p> <p>- Unsustainable use of fish and NTFPs</p>	<p>Introduction of alien species, proliferation of pests.</p> <p>Pollution and unsustainable use of water.</p> <p>Soil contamination with polluting waste that alters the chemistry, geomorphology, or constitution of the landscape.</p> <p>Air pollution due to uncontrolled emissions of odors and/or particulate matter.</p> <p>Air pollution due to CO₂ emissions from the use of non-renewable energy.</p> <p>Impact on natural fish populations and NTFPs</p>

In the process of formulating subprojects and smaller subprojects, organizations, entities, and NGOs, as part of the requirements for submitting proposals, must identify the potential environmental and social risks that the development of their activities may generate. This initial matrix, developed by WCS and based on the World Bank's EAS guidelines, contains a series of questions related to the impacts on natural resources and communities. Once the proposals have been approved and those selected for implementation have been chosen, a detailed environmental and social risk assessment must be carried out in accordance with the World Bank's EAs 1 and 6.

The subproject implementers, with the support of the project specialists and the EAS coordinator, are responsible for monitoring compliance with mitigation actions, timelines, and schedules.

Impacts must be identified using the impacts and risks described for project number 7, environmental and social assessment, in this document as a guide, and related to the dynamics of the activities and territories.

Name of activity: Objective of the Proposal Implementing Organization: Date:		Yes	No	If the answer is Yes, the risk is:	
				High	Medium
Impact on Natural Resources and Communities					
1	Will the Project involve the construction of any type of structure (building, dam, etc.)?				
2	Will the Project involve the construction or reconstruction of roads or trails?				
3	Will the Project involve the use, or planning or training in the use, of any chemical compounds such as pesticides, herbicides, paints, varnish, etc.?				
4	Will the Project involve the construction or repair of irrigation systems?				
5	Will the Project involve the construction or repair of fish ponds?				
6	Will the Project involve the disposal of used motor oil?				
7	Will the Project involve the implementation of timber management ⁴ or the extraction of forest products?				
8	Are there any potentially sensitive terrestrial or aquatic areas near the Project site, including protected or conservation areas?				
9	Does the activity have an impact on wildlife (fish, turtles, etc.), forest resources, or wetlands?				
10	Will the proposed activities generate solid, liquid, or gaseous waste in the air?				
11	Will the waste generated during or after the project have an impact on nearby surface or groundwater?				
12	Will the activity result in the clearing of forest cover?				
13	Will the activity contribute to soil erosion?				
14	Is the activity incompatible with existing land use in the surrounding area?				
15	Will the activity result in the displacement of homes or households?				
16	Will the activity affect unique geological or physical characteristics?				

Name of activity: Objective of the Proposal Implementing Organization: Date:		Yes	No	If the answer is Yes, the risk is:	
				High	Medium
17	Will the activity change the quantity or availability of surface water anywhere?				
18	Will the activity affect natural forests, wetlands, or savannas?				
19	Will the activity expose people or property to flooding or flash floods?				
20	Will the activity contribute to a substantial reduction in the amount of groundwater that would otherwise be available for public water supply?				
21	Will the activity generate unpleasant odors?				
22	Will the activity affect air quality?				
LOCAL PLANNING PERMITS					
23	Does the activity involve infrastructure improvements that require planning permits?				
24	Do the infrastructure improvements planned for the activity comply with the national building code?				
25	Is the activity incompatible with the current land use?				
ENVIRONMENT, HEALTH, AND SAFETY IN THE COMMUNITY					
26	Will the Project activities create conditions that favor the increase of water-related or vector-borne diseases?				
27	Has a maintenance plan been submitted for road rehabilitation and water and sanitation subsidies?				
28	Will the activity create hazards or barriers for pedestrians, motorists, or persons with disabilities?				
29	Will the activity increase existing noise levels?				
30	Will the project involve the disposal of syringes, gauze, gloves, or other medical waste with biological risk?				

7.5 Analysis of current institutional capacity for implementation

WCS, the executing agency for the Putumayo-Icá Project, is a global organization with nearly 125 years of experience in wildlife, landscape, and natural resource conservation. Its operations span 60 countries and are organized into 16 large regions from which administrative, strategic, and operational assistance is provided, while coordinating with the main headquarters located in New York City. Together with Bolivia, the four countries that share the Putumayo basin make up the Andes, Amazon, Orinoco region, which is WCS's third largest region in the world. Each country has a Country Director, and the AAO region has a Regional Director.

WCS's organizational structure articulates clear lines of management and support from local offices to headquarters. Country directors work closely with regional directors, Global Finance, Human Resources, and other support staff to ensure the necessary support and compliance with the objectives, rules, and procedures established at WCS headquarters. The regional structure allows for cost efficiencies in the implementation of projects that span more than one country by reducing technical and administrative redundancies between countries. This is the case for projects in the Amazon basin or its constituent sub-basins, such as the Putumayo.

With long-term commitments in dozens of landscapes and a presence in 60 countries, WCS has accumulated knowledge in biodiversity, cultural understanding, and partnerships with different entities to ensure that wildlife thrives alongside local communities. WCS works actively, in a coordinated and consensual manner with governments, communities, and other partners to improve conservation outcomes and natural resource governance.

In the Amazon, and particularly in the countries of the Putumayo basin, WCS works in multi-level partnerships with government and civil society organizations (including both community-based organizations and the private sector). In all countries of the western Amazon, it works under framework cooperation agreements with national governments and in support of regional governments and the various entities that oversee the sustainable use of natural resources. At the same time, WCS focuses on maximizing its impact through partnerships with organized civil society organizations in order to leverage and strengthen its expertise. Resource management is governed by an Institutional Policy, which requires the evaluation of partners and constant monitoring of grants awarded. Funds received for the implementation of different programs are managed responsibly and cost-effectively to achieve project objectives.

A central element of WCS's conservation strategy is to build effective partnerships with indigenous and traditional peoples and local communities to ensure the recognition and effective exercise of their rights to land and resources. These partnerships are a fundamental source of our legitimacy and help ensure continued support for our conservation efforts. They also enable indigenous and traditional peoples and local communities to continue or resume the roles they have historically played as frontline stewards of wild lands that are critical elements of our global heritage.

Specifically, work with riverine and indigenous groups in the Amazon region began in the early 1990s, with three pioneering projects in: Mamiraua, Brazil; the Tamshiyacu Tahuayo Communal Reserve in Peru; and Kaa-lyá in the Gran Chaco region of Bolivia. In Peru, WCS worked with indigenous peoples and riverine communities to support their efforts to secure land tenure, establish protected areas, and develop participatory monitoring programs for wildlife and local livelihoods. In Kaa-lyá, WCS supported a pioneering example of positive indigenous engagement with a private energy company that led to improved territorial governance and land use in the Isocena region and the establishment of two long-term financial mechanisms. Together with the Tacana people in northwestern Bolivia, we have developed a clear understanding of the governance systems and technical capacities needed to secure territorial rights and enable sustainable management of these lands and waters. In Ecuador, WCS has supported indigenous territorial management around protected areas and is currently working with the Waodani, Sáparos, and Kichwas around the Yasuní protected area. In Colombia, the capacity of the Cofán and Awa indigenous peoples to manage their territories and confront legal and illegal external pressures in the Andean-Amazonian foothills was strengthened. Specific indicators of the scope of WCS's work with indigenous communities include:

- Support to the Tacana and Lecos indigenous groups of Bolivia in the development of a support model for indigenous territorial management (<https://bolivia.wcs.org/en-us/ITM.aspx>)
- Development of a set of tools to enable local populations to monitor livelihoods through a Basic Needs Survey that evaluated components such as: effectiveness of territorial

management, possibility of subsistence hunting, fish catch, and water quality, followed by participation in the aggregation of local data to support territorial management.

- Support for the titling of more than 714,228 hectares of land, life plans for more than 1,983,060 hectares, and 60 natural resource management projects with 33% participation by women.

7.6 Institutional arrangement.

The GEF Putumayo-Icá Project will be led by the Ministries of Environment of Colombia, Ecuador, and Peru and the Secretariat of Environment of the State of Amazonas in Brazil, and will involve numerous government entities from these countries within the project's Technical Committee. Civil society organizations, including community organizations at various levels and nongovernmental organizations, will also participate.

The participating countries designated the Wildlife Conservation Society (WCS) as the executing agency, given its presence in each of the countries, its experience in promoting coordinated work at the regional level with various institutions and local communities, and its technical capacity in issues associated with and relevant to the project. For the implementation of the project, there will be (i) a Regional Steering Committee as the highest decision-making authority for the project, (ii) a Project Management Unit (PMU) that will report to the Regional Steering Committee and will be supported by (iii) a Technical Committee (Figure 11).

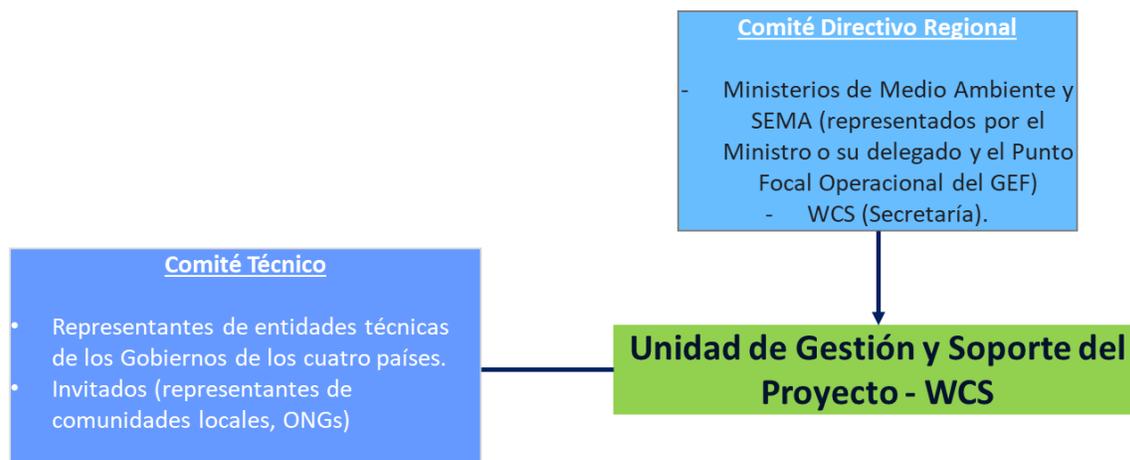


Figure 11. Coordination bodies for the GEF Putumayo Ica Project.

The Regional Steering Committee (RSC) will be responsible for the overall supervision and management of the project and will be composed of the Ministries of Environment and SEMA and WCS, which will act as Secretariat. In addition, the RSC will provide policy advice and strategic guidance; specify criteria and guidelines for project implementation and sustainability; seek coordination with sectoral public policies and other international cooperation initiatives; approve annual operational plans and semi-annual management and results reports to be submitted to the World Bank; among other activities to be specified in the project's Operational Manual. It is important to note that a representative of the local communities benefiting from the project will be invited to all CDR meetings.

On the other hand, the Technical Committee (TC) will be chaired by WCS with the participation of representatives from the main government technical institutions involved in the management and execution of the project, and by a representative from a community or non-governmental organization from each country. The TC's responsibilities will include providing strategic and technical guidance to the project; ensuring the technical quality of the various activities; providing technical support, advice, and recommendations to the Project Management Unit for the development of annual operational plans; ensuring coordination and complementarity between the projects and initiatives of the partner entities in the implementation of the project components; and support the planning and execution of World Bank supervision missions, participating in them as necessary.

Finally, the Project Management Unit (PMU), operated by WCS, will be responsible for the day-to-day management and coordination of project activities and the fulfillment of its objectives (Figure 12). It will be responsible for channeling and operationalizing the CDR guidelines through coordination with all collaborating entities in the priority areas of intervention, coordination with sectoral and territorial entities, carrying out the financial and operational management of the project, including contract management, agreements with third parties, direct execution of activities, monitoring and evaluation of activities and results, and monitoring and evaluating the application of the project's social and environmental risk management frameworks, as well as ensuring the social and environmental compliance of the actions supported.

The PMU will be composed of technical and administrative staff (Figure 3). The technical staff will consist of (i) a project director, who will be the principal representative and will be responsible for high-level decision- , (ii) a communications specialist, (iii) thematic coordinators for each major thematic area (e.g., governance, knowledge management, pollutants, and natural resource management), and (iv) environmental and social specialists, who will be responsible for managing and monitoring project risks. In addition, the administrative staff will consist of a finance and operations specialist and a monitoring and reporting specialist. There will also be country engagement teams (CETs) in each country, with staff providing support for managing relationships between partners and stakeholders, as well as logistical and administrative support professionals.

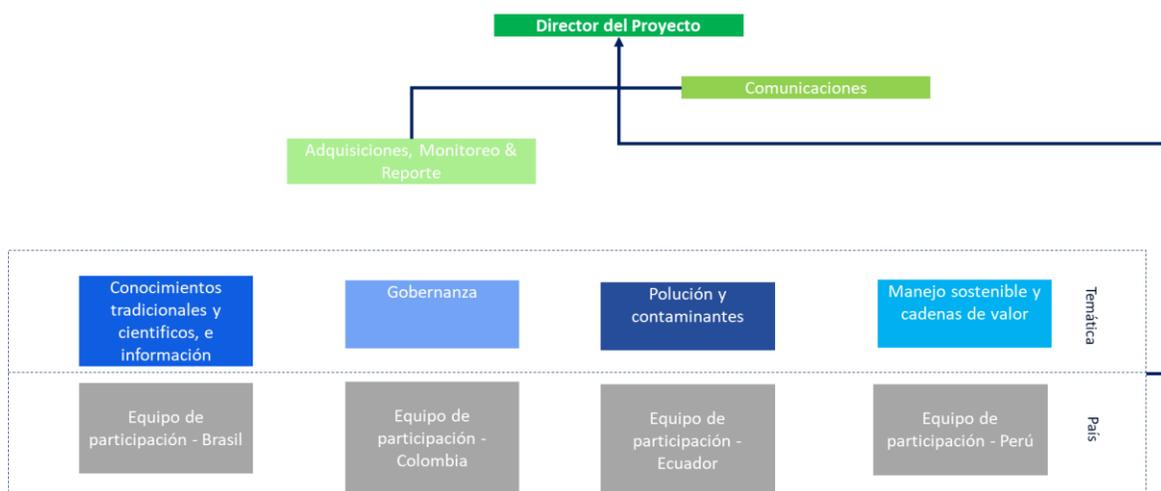


Figure 12. Schematic representation of the Project Management and Support Unit

8. Environmental and Social Management Framework – MGAS

The following is a description of the Environmental and Social Management Framework (MGAS), which forms the basis for the environmental and social management of the Putumayo-Icá Basin Project, in compliance with the regulations of the four (4) countries in the basin and the Environmental and Social Standards of the World Bank and WCS, described in chapter 4 of this document. It is important to note that all institutions and contractors participating in the Project's activities must apply the MGAS in their work.

8.1 MGAS Objectives

8.1.1 General objective

To establish environmental and social management and monitoring guidelines as a prescriptive guiding instrument for the implementation of the Putumayo-Icá Basin Project, within the framework of the legislation of Brazil, Colombia, Ecuador, and Peru and the Environmental and Social Standards (ESS) of the World Bank and WCS.

8.1.2 Specific objectives

- Define the mitigation and monitoring measures to be implemented in the execution of the project, in order to eliminate, compensate for, or reduce the potential environmental and social risks and impacts identified in Chapter 7.
- Propose the organizational structure for the supervision, monitoring, and follow-up of the project's environmental and social management.
- Establish guidelines for monitoring and follow-up of the project in environmental and social aspects.
- Establish a work plan and general schedule for the environmental and social management of the project, including the frequency and scope of the content of environmental and social reports that report on the progress of compliance with the MGAS and the training and dissemination plan for the latter.
- Establish the budget required for the implementation of the MGAS.

8.2 General guidelines

In order to ensure compliance with the project's environmental and social management measures, the general guidelines for the organizational structure, training plan, and reporting are presented below.

8.2.1 Organizational structure and

In accordance with section 7.5 of this document, a Project Management Unit (PMU) will be formed to manage and ensure the proper management of potential project risks. The PMU will include environmental and social specialists and a monitoring and reporting specialist. The Terms of Reference for the entire PMU team are attached as annexes to the MGAS (Annex 6). Additionally, and in accordance with the specific conditions of each component, support will be provided by professionals specialized in the areas required by the Project.

This team will be hired no later than 60 days after the Project Effective Date. The PMU will support the preparation of the respective Terms of Reference for hiring and the subsequent supervision and monitoring of the hiring of organizations and/or individual consultants. This includes ensuring that the different organizations and/or individual consultants comply with the environmental, social, health, and safety specifications in their respective contracts, and codes of conduct that explicitly refer to relevant actions to prevent situations of vulnerability of young people, children, and adolescents and the prevention of and response to situations of gender-based violence (GBV), sexual exploitation and abuse (SEA), and sexual harassment at work (SHW).

This UMP will remain in place throughout the implementation of the Project.

During the mid-term evaluation mission and, taking into account the recommendations of local communities, the project's UMP will hire a specialist in indigenous issues to directly support the project's relationship with indigenous communities and peoples.

8.2.2 Training Plan

A training plan for the Project will be developed by the PMU, specifically by the environmental and social standards coordinator with support from the communications specialist, for the effective management of the environmental and social risks detailed in this MGAS. Once this Plan is approved by the World Bank, it will be implemented and updated annually according to the emerging needs of the Project. This plan will include training topics, methodologies and necessary resources, target audience, and implementation schedule. These MGAS trainings will be carried out through different mechanisms (e.g., regional workshops and virtual spaces such as webinars), following the guidelines defined in the SEP. These training spaces will make the MGAS available to environmental, territorial, indigenous, and other local community authorities involved in the project. It is important to note that, in the event of significant changes during the implementation of the project, the MGAS will be updated and these adjustments will be shared.

It is important to note that the training will be adapted to the social and cultural characteristics of the beneficiary population and the project's areas of influence, so as to ensure that the information disseminated is understandable to all stakeholders, regardless of the nature of their interest. The dissemination and socialization of the MGAS and the corresponding PGAS will take place from the start of the project and throughout its cycle.

Similarly, the MGAS will be available on the project website (www.cuencaputumayoica.com) and those of its partners.

8.2.3 Project reports

The UMP working team will provide reports to the RSC within the framework of this Committee's biannual meetings, or on an extraordinary basis at the request of one of its parties, which will include the identification of risks and the application of mitigation measures. These actions will also be reported in the activity reports and in the reports on the application and monitoring of Environmental and Social Standards that each partner entity and consultant must submit to the UMP on a quarterly basis or in accordance with the provisions of the contracts.

Similarly, the UMP will generate reports to the World Bank, in accordance with the biannual and annual reporting periods on the technical and financial progress of the Project. In both processes, the respective supporting documents will be attached, accounting for the progress and implementation of the MGAS and proposing suggestions for improvements to ensure the prevention and adequate management of potential social and environmental conflicts.

8.3 Environmental and Social Management Plan – ESMP

The project's Environmental and Social Management Plan (ESMP) is presented below, setting out the measures and actions necessary to effectively manage and mitigate environmental and social risks. To this end, the recommendations proposed in the Environmental and Social Assessment (ESA) (Chapter 7) will be incorporated to avoid, minimize, reduce, or mitigate potential environmental and social risks and impacts throughout the project's lifetime, including the results of the participation process.

8.3.1 PGAS Objectives

- Define the measures and actions necessary to eliminate, prevent, mitigate, and/or compensate for the potential environmental risks and negative impacts identified in Chapter 7 of this document and those arising from the implementation of plans, procedures, guides, or guidelines that constitute the MGAS or are complementary to it.
Define the social strategy to ensure the timely and culturally appropriate implementation of social risk and impact management measures by all institutions, organizations, and individual consultants carrying out activities within the framework of the project.
- Define the institutional arrangement to be implemented to ensure environmental and social management in accordance with the provisions of the MGAS.
- Define actions for monitoring and following up on the environmental and social management of the Project.

8.3.2 Social strategy and social risk and impact management measures

Based on the potential social risks and impacts of the project activities identified in the Social Assessment (section 7.3 of this document), the respective proposed mitigation measures are presented below.

It is important to note that, in accordance with the environmental and social standards of the World Bank and WCS, the project has different instruments for social management, which collect and expand on these measures. These instruments, also defined in the PCAS and included in this MGAS, are:

- Process Framework (PF), section 8.4, annex 7.
- Indigenous Peoples Planning Framework (IPPF), section 8.5, annex 8.
- Stakeholder Participation Plan (SPP), section 8.6, annex 9.
- Labor Management Plan (LMP), section 8.7, annex 10.
- Occupational Health and Safety Measures (OHS), section 8.9, annex 12
- World Bank Environment, Health, and Safety Guidelines (GMASS), section 8.10, annex 13.

Potential social risks and impacts of Component 1 and proposed mitigation measures.

Tables 35 and 36 present the potential social risks and impacts identified in activities defined for each subcomponent of Component 1, "Strengthening governance and capacity for informed decision-making for integrated water resource management (IWRM)," and the measures identified to mitigate them.

Subcomponent 1.1. Management of traditional and scientific knowledge for informed decision-making.

Table 35. Potential risks and impacts of Subcomponent 1.1 activities and proposed mitigation measures.

Activity	Risk description	Characterization of impact	Strategy for risk and impact management
Establish and agree on inclusive guiding principles for knowledge management.	Failure to adequately involve indigenous peoples in the design of the knowledge and management strategy and in the definition of guiding principles for the	Violating confidentiality, privacy, or consultation rights by disclosing, storing, or disseminating information about indigenous peoples' knowledge.	- Identify and assess risks within the IRB framework, manage review by the WCS Committee, and implement proposals and recommendations. - Involve indigenous representatives in defining the guiding principles

Activity	Risk description	Characterization of impact	Strategy for risk and impact management
	development of an information management system, resulting in a failure to identify when "Research Involving Human Subjects" is involved and leading to the application of the corresponding procedures within the framework of WCS and WB standards.	Putting WCS at risk of violating U.S. federal regulations (45 CFR 46) on the protection of research subjects. Failure to create adequate conditions for applying indigenous knowledge with proper consent.	and designing the management system, so that information management guidelines are agreed upon and prepared in a culturally appropriate manner. - Monitor this involvement according to the indicators in the Results Framework. - Review and adopt the recommendations on intellectual property contained in international treaties or Andean Community Decisions 391 and 486. - Include <u>an intellectual property clause</u> in the donation agreement signed between WCS and the sub-project implementers.
	Failure to consider vulnerable groups in stakeholder analyses, for example, underrepresented indigenous peoples, women, and groups with exclusively oral and unwritten traditions.	Failure to include in the gap analysis the specific knowledge of underrepresented indigenous peoples, women, and peoples with oral traditions, leading to a disparity and/or underreporting of their knowledge.	In planning, explicitly state the attention that should be paid to vulnerable groups, take into account the <u>SEP guidelines</u> , and monitor, through the various social instruments prepared, that these groups are included in the analysis of information gaps.
Systematization and analysis of existing knowledge relevant to integrated watershed management	Failure to identify when " <i>Research with Human Subjects</i> " is involved and failure to apply the corresponding procedures within the framework of WCS standards.	Violating confidentiality, privacy, or consultation rights by disclosing, storing, or disseminating information about knowledge. Putting WCS at risk of violating U.S. federal regulations (45 CFR 46) on the protection of research subjects.	Submit any research involving the collection of information from human subjects to the WCS IRB for review. Plan how these actors will be involved in the information gathering process and respect the processes established by these groups.
	Weak enforcement of the free, prior, and informed consent of indigenous peoples regarding the information collected or disclosed about the project.	Failure to obtain the free, prior, and informed consent of indigenous peoples regarding the information collected or disclosed about the project.	ILO Convention 169, World Bank policies, and applicable legislation in each country on free, prior, and informed consent will be adopted. In addition, there is a <u>planning framework for indigenous peoples</u> to manage this risk.
	The analysis does not generate information that responds to questions prioritized by indigenous peoples.	Missing the opportunity to strengthen the capacity of indigenous peoples to influence decision-making on land use, climate change impact, and analysis of future scenarios.	The planning process will jointly define the objectives of collecting traditional knowledge and the benefits of its appropriation and application. Actions will be implemented to protect this knowledge as agreed upon in the process with the communities and in accordance with applicable treaties and legislation.

Activity	Risk description	Characterization of impact	Strategy for risk and impact management
	Do not consider gaps in access to platforms and/or leaks in their articulation that prevent or further disadvantage excluded groups in accessing information.	Violate confidentiality, privacy, or consultation rights when collecting, storing, or disseminating information about knowledge. Put WCS at risk of violating U.S. federal regulations (45 CFR 46) on the protection of research subjects.	Consider gaps in internet access and, in the articulation of platforms, ensure a diversity of means to access them. In addition, socially and culturally appropriate and viable strategies will be jointly designed and implemented to address these connectivity gaps.
Conduct studies and analyses at the watershed scale relevant to its integrated management.	Failure to consider the differentiated impact of mercury water pollution according to gender, age, and social organization systems.	Omission of impacts on vulnerable populations.	Consider the differentiated impacts by gender, age, and culturally determined social organization systems in the monitoring program. This will be done by analyzing existing information on these factors by gender, age, and organization systems, as well as through direct consultation with the indigenous organizations and communities benefiting from the project, through surveys, among other participatory mechanisms.
Develop events for knowledge sharing	If identification and mapping include field verifications, there would be a security risk due to the possible presence of insurgent groups, making it impossible for isolated or vulnerable actors to participate on equal terms.	Exclude bearers of traditional knowledge and/or minority perspectives	Develop and implement security protocols in relation to public order. Identify, adopt, and respect precautionary measures issued by the competent authorities to protect the population in the project area.
	Failure to consider inequalities in power relations when establishing multi-stakeholder dialogue programs.	Excluding holders of traditional knowledge and/or minority perspectives	Implement the measures defined in the <u>Indigenous Peoples Planning Framework</u> , which allow this risk to be managed.
	Ignoring the knowledge systems and worldview of indigenous peoples.	Excluding holders of traditional knowledge and/or minority perspectives.	Assess the type of knowledge and the particularities of the agents who support it (e.g., shamans or other specialists) and ensure that spaces for dialogue are sensitive to the conditions of this type of knowledge and its specialists. Identify and jointly implement actions to protect this knowledge, based on what has been agreed upon in the process with the communities and applicable treaties and legislation.

Subcomponent 1.2. Strengthening multi-level governance, with multiple stakeholders and sectors

Table 36. Potential risks and impacts of Subcomponent 1.2 activities and proposed mitigation measures.

Activity	Risk description	Impact characterization	Risk and impact management strategy
Establish/strengthen multisectoral and regional thematic working groups and roundtables to agree on joint activities and proposals for the development of a joint vision.	Failure to consider traditionally excluded or vulnerable groups in stakeholder mapping	Exclude actors who most need to be included in the stakeholder mapping	Monitor the inclusion of frequently excluded groups (women, indigenous peoples, Afro-descendants). <u>Implement the measures defined in the SEP</u> to mitigate this risk, mainly those aimed at ensuring the creation and maintenance of spaces for the dissemination of the project and promoting the participation and consultation of the different actors in the basin, in a culturally appropriate manner
	Isolated or vulnerable actors cannot participate on equal terms	Working groups dominated by stronger actors	Design and implement strategies to promote the participation of vulnerable groups.
Design the strategic action plan for the basin	Consultation and decision-making processes aimed at a shared vision limit the recognition of multiple worldviews	Simplification of cultural diversity and exclusion of the weakest and most vulnerable actors	Design and implement a system that includes multiple visions in accordance with the cultural diversity of the region. Adopt a "bottom-up" approach, considering the visions and practices at the level of smaller watersheds, ensuring governance and identifying gaps at successive higher levels, building intercultural proposals to fill them. <u>Implementation of the SEP</u> and its measures to mitigate this risk.
	Binational mechanisms do not include mechanisms for indigenous peoples divided by international borders to maintain contacts, relationships, and cooperation.	Preventing indigenous peoples from acting in a coordinated and consistent manner in binational contexts.	Consider the situation of cross-border indigenous peoples and other vulnerable groups or indigenous peoples in voluntary isolation; promoting harmonization, but guaranteeing the protection and rights of isolated peoples, in accordance with current legislation and protocols.
	Inputs generated do not adequately take into account multiple worldviews	Agreements reached are not sufficiently broad and inclusive	The SEP has a comprehensive map of actors and assesses their situation and possibilities for participation and representation of their interests and needs. <u>Implementation of the outreach strategy proposed in the SEP.</u>
	Failure to consider the differentiated impacts of mercury water pollution on different genders, ages, and sociocultural groups.	Deepening gaps by not considering vulnerable groups in the implementation of binational treaties and in the monitoring system	Ensure the inclusion of differentiated impacts on specific groups in monitoring and binational treaties. Key tools for achieving this objective include <u>the SEP and the Indigenous Peoples Framework.</u>
	Non-compliance with regulations regarding access to genetic resources. Restricting	Restricted access to livelihoods without proper consultation and	Carefully evaluate the proposed regulations and include mitigation or compensation measures in them,

Activity	Risk description	Impact characterization	Risk and impact management strategy
	indigenous peoples' access to species without proper consultation and restricting access to livelihoods, thereby deepening inequality gaps by articulating common regulations without considering specificities or mitigation or compensation measures.	definition of measures to manage the impact.	ensuring free, prior, and informed consent.
	Restriction of access to livelihoods in the short term.	Restricted access to livelihoods without proper consultation and definition of measures to manage the impact	Conduct participatory analyses on the acceptable limit of short-term livelihood loss and the balance with long-term sustainability. Provide for compensation measures if the reduction in access to resources is below the acceptable limit. In addition, the application of the measures contemplated in the Project Process Framework allows these risks to be mitigated.
Promote sectoral agreements towards best practices and territorial planning in line with the shared vision	Worldviews of indigenous peoples and associated uses are lost in the construction of an integrated vision	Access to livelihoods restricted without proper consultation and definition of measures to manage the impact	Land management tools must be facilitated and "tailor-made" to be effective, considering broad participation.

Potential social risks and impacts of Component 2 and proposed mitigation measures

Tables 37 and 38 present the potential social risks and impacts identified in activities defined for each subcomponent of Component 2 "Improving management interventions towards shared IWRM" and the measures identified to mitigate them.

Subcomponent 2.1. Mitigation of the impacts of pollution affecting the waters of the basin and its resources.

Table 37. Potential risks and impacts of Subcomponent 2.1 activities and proposed mitigation measures.

Activity	Description of risk	Impact characterization	Strategy for risk and impact management
Joint efforts for prevention and control	Failure to strengthen the governance structures of indigenous peoples so that they can participate fully in the regional strategy with the capacity to enforce compliance in areas under their jurisdiction.	Loss of opportunity to strengthen indigenous peoples' governance bodies.	Consider the impact and generate mitigation measures in the design and implementation of the regional strategy for control and monitoring of mercury and other pollutants.
	Low or insufficient knowledge transfer to	Loss of opportunity for indigenous	Design and implement capacity-building programs that identify

Activity	Description of risk	Impact characterization	Strategy for risk and impact management
Strengthening capacities for law enforcement and prosecution	improve response capacity for pollution events.	peoples and local communities to effectively exercise their rights.	actors and their specific needs in terms of exposure and risk to pollution.
	Failure to build capacity in indigenous and local community governance bodies to interact on equal terms with other actors.	Deepening of inequalities by not considering the impacts of pollution differentiated by gender, age, and culture.	Design and implement capacity-building programs that comprehensively identify actors and their specific needs according to their specificities in terms of exposure and risk to pollution.
Establish an early warning system for water pollution in priority areas.	Designing a system that does not adequately consider mechanisms for the participation and involvement of local actors and those potentially affected.	Increased exposure of communities to the risks associated with water pollution due to lack of knowledge and information.	Mapping of stakeholders and areas of influence based on a contingency plan tailored to the risks
Mitigation, recovery/remediation activities for water pollution	<p>Increased exposure of people and communities to the polluting effects of mercury during control, remediation, and/or restoration actions</p> <p>Increase in a stream of concentrated waste. Secondary contamination by agents and/or products. Disturbance of tailings and release of sediments. Potential mobilization of residual mercury</p>	<p>On the health of workers and community members involved in remediation and/or restoration activities in areas affected by mercury and other contaminants</p> <p>The process is designed to extract mercury from tailings from artisanal and small-scale gold mining (ASGM), which will generate a waste stream that, if not properly stored, could contaminate soil and water.</p> <p>Several mercury removal technologies use chemical reagents or solvents, which may pose additional toxicity risks if discharged without treatment.</p> <p>Excavation or planned reprocessing of tailings may increase turbidity and sediment loads, affecting the surrounding environment (including aquatic</p>	<p>The MGAS includes mitigation actions for this risk in the health and safety plan. For the design and implementation of pilot projects, the following are proposed, among others:</p> <ul style="list-style-type: none"> - considering reducing the exposure of workers and community members to contaminants during remediation and/or restoration actions in areas, - applying safety protocols and measures to reduce exposure and its effects. - ensuring the safe stabilization of mercury (e.g., amalgamation with sulfur), safe handling (including the use of personal protective equipment, PPE), storage and transport, and coordination with national hazardous waste authorities for final disposal (noting that several companies work with laboratories in Peru and Colombia for the safe disposal/storage of mercury). -Require a comprehensive life cycle assessment of reagents (e.g., DRAM technology has this) and waste streams; use biodegradable or low-toxicity agents (e.g., Micromax) where possible, with regular cleaning/disposal of reagents (e.g., copper plates). -Implement sediment control measures (e.g., sedimentation ponds, barriers/filtration tanks, as

Activity	Description of risk	Impact characterization	Strategy for risk and impact management
		habitats and water sources). Physical handling of old tailings will remobilize trapped mercury, potentially increasing exposure through vapors or runoff.	practiced by DRAM) and consider operating during periods of low rainfall. -Use containment and capture systems; require continuous environmental monitoring during reprocessing and safe disposal/storage of mercury.

Subcomponent 2.2 Sustainable production and support for the sustainable and equitable use of natural resources.

Table 38. Potential risks and impacts of Subcomponent 2.2 activities and proposed mitigation measures.

Activity	Risk description	Impact characterization	Strategy for risk and impact management
Design management plans for NTFPs, fisheries, and turtles	Failure to consider gender and age-based roles and division of labor, as well as gender gaps in terms of education, access to identity cards, and participation in public decision-making spaces, potentially leading to greater inequalities in terms of access to resources, distribution of workload within households, and benefits.	Measures to make exploitation sustainable affect livelihoods in the short term while seeking to make them sustainable in the long term, and generate a short-term economic deficit that must be compensated for in some way.	This risk will be managed through <u>the Project's gender strategy</u> , which includes actions such as: - Conducting a preliminary analysis and highlighting roles and division of labor according to gender and age - Involving the groups concerned in the agreements according to gender, age, and type of activity for management. - Conducting participatory analyses of the potential short-, medium-, and long-term impacts on the family economy and promoting the joint identification of mitigation or compensation measures.
	Failure to adequately consider the knowledge and perceptions of indigenous communities regarding potential restrictions on access to ancestral territories and on the use and exploitation of natural resources.	Restricted access to livelihoods without proper consultation and definition of measures to manage the impact.	This risk will be managed through <u>the project's gender strategy</u> , which includes actions such as participatory analysis of the distribution of work and rest time and value chains with a gender focus.
Implement capacity-building activities for communities and key stakeholders in natural resource management	Exclude vulnerable groups with no or low representation and deepen the economic and social inequalities of disadvantaged groups.	On the livelihoods of vulnerable groups whose needs and interests are poorly represented	Identify all affected groups and ensure their participation in capacity building, management, monitoring, surveillance, and marketing processes, or identify measures to compensate them.
Implement activities to boost selected regional value chains for fish and NTFPs	Generate or accentuate conflicts and weaken pre-existing governance systems, deepening socioeconomic and gender inequalities	The absence of a comprehensive view of governance systems creates imbalances and conflicts and ultimately weakens governance.	From the design of production chains, include analysis of the different levels of governance, natural resource access systems, cultural systems, role distribution, and division of labor, and design and agree on mechanisms for

Activity	Risk description	Impact characterization	Strategy for risk and impact management
		The absence of a gender perspective in value chain analyses obscures the participation of women and children, reducing the potential for contributions to adaptive management and deepening inequality gaps in access to benefits and technical assistance.	distributing functions and benefits among the different levels of governance according to the type of access to land and natural resources, ensuring cross-checks to ensure accountability and reduce the likelihood of conflicts. When identifying the links in the chains, ensure that participation is considered according to gender and age and ensure a fair distribution of burdens and benefits.
	Risk that activities will not be sustainable over time due to lack of support.	Abandonment of the initiative and return to unsustainable, legal, and ly illegal activities, overexploitation of natural resources, loss of habitat, etc.	Consider the cultural particularities of each Indigenous People and balance the relationships between different Indigenous Peoples, especially considering the existence of asymmetrical power relations between them. Additionally, it should be noted that the Planning Framework for Indigenous Peoples proposes measures to manage this risk.
Implement alternative livelihood activities that promote food security.	Failure to consider the implications for decision-making on food security and the distribution of time among household members, potentially leading to greater inequality in the distribution of costs and benefits, and greater losses in livelihoods.	Because the maintenance of small farms and the feeding of small domestic animals generally falls to women, new activities related to these areas impact women by increasing the unequal distribution of labor.	Conduct participatory and comprehensive analyses of household economies and production chains for domestic use. Systematically monitor the behavior of household economies and the distribution of work and leisure time by gender and age.

Potential risks and social impacts of Component 3 and proposed mitigation measures

For Component 3, "Project management, monitoring, and evaluation," specifically for the activity related to the communications strategy, non-compliance with regulations regarding respect for individual and collective intellectual property was identified as a potential risk, with the potential impact of violating rights and generating conflicts.

In view of this, the following actions are proposed as mitigation measures:

- Review and comply with each country's regulations and international regulations for disseminating and sharing information, respecting intellectual property rights.
- Agree in advance with key stakeholders on the procedures and methods through which individual and collective intellectual property rights will be recognized, documenting the agreements.
- implement the strategies defined in the SEP to mitigate this risk.

Likewise, international recommendations on intellectual property contained in international treaties or Andean Community Decisions 391 and 486 will be adopted.

8.3.3 Environmental strategy and measures for managing environmental risks and impacts

This section identifies the potential environmental risks and impacts and the proposed mitigation measures for the activities presented by the Project in components 1 and 2, in accordance with the findings of the Environmental Assessment (section 7.4 of this document).

Additionally, the project has different environmental management tools defined in the PCAS, which collect and expand on these measures. These tools, which are included in this MGAS, are:

- World Bank Environment, Health, and Safety Guidelines (GMASS), section 8.10, annex 13.
- Waste Management Plan (WMP), section 8.8, annex 11

Potential environmental risks and impacts of Component 1 and proposed mitigation measures

Table 39 below identifies the potential environmental risks and impacts and the proposed mitigation measures for the activities presented by the Project in Component 1, "Strengthening governance and capacity for informed decision-making for integrated water resource management (IWRM)."

Subcomponent 1.1. Management of traditional and scientific knowledge for informed decision-making.

Table 39. Potential risks and impacts of Subcomponent 1.1 activities and proposed mitigation measures.

Activity	Risk description	Characterization of impact	Strategy for risk and impact management
Conducting studies and analyses at the watershed scale relevant to its integrated management	Personnel are not sufficiently trained to collect samples and, as a result, apply methods incorrectly, affecting the environment.	Alteration of the physical and chemical structure of the habitat due to effects such as chemical spills in the water, sediment disturbance, and nutrient removal.	Select appropriate sampling protocols to be included in the work plan prior to monitoring and verify that sample collectors are properly trained.
	Not having instructions, materials, and/or infrastructure for waste management, leading to the improper use and disposal of waste from the materials used for sample collection and storage.	Contamination of water and soil with waste that alters the landscape. Air pollution due to the emission of unpleasant odors. Emission of odors that could potentially attract animals that may be vectors of disease (e.g., rodents, flies, mosquitoes) or pests. Animals becoming entangled in garbage. Accidental consumption of plastic or other harmful materials by animals.	Design guidelines for waste management, including actions such as: Seeking to use biodegradable materials. Providing adequate and differentiated containers for intermediate waste disposal. Proper transfer of waste (containers and means of transport that prevent leaks or spills). Final disposal of waste at sites for proper separation and treatment by authorized waste managers. Ensuring that monitoring personnel use reusable, non-disposable products (e.g., thermoses and food containers).

Potential environmental risks and impacts of Component 2 and proposed mitigation measures

Tables 40 and 41 present the potential environmental risks and impacts identified in activities defined for each subcomponent of Component 2, "Improving management interventions towards shared IWRM."

Subcomponent 2.1. Mitigation of pollution impacts affecting the basin's waters and resources.

Table 40. Potential risks and impacts of Subcomponent 2.1 activities and proposed mitigation measures. See Annex 11 – Waste Management Plan

Activity	Risk description	Characterization of impact	Strategy for risk and impact management
Mitigation activities, recovery/remediation of water contamination	Impacts on the environment caused by the inadequate implementation of restoration and/or remediation techniques due to a lack of specialized knowledge.	Contamination of water, riverbed, and banks. Sedimentation. Changes in the geomorphology and physical and chemical properties of the soil due to land preparation. Increase in airborne particulate matter and generation of unpleasant odors. Loss of the organic layer of the soil. Pollution due to inadequate management of waste from the products and materials used. Contamination, impact, or loss of river flora and fauna and associated ecosystems. Imbalance in the ecosystem due to the introduction of foreign and invasive species such as plants or degrading bacteria that compete with native species and cause imbalance in ecosystems and the proliferation of pests. Displacement of animals due to noise caused by engines in the implementation area. Emission of odors that could potentially attract animals that may be vectors of disease (e.g., rodents, flies, mosquitoes) or pests. Animals becoming entangled in waste. Accidental consumption of plastic or other harmful materials by animals.	*Adaptation of remediation protocols according to the nature of the disturbances and the biophysical conditions of each site to be intervened. *Hiring of experts for the development and implementation of the remediation and/or restoration plan. *Use of native species as a preferential criterion. *Use of organic fertilizers and/or bio-inputs from known sources and guaranteed provenance. *Incorporation of biological pest and disease control into the remediation and/or restoration plan. * Design of a protocol/list of criteria for selecting possible remediation methodologies and bioremediation techniques. * Protocol/checklist for specific analysis of the possible impacts of the selected methodologies and their prevention/mitigation measures.

Subcomponent 2.2 Sustainable production and support for the sustainable and equitable use of natural resources.

Table 41. Potential risks and impacts of Subcomponent 2.2 activities and proposed mitigation measures. See Annex 11 – Waste Management Plan

Activity	Risk description	Impact characterization	Risk and impact management strategy
Implement activities to promote selected regional value chains for fish and NTFPs	Implementation of technologies that could potentially generate negative environmental	Introduction of alien species, proliferation of pests.	Proposal of guidelines for waste management resulting from different processes in the value chains.

Activity	Risk description	Impact characterization	Risk and impact management strategy
	impacts during the implementation of initiatives.	Pollution and unsustainable use of water. Soil contamination with polluting waste that alters the chemistry, geomorphology, or constitution of the landscape. Air pollution due to uncontrolled emissions of odors and/or particulate matter. Air pollution due to CO2 emissions from the use of non-renewable energy.	Implementation of measures to ensure the sustainability of the initiative and products throughout the value chain. Provide technical assistance to ensure the environmental and economic sustainability of these activities. Design of guidelines for waste management, including actions such as: Seeking to use biodegradable materials. Having adequate and differentiated containers for intermediate waste disposal. Proper transfer of waste using appropriate containers and means of transport to prevent leaks or spills. Carry out the final disposal of waste in sites for its proper separation and treatment (e.g., urban populations that have a waste management system), through authorized managers. Ensure that monitoring personnel use reusable, non-disposable products (e.g., thermoses and food containers).

8.3.4 PGAS socialization and dissemination strategy

The PGAS socialization and dissemination strategy will take into account the provisions of Chapter 6 of this document regarding meaningful consultation and inclusive and effective participation for the involvement of stakeholders in both the formulation and implementation of the Project. It will also be guided by the provisions of the Stakeholder Participation Plan (PPPI) (section 8.6, Annex 9), which seeks to ensure proper relations with all stakeholders in a socially and culturally appropriate manner.

This strategy for disseminating and socializing the PGAS has the following objectives:

- To inform stakeholders about the project's activities.
- Present the potential social and environmental risks and impacts identified, and the planned mitigation measures.
- To identify other social and environmental risks and impacts based on the knowledge and perception that stakeholders have of their territory, with their respective mitigation measures.

In order to ensure the participation of as many project stakeholders as possible, calls for participation will be made through various media outlets that guarantee wide coverage, facilitating conditions for the most vulnerable stakeholders to participate effectively. Additionally, the communications strategy for the project will include the design of messages and communication pieces with organized, relevant, and culturally appropriate information, considering:

- Spanish and Portuguese as the main languages for the preparation of messages, as these are the languages most widely used by local inhabitants and organizations with jurisdiction in the

Basin. However, in anticipation of monolingual communities in their native language, if required, consideration will be given to issuing messages in their respective languages as well.

- The use of clear, simple, and concrete language, avoiding technical terms, so that the different target audiences can easily understand and replicate them.
- To have greater impact and credibility, the messages will recognize cultural values and appeal to the role and social responsibility of communities in managing the Basin, so that communities identify with the Project's objective.

The PGAS will be socialized and disseminated throughout the project cycle, with the aim of ensuring dynamic and systematic social and environmental management that responds to the contingencies of its own development and focuses on the needs of affected parties and other stakeholders, as well as ensuring environmental sustainability.

8.3.5 PGAS compliance reports

In accordance with the semi-annual and annual reporting periods on the technical and financial progress of the Project, the UMP work team will provide reports that include progress in compliance with the PGAS, with the respective supporting documentation. Likewise, suggestions for improvements will be made to ensure the prevention and adequate management of potential social and environmental conflicts.

This PGAS progress report will include the following aspects:

- List of activities, indicating the consulting or technical assistance contracts entered into for the development of the different components.
- Progress status of each of the contracts entered into for the development of the Project: this involves a description of the activities carried out for the development of the Project in any of its components, indicating the names of the contractors, the supervisory body, and the personnel responsible for environmental, social, health, and safety management.
- Progress in the implementation of the PGAS in direct relation to social management measures and environmental management measures, as well as each of the instruments that complement it: PPPI, MPPI, PGL, PGR, and OSH measures.
- Report consolidating the progress of the project management indicators established in the MGAS.
- Report and analysis of the performance of the PQR management mechanism.
- Conclusions and recommendations on environmental and social management.

8.3.6 Institutional arrangement for social and environmental management

To manage and ensure the proper management of potential project risks, the UMP will have an Environmental and Social Standards Coordinator, a social and governance specialist, a monitoring and evaluation specialist, as well as specialists in specific issues related to value chains and aquatic ecosystems. Additionally, and in accordance with the specific conditions of each component, support will be provided by specialized WCS professionals in the areas required by the Project.

This team will be hired after meeting the disbursement conditions for the implementation of components 1 and 2 and prior to opening the different processes for hiring organizations and/or

individual consultants, and will support the preparation of the respective Terms of Reference for hiring and subsequent supervision and monitoring. This includes:

- ensuring that the various organizations and/or individual consultants comply with the environmental, social, health, and safety specifications in their respective contracts, and codes of conduct that explicitly refer to relevant actions to prevent situations of vulnerability of young people, children, and adolescents and the prevention of and response to situations of gender-based violence (GBV), sexual exploitation and abuse (SEA), and sexual harassment at work (SHW);
- support organizations and consultants in relation to the environmental, OSH, and social requirements of the project;
- Follow up and monitor the actions planned by organizations and consultants to comply with the requirements established in the MGAS.
- Review and comment on the monthly reports of organizations and consultants to ensure compliance with the MGAS.
- prepare semi-annual reports to the World Bank on the implementation of the PGAS and compliance with the requirements defined in the MGAS.
- Support environmental and social monitoring, follow-up, and management during the implementation of the assigned subprojects.

This organizational structure will be maintained throughout the implementation of the Project. In the development of the subprojects, the Project team of specialists and the PMU will use the environmental and social risk and impact matrix, PPI, and MAQR monitoring tools to manage environmental and social issues.

Finally, it is important to note that all organizations and consultants carrying out activities for the development of the Project are committed to ensuring the proper management of potential environmental and social risks and impacts that may arise during the implementation of the Project and its activities.

8.3.7 Social and Environmental Management Schedule

WCS will develop a Social and Environmental Management Schedule based on the overall Project Schedule, once the latter has been defined. This schedule will be sent to the World Bank prior to the start of contracting activities and will contain at least the following:

- General mitigation measures (environmental, OSH, and social measures applicable to all contractors).
- Institutional measures (hiring of environmental and social specialists and monitoring and reporting specialists).
- Training plan for the different social management tools (MGAS, PCAS, MPPI, PPPI, PGL, OHS).
- Communication and dissemination to stakeholders.
- Project control, monitoring, and evaluation measures.

8.3.8 Environmental and Social Management Budget

WCS will structure a budget for environmental and social management once the final overall project budget is available, indicating the estimated costs and personnel required for each of the activities

to be implemented to mitigate potential social and environmental risks and impacts. It will also define the mechanisms for monitoring budget execution and reporting to the World Bank every six months.

8.3.9 Exclusion list

The project will not support the following activities, either financially, as a counterpart, or as indirectly related activities, as they contravene the World Bank's EAS and the general spirit of the Project:

- Activities that promote changes in the coverage and/or use of natural vegetation to other coverage or use.
- The conversion, deforestation, degradation, or any other alteration of natural habitats, including, among other things, their conversion for agricultural uses or forest monocultures.
- Activities within the Protected Areas of the National System of Protected Areas, with the exception of their areas of influence where pressure is exerted on forest resources.
- Use of formulated pesticides that meet the criteria for carcinogenicity, mutagenicity, or reproductive toxicity established by the competent international organizations. The use of pesticides that meet the criteria of classes IA and IB of the World Health Organization (WHO) Recommended Classification of Pesticides by Hazard and Guidelines for Classification, or formulations of products in Class II of the WHO Guidelines, or that do not meet the following criteria for the selection and use of pesticides, is prohibited.
- Alteration of watercourses and/or damming.
- Construction of dams.
- Construction and/or rehabilitation of irrigation systems and/or wells for specific irrigation uses.
- Purchase of chemical products to combat pests, such as synthetic pesticides.
- Production or trafficking resulting from illegal activity under national legislation or international conventions and agreements.
- Infrastructure works that may promote conversion, deforestation, degradation, or any other alteration of natural habitats.
- Trade in wildlife or wildlife products regulated by the CITES convention.
- Activities that have not received the support of the communities living in the areas where the activities will take place.
- Activities that result in the physical displacement of people.
- Activities carried out in areas where cultural heritage is affected or where the precautions established in the MGAS to prevent damage to cultural heritage are not taken.
- Activities carried out on disputed or contested land.
- Support for proselytizing or electoral campaigns.
- The cultivation of crops associated with the production of alcoholic beverages or drugs.
- Production or trafficking of weapons, ammunition, alcoholic beverages, or tobacco.
- The use of genetically modified organisms (GMOs).
- Activities that may violate human rights.

8.4 Process Framework (PF)

The Putumayo-Içá Basin project seeks to support the livelihoods of local communities through the adoption of practices that integrate environmental and social considerations, promoting sustainable

production practices, the proper exploitation of natural resources, and environmental conservation. It does not involve activities that generate resettlement or involuntary displacement; however, some activities may have adverse effects on the population. Consequently, a Process Framework (Annex 7) has been prepared as a fundamentally preventive instrument, which seeks to guide the necessary measures to avoid adverse effects such as involuntary restriction of access to natural resources or impact on the livelihoods of communities, in accordance with the requirements set forth in World Bank Standard 5, "Land Acquisition, Land Use Restrictions, and Involuntary Resettlement."

The specific scope of application of the Process Framework corresponds to the activities of Component 2 "Improvement of key interventions for integrated water resources management in the Putumayo-Içá River Basin," which seeks to finance interventions focused on the urgent needs to prevent and control water pollution by mercury and other contaminants, and to support the sustainable management of the value chains of certain transboundary hydrobiological resources. In the planning and subsequent implementation process, with this Process Framework, the necessary measures will be incorporated to safeguard the rights and interests of those who may be affected, in line with the project's Environmental and Social Management Framework (ESMF).

8.5 Planning Framework for Indigenous Peoples (MPPI)

The Indigenous Peoples Planning Framework (Annex 8) of the Putumayo-Içá Basin project seeks to comply with Operational Policy 4.10 on Indigenous Peoples⁷³, as part of the process of compliance with the World Bank (WB) Social and Environmental Standards by the Wildlife Conservation Society (WCS), as the regional executing agency.

The MPPI includes a description of project activities that involve indigenous peoples and territories, the identification of potential risks, the definition of guidelines for the social assessment of actions involving indigenous territories, the framework for identifying stakeholders and developing a process of information, consultation, and participation in the preparation and implementation of the initiative's actions involving indigenous territories, the definition of institutional arrangements for the preparation, dissemination, reporting, monitoring, and handling of requests, complaints, and claims (PQR) of the Action Plans within the Framework of the World Bank's Indigenous Peoples Policy, the instruments for the protection of the individual and collective rights of indigenous communities and peoples, the sociodemographic and cultural characterization of indigenous peoples and territories that may be affected by implemented activities, and the measures that ensure their equitable access to the benefits of the project. Finally, the MPPI includes arrangements for monitoring, addressing PQR, and reporting on the progress and results of the Action Plans within the World Bank's Indigenous Peoples Policy Framework.

It is important to note that this document will be updated to reflect the results of the free and informed consultations carried out during the preparation of the project and will be updated throughout the life of the project, as necessary.

8.6 Stakeholder Engagement Plan (SEP)

⁷³ This policy contributes to the Bank's mission of reducing poverty and achieving sustainable development by ensuring that the development process is carried out with full respect for the dignity, human rights, economies, and cultures of Indigenous Peoples.

The Stakeholder Engagement Plan (SEP) (Annex 9) for the Putumayo-Içá Basin project is part of the process of compliance with the World Bank (WB) Social and Environmental Standards by the Wildlife Conservation Society (WCS), as the regional executing agency of the project, in response to WB Standard 10, which seeks to ensure proper engagement with all stakeholders in a socially and culturally appropriate manner.

Within this context, the PPPI presents an analysis of the legal and regulatory framework for stakeholder relations, including the identification of international instruments signed by countries, the legal framework of each country, and the policies of WCS, WB, and GEF. In addition, it characterizes stakeholders and affected parties, proposing a strategy to promote their participation in the project's socialization and consultation processes. Finally, the mechanism for handling complaints and claims and the tools for follow-up and monitoring are defined, as well as the personnel involved in this process, in order to comply with the activities established in this document. It should be noted that these key points of the PPPI have also been described in Chapter 6 of this document.

8.7 Labor Management Plan (LMP)

As a preventive measure for the management of risks and social impacts related to the health and safety of workers, there is a Labor Management Plan (PGL) in accordance with the provisions of EAS 2 (Annex 10), with the following objectives:

- Promote working conditions that protect the physical and psychosocial integrity of Project workers in the various activities to be carried out, regardless of the type of contract and period of employment.
- Define the formal and appropriate code of conduct that Project workers must adhere to, and the consequent measures or sanctions that may apply for non-compliance. This code of conduct is guided by three fundamental principles: (i) Reduce the external workforce to the minimum possible, taking advantage of the local workforce, (ii) Address adverse risks with measures appropriate to the level of risk and impacts identified at any time during the execution of the Project; and (iii) Incorporate measures to mitigate adverse social risks and impacts in the contracts of all consulting firms and contractors involved in the Project. A key issue to consider will be Covid-19 safety measures.
- Ensure occupational health and safety conditions throughout the project cycle.
- Establish a mechanism for handling complaints and claims from workers involved in the project.

The following is suggested as the PGL index:

1. Introduction.
2. Objectives of the PGL.
3. Legal labor framework by country.
 - 3.1 Terms and conditions.
 - 3.2 Occupational health and safety.
4. Description of the project team.
5. Assessment of potential major occupational risks.
6. Responsibilities and functions of those in charge of implementing the PGL.
7. Project policies and procedures.

- 7.1 Policies.
- 7.2 Procedures.
 - 7.2.1 Procedures for occupational treatment.
 - 7.2.2 Procedures for managing identified occupational risks.
 - 7.2.3 Code of conduct.
- 8. Project employment terms and conditions.
- 9. Management of project workers.
- 10. Complaints and claims handling mechanism.

8.8 Waste Management Plan (WMP)

Annex 11 contains the general guidelines for the management of waste produced by the actions supported during the implementation of the Putumayo-Icá Basin Project. This WMP includes measures that must also be considered within the contractual obligations of organizations and consultants, in compliance with the environmental legislation in force in each country and the World Bank's environmental and social management framework, in accordance with EAS 3, for waste management.

This Waste Management Plan includes specific requirements that comply with the Minamata Convention to protect human health and the environment from the adverse effects of hazardous materials that will be handled (including mercury and other pollutants). The Plan will be implemented throughout the execution of the project.

The following is suggested as the table of contents for the WMP:

- 1. Introduction
- 2. Objectives of the WMP
- 3. Regulatory framework by country
- 4. Waste management plan
 - 4.1 Hazardous Waste Management (RESPEL)
 - 4.2 Special Waste Management and Handling
 - 4.3 Management and Handling of Ordinary Waste
- 5. Monitoring and evaluation of the PGR.

8.9 Occupational Health and Safety (OHS) Measures

As part of the MGAS and PGL, Occupational Health and Safety (OHS) measures are implemented in accordance with the regulations of each country to protect the health and safety of all Project workers. These OSH measures must be incorporated into tender documents and contracts with contractors and/or consultants carrying out activities for the Project, ensuring their implementation at each work site. Additionally, all consulting firms and contractors must use communication tools and ongoing awareness campaigns on appropriate behavior towards the community and a culture of zero tolerance for any situation that violates the rights and integrity of women, children, and adolescents. In this regard, the Putumayo-Icá Basin Project will define and apply Occupational Health and Safety Measures (OHS) (Annex 12), with the following objectives:

- To establish general guidelines on Occupational Health and Safety that all contractors must adopt and integrate into their operations.

- Establish general guidelines on Occupational Health and Safety focused on identifying potential hazards and risk factors in Health and Safety in the implementation of the project.
- Establish the general measures required to eliminate, replace, prevent, and mitigate hazards and risks to the health and safety of workers.

The following is suggested as the OHS index:

1. Introduction.
2. OSH objectives.
3. General requirements of the Occupational Health and Safety Management System.
4. Occupational Health and Safety Management Measures.
5. Human resources.
6. Occupational health.
7. Identification of risks and hazards.
8. Hazard control measures.
9. Emergency response plan.
10. Investigation and reporting of incidents and accidents.
11. Prohibitions.
12. Essential requirements for the prevention and mitigation of Covid-19.

8.10 World Bank Global Environmental and Health Guidance (GMASS)

The GMASS, which is attached in Annex 13, has the following main objectives:

- (i) To identify, as early as possible, the risks that a project poses to the environment, health, and safety;
- (ii) To establish the likelihood of occurrence and severity of the identified risks, considering the nature of the project activities, whether they will generate significant amounts of emissions or effluents, or whether they involve the use of hazardous materials or processes; and the possible consequences that would result from inappropriate management of the risks to workers, communities, and the environment;
- (iii) Prioritize risk management strategies to achieve an overall reduction in risks to human health and the environment;
- (iv) Support strategies aimed at eliminating the causes of risks at their source.

8.11 Incident and accident management and prevention process

In the context of the project, an *"incident"* is defined as an accident or negative event that occurs as a result of a failure (or non-compliance) on the part of any of the responsible parties⁷⁴ in the performance of the tasks/activities specific to the project or the BM's EAS. Incidents also include unexpected or unforeseen harmful events that may occur during the implementation of the project. Examples of incidents in the context of this Guide include: fatalities, accidents, or serious injuries; social impacts resulting from the influx of foreign workers into communities (*labor influx*); cases of sexual abuse or exploitation (SAE) or other forms of gender-based violence (GBV); significant environmental pollution events; loss of biodiversity or destruction of critical habitats; loss of physical

⁷⁴ The responsible parties include any party involved in project implementation, from contractors, subcontractors, supervision consultants, or implementing units, among others.

cultural resources; or loss of livelihoods and/or access to natural resources by the community (Table 42).

The scope of incident and accident management shall not apply to events that are not related to the project, for example, in the case of acts of war or natural disasters that impact project workers or community members. However, in the case of relevant events (fatalities or other serious incidents) occurring in the project environment, even if they are not under its control, they must be reported to the Bank for inclusion as appropriate in a project document, such as the Ayudas Memorias or others, for record-keeping purposes.

Table 42. Guide for the Classification of Incidents

Indicative
<ul style="list-style-type: none"> • Relatively minor incidents with a local impact that negatively affect small geographical areas or a small number of people. • Incidents that do not cause significant or irreparable damage. • Failures (non-conformities) in the implementation of environmental, social, or occupational health and safety control measures established for projects that produce limited immediate impacts.
Serious
<ul style="list-style-type: none"> • Incidents that have caused or may cause significant damage to the environment, communities, or natural or cultural resources. • Failures (non-conformities) in the implementation of environmental, social, or occupational health and safety control measures established for projects that produce significant impacts, or repeated non-conformities with environmental or social policies (even if each incident could be considered Indicative in nature). • When the inability to resolve indicative non-conformities could cause significant impacts. • When it is complex and/or costly to reverse the incident or its effect. • When it could cause some kind of damage or permanent injury. • When they require an urgent response. • When they could pose a significant reputational risk to the Borrower or the Bank.
Fatalities
Incidents that have caused or could cause significant damage to the environment, workers, or communities.

8.11.1 Incident Management and Reporting Process

The project, through the PMU, must report incidents to the Bank according to their severity and ensure an effective and appropriate response to such events. The incident management and reporting process is structured in the following stages:

1. Incident Report (within deadlines according to severity)
2. Investigation (What happened? How and why?)
3. Response (Corrective actions. Preventive measures)
4. Follow-up (Is the response complete? Was it effective?)

1. Incident Report: The PMU shall notify the World Bank within 48 hours of receiving notification from the designated site supervisor of any incident or accident related to the Project that has or may have a significant adverse effect on the environment, affected communities, the public, or workers, including, but not limited to, any accident resulting in death, serious injury, or multiple injuries. It shall be the responsibility of the project to use all means necessary to ascertain the facts in depth in order to understand the severity of the situation and take the necessary response actions, including, if necessary, ensuring that an appropriate investigation of the incident is carried out, with the same reporting and response requirements.

2. Investigation: In the case of serious incidents or when there is limited or contradictory information about the facts, it will be necessary to conduct an investigation into the causes of the incident to assess its severity and define the next steps to be taken.

The Project (and/or the Contractor) shall be responsible for conducting investigations to understand the facts on the ground. The Borrower shall ensure that incidents are investigated to establish what happened and why, so that procedures or measures can be implemented to prevent recurrence and appropriate response or remediation actions can be taken. It is essential that the project and the Bank have a clear understanding of the underlying cause(s) of the incident in order to agree on measures to prevent recurring events.

The scope of the incident investigation shall be acceptable to the World Bank. In particular, and if deemed necessary, the Bank may require the Borrower to conduct a Root Cause Analysis (RCA) or an equivalent investigation to understand and document the underlying causes of the incident. In such cases, the Borrower shall ensure that the RCA is carried out as requested. The scope of the RCA investigation shall be proportional to the severity of the incident. Conducting an RCA shall not always be mandatory; it shall not be required in cases where information about the incident is clear and readily available.

The main objective of the RCA is prevention, and it shall be carried out by whoever is managing the site where the incident/accident occurred, e.g., grant, contractor, subcontractor, etc. The RCA⁷⁵ shall address the following:

- a. Determine what happened by identifying and describing the incident/accident. Include photos.
 - i. What happened? Who was affected?
 - ii. Where and when did it happen?
 - iii. What is the source of the information? How did you learn about the incident/accident?
 - iv. Are the basic facts of the incident/accident clear and indisputable, or are there conflicting versions?
 - v. What were the conditions or circumstances under which the incident/accident occurred?
 - vi. Is the incident still ongoing or has it been contained?
 - vii. Is there loss of life or serious injury?
 - viii. How serious was the incident?

⁷⁵ While an RCA is not mandatory, especially in cases where information is clear and available, it is essential that the Borrower and the Bank understand the underlying cause(s) of the incident in order to agree on measures to prevent recurrence.

- b. Determine the root cause (RCA) of the incident/accident
 - i. Understand and document the root cause(s) of the incident, which may be due to the following factors:
 - a. Work procedures
 - b. Equipment and technology
 - c. Organizational/systemic
 - d. Human factors.
 - ii. The RCA should be based on existing national processes, where available. Only in the absence of systems or weak expertise may the Contractor need to engage⁷⁶ consultants (national or international) to carry out the RCA.
 - iii. A RCA shall be completed as soon as possible, ideally within 10 days of the incident.
 - iv. The Contractor and the project will use the findings of the RCA to develop measures to be included in a corrective action plan.
 - v. The RCA will be shared with the World Bank and full information about the incident will be provided.
 - vi. Additional visits to the incident/accident site will be facilitated if necessary.
- c. Identify immediate corrective measures, as well as additional follow-up actions if required, with their associated deadlines. These additional follow-up actions may be included in the
 2. Corrective Action Plan (CAP) with the aim of preventing similar incidents/accidents in the future. The CAP will include, among other elements, those indicated in Annex C.
 3. Any subsequent reports shall be provided within a timeframe acceptable to the Bank.

3. Response: When the basic facts of the incident are sufficiently clear and unquestionable, particularly in the case of Indicative incidents, documentation of the characteristics of the incident and the appropriate response in accordance with the requirements of the "Incident Report" may be the only action required of the Borrower. However, the Borrower shall ensure that measures are taken to prevent the recurrence of such incidents, so as to avoid escalation (e.g., verify that training has been increased in the event of underuse of PPE). Evidence of these controls shall be included in the Borrower's Semi-Annual Reports to the Bank.

In cases where the characteristics of the incident have prompted the Borrower to carry out a CAR or equivalent study, the Borrower shall submit to the Bank a set of appropriate measures to address the underlying causes of the incident and prevent its recurrence. These measures must be acceptable to the Bank. The findings of the RCA shall form the basis for the implementation of the agreed measures, which shall be included in a "Plan of Corrective Actions for Environmental and Social Standards" (PACEAS).

The Borrower shall be responsible for designing the PACEAS, which shall include actions, responsibilities, implementation timelines, and a monitoring program by the Project/Contractor. The Borrower shall ensure that the contents of the PACEAS are complemented by the existing safeguards/standards for the project and shall be responsible for ensuring compliance, as they will constitute new environmental, social, and occupational health and safety requirements for effective compliance.

⁷⁶ The Borrower or contractor is generally responsible for financing the preparation of the RCA.

4. Follow-up: Regardless of the scope of the response measures to the incident and regardless of its classification, the measures that have been implemented must be followed up to prevent the recurrence of incidents. Evidence of this must be included in the Semi-Annual Reports. If the Project has had to develop a PACEAS, it will also be responsible for executing it or verifying its execution by third parties under its supervision. The Bank will monitor the implementation of the PACEAS. It is the Project's responsibility to implement the PACEAS, monitor progress, and report to the Bank on the progress of implementation.

9. Monitoring and Evaluation System

WCS uses results-based management to measure effectiveness and adapt project strategies. Results-based management requires monitoring at three levels: Impacts, Results, and Outputs, which reflect the theory of change used by WCS. WCS uses conceptual models to specify a theory of change, including the causal connections between the activities pursued and the measurable objectives to be achieved. The conceptual model also includes an explicit monitoring and evaluation framework to monitor progress in the execution of activities, the reduction of threat levels, and the status of objectives. This framework, called the WCS "Environmental Mitigation Report Format (EMR)," is found in Annex 5 and must be implemented before the start of activities and updated annually.

This "Environmental Mitigation Report Format" is the initial input for the subprojects to be awarded in the execution of the Project in each of Components 1 and 2, after their approval, develop, within the framework of EAS1 "Assessment and Management of Environmental and Social Risks and Impacts," the risk mitigation matrix, with actions, responsible parties, budgets, etc., in case the identified risks arise. The matrix, along with other tools, will support the monitoring of risk management.

WCS has applied its experience and learning to improve conservation practices and monitoring. WCS is a founding member of the Conservation Measures Partnership (<http://www.conservationmeasures.org>), which first met in 2002 to address concerns about how to monitor and measure conservation success. This led to the development of the Open Standards for Conservation Practice in 2004 (updated in 2007 and 2013). The Open Standards bring together common concepts, approaches, and terminology in the design, management, and monitoring of conservation projects to help practitioners improve conservation practice.

For the implementation of the MGAS, we will work together with the focal points of each country and the corresponding partner institutions in accordance with the institutional arrangement presented in section 3.6, in order to identify the social and environmental effects of the different project activities, jointly define the indicators for monitoring the environmental and social management of the project, establish the achievement of the expected results, establish the need to activate the proposed mitigation measures and assess their effectiveness, and, if required, agree on and implement adjustments in the design or execution of the activities.

All of the above will be reported in the semi-annual and annual reports to be prepared by the Project Management Unit (PMU) for presentation to the Technical Committee and the Regional Steering Committee, and sent to the World Bank. Finally, WCS will have an Environmental and Social

Standards Coordinator to support the implementation and monitoring of the proposed actions, as well as those established in Annex 5 of this document.

Annexes

Annex 1. Exercise to prioritize areas of intervention.

Annex 2. Threatened species according to the IBA index.

Location	Species	IUCN Red List category	Estimated population	IBA Criteria Activated
Cofán Bermejo IBA	Black Tinamou <i>Tinamus osgoodi</i>	VU	Common	A1
	Wattled Guan <i>Aburria aburri</i>	NT	Common	A1
	Ecuadorian Piedtail <i>Phlogophilus hemileucurus</i>	VU	Uncommon	A1, A2
	Pink-throated Brilliant <i>Heliodoxa gularis</i>	VU	Present	A2
	Napo Sabrewing <i>Campylopterus villaviscensio</i>	NT	Uncommon	A1, A2
	Spot-winged Parrotlet <i>Touit stictoapterus</i>	VU	Uncommon	A1
	Military Macaw <i>Ara militaris</i>	VU	Uncommon	A1
	Moustached Antpitta <i>Grallaria alleni</i>	VU	Present	A1
	Ecuadorian Tyrannulet <i>Phylloscartes gualaquizae</i>	NT	Present	A2
	Buff-throated Tody-tyrant <i>Hemitriccus rufigularis</i>	NT	Common	A1
	Foothill Elaenia <i>Myiopagis olallai</i>	LC	Uncommon	A1
IBA Cuyabeno Wildlife Production Reserve	Salvin's Curassow <i>Mitu salvini</i>	LC	rare	A3
	Fiery Topaz <i>Topaza pyra</i>	LC	present	A3
	Sooty Barbthroat <i>Threnetes niger</i>	LC	present	A3
	Harpy Eagle <i>Harpia harpyja</i>	NT	present	A1
	White-eared Jacamar <i>Galbalcyrhynchus leucotis</i>	LC	frequent	A3
	Cerise-crowned Jacamar <i>Galbula chalcocephala</i>	LC	uncommon	A3
	Brown Nunlet <i>Nonnula brunnea</i>	LC	present	A2, A3
	Lafresnaye's Piculet <i>Picumnus lafresnayi</i>	LC	rare	A3
	Black-headed Parrot <i>Pionites melanocephalus</i>	LC	uncommon	A3
	Dugand's Antwren <i>Herpsilochmus dugandi</i>	LC	rare	A3
	Cocha Antshrike <i>Thamnophilus praecox</i>	NT	rare	A1, A2, A3
	Ochre-striped Antpitta <i>Grallaria dignissima</i>	LC	rare	A2, A3
	Chestnut-throated Spinetail <i>Synallaxis cherriei</i>	NT	present	A1
	Orange-crested Manakin <i>Heterocercus aurantiivertex</i>	LC	present	A2, A3

Location	Species	IUCN Red List category	Estimated population	IBA Criteria Activated
	Collared Gnatwren <i>Microbates collaris</i>	LC	present	A3
	Ecuadorian Cacique <i>Cacicus sclateri</i>	LC	present	A2
	Fulvous Shrike-tanager <i>Lanio fulvus</i>	LC	present	A3
IBA La Paya – Gaoyá Leguízamo	Ruddy Pigeon <i>Patagioenas subvinacea</i>	VU	33-99 individuals	A1
	Harpy Eagle <i>Harpia harpyja</i>	NT	3-30 individuals	B1a
	Brown Nunlet <i>Nonnula brunnea</i>	LC	1-30 individuals	A2
	Channel-billed Toucan <i>Ramphastos vitellinus</i>	VU	12-33 individuals	A1
	Orange-cheeked Parrot <i>Pyrilia barrabandi</i>	NT	13-39 individuals	B1a
	Golden-winged Tody-flycatcher <i>Poecilatriccus calopterus</i>	LC	1-30 individuals 2017	A2
	Ecuadorian Cacique <i>Cacicus sclateri</i>	LC	9-30 individuals	A2
IBA PNN Amacayacu	Olive-spotted Hummingbird <i>Leucippus chlorocercus</i>	LC	common	A2, A3
	Crested Eagle <i>Morphnus guianensis</i>	NT	common	A1
	White-eared Jacamar <i>Galbalcyrhynchus leucotis</i>	LC	common	A3
	Cerise-crowned Jacamar <i>Galbula chalcocephala</i>	LC	common	A3
	Black-headed Parrot <i>Pionites melanocephalus</i>	LC	common	A3
	Ochre-striped Antpitta <i>Grallaria dignissima</i>	LC	common	A2, A3
	Collared Gnatwren <i>Microbates collaris</i>	LC	common	A3

(i) Amphibians, 231 species.

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Adelophryne adiastrala</i>	LC	<i>Callimedusa atelopoides</i>	LC	<i>Gastrotheca andaquiensis</i>	LC
<i>Adelphobates quinquevittatus</i>	LC	<i>Callimedusa tomopterna</i>	LC	<i>Gastrotheca espeletia</i>	EN
<i>Adenomera andreae</i>	LC	<i>Centrolene buckleyi</i>	VU	<i>Gastrotheca nicefori</i>	LC
<i>Adenomera hylaedactyla</i>	LC	<i>Ceratophrys cornuta</i>	LC	<i>Gastrotheca orophylax</i>	VU
<i>Agalychnis buckleyi</i>	LC	<i>Chiasmocleis anatis</i>	LC	<i>Gastrotheca ruizi</i>	NT
<i>Allobates brunneus</i>	LC	<i>Chiasmocleis antenori</i>	LC	<i>Gastrotheca weinlandii</i>	LC
<i>Allobates femoralis</i>	LC	<i>Chiasmocleis bassleri</i>	LC	<i>Hamptophryne boliviana</i>	LC
<i>Allobates fuscellus</i>	DD	<i>Chiasmocleis carvalhoi</i>	LC	<i>Hemiphractus bubalus</i>	NT
<i>Allobates insperatus</i>	LC	<i>Chiasmocleis lacrimae</i>	EN	<i>Hemiphractus proboscideus</i>	LC
<i>Allobates marchesianus</i>	LC	<i>Chiasmocleis magnova</i>	LC	<i>Hemiphractus scutatus</i>	LC
<i>Allobates myersi</i>	LC	<i>Chiasmocleis shudikarensis</i>	LC	<i>Hyalinobatrachium munozorum</i>	LC
<i>Allobates sumtuosus</i>	DD	<i>Chiasmocleis tridactyla</i>	LC	<i>Hydrolaetare schmidti</i>	LC
<i>Allobates trilineatus</i>	LC	<i>Chiasmocleis ventrimaculata</i>	LC	<i>Hyloscirtus albopunctulatus</i>	LC
<i>Amazophrynella minuta</i>	LC	<i>Cochranella resplendens</i>	LC	<i>Hyloscirtus lindae</i>	LC
<i>Ameerega bilinguis</i>	LC	<i>Cruziohyla craspedopus</i>	LC	<i>Hyloscirtus phyllognathus</i>	LC
<i>Ameerega hahneli</i>	LC	<i>Ctenophryne geayi</i>	LC	<i>Hyloscirtus psarolaimus</i>	VU
<i>Ameerega parvula</i>	LC	<i>Dendropsophus bifurcus</i>	LC	<i>Hyloscirtus tigrinus</i>	EN
<i>Ameerega picta</i>	LC	<i>Dendropsophus bokermanni</i>	LC	<i>Hyloscirtus torrenticola</i>	VU
<i>Ameerega trivittata</i>	LC	<i>Dendropsophus brevifrons</i>	LC	<i>Hyloxalus bocagei</i>	LC
<i>Atelopus ardila</i>	CR	<i>Dendropsophus frosti</i>	LC	<i>Hyloxalus brevipartus</i>	LC
<i>Atelopus spumarius</i>	VU	<i>Dendropsophus haraldschultzi</i>	LC	<i>Hyloxalus pulchellus</i>	NT
<i>Boana boans</i>	LC	<i>Koechl's leafbird</i>	LC	<i>Hyloxalus sauli</i>	LC
<i>Boana calcarata</i>	LC	<i>Dendropsophus leali</i>	LC	<i>Leptodactylus bolivianus</i>	LC
<i>Boana cinerascens</i>	LC	<i>Dendropsophus leucophyllatus</i>	LC	<i>Leptodactylus diedrus</i>	LC
<i>Boana fasciata</i>	LC	<i>Dendropsophus marmoratus</i>	LC	<i>Leptodactylus discodactylus</i>	LC
<i>Geographic Boa</i>	LC	<i>Dendropsophus microcephalus</i>	LC	<i>Leptodactylus fuscus</i>	LC
<i>Boana hutchinsi</i>	LC	<i>Dendropsophus minutus</i>	LC	<i>Leptodactylus knudseni</i>	LC
<i>Boana lanciformis</i>	LC	<i>Dendropsophus miyatai</i>	LC	<i>Leptodactylus latrans</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Boana microderma</i>	LC	<i>Dendropsophus parviceps</i>	LC	<i>Leptodactylus leptodactyloides</i>	LC
<i>Boana nympha</i>	LC	<i>Dendropsophus rhodopeplus</i>	LC	<i>Leptodactylus mystaceus</i>	LC
<i>Boana punctata</i>	LC	<i>Dendropsophus riveroi</i>	LC	<i>Leptodactylus pentadactylus</i>	LC
<i>Boana raniceps</i>	LC	<i>Dendropsophus rossalleni</i>	LC	<i>Leptodactylus petersii</i>	LC
<i>Boana wavrini</i>	LC	<i>Dendropsophus sarayacuensis</i>	LC	<i>Leptodactylus rhodomystax</i>	LC
<i>Bolitoglossa altamazonica</i>	LC	<i>Dendropsophus triangulum</i>	LC	<i>Leptodactylus rhodonotus</i>	LC
<i>Bolitoglossa equatoriana</i>	LC	<i>Edalorhina perezii</i>	LC	<i>Leptodactylus riveroi</i>	LC
<i>Bolitoglossa peruviana</i>	DD	<i>Elachistocleis ovalis</i>	LC	<i>Leptodactylus stenodema</i>	LC
<i>Caecilia bokermanni</i>	LC	<i>Engystomops petersi</i>	LC	<i>Leptodactylus wagneri</i>	LC
<i>Caecilia gracilis</i>	LC	<i>Epicrionops petersi</i>	LC	<i>Lithobates palmipes</i>	LC
<i>Caecilia orientalis</i>	LC	<i>Espadarana audax</i>	LC	<i>Lithodytes lineatus</i>	LC
<i>Caecilia tentaculata</i>	LC	<i>Espadarana durrellorum</i>	LC	<i>Microcaecilia albiceps</i>	LC
<i>Niceforonia brunnea</i>	EN	<i>Pristimantis colonensis</i>	VU	<i>Pseudopaludicola ceratophyes</i>	LC
<i>Niceforonia dolops</i>	VU	<i>Pristimantis conspicillatus</i>	LC	<i>Ranitomeya uakarii</i>	LC
<i>Niceforonia elassodiscus</i>	NT	<i>Pristimantis croceoinguinis</i>	LC	<i>Ranitomeya ventrimaculata</i>	LC
<i>Niceforonia nigrovittata</i>	LC	<i>Pristimantis curtipes</i>	LC	<i>Rhaebo glaberrimus</i>	LC
<i>Noblella myrmecoides</i>	LC	<i>Pristimantis diadematus</i>	LC	<i>Rhaebo guttatus</i>	LC
<i>Nyctimantis rugiceps</i>	LC	<i>Pristimantis eriphus</i>	VU	<i>Rhinella castaneotica</i>	LC
<i>Nymphargus megacheirus</i>	EN	<i>Pristimantis farisorum</i>	NT	<i>Rhinella ceratophrys</i>	LC
<i>Nymphargus posadae</i>	LC	<i>Pristimantis fenestratus</i>	LC	<i>Rhinella dapsilis</i>	LC
<i>Nymphargus siren</i>	VU	<i>Pristimantis gladiator</i>	VU	<i>Rhinella granulosa</i>	LC
<i>Oreobates quixensis</i>	LC	<i>Pristimantis lacrimosus</i>	LC	<i>Rhinella margaritifera</i>	LC
<i>Osornophryne bufoniformis</i>	NT	<i>Pristimantis lanthanites</i>	LC	<i>Rhinella marina</i>	LC
<i>Osornophryne guacamayo</i>	EN	<i>Pristimantis leoni</i>	LC	<i>Rhinella proboscidea</i>	LC
<i>Osteocephalus alboguttatus</i>	LC	<i>Pristimantis limoncochensis</i>	NT	<i>Rhinella roqueana</i>	LC
<i>Buckley's catfish</i>	LC	<i>Pristimantis lythrodes</i>	LC	<i>Rulyrana flavopunctata</i>	LC
<i>Osteocephalus cabrerai</i>	LC	<i>Pristimantis malkini</i>	LC	<i>Scarthyla goinorum</i>	LC
<i>Osteocephalus fuscifacies</i>	LC	<i>Pristimantis martiae</i>	LC	<i>Scinax boesemani</i>	LC
<i>Osteocephalus heyeri</i>	LC	<i>Pristimantis ockendeni</i>	LC	<i>Scinax cruentommus</i>	LC
<i>Osteocephalus leprieurii</i>	LC	<i>Pristimantis orphnolaimus</i>	LC	<i>Scinax funereus</i>	LC
<i>Osteocephalus mutabor</i>	LC	<i>Pristimantis padiali</i>	LC	<i>Scinax garbei</i>	LC
<i>Osteocephalus planiceps</i>	LC	<i>Pristimantis paululus</i>	LC	<i>Scinax karenanneae</i>	LC
<i>Osteocephalus taurinus</i>	LC	<i>Pristimantis peruvianus</i>	LC	<i>Scinax nebulosus</i>	LC
<i>Osteocephalus verruciger</i>	LC	<i>Pristimantis petersi</i>	NT	<i>Scinax ruber</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Osteocephalus yasuni</i>	LC	<i>Pristimantis pseudoacuminatus</i>	LC	<i>Scinax x-signatus</i>	LC
<i>Phyllomedusa bicolor</i>	LC	<i>Pristimantis pugnax</i>	CR	<i>Siphonops annulatus</i>	LC
<i>Phyllomedusa tarsius</i>	LC	<i>Pristimantis quaquaversus</i>	LC	<i>Sphaenorhynchus carneus</i>	LC
<i>Phyllomedusa vaillantii</i>	LC	<i>Pristimantis repens</i>	EN	<i>Sphaenorhynchus dorisae</i>	LC
<i>Pipa pipa</i>	LC	<i>Pristimantis supernatis</i>	VU	<i>Sphaenorhynchus lacteus</i>	LC
<i>Pipa snethlageae</i>	LC	<i>Pristimantis thymelensis</i>	LC	<i>Strabomantis cornutus</i>	VU
<i>Pithecopus palliatus</i>	LC	<i>Pristimantis unistrigatus</i>	LC	<i>Strabomantis sulcatus</i>	LC
<i>Potamotyphlus kaupii</i>	LC	<i>Pristimantis variabilis</i>	LC	<i>Synapturanus rabus</i>	LC
<i>Pristimantis aaptus</i>	LC	<i>Pristimantis ventrimarmoratus</i>	LC	<i>Tepuihyla shushupe</i>	LC
<i>Pristimantis altamazonicus</i>	LC	<i>Pristimantis vicarius</i>	NT	<i>Tepuihyla tuberculosa</i>	LC
<i>Pristimantis altamnis</i>	LC	<i>Pristimantis vilarsi</i>	LC	<i>Teratohyla midas</i>	LC
<i>Pristimantis aureolineatus</i>	LC	<i>Pristimantis w-nigrum</i>	LC	<i>Trachycephalus coriaceus</i>	LC
<i>Buckley's frog</i>	LC	<i>Pristimantis zoilae</i>	EN	<i>Trachycephalus resinifictrix</i>	LC
<i>Pristimantis carvalhoi</i>	LC	<i>Pseudis paradoxa</i>	LC	<i>Trachycephalus typhonius</i>	LC
<i>Pristimantis chloronotus</i>	LC	<i>Bolivian pseudopaludicola</i>	LC	<i>Typhlonectes compressicauda</i>	LC

(ii) Reptiles, 164 species.

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Alopoglossus angulatus</i>	LC	<i>Bachia trisanale</i>	LC	<i>Drepanoides anomalus</i>	LC
<i>Alopoglossus atriventris</i>	LC	<i>Bothrocophias microphthalmus</i>	LC	<i>Drymarchon corais</i>	LC
<i>Alopoglossus buckleyi</i>	LC	<i>Bothrops taeniatus</i>	LC	<i>Drymobius rhombifer</i>	LC
<i>Alopoglossus copii</i>	LC	<i>Caiman crocodilus</i>	LC	<i>Drymoluber dichrous</i>	LC
<i>Ameiva ameiva</i>	LC	<i>Cercosaura argulus</i>	LC	<i>Enyalioides cofanorum</i>	LC
<i>Amerotyphlops brongersmianus</i>	LC	<i>Cercosaura manicata</i>	LC	<i>Enyalioides laticeps</i>	LC
<i>Amerotyphlops minuisquamus</i>	LC	<i>Cercosaura ocellata</i>	LC	<i>Enyalioides microlepis</i>	LC
<i>Amerotyphlops reticulatus</i>	LC	<i>Amazonian cat gecko</i>	LC	<i>Enyalioides praestabilis</i>	LC
<i>Amphisbaena alba</i>	LC	<i>Chironius exoletus</i>	LC	<i>Erythrolamprus aesculapii</i>	LC
<i>Amphisbaena fuliginosa</i>	LC	<i>Chironius fuscus</i>	LC	<i>Erythrolamprus bizona</i>	LC
<i>Anilius scytale</i>	LC	<i>Chironius monticola</i>	LC	<i>Erythrolamprus breviceps</i>	LC
<i>Anolis fitchi</i>	LC	<i>Chironius multiventris</i>	LC	<i>Erythrolamprus dorsocorallinus</i>	LC
<i>Apostolepis niceforoi</i>	DD	<i>Chironius scurrulus</i>	LC	<i>Erythrolamprus epinephelus</i>	LC
<i>Arthrosaura reticulata</i>	LC	<i>Clelia clelia</i>	LC	<i>Erythrolamprus melanotus</i>	LC
<i>Atractus alphonsehogeii</i>	LC	<i>Cnemidophorus lemniscatus</i>	LC	<i>Erythrolamprus miliaris</i>	LC
<i>Atractus collaris</i>	LC	<i>Copeoglossum nigropunctatum</i>	LC	<i>Erythrolamprus pygmaea</i>	LC
<i>Atractus elaps</i>	LC	<i>Corallus batesi</i>	LC	<i>Erythrolamprus reginae</i>	LC
<i>Atractus latifrons</i>	LC	<i>Corallus blombergi</i>	EN	<i>Erythrolamprus taeniogaster</i>	LC
<i>Atractus major</i>	LC	<i>Corallus hortulanus</i>	LC	<i>Erythrolamprus typhlus</i>	LC
<i>Atractus natans</i>	LC	<i>Crocodylus amazonicus</i>	LC	<i>Gonatodes concinnatus</i>	LC
<i>Atractus occipitoalbus</i>	NT	<i>Crocodylus acutus</i>	VU	<i>Gonatodes humeralis</i>	LC
<i>Atractus orcesi</i>	LC	<i>Dendrophidion dendrophis</i>	LC	<i>Helicops angulatus</i>	LC
<i>Atractus poeppigi</i>	LC	<i>Dipsas catesbyi</i>	LC	<i>Helicops hagmanni</i>	LC
<i>Atractus schach</i>	LC	<i>Dipsas indica</i>	LC	<i>Helicops leopardinus</i>	LC
<i>Atractus snethlageae</i>	LC	<i>Dipsas pavonina</i>	LC	<i>Helicops pastazae</i>	LC
<i>Atractus torquatus</i>	LC	<i>Dipsas peruana</i>	LC	<i>Helicops petersi</i>	NT
<i>Bachia flavescens</i>	LC	<i>Dracaena guianensis</i>	LC	<i>Helicops polylepis</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Hydrodynastes bicinctus</i>	LC	<i>Micrurus paraensis</i>	LC	<i>Potamites strangulatus</i>	LC
<i>Hydrops martii</i>	LC	<i>Micrurus putumayensis</i>	LC	<i>Pseudoboa coronata</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Hydrops triangularis</i>	LC	<i>Micrurus remotus</i>	LC	<i>Pseudoboa martinsi</i>	LC
<i>Iguana iguana</i>	LC	<i>Micrurus scutiventris</i>	LC	<i>Pseudoboa neuwiedii</i>	LC
<i>Imantodes cenchoa</i>	LC	<i>Micrurus spixii</i>	LC	<i>Pseudoeryx plicatilis</i>	LC
<i>Imantodes lentiferus</i>	LC	<i>Micrurus surinamensis</i>	LC	<i>Pseudogonatodes guianensis</i>	LC
<i>Iphisa elegans</i>	LC	<i>Morunasaurus annularis</i>	VU	<i>Ptychoglossus brevifrontalis</i>	LC
<i>Kentropyx altamazonica</i>	LC	<i>Neusticurus bicarinatus</i>	LC	<i>Riama anatoloros</i>	VU
<i>Kentropyx pelviceps</i>	LC	<i>Ninia hudsoni</i>	LC	<i>Salvator merianae</i>	LC
<i>Lepidoblepharis heyerorum</i>	LC	<i>Oxybelis aeneus</i>	LC	<i>Siphlophis cervinus</i>	LC
<i>Lepidoblepharis hoogmoedi</i>	LC	<i>Oxybelis fulgidus</i>	LC	<i>Siphlophis compressus</i>	LC
<i>Leptodeira annulata</i>	LC	<i>Oxyrhopus melanogenys</i>	LC	<i>Spilotes pullatus</i>	LC
<i>Leptophis ahaetulla</i>	LC	<i>Oxyrhopus occipitalis</i>	LC	<i>Spilotes sulphureus</i>	LC
<i>Leptophis cupreus</i>	LC	<i>Oxyrhopus petolarius</i>	LC	<i>Stenocercus bolivarensis</i>	DD
<i>Liotyphlops haadi</i>	DD	<i>Oxyrhopus vanidicus</i>	LC	<i>Taeniophallus brevirostris</i>	LC
<i>Loxopholis parietalis</i>	LC	<i>Paleosuchus palpebrosus</i>	LC	<i>Taeniophallus occipitalis</i>	LC
<i>Loxopholis percarinatum</i>	LC	<i>Paleosuchus trigonatus</i>	LC	<i>Tantilla melanocephala</i>	LC
<i>Mastigodryas boddaerti</i>	LC	<i>Palusophis bifossatus</i>	LC	<i>Thamnodynastes pallidus</i>	LC
<i>Mastigodryas pleei</i>	LC	<i>Philodryas argentea</i>	LC	<i>Thecadactylus solimoensis</i>	LC
<i>Melanosuchus niger</i>	LR/cd	<i>Philodryas georgeboulengeri</i>	LC	<i>Trilepida macrolepis</i>	LC
<i>Micrurus filiformis</i>	LC	<i>Philodryas olfersii</i>	LC	<i>Uracentron azureum</i>	LC
<i>Hemprich's micrurus</i>	LC	<i>Philodryas viridissima</i>	LC	<i>Uracentron flaviceps</i>	LC
<i>Micrurus langsdorffi</i>	LC	<i>Pholidobolus vertebralis</i>	LC	<i>Uranoscodon superciliosus</i>	LC
<i>Micrurus lemniscatus</i>	LC	<i>Plica umbra</i>	LC	<i>Varzea bistrata</i>	LC
<i>Micrurus narduccii</i>	LC	<i>Polychrus liogaster</i>	LC	<i>Xenodon rabdocephalus</i>	LC
<i>Micrurus nattereri</i>	LC	<i>Polychrus marmoratus</i>	LC	<i>Xenodon severus</i>	LC
<i>Micrurus obscurus</i>	LC	<i>Potamites cochranae</i>	LC	<i>Xenopholis scalaris</i>	LC
<i>Micrurus ornatissimus</i>	LC	<i>Potamites ecleopus</i>	LC		

(iii) Birds, 1086 species.

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Aburria aburri</i>	NT	<i>Anhinga anhinga</i>	LC	<i>Aulacorhynchus derbianus</i>	LC
<i>Accipiter bicolor</i>	LC	<i>Anisognathus lacrymosus</i>	LC	<i>Automolus infuscatus</i>	LC
<i>Accipiter collaris</i>	NT	<i>Anisognathus lunulatus</i>	LC	<i>Automolus melanopezus</i>	LC
<i>Great Grey Shrike</i>	NT	<i>Anisognathus somptuosus</i>	LC	<i>Automolus ochrolaemus</i>	LC
<i>Gray-tailed hawk</i>	LC	<i>Anthracothorax nigricollis</i>	LC	<i>Automolus rufipileatus</i>	LC
<i>Accipiter superciliosus</i>	LC	<i>Anthus bogotensis</i>	LC	<i>Automolus subulatus</i>	LC
<i>Acropternis orthonyx</i>	LC	<i>Ara ararauna</i>	LC	<i>Avocettula recurvirostris</i>	LC
<i>Actitis macularius</i>	LC	<i>Green Macaw</i>	LC	<i>Bartramia longicauda</i>	LC
<i>Adelomyia melanogenys</i>	LC	<i>Scarlet Macaw</i>	LC	<i>Baryphthengus martii</i>	LC
<i>Aegolius harrisii</i>	LC	<i>Ara militaris</i>	VU	<i>Basileuterus tristriatus</i>	LC
<i>Aeronautes montivagus</i>	LC	<i>Ara severus</i>	LC	<i>Berlepschia rikeri</i>	LC
<i>Agamia agami</i>	VU	<i>Aramides cajaneus</i>	LC	<i>Boissonneaua matthewsii</i>	LC
<i>Aglaeactis cupripennis</i>	LC	<i>Aramus guarauna</i>	LC	<i>Brachygalba lugubris</i>	LC
<i>Aglaiocercus kingii</i>	LC	<i>Weddell's parakeet</i>	LC	<i>Brotogeris cyanoptera</i>	LC
<i>Agriornis montanus</i>	LC	<i>Ardea alba</i>	LC	<i>Brotogeris sanctithomae</i>	LC
<i>Akletos melanoceps</i>	LC	<i>Cocoibit</i>	LC	<i>Brotogeris versicolurus</i>	LC
<i>Amaurolimnas concolor</i>	LC	<i>Ardea herodias</i>	LC	<i>Bubulcus ibis</i>	LC
<i>Amazilia fimbriata</i>	LC	<i>Arremon assimilis</i>	LC	<i>Bucco capensis</i>	LC
<i>Sapphire-throated Hummingbird</i>	LC	<i>Orange-billed Arremon</i>	LC	<i>Black-necked Bush-robin</i>	LC
<i>Amazon parrot</i>	LC	<i>Arremon brunneinucha</i>	LC	<i>Buteo albigula</i>	LC
<i>Yellow-naped Amazon</i>	NT	<i>Chestnut-headed Arremon</i>	NT	<i>Buteo albonotatus</i>	LC
<i>Amazona festiva</i>	NT	<i>Arundinicola leucocephala</i>	LC	<i>Short-tailed Hawk</i>	LC
<i>Amazon parrot</i>	LC	<i>Short-eared Owl</i>	LC	<i>Buteo nitidus</i>	LC
<i>Yellow-headed Amazon</i>	LC	<i>Asio stygius</i>	LC	<i>Buteo platypterus</i>	LC
<i>Ammodramus aurifrons</i>	LC	<i>Asthenes flammulata</i>	LC	<i>Buteo swainsoni</i>	LC
<i>Ampelioides tschudii</i>	LC	<i>Asthenes fuliginosa</i>	LC	<i>Buteogallus schistaceus</i>	LC
<i>Ampelion rubrocristatus</i>	LC	<i>Albinucha atlapetes</i>	LC	<i>Buteogallus solitarius</i>	NT
<i>Rufous-capped Ampelion</i>	LC	<i>Atlapetes latinuchus</i>	LC	<i>Buteogallus urubitinga</i>	LC
<i>Anabacerthia ruficaudata</i>	LC	<i>White-faced Whistling Duck</i>	LC	<i>Buthraupis montana</i>	LC
<i>Anabacerthia striaticollis</i>	LC	<i>Atlapetes pallidinucha</i>	LC	<i>Butorides striata</i>	LC
<i>Anabazenops dorsalis</i>	LC	<i>Atlapetes schistaceus</i>	LC	<i>Cacicus cela</i>	LC
<i>Anairetes parulus</i>	LC	<i>Atticora fasciata</i>	LC	<i>Cacicus haemorrhous</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Anas andium</i>	LC	<i>Atticora tibialis</i>	LC	<i>Cacicus latirostris</i>	LC
<i>Anas georgica</i>	LC	<i>Attila bolivianus</i>	LC	<i>Cacicus leucoramphus</i>	LC
<i>Ancistrops strigilatus</i>	LC	<i>Attila cinnamomeus</i>	LC	<i>Cacicus oseryi</i>	LC
<i>Andigena hypoglaucha</i>	NT	<i>Attila citriniventris</i>	LC	<i>Cacicus sclateri</i>	LC
<i>Andigena nigrirostris</i>	LC	<i>Attila spadiceus</i>	LC	<i>Cacicus solitarius</i>	LC
Horned frog	LC	<i>Aulacorhynchus albivitta</i>	LC	<i>Cacicus uropygialis</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Cairina moschata</i>	LC	<i>Celeus spectabilis</i>	LC	<i>Chlorostilbon mellisugus</i>	LC
<i>Cairina moschata</i>	LC	<i>Celeus spectabilis</i>	LC	<i>Chlorostilbon mellisugus</i>	LC
<i>Cairina moschata</i>	LC	<i>Celeus spectabilis</i>	LC	<i>Chlorostilbon mellisugus</i>	LC
<i>Cairina moschata</i>	LC	<i>Celeus spectabilis</i>	LC	<i>Chlorostilbon mellisugus</i>	LC
<i>Cairina moschata</i>	LC	<i>Celeus spectabilis</i>	LC	<i>Chlorostilbon mellisugus</i>	LC
<i>Cairina moschata</i>	LC	<i>Celeus spectabilis</i>	LC	<i>Chlorostilbon mellisugus</i>	LC
<i>Cairina moschata</i>	LC	<i>Celeus spectabilis</i>	LC	<i>Chlorostilbon mellisugus</i>	LC
<i>Cairina moschata</i>	LC	<i>Celeus spectabilis</i>	LC	<i>Chlorostilbon mellisugus</i>	LC
<i>Baird's sandpiper</i>	LC	<i>Celeus undatus</i>	LC	<i>Chlorostilbon notatus</i>	LC
<i>Calidris fuscicollis</i>	LC	Ornate Rainbird	LC	<i>Chondrohierax uncinatus</i>	LC
<i>Calidris himantopus</i>	LC	<i>Ceratopipra erythrocephala</i>	LC	<i>Chordeiles acutipennis</i>	LC
Black-bellied Plover	LC	<i>Cercomacra cinerascens</i>	LC	<i>Chordeiles minor</i>	LC
Little Stint	LC	<i>Cercomacroides fuscicauda</i>	LC	<i>Chordeiles nacunda</i>	LC
<i>Calidris subruficollis</i>	NT	<i>Cercomacroides nigrescens</i>	LC	<i>Chordeiles rupestris</i>	LC
<i>Calliphlox amethystina</i>	LC	<i>Cercomacroides serva</i>	LC	<i>Chrysomus icterocephalus</i>	LC
<i>Calochaetes coccineus</i>	LC	<i>Cercomacroides tyrannina</i>	LC	<i>Chrysuronia oenone</i>	LC
<i>Campephilus haematogaster</i>	LC	<i>Certhiasomus stictolaemus</i>	LC	<i>Ciccaba albitarsis</i>	LC
<i>Campephilus melanoleucos</i>	LC	<i>Certhiaxis cinnamomeus</i>	LC	<i>Ciccaba huhula</i>	LC
<i>Campephilus pollens</i>	LC	<i>Certhiaxis mustelinus</i>	LC	<i>Ciccaba virgata</i>	LC
<i>Campephilus rubricollis</i>	LC	<i>Chaetocercus mulsant</i>	LC	White-headed Dipper	LC
<i>Camptostoma obsoletum</i>	LC	<i>Chaetura brachyura</i>	LC	Olive-capped Long-tailed Tit	LC
<i>Campylopterus falcatus</i>	LC	<i>Chaetura chapmani</i>	LC	<i>Cinnycerthia unirufa</i>	LC
<i>Campylopterus largipennis</i>	LC	<i>Chaetura cinereiventris</i>	LC	<i>Circus cinereus</i>	LC
<i>Campylopterus villaviscensio</i>	NT	<i>Chaetura egregia</i>	LC	<i>Cissopis leverianus</i>	LC
<i>Campylorhamphus procurvoides</i>	LC	<i>Chaetura meridionalis</i>	LC	<i>Cistothorus platensis</i>	LC
<i>Campylorhamphus pusillus</i>	LC	<i>Chaetura pelagica</i>	VU	<i>Claravis pretiosa</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Campylorhamphus trochilirostris</i>	LC	<i>Chalcostigma herrani</i>	LC	<i>Rusty-billed Puffin</i>	LC
<i>Campylorhynchus turdinus</i>	LC	<i>Chamaeetes goudotii</i>	LC	<i>Cnemarchus erythropygius</i>	LC
<i>Cantorchilus leucotis</i>	LC	<i>Chamaeza campanisona</i>	LC	<i>Cnemathraupis eximia</i>	LC
<i>Golden-crowned Warbler</i>	LC	<i>Chamaeza mollissima</i>	LC	<i>Cnemoscopus rubrirostris</i>	LC
<i>Golden-crowned Bunting</i>	LC	<i>Chamaeza nobilis</i>	LC	<i>Cnemotriccus fuscatus</i>	LC
<i>Capsiempis flaveola</i>	LC	<i>Chironomus longicornis</i>	LC	<i>Cnipodectes subbrunneus</i>	LC
<i>Caracara cheriway</i>	LC	<i>Vocal sandpiper</i>	LC	<i>Coccyua cinerea</i>	LC
<i>Cardellina canadensis</i>	LC	<i>Chelidoptera tenebrosa</i>	LC	<i>Coccyua minuta</i>	LC
<i>Catamblyrhynchus diadema</i>	LC	<i>Chiroxiphia pareola</i>	LC	<i>Coccyzus americanus</i>	LC
<i>Catamenia homochroa</i>	LC	<i>Chloroceryle aenea</i>	LC	<i>Coccyzus erythrophthalmus</i>	LC
<i>Catamenia inornata</i>	LC	<i>Amazon kingfisher</i>	LC	<i>Coccyzus melacoryphus</i>	LC
<i>Cathartes aura</i>	LC	<i>Chloroceryle americana</i>	LC	<i>Cochlearius cochlearius</i>	LC
<i>Cathartes burrovianus</i>	LC	<i>Chloroceryle inda</i>	LC	<i>Coeligena coeligena</i>	LC
<i>Cathartes melambrotus</i>	LC	<i>Chlorochrysa calliparaea</i>	LC	<i>Coeligena lutetiae</i>	LC
<i>Catharus aurantirostris</i>	LC	<i>Chlorophanes spiza</i>	LC	<i>Coeligena torquata</i>	LC
<i>Catharus fuscater</i>	LC	<i>Blue Chlorophonia</i>	LC	<i>Coereba flaveola</i>	LC
<i>Catharus fuscescens</i>	LC	<i>Chlorophonia pyrrhophrys</i>	LC	<i>Colaptes punctigula</i>	LC
<i>Catharus maculatus</i>	LC	<i>Yellow-capped Chloropip</i>	VU	<i>Colaptes rivolii</i>	LC
<i>Catharus minimus</i>	LC	<i>Chlorornis riefferii</i>	LC	<i>Colaptes rubiginosus</i>	LC
<i>Catharus swainsoni</i>	LC	<i>Chlorospingus canigularis</i>	LC	<i>Colibri coruscans</i>	LC
<i>Celeus elegans</i>	LC	<i>Yellow-throated Siskin</i>	LC	<i>Colibri delphinae</i>	LC
<i>Celeus flavus</i>	LC	<i>Yellow-breasted Bunting</i>	LC	<i>Thalassinus hummingbird</i>	LC
<i>Celeus occidentalis</i>	LC	<i>Chlorospingus parvirostris</i>	LC	<i>Colonia colonus</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Columbina minuta</i>	LC	<i>Cyanocorax yncas</i>	LC	<i>Dromococcyx phasianellus</i>	LC
<i>Picui Columbine</i>	LC	<i>Cyanoloxia rothschildii</i>	LC	<i>Drymophila devillei</i>	LC
<i>Columbina talpacoti</i>	LC	<i>Cyanolyca quindiana</i>	LC	<i>Drymophila striaticeps</i>	LC
<i>Conirostrum albifrons</i>	LC	<i>Cyanolyca turcosa</i>	LC	<i>Dubusia taeniata</i>	LC
<i>Conirostrum bicolor</i>	NT	<i>Cyclarhis gujanensis</i>	LC	<i>Dysithamnus leucostictus</i>	VU

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Conirostrum fraseri</i>	LC	<i>Cyclarhis nigrirostris</i>	LC	<i>Dysithamnus mentalis</i>	LC
<i>Conirostrum sitticolor</i>	LC	<i>Cymbilaimus lineatus</i>	LC	<i>Egretta caerulea</i>	LC
<i>Conirostrum speciosum</i>	LC	<i>Cyphorhinus arada</i>	LC	<i>Egretta thula</i>	LC
<i>Conopias cinchoneti</i>	VU	<i>Cyphorhinus dichrous</i>	LC	<i>White-capped Elaenia</i>	LC
<i>Conopias parvus</i>	LC	<i>Cyphos macrodactylus</i>	LC	<i>Elaenia brachyptera</i>	LC
<i>Conopophaga aurita</i>	LC	<i>Cypseloides cherriei</i>	DD	<i>Yellow-bellied Elaenia</i>	LC
<i>Conopophaga castaneiceps</i>	LC	<i>White-bellied Dacnis</i>	LC	<i>Elaenia frantzii</i>	LC
<i>Contopus cooperi</i>	NT	<i>Caymanian Dacnis</i>	LC	<i>Elaenia gigas</i>	LC
<i>Contopus fumigatus</i>	LC	<i>Yellow-bellied Dacnis</i>	LC	<i>Elaenia pallatangae</i>	LC
<i>Black-capped Flycatcher</i>	LC	<i>Dacnis lineata</i>	LC	<i>Elaenia parvirostris</i>	LC
<i>Contopus sordidulus</i>	LC	<i>Daptrius ater</i>	LC	<i>Pelzel's Elaenia</i>	LC
<i>Contopus virens</i>	LC	<i>Deconychura pallida</i>	NT	<i>Elaenia spectabilis</i>	LC
<i>Black vulture</i>	LC	<i>Dendrexetastes rufigula</i>	LC	<i>Elaenia strepera</i>	LC
<i>Corythopsis torquatus</i>	LC	<i>Sooty-capped Antwren</i>	LC	<i>Elanoides forficatus</i>	LC
<i>Cotinga cayana</i>	LC	<i>Black-throated Cotinga</i>	LC	<i>Elanus leucurus</i>	LC
<i>Maynana cotinga</i>	LC	<i>Tyrannine Cotinga</i>	LC	<i>Electron platyrhynchum</i>	LC
<i>Cranioleuca curtata</i>	VU	<i>Dendrocolaptes certhia</i>	LC	<i>Empidonax alnorum</i>	LC
<i>Cranioleuca vulpecula</i>	LC	<i>Dendrocolaptes picumnus</i>	LC	<i>Empidonax traillii</i>	LC
<i>Cranioleuca vulpina</i>	LC	<i>Dendroplex kienerii</i>	NT	<i>Empidonomus varius</i>	LC
<i>Crax alector</i>	VU	<i>Great Spotted Woodpecker</i>	LC	<i>Ensifera ensifera</i>	LC
<i>Crax globulosa</i>	EN	<i>Dichrozona cincta</i>	LC	<i>Epinecrophylla erythrura</i>	LC
<i>Creurgops verticalis</i>	LC	<i>Diglossa albilatera</i>	LC	<i>Epinecrophylla haematonota</i>	LC
<i>Crotophaga ani</i>	LC	<i>Diglossia caerulescens</i>	LC	<i>Epinecrophylla ornata</i>	LC
<i>Crotophaga major</i>	LC	<i>Diglossia cyanea</i>	LC	<i>Epinecrophylla spodiota</i>	LC
<i>Cryptopipo holochlora</i>	LC	<i>Diglossia glauca</i>	LC	<i>Eriocnemis aline</i>	LC
<i>Crypturellus bartletti</i>	LC	<i>Diglossia humeralis</i>	LC	<i>Eriocnemis derbyi</i>	NT
<i>Crypturellus brevirostris</i>	LC	<i>Diglossa lafresnayii</i>	LC	<i>Eriocnemis luciani</i>	LC
<i>Crypturellus cinereus</i>	LC	<i>Diglossia sittoides</i>	LC	<i>Eriocnemis mosquera</i>	LC
<i>Crypturellus soui</i>	LC	<i>Discosura langsdorffi</i>	LC	<i>Eriocnemis vestita</i>	LC
<i>Crypturellus undulatus</i>	LC	<i>Discosura popelairii</i>	NT	<i>Eubucco bourcierii</i>	LC
<i>Crypturellus variegatus</i>	LC	<i>Dolichonyx oryzivorus</i>	LC	<i>Eubucco richardsoni</i>	LC
<i>Cyanerpes caeruleus</i>	LC	<i>Doliornis remseni</i>	VU	<i>Euchrepomis callinota</i>	LC
<i>Cyanerpes cyaneus</i>	LC	<i>Donacobius atricapilla</i>	LC	<i>Euchrepomis spodioptila</i>	LC
<i>Cyanerpes nitidus</i>	LC	<i>Doryfera johannae</i>	LC	<i>Eucometis penicillata</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Cyanocorax violaceus</i>	LC	<i>Doryfera ludovicae</i>	LC	<i>Euphonia chlorotica</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Euphonia chrysopasta</i>	LC	<i>Geothlypis philadelphia</i>	LC	<i>Helicolestes hamatus</i>	LC
<i>Blue-headed Euphonia</i>	LC	<i>Geotrygon montana</i>	LC	<i>Heliodoxa aurescens</i>	LC
<i>Euphonia laniirostris</i>	LC	<i>Geotrygon saphirina</i>	LC	<i>Heliodoxa gularis</i>	VU
<i>Euphonia mesochrysa</i>	LC	<i>Geotrygon violacea</i>	LC	<i>Heliodoxa leadbeateri</i>	LC
<i>Euphonia minuta</i>	LC	<i>Geranoaetus melanoleucus</i>	LC	<i>Heliodoxa rubinoides</i>	LC
<i>Euphonia rufiventris</i>	LC	<i>Geranoaetus polyosoma</i>	LC	<i>Heliodoxa schreibersii</i>	LC
<i>Euphonia xanthogaster</i>	LC	<i>Geranoospiza caerulescens</i>	LC	<i>Heliomaster longirostris</i>	LC
<i>Eurypyga helias</i>	LC	<i>Glaucidium brasilianum</i>	LC	<i>Heliornis fulica</i>	LC
<i>Eutoxeres aquila</i>	LC	<i>Hardy's Pygmy Owl</i>	LC	<i>Heliophryx auritus</i>	LC
<i>Eutoxeres condamini</i>	LC	<i>Glaucidium jardinii</i>	LC	<i>Hellmayrea gularis</i>	LC
<i>Falco deiroleucus</i>	NT	<i>Parker's pygmy owl</i>	LC	<i>Yellow-throated Warbler</i>	LC
<i>Falco femoralis</i>	LC	<i>Glaucis hirsutus</i>	LC	<i>Hemithraupis guira</i>	LC
<i>Falco ruficularis</i>	LC	<i>Glyphorhynchus spirurus</i>	LC	<i>Hemitriccus granadensis</i>	LC
<i>Falco sparverius</i>	LC	<i>Allen's Tanager</i>	VU	<i>Hemitriccus iohannis</i>	LC
<i>Honeycreeper</i>	LC	<i>Grallaria dignissima</i>	LC	<i>Rufous-throated Tanager</i>	NT
<i>White-bellied Waterhen</i>	LC	<i>Grallaria guatimalensis</i>	LC	<i>Hemitriccus zosterops</i>	LC
<i>Formicarius analis</i>	LC	<i>Grallaria haplonota</i>	LC	<i>Henicorhina leucophrys</i>	LC
<i>Formicarius colma</i>	LC	<i>Grallaria hypoleuca</i>	LC	<i>Henicorhina leucosticta</i>	LC
<i>Formicarius rufipectus</i>	LC	<i>Grallaria nuchalis</i>	LC	<i>Herpetotheres cachinnans</i>	LC
<i>Forpus modestus</i>	LC	<i>Grallaria quitensis</i>	LC	<i>Herpsilochmus axillaris</i>	VU
<i>Forpus xanthopterygius</i>	LC	<i>Grallaria ruficapilla</i>	LC	<i>Herpsilochmus dugandi</i>	LC
<i>Frederickena unduliger</i>	LC	<i>Grallaria rufocinerea</i>	VU	<i>Herpsilochmus scapularis</i>	LC
<i>White-throated Ovenbird</i>	LC	<i>Rufous-crested Coquette</i>	LC	<i>Heterocercus aurantiivertex</i>	LC
<i>Furnarius minor</i>	LC	<i>Grallaria squamigera</i>	LC	<i>Hirundinea ferruginea</i>	LC
<i>Furnarius torridus</i>	LC	<i>Grallaria varia</i>	LC	<i>Hirundo rustica</i>	LC
<i>Galbalcyrhynchus leucotis</i>	LC	<i>Grallaricula flavirostris</i>	NT	<i>Hoploxypterus cayanus</i>	LC
<i>Galbula albirostris</i>	LC	<i>Grallaricula lineifrons</i>	NT	<i>Hydropsalis climacocerca</i>	LC
<i>Galbula chalcocephala</i>	LC	<i>Grallaricula nana</i>	LC	<i>Hydropsalis maculicaudus</i>	LC
<i>Galbula chalcothorax</i>	LC	<i>Graydidascalus brachyurus</i>	LC	<i>Hylatomus lineatus</i>	LC
<i>Galbula cyanicollis</i>	LC	<i>Griseotyrannus aurantioatrocristatus</i>	LC	<i>Hylexetastes stresemanni</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Galbula dea</i>	LC	<i>Gymnoderus foetidus</i>	LC	<i>Hylocharis cyanus</i>	LC
<i>Galbula pastazae</i>	VU	<i>Gymnomystax mexicanus</i>	LC	<i>Hylopezus fulviventris</i>	LC
<i>Galbula tombacea</i>	LC	<i>Gymnopithys leucaspis</i>	LC	<i>Hylopezus macularius</i>	LC
<i>Gallinago delicata</i>	LC	<i>Habia frenata</i>	LC	<i>Hylophilus griseiventris</i>	LC
<i>Gallinago imperialis</i>	NT	<i>Habia rubica</i>	LC	<i>Hylophilus semicinereus</i>	LC
<i>Jameson's snipe</i>	LC	<i>Hafferia fortis</i>	LC	<i>Hylophylax naevius</i>	LC
<i>Gallinago nobilis</i>	NT	<i>Haplophaedia aureliae</i>	LC	<i>Spotted tree frog</i>	LC
<i>Gallinago paraguayae</i>	LC	<i>Harpagus bidentatus</i>	LC	<i>Hypocnemis hypoxantha</i>	LC
<i>Gampsonyx swainsonii</i>	LC	<i>Harpia harpyja</i>	NT	<i>Hypocnemis peruviana</i>	LC
<i>Geospizopsis unicolor</i>	LC	<i>Heliangelus exortis</i>	LC	<i>Hypocnemoides maculicauda</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Hypocnemoides melanopogon</i>	LC	<i>Leptasthenura andicola</i>	LC	<i>Megascops ingens</i>	LC
<i>Ibycter americanus</i>	LC	<i>Leptodon cayanensis</i>	LC	<i>Megascops watsonii</i>	LC
<i>Icterus cayanensis</i>	LC	<i>Leptopogon amaurocephalus</i>	LC	<i>Megastictus margaritatus</i>	LC
<i>Chrysater Icterus</i>	LC	<i>Leptopogon superciliosus</i>	LC	<i>Melanerpes cruentatus</i>	LC
<i>Icterus chryscephalus</i>	LC	<i>Leptosittaca branickii</i>	VU	<i>Merganetta armata</i>	LC
<i>Icterus croconotus</i>	LC	<i>Leptotila rufaxilla</i>	LC	<i>Mesembrinibis cayennensis</i>	LC
<i>Icterus galbula</i>	LC	<i>Verreaux's white-cheeked gibbon</i>	LC	<i>Metallura tyrianthina</i>	LC
<i>Ictinia mississippiensis</i>	LC	<i>Lesbia nuna</i>	LC	<i>Metallura williami</i>	LC
<i>Ictinia plumbea</i>	LC	<i>Lesbia victoriae</i>	LC	<i>Metopothrix aurantiaca</i>	LC
<i>Iodopleura isabellae</i>	LC	<i>Leucippus chlorocercus</i>	LC	<i>Micrastur buckleyi</i>	LC
<i>Iridophanes pulcherrimus</i>	LC	<i>Leuconotopicus fumigatus</i>	LC	<i>Micrastur gilvicolis</i>	LC
<i>Iridosornis analis</i>	LC	<i>Leucopternis melanops</i>	LC	<i>Micrastur mirandollei</i>	LC
<i>Iridosornis rufivertex</i>	LC	<i>Liosceles thoracicus</i>	LC	<i>Micrastur ruficollis</i>	LC
<i>Isleria hauxwelli</i>	LC	<i>Lipaugus fuscocinereus</i>	LC	<i>Micrastur semitorquatus</i>	LC
<i>Islerothraupis cristata</i>	LC	<i>Lipaugus vociferans</i>	LC	<i>Microbates cinereiventris</i>	LC
<i>Islerothraupis luctuosa</i>	LC	<i>Lochmias nematura</i>	LC	<i>Microbates collaris</i>	LC
<i>Ixobrychus exilis</i>	LC	<i>Lophornis verreauxii</i>	LC	<i>Microcerculus marginatus</i>	LC
<i>Yellow-billed Cormorant</i>	LC	<i>Lophotrix cristata</i>	LC	<i>Micromonacha lanceolata</i>	LC
<i>Jacana jacana</i>	LC	<i>Lophotriccus galeatus</i>	LC	<i>Microrhopias quixensis</i>	LC
<i>Klais guimeti</i>	LC	<i>Lophotriccus pileatus</i>	LC	<i>Microxenops milleri</i>	LC
<i>Kleinothraupis atropileus</i>	LC	<i>Lophotriccus vitiensis</i>	LC	<i>Chimachima bat</i>	LC
<i>Knipolegus poecilocercus</i>	LC	<i>Lurocalis rufiventris</i>	LC	<i>Mionectes galbinus</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Knipolegus poecilurus</i>	LC	<i>Lurocalis semitorquatus</i>	LC	<i>Mionectes oleagineus</i>	LC
<i>Knipolegus sclateri</i>	LC	<i>Machaeropterus striolatus</i>	LC	<i>Mionectes striaticollis</i>	LC
<i>Lafresnaya lafresnayi</i>	LC	<i>Machetornis rixosa</i>	LC	<i>Salvini's Mitu</i>	LC
<i>Tanagra's finch</i>	LC	<i>Malacoptila fusca</i>	LC	<i>Mitu tuberosum</i>	LC
<i>Laniisoma buckleyi</i>	NT	<i>Malacoptila rufa</i>	LC	<i>Mniotilta varia</i>	LC
<i>Lanio fulvus</i>	LC	<i>Manacus manacus</i>	LC	<i>Molothrus bonariensis</i>	LC
<i>Lanio versicolor</i>	LC	<i>Margarornis squamiger</i>	LC	<i>Ricebird</i>	LC
<i>Laniocera hypopyrra</i>	LC	<i>Surinamese warbler</i>	LC	<i>Momotus momota</i>	LC
<i>Laterallus exilis</i>	LC	<i>Masius chrysopterus</i>	LC	<i>Monasa flavirostris</i>	LC
<i>Laterallus melanophaius</i>	LC	<i>Mazaria propinqua</i>	LC	<i>Monasa morphoeus</i>	LC
<i>Lathrotriccus eulerei</i>	LC	<i>Mecocerculus leucophrys</i>	LC	<i>Monasa nigrifrons</i>	LC
<i>Legatus leucophaius</i>	LC	<i>Mecocerculus minor</i>	LC	<i>Morphnarchus princeps</i>	LC
<i>Leiothlypis peregrina</i>	LC	<i>Mecocerculus poecilocercus</i>	LC	<i>Morphnus guianensis</i>	NT
<i>Leistes militaris</i>	LC	<i>Mecocerculus stictoapterus</i>	LC	<i>Muscisaxicola alpinus</i>	LC
<i>Lepidocolaptes duidae</i>	LC	<i>Megaceryle torquata</i>	LC	<i>River-dwelling flycatcher</i>	LC
<i>Lepidocolaptes lacrymiger</i>	LC	<i>Megarynchus pitangua</i>	LC	<i>Myadestes ralloides</i>	LC
<i>Lepidothrix coronata</i>	LC	<i>Megascops albogularis</i>	LC	<i>American White Stork</i>	LC
<i>Lepidothrix isidorei</i>	NT	<i>Megascops choliba</i>	LC	<i>Myiarchus cephalotes</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Myiarchus ferox</i>	LC	<i>Myrmochanes hemileucus</i>	LC	<i>Nyctiphrynus ocellatus</i>	LC
<i>Myiarchus swainsoni</i>	LC	<i>Myrmophylax atrothorax</i>	LC	<i>Nyctipolus nigrescens</i>	LC
<i>Myiarchus tuberculifer</i>	LC	<i>Myrmornis torquata</i>	LC	<i>Nyctiprogne leucopyga</i>	LC
<i>Black-tailed Myiobius</i>	LC	<i>Myrmothera campanisona</i>	LC	<i>Nystactes tamatia</i>	LC
<i>Myiobius barbatus</i>	LC	<i>Myrmotherula assimilis</i>	LC	<i>Ochthoeca cinnamomeiventris</i>	LC
<i>Myiobius villosus</i>	LC	<i>Myrmotherula axillaris</i>	LC	<i>Ochthoeca fumicolor</i>	LC
<i>Myioborus melanocephalus</i>	LC	<i>Myrmotherula brachyura</i>	LC	<i>Ochthoeca rufipectoralis</i>	LC
<i>Myioborus miniatus</i>	LC	<i>Myrmotherula ignota</i>	LC	<i>Ochthornis littoralis</i>	LC
<i>Myiodynastes hemichrysus</i>	LC	<i>Long-tailed Myrmotherula</i>	LC	<i>Ocreatus underwoodii</i>	LC
<i>Myiodynastes luteiventris</i>	LC	<i>Myrmotherula longipennis</i>	LC	<i>Odontophorus gujanensis</i>	NT
<i>Myiodynastes maculatus</i>	LC	<i>Myrmotherula menetriesii</i>	LC	<i>Odontophorus speciosus</i>	NT
<i>Myiodynastes solitarius</i>	LC	<i>Myrmotherula multostriata</i>	LC	<i>Odontorchilus branickii</i>	LC
<i>Myiopagis cinerea</i>	LC	<i>Myrmotherula schisticolor</i>	LC	<i>Ognorhynchus icterotis</i>	EN

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Myiopagis flavivertex</i>	LC	<i>Myrmotherula sclateri</i>	LC	<i>Oneillornis lunulatus</i>	LC
<i>Myiopagis gaimardii</i>	LC	<i>Myrmotherula sunensis</i>	LC	<i>Oneillornis salvini</i>	LC
<i>Myiopagis olallai</i>	VU	<i>Nannopterum brasilianus</i>	LC	<i>Onychorhynchus coronatus</i>	LC
<i>Myiopagis viridicata</i>	LC	<i>Long-billed hornbill</i>	LC	<i>Opisthocomus hoazin</i>	LC
<i>Myiophobus cryptoxanthus</i>	LC	<i>Nemosia pileata</i>	LC	<i>Opisthoprora euryptera</i>	LC
<i>Myiophobus fasciatus</i>	LC	<i>Neochen jubata</i>	NT	<i>Oporornis agilis</i>	LC
<i>Myiophobus flavicans</i>	LC	<i>Neoctantes niger</i>	LC	<i>Ornithion inerme</i>	LC
<i>Myiophobus phoenicomitra</i>	LC	<i>Neomorphus geoffroyi</i>	VU	<i>Orochelidon flavipes</i>	LC
<i>Myiornis ecaudatus</i>	LC	<i>Neomorphus pucheranii</i>	LC	<i>Orochelidon murina</i>	LC
<i>Myiotheretes fumigatus</i>	LC	<i>Neopipo cinnamomea</i>	LC	<i>Ortalis guttata</i>	LC
<i>Myiotheretes striaticollis</i>	LC	<i>Nephelomyias pulcher</i>	LC	<i>Orthopsittaca manilatus</i>	LC
<i>Crowned sparrow</i>	LC	<i>Nomonyx dominicus</i>	LC	<i>Rusty-billed Teal</i>	LC
<i>Yellow-billed sparrow</i>	LC	<i>Nonnula brunnea</i>	LC	<i>Pachyramphus albogriseus</i>	LC
<i>Yellow-throated Warbler</i>	LC	<i>Nonnula rubecula</i>	LC	<i>Pachyramphus castaneus</i>	LC
<i>Black-crested warbler</i>	LC	<i>Nonnula ruficapilla</i>	LC	<i>Pachyramphus marginatus</i>	LC
<i>Myiotriccus phoenicurus</i>	LC	<i>Notharchus hyperrhynchus</i>	LC	<i>Pachyramphus minor</i>	LC
<i>Myiozetetes cayanensis</i>	LC	<i>Notharchus tectus</i>	LC	<i>Pachyramphus polychopterus</i>	LC
<i>Myiozetetes granadensis</i>	LC	<i>Nothocercus bonapartei</i>	LC	<i>rufus</i>	LC
<i>Yellow-bellied Myiozetetes</i>	LC	<i>Nothocercus julius</i>	LC	<i>Pachyramphus versicolor</i>	LC
<i>Myiozetetes similis</i>	LC	<i>Nothocrax urumutum</i>	LC	<i>Pachyramphus xanthogenys</i>	LC
<i>Myornis senilis</i>	LC	<i>Nyctibius aethereus</i>	LC	<i>Pachysylvia hypoxantha</i>	LC
<i>Myrmelastes hyperythrus</i>	LC	<i>Nyctibius grandis</i>	LC	<i>Pachysylvia semibrunnea</i>	LC
<i>Myrmelastes leucostigma</i>	LC	<i>Nyctibius griseus</i>	LC	<i>Osprey</i>	LC
<i>Myrmelastes schistaceus</i>	LC	<i>Nyctibius leucopterus</i>	LC	<i>Panyptila cayennensis</i>	LC
<i>Myrmoborus leucophrys</i>	LC	<i>Nyctibius maculosus</i>	LC	<i>Leucorrohic Buzzard</i>	LC
<i>Myrmoborus lugubris</i>	VU	<i>Nycticorax nycticorax</i>	LC	<i>Black-winged stilt</i>	LC
<i>Myrmoborus myotherinus</i>	LC	<i>Nyctidromus albicollis</i>	LC	<i>Parkerthraustes humeralis</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Parkesia noveboracensis</i>	LC	<i>Phylloscartes gualaquiza</i>	NT	<i>Pogonotriccus ophthalmicus</i>	LC
<i>Paroaria gularis</i>	LC	<i>Piaya cayana</i>	LC	<i>Pogonotriccus orbitalis</i>	LC
<i>Patagioenas albilinea</i>	LC	<i>Piaya melanogaster</i>	LC	<i>Pogonotriccus poecilotis</i>	LC
<i>Patagioenas cayennensis</i>	LC	<i>Golden-chested Piculus</i>	LC	<i>Polioptila plumbea</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Patagioenas plumbea</i>	LC	<i>Yellow-billed woodpecker</i>	LC	<i>Porphyrio flavirostris</i>	LC
<i>Patagioenas speciosa</i>	LC	<i>Piculus leucolaemus</i>	LC	<i>Purple swamphen</i>	LC
<i>Patagioenas subvinacea</i>	VU	<i>Picumnus aurifrons</i>	LC	<i>Porphyrolaema porphyrolaema</i>	LC
<i>Penelope jacquacu</i>	LC	<i>Picumnus lafresnayi</i>	LC	<i>Porzana carolina</i>	LC
<i>Penelope montagnii</i>	LC	<i>Picumnus rufiventris</i>	LC	<i>Porzana fasciata</i>	LC
<i>Petrochelidon pyrrhonota</i>	LC	<i>Pilherodius pileatus</i>	LC	<i>Premnoplex brunnescens</i>	LC
<i>Phaeomyias murina</i>	LC	<i>Pionites melanocephalus</i>	LC	<i>Premnornis guttuliger</i>	LC
<i>Phaethornis atrimentalis</i>	LC	<i>Pionus menstruus</i>	LC	<i>Progne chalybea</i>	LC
<i>Phaethornis bourcierii</i>	LC	<i>Pionus seniloides</i>	LC	<i>Progne elegans</i>	LC
<i>Phaethornis griseogularis</i>	LC	<i>Pipile cumanensis</i>	LC	<i>Progne subis</i>	LC
<i>Phaethornis guy</i>	LC	<i>Pipra filicauda</i>	LC	<i>Progne tapera</i>	LC
<i>Hairy-crested Cuckoo</i>	LC	<i>Pipraeidea melanonota</i>	LC	<i>Protonotaria citrea</i>	LC
<i>Phaethornis malaris</i>	LC	<i>Pipreola arcuata</i>	LC	<i>Psarocolius angustifrons</i>	LC
<i>Philippine hornbill</i>	LC	<i>Pipreola chlorolepidota</i>	NT	<i>Psarocolius decumanus</i>	LC
<i>Phaethornis ruber</i>	LC	<i>Lubomirski's pipra</i>	LC	<i>Psarocolius viridis</i>	LC
<i>Phaethornis syrmatophorus</i>	LC	<i>Rieffer's pipreola</i>	LC	<i>Psarocolius yuracares</i>	LC
<i>Phaetusa simplex</i>	LC	<i>Piprites chloris</i>	LC	<i>Pseudastur albicollis</i>	LC
<i>Pharomachrus antisianus</i>	LC	<i>White-winged Piranga</i>	LC	<i>Pseudocolaptes boissonneaui</i>	LC
<i>Pharomachrus auriceps</i>	LC	<i>Piranga olivacea</i>	LC	<i>Pseudopipra pipra</i>	LC
<i>Pharomachrus pavoninus</i>	LC	<i>Piranga rubra</i>	LC	<i>Pseudospingus verticalis</i>	LC
<i>Pheucticus ludovicianus</i>	LC	<i>Piranga rubriceps</i>	LC	<i>Pseudotriccus pelzelni</i>	LC
<i>Pheugopedius coraya</i>	LC	<i>Pitangus sulphuratus</i>	LC	<i>Pseudotriccus ruficeps</i>	LC
<i>Pheugopedius euophrys</i>	LC	<i>Pithys albifrons</i>	LC	<i>Psittacara leucophthalmus</i>	LC
<i>Pheugopedius genibarbis</i>	LC	<i>Platalea ajaja</i>	LC	<i>Psittacara wagleri</i>	NT
<i>Philohydor lictor</i>	LC	<i>Platyrynchus albogularis</i>	LC	<i>Psophia crepitans</i>	NT
<i>Philydor erythrocerum</i>	LC	<i>Platyrynchus coronatus</i>	LC	<i>Pteroglossus azara</i>	LC
<i>Philydor erythropterum</i>	LC	<i>Yellow-throated Bunting</i>	LC	<i>Pteroglossus castanotis</i>	LC
<i>Philydor pyrrhodes</i>	LC	<i>Platyrynchus platyrhynchos</i>	LC	<i>Pteroglossus humboldti</i>	LC
<i>Phlegopsis erythroptera</i>	LC	<i>Platyrynchus saturatus</i>	LC	<i>Pteroglossus pluricinctus</i>	LC
<i>Phlegopsis nigromaculata</i>	LC	<i>American golden plover</i>	LC	<i>Pterophanes cyanopterus</i>	LC
<i>Phlogophilus hemileucurus</i>	VU	<i>Junin grebe</i>	NT	<i>Pulsatrix melanota</i>	LC
<i>Phoenicircus nigricollis</i>	LC	<i>Podilymbus podiceps</i>	LC	<i>Pulsatrix perspicillata</i>	LC
<i>Phyllaemulor bracteatus</i>	LC	<i>Poecilatriccus calopterus</i>	LC	<i>Pygoptila stellaris</i>	LC
<i>Phyllomyias cinereiceps</i>	LC	<i>Poecilatriccus capitalis</i>	LC	<i>Pygochelidon cyanoleuca</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Phyllomyias nigrocapillus</i>	LC	<i>Poecilatriccus latirostris</i>	LC	<i>Pyrrhena leuconota</i>	LC
<i>Phyllomyias uropygialis</i>	LC	<i>Poecilatriccus ruficeps</i>	LC	<i>Pyrrhena barrabandi</i>	NT

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Pyrocephalus rubinus</i>	LC	<i>Sclerurus caudacutus</i>	LC	<i>Sporophila atrirostris</i>	LC
<i>Pyrrhomyias cinnamomeus</i>	LC	<i>Sclerurus mexicanus</i>	LC	<i>Sporophila bouvronides</i>	LC
<i>Black-capped Parakeet</i>	LC	<i>Sclerurus rufigularis</i>	LC	<i>Blue-cheeked Conure</i>	LC
<i>Pyrrhura roseifrons</i>	LC	<i>Scytalopus atratus</i>	LC	<i>Sporophila castaneiventris</i>	LC
<i>Querula purpurata</i>	LC	<i>Scytalopus latrans</i>	LC	<i>Sporophila crassirostris</i>	LC
<i>Ramphastos ambiguus</i>	NT	<i>Scytalopus micropterus</i>	LC	<i>Sporophila lineola</i>	LC
<i>Ramphastos culminatus</i>	VU	<i>Scytalopus opacus</i>	LC	<i>Sporophila luctuosa</i>	LC
<i>Ramphastos cuvieri</i>	LC	<i>Scytalopus spillmanni</i>	LC	<i>Muralla's sparrow</i>	LC
<i>Ramphocaenus melanurus</i>	LC	<i>Selenidera langsdorffii</i>	LC	<i>Black-necked Sparrow</i>	LC
<i>Ramphocelus carbo</i>	LC	<i>Selenidera reinwardtii</i>	LC	<i>Steatornis caripensis</i>	LC
<i>Ramphocelus nigrogularis</i>	LC	<i>Sericossypha albocristata</i>	VU	<i>Stelgidopteryx ruficollis</i>	LC
<i>Ramphomicron microrhynchum</i>	LC	<i>Serpophaga cinerea</i>	LC	<i>Sternula superciliaris</i>	LC
<i>Ramphotrigo fuscicauda</i>	LC	<i>White-throated Fairy-wren</i>	LC	<i>Stigmatura napensis</i>	LC
<i>Ramphotrigo megacephalum</i>	LC	<i>Setophaga cerulea</i>	VU	<i>Streptoprocne rutila</i>	LC
<i>Ramphotrigo ruficauda</i>	LC	<i>Setophaga fusca</i>	LC	<i>Streptoprocne zonaris</i>	LC
<i>Rhegmatorhina melanosticta</i>	LC	<i>Setophaga petechia</i>	LC	<i>Sublegatus obscurior</i>	LC
<i>Rhynchocyclus aequinoctialis</i>	LC	<i>Setophaga pitiaiyumi</i>	LC	<i>White-throated Manakin</i>	LC
<i>Rhynchocyclus fulvipectus</i>	LC	<i>Setophaga ruticilla</i>	LC	<i>White-throated Manakin</i>	LC
<i>Rhytipterna simplex</i>	LC	<i>Setophaga striata</i>	NT	<i>Azara's Flycatcher</i>	LC
<i>Sand Martin</i>	LC	<i>Yellow-breasted Warbler</i>	LC	<i>Synallaxis cherriei</i>	NT
<i>Rostrhamus sociabilis</i>	LC	<i>Silvicoltrix diadema</i>	LC	<i>Synallaxis gujanensis</i>	LC
<i>Rufirallus castaneiceps</i>	LC	<i>Silvicoltrix frontalis</i>	LC	<i>Synallaxis moesta</i>	NT
<i>Rupicola peruvianus</i>	LC	<i>Sirystes albocinereus</i>	LC	<i>Synallaxis rutilans</i>	LC
<i>Rupornis magnirostris</i>	LC	<i>Sittasomus griseicapillus</i>	LC	<i>Synallaxis unirufa</i>	LC
<i>Rynchops niger</i>	LC	<i>Snowornis cryptolophus</i>	LC	<i>Syndactyla subalaris</i>	LC
<i>Saltator coerulescens</i>	LC	<i>Snowornis subalaris</i>	NT	<i>Tachornis squamata</i>	LC
<i>Saltator grossus</i>	LC	<i>Spatula cyanoptera</i>	LC	<i>White-bellied Swift</i>	LC
<i>Saltator maximus</i>	LC	<i>Spatula discors</i>	LC	<i>Tachycineta bicolor</i>	LC
<i>Saltator striatipectus</i>	LC	<i>Sphenopsis frontalis</i>	LC	<i>Golden-throated Tanager</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Sarcoramphus papa</i>	LC	<i>Sphenopsis melanotis</i>	LC	<i>Callophrys tanager</i>	LC
<i>Sarkidiornis sylvicola</i>	LC	<i>Magellanic finch</i>	LC	<i>Tangara chilensis</i>	LC
<i>Black-capped Munia</i>	LC	<i>Spinus olivaceus</i>	LC	<i>Chrysotis tanager</i>	LC
<i>Schiffornis aenea</i>	LC	<i>Spinus spinescens</i>	LC	<i>Cyanicollis tanager</i>	LC
<i>Schiffornis major</i>	LC	<i>Isidori's hawk-eagle</i>	EN	<i>Cyanotis tanager</i>	LC
<i>Schiffornis turdina</i>	LC	<i>Black-and-white Hawk-eagle</i>	LC	<i>Tangara episcopus</i>	LC
<i>Geoffroy's schist</i>	LC	<i>Ornate Hawk-Eagle</i>	NT	<i>Gyrola tanager</i>	LC
<i>Schistochlamys melanopis</i>	LC	<i>Spizaetus tyrannus</i>	LC	<i>Heinei's tanager</i>	LC
<i>Sciaphylax castanea</i>	LC	<i>Spodiornis rusticus</i>	LC	<i>Mexican tanager</i>	LC
<i>Sclateria naevia</i>	LC	<i>Blue-headed Bunting</i>	LC	<i>Black-belted Tanager</i>	LC
<i>White-throated Siskin</i>	NT	<i>Angolan sparrow</i>	LC	<i>Black-throated Tanager</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Tangara palmarum</i>	LC	<i>Tinamus major</i>	NT	<i>Tyrannulus elatus</i>	LC
<i>Tangara parzudakii</i>	LC	<i>Tinamus osgoodi</i>	VU	<i>White-throated Flycatcher</i>	LC
<i>Tangara punctata</i>	LC	<i>Tinamus tao</i>	VU	<i>Tyrannus melancholicus</i>	LC
<i>Rufous-necked Tanager</i>	LC	<i>Cayana Tityra</i>	LC	<i>Savanna Flycatcher</i>	LC
<i>Schranck's Tanager</i>	LC	<i>Tityra inquisitor</i>	LC	<i>Tyrannus tyrannus</i>	LC
<i>Vassor's Tanager</i>	LC	<i>Tityra semifasciata</i>	LC	<i>Barn owl</i>	LC
<i>Velia tanager</i>	LC	<i>Todirostrum chrysocrotaphum</i>	LC	<i>Urochroa leucura</i>	LC
<i>Yellow-headed Tanager</i>	LC	<i>Todirostrum cinereum</i>	LC	<i>Uromyias agilis</i>	LC
<i>Yellow-bellied Tanager</i>	LC	<i>Todirostrum maculatum</i>	LC	<i>Uropsalis lyra</i>	LC
<i>Tapera naevia</i>	LC	<i>Tolmomyias assimilis</i>	LC	<i>Uropsalis segmentata</i>	LC
<i>Taphrospilus hypostictus</i>	LC	<i>Tolmomyias poliocephalus</i>	LC	<i>Urosticte ruficrissa</i>	LC
<i>Taraba major</i>	LC	<i>Tolmomyias sulphurescens</i>	LC	<i>Vanellus chilensis</i>	LC
<i>Tephrophilus wetmorei</i>	VU	<i>Tolmomyias traylori</i>	LC	<i>Veniliornis affinis</i>	LC
<i>Terenotriccus erythrurus</i>	LC	<i>Tolmomyias viridiceps</i>	LC	<i>Veniliornis dignus</i>	LC
<i>Tersina viridis</i>	LC	<i>Topaza pyra</i>	LC	<i>Veniliornis nigriceps</i>	LC
<i>Thalurania furcata</i>	LC	<i>Huet's warbler</i>	VU	<i>Veniliornis passerinus</i>	LC
<i>Equatorial thamnistes</i>	LC	<i>Purple-breasted Warbler</i>	LC	<i>Vermivora chrysoptera</i>	NT
<i>Thamnomanes ardesiacus</i>	LC	<i>Touit stictopterus</i>	VU	<i>Vireo altiloquus</i>	LC
<i>Thamnomanes caesius</i>	LC	<i>Tringa flavipes</i>	LC	<i>Chivi's vireo</i>	LC
<i>Thamnomanes schistogynus</i>	LC	<i>Black-tailed Godwit</i>	LC	<i>Yellow-throated Vireo</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Thamnophilus aethiops</i>	LC	<i>Tringa solitaria</i>	LC	<i>Leucophrys Vireo</i>	LC
<i>Amazonian antbird</i>	LC	<i>Troglodytes aedon</i>	LC	<i>Vireo olivaceus</i>	LC
<i>Thamnophilus cryptoleucus</i>	NT	<i>Troglodytes solstitialis</i>	LC	<i>Vireolanius leucotis</i>	LC
<i>Thamnophilus doliatus</i>	LC	<i>Collared Trogon</i>	LC	<i>Volatinia jacarina</i>	LC
<i>Thamnophilus murinus</i>	LC	<i>Curucui Trogon</i>	LC	<i>Vultur gryphus</i>	NT
<i>Thamnophilus praecox</i>	NT	<i>Trogon melanurus</i>	LC	<i>Willisornis poecilinotus</i>	LC
<i>Thamnophilus schistaceus</i>	LC	<i>Trogon personatus</i>	LC	<i>Xenops genibarbis</i>	LC
<i>Thamnophilus tenuipunctatus</i>	VU	<i>Rufous-tailed Trogon</i>	LC	<i>Xenops rutilus</i>	LC
<i>Thamnophilus unicolor</i>	LC	<i>Trogon violaceus</i>	LC	<i>Xenops tenuirostris</i>	LC
<i>Thlypopsis ornata</i>	LC	<i>Green Trogon</i>	LC	<i>Xiphocolaptes promeropirhynchus</i>	LC
<i>Thlypopsis sordida</i>	LC	<i>Tunchiornis ochraceiceps</i>	LC	<i>Xiphorhynchus beauperthuisii</i>	LC
<i>Thlypopsis superciliaris</i>	LC	<i>White-throated Thrush</i>	LC	<i>Xiphorhynchus chunchotambo</i>	LC
<i>Threnetes leucurus</i>	LC	<i>Turdus debilis</i>	LC	<i>Xiphorhynchus elegans</i>	LC
<i>Thripadectes flammulatus</i>	LC	<i>Turdus fulviventris</i>	LC	<i>Xiphorhynchus guttatoides</i>	LC
<i>Thripadectes holostictus</i>	LC	<i>Turdus fuscater</i>	LC	<i>Xiphorhynchus obsoletus</i>	LC
<i>Thripadectes melanorhynchus</i>	LC	<i>Turdus hauxwelli</i>	LC	<i>Ocellated Kingfisher</i>	LC
<i>Thripadectes virgaticeps</i>	LC	<i>Turdus lawrencii</i>	LC	<i>Triangular-billed Cuckoo</i>	LC
<i>Thripophaga fusciceps</i>	LC	<i>White-throated Thrush</i>	LC	<i>Zebrilus undulatus</i>	NT
<i>Thripophaga gutturata</i>	LC	<i>Turdus sanchezorum</i>	LC	<i>Zentrygon frenata</i>	LC
<i>Tigrisoma fasciatum</i>	LC	<i>Rock Thrush</i>	LC	<i>Zimmerius chrysops</i>	LC
<i>Tigrisoma lineatum</i>	LC	<i>Tyrannetes stolzmanni</i>	LC	<i>Zimmerius gracilipes</i>	LC
<i>Spotted Tinamou</i>	NT	<i>Tyrannopsis sulphurea</i>	LC	<i>Cape Wren</i>	LC

(iv) Mammals; 298 species.

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Alouatta juara</i>	LC	<i>Chrotopterus auritus</i>	LC	<i>Euryoryzomys macconnelli</i>	LC
<i>Ametrida centurio</i>	LC	<i>Coendou bicolor</i>	LC	<i>Furipterus horrens</i>	LC
<i>Anoura aequatoris</i>	LC	<i>Coendou prehensilis</i>	LC	<i>Galictis vittata</i>	LC
<i>Anoura caudifer</i>	LC	<i>Coendou quichua</i>	DD	<i>Gardnerycteris crenulatum</i>	LC
<i>Anoura cultrata</i>	LC	<i>Coendou rufescens</i>	LC	<i>Glossophaga commissarisi</i>	LC
<i>Anoura fistulata</i>	DD	<i>Cormura brevirostris</i>	LC	<i>Glossophaga soricina</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Anoura geoffroyi</i>	LC	<i>Cryptotis squamipes</i>	LC	<i>Glyphonycteris daviesi</i>	LC
<i>Anoura latidens</i>	LC	<i>Cuniculus paca</i>	LC	<i>Glyphonycteris sylvestris</i>	LC
<i>Peruvian tree frog</i>	LC	<i>Cuniculus taczanowskii</i>	NT	<i>Handleyomys alfaroi</i>	LC
<i>Aotus lemurinus</i>	VU	<i>Cyclopes didactylus</i>	LC	<i>Herpailurus yagouaroundi</i>	LC
<i>Aotus nancymae</i>	VU	<i>Cynomops abrasus</i>	DD	<i>Histiotus montanus</i>	LC
<i>Aotus vociferans</i>	LC	<i>Cynomops greenhalli</i>	LC	<i>Holochilus sciureus</i>	LC
<i>Artibeus aequatorialis</i>	LC	<i>Cynomops milleri</i>	LC	<i>Hydrochoerus hydrochaeris</i>	LC
<i>Artibeus amplus</i>	LC	<i>Cynomops paranus</i>	DD	<i>Hyladelphys kalinowskii</i>	LC
<i>Artibeus concolor</i>	LC	<i>Cynomops planirostris</i>	LC	<i>Hylaeamys perenensis</i>	LC
<i>Artibeus lituratus</i>	LC	<i>Dactylomys dactylinus</i>	LC	<i>Hylaeamys yunganus</i>	LC
<i>Artibeus obscurus</i>	LC	<i>Dasyprocta fuliginosa</i>	LC	<i>Ichthyomys hydrobates</i>	LC
<i>Artibeus planirostris</i>	LC	<i>Dasyprocta kappleri</i>	LC	<i>Inia geoffrensis</i>	EN
<i>Ateles belzebuth</i>	EN	<i>Nine-banded armadillo</i>	LC	<i>Isothrix bistrata</i>	LC
<i>Ateles chamek</i>	EN	<i>Dermanura anderseni</i>	LC	<i>Lagothrix lagothricha</i>	VU
<i>Atelocynus microtis</i>	NT	<i>Dermanura bogotensis</i>	LC	<i>Lamproncycteris brachyotis</i>	LC
<i>Bassaricyon alleni</i>	LC	<i>Dermanura glauca</i>	LC	<i>Lasiurus blossevillii</i>	LC
<i>Bassaricyon neblina</i>	NT	<i>Dermanura gnoma</i>	LC	<i>Lasiurus cinereus</i>	LC
<i>Bradypus variegatus</i>	LC	<i>Dermanura phaeotis</i>	LC	<i>Lasiurus ega</i>	LC
<i>Cabassous unicinctus</i>	LC	<i>Desmodus rotundus</i>	LC	<i>Lasiurus egregius</i>	DD
<i>Cacajao calvus</i>	VU	<i>Diaemus youngi</i>	LC	<i>Leontocebus fuscicollis</i>	LC
<i>Caenolestes fuliginosus</i>	LC	<i>White-spotted dogfish</i>	LC	<i>Leontocebus nigricollis</i>	LC
<i>Goeldi's colobus monkey</i>	VU	<i>Diclidurus ingens</i>	DD	<i>Leopardus colocolo</i>	NT
<i>Caluromys lanatus</i>	LC	<i>Diclidurus scutatus</i>	LC	<i>Leopardus pardalis</i>	LC
<i>Carollia brevicauda</i>	LC	<i>Didelphis marsupialis</i>	LC	<i>Leopardus tigrinus</i>	VU
<i>Carollia castanea</i>	LC	<i>Didelphis pernigra</i>	LC	<i>Leopardus wiedii</i>	NT
<i>Carollia perspicillata</i>	LC	<i>Dinomys branickii</i>	LC	<i>Lichonycteris degener</i>	LC
<i>Cebus albifrons</i>	LC	<i>Diphylla ecaudata</i>	LC	<i>Lichonycteris obscura</i>	LC
<i>Centronycteris centralis</i>	LC	<i>Echimys saturnus</i>	DD	<i>Lionycteris spurrelli</i>	LC
<i>Centronycteris maximiliani</i>	LC	<i>Eira barbara</i>	LC	<i>Lonchophylla concava</i>	LC
<i>Cerdocyon thous</i>	LC	<i>Enchisthenes hartii</i>	LC	<i>Lonchophylla robusta</i>	LC
<i>Cheracebus lucifer</i>	LC	<i>Eptesicus andinus</i>	LC	<i>Lonchophylla thomasi</i>	LC
<i>Cheracebus medemi</i>	VU	<i>Brazilian bat</i>	LC	<i>Lonchorhina aurita</i>	LC
<i>Chilomys instans</i>	LC	<i>Eptesicus furinalis</i>	LC	<i>Lonchorhina inusitata</i>	DD
<i>Chiroderma salvini</i>	LC	<i>Eumops auripendulus</i>	LC	<i>Lonchorhina marinkellei</i>	VU

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Chiroderma trinitatum</i>	LC	<i>Eumops glaucinus</i>	LC	<i>Lontra longicaudis</i>	NT
<i>Chiroderma villosum</i>	LC	<i>Eumops hansae</i>	LC	<i>Lophostoma brasiliense</i>	LC
<i>Chironectes minimus</i>	LC	<i>Eumops maurus</i>	DD	<i>Lophostoma carrikeri</i>	LC
<i>Choeroniscus minor</i>	LC	<i>Eumops perotis</i>	LC	<i>Lophostoma silvicolum</i>	LC
<i>Choloepus didactylus</i>	LC	<i>Eumops trumbulli</i>	LC	<i>Macrophyllum macrophyllum</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Makalata macrura</i>	LC	<i>Neacomys spinosus</i>	LC	<i>Platyrrhinus lineatus</i>	LC
<i>Marmosa demerarae</i>	LC	<i>Neacomys tenuipes</i>	LC	<i>Platyrrhinus nigellus</i>	LC
<i>Marmosa lepida</i>	LC	<i>Necomys punctulatus</i>	DD	<i>Plecturocebus cupreus</i>	LC
<i>Murine marmosa</i>	LC	<i>Nectomys apicalis</i>	LC	<i>Plecturocebus discolor</i>	LC
<i>Marmosa regina</i>	LC	<i>Nectomys rattus</i>	LC	<i>Potos flavus</i>	LC
<i>Marmosops neblina</i>	LC	<i>Neomicroxus latebricola</i>	EN	<i>Priodontes maximus</i>	VU
<i>American red deer</i>	DD	<i>Nephelomys albigularis</i>	LC	<i>Procyon cancrivorus</i>	LC
<i>Mazama nemorivaga</i>	LC	<i>Neusticomys monticolus</i>	LC	<i>Proechimys brevicauda</i>	LC
<i>Mazama rufina</i>	VU	<i>Noctilio albiventris</i>	LC	<i>Proechimys cuvieri</i>	LC
<i>Melanomys caliginosus</i>	LC	<i>Noctilio leporinus</i>	LC	<i>Proechimys quadruplicatus</i>	LC
<i>Mesomys hispidus</i>	LC	<i>Nyctinomops aurispinosus</i>	LC	<i>Proechimys simonsi</i>	LC
<i>Mesophylla macconnelli</i>	LC	<i>Nyctinomops laticaudatus</i>	LC	<i>Proechimys steerei</i>	LC
<i>Metachirus nudicaudatus</i>	LC	<i>Nyctinomops macrotis</i>	LC	<i>Promops centralis</i>	LC
<i>Micronycteris brosetti</i>	DD	<i>Odocoileus virginianus</i>	LC	<i>Promops nasutus</i>	LC
<i>Hairy-nosed bat</i>	LC	<i>Oecomys bicolor</i>	LC	<i>Pteronotus gymnonotus</i>	LC
<i>Micronycteris megalotis</i>	LC	<i>Oecomys concolor</i>	LC	<i>Pteronotus personatus</i>	LC
<i>Micronycteris microtis</i>	LC	<i>Oecomys paricola</i>	DD	<i>Pteronotus rubiginosus</i>	LC
<i>Micronycteris minuta</i>	LC	<i>Oecomys roberti</i>	LC	<i>Pteronura brasiliensis</i>	EN
<i>Micronycteris schmidtorum</i>	LC	<i>Oecomys superans</i>	LC	<i>Pudu mephistophiles</i>	DD
<i>Microryzomys minutus</i>	LC	<i>Oecomys trinitatis</i>	LC	<i>Puma concolor</i>	LC
<i>Microsciurus flaviventer</i>	LC	<i>Oligoryzomys destructor</i>	LC	<i>Reithrodontomys mexicanus</i>	LC
<i>Molossops mattogrossensis</i>	LC	<i>Oligoryzomys fulvescens</i>	LC	<i>Rhinophylla fischeriae</i>	LC
<i>Molossops neglectus</i>	DD	<i>Panthera onca</i>	NT	<i>Rhinophylla pumilio</i>	LC
<i>Molossops temminckii</i>	LC	<i>Pattonomys occasius</i>	DD	<i>Rhipidomys leucodactylus</i>	LC
<i>Molossus coibensis</i>	LC	<i>Pecari tajacu</i>	LC	<i>Rhynchonycteris naso</i>	LC
<i>Mastiff</i>	LC	<i>Peropteryx kappleri</i>	LC	<i>Saccopteryx bilineata</i>	LC
<i>Molossus pretiosus</i>	LC	<i>Peropteryx leucoptera</i>	LC	<i>Saccopteryx canescens</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Molossus rufus</i>	LC	<i>Peropteryx macrotis</i>	LC	<i>Saccopteryx leptura</i>	LC
<i>Monodelphis adusta</i>	LC	<i>Peropteryx pallidoptera</i>	DD	<i>Saguinus labiatus</i>	LC
<i>Mormoops megalophylla</i>	LC	<i>Philander andersoni</i>	LC	<i>Saguinus mystax</i>	LC
<i>Mus musculus</i>	LC	<i>Philander opossum</i>	LC	<i>Sapajus apella</i>	LC
<i>African weasel</i>	LC	<i>Phylloderma stenops</i>	LC	<i>Sciurillus pusillus</i>	LC
<i>Mustela felipei</i>	VU	<i>Phyllostomus discolor</i>	LC	<i>Sciurus ignitus</i>	LC
<i>Mustela frenata</i>	LC	<i>Phyllostomus elongatus</i>	LC	<i>Sciurus igniventris</i>	LC
<i>Myoprocta pratti</i>	LC	<i>Phyllostomus hastatus</i>	LC	<i>Sciurus pucheranii</i>	DD
<i>Myotis albescens</i>	LC	<i>Pithecia hirsuta</i>	DD	<i>Sciurus spadiceus</i>	LC
<i>Keaysi bat</i>	LC	<i>Pithecia milleri</i>	VU	<i>Scolomys ucayalensis</i>	LC
<i>Myotis nigricans</i>	LC	<i>Pithecia monachus</i>	LC	<i>Sotalia fluviatilis</i>	DD
<i>Myotis oxyotus</i>	LC	<i>Platyrrhinus albericoi</i>	LC	<i>Speothos venaticus</i>	NT
<i>Myotis riparius</i>	LC	<i>Platyrrhinus brachycephalus</i>	LC	<i>Sphaeronycteris toxophyllum</i>	LC
<i>Myotis simus</i>	DD	<i>Platyrrhinus dorsalis</i>	LC	<i>Sturnira bidens</i>	LC
<i>Three-toed giant anteater</i>	VU	<i>Platyrrhinus helleri</i>	LC	<i>Sturnira bogotensis</i>	LC
<i>Nasua narica</i>	LC	<i>Platyrrhinus incarum</i>	LC	<i>Sturnira erythromos</i>	LC
<i>Nasua nasua</i>	LC	<i>Platyrrhinus infuscus</i>	LC	<i>Sturnira ludovici</i>	LC
<i>Nasuella olivacea</i>	NT	<i>Platyrrhinus ismaeli</i>	NT	<i>Sturnira magna</i>	LC

Scientific name	IUCN category	Scientific name	IUCN category	Scientific name	IUCN category
<i>Sturnira tildae</i>	LC	<i>Thomasomys taczanowskii</i>	LC	<i>Trinycteris nicefori</i>	LC
<i>Tadarida brasiliensis</i>	LC	<i>Thomasomys ucucha</i>	VU	<i>Uroderma bilobatum</i>	LC
<i>Tamandua tetradactyla</i>	LC	<i>Thyroptera discifera</i>	LC	<i>Uroderma magnirostrum</i>	LC
<i>Tapirus pinchaque</i>	EN	<i>Thyroptera tricolor</i>	LC	<i>Vampyressa melissa</i>	VU
<i>Tapirus terrestris</i>	VU	<i>Tonatia saurophila</i>	LC	<i>Vampyressa thylene</i>	LC
<i>Tayassu pecari</i>	VU	<i>Toromys rhipidurus</i>	DD	<i>Vampyriscus bidens</i>	LC
<i>Thomasomys aureus</i>	LC	<i>Trachops cirrhosus</i>	LC	<i>Vampyriscus brocki</i>	LC
<i>Thomasomys baeops</i>	LC	<i>Tremarctos ornatus</i>	VU	<i>Vampyrodes caraccioli</i>	LC
<i>Thomasomys cinnameus</i>	LC	<i>Trichechus inunguis</i>	VU	<i>Vampyrum spectrum</i>	NT
<i>Thomasomys paramorum</i>	LC				

Annex 4. Protected areas in the Putumayo-Ica basin.

Protected area	Location	Area (km ²)	Purpose of creation / Conservation values	Main characteristics	Main threats
Cuyabeno Wildlife Production Reserve ⁷⁷	Ecuador, in the province of Orellana, Aguarico canton; and in the province of Sucumbíos, Cuyabeno, Putumayo, and Lago Agrio cantons.	5,900	Conservation values: Aquatic mammals: <i>Inia geofrensis</i> (Amazon river dolphin), <i>Trichechus inunguis</i> (manatee), and <i>Pteronura brasiliensis</i> (giant otter). Cuyabeno River basin and lagoons. Lagartococha River basin and lagoons. Indigenous communities within the Reserve. Onca panthera (jaguar).	It is home to one of the seven Pleistocene refuges that survived the last ice age on the planet and includes the largest lake system in the Ecuadorian Amazon. The Siona, Secoya, Cofán, Kichwa, and Shuar indigenous communities live within the Reserve, mainly growing cassava, plantains, and corn and engaging in subsistence extractive activities (timber, hunting, and fishing). In addition, important areas within the Reserve have been concessioned for oil exploitation.	Cuyabeno is seriously threatened by colonization pressures (especially in its western and southern portions), by concessions and oil well exploitation within it, and by timber extraction. Oil activities have caused serious damage to Cuyabeno's ecosystems due to continuous spills and have also been a serious threat to the health of the local indigenous inhabitants. On the colonization fronts of the Reserve, pressure on the forest and its resources (especially timber) is high. There are also other threats such as hunting and informal and poorly organized tourism, but their level of impact is comparatively lower.
Cofán Bermejo Ecological Reserve ⁷⁸	Ecuador, in the province of Sucumbíos, Cascales canton.	554.51	No information	It covers a wide range of altitudes (400–2,275 meters above sea level), making it a transition zone between the flora of the Amazon and the Andes, home to a very diverse and complex plant community, with significant heterogeneity in forest composition and structure. The Cofán-Bermejo Ecological Reserve includes pristine forest areas that are part of the ancestral territory of the Cofán ethnic group of Sinangoe. The Cofán communities within the	The forests in the area are seriously threatened by the new Inter-oceanic Highway that runs from Lago Agrio to Tulcán and divides these forests. This road has encouraged the presence of settlers who deforest areas of forest for agricultural activities. There have also been reports of incursions by logging companies along the roads, as well as poachers and illegal fishermen. Oil extraction has had a serious impact on the area due to oil spills and chemical leaks.

⁷⁷ Ministry of the Environment. 2012. Management Plan for the Cuyabeno Wildlife Reserve. Quito, Ecuador. 56 p. Accessed February 10, 2021 at: http://alfresco.ambiente.gob.ec/alfresco/d/d/workspace/SpacesStore/da166651-8566-4b91-a70f-2247b6641fa6/PM_Cuyabeno.pdf

⁷⁸ ECOLAP and MAE. 2007. Guide to the Heritage of Protected Natural Areas in Ecuador. ECOFUND, FAN, DarwinNet, IGM. Quito, Ecuador. Accessed February 11, 2021, at <https://www.parks-and-tribes.com/national-parks/reserva-ecologica-cofan-bermejo/reserva-ecologica-cofan-bermejo.pdf>

Protected area	Location	Area (km ²)	Purpose of creation / Conservation values	Main characteristics	Main threats
				reserve are Soquié, Tayo'su Canque, Chandia Na'e, and Alto Bermejo.	
Amacayacu National Natural Park ⁷⁹	Colombia, Amazonian Trapezoid. In the municipalities of Leticia, Puerto Nariño, and the Departmental District of Tarapacá.	2,935 km	<p>To conserve a representative sample of the ecosystems of the interfluvium Putumayo – Amazonas associated with the geological formations Pebas, Tertiary superior and Quaternary, which contribute to connectivity in the border area.</p> <p>Contribute to the maintenance of the water network formed by the Cotuhé-Putumayo, Purité, Amacayacu, and Matamatá basins, their hydrobiological wealth, and their importance for the food sovereignty of the related communities.</p> <p>Contribute to strengthening the sustainable use and management of natural resources and the relationship between the ethnic groups present in the PNNA's area of influence.</p>	The park is home to the humid or hydrophytic forest of the warm termite zone and is part of the so-called Amazonian hylea. It overlaps with Indigenous Reserves in its southern and northern parts, which share responsibility for administration and management with the UAESPNN.	<p>The most acute threats to the area in the short term are the activities of gold miners in the northern sector, on the Cotuhé and Purité rivers, and commercial loggers throughout the region, particularly in the northern and western sectors of the protected area. The spread of illicit crops in areas near the northern sector of the ANP is also mentioned.</p> <p>In the southern sector, the most serious challenge in both the short and long term is to agree on uses for natural resources that are compatible with both biological conservation and the economic development of indigenous peoples, taking into account the quantitative changes in their uses resulting from population growth in these communities.</p>

⁷⁹ National Natural Parks of Colombia. n.d. Amacayacu National Natural Park Management Plan. Accessed February 11, 2021, at <https://www.parquesnacionales.gov.co/porta/wp-content/uploads/2013/12/PMPNNAMACAYACU.pdf> and <https://www.parquesnacionales.gov.co/porta/es/ecoturismo/region-amazonia/parque-nacional-natural-amacayacu/>

Protected area	Location	Area (km ²)	Purpose of creation / Conservation values	Main characteristics	Main threats
			Maintain ecosystem functions to ensure local climate regulation and contribute to the mitigation of global climate change. Contribute to the maintenance of sites representative of bio-cultural landscapes that promote awareness of the importance of the Amazon to society in general.		
Güepi Sekime National Park ⁸⁰	Peru, department of Loreto, province of Putumayo in the district of Teniente Manuel Clavero; and province of Maynas in the district of Torres Causana.	2036.28	To protect the diversity of landscapes and ecosystems of the Napo and Japurá-Negro ecoregions and the species they harbor, especially those that are threatened, endemic, and those that have suffered severe pressure on their population levels, allowing the natural development of their biological processes.	It is home to the Napo Rainforest ecoregion, which has exceptional biodiversity and is one of the priority ecoregions for conservation worldwide, as it is an important center of speciation and because it concentrates a large number of endemic species.	Pollution from solid waste and the improper handling of fuels and lubricants, associated with the presence of an armed forces base. Illegal logging affecting terrestrial ecosystems and floodplains. Illegal hunting and fishing.
Yaguas National Park ⁸¹	Peru, Loreto Department, in the province of Putumayo, in the districts of	8,689.27	To conserve the biological diversity, ecological processes, and geological formations existing in the Yaguas river basin, which originates in	The area is considered to have the greatest diversity of freshwater fish in all of Peru, with at least 10 species new to science. It is home to a gradient of aquatic habitats and	Deforestation due to illegal logging. Mining, especially in the upper Cotuhé and Purité rivers, poses a serious threat to the health of the species that inhabit the region's aquatic ecosystems and also to human health ⁸³ .

⁸⁰ SERNANP. 2015. Master Plan for Güepi Sekime National Park 2014-2019; and SERNANP. 2015. Diagnosis of Güepi Sekime National Park 2014-2019

⁸¹ SERNANP. 2016. Technical File Yaguas National Park. Lima, Peru.

⁸³ Field Museum, 2020. Working Paper: Demographics and Governance of the Lower Putumayo-Yaguas-Cotuhé Communities.

Protected area	Location	Area (km ²)	Purpose of creation / Conservation values	Main characteristics	Main threats
	Putumayo and Yaguas; and in the province of Mariscal Ramón Castilla, in the districts of Pebas, San Pablo, and Ramón Castilla.		lowland forest with no connection to the Andes, and because it represents an important source of fish fauna for the native populations and communities settled in the middle and lower Putumayo.	hydrological processes unique to Loreto that are not related to the Andes. This particular feature also gives it biological and evolutionary importance in terms of ecosystems, species, and genes ⁸² . It is one of the 10 areas with the largest carbon stocks in Peru.	Presence of drug trafficking, arms trafficking, and the transit of armed groups.
La Paya National Natural Park ⁸⁴	Colombia, department of Putumayo, municipality of Leguízamo.	4220	To conserve flora and fauna, natural scenic beauty, geomorphological complexes, historical or cultural manifestations, for scientific, educational, recreational, and aesthetic purposes.	It is part of a conservation corridor comprising other protected areas in Ecuador and Peru. It has an exceptional wealth of flora and fauna species. It is home to varzea forests, which are a special ecosystem due to their homogeneity of species.	Problems with land ownership and local political conflicts, opening of areas for slash-and-burn agriculture and logging by migrants, overexploitation of aquatic fauna, poaching for the illegal wildlife trade.
Huimeki Communal Reserve ⁸⁵	Peru, in the department of Loreto, in the province of Putumayo, district of Teniente Manuel Clavero.	1412.34	To conserve the biological diversity of the area and ensure the sustainable management of resources for the benefit of the Kichwa, Huitoto, and mestizo populations of the Peruvian-Colombian border area.	It is part of a conservation corridor along with other areas in Peru, Colombia, and Ecuador. It is home to transition zones between the Napo Rainforests and the Japurá-Negro Rainforests, which give it special characteristics in terms of flora and fauna. Both ecoregions are considered high priority for conservation at the subcontinental level. It is home to populations of	Increased demand for resources (timber, fish, wildlife) from Puerto Leguízamo, Puerto Asís, and other Colombian cities. The Amazonas–Putumayo intermodal corridor, which would connect Ecuador with Brazil. Increased trade would lead to population growth and, consequently, greater pressure on the protected area's resources, and probably deforestation and illegal activities. The increase in agriculture and livestock farming by Colombian settlers, which generates conflicts with the local population. Illicit crops and the presence of Colombian guerrillas.

⁸² SERNANP. 2016. Yaguas National Park Technical File.

⁸⁴ National Natural Parks of Colombia. n.d. Baseline for the formulation of the Management Plan for La Paya National Natural Park.

TNC. n.d. La Paya National Natural Park.

⁸⁵ SERNANP. 2012. Huimeki Communal Reserve File.

Protected area	Location	Area (km ²)	Purpose of creation / Conservation values	Main characteristics	Main threats
				important species, including <i>Aniba roseadora</i> (palo rosa). The area is also important for its high diversity and density of trees (>200 species/ha) and for protecting representative samples of wildlife species restricted to the northeastern corner of the Peruvian Amazon that are not found in other protected areas.	
Airo Pai Communal Reserve ⁸⁶	Peru, in the department of Loreto, province of Putumayo, district of Teniente Manuel Clavero; and in the province of Maynas, in the districts of Torres Causana and Napo.	2478.87	To conserve, in a participatory manner, the different representative biological and cultural samples; the tropical rainforest ecosystem and its transitional life zones; and the sacred and culturally important sites of the Secoyas, thus allowing natural and cultural processes to continue to develop appropriately, in accordance with the provisions of Law No. 28296, the National Cultural Heritage Law, and Law No. 29565, the Law creating the Ministry of Culture, as applicable.	It forms part of a biological corridor of protected areas in Colombia, Ecuador, and Peru. It is home to the Napo Rainforest ecoregion and is the geographical area of sociocultural development of the Secoya and Kichwa ethnic groups.	In the Napo River sector, illegal logging of timber species for commercial purposes. Excessive hunting of wildlife species that may threaten the livelihoods of the Secoya and Kichwa peoples. Increased indiscriminate fishing by residents of Cabo Pantoja and foreign fishermen, using toxic substances and illegal fishing gear, which may affect the population structure of paiche, large catfish, shad, arahuana, among others. Polluting waste from boats (fuel, lubricants, sewage, and garbage). Extraction of resources by outsiders for commercial purposes. Entry of mining dredges into areas near the protected area. Increase in illicit crops associated with the Colombian guerrilla. Hydrocarbon exploitation in the Napo sector due to potential pollution.
Majuna Kichwa Regional	Peru, in the department of Loreto,	3910.39	Conserve existing ecosystems, especially high terraces and headwaters, ensuring the	Contributes to maintaining connectivity between a mosaic of	Threats to the integrity of the area: extraction of forest products, illegal hunting, illegal fishing, alluvial mining, Bellavista–El Estrecho road project.

⁸⁶ SERNANP. 2012. Technical File on the Airo Pai Communal Reserve.

Protected area	Location	Area (km ²)	Purpose of creation / Conservation values	Main characteristics	Main threats
Conservation Area ⁸⁷	province of Maynas in the districts of Napo, Mazán, and Las Amazonas; in the province of Putumayo in the district of Putumayo; and in the province of Mariscal Ramón Castilla in the district of Pebas.		provision of natural resources, water, and other ecosystem services to the local population.	areas that make up the Napo-Putumayo biological corridor. Conservation of the area promotes the preservation of the culture and identity of the Maijuna and Kichwa ethnic groups.	Sociocultural threats: loss of indigenous culture.
Ampiyacu Apayacu Regional Conservation Area ⁸⁸	Peru, in the department of Loreto, province of Maynas in the districts of Las Amazonas and Mazan; in the province of Putumayo in the district of Putumayo; and in the province of Mariscal Ramón Castilla	4341.29	To conserve the lowland Amazon rainforest ecosystems north of the Amazon River between the Ampiyacu and Apayacu river basins, ensuring access to natural resources through the sustainable use of wild flora and fauna, thereby promoting development and improving the quality of life of the area's inhabitants.	It is part of the Putumayo-Amazonas landscape, which has been identified as a priority area for the conservation of biological diversity in Peru. It is home to a wide cultural diversity, with the presence of eight indigenous peoples.	Illegal coca cultivation due to the demand for cultivation areas and the use of toxic chemicals that end up in water bodies. Inappropriate fishing due to the use of unregulated fishing gear and toxic substances such as barbasco. Illegal exploitation of timber and non-timber trees, associated with the presence of forest concessions. Informal tourism due to the contamination of terrestrial and aquatic ecosystems with solid waste.

⁸⁷ GORE Loreto. n.d. Master Plan for the Maijuna Kichwa Regional Conservation Area 2016-2020. Iquitos, Peru.

⁸⁸ GORE Loreto. 2017. Master Plan for the Ampiyacu Apayacu Regional Conservation Area and its Zone of Influence 2017–2021.

Protected area	Location	Area (km ²)	Purpose of creation / Conservation values	Main characteristics	Main threats
	in the district of Pebas.				
Orito Ingi Ande Medicinal Plant Sanctuary ⁸⁹	Colombia, in the department of Nariño, in the municipalities of Funes and Pasto; and in the department of Putumayo in the municipality of Orito.	102.04	Protect the territory in its two dimensions—biological and cultural—given the reciprocal and indissoluble relationship that unites both purposes and the way in which these concepts merge in the ethnic groups that make up the "yagé" culture."	The area is traditionally used by various indigenous peoples, notably the Cofán, Inga, Siona, Kamentsa, and Coreguaje, who practice the shamanic tradition known as the "yagé" culture, contributing to the preservation of traditional medicinal systems and the recovery of associated tangible and intangible heritage. It is an Andean-Amazonian transition zone.	Risk of extinction of Paullinia yoco and other medicinal plants.
Páramo de las Ovejas – Tauso Regional Natural Parks ⁹⁰	Colombia, in the department of Nariño, in the municipalities of Pasto, Tangua, and Funes. It is located in the La Cocha Patascoy páramo complex.	150	Restore and preserve the ecological integrity of the natural ecosystems of páramo, subpáramo, high Andean forest, and wetlands present in the Páramo Ovejas-Tauso, which is a strategic corridor for Andean and Amazonian piedmont biodiversity in the region. Generate social ownership of the knowledge and processes developed with side the protected area to maintain	It is home to high mountain ecosystems that are bioclimatically influenced by the conditions of the Andean-Amazonian slope, generating hydrological and climatic characteristics of both the eastern slope of the mountain range and the páramos. It has a regulatory function for water resources, maintaining biological diversity and human populations settled in the area of influence.	Agriculture, livestock, charcoal production, firewood extraction, contamination of water sources.

⁸⁹ National Natural Parks of Colombia. n.d. Orito Ingi Ande Medicinal Plant Sanctuary. Accessed February 11, 2021, at <https://www.parquesnacionales.gov.co/porta/es/parques-nacionales/santuario-de-flora-plantas-medicinales-orito-ingi-ande/>

⁹⁰ CORPONARIÑO. n.d. Páramo de Las Ovejas – Tauso “Towards a new protected area in southwestern Colombia.” Summary document. Accessed February 11, 2021, at <https://corponarino.gov.co/wp-content/uploads/2019/06/Documento-Sintesis-PNR-p%C3%A0ramo-de-las-Oveja-Tauso-para-lAvH-1.pdf>

Protected area	Location	Area (km ²)	Purpose of creation / Conservation values	Main characteristics	Main threats
			biodiversity and its ecosystem services. Recover traditional knowledge to strengthen the cultural identity of the communities settled in its area of influence.		
National Protected Forest Reserves Laguna La Cocha Cerro Patascoy ⁹¹	Colombia, in the department of Nariño, in the municipality of Pasto.	499.05	No information	Laguna La Cocha receives rivers and streams that give rise to the Guamués River, an important tributary of the Putumayo River. It provides key environmental services for the population in the area of influence: water supply, food supply, energy resources for the local population, and medicinal products. It is home to sacred sites for the Quillacingas and Pastos ethnic groups.	Deforestation and expansion of the agricultural frontier.
Isla de la Corota Flora and Fauna Sanctuary ⁹²	Colombia. It is located in La Laguna de la Cocha, in the department of Nariño, municipality of Pasto, in the district of El Encano.	0.16	To conserve the Andean insular lake forest and the reed bed associated with Isla de la Corota, within the framework of regional environmental management and as a setting for the development of educational and research processes that contribute to maintaining the ecological	It is part of the important and complex environmental system of the Laguna de la Cocha. In addition, the site is a source of energy recognized by indigenous peoples and traditional doctors in Putumayo. It is also an important pilgrimage site for Catholics, especially during the Feast of Our Lady of Lourdes.	Natural threats: Loss of forest cover and landslides Anthropogenic threats: Inadequate flood control and drainage of wetlands to adapt areas for production, mainly in the northeastern part; invasion and over exploitation of wetlands; deforestation and removal of tree vegetation; Contamination of water resources in the lake and streams due to the disposal of wastewater, solid waste, agrochemicals, fumigation of illicit crops, and the

⁹¹ CORPONARIÑO. 2015. Determinants and Environmental Issues for Land Use Planning. Accessed February 11, 2021, at <https://corponarino.gov.co/expedientes/planeacion/DOCUMENTO%20DETERMINANTESDICIEMBRE2015.pdf>

⁹² National Natural Parks of Colombia. n.d. Isla de la Corota Flora Sanctuary. Accessed February 12, 2021, at <https://www.parquesnacionales.gov.co/porta/es/ecoturismo/region-andina/santuario-de-flora-y-fauna-isla-de-la-corota/>

Protected area	Location	Area (km ²)	Purpose of creation / Conservation values	Main characteristics	Main threats
			<p>integrity of the RAMSAR Laguna de La Cocha wetland. Maintain the natural conditions in the Isla de la Corota SF through the regulation of ecotourism activities, as a conservation and environmental education strategy that contributes to the sustainable management of the Laguna de La Cocha RAMSAR wetland.</p>	<p>It is the smallest protected area in Colombia.</p>	<p>exploitation of drag material in the Sibundoy Valley, as well as hunting. Socioeconomic threats: Incursions by armed groups, which affect the management of the protected area.</p>

Annex 5. WCS Environmental Mitigation Report (EMR) format.

Environmental Mitigation Report (EMR)

PART 1: COVER PAGE

The purpose of this form is to identify the environmental impacts associated with the activities carried out during the subproject, support the definition of appropriate mitigation measures, and monitor the implementation of those measures.

The form and associated reports must be completed by the subproject as appropriate based on its regulations and requirements, and by donor representatives with oversight responsibilities.

Status of compliance with mitigation and monitoring measures:

Yes No The initial EMR describing the mitigation plan is attached.

Yes No The annual EMR describing the status of mitigation measures has been established and attached.

Yes No Certain mitigation conditions could not be met, and corrective measures have been planned in the EMR.

The initial report and annual updates on environmental impacts and associated mitigation measures must be approved by the Project Management Unit.

Part 2. Outline for the narrative report on environmental mitigation

This report must be completed before the activity is implemented and updated.

1. Background, justification, and expected results:

2. Description of the activity:

3. Environmental reference:

4. Assessment of the potential environmental impact of the activities (Table 2):

5. Environmental mitigation measures (Tables 2 and 3):

Part 3-A. Environmental assessment form (Table 1)

Name of activity: Objective of the proposal Implementing Organization: Date:		Yes	No	If the answer is Yes, the risk is:	
				High	Medium
Impact on Natural Resources and Communities					
1	Will the project involve the construction of any type of structure (building, dam, etc.)?				
2	Will the Project involve the construction or reconstruction of roads or trails?				
3	Will the Project involve the use, or planning or training in the use, of any chemical compounds such as pesticides, herbicides, paints, varnish, etc.?				
4	Will the Project involve the construction or repair of irrigation systems?				
5	Will the Project involve the construction or repair of fish ponds?				
6	Will the Project involve the disposal of used motor oil?				
7	Will the Project involve the implementation of timber management ⁴ or the extraction of forest products?				
8	Are there any potentially sensitive terrestrial or aquatic areas near the Project site, including protected or conservation areas?				
9	Does the activity have an impact on wildlife (fish, turtles, etc.), forest resources, or wetlands?				
10	Will the proposed activities generate solid, liquid, or gaseous waste in the air?				
11	Will the waste generated during or after the project have an impact on nearby surface or groundwater?				
12	Will the activity result in the clearing of forest cover?				
13	Will the activity contribute to soil erosion?				
14	Is the activity incompatible with existing land use in the surrounding area?				
15	Will the activity result in the displacement of homes or households?				
16	Will the activity affect unique geological or physical characteristics?				
17	Will the activity change the quantity or availability of surface water anywhere?				
18	Will the activity affect natural forests, wetlands, or savannas?				
19	Will the activity expose people or property to flooding or flash floods?				
20	Will the activity contribute to a substantial reduction in the amount of groundwater that would otherwise be available for public water supply?				
21	Will the activity generate unpleasant odors?				
22	Will the activity affect air quality?				
LOCAL PLANNING PERMITS					
23	Does the activity involve infrastructure improvements that require planning permits?				

	<i>Name of activity: Objective of the proposal</i> <i>Implementing Organization:</i> <i>Date:</i>	Yes	No	<i>If the answer is Yes, the risk is:</i>	
				High	Medium
				24	<i>Do the infrastructure improvements planned for the activity comply with the National Building Code?</i>
25	<i>Is the activity incompatible with the current use of the land?</i>				
ENVIRONMENT, HEALTH, AND SAFETY IN THE COMMUNITY					
26	<i>Will the Project activities create conditions that favor the increase of water-related or vector-borne diseases?</i>				
27	<i>Has a maintenance plan been submitted for road rehabilitation and water and sanitation subsidies?</i>				
28	<i>Will the activity create hazards or barriers for pedestrians, motorists, or persons with disabilities?</i>				
29	<i>Will the activity increase existing noise levels?</i>				
30	<i>Will the project involve the disposal of syringes, gauze, gloves, or other medical waste that poses a biological hazard?</i>				

1. Construction projects should be reviewed for scale, intended use, building code requirements, and maintenance. Some small construction projects, such as the construction of a park entrance sign, may require simple mitigation measures, while larger buildings will require more thorough review and monitoring.
2. The construction of new roads and trails will require a comprehensive environmental assessment of the proposed construction.
3. The intended use of pesticides will necessitate the development of a supplemental initial environmental review that complies with government and donor procedures regarding pesticides.
- 4 Any activity involving tree cutting or forest conversion will require a comprehensive environmental assessment of the activity.

Part 3-B. Identification of Mitigation Plan (Table 2)

à This form must be completed for any activity that requires a check mark in column A of Table 1 above. Complete a separate table for each activity describing mitigation measures to reduce or eliminate the identified problem.

#	Subactivity and Subcomponent	Description of impacts	Mitigation Measures

Recommended Actions (Check the Appropriate Action)

(Check)

(a) The project does not have the potential to cause substantial adverse effects on the environment. No further environmental assessment is required.	
(b) The project is unlikely to cause substantial adverse effects on the environment; however, the recommended mitigation measures will be incorporated into the design of the activity. No further environmental assessment is required.	

(c) The project has substantial but mitigable adverse effects on the environment, and the necessary measures to mitigate these effects will be incorporated.	
(d) The project has potentially substantial or significant adverse environmental effects, but further analysis is required to reach a conclusion. An environmental assessment will be prepared.	
(e) The project has potentially significant adverse effects on the environment, and it is necessary to review the design or location of the project or develop new alternatives.	
(f) The project has substantial and irreparable adverse effects on the environment. Mitigation measures are insufficient to eliminate these effects, and there are no viable alternatives. Project financing is not recommended.	

Part 3-C. Environmental monitoring and evaluation tracking table (Table 3).

Project Type:	
Project Name:	
Project Implementer:	
Places of Implementation:	
Beneficiaries:	
Communities affected:	
Project Managers:	Reporting dates:
Reporting period:	

Description of mitigation measure	Responsible for implementation	Monitoring			Estimated cost	Results			Adjustments and recommendations
		Indicator	Reading method	Frequency		Monitoring dates	Problems encountered	Mitigation Actions	

Annex 6. Terms of Reference for the Project Management and Support Unit (PMU) team.

Annex 7. Process Framework.

Annex 8. Indigenous Peoples Planning Framework.

Annex 9. Stakeholder Participation Plan.

Annex 10. Labor Management Plan (LMP)

Annex 11. Waste Management Plan (WMP)

Annex 12. Occupational Health and Safety (OHS) Measures

Annex 13. World Bank Environment, Health, and Safety Guidelines (GMASS)