Project Name: Conservation and degradation control in Chilean native forests in the Andean foot-hills of the Maule Región, Chile.

Project Holder: VALLE LONTUE Professional Services Society Limited. The project is comprised of three owners and Valle Lontue Limitada, as a consultant and manager.

Project participants:

1) Professional Services Company Valle Lontué Limited; Consultant and project manager.
2) Agricultural and Mechanized Services Society and Other; Owners of the EL GUANACO property.
3) Juan Pablo Margiamarchi Fuster; Owner of the LT 5 PICAZO property.
4) El Ruano Forestry Society Limited; Owners of the EL RUANO and SAL SI PUEDES properties.

Quantification period: 20 years of 01/01/2025 a 31/12/2044,

Legal Representative of the Project Holder: MARIA CRISTINA CASAS MUÑOZ

Project Holder Email Address: mccasas@vallelontue.cl

Project Holder Phone Number: +56 989017314

Tributary Identification Number: RUT N° 77.891.339-9

Special categories BCR: Not applicable.

Sector: AFOLU

Project Type: REDD+

Location: Commune of San Clemente, Talca Province, Maule Region, Chile.

Contact person of the Project Holder: MARIA CRISTINA CASAS MUÑOZ

Project participation in other certification programs: There is no participation in other certification programs.

Applied methodology: BCR- 0002 Versión 4.0/27 de mayo de 2024.

Project Description (Preliminary document):

The Chilean Native Forest Conservation and Improvement project, entitled "Conservation and Degradation Control in Chilean Native Forests in the Andean Foothills of the Maule Region, Chile," aims to restore and conserve 7,066.45 hectares of remnant evergreen temperate native forest located in four forest properties located in the Andean Foothills of the Maule Region, Central Chile. These properties are highly degraded and vulnerable to soil and vegetation degradation, as well as the biodiversity found within them.

The properties are in the commune of San Clemente, Talca Province, Maule Region, Chile, near the town of Vilches, a community of forest farmers who make their living from logging and rural tourism. The land is currently used for livestock farming and timber and firewood extraction, and the owners are earning a meager profit margin that prevents them from investing in forest improvement. Therefore, they are under increasing pressure to subdivide the most habitable areas and sell off plots of land that will be used as attractive plots for wealthy families, given the extraordinary natural environment.

Distribution of land area by property in the project:

LAND	Total area (ha)	Baseline area (ha)	Owner
EL GUANACO	8,168,68	1,465.78	Agricultural and Mechanized Services and Others Society.
LT 5 EL PICAZO	1,376.25	1,047.79	Juan Pablo Mangiamarchi Fuster
S.S. PUEDES	2,980	2,415.74	El Ruano Forestry Society Ltd.
EL RUANO	2,408.62	2,137.14	

Project Guidelines:

The project aims to conserve and improve the tree cover of the four forest properties to recover their original condition as native evergreen forests and their botanical composition, promoting forest resilience, improving the condition of the tree population, and increasing carbon reservoirs through the generation of avoided CO2 emissions.

• Reduce a forest degradation in the forest area involved in the project by promoting sustainable management plans for forest harvesting activities.

• Protect the main CO2 reservoirs that are threatened by degradation.

• Support the public efforts of the neighboring SNASPE National Reserve Areas for the conservation and protection of the Chilean native forests of the Maule Region.

• Restore the original condition and botanical composition of the forests prior to the indiscriminate exploitation of now-extinct species.

• Promote environmental education and awareness of sustainable natural resource management among the surrounding population.

• Promote community activities to reduce pressure on forest resources, such as the implementation of agroforestry techniques and the development of alternative sources of income that do not depend on logging, such as special-interest tourism, crafts made from dead wood, and the sustainable exploitation of non-timber forest products (NTFPs).

• Prevent the continuation of Land Use Change (LUC) processes so that these forests are not converted into agricultural land, human habitation, or other non-forest uses.

• Improve the watershed protection function of the project's forests, to preserve the region's water resources.

• Protection and improvement of the conditions in which flora and fauna biodiversity thrives.

• Contribute to meeting the goals set by the Chilean State regarding global warming control and the fight against climate change.

Current Context (No Project):

During 2025, the owners of these four properties signed a 20-year Management Contract with the Environmental Consulting Firm Sociedad de Servicios Profesionales VALLE LONTUÉ LIMITADA. The contract aims to jointly develop a Native Forest Conservation and Improvement project through the REDD+ mechanism, aimed at reducing greenhouse gas (GHG) emissions. This project will be submitted and validated under the BCR standard of the BIOCARBON Certification Agency.

As a brief historical account, it can be added that from the beginning of the last century until the mid-1980s and 1990s, these forests were subjected to intense exploitation that led to the extinction of part of the areas with native forests, since the most valuable timber species were extracted, reaching the brink of extinction. In 1990, the indiscriminate and clear-cut felling of native forest was definitively prohibited, being replaced by selective logging exploitation methods regulated by management plans authorized by CONAF (*), which resulted in the accentuated modification of the botanical composition of the forest, rapidly accentuating the process of degradation and loss of its original condition, generating greater vulnerability of the ecosystem, ostensible damage to the condition of the remaining tree population and a reduction of biological processes and biodiversity. To the point that some species native to the area, such as the Cordillera Cypress (*Austrocedrus chilensis*) and the Ruil (*Nothofagus alessandri*), species of high ecological value and highly vulnerable, are on the verge of extinction. Other species that play an important role in the balance

of the botanical composition, such as Coihue (*Nothofagus dombeyi*) and Raulí (*Nothofagus alpina*), remain present only in some less accessible areas of the forest, such as ravines.

Today, these native forests survive as remnant populations, in conditions of high vulnerability and degradation, in what could be considered a "slow death" with no possibility of natural regeneration due to the action of precursors of degradation, such as animal grazing, the action of introduced wild animals such as wild boar, clandestine firewood and timber extraction activities, unregulated tourist incursions, and the stressors of climate change and extended periods of drought.

Currently, the forest area considered in the project is not associated with any other certification program. It is developed independently and has not previously been submitted for validation or registration under any other carbon standard or sustainability certification scheme.

Project Location:

The project is located in the commune of San Clemente, Talca province, Maule Region, Chile, in the Andean Range zone. The territory includes two Protected Wild Areas (SNASPE) adjacent to the four project sites. These protected areas correspond to the Radal 7 Tazas National Park and the Altos de Lircay National Reserve. The study area extends between the coordinates approximately 308,000 to 343,000 km (East-West) and 6,029,000 to 6,070,000 km (North-South) in the WGS 1984 UTM Zone 19S coordinate system. In the regional context, the study area is located in the southeastern sector of the Maule Region, encompassing several important protected areas and natural areas.

It should be noted that there are no areas of overlap between the physical boundaries of the project properties and nearby protected wilderness areas. A thorough spatial analysis was conducted to confirm that the project site is completely outside the boundaries of any national park, nature reserve, or other officially designated protected area. In addition, a field visit was conducted, during which the boundaries of each neighboring property were physically inspected to ensure there were no conflicts or overlaps with adjacent lands.

Some important location parameters:

Country:	*Chile*	
Region:	*Maule*	
Province:	*Talca*	
Commune:	*San Clemente*	
Nearest town:	*Vilches*	*Rural and tourist settlement.*
Neighboring Protected Natural Areas:	*Radal Siete Tazas National Reserve*	*Belonging to the Communes of Molina and San Clemente, it borders the El Guanaco property.*

	Altos del Lircay Reserve	*Belonging to the Commune of San Clemente, it borders the Lt5 El PICAZO and EL RUANO properties.*
Watersheds present in the project area:	*Claro River*	*It originates on the EL GUANACO property.*
	Lircay River	*It originates on the SAL SI PUEDES property and has important contributing channels that originate on the El Ruano property*

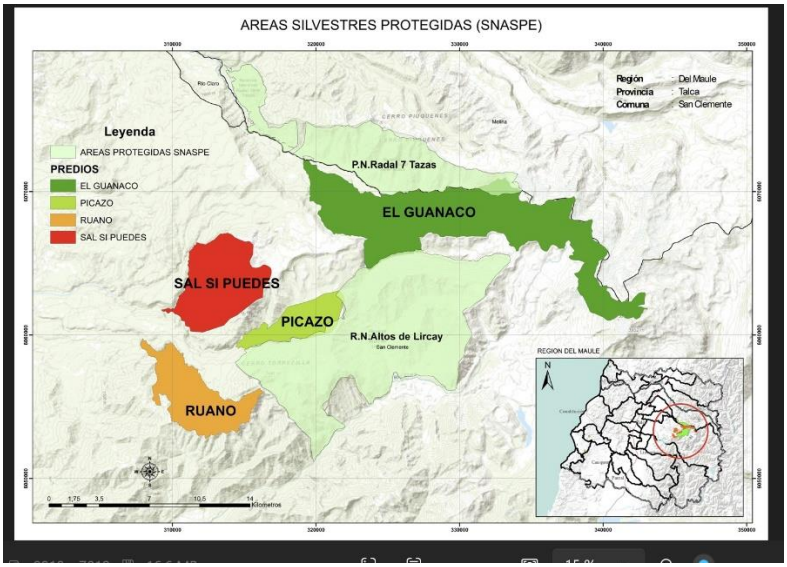
Project Justification:

The location of the four properties involved in the project is of significant ecological importance to the Maule's Region, as they border important protected nature reserves in central Chile, known as SNASPE AREAS, such as the "Radal Siete Tazas" National Park and the "Altos de Lircay" National Reserve, currently managed by the state institution CONAF. In addition to the 13,172.4 hectares of protected natural reserves, the project's four properties comprise a total of 19,933.53 hectares, serving as public and private conservation areas. These areas are located at the headwaters of important watersheds such as the Rio Claro and the Lircay Rivers. Their natural channels and aquifers play a fundamental role in the water regime that supports natural life and the supply of water for human consumption and agricultural and industrial activities in the Maule Region, home to one million inhabitants. This water is extracted both through surface water extraction and groundwater extraction from aquifers. Hydraulic recharge depends on the moisture absorption and retention conditions occurring in this area, meaning it is directly related to the vegetation cover of this forested area.

Below are comparative images of the current situation of the same forest type, at the nature reserve and property levels:

Forest under management and conservation, Altos de Lircay Reserve.

Remaining evergreen forest with traces of overexploitation. LT 5- ELPICAZO. Property adjacent to the Altos de Lircay Reserve.



Ubicación de las áreas de conservación Parque Radal 7 Tazas y Reserva Altos Lircay y la ubicación de los 4 predios participantes del proyecto.

Forest under management and conservation, Altos de Lircay Reserve. Remaining evergreen forest with traces of species overexploitation. LT 5- ELPICAZO. Property adjacent to Altos de Lircay Reserve.

Location of the Radal 7 Tazas Park and Altos Lircay Reserve conservation areas and the locations of the four properties participating in the project.

Another important aspect justifying the presence and conservation of these forests is the significant human activity related to ecological and adventure tourism, which provides economic support to nearby communities such as Vilches, where approximately 300 families make their living

exclusively from activities such as horseback riding and other forest-related productive activities, such as beekeeping and the collection of Non-Timber Forest Products (NTFPs). These activities are centered on a significant portion of the routes in the aforementioned areas. A project is proposed to regulate these activities and make them economically sustainable, while also protecting natural resources and waterways.

Among the NTFPs, we can mention wild mushrooms of high culinary value in international cuisine, such as Morchella (*Morchella* sp.), Boletus (*Boletus* sp.), Gargal (*Grifola gargal*), and locally consumed mushrooms such as Digüeñes (*Cyttaria espinosae*) and Changles (*Ramaria flavia*). There is also an emerging activity in the collection and processing of medicinal plants such as Chilco (*Fuchsia magellanica*), Culén (*Otholobioum glandulosum*), and Maqui (*Aristotelia chilensis*), among others.

Regarding biodiversity, its development and viability is directly related to the survival of forests, since these, as a biotic community, constitute the habitat of numerous species of the fungi kingdom that are currently of interest for food and medicine, as well as medicinal and landscape-valued plant species, and animal species that are in a vulnerable situation and in danger of disappearing and that still maintain their presence in these forests. A survey was conducted on the SALSIPUEDES property and 19 shrub species of high landscape, ornamental, and medicinal value were found. Regarding fauna, there are vulnerable species whose habitat is the area covered by the project, whose presence is significantly reduced as the forest degradation process progresses, such as the Magellanic Woodpecker (*Campephilus magellanicus*), the Monte Monkey (*Dromiciops gliroides*), the Guiña (*Leopardus guigna*), the Culpeo Fox (*Lycalopex culpaeus*) and other species.

Methodology and Activities:

The proposed activities are aimed at protecting, conserving, and enhancing the remaining native forest and the ecosystem's biodiversity, and promoting the development of sustainable, environmentally friendly economic activities.

To this end, administrative measures are proposed, which can be summarized as:

- Permanent presence of park rangers.
- Restrictions on forest exploitation activities.
- Restrictions on uncontrolled human and vehicle presence.
- Improvement of trails and access roads to the stands.
- Implementation of signage.

Regarding forestry activities leading to forest improvement, the following silvicultural practices are proposed:

• Intermediate fellings aimed at improving forest structure and quality, promoting natural regeneration, and improving tree health. These practices may include thinning and coppicing.

• Clearing fellings.

• Protective fellings aimed at promoting forest regeneration.

• Establishment of seed trees.

• Selective logging, aimed at eliminating trees with irreversible health problems and senescence.

• Establishment of firebreaks and forest fire prevention measures.

• Establishment of permanent plots in the stands for monitoring.

Regarding social aspects and the creation of fair employment, the project considers the following measures:

• Training in environmental education for the community through field days and workshops.

• Training in the use of non-timber forest resources, to promote crafts and the sustainable use of wood, as well as the sustainable use of plants and mushrooms.

• Implementation of a community nursery of native plants to benefit the community and preserve the forest genetics of the area.

• Promote duly regulated ecotourism activities, such as horseback riding and hiking.

Baseline.

The baseline results were prepared based on information contained in the continuous inventory study for the Maule Region, developed by the Chilean Forestry Institute (INFOR) in 2019. This information provides the results of the Carbon and Biomass inventory submitted by INFOR for the Region in 2019, which provides the results of the biomass and carbon inventory contained in the Forest Emission Reference Level/National Forest Reference Level of Chile (2023) document, officially transmitted by the State of Chile to the United Nations Framework Convention on Climate Change (UNFCCC) as part of compliance with the commitments of the Paris Agreement

Baseline results:

Predio	Superficie (ha)	Biomasa Total (t)	Carbono (t)	(tCo2e)
EL GUANACO	1.465,78	322.090,00	151.383,00	555.071,00
LT5 PICAZO	1.047,79	171.640,00	80.684,00	295.841,33
EL RUANO	2.137,14	520.758,00	244.777,00	897.515,67
SAL SI PUEDES	2.415,74	750.383,00	352.659,00	1.293.083,00
Total	7.066,45	1.764.871,00	829.503,00	3.041.511,00

Methodology for Calculating GHG Emission Reductions.

The estimation of emissions reductions was carried out through a methodological deviation, within the framework of methodology BCR0002 – section 13.4.2. The project used INFOR (2019) reference levels as the official source for biomass and carbon, validated in national reports to the UNFCCC. This choice complies with the principles of ISO 14064-2:2019 (relevance, coverage, consistency, accuracy, transparency, and conservativeness).

Carbon estimates were based on species-specific allometric equations (Milla et al., 2013; Gayoso and Guerra, 2002), applied to aboveground biomass data from the Continuous Forest Inventory. Biomass was converted to carbon with a coefficient of 0.4964 and transformed to CO_2 equivalent with a factor of 44/12.

It should be noted that the Chilean Forestry Institute (INFOR), the official technological research agency of the State of Chile, uses a carbon fraction of 0.49 in its estimates for native forest species in Chile. This value is documented by Gayoso and Guerra (2002), who also developed a comprehensive set of allometric equations for Chile's main native tree species.

Projected GHG Emission Reduction Estimate.

The forest intervention, with the conservation, protection, and improvement measures described in the project, will break the trend of tree degradation and death, resulting in a recovery of the condition of native forest species, greater resistance to stressors generated by climate change, an increase in biomass and carbon sequestration, and a significant reduction in total emissions.

Total avoided emissions were estimated at over 5,000,000 tons of CO2 equivalent over the next 20 years.

The determination of the amount of emissions reduction was carried out following the steps of the official BCR Standard formula (section 13.5.1).

Uncertainty Management

Uncertainty was assessed following IPCC guidelines (2006), considering:

• Variability in aboveground biomass (standard error).

• Uncertainty in the biomass → carbon conversion coefficient (±5%).

• Differences between field measurements (pre-sampling) and INFOR.

The total uncertainty range per property was low:

• Sal Si Puede: 5.41%

• El Ruano: 5.49%

• El Guanaco: 5.65%

• El Picazo: 6.00%

These values are below the internationally accepted 10% threshold, ensuring that the emissions reduction estimates are accurate and reliable.

Instruments and Tools Used.

• Standards and methodologies: BCR0002, ISO 14064-2:2019, IPCC guidelines (2006).

• Base data: INFOR (2019), CONAF (Catastro de Recursos Vegetacionales), field validations.

• Allometric models: Gayoso et al., Milla et al.

• Processing and analysis: R (statistics), ArcGIS (spatial analysis), Excel.

Monitoring, reporting, and verification plan

The monitoring plan has been designed according to the BCR0002 methodology, ensuring rigorous monitoring of activities and verification of the environmental and social impacts derived from the project. The initial pre-inventory was conducted in 2024, with monitoring scheduled every five years until 2044, complemented by annual reports on key indicators. The measurements cover a total area of 7,685.93 hectares located in the mountain range of the Maule Region.

• Monitoring objectives include: (i) verifying compliance with the AFOLU sectoral methodology for REDD+ projects; (ii) observe changes in carbon stocks in selected reservoirs; (iii) monitor emissions and leakage; and (iv) ensure compliance with project safeguards.

• Parameters to be measured: Aboveground and belowground biomass, natural regeneration, plantation growth, soil carbon (up to 30 cm deep), dead wood and litter, and changes in forest cover. The methodology used is derived from CONAF protocols (2023) within the framework of the National Strategy for Climate Change and Vegetation Resources (ENCCRV).

• Techniques and tools: A stratified forest inventory will be implemented, with georeferenced permanent plots (1,000 m^2), dendrometric measurements, the use of NDVI, and remote sensing (SENTINEL-2 imagery, LiDAR, multispectral drones, and RADAR). Biomass estimates will be based on allometric models, and cover is analyzed using IDRISI TERRSET® or a similar model.

• Sampling protocol: A two-phase design with multispectral imagery and radar is used to improve the accuracy of estimates. The number of sample units is determined based on forest variability and the degree of intervention. The distribution can be random or systematic, adjusting to the characteristics of each stratum.

• Quality control and assurance (QA/QC): Includes equipment calibration, staff training, field verification by independent supervisors, data review and validation, sample duplication, and external audits.

• Data analysis and storage: Data are converted into biomass and carbon estimates using allometric models, stored digitally with physical backup, and reported every five years to BIOCARBON-accredited verifiers.

• Community training and participation: The involvement of local communities in monitoring is promoted, training local stakeholders and generating jobs associated with the project.

• Organization: A general monitoring coordinator, field technicians, a QA team, and external auditors are appointed to ensure the plan's execution and traceability.

Social and economic impact.

In the Maule Region, the project contributes to the protection of two important watersheds (Rio Claro and Rio Lircay), whose aquifers and natural surface channels enable human activities such as livestock farming and agriculture primarily for export, in addition to preserving the natural and ecological environment of the area where growing tourism is taking place.

At the local level, this project will generate employment opportunities for the local community in forestry, invasive alien species control, and ecotourism, whose sustainability will be achieved through training and environmental education activities.

Economic activities that will be promoted and strengthened through the project for the sustainable economic development of the local community:

Rural Tourism:	*Horseback riding* *Hiking and guided tours* *Botanical excursions* *Local cuisine*
Sustainable use of dead wood	*Furniture and woodcraft manufacturing*
Use of non-timber forest products:	*Mushroom harvesting* *Medicinal species harvesting*
Forestry:	*Native species seed harvesting* *Native plant nurseries*

Sustainability and long-term management.

The project's sustainability and long-term management are guaranteed through a 20-year management contract between VALLE LONTUE LTDA. and the owners. This contract specifies the firm's role in managing the activities to be carried out for project completion and coordinating monitoring and verification of these activities and forest improvement. A portion of the revenue from the sale of emission reduction certificates traded on the market will be used to finance environmental protection and improvement activities, ensuring long-term financial sustainability.

Regulatory compliance and legal framework.

The project fully complies with the following legal bodies in force in Chile:

• Law 20,283 of 2008, which establishes standards for the protection and restoration of forest ecosystems, provides a definition of the concept of native tree and forest and constitutes the main instrument for the protection and restoration of native forest ecosystems, promoting initiatives that conserve biodiversity, protect water resources, and mitigate the effects of climate change. It also allows for the use of management instruments such as Native Forest Management Plans, which constitute technical documents for the planning and management of ecological heritage, both for the private sector and for local communities.

• Law 21,455, or the Framework Law on Climate Change, is aligned with Chile's adherence to the United Nations Framework Convention on Climate Change (UNFCCC). It ratified the Kyoto Protocol in 1998 and subsequently, on November 4, 2016, joined the Paris Agreement, becoming part of a binding international treaty that establishes commitments to reduce GHG emissions and adapt to

climate change, which is closely related to the protection and conservation of its wilderness areas and native forests, whether public or private. It establishes a favorable framework for the presentation and development of REDD+ projects, as it strengthens institutional management around GHG mitigation by aiming to address the challenges posed by climate change and promote development low in GHG emissions and other climate drivers.

Sustainable Development Goals Considered in the Project:

1. SDG 8. Decent Work and Economic Growth: Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and work.

2. SDG 12. Responsible Consumption and Production: Ensure sustainable consumption and production patterns.

3. SDG 13. Climate Action: Take urgent action to combat climate change and its impacts.

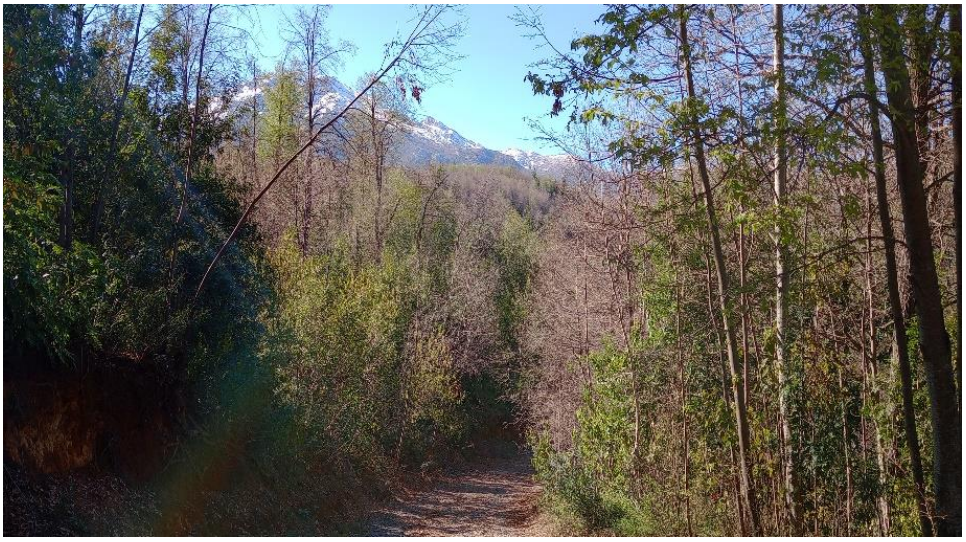
4. SDG 15. Life on Land: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Photographic Record of the project:

General view of the property called SAL SI PUEDES

Forest affected by forest fires, sector adjacent to the project area

Remaining forest and fragmentation on the El Ruano property



EL RUANO property, interior roads

Roble-Hualo type forest on the EL GUANACO property, damage is observed due to illegal logging

Juan Pablo Bravo Guzmán, one of the owners of the EL RUANO property, observing the deterioration of the forest and damage caused by human intervention.

Tourism activities, which are currently carried out without regulation aimed at protecting the forest, in this case horseback riding on the PICAZO Lot 5 Property

Fauna in a vulnerable situation, present in the project area, in this case the woodpecker

Non-timber forest products (NTFPs) that can be sustainably harvested, in this case a edible mushroom called Digueñe. Present on property LT5 EL PICAZO.

View of a CONDOR, a bird of prey from the mountainous region of Chile, in a vulnerable situation. Image obtained from the LT5 EL PICAZO property.

Some species present in the understory of the project area have ornamental and medicinal value. One of the lines of work of the project's environmental education component is to systematize information on the plant, animal, and fungal species found in the understory.