Colombia GIS and Forest Monitoring Consultant

Consultancy – Scope of Work	V1
Wildlife Conservation Society	August 2023

Position Location: Colombia

Reports to: Sustainability and Finance Coordinator, Colombia Program

Coordinates with: Colombia Country Director, Regional Director, REDD+ and carbon global team

Term: 6-month consultancy with possibility for renewal

Expected Start Date: September 2023

Context

The Wildlife Conservation Society (WCS) is a US-based non-governmental organization founded in 1895 that protects wildlife and wilderness by understanding critical issues, creating science-based solutions and promoting conservation actions that benefit nature and the humanity. With more than a century of experience, long-term commitments in dozens of landscapes, presence in more than 60 countries and experience in helping to establish more than 150 protected areas worldwide, WCS has accumulated biological knowledge, cultural understanding and partnerships to ensure that vibrant places, with flora and fauna, thrive together with local communities. Working with local communities and organizations, this knowledge is applied to address issues of management of species, habitats and critical ecosystems to improve the quality of life of rural poor people, whose livelihoods depend on the direct use of natural resources.

The Nature for Peace: NaturalPaz project is an initiative financed by the United Nations (UN) Secretary General's Peacebuilding Fund (PBF)/Multi-Partner Trust Fund Office (MPTF) and implemented by the United Nations Development Program (UNDP) and the United Nations Environment Program (UNEP), with the technical support of the Territorial Renewal Agency (ART) and the Ministry of Environment and Sustainable Development.

The objective of the project is: "To contribute to the construction of a sustainable peace and prevent new socio-environmental conflicts through greater green investments directed to the PDET[1] municipalities, which will be implemented through the strengthening of the capacities of rural communities settled in sites of high biological and cultural diversity in these municipalities, which will facilitate their participation in green businesses and sustainable production"; and it is structured in two components:

- Component 1. Moving towards the carbon market in REDD+ projects in PDET territories that benefit collective territories and peasant reserve zones.
- Component 2. Moving towards the carbon market in productive processes in PDET areas that benefit small associated producers.

[1] https://www.plan.org.co/proyectos/programas-de-desarrollo-con-enfoque-territorial-pdet/

As part of the first phase of Component 1, WCS has an agreement with the NaturalPaz project to conduct pre-feasibility analyses in 4 work zones. WCS will evaluate the technical, social and economic aspects of the areas to identify the potential for REDD+ projects in these areas.

Position Summary:

The consultant will lead the development of all spatial analyses in the 4 pre-feasibility assessments including the following tasks:

- Delineate spatial boundaries of potential project areas, leakage belts, and reference regions in coordination with the WCS team;
- Compile and organize relevant spatial data layers (e.g., land use and land use change, protected areas, land tenure, climate, etc.) for the reference regions;
- Develop estimates of historical deforestation and forest degradation, corrected to account for area bias, from approximately the last 10 years within the determined reference regions;
- Synthesize existing spatial data to derive historical forest cover benchmark maps, as described in the latest drafts of Verra VCS's consolidated REDD+ methodology, including historical deforestation time series; known natural disturbances causing deforestation; and known planned deforestation events;
- Develop deforestation and forest degradation risk maps projecting risk over a ten year future period, using modelling approaches agreed on with the WCS team;
- Estimate baseline annual deforestation and forest degradation rates in the project areas and leakage belts based on the risk maps following the approach agreed on with WCS;
- Contribute to the preliminary identification of deforestation and forest degradation drivers based on historical analysis and risk map;
- Based on the available spatial data, identify potential areas where afforestation, reforestation, and revegetation activities could be conducted, including the establishment of agroforestry systems;
- Coordinate closely and regularly with WCS and UNDP staff at scheduled project meetings, emails and WhatsApp communications;

REQUIRED EXPERIENCE

The professional will be employed on a fixed term consultancy contract with WCS, with the potential for renewal and expansion of Scope of Work

Skills and experience required:

- Advanced proficiency in both raster and vector-based GIS analysis industry-standard GIS. ArcGIS Pro is the WCS team's preferred GIS and candidate must have familiarity at a minimum.
- Understanding of the fundamentals of optical remote sensing as it applies to forest and ecosystem monitoring, land cover change monitoring.
- Experience with other forms of remote sensing (LiDAR, SAR) is a plus but is not required.
- Proficiency in complementary software and programming languages for spatial analysis and interpretation such as R and Python.
- Quantification of ecosystem or forest properties through analysis and interpretation of field and/or remote sensing data.
- Experience with GHG accounting in the AFOLU sector is required.
- Knowledge of datasets associated with Colombia's national forest monitoring system(s)

Education

The ideal candidate will have a balance of strength in geospatial science and ecology/forestry.

Job experience is not a requirement for candidates with advanced degrees. Candidates with undergraduate degrees can demonstrate qualifications through professional experience and any relevant professional certifications attained post-graduation.

A range of educational backgrounds is possible, but we expect a successful candidate will most likely hold a degree related to one of the following fields:

- Geography, geospatial science; with a focus in natural environmental/forests
- Degree in an environmental science such as terrestrial ecology, forestry; with a focus on geospatial analysis, geostatistics, or remote sensing

Languages:

- Spanish – Fluent spoken and written.
- English – good spoken and written.