

IDENTIFICATION AND MANAGEMENT OF **HIGH CONSERVATION VALUES (HCV)** IN THE EASTERN ZONE

Results of the regional HCV assessment
and detailed studies for three beneficiary
oil palm nuclei



COLOMBIAN OIL PALM SECTOR: Navigating a responsible path with nature and local communities

Today, more than ever, sustainability and productivity go hand in hand with the oil palm agro industry. The consolidation of an economically viable sector, and the development of oil palm crops in harmony with their environment and biodiversity depends on their balance.

The Biodiverse Oil Palm Landscapes project (PPB given its acronym in Spanish) was an initiative that began in 2007, with the formulation of a project jointly promoted by Fedepalma, Cenipalma, WWF and the Alexander von Humboldt Institute. Its purpose was to provide the oil palm sector with information and environmental tools to support better decision making processes in the feasibility analysis, design and operation stages of oil palm crops, implementing strategies and good practices that conserve biodiversity and increase productivity. The PPB project was financed by the Global Environment Facility (GEF), and its implementing agency was the Inter-American Development Bank (IDB).

One of the main results of the PPB project was the identification of High Conservation Value areas in its two implementation areas, located in the northern and eastern oil palm growing regions in Colombia.

The HCV concept was developed by Proforest and adopted by the Roundtable on Sustainable Palm Oil (RSPO), whose sustainability standard is the most widely recognized in the World for palm oil. With this, the RSPO aims for oil palm crops not to replace or impact HCV areas; those with a high biological, ecological, social or cultural value for palm oil producing countries and for communities

in oil palm regions.

The PPB project welcomed the HCV concept as a tool for the Colombian oil palm sector to actively contribute to biodiversity conservation, and to show progress in implementing sustainability standards required by national and international markets.

In its two implementation areas, the PPB project developed an innovative methodology as it first identified HCV areas in a regional context, and then went into greater detail to consolidate specific HCV reports for the six beneficiary oil palm companies of the project and their supply base (three in each implementation area).

These HCV reports were the first in Colombia to meet the requirements that the High Conservation Value Network had recently modified by the time they began in 2014.

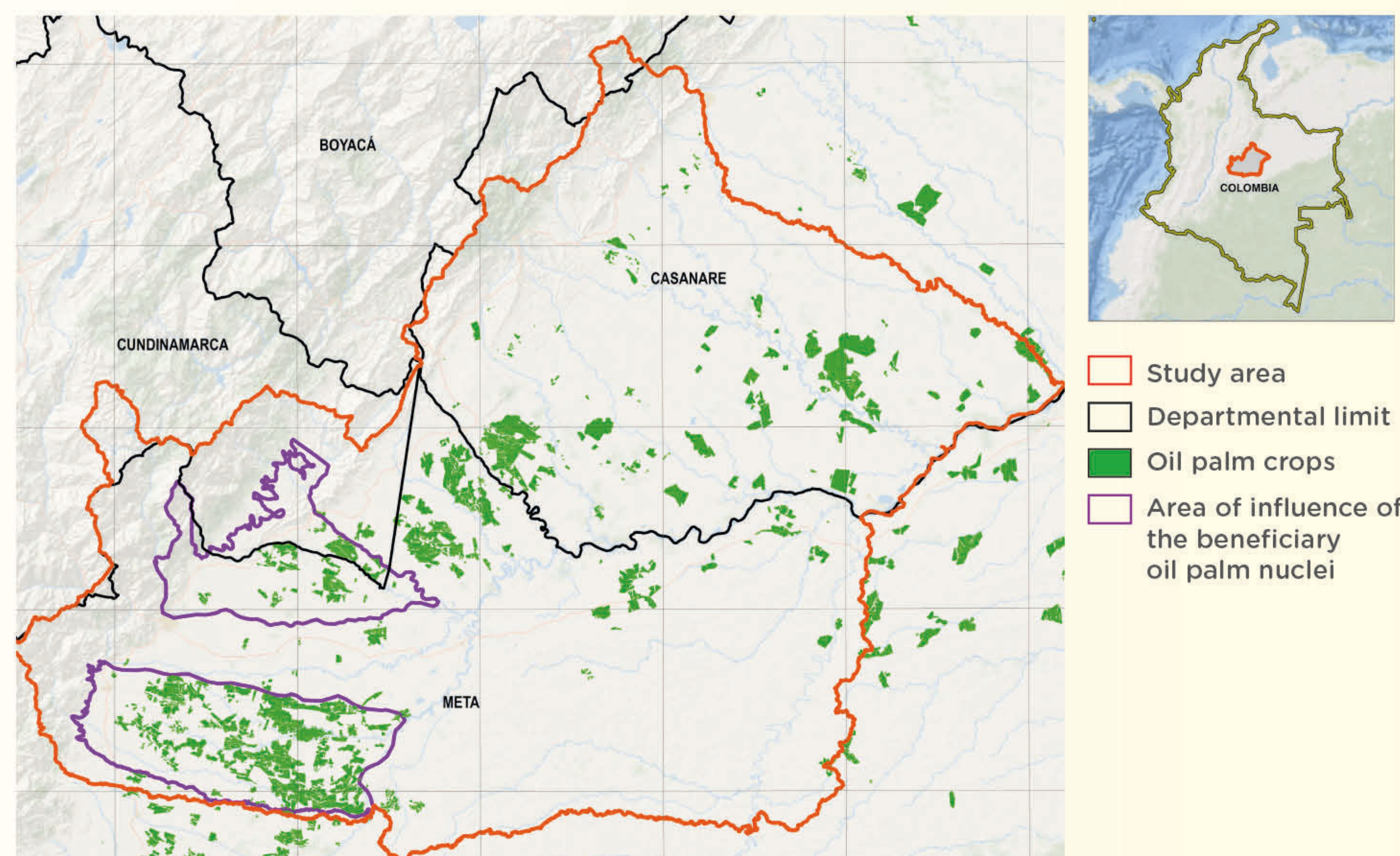
In this document, we share the main findings, lessons learned and strategies for identifying HCV areas in the Eastern Zone, as well as some management and monitoring measures that were jointly formulated with the beneficiary oil palm nuclei for the six HCV categories.

It should be noted that a good part of the information included in this document (and especially the HCVs identified in a regional context) is useful for other oil palm nuclei within the PPB implementation area, and that the management measures can be replicated by other producers that identify HCVs similar to those described here.

THE PPB HAD AN INNOVATIVE COMPONENT: It proposed a methodology to identify HCV at a regional scale.

Study area
2'899.181
hectares

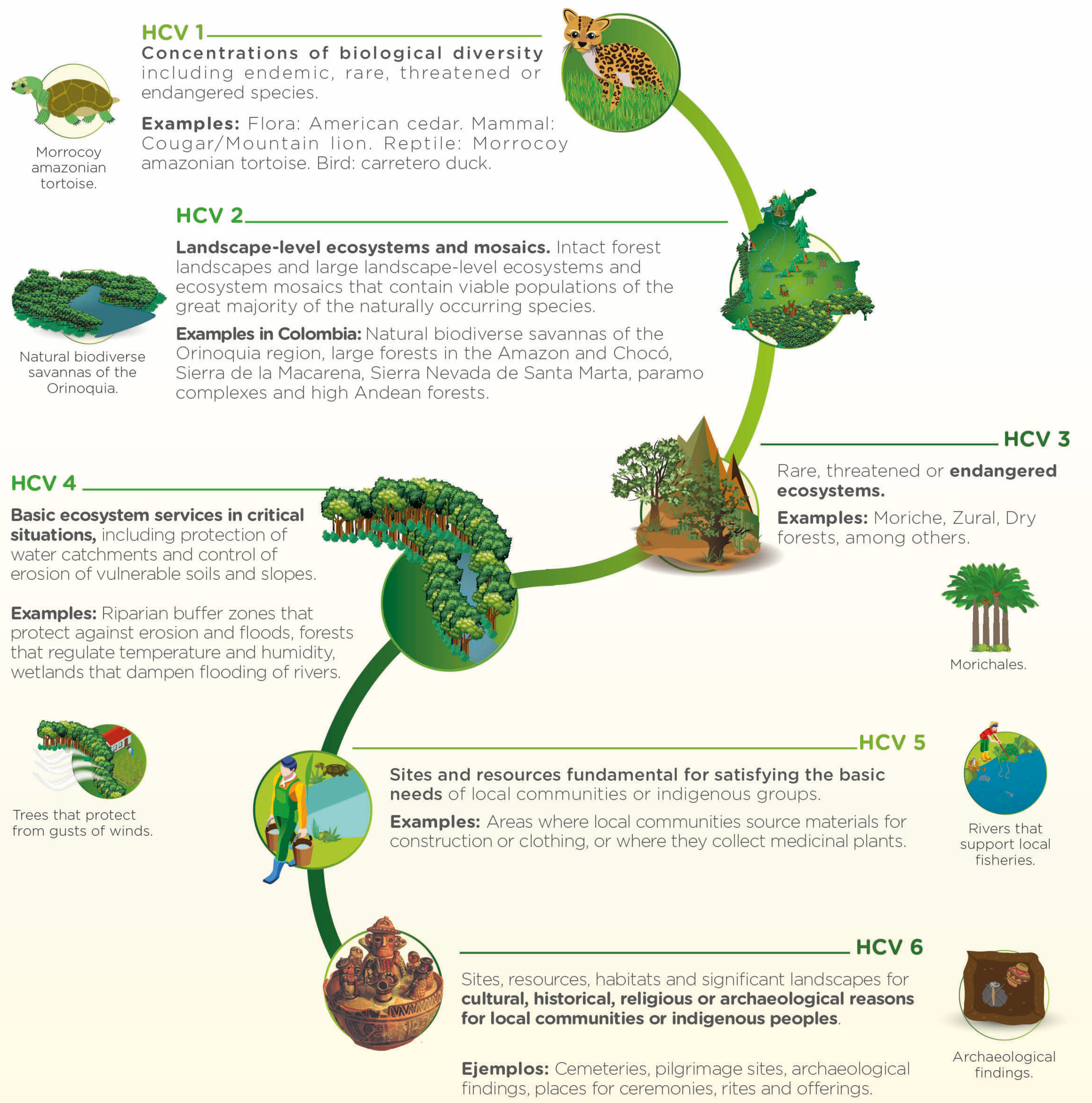
Oil palm nuclei in which detailed HCV assessments were conducted in this area:



What are High Conservation Values - HCV?

- High Conservation Values (HCV) are **biological, ecological, social or cultural values which are outstandingly significant or critically important** at the global, national or regional level, or for a local community.
- All natural habitats have **inherent conservation values** including the presence of rare or endemic species or ecosystems, the provision of ecosystem services, sacred sites, or because they provide resources to satisfy the basic needs of local communities.
- There are six ways to identify if any of them is a High Conservation Value, or **six HCV categories**:

HCV Categories



HCV 1

Concentrations of biological diversity

METHODOLOGY

A ground survey was conducted to identify RTE (rare, threatened or endangered) species in the study area.

The route went beyond the properties of the three beneficiary oil palm nuclei and covered a wider area of influence of the oil palm activity in the study area.

The survey sought to identify the presence of these RTE species, and it was equally important to identify their natural habitat.



The specific route for the survey was agreed with the Humboldt Institute, a PPB project partner and Colombia's authority on biodiversity research and policy matters, based on its Red Book listings of endangered species and on the RTE lists of the International Union for the Conservation of Nature (IUCN).

During the survey, flora species and five faunal groups (mammals, birds, amphibians, reptiles and fish) were analyzed.

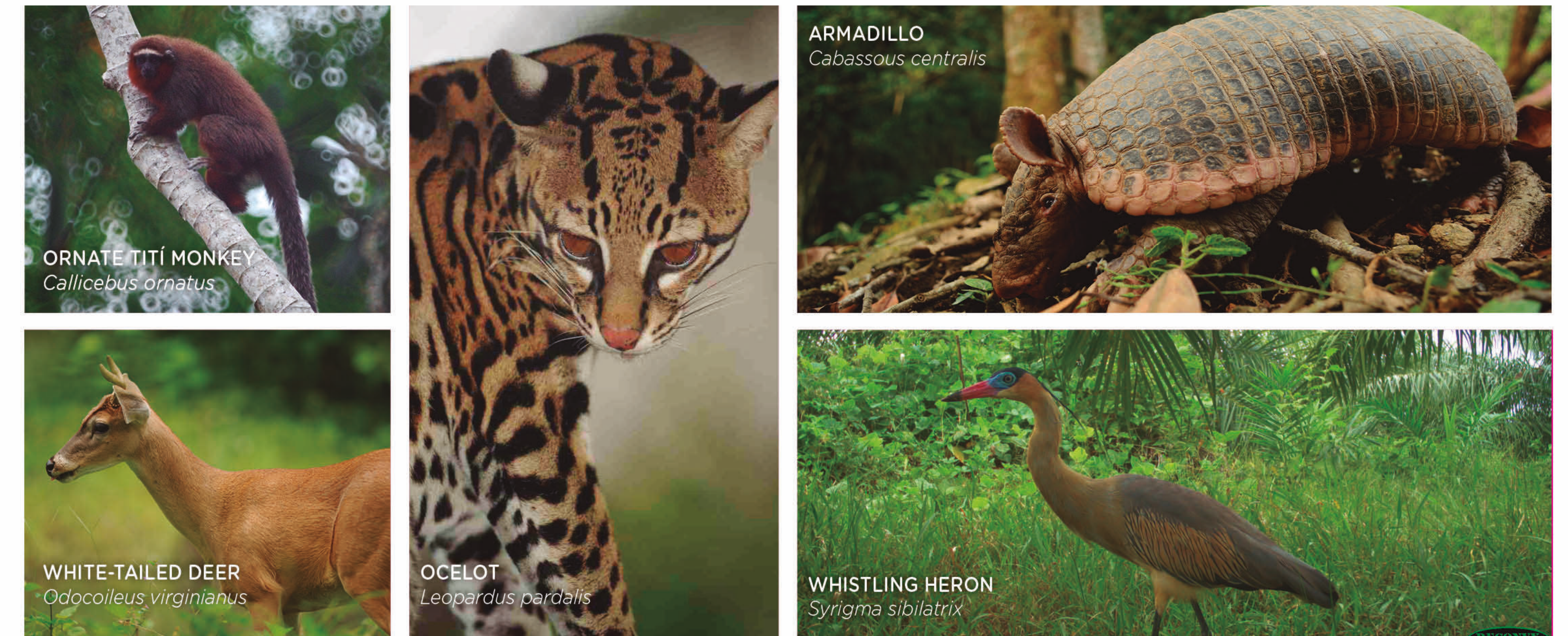
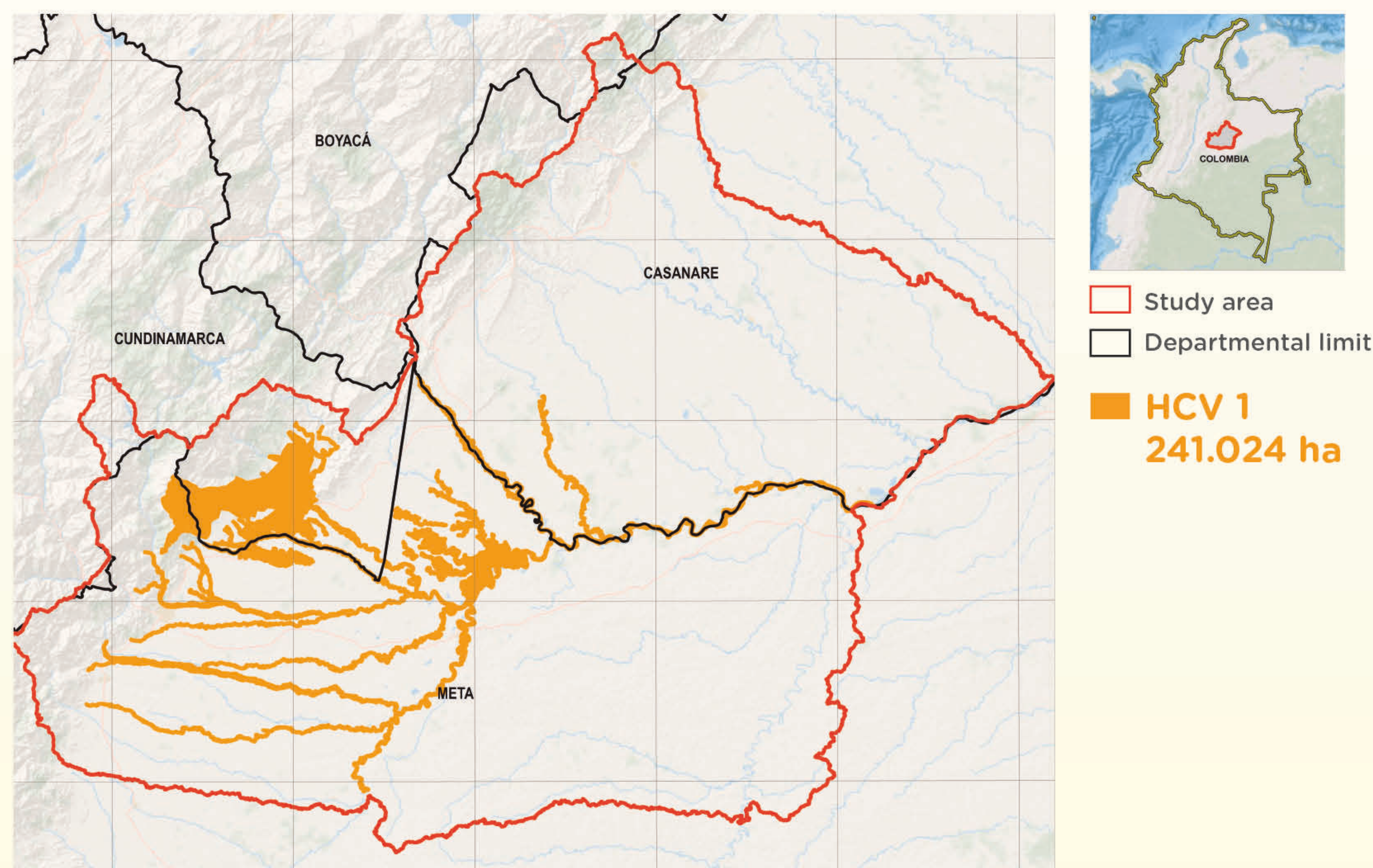
The areas identified as HCV1 were those habitats that concentrated a great diversity of HCV1 species.

RESULTS

Regional scale: Areas with the highest concentrations of biological diversity

In its regional analysis, the PPB project identified areas with high concentration of terrestrial and aquatic species along the main rivers (and their riparian forests) of the study area; among them the Meta, Metica, Humea, Guayuriba, Guatiquía, Guacavía, Orotoy, Humadea and Upía rivers.

The ecotones (transition zones between ecological communities) that were identified between the Andean mountain chain and the Orinoco basin, and between the Andean piedmont and the Orinoco basin high plains, were also classified as HCV1 areas.



IDENTIFICATION OF SPECIES IN THE OIL PALM AREA OF INFLUENCE WITHIN THE STUDY AREA

	FLORA	MAMMALS	BIRDS	REPTILES	AMPHIBIANS	FISHES	TOTAL SPECIES
SPECIES IDENTIFIED IN THE SURVEY	660	51	137	29	23	57	957
SPECIES IDENTIFIED AS HCV1	30	20	21	5	2	20	98
HCV1 SPECIES IDENTIFIED IN BENEFICIARY OIL PALM NUCLEI							
MANUELITA	22	20	3	3	2	20	70
HACIENDA LA CABAÑA	26	20	16	3	2	11	78
UNIPALMA	15	16	9	3	2	11	56

MANAGEMENT ACTIONS

For the adequate management and monitoring of the identified HCV1 areas and habitats, several actions were agreed with the three beneficiary oil palm nuclei. Most of these actions aim at maintaining or improving the habitat of HCV species, which were classified as arboreal, aquatic or terrestrial according to their habitat type.

ARBOREAL

- Restore and preserve riparian buffer zones.
- Conserve and enrich forest patches.
- Incorporate biological corridors to connect forest patches and riparian buffer zones.

AQUATIC

- Conserve water bodies and their protective vegetation.
- Conserve wetlands and estuaries and their vegetation; they are the habitat of many amphibians, reptiles and migratory birds.
- Maintain a protection strip near water bodies, in which the use of agrochemicals is minimized or eliminated; reptile and amphibian species live in these areas and their skin is sensitive to this type of substances.
- Monitor water quality and mitigate the impact of palm oil mill effluents on water bodies and fish species.

TERRESTRIAL

- Incorporate living fences and biological corridors to facilitate the passage of species.
- Plant crop coverings for better soil management.
- Adopt an integrated management of pests and diseases with biological control strategies to avoid soil contamination with excess use of agrochemicals.

• Prevent logging and hunting of species.

HCV 2

Landscape-level ecosystems and mosaics

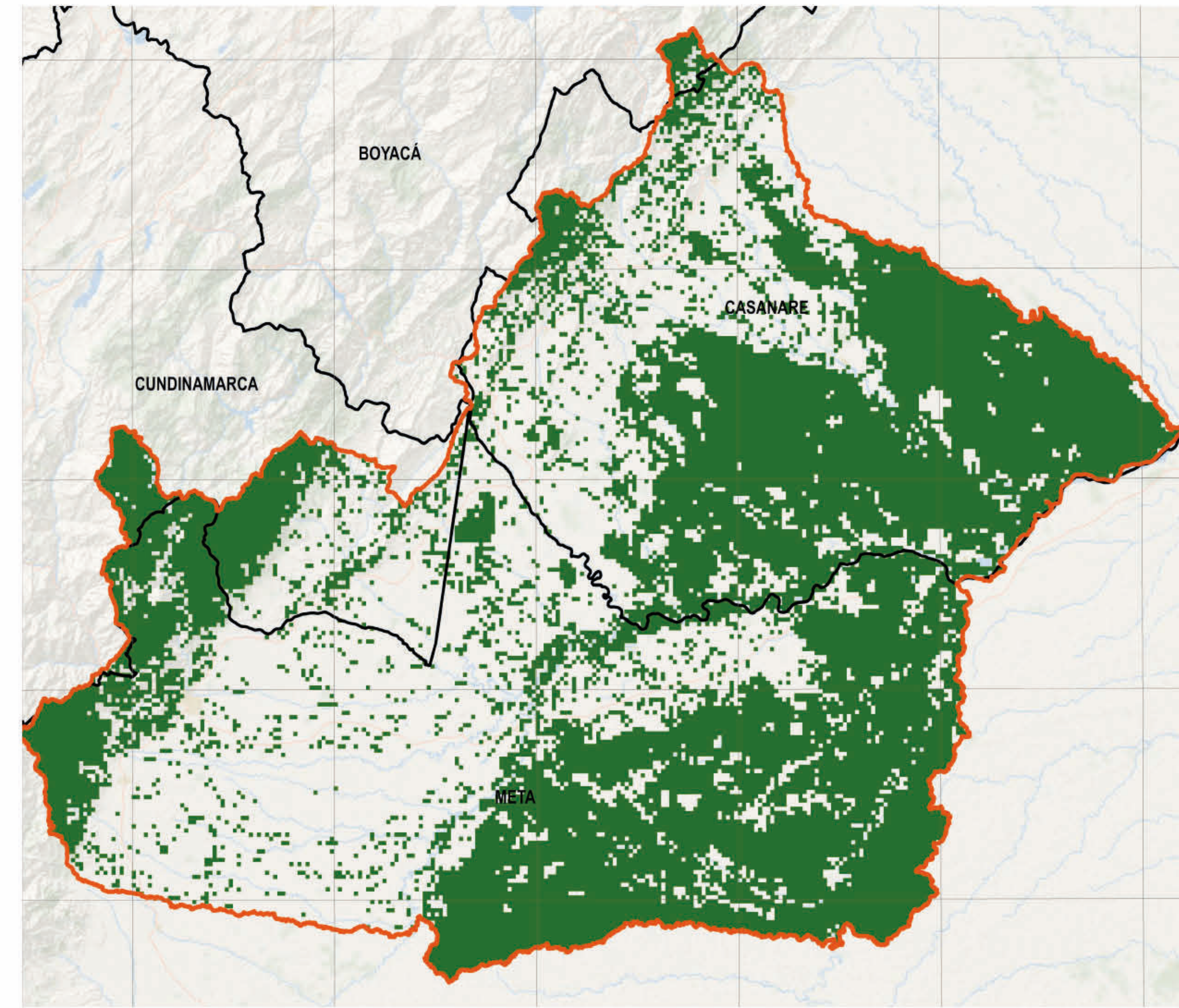
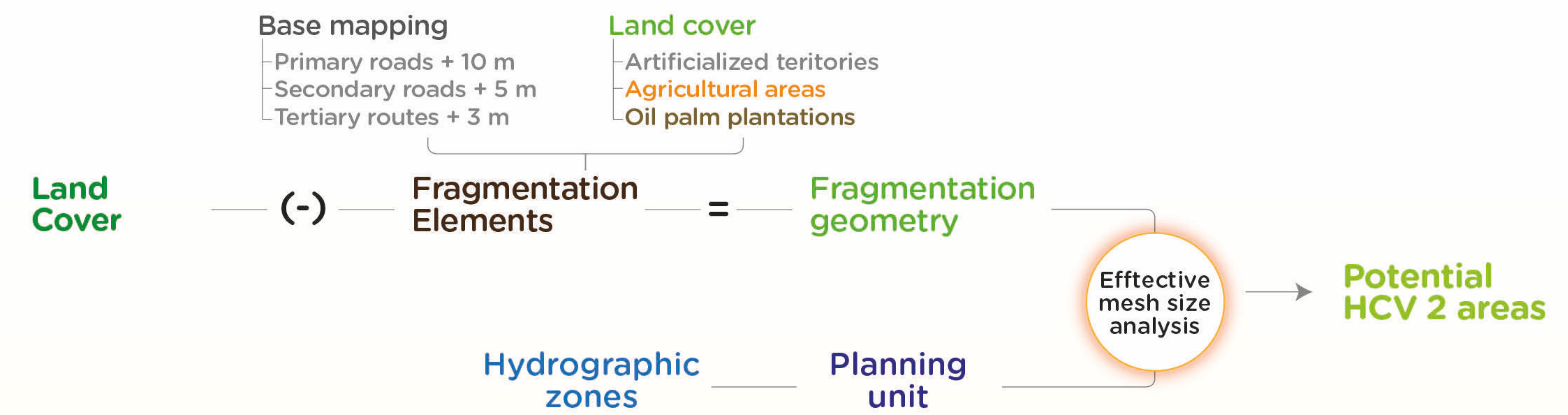
METHODOLOGY

Bearing in mind that HCV2 are large ecosystems and in a good state of conservation, the PPB project identified this HCV category at a regional scale for its entire study area in the eastern oil palm region.

Habitat loss and ecosystem fragmentation caused by anthropogenic activities in natural regions, is recognized as one of the main drivers for biodiversity loss. Landscape fragmentation due to roads, urban development, agriculture and other infrastructure has considerable effects on the functional structure of biodiversity.

One fragmentation indicator is the effective mesh size, which expresses the probability that two locations are connected, or not separated by barriers (i.e. roads) (Jaeger 2000 *). It can also be interpreted as the average area that an animal located at random within a given landscape can access without barriers.

The PPB project chose this methodology as a proxy to characterize HCV2 ecosystems, as it could identify large fragments of these ecosystems with high degrees of connectivity, in which species could move more easily to find food and have enough habitat for their survival in time.



Study area
Departmental limit
HCV 2
1.592.450 ha

Chingaza National Natural Park natural and cultural treasure at the center of Colombia, and refuge for fauna and flora

Natural high plain savannas in **Puerto López** and **Flooded savannas** of the **department of Casanare**, tropical ecosystems of ecological importance in the **Orinoquia region**

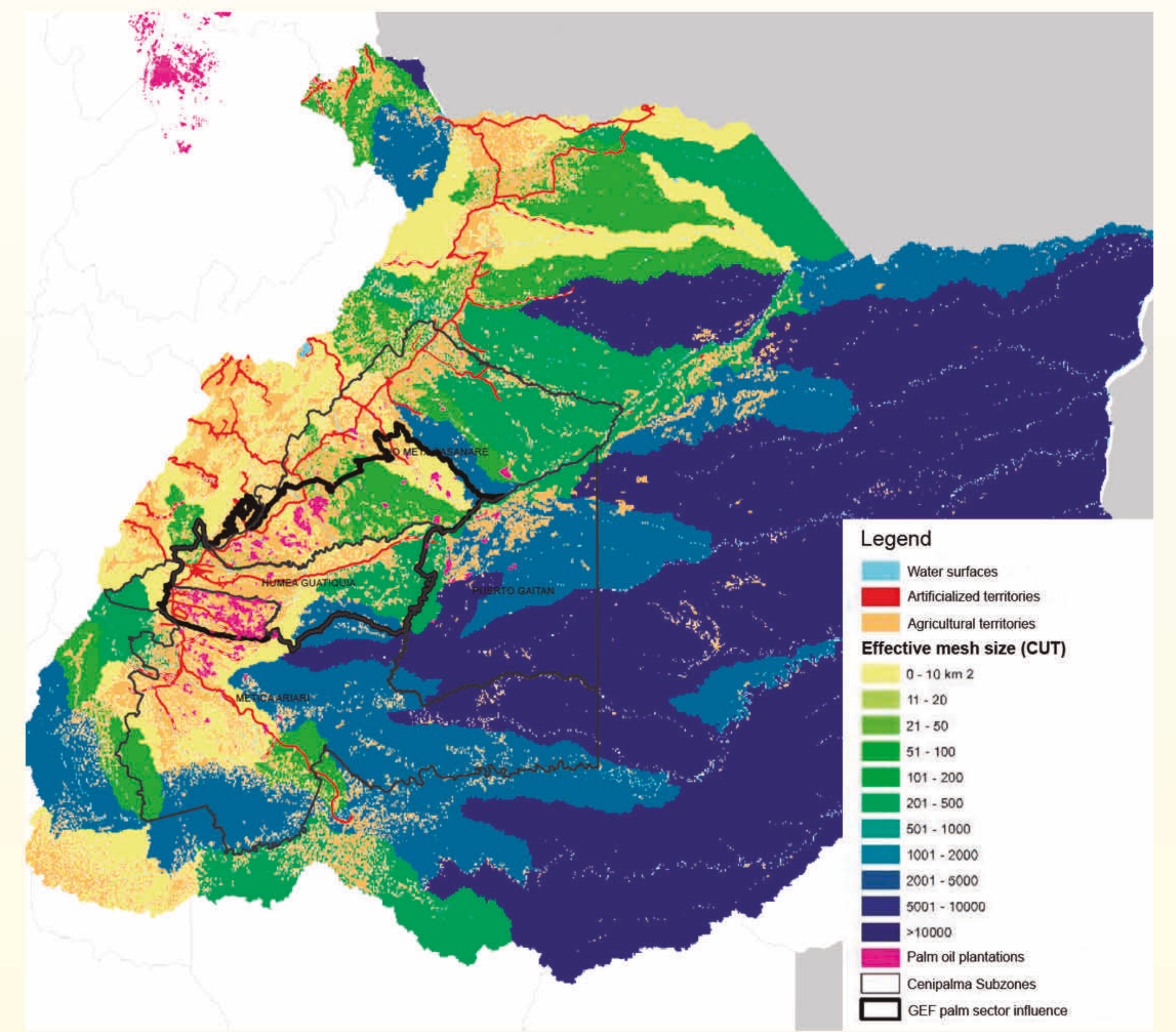
MANAGEMENT ACTIONS

Given the extension and integrity of HCV2, it is unlikely that oil palm crops will be found within an HCV2. However, oil palm crops or palm oil mills located in the vicinity or upstream of HCV2 areas can disturb or impact them. Therefore, some management actions were identified to be considered in such cases.

RESULTS

The first step was to analyze the Orinoco basin region of Colombia. Its degree of transformation was found to be high in the Andean piedmont in Meta, Casanare and Arauca departments; this area has been dedicated to agriculture activities and oil extraction for decades. In contrast, a large part of the high plains in the departments of Meta and Vichada, the flooded savannas of Casanare and Arauca, and the savannas of Guainía and Guaviare that were analyzed, have very low ecosystem fragmentation; their effective mesh size is relatively high.

Additionally, well-preserved forests in the Chingaza National Park in the westernmost part of the study area were also categorized as HCV2.



Subsequently, a more detailed analysis was undertaken for the study area, using a land cover map developed by the PPB based on satellite images from 2014 and using the Corine Land Cover methodology adapted for Colombia (see land cover map, page 8).

Natural savannah ecosystems with an effective mesh size greater than 1,000 km² were classified as HCV2. They are mainly located in the municipalities of Maní, Orocué and Turamena in the department of Casanare, and in Puerto López in the department of Meta.

- Prevent and control logging and hunting.
- Minimize the pollutant load of palm oil mill effluents discharged to water bodies as much as possible.
- Restore and protect riparian buffer zones.
- Avoid the transformation or disturbance of natural areas in the vicinity of the large ecosystems identified.
- Reduce the use of agrochemicals in nearby areas or in those with influence on flooded savannas.
- Implement corridors of natural vegetation that facilitate connectivity between natural ecosystems and the passage of wildlife species.
- Sensitize oil palm growers and workers about the environmental importance of these areas and about the role that the oil palm sector can have in their care and conservation.

HCV 3

Rare, threatened or endangered ecosystems

HCV3 are rare, threatened or endangered (RTE) ecosystems.

RTE ecosystems may be naturally rare because the climatic or geological conditions necessary for their development are limited, or because they have become rare due to anthropogenic pressures such as the conversion of natural ecosystems for agricultural use, among others (Jennings et. al., 2002*).

Ecosystems in this category include :

- **Ecosystems (unaltered or not) that are now rare** or that have been considerably reduced, **even though they were previously large or were typical in a given region.**
- **Ecosystems (unaltered or not) that have always been rare.**

METHODOLOGY



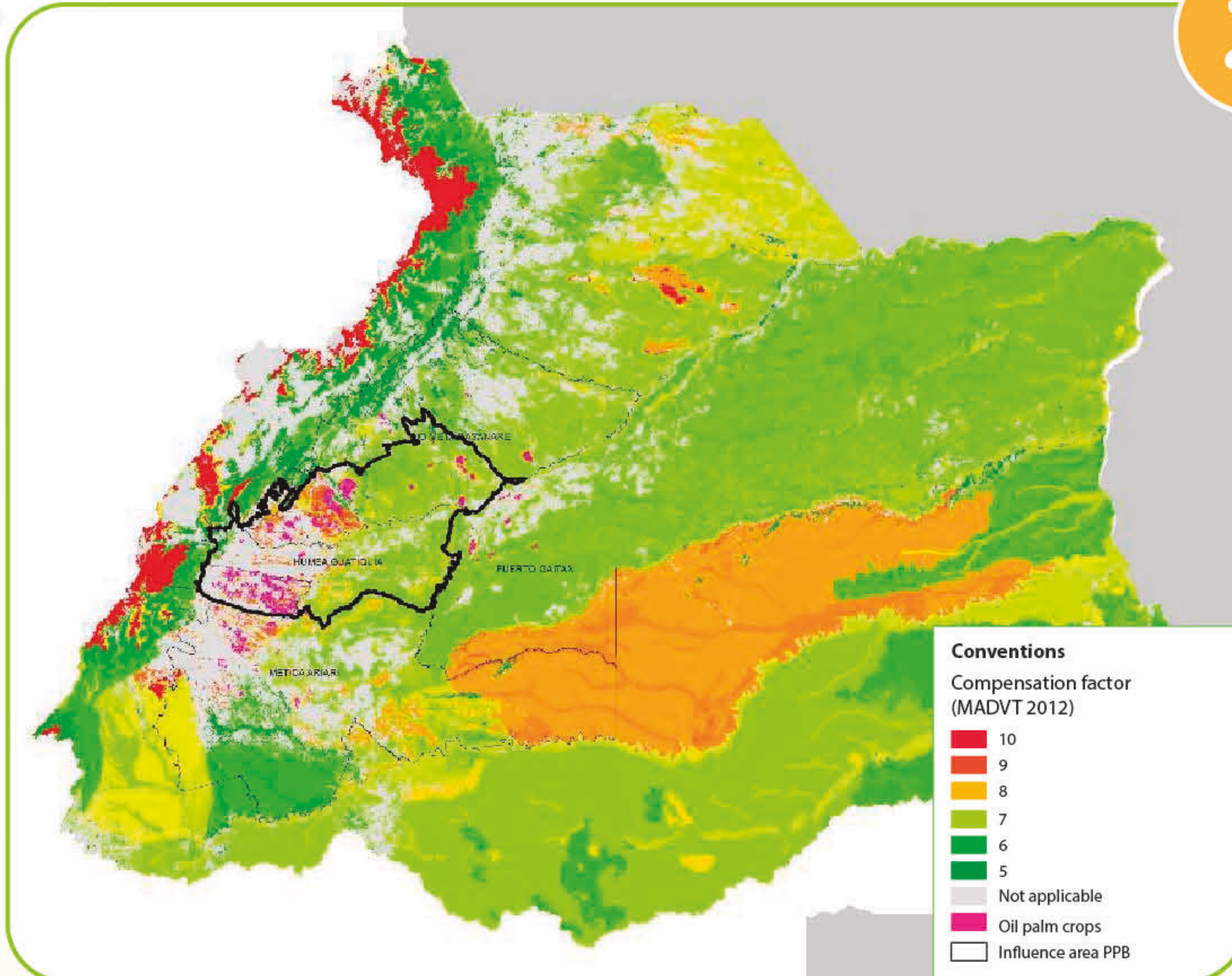
The methodology used for identifying HCV3 in the study area contemplated 3 steps:



1

Rare, threatened or endangered ecosystems with legal protection in Colombia were identified.

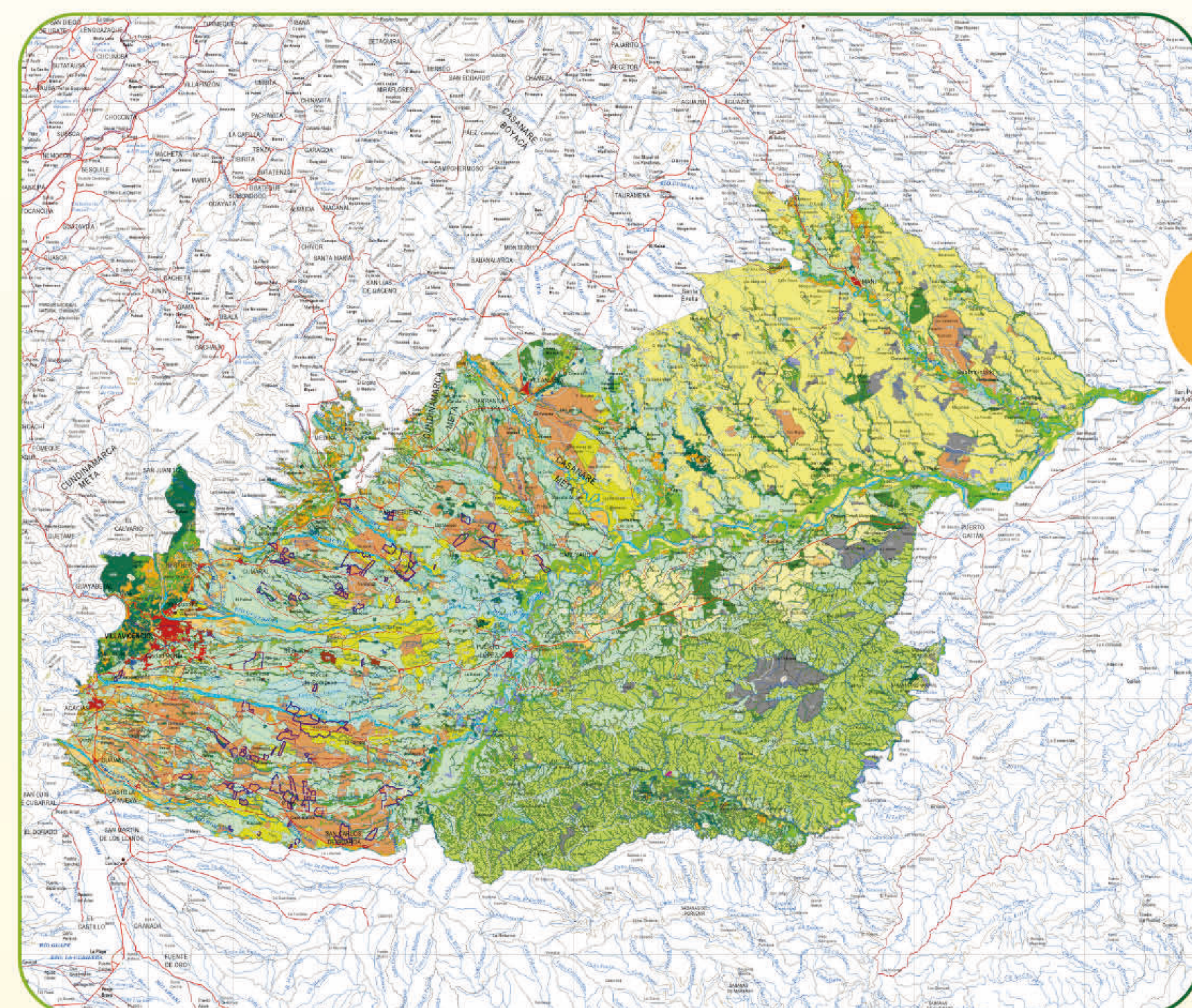
- Tropical dry forests
- Mangroves
- Páramos (high altitude grasslands)
- Wetlands
- Areas of special ecological importance for the conservation of water resources



2

Based on the ecosystems map of Colombia, rare, threatened or endangered ecosystems were identified for the Orinoquia region.

Each type of ecosystem was assigned a relative importance according to the compensation factor established in the Compensation Manual of the Ministry of Environment and Sustainable Development (2012). This factor assesses the rarity, representativeness, remanence and transformation rate of ecosystems in each biome / biogeographical district.

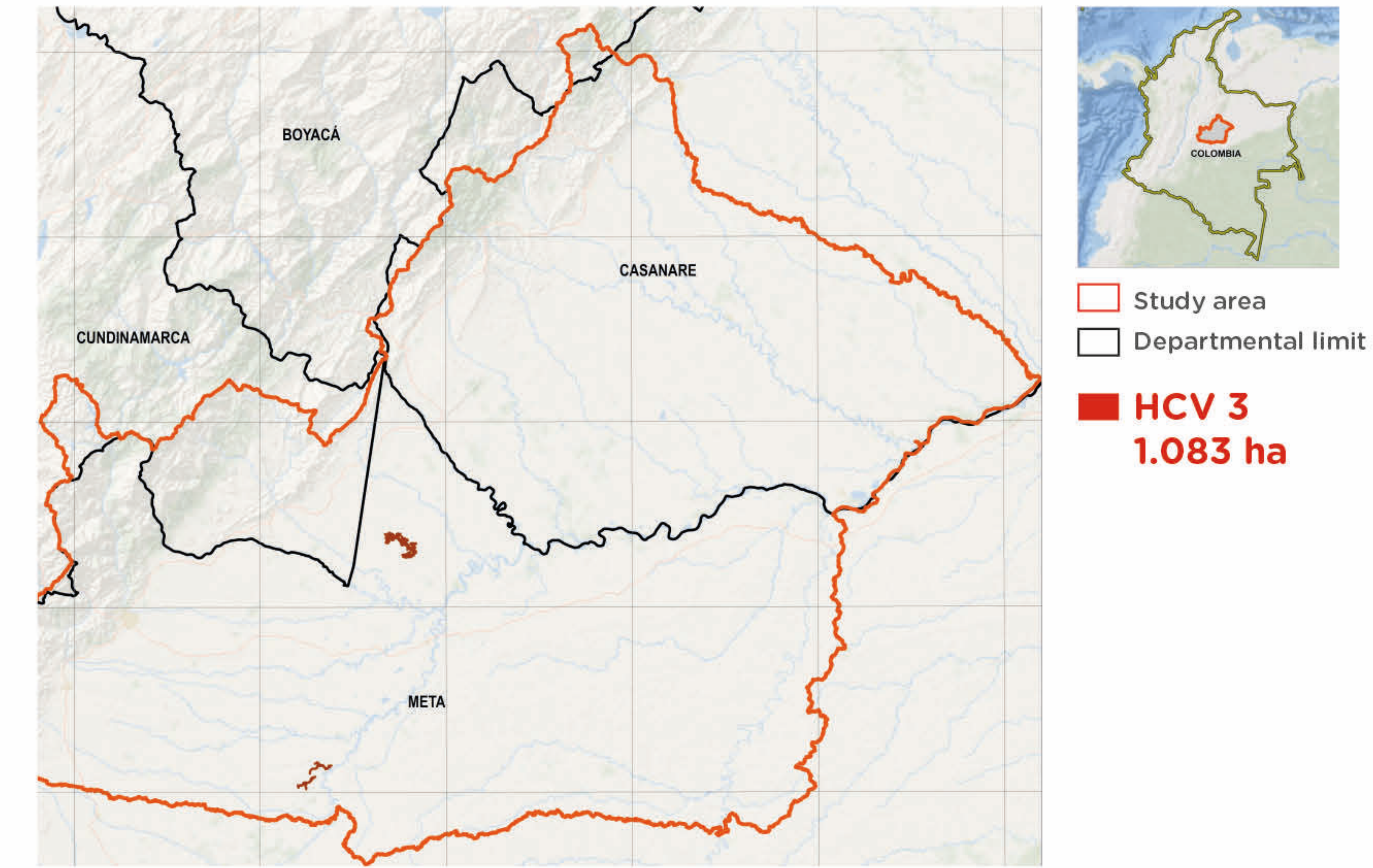


3

HCV3-type ecosystems were more accurately identified in the study area, based on a land cover map developed by the PPB project with satellite images for 2014 and using the Corine Land Cover methodology adapted for Colombia.

RESULTS

Based on these criteria, the only ecosystems identified as HCV3 in the Eastern Zone were “zurales” and “zural” gallery forests. However, they were found in very small fragments in only two properties of beneficiaries of the project. These ecosystems require management actions to ensure their permanence, through restoration and connectivity.



Photos: Sandra Salamanca

MANAGEMENT ACTIONS



Prevent and control burnings on these vulnerable ecosystems.



Implement enclosures to prevent livestock from entering into these sensitive ecosystems.



Implement surveillance and control programs for logging and hunting.



Delimit and mark these conservation areas.



Raise awareness about the existence of these ecosystems, understanding that they have been classified as endangered and that they are in a vulnerable state.

Implement Landscape Management Tools - LMT to improve the status and connectivity of these ecosystems



Enrichment of forest fragments.



Protection or restoration of riparian buffer zones



Implement biological corridors to connect the “zurales” with riparian buffer zones and other forest patches.



Minimize as much as possible the use of agrochemicals and the discharge of wastewater into rivers, lakes, ponds, wetlands, and estuaries.

HCV 4

Basic ecosystem services in critical situations

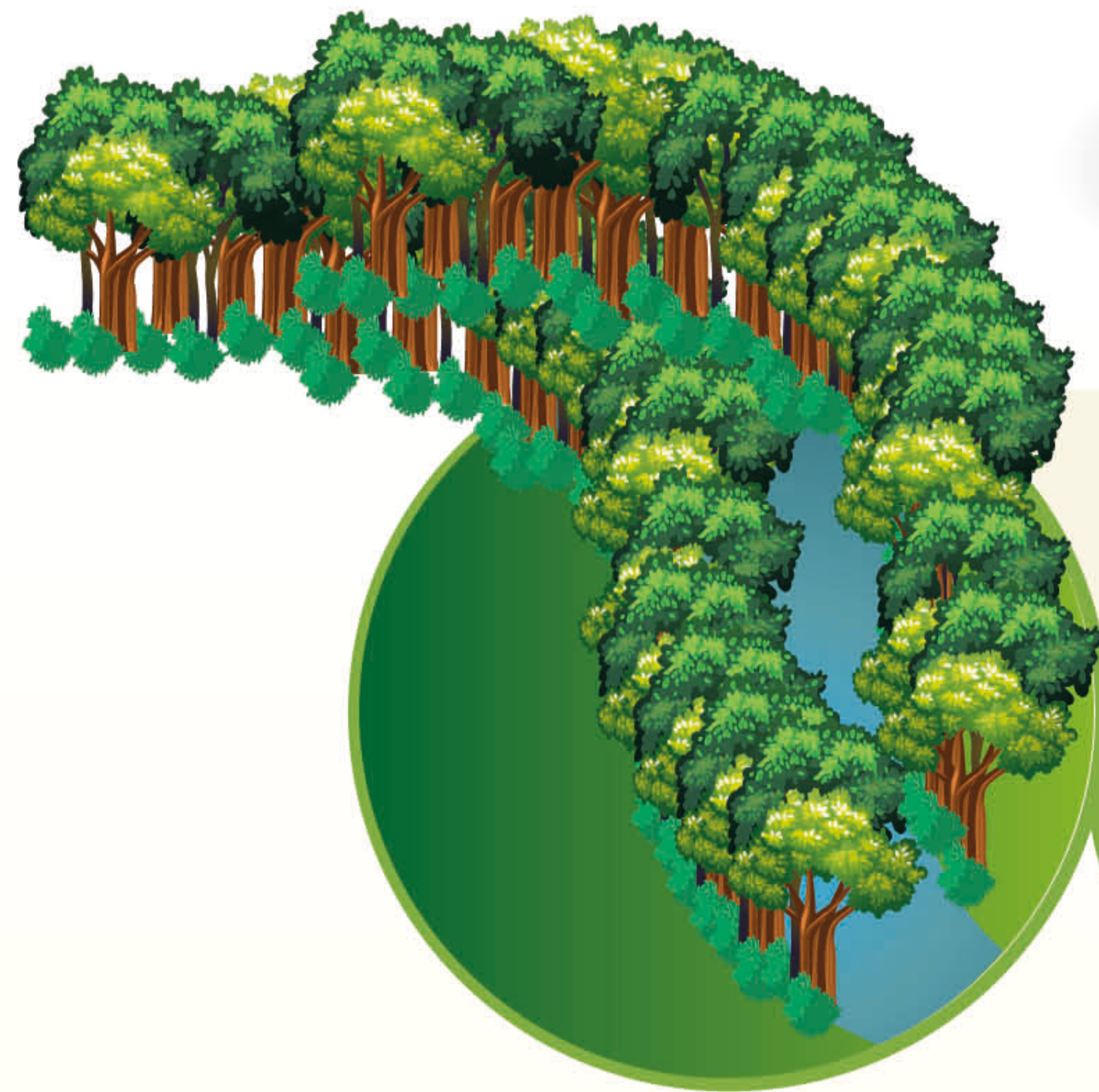
METHODOLOGY



To identify HCV4 areas, the **ecosystem services that benefit local communities, towns and other productive activities** in the direct area of influence of the three beneficiary oil palm nuclei in this study area were analyzed.



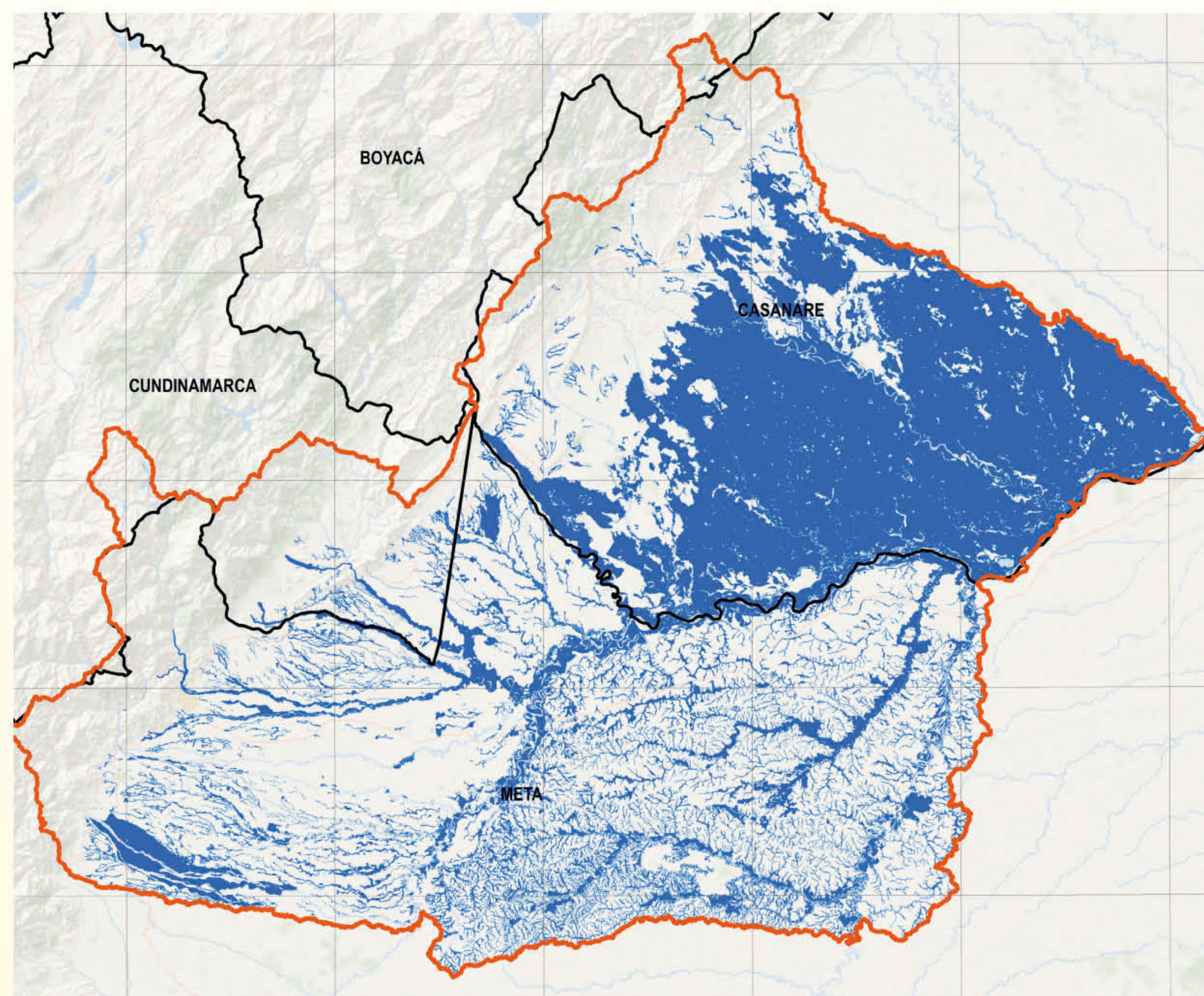
The **ecosystem services classification of the Millennium Ecosystem Assessment** was used to prioritize those most relevant in the study area.



The two prioritized ecosystem services were:

- Regulation and maintenance of water quality and quantity
- Control of erosion and flooding on river banks

RESULTS



Study area
Departmental limit
HCV 4
996.976 ha

The main findings in relation to the two prioritized ecosystem services were:

- **Regulation and maintenance of water quality and quantity:** In the area of influence of the three beneficiary oil palm nuclei, this ecosystem service is provided by water bodies that are part of the Guatiquía, Guacavía, Humea, Guayuriba, Orotoy, Acacias and Guamal river basins. They were considered as HCV4 because of their critical importance to the population and to other economic activities in the region, and because any degradation that may

occur in these water bodies (including decreasing environmental flows) can negatively impact the ecology of lotic ecosystems they are located to the East of these nuclei.

- **Control of erosion and flooding on river banks:** Erosion control elements were considered a critical ecosystem service for the area of influence of the Cabaña and Unipalma nuclei, given the presence of anastomosing rivers in that area (rivers whose channel consists of a network of small channels separated by small and temporary islands). Gallery forests play a key role for water quality, filtering pollutant elements, and, given the proximity to the eastern Andean mountain chain, to reduce sediment drag during the rainy season, thereby controlling erosion in the lower parts of the river basins.

In the regional HCV analysis, a large network of water bodies was identified including rivers and wetlands, which covers a good portion of the study area. In addition to **gallery forests and riparian buffer zones, wetlands and floodplains in the Casanare Department were identified as HCV 4** because of the water regulation ecosystem service they provide throughout the region. The Humboldt Institute and several national and international environmental NGOs have identified the ecological importance of these floodplain savannas.

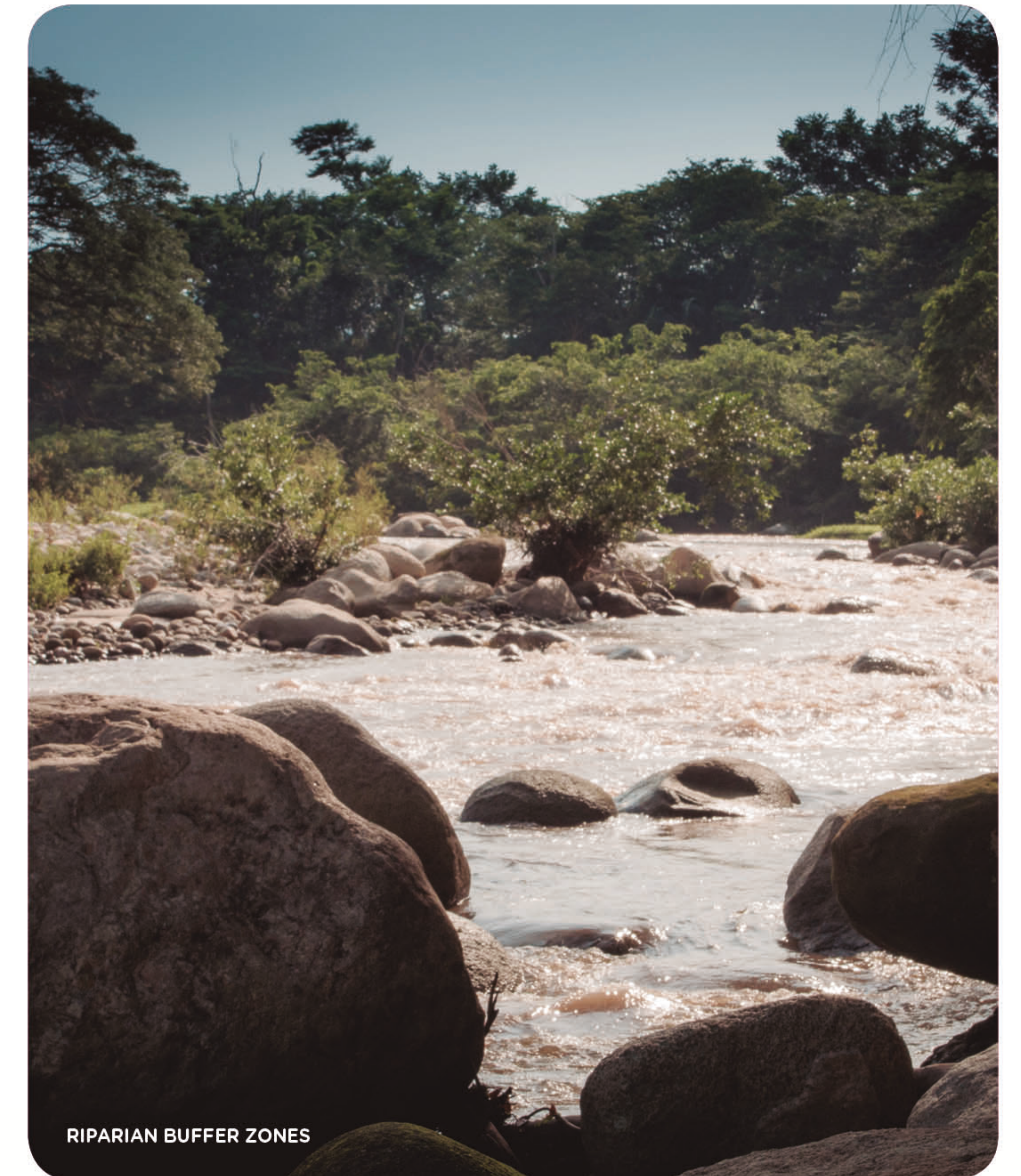
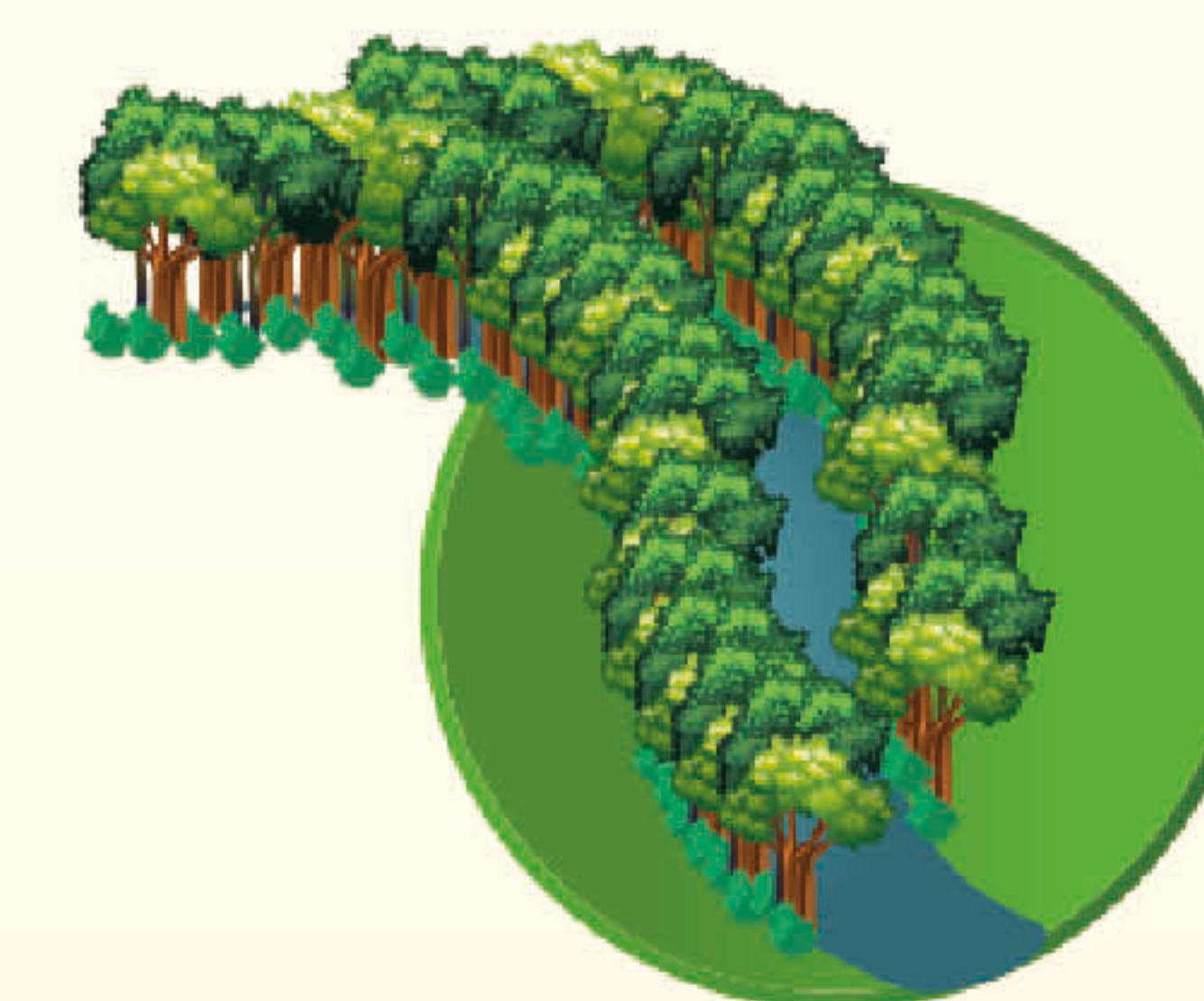


Photo: Sandra Salamanca



Photo: Sandra Salamanca

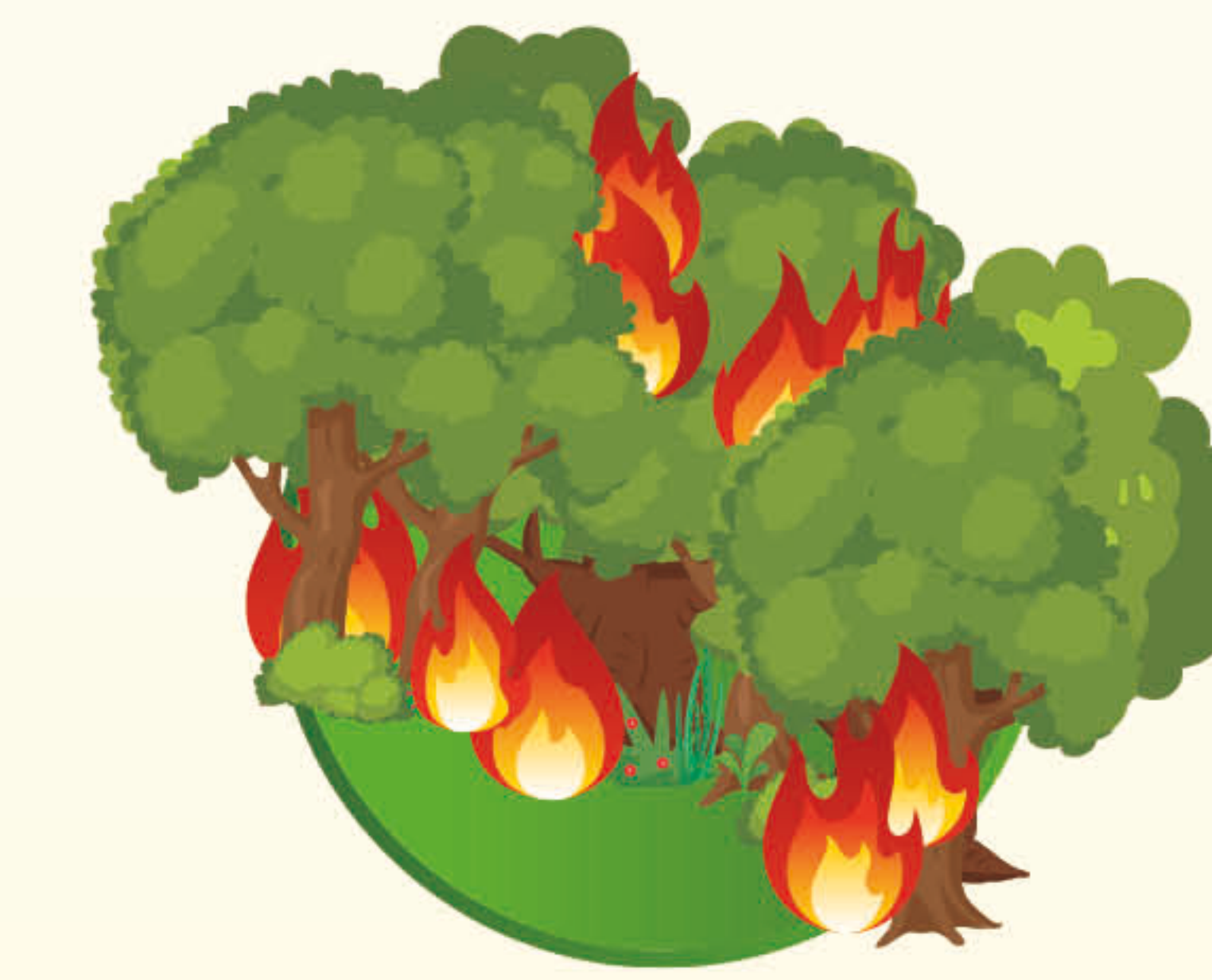
MANAGEMENT ACTIONS



Delimit, protect and restore riparian buffer zones



Avoid cutting down the natural protective vegetation along riverbeds.



Control burnings in areas adjacent to water bodies.



Avoid the use of agrochemicals in the delimited areas of riparian buffer zones.

HCV 5

Sites or resources for satisfying basic needs of local communities

METHODOLOGY

The methodology used to identify HCV5 areas within the direct area of influence of the three beneficiary oil palm nuclei was based on workshops with local communities and stakeholders.



A facilitator designed participatory dynamics to identify natural areas that the community uses for the provision of:

- Water
- Food (including fishing areas)
- Woody or construction materials
- Clothing materials
- Medicinal plants

3 workshops were held in **3 different municipalities** attended by **44 people**

Participants included: neighboring communities, Community Action Boards, municipalities, indigenous groups, etc

RESULTS

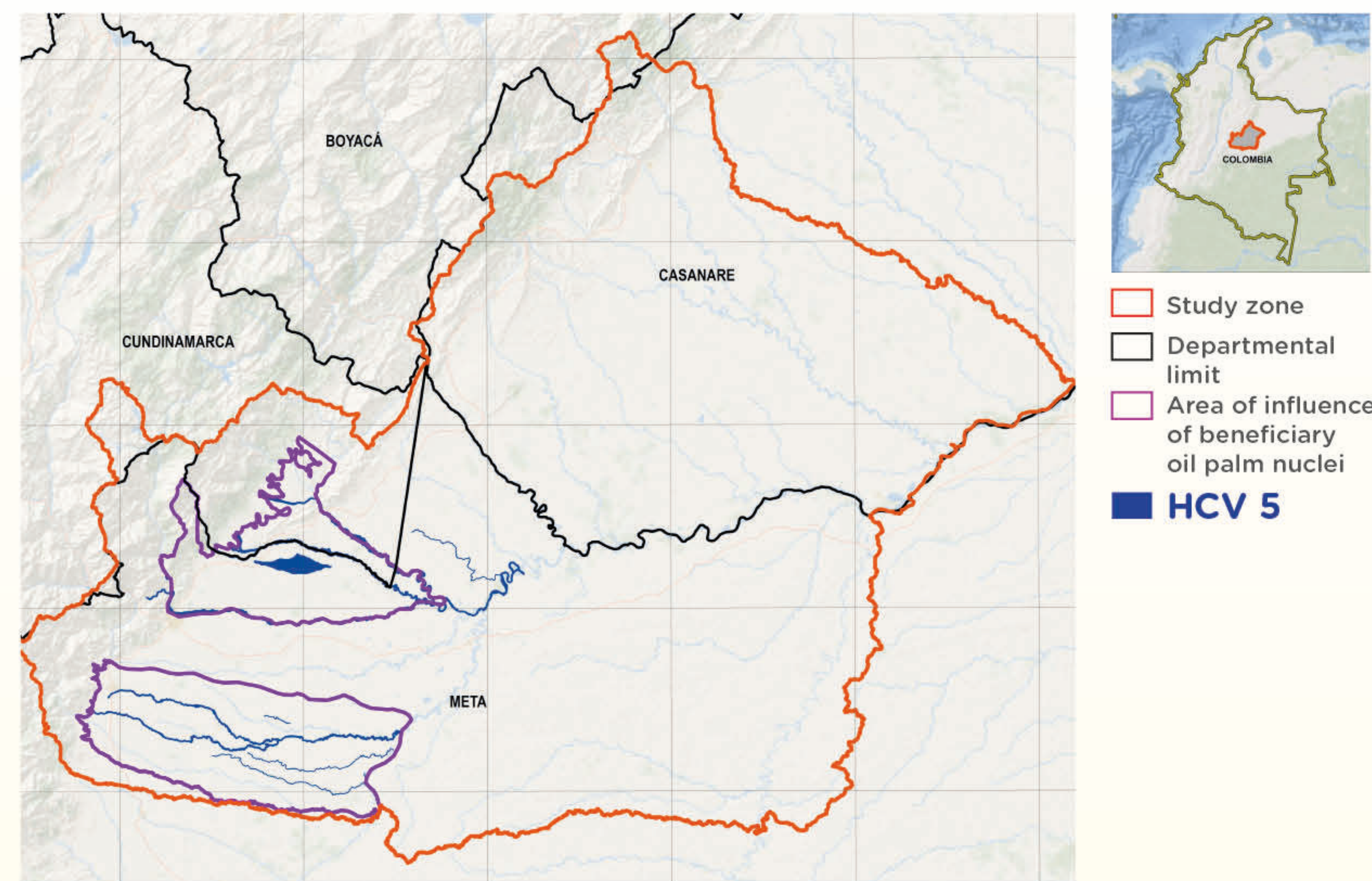


• The natural resource most widely used by local communities in the direct area of influence of the three oil palm nuclei in the Eastern Zone is water for their own consumption. Most have deep wells for water supply.

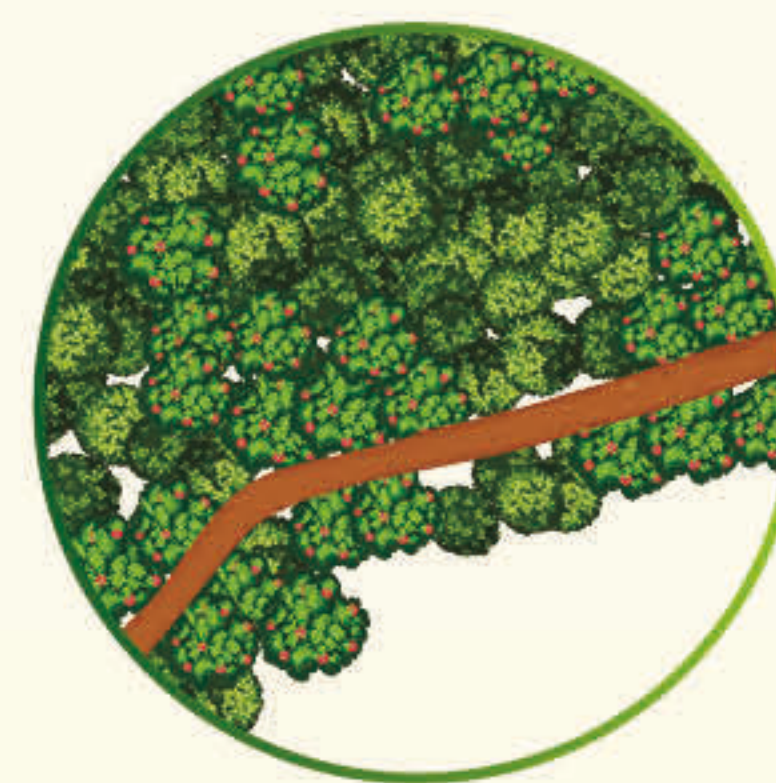


• Fishing is used for food and for income generation. This area has a wide diversity of ornamental species, as well as those for consumption.

• Areas used for water supply were identified as HCV5, as well as fishing areas along the Guacavía and Guamal rivers, and in the Pecuca, Yarico, Guaroa and Guamachico streams.



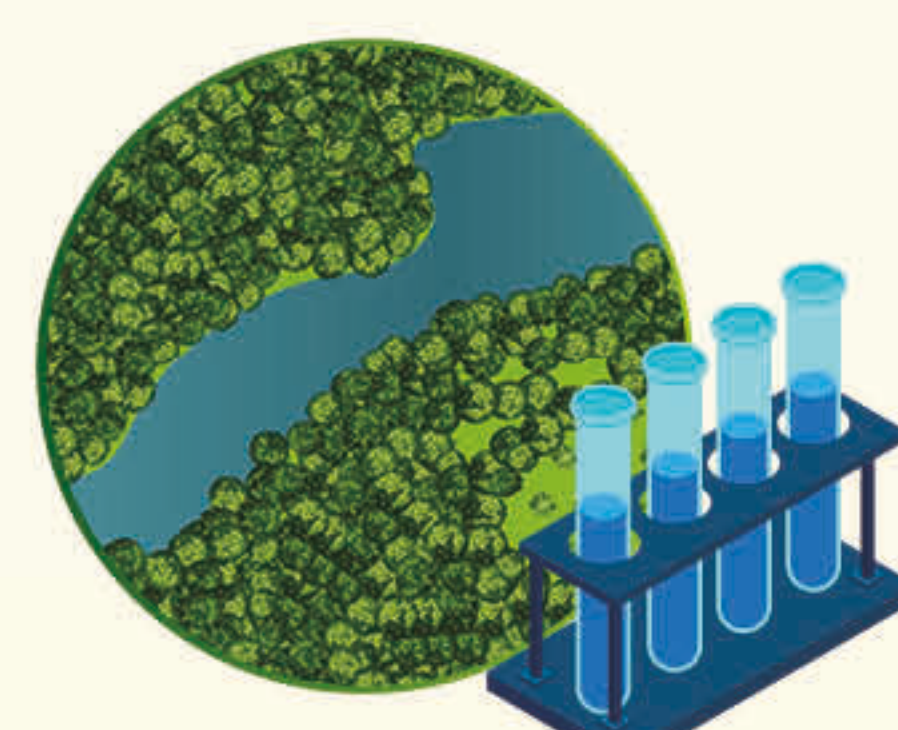
MANAGEMENT ACTIONS



Implement rights-of-way to allow access for local communities to their fishing sites for subsistence.



Minimize the polluting load of palm oil mill effluents (POME) discharged to water bodies as much as possible.



Periodically monitor water quality before and after POME discharge points, especially during the dry season.



Establish a protection strip near water bodies, in which the use of agrochemicals is minimized or eliminated.

HCV 6

Sites, resources, habitats of cultural, religious or archaeological value

METHODOLOGY

In the workshops held with local communities and stakeholders, dynamics were also developed to identify sites, resources, habitats and significant landscapes for cultural, historical, religious or archaeological reasons for local communities or indigenous peoples.



WHAT CAN BE CONSIDERED AS AN HCV6?

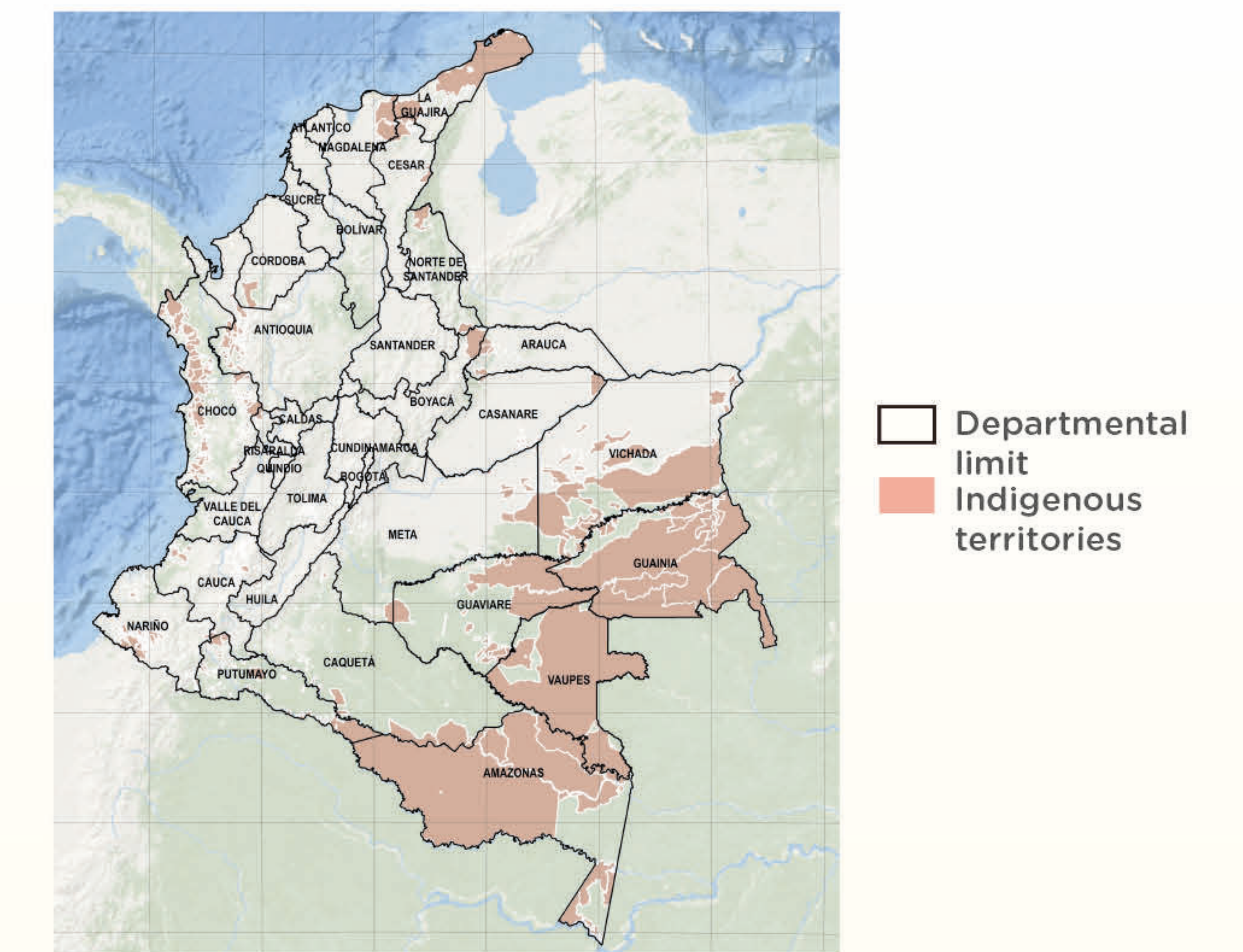
- Recreation sites such as bathing locations along the rivers.
- Monuments or sites of historical and cultural relevance.
- Archaeological evidences such as:
 - Ceramics of pre-Hispanic or colonial origin.
 - Human or animal bone remains.
 - Parietal art.
 - Metallic materials, glassware or earthenware of ancient origin.
 - Lithics: artifacts made of stone.

RESULTS

No HCV6 areas were identified in the area of influence of the three beneficiary oil palm nuclei in this region.

However, the Orinoquia region concentrates a significant portion of indigenous territories in Colombia. Given that some oil palm plantations in this region have been established in areas that limit with indigenous lands, it is important to understand the HCV6 concept and its management recommendations for such cases, or for archaeological findings.

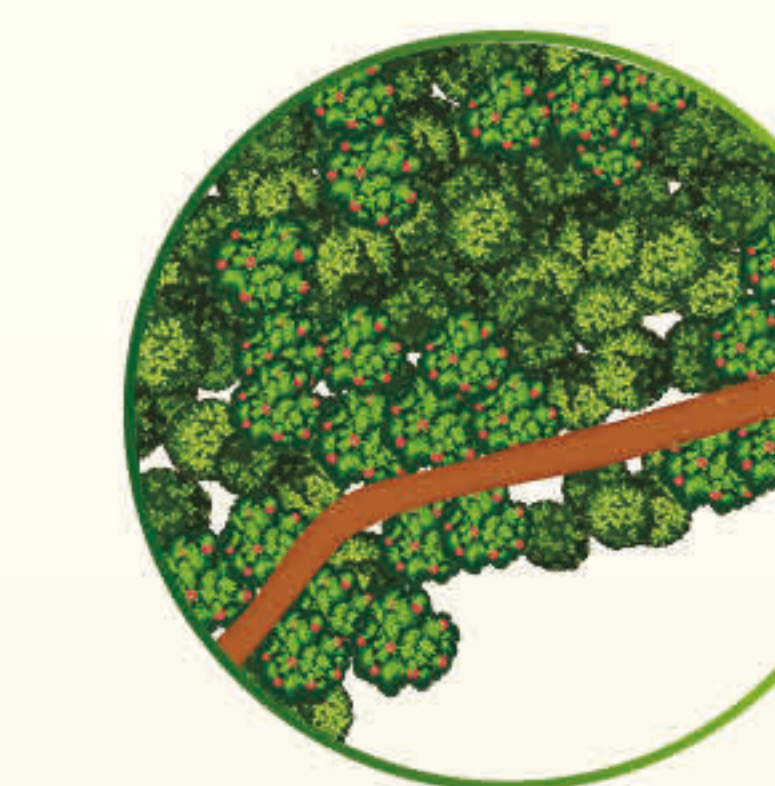
The map in the right shows the location of the collective territories of indigenous communities in Colombia; they are concentrated in the Orinoquia and Amazon regions.



MANAGEMENT ACTIONS



Sensitize workers and communities on these important cultural, religious and archaeological sites, and on actions for their appropriate management.



Implement rights of way for local communities to access their sacred or recreational sites.



Develop a manual of duties and rights in which:

- Oil palm growers ensure rights of way to those places.
- Beneficiaries of the right of way commit to: not throwing garbage, not hunting, not threatening the integrity of plants and crops, and maintaining order and tranquility in the area.



In case of an archaeological finding: Follow the recommendations of the **Guide for the Formulation of the Protocol of Fortuitous Findings of Archaeological Heritage and Public Archeology and Disclosure** developed by Fedepalma, which establishes:

- Suspend all oil palm cultivation activities
- Cordon off the area.
- Do not manipulate the findings.
- Give notice to the **Colombian Institute of Anthropology and History - ICANH**.

Testimonies

The Biodiverse Oil Palm Landscapes project PPB is an innovative initiative in which project partners, experts in environmental and biodiversity issues and, of course, oil palm growers from the Eastern part of the country were involved. Through this initiative, they learned about the criteria and procedures that allow preserving those elements that have an environmental, cultural and social relevance in oil palm crops and in their areas of influence. In this section, the PPB beneficiaries give us their comments on their experience and on the legacy the project has left them for the development of a productive and sustainable plantation model.

We also present some messages from WWF, partner of the PPB project and who promoted including the HCV topic in this project, and of two experts who led the HCV studies at the regional level and in the three beneficiary oil palm nuclei in the Eastern Zone.

“For us, the identification of HCV areas has been key, as well as formulating management plans for these areas, which is one of the fundamental requirements of sustainability certifications such as the RSPO and the ISCC. In our case, the management plan consists of conserving the areas, establishing monitoring programs for the species that inhabit them, and monitoring, with some frequency, if the biodiversity indicators are improving. For us, it is essential to have these areas and conservation plans because we know the ecosystem services they provide to the crop in terms of pollination, water conservation, etc.”

Leonardo Fabio Millán - Productivity and Environment Manager, Manuelita Oils and Energy

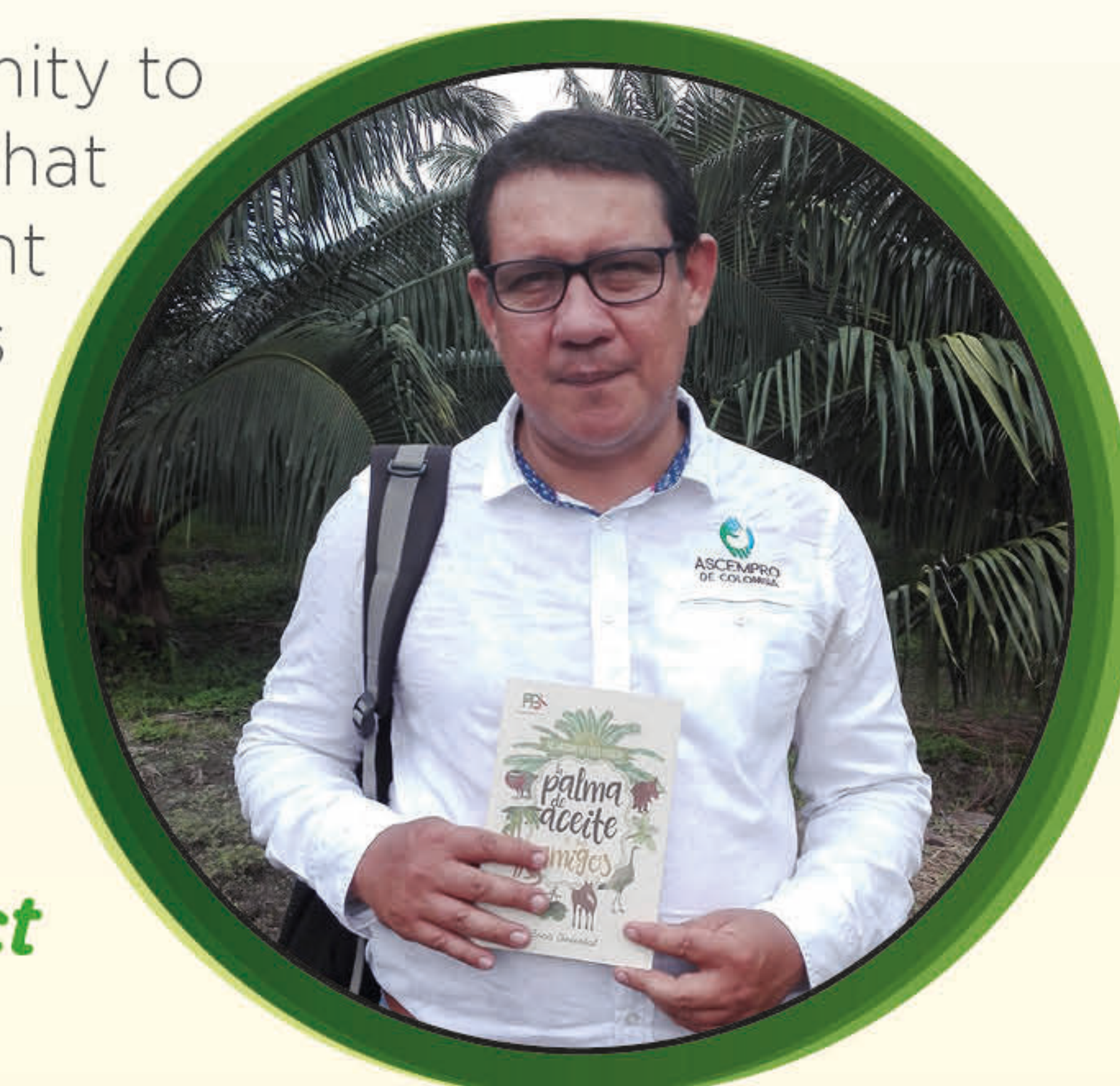


The PPB leaves great and enriching experiences. Projects like these should be replicated in many areas, because they teach us to appreciate High Conservation Values. Frequently, in our desire to increase our productivity, we prioritize the oil palm over these small ecosystems, and at a given moment we realize that they no longer exist. This project has given us guidelines to understand that crops and the environment can coexist, and our responsibility in caring for the water, the “morange” and the animals. This is the legacy we will leave for our children.”

Daniel Rodriguez - Beneficiary oil palm producer of the PPB project

“We have a great debt to nature. The PPB project has given us the opportunity to redeem ourselves; to learn, to understand, and to measure all the wealth that existed within our crops. This has allowed us to have a completely different view of the ecosystem, of how we should take care of it, and of how all of us who are part of the oil palm sector can contribute to its conservation. This methodology also helped us identify existing HCVs in our cultivation areas and the responsibility we have for the preservation of the fauna and flora that inhabits them. This will also help us plan future crop renovations, and how to manage certain special areas”.

Harvey Cortés - Beneficiary oil palm producer of the PPB project



“The Biodiverse Oil Palm Landscapes project leaves many lessons. Oil palm nuclei, plantations and other associates know more about High Conservation Values, about how they can contribute to their management, and about the added value they offer to their business model and products. A lot of information and knowledge was generated in the regional HCV assessments, which must be replicated for the benefit of the oil palm sector and of other projects not necessarily associated with the industry. A methodological framework was developed that the sector can replicate in other areas”

César Suárez - Coordinator of Geographic Analysis, WWF Colombia

“The HCV assessments created awareness and commitment for conservation with oil palm growers of small, medium and large scale. Understanding ecosystem services, how they benefit from them and the biological importance of the species found in the oil palm cultivation process, was a big milestone for conservation in oil palm production systems. This is an initiative for Colombia and for the region that showed that sustainable palm oil production is possible”.

Luis Francisco Madriñán - Conservation and Ecosystem Services Coordinator, PPB Project (2013-2015)




“The PPB project ventured into something that had not previously been done in the industry. It was an initiative that combined efforts with the best technical and scientific knowledge that was available in the country at the time to implement the HCV concept, which would benefit the entire industry on issues related to biodiversity conservation. This brought cost-efficient benefits to the sector since it assured the consistency of the results and defined next steps to manage and monitor HCVs. This is how the palm oil sector and oil palm growers will guarantee that the components associated with nature and the ecosystem in the crop endure over time”.

Daniel Arancibia - Co - director for Latin America, Proforest; Licensed Assessor, HCV Resource Network

“The HCV assessments carried out by the PPB project not only showed that there is a great diversity of species coexisting with our oil palm crops, but that it is possible to collect regional information on HCVs that is useful for several oil palm companies and their supply base. This reduces costs and allows for opportunities to jointly identify and monitor HCVs between several oil palm nuclei.”

Juan Carlos Espinosa - Environmental Leader, Fedepalma





The Biodiverse Oil Palm Landscapes (“Paisaje Palmero Biodiverso - PPB”) project was implemented between 2012 and 2018 by the National Federation of Oil Palm Growers (Fedepalma), in association with Cenipalma, the Humboldt Institute and WWF Colombia. It was financed by the Global Environment Facility (GEF) and its implementing agency was the Inter-American Development Bank (IDB).

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