



Technical Report

Actors Workshop for the Conservation of Darién

*Outlining a collective vision for the
preservation of the province of Darién*



Programa
Pequeñas
Donaciones
del FMAM



Panama City - October 08, 2019

PARTICIPANTS IN THE ACTORS WORKSHOP FOR THE CONSERVATION OF DARIÉN

Panama City “Hotel Le Meridien”
Tuesday, October 8, 2019



ADOPTA, AMEDAR, ALAMANQUE AZUL, ARVITA, ASOCIACIÓN NACIONAL PARA LA CONSERVACIÓN, AUTORIDAD MARÍTIMA DE PANAMA, BIODIVERSITY CONSULTANT BIODIVERSITY CONSULTANT GROUP, CANOPY TOWER, CEASPA, CIAM, CENTRO PASTORAL DE SANTA FE, CONADES, ESTRUCTURAS SOSTENIBLES, FUNDACIÓN NATURA, FUNDACIÓN NATURALEZA Y CIENCIA 507, FUNDESPA, FUNDACIÓN PRO-CONSERVACIÓN DE LOS PRIMATES PANAMEÑOS, FUNDACIÓN PRO NIÑOS DEL DARIÉN, FUNDACIÓN RAPACES Y BOSQUES DE PANAMÁ, GEOAZUL, GEMAS, INICIATIVA DE CAPACITACIÓN Y LIDERAZGO AMBIENTAL, MINISTERIO DE DESARROLLO AGROPECUARIO, MINISTERIO DEL AMBIENTE, MINISTERIO PÚBLICO – FISCALÍA AMBIENTAL, MUNICIPIO DE PINOGANA, PARQUE MUNICIPAL, PROGRAMA DE LAS NACIONES UNIDAS PARA EL DESARROLLO, PROGRAMA DE PEQUEÑAS DONACIONES, RAIN FOREST FOUNDATION US, RAMSAR REGIONAL CENTER – CREHO, RED DE RESERVAS NATURALES PRIVADAS, SOCIEDAD AUDUBON DE PANAMÁ, SOCIEDAD MASTOZOLÓGICA DE PANAMÁ, THE PEREGRINE FUND, UNIVERSIDAD DE MCGILL, UNIVERSIDAD DE PANAMÁ, WETLANDS INTERNATIONAL, FUNDACIÓN YAGUARÁ PANAMÁ and ONEN.

WORKSHOP FACILITATOR:

Aris Delgado
Independent consultant
Email: aristours3@gmail.com

WORKSHOP COORDINATION:

José de Jesús Vargas González
The Peregrine Fund
Fundación Rapaces y Bosques de Panamá
Email: vargas.jose@peregrinefund.org | jvargas.gonz@gmail.com

WRITTEN REPORT BY:

Aris Delgado

REPORT EDITED AND DESIGNED BY:

José de Jesús Vargas González

F. Hernán Vargas
The Peregrine Fund
Email: hvargas@peregrinefund.org

Marta Curti
The Peregrine Fund
Email: mcurti@peregrinefund.org

David L. Anderson
The Peregrine Fund
Email: landerson@peregrinefund.org

Munir Virani
The Peregrine Fund
Email: mvirani@peregrinefund.org

Beatriz Schmitt
Programa de Pequeñas Donaciones, UNDP/GEF
Email: beatriz.schmitt@undp.org

Alexander Montero
Ministerio de Ambiente de Panamá
Email: amontero@miambiente.gob.pa

Carmen de Atencio
Ministerio de Ambiente de Panamá
Email: catencio@miambiente.gob.pa

TRANSLATORS: Marta Curti y Sarah Chapman

SUGGESTED CITATION:

Delgado A., J. de J. Vargas González, F. H. Vargas, M. Curti, D. L. Anderson, M. Virani, B. Schmitt, A. Montero & C. de Atencio. 2019. Actors Workshop for the Conservation of Darien / Taller de actores para la conservación de Darién. The Peregrine Fund, Ministerio del Ambiente, Programa de Pequeñas Donaciones del PNUD/GEF, Fundación Rapaces y Bosques de Panamá. Hotel Le Meridien, Ciudad de Panamá, Panamá. Pp. 72.

Cover and content photographs by: Kike Arnal, Munir Virani, Darisnel Carpio, David Bejerano y José de Jesús Vargas González.

VISION

Promote a space of synergy where national and international institutions and organizations will present their thoughts, knowledge and dreams to develop ideas of collaborative work to project and develop long-term management and conservation actions to protect the biodiversity of the province of Darién considering integral development from local communities.

EXECUTIVE SUMMARY

Forest preservation is the responsibility of all mankind, but despite growing international interest in sustainable forest management, tropical forests remain the most threatened ecosystems worldwide. The Province of Darién, Panama has one of the largest and most diverse forest areas in Central America. It houses thousands of species of plants and animals and is home to ancestral indigenous communities and other ethnic groups. It has a high degree of endemism and fragile species assemblages. Unfortunately, Darién currently faces a high rate of deforestation and other threats that require the consolidation of joint efforts and coordination of actions to achieve long-term sustainable conservation and development goals.

The Ministry of Environment (MiAMBIENTE) of Panama, The Peregrine Fund, the UNDP / GEF Small Grants Program and the Raptors Research and Forests Foundation of Panama joined forces to host the Actors Workshop for the Conservation of Darién (AWCD), in order to create a framework for a collective vision that will identify threats, strategies and high impact sustainable projects for the conservation of the Darién forest, taking into account the social, cultural, economic and environmental values that guarantee the preservation of biodiversity for the benefit of present and future generations. The specific objectives of the workshop were: (1) promote teamwork and create a space for communication and coordination between national and international actors that are interested in the development and preservation of Darién, through the implementation of long-term, sustainable programs, (2) identify conservation priority areas, the main environmental problems, and high impact sustainable projects for biodiversity preservation and the benefit of the local communities of Darién; and (3) analyze strengths, weaknesses, threats and opportunities for the collaborative implementation of sustainable projects in those areas identified as conservation priorities.

The actors interested in the conservation of Darién contributed in two phases. First, they filled out an electronic survey before the workshop and, second, they participated in the workshop held on October 8, 2019 at the Le Meridian Hotel in Panama City. The 31-question electronic survey was sent by email and filled out by 81 persons. Results were validated by 76 participants during the workshop. Work groups were formed to identify and prioritize threats, and to identify priority areas and high impact projects as palliative measures to the problems identified. A high impact project was defined as “one that provides positive results to the environment, the society and the local economy in the long term and one that can be easily implemented by local people.” The results at the workshop were compiled by the facilitator and an assistant secretary. The report was reviewed and edited by technical staff of the organizing institutions.

The following are the main results of the workshop:

- 81 guests filled out the electronic survey. 76 of these participated directly in the workshop on October 8. Participants represented seven governmental organizations and 33 national and international non-governmental organizations (NGOs). 82% of the participants are carrying out projects in Darién that are focused on conservation, research, community development, training and education. 41% of these are considered short-term (<1 year), 20% medium-term (1-3 years) and 39% long-term (> 3 years). There is a need to increase the number of long-term projects.
- The five main threats to the conservation of Darién's biodiversity are: (1) overexploitation of natural resources, (2) degradation and loss of habitat, (3) climatic change, (4) loss of biodiversity and changes in soil use, (5) economic and social injustice affecting the local population. These threats mainly affect the natural integrity of the ecosystem.
- The projects executed by the actors in Darién are mainly trying to mitigate the following threats: (1) degradation and loss of habitat, (2) changes in soil use and the loss of biodiversity, (3) climate change and the extinction of species, and (4) the overexploitation of natural resources. Their focus is mainly on the biological and ecological issues. There is a lack of comprehensive projects aimed at reducing economic and social inequity.

- The actors recommended a list of 57 actions (see list of actions in report) to mitigate each of the identified threats and ensure the long-term preservation of Darién. Of the total actions listed, 25 relate to economic, educational, social and governance improvement projects at local and provincial levels.
- The workshop focused specifically on conservation actions for eight river basins identified by MiAMBIENTE. Participants indicated that they work mainly in Río Chucunaque (n = 29), Río Tuira (n = 28) and Río Santa Bárbara (n = 24) basins, while only seven (n = 7) work in Río Jurado. These differences relate mainly to the ease of access to these rivers; hence a greater number of projects are done in those with easier access.
- The three river basins identified as having the highest conservation priority were the Chucunaque, Tuira and Tucutí Rivers. The Río Jurado basin was considered of lower priority. Access to natural resources through better means of communication (roads, more navigable rivers, etc.), their inadequate use and overexploitation are possibly the factors that lead to these regions being ranked as high priority areas.
- An analysis of Strengths, Opportunities, Weaknesses and Threats (SOWT) was carried out for each of Darién's eight river basins, and three to five high impact projects were identified for each of them.
- Related to 14 Sustainable Development Goals (SDGs), developed by United Nations Development Program (UNDP), the actors confirmed that their projects have a greater impact on the following objectives: a) SDG # 15 Life of Terrestrial Ecosystems - to protect, restore and promote the sustainable use of terrestrial ecosystems, create a sustainable forest management plan, fight desertification, stop and reverse soil degradation and curb the loss of biological diversity, b) SDG # 17 Alliances to Achieve Goals - strengthen the implementation of and revitalize the global alliances for sustainable development, and c) SDG # 12: Responsible Production and Consumption - ensure sustainable production consumption and modalities. Current projects in Darién are focused mainly on terrestrial ecosystem projects, and there is a lack of effort in coastal areas, marine habitats, rivers and wetlands. Participants recognize a need to create strategic alliances for sustainable development.
- René López, a PNUD and MiAMBIENTE specialist, gave a presentation on "The Carbon Market: What is it and how does it work?" He reviewed types of carbon markets, REDD + mechanism, prices and evaluation of the carbon market in Panama including the associated legislation. Additionally, participants identified some strategies to ensure that communities fulfill and maintain any commitments made with sponsors and with themselves for the implementation of projects with carbon components (see report).
- Participants made a list of potential sources of funding for projects in Darién and a developed a strategy to access them. The list includes 18 national organizations, institutions and companies, 22 international organizations, plus 17 funds and other sources.

The workshop met the proposed objectives and it, along with this report, are tools to aid in the development of sustainable projects in Darién, with criteria and objectives in the social, environmental and economic fields. The workshop provided a space for knowledge-sharing and communication between the main national and international actors, allowed for the setting up of collaborative networks, developed a collective vision with common objectives, and created opportunities for collaborative work in the conservation of biodiversity in the Darién Province and the socio-economic development of local human communities. This final report will be published and delivered digitally to each of the participants in Spanish and English.

ACKNOWLEDGMENTS

We thank all the actors who participated and contributed their time and knowledge to enrich the content of this workshop, as well as their respective organizations and institutions. We extend special thanks to the workshop facilitator, Lcda. Aris Delgado, for her invaluable work before, during, and after the development of the event. To Dr. Dimas Arcia of MiAMBIENTE, Beatriz Schmitt of SGP and Rene López of MiAMBIENTE/UNDP for their presentations and participation. Likewise, we thank Darisnel Carpio, David Bejerano, Marta Curti, Pilar Fontova, Jorge Garcia and Alexander Montero for their cooperation in conducting the workshop.

We extend particular thanks to the donors of The Peregrine Fund including U.S. Fish and Wildlife Service (USFWS), Ministry of Environment of Panama (MiAMBIENTE), Minera Panamá S.A. (MPSA), Small Grant Program (SGP), Greater Los Angeles Zoo Association, Disney Conservation Fund, Wold Creek Charitable Foundation, Robert Wood Johnson Charitable Trust, and Grupo Alice Panamá.

TABLES OF CONTENTS

1. OBJECTIVES.....	10
1.1. General objective for the conservation of Darién.....	10
1.2. Specific objectives.....	10
2. METHODOLOGY.....	11
Phase 1: identification and call for participants.....	11
Phase 2: Preparation, application and analysis of online survey	11
Phase 3: AWCD Development.....	11
Phase 4: Dissemination of results.....	13
3. PARTICIPATING ACTORS	14
3.1 Background of the principal actors: origin, academic training and scope of work	14
3.2 Types of projects, size, time period and the focus of the work carried out in Darién.	15
3.2.1 Environmental Preservation	17
3.2.2 Community	18
3.2.3 Training and Education	19
3.2.4 Research	19
3.3 Impact of organizational activities in Darién, in relation to the Sustainable Development Goals (SDGs)	20
4. COLLECTIVE VISION FOR THE CONSERVATION OF DARIÉN	22
4.1 Threats to Biodiversity in the Province of Darién	22
4.1.1 Level of impact of biodiversity threats identified for Darién	22
4.1.2 Other threats identified by the actors	23
4.1.3 Threats that actors are trying to mitigate in Darién	24
4.2 Proposals for actions that Darién's key actors recommend to ensure short, medium- and long-term conservation	24
4.3 Preservation Actions for the Darién hydrographic basins	26
4.3.1 Description of the Darién hydrographic basins	26
4.3.2 Priority of preservation of hydrographic basins according to key actors.....	28
4.4 Current situation of the Darién hydrographic basins in accordance with the collective vision of key actors in Darién	28
4.4.1 Hydrographic Basin No. 152: Santa Barbara River and between the Santa Barbara River and the Chucunaque River	29
Threat Prioritization	29
Sustainable high impact projects.....	29
SOWT diagnosis - CH No. 152	30

<i>4.4.2 Hydrographic Basin No. 154: Chucunaque River</i>	31
Threat Prioritization	31
Sustainable high impact projects.....	32
SOWT diagnosis - CH No. 154	33
<i>4.4.3 Hydrographic Basin No. 156: Tuira River</i>	34
Threat Prioritization	34
Sustainable high impact projects.....	34
SOWT diagnosis - CH No. 156	35
<i>4.4.4 Hydrographic Basin No. 158: Tucutí River</i>	36
Threat Prioritization	36
Sustainable high impact projects.....	36
SWOT diagnosis - CH No. 158	37
<i>4.4.5 Hydrographic Basin No. 160: Between the Tucutí River and Sambú River</i>	38
Threat Prioritization	38
Sustainable high impact projects.....	38
SWOT diagnosis - CH No. 160	39
<i>4.4.6 Hydrographic Basin No. 162: Sambú River</i>	40
Threat Prioritization	40
Sustainable high impact projects.....	40
SWOT diagnosis - CH No. 162	41
<i>4.4.7 Hydrographic Basin No. 164: Between Río Sambú and Jurado</i>	41
Threat Prioritization	41
Sustainable high impact projects.....	41
SWOT diagnosis - CH No. 164	42
<i>4.4.8 Hydrographic Basin No. 166: Río Jurado</i>	43
Threat Prioritization	43
Sustainable high impact projects.....	43
SWOT diagnosis - CH No. 166	44
5. CARBON MARKET	45
<i>5.1 What it is and how does it work?</i>	45
<i>5.2 Voluntary carbon market</i>	46
<i>5.3 Carbon Market in Panama</i>	46
<i>5.4 Proposals for strategies to ensure that communities meet and maintain commitments to carbon projects</i>	47

6. STRATEGIES TO ACCESS FUNDING SOURCES	49
6.1 <i>List of potential sources of financing to implement projects in Darién</i>	49
6.2 <i>Methodology and strategies to access funding sources</i>	49
8. CONCLUSIONS	52
9. ANNEXES.....	54
9.1 <i>List of actors who participated in the Workshop on October 8, 2019.</i>	54
9.2 <i>Agenda developed and executed during the AWCD</i>	57
9.3 <i>Members of the Working Groups by river basin</i>	58
9.4 <i>Electronic Survey Sheet</i>	59
9.5 <i>List of threats prioritized by Hydrographic Basin</i>	64
9.6 <i>Event Photographs</i>	66

1. OBJECTIVES

1.1. General objective for the conservation of Darién

- Restore and preserve Darién's ecosystems by involving local communities, government entities and national and international organizations in sustainable actions (economic, social and environmental areas).

1.2. Specific objectives

1. Promote a space for teamwork, communication and coordination between national and international actors interested in the preservation of Darién, through the implementation of long-term and sustainable programs.
2. Identify priority areas, the main environmental problems affecting them, and sustainable high impact projects for the preservation of the biodiversity and the benefit of the local communities in Darién.
3. Analyze strengths, weaknesses, threats and opportunities for the collaborative implementation of sustainable projects in the areas identified as priorities.

2. METHODOLOGY

To achieve the established objectives and obtain the expected results of the collective vision for biodiversity preservation in the province of Darién, the planning included four (4) phases or stages with different actions, such as technical meetings via Skype and face to face meetings with the organizer of the actor's workshop (AWCD), which are detailed below:

Phase 1: identification and call for participants

In this phase, specialists and professionals from national and international non-governmental organizations, private companies, government institutions and local authorities, who work or have worked in Darién, were recognized as having projects aimed at the preservation and sustainable development of Darién. To identify these actors, the UNDP/GEF Small Grants Program (SGP) generated a preliminary list which was augmented with research and recommendations from other actors. An invitation letter was prepared with the date, place, objectives and expected results of the workshop. These invitations were sent electronically one month before the workshop, and each week we followed up to confirm the invitees' participation.

Phase 2: Preparation, application and analysis of online survey

The online survey served as an initial introduction to those individuals identified as key players in the conservation of Darién. The survey was sent electronically at least 30 days prior to the workshop. The survey aimed to collect institutional information (name, type of organization [private or governmental], year created, vision, mission, objectives, focal area of work [biological sciences, education, social, economic, cultural, other], geographic area [local, regional, national, international], etc.), projects under execution or planned (impact measure), type of ecosystems where they are developed, specific region where they are managed in Darién (community, district, etc.), project duration, and source of financing (local, international). Finally, the survey was designed to identify and prioritize specifically the environmental problems that threaten Darién's biodiversity and the recommended mitigation actions.

A week before the AWCD, the data obtained from the online survey was tabulated and analyzed and the results were given in a PowerPoint presentation on the day of the workshop.

During the AWCD, 41 participants who had not completed the online survey were able to complete it in person. The information obtained was incorporated into the results.

Phase 3: AWCD Development

Prior to the workshop, project coordinators had prepared all the materials, printed required reference documents, and set up all necessary equipment and furniture. During the workshop, staff was present to receive the guests, and a coordinator, facilitator, speakers and support from external technicians and the Ministry of Environment were on hand.

The online survey was printed and reproduced in several copies, so that it could be completed by those participants who could not complete it prior to the workshop.

The workshop started as scheduled with most of the invited participants in attendance. Engineer Dimas Arcia, Director of Protected Areas and Wildlife of the Ministry of Environment gave the opening remarks. He emphasized the importance of understanding that Darién is a complex, interesting region, with a variety of different actors, and that we

should keep trying to understand the dynamics of the area in order to meet our goals and develop joint actions and efforts for its conservation.

The workshop facilitator introduced the participants, after which Beatriz Schmitt, National Coordinator of the Small Grants Program, presented the results obtained from the online survey, which was filled out by 40 persons from different organizations and institutions prior to the workshop. These results are included in different sections of this report, so that they can be understood and analyzed in a clearer way, so to better understand the collective vision of all the participating actors working for the conservation of Darién's biodiversity.

After the results of the online surveys had been presented, the workshop facilitator explained the procedures for the breakout sessions in which participants would work in groups to help form a collective vision for the preservation of Darién's biodiversity, and the expected results. Each workgroup was assigned a different hydrographic basin to focus on.

The participants were divided into 5 groups. Three of these groups were then divided into subgroups. The subgroups would work with the hydrographic basins with less conservation intervention. In summary, 8 groups were formed, where the participants were randomly distributed by hydrographic basin. The basins with the largest interventions had more participants and the ones with less intervention had fewer participants. In some cases, if a participant had personal knowledge about one of the basins, he or she supported other groups.

Each group was given a folder containing:

- a sheet summarizing the results of the online surveys as they related to the threats identified in each river basin
- a map of the Province of Darién, which included the divisions of the river basins.
- guidelines to listing high impact sustainable projects
- guidelines to carrying out the ranking of high impact sustainable projects with specific criteria.
- guidelines for identifying funding sources, methodology and strategies to access the funds.

Due to the number of participants, the workshop facilitator set a time limit in which participants needed to complete the group work. During these breakout sessions, the discussions and analyses at each worktable were gradually adjusted to the allotted time, without compromising the maximum time allowed. For the Plenary Meeting each group assigned a rapporteur, who was also given a time limit to present each topic. Time was also given for questions and answers.

It is important for us to mention the support and cooperation given by all participants who worked to complete their tasks within the allotted time. This was very important since it allowed all aspects of the agenda to be completed.

Finally, 4 working groups were formed:

Working Group 1:

Each group was to review the threats identified for their assigned river basin and use those of greatest impact to identify and prioritize sustainable high-impact projects to mitigate the effects of threats to biodiversity.

Working Group 2:

Each group was to make a quick and effective diagnosis of strengths, opportunities, weakness, and threats (SOWT) to get to know the context of each basin for the implementation of high impact projects by Hydrographic Basin.

Working Group 3:

After the presentation, "Carbon Market," by Engineer Rene López of the UNDP Climate Change Program, the groups were asked to identify potential sources of financing through carbon credit swap in order to implement sustainable projects in Darién and the related viability, difficulties, challenges, methods, etc.

At the conclusion of the workshop, the workshop facilitator thanked all participants for the time they took to attend this important meeting and for staying for the entire program. They were told that once the results of the surveys and workgroups were collected and analyzed, the workshop technical report would be sent electronically. The report will enable them to understand the collective vision for the preservation of the biodiversity of Darién and will help them to redirect their actions. The workshop concluded with the closing words of José de Jesús Vargas González and F. Hernan Vargas of The Peregrine Fund.

Phase 4: Dissemination of results

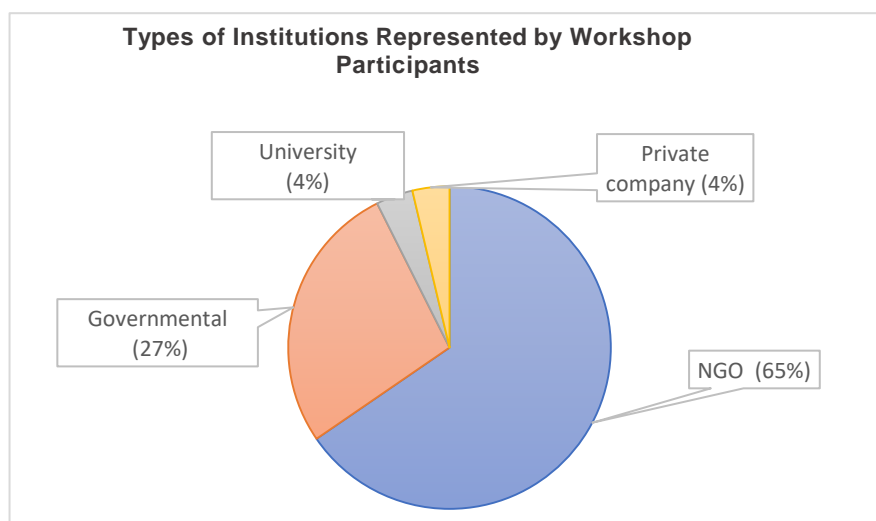
After the workshop, the Technical Report of the Actors Workshop was prepared and reviewed in Spanish and English. This report will be delivered to all the actors participating in the workshop and to those who filled out the surveys who, due to different circumstances, were not able to attend the workshop.

3. PARTICIPATING ACTORS

Workshop participants played a key role in the process of building the collective vision for the preservation of Darién. The results of the online and written surveys showed that workshop participants had varying backgrounds and represented many different non-governmental organizations, government institutions, private companies and others, but shared a common element - their work in Darién carrying out or promoting sustainable actions in the social, economic, educational, cultural and biological fields. Following is a detail description:

3.1 Background of the principal actors: origin, academic training and scope of work

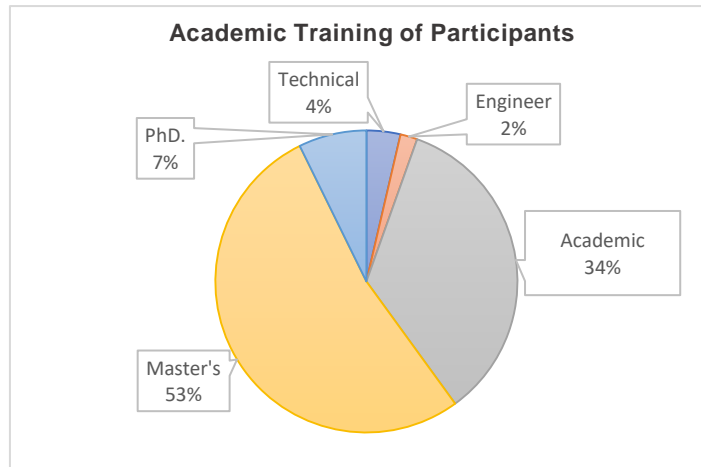
Of the **81 persons** who completed the survey, 53 belong to Non-Governmental Organizations, 22 to Government Institutions, 3 to University Institutions, and 3 to Private Companies. (The total list of participants is provided in the annexes.



The academic training of the key actors was very relevant in regard to their input into the development of the collective vision. Their experience, knowledge and understanding of the current situation in Darién enriched the results of this process. Participating individuals included at least 2 technicians, 1 Engineer, 19 Graduates, 29 Masters and 4 PhDs. Each performs a different function in the organizations or institutions where they work. These functions are:

- Project coordinators
- Social workers
- Directors of institutions
- Environmental consultants
- Community development consultants
- Environmental promoters

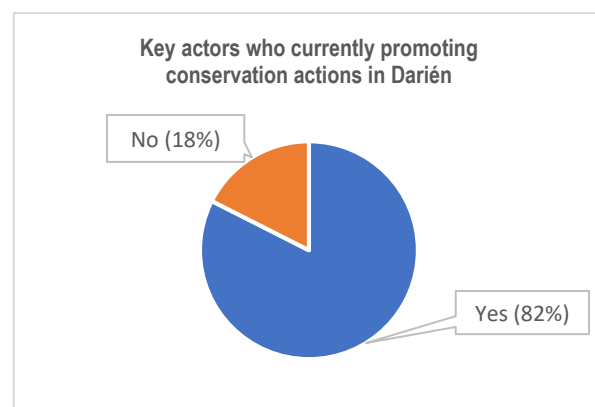
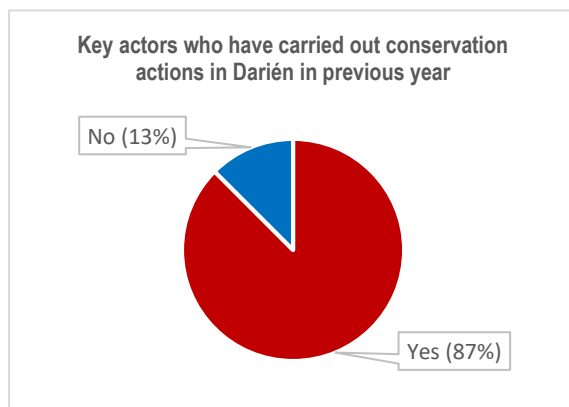
- Community promoters
- Social communicators
- Tourism business managers
- Agronomists
- Administrators
- International Consultants
- Biologists
- Planners
- Community mappers
- Biodiversity technicians
- Ecological tourism specialists
- Administrative assistants
- Forestry technicians



Of these key actors, forty-eight (48) carry out their activities at the national level, and eleven (11) at an international level, which helped provide an important context for the environmental, social and economic situations faced in Darién.

3.2 Types of projects, size, time period and the focus of the work carried out in Darién.

Currently, most of the participating actors have developed or are developing conservation initiatives in Darién.



The main types of projects executed by the key actors in Darién related to biodiversity conservation are socio-economic, scientific (research and monitoring), training, and informal environmental education.

[illegible]

- Administration of environmental resources
- Training, community mapping and empowerment of indigenous communities to defend their territories
- Ecological connectivity
- Preservation and sustainable use of natural resources
- Forest preservation
- Preservation of forests in natural regeneration
- Preservation and protection of natural ecosystems
- Coordination of forest fire fighters
- Human rights
- Community development
- Development of sustainable tourism (guides, lodging, bird watching tours)
- Sustainable development
- Formal education
- Entrepreneurship
- Establishment of wildlife farms (zoocriadero)

- The National Small Grants Program's (SGP) Strategic Operative 7 (OP7)
- Strengthening of Community-based Organizations (CBO) - support these organizations to help obtain their legal status with MiAMBIENTE and carry out their projects
- Grants: non-reimbursable funds for CBOs and NGOs
- Housing information survey
- Solid waste management
- Monitoring with camera traps and placement of GPS collars
- Citizen participation (volunteering)
- Municipal plans for the improvement of the preservation and rescue of cultural values
- Environmental planning and management
- Seedling production in nurseries
- Organic production
- Recycling
- Reforestation
- Basic Sanitation
- Scientific tourism

Technical Report: Actors Workshop for the Conservation of Darién (AWCD) - 16

- Strengthen the knowledge and skills of local decision-makers in order to promote forest restoration to conserve Harpy Eagle habitat and at the same time improve their own livelihoods through more sustainable agriculture.
- Buy new lands with the objective of increasing the preservation area of the reserve and increase patrolling and monitoring (protection) under an agreement with Rainforest Trust and the International Union for the preservation of Nature (IUCN) – Holland.
- Consolidate achievements and results of SGP projects, exchanges and dissemination, including gender and youth issues in sustainable development and preservation.
- Environmental investments for the preservation of Darién National Park.
- Preparation of the preservation plan for the Darién National Park using the “Open Standards - Alliance for Preservation Measures (IUCN-CMP)” methodology.
- Committees - strengthening of river basin committees in order to preserve all-natural water tributaries through prevention of contamination by agrochemicals and soil burn issues.
- Climate smart agroecology.
- Low carbon energy.
- Environmental management of chemical products and hazardous wastes.

3.2.2 Community

- A mature forest observatory developed with local participation and where the technicians are Emberá.
- Community initiatives for biodiversity preservation, solid and chemical waste management, climate smart agroecology and low carbon energy.
- Due to the relationship between the communities and the Private Reserve of Punta Patiño, environmental education talks are held in the schools and beach cleaning activities are organized.
- Production of seedlings for the Regional University Center of the University of Panama in Darién (CRUD), communities, public institutions, private companies and local producers.
- Rainwater harvesting system for nurseries.
- Workshops with local women from the three ethnic groups to identify social and economic problems in Darién and develop a plan of action according to the priorities established by the participants.
- Installation of a collection center at the facilities of the Regional University Center of Darién for the recycling of plastic bottles (PET1) with the participation of institutions and communities.
- The University of Panama has updated its “café jurídico” program for law students.
- Form a group of regional dancers, the purpose of which is to preserve cultural values - especially dance.
- Research activities, environmental education, local leadership training, community empowerment, socio-economic projects, increasing the formal education of the population.
- Recovery of the traditional and ancestral culture of the Emberá community through the restoration of its forests.
- Community education on environmental issues.
- Community organization and planning; socio-economic and environmental diagnoses, and others.
- "Opportunity Transfer Project" - this project consists of offering seed capital to low-income producers in order to establish a poultry or livestock project, which the Ministry of Agricultural Development (MIDA) will follow up on for a period of two years.

3.2.3 Training and Education

- A cartography training program for seven communities in Darién in order to develop maps for preservation of the forest community, develop preservation strategies and socio-economic analysis.
- Monthly trainings in communities are aimed at strengthening the administration of justice following institutional guidelines. These trainings identify the highest index crimes, and include talks and workshops as a preventative measure and in support of all members of society.
- Training and technical assistance to parents and teachers in an agroecological farm, as well as measuring public awareness on the importance of reforestation.
- Technical assistance in coordination, logistics, support and communication with local authorities (chiefs, board of directors and local authorities).
- Accompaniment, monitoring and technical assistance for the implementation of environmental projects
- Training in ecological restoration.
- Helping a farmer to practice good environmental habits through technical assistance.
- Formal education to train high level professionals in 13 specialties.
- All farmer associations are encouraged to work in an organized manner and are provided with the basic information needed for each group to create their own organization.
- United Families Program - provides small projects such as family gardens, and a poultry project for broiler chickens (for meat) and laying hens.

3.2.4 Research

- Collection of insects in Darién National Park (DNP) with the aim of learning about the Entomofauna of the region and discovering new taxa for science. This will help increase the ecological value of the region - a very important factor in its conservation and in obtaining economic resources that benefit local human populations.
- Students of the Darién Agricultural Forestry Institute ("Instituto Forestal Agropecuario de Darién") (IFAD) are provided basic training to help them understand the methods used by scientists to document primate populations and calculate their densities. In collaboration with professors from the institute, students receive advice to aid them in carrying out research projects on Darién's primates, habitats, diet and group composition.
- To identify new species of flora and herpetofauna of the Cerro Chucantí Private Nature Reserve (RNPCC). This involves research, student scholarships, and scientific publications in collaboration with Universidad Autónoma de Chiriquí (UNACHI), and the University of Panama for collection of plants.
- The ecological data obtained are being analyzed and compared with those of other studies carried out in Darién
- Generating scientific information with trap camera and GPS radio collars, while doing field observation looking for animal signs, tracks and animal feces. This information is used to sensitize, train and educate the communities in how to make good use of their natural resources and how to handle tools such as camera traps and GPS and to understand the status of animal populations that live around them (state of preservation).
- Research on the practices associated with the management of municipal solid waste in Metetí in homes, shops and institutions in order to propose a management plan.

Small Grants Program (SGP) Actions: The SGP began in Panama in 2006 and, since then, more than 210 projects have been executed for an approximate cost of USD 4.6 million. In Panama, the SGP has focused on working with communities that suffer from social exclusion and are linked to high levels of poverty, working with women and indigenous people, especially in rural areas. Priority has been given to those populations surrounding protected areas (national parks, forest and hydrological reserves), basins and micro-basins of environmental and social importance, marine-coastal areas with high degrees of biodiversity, biological corridors and areas of cultural ethnic value.

3.3 Impact of organizational activities in Darién, in relation to the Sustainable Development Goals (SDGs)

Seventeen (17) Sustainable Development Goals were adopted by all Members of the United Nations in 2015 as a universal call to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030.



In order to assess the impact of activities carried out in Darién by key actors in relation to the Sustainable Development Goals of the United Nations (UN), and as a means to develop the collective vision of Darién, 14 SDGs were identified as being related to these efforts:

A total of 57 people participated in this component. They ranked their actions from least to greatest impact, where 0 is the value that indicates no impact and 5 is the value that indicates the greatest impact. Based on these results, the SDGs most impacted by the actor's projects in Darién are:

No. SDG	Description	Ranking
SDG #15: Life of terrestrial ecosystems	Protect, restore and promote the sustainable use of terrestrial ecosystems, carry out sustainable forest management, fight desertification, stop and reverse land degradation and curb the loss of biological diversity.	27 points
SDG #17: Partnerships to achieve the objectives	Strengthen the means of implementation and revitalize the global partnership for sustainable development	21 points
SDG #12: Responsible production and consumption	Guarantee sustainable consumption and production modalities	20 points

The SDGs that least impact the activities of the actors in Darién are:

No. SDG	Description	Ranking
SDG #14: Underwater Life	Conserve and sustainably use the oceans, seas and marine resources for sustainable development	28 points
SDG #9: Industry, innovation and infrastructure	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	20 points
SDG #12: Quality Education	Ensure inclusive, equitable and quality education and promote lifelong learning opportunities for all	17 points

For further reference, the table of rankings is presented below.

SUSTAINABLE DEVELOPMENT GOAL (SDGs)	Ranking					
	0	1	2	3	4	5
SDG # 15: Life of terrestrial ecosystems	5	5	5	4	9	27
SDG # 17: Partnerships to achieve the objectives	5	4	3	9	11	21
SDG # 12: Responsible production and consumption	9	0	9	8	11	20
SDG # 5: Gender Equality	9	3	2	10	16	13
SDG # 6: Clean water and sanitation	12	5	5	9	7	15
SDG # 12: Quality Education	17	5	5	5	9	13
SDG # 3: Health and well-being	11	7	6	14	5	10
SDG # 11: Sustainable cities and communities	10	4	8	6	15	12
SDG # 16: Peace, justice and strong institutions	12	7	2	10	5	12
SDG # 10: Reduction of inequalities	8	6	12	8	12	10
SDG # 8: Decent work and economic growth	8	7	9	7	15	9
SDG # 2: Zero Hunger	12	6	5	10	8	8
SDG # 9: Industry, innovation and infrastructure	20	5	9	9	3	8
SDG # 14: Underwater life	28	7	4	4	5	6

4. COLLECTIVE VISION FOR THE CONSERVATION OF DARIÉN

4.1 Threats to Biodiversity in the Province of Darién

To identify threats to Darién's biodiversity, we listed 13 threats categorized by IUCN. These were rated according to the level of impact, where one (1) is the value that indicates the least impact and five (5) indicates the greatest impact.

4.1.1 Level of impact of biodiversity threats identified for Darién

Based on the above-mentioned ratings, the main threats to Darién's biodiversity are in the top 5 positions of the following table. To obtain these results, we added together the high (4) and very high (5) impact scores chosen by the actors.

THREATS	ASSESSMENT
Overexploitation of natural resources	52
Habitat loss and degradation	50
Climate change	47
Change in land use and loss of biodiversity	45
Economic and social inequality of the population	44
Loss of cultural values	41
Lack or weak government governance	38
Lack or weak indigenous governance	37
Species extinction	35
Unplanned infrastructure expansion	30
Pollution from chemical waste	25
Hazardous Waste Pollution	23
Invasive species	14

The following table shows the total results of the impact level of threats on biodiversity in Darién:

THREATS	IMPACT LEVEL				
	Little (1)	Low (2)	Moderate (3)	High (4)	Very High (5)
Change in land use and loss of biodiversity	2	1	6	5	39
Habitat loss and degradation	1	1	5	13	37
Overexploitation of natural resources	2	0	3	12	40
Lack or weak government governance	2	10	5	10	28
Economic and social inequality of the population	1	5	6	17	27
Species extinction	1	9	10	13	22
Climate change	1	2	7	19	28
Loss of cultural values	2	0	14	24	17
Lack or weak indigenous governance	1	5	14	20	17
Unplanned infrastructure expansion	6	6	15	14	16
Solid Waste Pollution	1	5	24	11	12
Pollution from chemical waste	5	7	19	14	11
Invasive species	8	10	23	9	5

4.1.2 Other threats identified by the actors

In addition to the threats evaluated according to the IUCN criteria, the key actors consider that in the province of Darién there are other threats that endanger the conservation actions that they wish to develop in the province. These include indiscriminate logging, corruption, illegal immigration, wildlife trafficking and drug trafficking.



Other threats listed by actors:

- Purchase and use of wild animal parts
- Drug trafficking
- Social cohesion
- Illegal immigration
- Corruption
- Social weakness
- Indiscriminate logging
- Incursion of organized crime that harms biodiversity during money laundering activities
- Agricultural loans
- Wildlife trafficking
- Wildlife hunting for consumption
- Property ownership process
- Wood concessions
- Slash and burn
- Loss of identity
- Lack of interest by government authorities
- Infrastructure in education
- Forest fires
- Advance of the agricultural frontier
- Forest fragmentation and isolation
- Land Litigation
- Urbanization
- Lack of institutionality
- Poor intervention in public policies

4.1.3 Threats that actors are trying to mitigate in Darién

Based on the activities currently carried out by the key actors in Darién, the threats they are attempting to mitigate was clear. The following stand out:

THREATS	KEY ACTORS
Habitat loss and degradation	48
Change in soil use and loss of biodiversity	46
Climate change	46
Species extinction	39
Overexploitation of natural resources	34
Loss of cultural values	33
Economic and social inequality among the population	30
Hazardous Waste Pollution	30
Lack of or weak national government performance	21
Invasive species	18
Unplanned infrastructure expansion	18
Pollution from chemical waste	17
Lack of or weak indigenous government performance	17

4.2 Proposals for actions that Darién's key actors recommend to ensure short, medium- and long-term conservation

The proposals presented were grouped according to the IUCN threats. These threats were selected considering the actions proposed by the actors for the conservation of Darién's biodiversity.

Change in soil use and loss of biodiversity

- Soil management and preservation strategy.
- Reforestation projects that have a minimum duration of five years.
- Formation of human resources through capacity-building and training in forestry activities.
- Creation of a center for biodiversity in Darién that promotes research, education and preservation.

Unplanned infrastructure expansión

- Development of the "Metetí Sustainable City" Project.
- Training Center on Use and the Advantage of tropical woods.
- "El Real de Santa María", the Eco Lodge Visitor Center.
- Territorial Planning.

Habitat loss and degradation

- Strengthening of protected parks and reserves throughout the province.
- Know the status of the populations of species of interest (investigate, monitor).

- Permanent research for the study of Darién birds.
- Ecological inventory of the mammalian species of Darién.
- Increase the number of investigations in the different social, economic and environmental sectors to introduce proposals of action more in line with the actual situation in Darién.
- Continue with scientific investigations, measuring changes over time.
- Ecological restoration and biodiversity monitoring to measure the impact of these actions.
- Ecosystem restoration, climate smart agriculture programs and environmental territorial planning.
- Assessment of mangroves and lagoons like “Matusagarati”.
- Design and establish environmentally friendly production systems to restore, recover and protect areas in livestock and agricultural production systems.

Overexploitation of natural resources

- All efforts must be focused on forest preservation (since it is being lost). Promote actions to raise awareness among landowners for their empowerment and so they can play a role in local conservation (water, diversity, resources).
- Moratorium on all timber concessions / mass logging in natural forests.
- Protection of river basins and streams.
- Better organize the issue of forest management and exploitation, with supervision and education.
- Eliminate wood market sales to China.
- Strengthen forest species and conservation of flora and fauna.
- Strengthen capabilities in environmentally friendly techniques (agricultural and forestry) and leadership and governance.
- Design and implement a long-term sustainable production strategy.
- Waste management (plastic and tire disposal).
- Improve all systems on livestock farms with good practices or farm management plans. Darién is on the same level with respect to the issue of traditional farms as the other provinces.
- Increase reforestation, mandatory implementation of agroforestry and silvopastoral systems.
- Sustainable forest management.
- Environmental sanitation.
- Purchase of all forested plots, implementation of a comprehensive payment policy for environmental services, large-scale training for *campesino* and indigenous peoples.

Economic and social inequality of the population

- Organization and strengthening of the community.
- Incentive program for sustainable production and biodiversity conservation.
- Empowerment, local training, implementation of indigenous management of the overlapping areas between the park and traditional territory.
- Work with teachers and professors to guide them and make their classes better and break down myths.
- Create an emotional and personal connection between the communities and Darién's natural resources and forests, train the communities and build capacity in the field, carry out long-term monitoring of the implemented initiatives, achieve transparency, work ethic and accountability, create networks and spaces exclusively for women, promote economic activities that come from the sustainable use of resources.
- Create the necessary conditions to expand the coverage of higher education in the region.

- Provide communities with sustainable and environmentally friendly alternatives to generate income and cover basic expenses.
- Increase formal environmental education, cultural-traditional promotion for preservation, formalized by the Ministry of Education of Panama (MEDUCA) and the University of Panama (UP).
- Ecotourism activity for the benefit of wildlife preservation and periodically evaluated by the Panama Tourism Authority (ATP).
- Community tourism, forest and wildlife preservation and community empowerment.
- Create a scholarship and formal training program for Darién youth at the technical and university level.
- Establish sustainable economic alternatives.
- Inject the local economy with ecotourism project ventures and sustainable activities.
- Ecological restoration training, sustainable agriculture, sustainable management of timber tree harvests.
- Non-formal environmental education program on biodiversity conservation, training program on wildlife management and conservation.
- Technical support of various topics, funds for the improvement and sustainability of Darién.

Lack of or weak government management

- Interconnected and functioning local governance structures.
- Platforms or mechanisms for accessing useful and timely information for better decision making, permanent monitoring.
- Cooperation with other institutions, Ministry of Environment and local communities.
- Improvement of governance of basin committees, sustainable forest management, development of nature-based financial solutions.
- Strengthening government and indigenous people governance.
- Inter-institutional coordination to define where we want to go in Darién.
- Strengthening and empowerment of people as owners, custodians and users of natural resources and biodiversity.
- Intersectoral alliances; community-based organization strengthening; responsible production and consumption.
- Governance and consensus, territorial planning and co-management in watersheds, social equity.

4.3 Preservation Actions for the Darién hydrographic basins

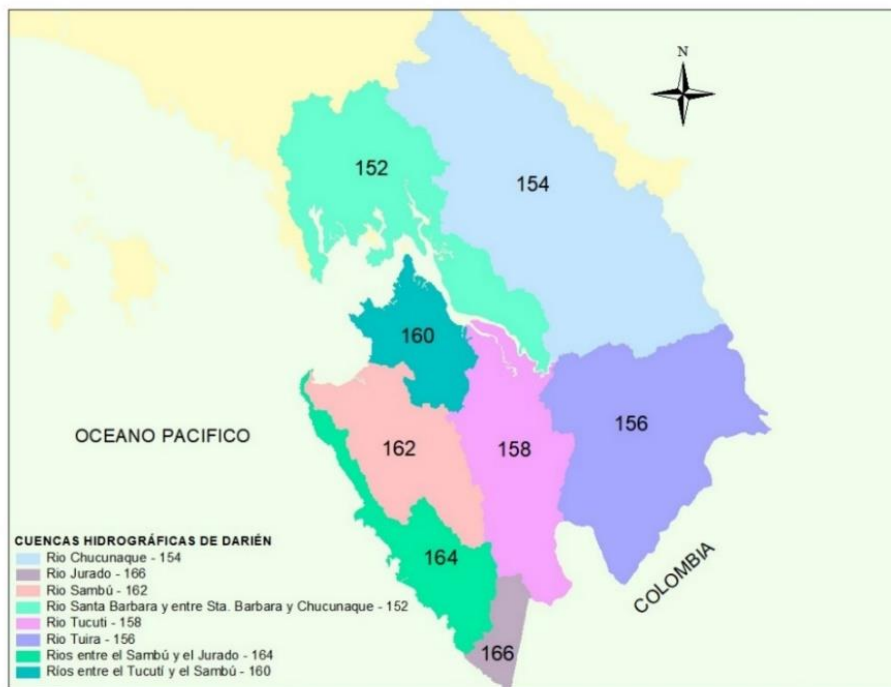
To obtain the collective vision for the conservation of Darién we completed an exercise for the familiarization with the hydrographic basins that make up the province of Darién. Through online and written surveys, as well as group work in the AWCD, these basins were identified along with their location, their main threats, the initiatives carried out in them, and their level of importance, among others.

4.3.1 Description of the Darién hydrographic basins

According to Law 44, hydrographic basins are “areas with specific physical, biological and geographical characteristics, where human beings interact, in which the surface and underground waters flow to a natural network through one or several channels of continuous or intermittent flow, which in turn converge on a major course that can flow into a main river, a natural or artificial reservoir of water, a swamp or directly into the sea.” It is the responsibility of the Ministry of Environment to define hydrographic basins for administrative purposes. More than one hydrographic basin can be grouped in an administrative unit.

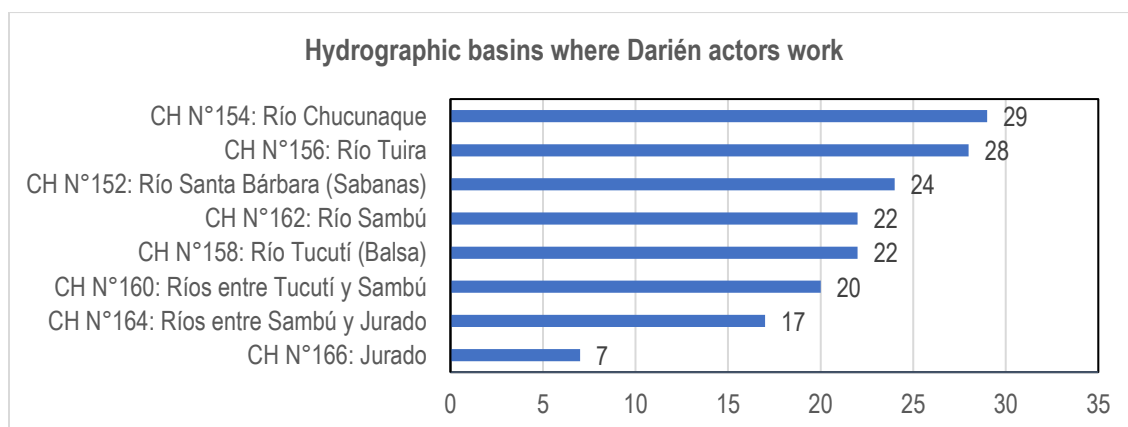
In Darién, eight (8) hydrographic basins (HB) have been identified and delimited, namely:

1. CH No. 152: Santa Barbara River and between the Santa Barbara River and the Chucunaque River
2. CH No. 154: Chucunaque River
3. CH No. 156: Tuira River
4. CH No. 158: Tucutí River
5. CH No. 160: Between the Tucutí River and the Sambú River
6. CH No. 162: Sambú River
7. CH No. 164: Between the Sambú River and the Jurado River
8. CH No. 166: Jurado River



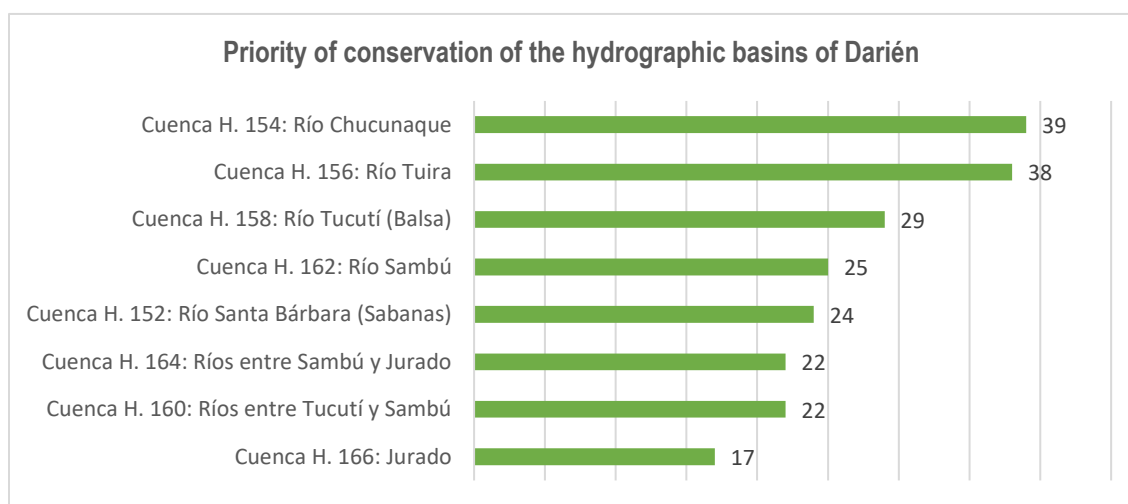
Distribution map of the hydrographic basins of the Province of Darién

Participants that contributed to the collective vision for the conservation of Darién during the workshop, currently are carrying out activities in the eight hydrographic basins. Of these, HB No. 154 faces the most threats to its biodiversity, while HB No. 166 is the least threatened. Below, we indicate the number of actors working in each basin, which allows for a more complete picture of areas where preservation actions take place.



4.3.2 Priority of preservation of hydrographic basins according to key actors

According to the criteria of the actors, the eight hydrographic basins listed below were ranked to assess the conservation priority of each one on a scale from 1 to 5. The highest valued basin was CH No. 154: Chucunaque River with a score of 39, and the one with the lowest value was CH No. 166: Río Jurado, with a score of 17.



4.4 Current situation of the Darién hydrographic basins in accordance with the collective vision of key actors in Darién

Article 1 of Law No. 44 of August 5, 2002, states that its main objective is to establish special administrative rules in the country for the management, protection and conservation of hydrographic basins, which allow for sustainable development in social, cultural and economic aspects, while maintaining the natural resource base for future generations, and is based on the Territorial Environmental Management Plan of the Hydrographic Basin.

In the province of Darién, eight (8) river basins have been defined. Working groups were created based on the geographical parameters of these basins, as a means to achieve the collective vision for the conservation of Darién. Below are the results of the group work carried out during the AWCD. Groups identified and prioritized high-impact sustainable projects that can be developed to mitigate biodiversity threats categorized by river basin. A SWOT was then carried out to determine the viability of carrying out these previously identified projects.

Variables used to prioritize sustainable high impact projects by hydrographic basin:

- Help mitigate one or more threats to biodiversity.
- Work on the preservation of ecosystems (biotic, abiotic components).
- Help to recover the ecosystem.
- Benefit the economic and social development of the communities.
- It is sustainable in a long term.

In the following sections the threats prioritized for the hydrographic basins are presented. The complete table of threats with the results of the online and written survey is attached in the annex.

4.4.1 Hydrographic Basin No. 152: Santa Barbara River and between the Santa Barbara River and the Chucunaque River

Threat Prioritization

Three main threats identified for CH No. 152 are:

1. Loss of habitat and degradation
2. Overexploitation of natural resources
3. Traditional extensive livestock

Sustainable high impact projects

The following list is the result of analysis made during the AWCD, in response to the main biodiversity threats of CH No. 152:

1. Implementation of better financing policies
2. Support for perennial crops (cocoa, coffee, others)
3. Incorporate new private reserves
4. Incorporate ecological easements
5. Increase restoration projects (forest galleries)
6. Farm management
7. Technologies that intensify and diversify activity
8. Alliances with local authorities
9. Environmental services payments
10. Strengthen environmental specialists
11. Develop management support
12. Strengthening of CBOs (legal status, training, project management)
13. Promote the correct use of wood
14. Forest certification
15. Increase agribusiness
16. Permanent training system
17. Reforestation in protected areas/buffer zones

This project list was ranked from least to greatest importance. Using the prioritization variables, we obtained the following results:

#	HIGH IMPACT PROJECTS: CH No. 152: Santa Barbara River and between the Santa Barbara River and the Chucunaque River	Helps mitigate one or more biodiversity threats	Works on ecosystem conservation (biotic components, abiotic)	Helps recover the ecosystem	Benefits the economic and social development of communities. Is sustainable in the long term	Long Term Sustainability	Total Ranking
1	Payments for environmental service.	3	3	3	3	3	15
2	Reforestation in protected areas-buffer zones	3	3	3	2	3	14
3	Support for perennial crops (cocoa, coffee, others)	2	2	3	3	3	13
4	Incorporate new private reserves	2	3	3	2	3	13
5	Increase restoration projects (forest gallery)	2	3	3	1	3	12
6	Strengthening of CBOs (legal status, training, project management)	2	2	2	3	3	12
7	Promote the use of wood	2	2	2	3	3	12
8	Forest Certification	2	2	2	3	3	12
9	Increase agribusiness	2	2	2	3	3	12
10	Permanent Training System	3	2	2	3	2	12
11	Implementation of better financing policies	3	2	2	3	1	11
12	Farm management	1	2	2	3	3	11
13	Technologies that intensify and diversify activity	1	1	2	3	2	9
14	Strengthen environmental specialists	2	2	1	1	1	7
15	Alliances with local authorities	2	1	1	1	1	6

SOWT diagnosis - CH No. 152

Strengths

- Presence of government / traditional authorities.
- Existence of different types of community groups.

- Access to some points of the basin.
- Radio communication system that reaches different communities.

Opportunities

- Interest of organizations in the management of the area.
- Facilities for distribution and access markets.
- There are seed trees.
- Green Financing for a sustainable production.
- Create volunteers in forest brigades.
- Support of ecological tourism.
- Review of financing policies.
- Support for perennial crops.
- Support for intensive livestock activities.
- Farm plans that contemplate regenerative agriculture.

Weaknesses

- There is no regulation that regulates the payment for environmental services.
- Absence of institutions in difficult access areas.
- Ministry of Environment Inter-institutional weakness.
- Lack of training for communities.
- Lack of funds for the implementation of project.
- Lack of knowledge and resilience in terms of climate change.
- Weakness in water management.
- Lack of private financing, for activities other than livestock.
- Lack of environmental education.
- Low political will.
- Weak governance.

Threats

- Complicated area accessibility.
- Increase in livestock activity.
- Climate change.
- Lack of access to water.
- Forest fires.
- Advance of the agricultural / agricultural frontier.
- Institutional weakness of the “Autoridad Nacional de Administración de Tierra” (ANATI).
- Corruption.
- Feelings of insecurity.

4.4.2 Hydrographic Basin No. 154: Chucunaque River

Threat Prioritization

The three main identified threats for CH No. 154 are:

1. Habitat loss and degradation.

2. Overexploitation of natural resources.
3. Economic and social inequality of the population.

Sustainable high impact projects

The following list is the result of analysis made during the AWCD, in response to the main biodiversity threats of CH No. 154:

1. Territorial planning focused on integral and regional management
 - Create management plans for the basins.
 - Review existing management plans.
 - Basin management plan.
 - Review forest management plans.
 - Structured Infrastructure Analysis.
2. Governance
 - Incidence.
 - Monitoring.
 - Certainty of punishment.
 - Institutional coordination (ANATI; BDA Agricultural Development Bank; MiAMBIENTE).
3. Indigenous governance
 - Infrastructure plan review.
 - Creation of the indigenous governance committee.
 - Law enforcement and punishment.
 - Established procedure for wood and wildlife.
 - Intersectoral coordination (district and indigenous).
 - Institutional agreement (shared governance): state and indigenous in accordance with existing policies.
4. Empowerment of civil society
 - Capacity strengthening development.
 - Biodiversity indicators.
 - Permanent assistance on the projects committed to by the beneficiaries.
 - Long-term sustainable project.
5. Best practices in livestock farms and sustainable use
 - Farm management plans.
 - Biodiversity indicators.
 - Territorial planning.
 - State governance.
 - Indigenous governance.
 - Civil society empowerment.
 - Best practices in livestock farms and sustainable use.

List of projects ranked from least to greatest importance, using the prioritization variables, obtaining the following results:

#	HIGH IMPACT PROJECTS CH No. 154: Rio Chucunaque	Helps mitigate one or more biodiversity threats	Works on ecosystem conservation (biotic components, abiotic)	Helps recover the ecosystem	Benefits the economic and social development of communities. Is sustainable in the long term	Long Term Sustainability	Total Ranking
1	Territorial planning	3	3	3	3	3	15
2	State Governance	3	3	3	2	3	14
3	Indigenous Governance	3	3	3	2	1	12
4	Civil society Empowerment	3	3	1	2	3	12
5	Best practices in livestock farms for Sustainable use	2	1	1	2	2	8

SOWT diagnosis - CH No. 154

Strengths

- Actual laws linked to governance.
- Organized civil society.
- Academic institutions.
- Legislation for indigenous governance.
- Administrative structure.
- Natural resources protected by indigenous.
- Delimited geographical area.
- Human resource related to the area.
- Available data.

Opportunities

- Demands of civil society.
- Country's commitment to comply with the "Nagoya Protocol" and Sustainable Development Goals.
- International mechanisms.
- Required to make a region plan.
- Civil society interest.

Weaknesses

- Lack of transparency.
- Centralization of power.

- Lack of manpower.
- Lack of allocation of economic resources
- Lack of political will.
- Panama lacks a long-term vision.
- Civil society weak capacity.
- Conflict between organizational and administrative structures.
- Unfamiliarity of operation in the region.
- Actors diverse interests.
- Government lacks clarity.
- Shortsightedness of the country and the region.
- Lack of financial resources.
- Internal occupation conflict.

Threats

- Economic sector.
- Political sector.
- External economic interests.
- Political interest.
- Drug and human trafficking.

4.4.3 Hydrographic Basin No. 156: Tuira River

Threat Prioritization

Three main threats identified for CH No. 156 are:

- Habitat and degradation loss.
- Overexploitation of natural resources.
- Lack or weak governance.

Sustainable high impact projects

The following list is the result of an analysis made during the AWCD, in response to the main biodiversity threats of CH No. 156:

1. Implementation of advanced agriculture techniques with emphasis on species diversification and soil preservation.
2. Natural resources evaluation (flora and fauna) by communities, identify patterns to be used also, implementing alternative measures of use.
3. Regularization and monitoring activities carried out in protected lands.
4. Sustainable use of resources as sustainable economic alternative with gender and social inclusion.
5. Evaluation of populations of species with high risk of extinction, to identify mitigation measures.

This project list was ranked from least to greatest importance, using the prioritization variables, obtaining the following results:

	HIGH IMPACT PROJECTS CH No. 156: Rio Tuira	Helps mitigate one or more biodiversity threats	Works on ecosystem conservation (biotic components, abiotic)	Helps recover the ecosystem	Benefits the economic and social development of communities. Is sustainable in the long term	Long Term Sustaina bility	Total Ranking
1	Sustainable use of resources as a sustainable economic alternative with gender and social inclusion	3	2	2	3	3	13
2	Evaluate the use of natural resources (flora and fauna) by communities to identify patterns of use and implement alternative measures of use	3	2	3	2	2	12
3	Assessment of populations of biodiversity species at high risk of extinction, to identify mitigation measures	3	3	2	1	2	11
4	Implementation of climate- smart agricultural techniques with emphasis on species diversification and soil conservation	2	1	2	3	3	11
5	Regularization and monitoring of activities carried out in protected lands	2	2	3	1	2	10

SOWT diagnosis - CH No. 156

Strengths

- Local youth have been trained as community monitors, especially in forestry aspects.
- The community of Aruza (Wounaan) is an example of a community that developed self-regulation of use of wood resources.
- Previous experiences working with "FAO" implementing Advance agriculture techniques.
- Empowerment of rural women's artisan groups in CH No. 156.

Opportunities

- In the community of Pijibasal, we could find active ecotourism participation which could be strengthened and replicated in other sectors of the basin.

- The experience of self-regulation of Aruza's community could be implemented in other collective communities or lands.
- Ensuring Aruza's authentic self-regulation (at a ministerial level).
- There are tourist attractions.
- Well-regulated roads allow for an increase in different services for the community.
- Interest of some NGOs and academic institutions in conducting scientific research in the area.

Weaknesses

- Lack of presence of national and international NGOs in the basin.
- An in-active palm oil (*Elaeis guineensis*) plantation remains (affects the soil) and could be reactivated and expanded.
- The introduced palm oil plants are damaging the soil and prevents the growth of other types of vegetation.
- The Tuira Hydrographic Basin has significant erosion due to deforestation related to agricultural practices.
- Lack of basic services for the communities which creates migrations to other sectors of the province, possibly in areas where biodiversity can be more affected.
- Little presence of government and private institutions.
- There has been no follow-up to the regulations (self-regulation) in Aruza.

Threats

- Two seasonal unplanned roads (used only in summer) Yaviza to Boca Cupe; The Real to Boca Cupe, offer facilities to affect biodiversity, increase the extraction of resources. There are no controls and they cross regional areas.
- Increase in the illegal appropriation of protected lands.
- Illegal immigrants crossing the basin may be a source of disease due to poor border health controls.
- The increase in logging by agricultural and livestock activity in CH No. 156 will reduce the effectiveness of the border sanitary belt.
- Loss of indigenous cultural identity due to migration and drug traffickers.
- Drug trafficking can cease to be a traffic activity through the basin and become a permanent and resident activity, becoming a local and national danger.

4.4.4 Hydrographic Basin No. 158: Tucutí River

Threat Prioritization

The three main threats identified for CH No. 158 are:

1. Overexploitation of natural resources.
2. Lack of or weak governance.
3. Habitat loss and degradation.

Sustainable high impact projects

The following list is the result of an analysis made during the AWCD, in response to the main biodiversity threats of CH No. 158:

1. Sensitization of the proper management of natural resources.

2. Best practices of agricultural production.
3. Participatory guardianship.
4. Restoration of degraded areas with forest nursery.
5. Zoo breeding of species of local / social interest.

This list of projects was ranked from least to greatest importance, using the prioritization variables, obtaining the following results:

#	HIGH IMPACT PROJECTS CH No. 158: Tucuti River	Helps mitigate one or more biodiversity threats	Works on ecosystem conservation (biotic components, abiotic)	Helps recover the ecosystem	Benefits the economic and social development of communities. Is sustainable in the long term	Long Term Sustainability	Total Ranking
1	Sensitization of the proper management of natural resources	3	3	3	1	3	13
2	Good agricultural production practices	3	3	2	2	3	13
3	Participatory guardianship	3	3	1	2	3	12
4	Restoration of degraded areas with a forest nursery	2	3	2	2	2	11
5	Zoocriaderos of species of local/social interest	3	1	1	3	2	10

SWOT diagnosis - CH No. 158

Strengths

- People trained in nursery issues.
- Delimited areas (national park, collective land).
- People trained in monitoring issues.
- People trained in biodiversity issues.
- People trained in carbon measurement issues.
- Low degraded and high-quality forest.
- People trained in setting up teams to carry out projects.

Opportunities

- Establishment of Silvopastoral Systems (SSP) in areas where livestock has entered.

- Establishment of agroforestry systems.
- Improve agricultural production.
- Create agreements between local institutions and authorities for a better management of the control of natural resources.
- Protocols and criteria for the granting of agricultural credits.
- Basin management.

Weaknesses

- Lack of marketing chain.
- High marketing costs.
- Lack of management in the basin.
- Lack of interest of government agencies.

Threats

- Partisan politics.
- Agricultural sector loans.
- Lack of coordination, interinstitutional.
- Increase in livestock.

4.4.5 Hydrographic Basin No. 160: Between the Tucutí River and Sambú River

Threat Prioritization

The main threats identified for CH No. 160 are:

1. Overexploitation of natural resources.
2. Lack or weak government governance.
3. Loss of habitat and degradation.
4. Economic and social inequality of the population.

Sustainable high impact projects

The following list is the result of an analysis made during the AWCD, in response to the main biodiversity threats of CH No. 160:

1. Preservation and surveillance of forested areas.
2. Preservation and recovery gallery forests with native species.
3. Implement controlled agro-silvopastoral projects.
4. Increase the number of professional technicians of MiAMBIENTE regional rangers.
5. Landfill for La Palma and surrounding communities.

This project list was ranked from least to greatest importance, using the prioritization variables, obtaining the following results:

#	HIGH IMPACT PROJECTS CH No. 160: Between the Tucutí River and Sambú River	Helps mitigate one or more biodiversity threats	Works on ecosystem conservation (biotic components, abiotic)	Helps recover the ecosystem	Benefits the economic and social development of communities. Is sustainable in the long term	Long Term Sustainability	Total Ranking
1	Preservation and surveillance of forested areas	3	3	2	2	3	13
2	Preservation and recovery of gallery forests with native species	3	3	3	2	2	13
3	Implement controlled agrosilvopastoral projects	1	2	2	3	2	10
4	Increase the number of regional technical professionals and park guards in MiAMBIENTE	2	2	2	2	2	11
5	Landfill for La Palma and surrounding communities	1	2	3	2	3	11

SWOT diagnosis - CH No. 160

Strengths

- Capital of the province.
- Private nature reserve.
- Marine-coastal richness of San Miguel Gulf.

Opportunities

- Conservation of forested areas, for example, private nature reserves.
- Institutional support.
- Sustainable projects attraction funds.
- Promote ecotourism and artisanal fishing.

Weaknesses

- Lack of professionalism.
- Trained staff.
- Lack of monitoring follow-up from the government institutions.
- Lack of environmental awareness.

Threats

- Extensive livestock farming.
- Indiscriminate use of agrochemicals.
- Deforestation.
- Lack of compliance with the commercial fishing limit.

4.4.6 Hydrographic Basin No. 162: Sambú River

Threat Prioritization

The three main threats identified for CH No. 162 are:

- Weaknesses in governance.
- Habitat loss and degradation.
- Economic and social inequality of the population.
- Overexploitation of natural resources.

Sustainable high impact projects

The following list is the result of analysis made during the AWCD, in response to the main biodiversity threats of CH No. 162:

1. Strengthening of CBOs: Culture, tourism and scientific research
2. Implementation of agroforestry and pastoral systems
3. Ecosystem services payment
4. Terrestrial connectivity project with ecological roads
5. Strengthening the fire brigades

This project list was ranked from least to greatest importance, using the prioritization variables, obtaining the following results:

#	HIGH IMPACT PROJECTS CH No. 162: Sambú River	Helps mitigate one or more biodiversity threats	Works on ecosystem conservation (biotic components, abiotic)	Helps recover the ecosystem	Benefits the economic and social development of communities. Is sustainable in the long term	Long Term Sustainability	Total Ranking
1	Ecosystem Payment services	3	3	3	3	2	14
2	Strengthening of CBOs: Culture - Tourism - Scientific research	3	2	2	3	3	13
3	Implementation of agroforestry and pastoral systems.	2	2	3	3	3	13
4	Land connectivity project with ecological roads	3	3	1	3	3	13
5	Strengthening the fire brigades	3	3	3	2	2	13

SWOT diagnosis - CH No. 162

Strengths

- Community Consensus in order to prevent the exploitation of resources.
- There is less human intervention in the basin's ecosystems.
- It is part of the Darién buffer zone (greater zoning).
- High-level preservation of mangroves, where there is a great diversity of marine species.
- Environmental education is implemented in an important way in the culture.

Opportunities

- Cultural attractions (petroglyphs), landscape, flora and fauna.
- Value-added products.

Weaknesses

- Lack of market knowledge.
- Lack of ecological roads.
- Reduced organization of groups for environmental tourism purposes.
- Division / differences existing between indigenous communities and colonies.
- The wide dispersion of communities' limits development.

Threats

- High probability of future oil extraction interventions.
- Decrease in river flow.

4.4.7 Hydrographic Basin No. 164: Between Río Sambú and Jurado

Threat Prioritization

The three main threats identified for CH No. 164 are:

- Lack or weak government governance.
- Overexploitation of natural resources.
- Economic and social inequality of the population.

Sustainable high impact projects

The following list is the result of an analysis made during the AWCD, in response to the main biodiversity threats of CH No. 164:

1. Territorial Planning Project:
 - Darién National Park (PND) Audit limits.
 - Definition / revision of buffer areas.
 - Hydrographic basin management plan.

- Diagnosis of productive activity:
 - Inventory of livestock farms.
 - Inventory of fishing activities.
 - Inventory of organizations.

2. Project strengthening the social fabric:

- Diagnosis of social actors.
- Strengthening of CBOs, to increase participation, local organization and other groups (sports, parents, families).

3. Interinstitutional strengthening project:

- Present government institutions Diagnosis.
- Work strategies establishment with inter-institutional support.

This project list was ranked from least to greatest importance, using the prioritization variables, obtaining the following results:

#	HIGH IMPACT PROJECTS CH No. 164: Between Río Sambú and Jurado	Helps mitigate one or more biodiversity threats	Works on ecosystem conservation (biotic components , abiotic)	Helps recover the ecosystem	Benefits the economic and social development of communities. Is sustainable in the long term	Long Term Sustainability	Total Ranking
1	Soil use planning	3	3	3	3	3	15
2	Strengthening of the social fabric	3	3	3	3	3	15
3	Institutional strengthening	3	3	3	3	3	15
4	Diagnosis of productive activities	3	3	3	2	3	14
5	Diagnosis of the preservation status of the PND	3	3	2	2	3	13

SWOT diagnosis - CH No. 164

Strengths

- Darién National Park existence (protection), natural areas in good condition and existing community organization plan.
- Low human population.

Opportunities

- Development of sustainable ecotourism.
- Economic ventures based on marine resources.
- UNESCO is interested in integrating coastal communities in the expansion of the biosphere reserve.

Weaknesses

- Absence of territorial planning.
- Low institution presence (MiAMBIENTE, MIDA and sufficient human resources).

Threats

- Money laundering activities using cattle.
- Lack of state projects independent of the current governments (political stability).

4.4.8 Hydrographic Basin No. 166: Río Jurado

Threat Prioritization

The main threats identified for CH No. 166 are:

- a. Lack or weak government governance.
- b. Economic and social inequality of the population.
- c. Overexploitation of natural resources.
- d. Degradation and lost habitat.

Workshops participants had little knowledge about the threats to biodiversity in this basin, as was evidenced by their responses given during the survey.

Sustainable high impact projects

The following is the result of analysis made during the AWCD, in response to the main biodiversity threats of CH No. 166:

1. Coastal marine program and integral management of basin with local participation
2. Environmental education program based on conservation targets in the region.
3. Participation of local members in the development of tourist circuit based on natural and cultural resources.
4. Binational Project for the preservation of the basin.

This project list was rated from least to greatest importance, using the prioritization variables, obtaining the following results:

#	HIGH IMPACT PROJECTS CH No. 166: Río Jurado	Helps mitigate one or more biodiversity threats	Works on ecosystem conservation (biotic components, abiotic)	Helps recover the ecosystem	Benefits the economic and social development of communities. Is sustainable in the long term	Long Term Sustainability	Total Ranking
1	Coastal marine program and integral management of the basin with citizen participation	3	2	1	3	3	12
2	Environmental education program based on conservation objects in the region	3	3	1	2	3	12
3	Development of a tourist circuit based on natural and cultural resources with the participation of residents	3	2	1	3	2	11

SWOT diagnosis - CH No. 166

Strengths

- There are a lot of biological resources.
- Environmental regulations and public safety.

Opportunities

- Will of the people, NGOs.
- Good communication.

Weaknesses

- Lack of institutional presence.
- Lack of economic resource.
- Lack of environmental education.

Threats

- Loss of cultural identity.
- Advance of the agricultural frontier on the Colombian side of the border.

5. CARBON MARKET

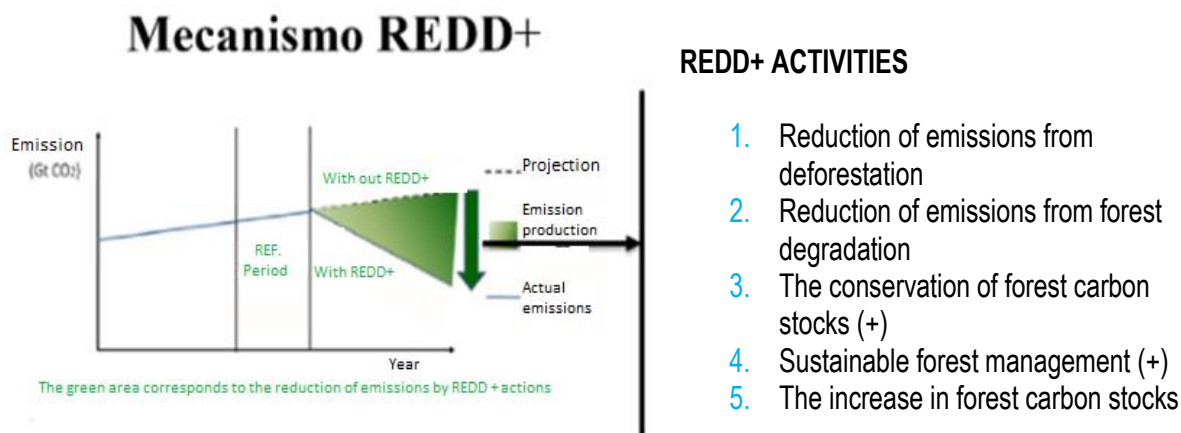
5.1 What it is and how does it work?

The carbon market or greenhouse gas emission reductions arises from the need to take action on the evidence that human activity is influencing an accelerated global climate warming process due to the concentration of greenhouse gases, with negative impacts on the health of human beings, their food security, economic activity, water and other natural resources and physical infrastructure.

The first step in the emergence of this market was the signing of the United Nations Framework Convention on Climate Change (1992), which has a fundamental principle that countries must take precautionary measures to anticipate, prevent or minimize the causes of climate change.

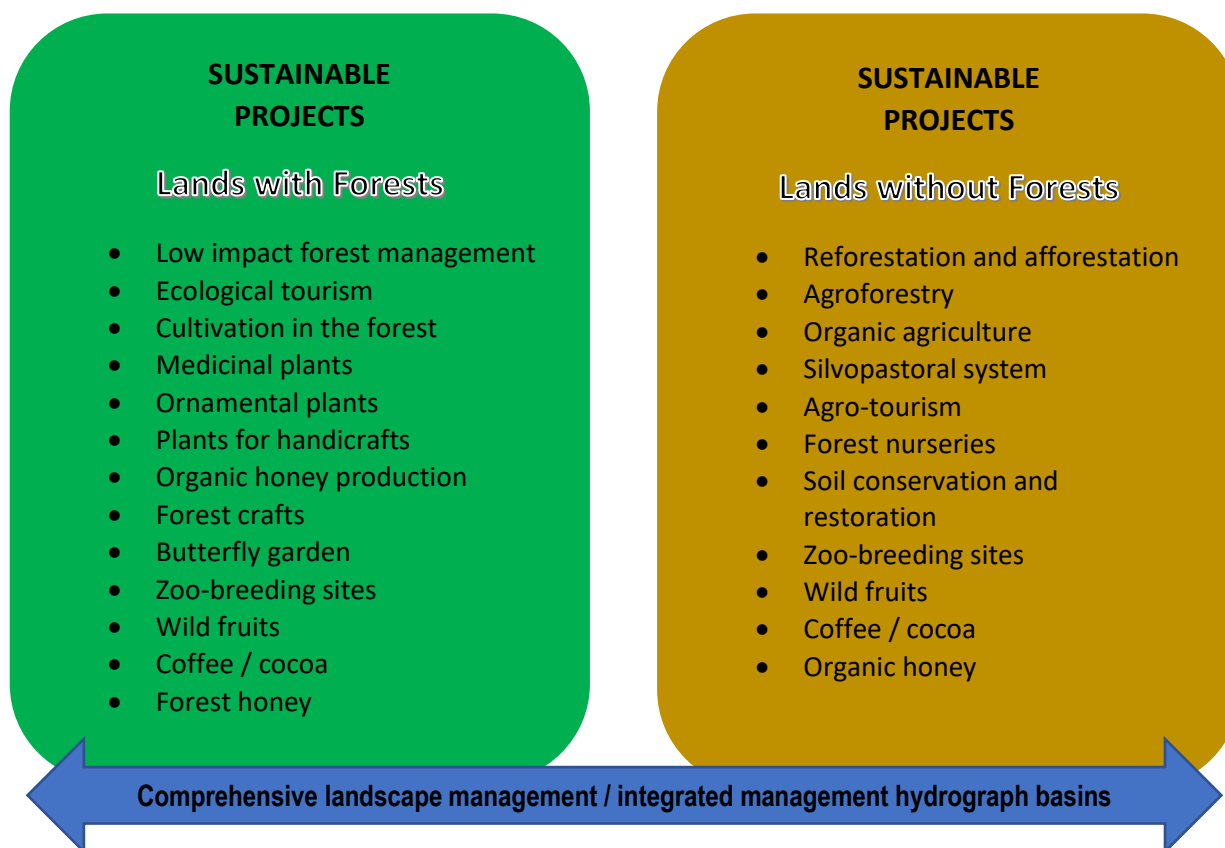
Subsequent meetings resulted in the Kyoto Protocol in 1997, which defines the architecture of the carbon market by establishing quantified emission reduction targets for developed countries, as well as market mechanisms designed to reduce the cost of its implementation. One of these mechanisms, the Clean Development Mechanism (CDM), allows investment projects in developing countries to obtain additional economic income through the sale of carbon credits called Certified Emission Reduction (CERs), by mitigating the emission of greenhouse gases or sequestering carbon dioxide from the atmosphere.

For small-scale projects in developing countries, the voluntary market is more interesting than the regulated one, because the CDM market has quite complex mechanisms and procedures for registering projects, which exclude most agricultural, forestry and emission reduction projects from deforestation and forest degradation (REDD +).



Mitigation in the forestry sector: REDD+

REDD+ PROJECTS IDEAS



5.2 Voluntary carbon market

- In the voluntary market, trade in emission reductions occurs on a corporate social responsibility basis.
- For forestry and agricultural projects in developing countries, the voluntary market is much more interesting than the regulated one.
- Carbon credits in the voluntary market are called Verified Reduction of Emissions, which are acquired mainly by the private sector.
- The private sector can buy carbon credits directly from the projects, companies or carbon funds of multilateral organizations.

5.3 Carbon Market in Panama

The most common certification within the voluntary market in Panama is the Gold Standard, which is a global system of best practice guides for the design and implementation of climate projects.

Summary of projects certified by Gold Standard

GS ID	Name	Type	Products
GS2940	CO2OL Tropical Mix	Others- reforestation	VER: 523 855 (issued); 243 384 (withdrawn) PER: 194 956 (issued); 0 (withdrawn)
GS3421	ACP Sustainable Forest Cover Establishment Project	Others- reforestation	VER: 132 246 (issued); 185 (withdrawn) PER: 323 424 (issued); 0 (withdrawn)

Note: VER = reduction of verified emissions; PER = reduction of planned emissions. Source: MiAMBIENTE – Office of Climate Change, with information from Gold Standard

- Financing Alternatives with National Resources

Direct contributions from the Panamanian government:

Reforest Panama Fund: Forest Incentives Law, (Law 69 of October 30, 2017) the Reforest Panama Fund is created based on this Law. The national government will include in the General State Budget, for each fiscal year, the contributions to this fund, which will cover the proposals for direct non-refundable financing, in accordance with priority activities for restored and recovery areas.

Law Project #40 - Regulates the payment and compensation for environmental services in the Republic of Panama and other regulatory provisions.

This draft law was submitted to the National Assembly on August 4, 2014 and in January 2016 it still was still in an inter-institutional consultation process. The scope of the draft law contemplates classic environmental services such as:

- Water sources and hydrographic basin protection and preservation.
- Recovery and soil conservation.
- Scenic beauty, and others.

- Price per-ton of CO₂

Around the world, more and more governments are implementing several ways to set up a regular carbon price, but so far, most prices are below USD\$10. The High-Level Commission on Carbon Prices found that a price of at least USD40-80 / tCO₂ by 2020 and USD50-100 / tCO₂ by 2030 is necessary to achieve the Paris climate objectives.

5.4 5.4 Proposals for strategies to ensure that communities meet and maintain commitments to carbon projects

In relation to the carbon market issue, AWCD participants identified some strategies to ensure that communities fulfill and maintain commitments made with the sponsors and with themselves for the implementation of projects that have components for the carbon market:

- Monitoring carbon projects plan.
- Follow the guidelines of the tools already established.

- There should be an auditing institution to update the profitability of all emissions.
- Follow up on all sponsor guidelines.
- Development of complementary activities that generate economic income that do not affect the carbon project.
- Monitoring long-term binding contracts, social and environmental monitoring project.
- There must be constant community participation in all planning.
- Constant monitoring of indicator species.
- People's perception of their surroundings.
- Development of a social intervention plan that facilitates the return of income for the benefit of the community and that monitoring plots are established using voluntary carbon market methodology.
- Accountability.
- Management of carbon measurement methodology (monitoring).
- Training for financial management.
- Restriction on the use of funds (regulations).
- Fire prevention.
- Sources of clean energy.
- Follow-up through technical assistance, community training or CBO.
- Participatory evaluation.
- Training of community leaders in administration, execution and financing.
- Training of community leaders in forestry measurements and data management.

6. STRATEGIES TO ACCESS FUNDING SOURCES

The results of the electronic survey show that one of the limiting factors in the actors' ability to work towards the conservation of Darién is the lack of sources of medium and long-term financing that allows for the implementation of high-impact projects in the province. During the AWCD, participants shared or identified a list of potential donors and the methodology used to access funds both nationally and internationally. Below is a list of the financing sources identified.

6.1 List of potential sources of financing to implement projects in Darién

Organizations, Institutions, National Companies	International organizations	Others Funds
Ministerio de Ambiente. Empresa privada (RSE) Descentralización a través del municipio. Fondos estatales. Fundación NATURA. SENACYT Universidad de Panamá. AMPYME. Autoridad de Turismo de Panamá. MIDA (Ley 25) CONADES ANCON Minera Panamá S.A. ACP Secretaría Nacional de Descentralización (presidencia). CONAGUA. Programa de Pequeñas Donaciones del GEF-PNUD Banco General, Movistar	GEF-cartera de proyectos de país. Banco Euro clima. FOMIN-BID. GIZ Cooperación alemana. FIA JICA Banco Interamericano de Desarrollo (BID) Unión Europea. Banco Mundial (reembolsables y no reembolsables). Banco de Desarrollo de América Latina. Wildlife Conservation Society Panthera Lincoln Park 200 The Peregrine Fund Premios Ambientales Ford McArthur Foundation Conservación Internacional KWF Fundación Packard The Nature Conservancy-TNC UNESCO, PNUD.	Fondo de adaptación. Fondo Verde por Clima. Fideicomiso del agua y vida silvestre de MiAMBIENTE. Fondo GEF (gobierno). Fondo Japonés del BID. Fondo Rufford. Fondo Mohamed Bin Zayed species conservation. Fondo Pro-Cuencas. Fondo de Aguas Internacionales. Fideicomiso y fondo forestal de MiAMBIENTE Filántropos (privado). Cuerpos diplomáticos (embajadas). Representaciones diplomáticas. Cooperación internacional (proyectos grandes). Pagos por servicios ambientales. Canje de deuda por naturaleza (gobierno). Pagos por compensación (privado).

6.2 Methodology and strategies to access funding sources

To access these funding sources, actors use or have used the following mechanisms:

- Application and presentation of proposals.
- Prepare legally established and registered proposals through CBOs, NGOs.
- Agreements established between communities and CBOs.
- Be aware of terms of reference.
- Preparation of proposals according to forms.
- Comply with guidelines and due dates.
- Some international funds include a *letter of intent* o "Term Sheet" as a preliminary phase of filters.
- When there are diplomatic missions, meet in person in order to discuss any proposals (previous appointment).
- Strengthening organizations.
- Accountability.

- Grounded proposals.
- Self-management of funds.
- Lobbying.

The group work conducted during the AWCD also revealed other strategies to channel funds and effectively use them for the implementation of projects that benefit communities:

- Proposal design with well-established roles in CBOs with legal status.
- That the ONG be a facilitator of the process for the empowerment of the beneficiary communities.
- Empower the Watershed Committee for fund management.
- CBO with legal status and opening of projects to work at community level.
- Community organization, direct communication and sustainability of the project.
- Creation of CBO's
- Alliances with NGOs
- Training workshops on technical aspects.
- Advice on administrative, financial and legal management.
- CBO / NGO, reforestation incentives.
- Participatory planning (diagnoses, strategies), in addition to work with CBOs or, failing that, with NGO fund managers with the community.
- Strengthening / accompaniment of CBOs, so that they can manage projects, to create workshops.

7. OTHER ASPECTS DESCRIBED BY THE ACTORS

7.1 Interest of actors in carrying out projects in Darién in the future

- Soon (in less than a year) = 17 participants.
- Medium (within one to three years) = 7 participants.
- Long (within the next four years or more) = 3 participants.
- We have interest, but we don't have financing = 10 participants.
- We don't know = 3 participants.

7.2 Actors' expectations at the end of the workshop

- Establish a collaborative network.
- Identify organizations with objectives related to my organization.
- Obtain a better view of the problems that Darién are facing.
- Reach collective conclusions that contribute to the identification of potential sources of financing.
- Execute the planned initiatives.
- Incorporate private companies, especially those focused on tourism and agriculture.
- Define the direction for conservation in Darién, in this way everyone will be able to work with the same objective.
- Identify funding opportunities for projects, and help students improve their education in the research field as part of our preparation strategies for local people.
- Specify a roadmap with long-term commitments and measures of achievements, adjustments towards the necessary changes and defined impacts.
- Identify potential strategies for the preservation of Darién.
- Meet other actors.
- Obtain a commitment of the environmental and safety authorities to solve Darién's problems.
- Share information and experiences.
- Obtain a collective vision for our work.
- Learn about other governmental and civil society initiatives in the area.
- Treat with respect and due confidentiality the information and opinions expressed during the workshop. Respect the Copyright of ideas and the Right to Work of each NGO, perhaps via a Mutual Agreement of Confidentiality and Reciprocity between the working team and each NGO that has shared their information in this survey.
- Acquire knowledge and new work techniques within the communities in the province of Darién.
- Create a list of community groups organized or in organization with a list of their activities / projects that collectively are interested in advancing.

8. CONCLUSIONS

1. It was possible to outline a collective vision for the conservation of Darién through the data obtained from 81 electronic surveys and from the results obtained from the interaction of 76 specialists (biology, ecology, forestry, community development, tourism, education, agronomy, planning, geography), representatives of 40 national and international entities during the workshop.
2. The 76 workshop participants are people with academic training and a lot of experience: 53% with master's degrees, 34% graduates, 7% doctors, 4% technicians and 2% engineers.
3. Of the total participants, 87% indicated that they had carried out conservation actions in Darién in previous years and 82% indicated that they are currently promoting conservation actions in Darién.
4. The projects executed by the actors are mostly short-term (41%), followed by long-term projects (39%) and medium-term (20%). These projects are carried out at a local geographic (41%), provincial (31%) and regional (28%) scale.
5. The participants pointed out that their projects have a greater impact on the following Sustainable Development Goals: life of terrestrial ecosystems, alliance to achieve the objectives, and responsible production and consumption.
6. Considering IUCN criteria, the following main threats to Darién's biodiversity were identified and listed: overexploitation of natural resources, loss of habitat and degradation, climate change, change in land use and loss of biodiversity, and economic and social inequality within the local population.
7. Other threats to biodiversity listed by the participants were indiscriminate logging, corruption, wildlife trafficking, slash and burn, and drug trafficking.
8. The actors indicated that their projects try to mitigate the following threats to biodiversity: habitat loss and degradation, change in land use and loss of biodiversity, climate change, extinction of species, and overexploitation of natural resources.
9. The five watersheds in Darién where more projects are carried out by the participating actors are: Basin 154 - Chucunaque River, Basin 156 - Tuira River, Basin 152 - Santa Barbara River, Basin 162 - Sambú River and Basin 158 - Tuira River.
10. In order of priority, the five river basins that the actors identified with the highest conservation priority are: Basin 154 - Chucunaque River, Basin 156 - Tuira River, Basin 158 - Tucutí River, Basin 162 - Sambú River and Basin 152 - Santa Barbara River.
11. For each river basin in the province of Darién, threats to biodiversity were prioritized and sustainable projects of high impact were listed.
12. A SWOT analysis was carried out by river basin to assess the feasibility of implementing high-impact projects.
13. The Panamanian state has legislation that allows access to financing for forest restoration and recovery.

14. The current price of a ton of CO₂ in the carbon market is not enough to achieve the objectives of the Paris Agreement on climate change.
15. It is suggested to offer follow-up and monitoring of projects, guidelines of established tools and a supervisory body that updates the profitability of CO₂ emissions, among others, as a measure to ensure that communities fulfill and maintain commitments with carbon projects.
16. The absence of financing is a limitation that causes actors not to develop long-term projects in the province of Darién.
17. 20 national agencies, 21 international entities and 17 funds that can potentially be evaluated for funding sources to implement projects in Darién were listed.
18. The actors described methodologies / strategies to access financing sources for project implementation.
19. The three expectations of participants were met with the development of the workshop. These are in order of importance: Obtained a better vision of the problems facing Darién, developed collective conclusions that contribute to identifying sources of financing, and established a collaborative work network.

9. ANNEXES

9.1 List of actors who participated in the Workshop on October 8, 2019.

TALLER DE ACTORES PARA LA CONSERVACIÓN DE DARIÉN								
Hotel Le Meridien, Ciudad de Panamá								
Octubre 08, 2019								
NO.	CONTACTO	ORGANIZACIÓN	EDAD				TELÉFONO	CORREO ELECTRÓNICO
			18-30	31-40	41-50	≥51		
1	Abby Verdumen	Wetlands					6255-3751	panama@wetlands.org
2	Alfonso Moreno	MIDA Darién						alfboroba@gmail.com
3	Alonso Santos Murgas	Universidad de Panamá					(507) 6687-1758	santosmurgasa@gmail.com
4	Alvin Alzamora	Fundación NATURA					67942092	aalzamora@naturapanama.org
5	Antonio Estrada	MIAMBIENTE (DARIÉN)						aestrada@anamgobpa.onmicrosoft.com
6	Aris Delgado	FUNDESPA					6262-7549	aristours3@gmail.com
7	Beatriz Schmitt	Programa de Pequeñas Donaciones					(507) 302-4748	beatriz.schmitt@undp.org
8	Caños Doviaza	Rain Forest Foundation US					64849142	cdoviaza@rffny.org
9	Carlos Espinosa	Ingeniero Forestal Independiente						cespinosa@serfolat.com
10	Celia María Pérez	FUNDESPA					6618-5246	fundespa@fundespa.org
11	Chelina Batista	ADOPTA Bosque					6451-8503	cbatista@chucanti.org
12	Cody Dorwin	Canopy Tower					6540-8474	codydorwin@yahoo.com
13	Daniel Holmes	CEASPA				✓	226-6602	padi_admon@cwpanama.net
14	Darinel Carpio	Fundación Rapaces y Bosques de Panamá						rapaces.bosques@gmail.com
15	David Anderson	The Peregrine Fund						danderson@peregrinefund.org
16	David Bejerano	Fundación Rapaces y Bosques de Panamá	✓				6746-8059	rapaces.bosques@gmail.com
17	Digna González	Ramsar Regional Center, CREHO						creho@creho.org
18	Dimas Arcia	MIAMBIENTE (Dirección de Áreas Protegidas)					(507) 500-0855	darcia@miambiente.gob.pa
19	Diorene Smith	Parque Municipal Summit		✓			6571-3697	dsmithc@gmail.com
20	Dr. Elvin Britton	CATIE						ebritton@catie.ac.cr
21	Edgar Araúz	Parque Municipal Summit					(507) 6105-1418	edgar.arauz@municipio-pma.gob.pa
22	Elliese Judge	ARVITA					63793453	Elliesjudge@gmail.com
23	Érasmo Rodríguez	Autoridad Marítima de Panamá					6152-9552	erasmomariota@gmail.com
24	Eric Flores	Panama Wildlife Conservation						eric@panamawildlife.org
25	Euriato Bainora	Fundación Naturaleza y Ciencia 507						krla.aparicio@gmail.com
26	Guido Berguido	ADOPTA Bosque			✓		6676-2466	info@AdoptaBosque.org
27	Hernán Vargas	The Peregrine Fund						hvargas@peregrinefund.org
28	Iliana Armien	Futuro Forestal						ia@futuroforestal.com
29	Ilse Silva	Parque Municipal Summit					6241-3148	ilsesbfauna03@yahoo.com.mx
30	Ing. Emilio Quintana	MIAMBIENTE, Departamento Forestal					6341-0749	equintana@miambiente.gob.pa
31	Irma Ávila	GEMAS					66759416	igemmas@cwpanama.net
32	Isaías Ramos González	Centro de Incidencia Ambiental					636-0868	tecnico@ciampanama.org
33	Iván Cubilla	CONADES	✓				6773-0315	deferret@gmail.com
34	Jacinta Viveros	PPD-Arvita / Independiente		✓			6138-1317	jviveros@hotmail.com
35	Jacob Slusser	Iniciativa de Liderazgo y Capacitación ELTI					6667-1632	jacob.slusser@yale.edu
36	Jennifer Moreno	Pro-Niños del Darién					6248-0061	granias@darrien.org.pa
37	Jessica Young	PNUD						jessica.young@undp.org
38	Yolanda Jimenez	CEASPA - Colaboradora				✓	6998-5241	yolanjimenezm@gmail.com
39	Jorge García	MIAMBIENTE					(507) 500-0855	jugarcia@miambiente.gob.pa
40	José de Gracia	PNUD			✓		6981-1472	jose.degracia@undp.org

NO.	CONTACTO	ORGANIZACIÓN	15-30	31-40	41-50	51	TELÉFONO	CORREO ELECTRÓNICO	FIRMA
1	Marcos F. Ruíz	MI AMBIENTE - DARIÉN					6275 4045	mfrueda1@hotmail.com	
2	Manetta Fonseca	PPD/PNUD/GEF					6232 9502	marieta.fonseca@gmail.com	
3	Rubén Manduca	Municipio de Pingora					6532 6181	remanduca95@gmail.com	
4	Gerardo González	Centro Pastoral Santa Fe					6730 9501	gerardo.gonzalez57@gmail.com	
5	Arturo Rodríguez	El de Nuestra Señora					6681 5876	arodriguez24.25@gmail.com	
6	Esther Corty	Audubon Panamá					6104 7650	scarty@audubonpanama.org	
7	Celia Díaz	MIAMBIENTE					500 83 04	celia.diaz@miambiente.gov.pa	
8	Modesto A. Torón F.	MIAMBIENTE					500-0804	mtoron@miambiente.gov.pa	
9	Alejandro Montiel	MIAMBIENTE - OAPB					500-0874	amontiel@miambiente.gov.pa	
10	Fermín Hernández	GEMAS					6723 3707	afuente29@gmail.com	
11	Rene López A.	PNUD - Panamá					67213644	rene.lopez@unp.org	
12	Adrián Jiménez	Misión de DAPA					500-0874	gjimenez@misióndepa.com	
13	Juan Carlos Salazar	Misión de DAPA					60682317	salazarj@misióndepa.com	
14	José Auselaga	PNUD Panamá					62602270	jose.auselaga@unp.org	
15	Daniel Arias	Canopy tower					66134019	daniel@canopytower.com	
16	Ligia Amador	AMÉDAR					68493966	ligia.amador@gmail.com	
17	Karen Díaz	Red de Reservas Naturales					6990-3771	kdiaz@redreservas.org	
18	Susan Marín	MIAMBIENTE					6282194	smarin@miambiente.gov.pa	
19	Karel M. Gutiérrez	Fundación Pro-Conservación de Panamá					6732 8456	kgutierrez@proconservacion.org	
20	Anibal Castillo	CREHO					317-1242	acastillo@creho.org	
21	Aurelio Gómez	ONEN					66720450	AURELIO@ONENIOPA.COM	

9.2 Agenda developed and executed during the AWCD

TIME	ACTIVITIES
08:00-8:50	Participants' Reception
08:50-9:10	Welcome and opening remarks by Engineer Dimas Arcia, director of the "Dirección de Áreas Protegidas y Vida Silvestre del Ministerio de Ambiente".
09:10-09:20	Introduction: objectives, expected results and agenda of the workshop. Summary of invited participants for the workshop.
09:20-09:50	Presentation: Threats to biodiversity and its causes (Beatriz Schmitt, results of surveys received days prior to the workshop)
09:50-10:00	Instructions to establish the five working groups and assigned tasks
10:00-11:20	First Working Group: Review of threats identified by river basin. Identification and prioritization of high impact sustainable projects to counter threats. (snacks)
11:20-12:00	Presentation of results of the group work by river basin. Questions and additional contributions.
12:00 -12:15	Group photo
12:15-13:30	Lunch
13:30-14:30	Second Work Group: SWOT for the implementation of high impact projects by river basin.
14:30-15:00	Presentation of results of the 2nd group work (SWOT) by river basin. Questions, answers and additional contributions. (snacks)
15:00-15:25	Introduction to the Coal Market by René López of PNUD Climate Change. Questions, answers and additional contributions.
15:25-16:15	Third Work Group: Identification of financing sources through an exchange for carbon credits for the implementation of sustainable projects in Darién: viability, difficulties, challenges, methodologies, etc.
16:00-16:30	Presentation of results of the 3rd group work by river basin. Questions and additional contributions.
16:30-16:45	Agreements, conclusions and acknowledgments

9.3 Members of the Working Groups by river basin

Hydrographic basin 152		Hydrographic basin 156	
Katherine Araúz	Fundación Natura	Julieta Carrión	Sociedad Mastozoológica
Abhy Verdumen	Wetlands	Rafael Samudio	Sociedad Mastozoológica
María Gladis Rangel	CONADES	Elliese Judge	ARVITA
Adrián Jiménez	Mi Ambiente	Jacinta Viveros	FUNDESPA- SGP
Manuel Murillo	Mi Ambiente	Patricia Bolaños	Estructuras Sostenibles
Isaías Ramos	CIAM	Livia Herrera	AMEDAR
Rubén Mendoza	Municipio de Pinogana		
Samuel Valdés	CBG – Red de Reservas		

Hydrographic basin 154		Hydrographic basin 158	
Alexander Montero	Mi Ambiente	Ester Carty	AUDUBOM
Carlos Doviaza	Rain Forest Foundation	Alvin Alzamora	NATURA
Celia Pérez	FUNDESPA	Saskia Santamaría	ELTI
Emilio Quintana	Mi Ambiente	Sobeida Green	Mi Ambiente
Yolani Holness	ANCON	Hernán Vargas	The Peregrine Fund
Yolanda Jiménez	CEASPA	Ricardo Moreno	Yaguará Panamá
Ligia Arriaga	AMEDAR		
Beatriz Schmitt	SGP - GEF		
Guido Verguido	ADOPTA		
Agustín Rodríguez	Mi Ambiente		
Yarelys Gómez	GEOAZUL		
Edgar Arauz	Parque Municipal Summit		
Diorene Smith	Parque Municipal Summit		

Hydrographic basin 160		Hydrographic basin 162	
Shalimar Spadafora	Mi Ambiente	Marcos Rueda	Mi Ambiente
Horacio Gonzales	Centro Pastoral de Santa Fe	Ilse Silva	MUPA
Jennifer Moreno	Pro-Niños de Darién	Jacob Slusser	ELTI
Michelle Szejner	Almanaque Azul	Karen Díaz	Red de Reservas Naturales

Hydrographic basin 164		Hydrographic basin 166	
Daniel Holness	CEASPA	Pedro Méndez	Universidad de Panamá
María Vásquez	Universidad de Panamá	Anibal Castillo	CREHO
Chelina Batista	Adopta Bosques	David Anderson	The Peregrine Fund
Iván Cubilla	CONADES	Erasmó Rodríguez	Autoridad Marítima de Panamá
Pablo Mendoza	Mi Ambiente	Lupita Omi	
José Lorenzo	Fiscalía Regional Darién	José de Gracia	

9.4 Electronic Survey Sheet

WORKSHOP OF ACTORS FOR THE PRESERVATION OF DARIÉN

The Panama Ministry of the Environment, the Small Grants Program, the Raptors Research and Forests Foundation of Panama and The Peregrine Fund invite you to participate in the "Actors Workshop for the Conservation of Darién", which will take place on Tuesday, October 8 of 2019. To facilitate the development of the activity, please fill out the following survey.

The results obtained will be presented and validated during the workshop and subsequently delivered to each participant as part of the event report.

Name:

I approve to voluntarily complete this survey and its use for conservation purposes:

Yes	No
-----	----

Institutional Affiliation:

--

Academic training:

--

Position you occupy within your organization:

--

Type of organization:

Government	No-Government	Private Entity
Other		

Mission of your organization:

--

Vision of your organization:

--

Foundation year of your organization:

--

Scope of work:

National	International
----------	---------------

Provinces where you develop your projects:

--

Has your organization carried out projects in the province of Darién?

Yes	No
-----	----

Is your organization currently carrying out projects in the province of Darién?

Yes	No
-----	----

What river basin do you currently work in?

Basin H. 152: Río Santa Bárbara
Basin H. 154: Río Chucunaque
Basin H. 156: Río Tuira
Basin H. 158: Río Tucutí (Balsa)
Basin H. 160: Ríos entre Tucutí y Sambú
Basin H. 162: Río Sambú
Basin H. 164: Ríos entre Sambú y Jurado
Basin H. 166: Jurado

Yes	No
Yes	No
Yes	No
Yes	No
Yes	No
Yes	No
Yes	No
Yes	No

Write the name of the community or communities where you worked in Darién:

--

Enter the name of the community or communities where you currently work in Darién:

--

If you have not worked in Darién, are you interested in carrying out projects in the future:

Soon (in less than a year)

Medium (within one and three years)

Long (within the next four years or more)

If we have interest, but we do not have financing

We do not know

Type of Project your organization executes:

Science

Formal education

Socio-economic

Training

Other

--

What is the name of the active project you are running in Darién?

--

Briefly describe the work you do on your project in Darién.

--

What is the lead time for your project (s) ?:

Short term: 6 to 12 months

Medium term: 12 to 36 months

Long term: more than 36 months

In Darién, this project is:

Local: 1 to 4 communities

Regional: more than five communities

Provincial: throughout the province

THREATS AND PRESERVATION ACTIONS

For each of the threats listed below, rate the level of negative impact on biodiversity in the province of Darién, where 1 is the value that qualifies the least impact and 5 qualifies the greatest impact.

Threats	1	2	3	4	5
Species extinction					
Overexploitation of natural resources					
Habitat loss and degradation					
Invasive species					
Solid Waste Pollution					
Pollution from chemical waste					
Change in land use and loss of biodiversity					
Climate change					
Unplanned infrastructure expansion					
Lack or weak government governance					
Lack or weak indigenous governance					
Economic and social inequality of the population					
Loss of cultural values					

If you know other threats that are not listed in the previous question, please write them down and put them with the same rating (from 1 to 5). Example: Illegal logging 5; Fragmentation 3, etc.

--

Which of the threats listed below is your organization trying to mitigate by executing its projects in the province of Darién? (Where 0 is the threat not included in your project and 1 is the threat that your project attempts to mitigate or eliminate). Rate each of the threats.

Threats	0	1
Species extinction		
Overexploitation of natural resources		

Habitat loss and degradation		
Invasive species		
Solid waste Pollution		
Pollution from chemical waste		
Change in land use and loss of biodiversity		
Climate change		
Unplanned infrastructure expansion		
Lack or weak government governance		
Lack or weak indigenous governance		
Economic and social inequality of the population		
Loss of cultural values		

For the eight river basins listed below, assess each one's preservation priority on a scale of 1 to 5, where 1 is the value that qualifies the basin with the lowest preservation priority and 5 qualifies the basin with the highest preservation priority.

Basins	1	2	3	4	5
Basin H. 152: Río Santa Bárbara					
Basin H. 154: Río Chucunaque					
Basin H. 156: Río Tuira					
Basin H. 158: Río Tucutí (Balsa)					
Basin H. 160: Ríos entre Tucutí y Sambú					
Basin H. 162: Río Sambú					
Basin H. 164: Ríos entre Sambú y Jurado					
Basin H. 166: Jurado					

Considering the Sustainable Development Goals (SDGs) and the type of project your organization develops in Darién, what is the level of impact that your activities have on each SDG, where 0 is the value that qualifies no impact and 5 is the value that qualifies the greatest impact?

SUSTAINABLE DEVELOPMENT GOALS	1	2	3	4	5
Zero hunger					
Health & Wellness					
Quality education					
Gender equality					
Clean water and sanitation					
Decent work and economic growth					
Industry, innovation and infrastructure					
Inequality reduction					
Sustainable cities and communities					
Responsible production and consumption					
Submarine life					
Life of terrestrial ecosystems					
Peace, justice and strong institutions					
Partnerships to achieve the objectives					

If financing was not a limitation and you could carry out any program or project you wanted, what would be the three actions you would take in Darién to ensure its long-term preservation?

What result would you like to obtain from this workshop in order of importance on a scale of 1 to 5? Where 1 is less important and 5 is more important.

	Assessments 1 to 5
Establish a collaborative work network	
Identify organizations with objectives related to my organization	
Obtain a better view of the problems facing Darién	
Determine collective conclusions that help identify potential sources of financing	
Other	

If your answer in question 10 was "Other", please indicate the result you would like to obtain from the workshop and indicate its importance on a scale from 1 to 5.

--

Thank you very much!

9.5 List of threats prioritized by Hydrographic Basin

Part 1

CONFIRMED THREATS TO BIODIVERSITY	Basin H. 152: Río Santa Bárbara	Basin H. 154: Río Chucunaque	Basin H. 156: Río Tuira	Basin H. 158: Río Tucutí (Balsa)
Species extinction	16	22	20	18
Overexploitation of natural resources	28	30	26	28
Loss of habitat and degradation	30	31	27	26
Invasive species	5	10	8	4
Solid waste pollution	12	20	16	12
Chemical waste pollution	13	16	10	11
Change in land use and demand for biodiversity.	16	18	15	16
Climate change	12	15	14	14
Non-planned expansion of infrastructure.	11	12	8	4
Lack of or weak government governance.	26	25	26	27
Lack of or weak indigenous governance.	8	19	18	17
Economic and social inequality of the population.	20	26	21	24
Loss of cultural values	11	18	14	17
Extensive traditional livestock.	27	25	17	18
Legal forest extraction.	8	12	7	4
Illegal forest extraction.	11	17	16	11
I don't know.	6	7	7	8

Part 2

CONFIRMED THREATS TO BIODIVERSITY	Basin H. 160: Ríos entre Tucutí y Sambú	Basin H. 162: Río Sambú	Basin H. 164: Ríos entre Sambú y Jurado	Basin H. 166: Jurado
Species extinction	14	13	10	8
Overexploitation of natural resources	25	21	19	11
Loss of habitat and degradation	21	22	13	11
Invasive species	4	3	0	1
Solid waste pollution	13	13	9	5
Chemical waste pollution	9	11	7	5
Change in land use and demand for biodiversity.	12	12	8	5
Climate change	13	13	10	8
Non-planned expansion of infrastructure.	6	6	3	3
Lack of or weak government governance.	25	23	20	17
Lack of or weak indigenous governance.	16	20	14	8
Economic and social inequality of the population.	21	22	17	14
Loss of cultural values	15	15	8	6
Extensive traditional livestock.	16	15	11	7
Legal forest extraction.	3	1	0	0
Illegal forest extraction.	8	6	6	2
I don't know.	9	10	14	18

9.6 Event Photographs



Photograph 01: Engineer Dimas Arcia, Director of Protected Areas of MiAMBIENTE welcoming participants to the workshop. By: José de Jesús Vargas González.



Photograph 02: MSc. Beatriz Schmitt, national coordinator of the PNUD / GEF Small Grants Program, presenting the results of the workshop survey. By: David Bejerano.



Photograph 04: Worktable during the Actors Workshop for the Conservation of Darién. By: José de Jesús Vargas González.



Photograph 05: Working table during the Actors Workshop for the Conservation of Darién. By: Darisnel Carpio.



Photograph 05: Working table during the Actors Workshop for the Conservation of Darién. By: David Bejerano.



Photograph 06: Engineer Jacob Slusser of ELTI presenting group results during the Actors Workshop for the Conservation of Darién. By: Darisnel Carpio.



Photograph 07: Working table during the Actors Workshop for the Conservation of Darién. By: Dr. Munir Virani.



Photograph 08: Working table during the Actors Workshop for the Conservation of Darién. By: Dr. Munir Virani.



Photograph 09: Working table during the Actors Workshop for the Conservation of Darién. By: Dr. Munir Virani.



MINISTERIO DE
AMBIENTE



Technical Report

Actors Workshop for the Conservation of Darién



"Con el apoyo financiero de Programa de Pequeñas Donaciones"



SGP Programa
Pequeñas
Donaciones
del FMAM



*Al servicio
de las personas
y las naciones*