

Wildlife Conservation Society

WCS Cambodia Program

TERMS OF REFERENCE

Position : Senior REDD+ GIS Analyst
Project : Keo Seima REDD+ Project
Duty station : WCS Mondulkiri
Report to : Project Manager, Landscape Technical Advisor, and National Geospatial
Technical Advisor
Department : Geospatial Analyst

Background:

The Wildlife Conservation Society, founded in 1895, has a clear mission to save wildlife and wild places across the globe. WCS's goal is to conserve the world's largest wild places in 16 priority regions, home to more than 50% of the world's biodiversity. We currently manage about 500 conservation projects in more than 60 countries. WCS has been working in partnership with the Royal Government of Cambodia since 1999, providing technical advice and support for the conservation of key habitats and species across the country. The WCS Cambodia program is growing rapidly! We are expanding our family, and these Terms of Reference outline the responsibilities of the position of **Senior REDD+ GIS Analyst** under the Keo Seima REDD+ Project for the REDD+ Project, which adopts an integrated landscape approach to strengthen resilience to environmental change in ecosystems, communities, and biodiversity throughout the Keo Seima Wildlife Sanctuary. The Project works simultaneously across multiple scales with government, communities, and the private sector. It will enhance the management and restoration of critical habitats to facilitate resilience to environmental change by improving government and community management of protected areas, developing and implementing community-based fire management plans, piloting community-managed vegetation rehabilitation and silviculture, and developing ecologically resilient livelihoods. The Project will also address the drivers of environmental change by supporting national and sub-national governments to develop a policy that incorporates adaptation and sustainability considerations and working with development agencies, banks, and the private sector to improve environmental and social practices.

Purpose of Position:

The **Senior REDD+ GIS Analyst** will lead the geospatial components of the REDD+ project, including spatial data analysis, remote sensing interpretation, mapping, and modeling for forest monitoring, reporting, and verification. The role will support forest inventory, deforestation monitoring, and the development of baseline and reference emission levels. The analyst will work closely with the Geospatial Analytics Team and contribute across departments to integrate geospatial tools in conservation planning and decision-making, including field systems such as SMART and EarthRanger, for Keo Seima Wildlife Sanctuary (KSWS).

Outputs and Deliverables:

Remote Sensing

- Acquire, process, and interpret satellite imagery from existing and emerging platforms (e.g., Sentinel, Landsat, PlanetScope, BIOMASS) for land cover classification and forest monitoring.

- Conduct spatial analysis to monitor forest cover change, land use transitions, and deforestation/degradation trends.
- Apply change detection techniques and land cover classification methods (e.g., supervised, unsupervised).
- Monitor forest fires and climate variables using data sources like MODIS, VIIRS, CHIRPS, and ERA5.
- Generate and analyze high-resolution UAV imagery (RGB, multispectral, thermal, LiDAR) for detailed site-level assessments.
- Provide drone-based support and Analysis for the Global Center on Biodiversity for Climate (GCBC) and other communities in KSWs.

GIS

- Maintain spatial data layers and update regularly (roads, boundaries, land use, forest strata, etc.) for REDD+ project planning.
- Maintain GIS database and ensure spatial data quality, metadata, and documentation.
- Provide cartography services by producing high-quality maps, figures, and visuals for technical reports, donor submissions, and internal use.
- Deliver technical training and capacity building in GIS and remote sensing for project staff and local counterparts
- Coordinate with national, sub-national, and REDD+ stakeholders on spatial data sharing, standardization, and reporting protocols.
- Collaborate with cross-cutting teams in KSWs to integrate spatial Analysis into conservation planning and land use management.
- Work with project staff, counterparts, and relevant sources to gather and verify spatial data on land speculation, encroachment, and land concessions in KSWs.
- Coordinate the collection and digitization of land use and resource use data using field GPS data and satellite imagery.
- Provide geospatial analysis services to inform decision-making for REDD+ implementation, forest monitoring, and land management.
- Integrate spatial tools with field-based systems (e.g., SMART, EarthRanger) to support law enforcement, biodiversity monitoring, and other cross-cutting departments.
- Conduct ground verification (field truthing) to validate remote sensing assessments and support data accuracy.

Others

- Travel to support others' landscapes as necessary
- Drone operation and aerial image processing
- Collaborate with the Conservation Technology (ConTech) team on spatial analysis to support conservation planning and decision-making.
- Provide spatial data support, mapping, and data management for the Law Enforcement (L-E) teams.
- Tasks needed by supervisor, project manager and technical advisor(s).

Deliverables

- Monthly, quarterly, and annual reports on forest change, including deforestation, encroachment, and fire events.
- REDD+ activity data layers and baseline emission maps as applicable.
- A maintained and up-to-date geospatial database for the REDD+ project

- Annual land cover and land use classification maps.
- Delivered training sessions and materials for GIS/remote sensing capacity building.

QUALIFICATIONS AND EXPERIENCE:

- Bachelor's/Master's degree in GIS, Remote Sensing, land management, agriculture, forestry, environmental science, biodiversity conservation, climate change, Reduce Emission from Deforestation and Degradation (REDD+), computer science/software engineering, or a related field.
- Advanced skills in GIS and remote sensing software (e.g., ArcGIS, QGIS, GEE, ENVI, ERDAS).
- Proficiency in spatial data management and programming (e.g., Python, JavaScript, GEE).
- Experience working with governments and NGOs.
- Strong facilitation, presentation, and coordination skills.
- Fluency in Khmer and proficiency in English (especially reading and writing).
- Strong analytical, problem-solving, and critical thinking abilities.
- Minimum of 3-5 years of relevant professional experience.