

# Biodiversity Monitoring Technical Advisor

## Terms of Reference

### Wildlife Conservation Society (WCS) Cambodia Program



#### Background

WCS assists the Royal Government of Cambodia to conserve species and habitats in four landscapes across Cambodia, namely, the Eastern Plains (consisting of the Keo Seima Wildlife Sanctuary (KSWs) in Mondulkiri and Kratie provinces), the Northern Plains (consisting of Chhep Wildlife Sanctuary (CWS), Kulen Promtep Wildlife Sanctuary (KPWS), Prey Preah Rokha Wildlife Sanctuary (PPRWS) and Phnom Tbeng National Heritage Park (PTNHP) in Preah Vihear Province), the Tonle Sap (consisting of Prek Toal Ramsar Site in Battambang Province, the Northern Tonle Sap Protected Landscape (NTSPL) in Kompong Thom and Siem Reap provinces, and Ang Trapeang Thmor Protected Landscape (ATTPL) in Banteay Meanchey province), and the Freshwater Rivers (consisting of the Sre Ambel River System in Preah Sihanouk and Koh Kong provinces and the Mekong in Stung Treng and Kratie provinces). Taken together these landscapes support all of the major habitat types in Cambodia, as well as vital population of most of Cambodia globally threatened species. These protected areas are also extensively used by human populations that reside in and adjacent to the protected areas.

Highly successful conservation projects have been operating at these protected areas for nearly twenty years. These projects are underpinned by high-quality monitoring. The monitoring datasets are some of the largest and longest-running of any protected areas in Southeast Asia. Monitoring methods differ between sites. Species monitored include large ungulates (using line transects in KSWs), bird nests (Prek Toal and Northern Plains); whilst a massive number of camera trap images also exists. Threats to protected areas and response to those threats is monitored using SMART. Compliance to conservation incentive schemes is monitored through a database (Northern Plains), which is being replicated in KSWs.

Under-pinning all conservation actions implemented and supported by WCS is effective monitoring, allowing measurement of success and failure and thus learning and improvement of interventions. Biodiversity monitoring is a key component of this process. The KSWs biodiversity monitoring program is well developed at KSWs, with a number of long-term data collection protocols in place, as well as scope for developing and implementing additional programs as needed.

#### Objective

The primary objective of the **Biodiversity Monitoring Technical Advisor** (BMTA) will be to ensure the high-quality implementation of existing monitoring protocols by the 6-person Wildlife Monitoring Team (WMT), including population and distribution estimates of key species from line transects, and forest degradation assessments. Training and technical support will be provided to teams, and analysis of collected data will be led by the BMTA, with support from the Data Analyst and Operations Technical Advisor (DAOTA). Dissemination of results that can inform management is essential.

#### Principal Responsibilities

- **Lead two-yearly implementation of key species population and distribution surveys, using line transects and distance sampling methodology**
  - Follow existing protocols and standards, and improve where necessary
  - Provide technical training to WMT on line transect protocols
  - Support teams in the field to ensure accurate data collection

- Check and clean data after each sampling event to identify and correct any emerging issues
- Conduct data analysis using a distance sampling methodology, ideally using Distance for R
- Reporting and information dissemination to the KSWs project, government counterparts, local communities, and the Cambodian public
- **Lead Forest Degradation Assessment implementation in alternate years to the key species population and distribution surveys**
  - Follow existing protocols and standards, and improve where necessary
  - Provide technical training to WMT on strip sampling protocols
  - Support teams in the field to ensure accurate data collection
  - Check and clean data after each sampling event to identify and correct any emerging issues
  - Conduct data analysis, ideally using Distance for R, to provide information on intensity of illegal logging
  - Reporting and information dissemination
- **Bird nest detection and protection program**
  - Continue and expand the existing bird nest detection and protection program in KSWs, modelled on the successful WCS program from the Northern Plains Landscape (NPL)
  - Establish a monitoring framework based on the NPL model
  - Provide reporting as needed
- **Camera traps**
  - Support training by the DAOTA on data management and species identification in Wildlife Insights (WI)
  - Support teams in KSWs to use WI
  - Provide data analysis and reporting as necessary
- **Establish and implement LifePlan monitoring**
  - With support from lead partners and the DAOTA, roll-out the LifePlan monitoring program in KSWs and Sen Monorom, including acoustic monitoring, cyclone trapping, camera trapping, and soil sampling
  - Ensure weekly, monthly, and yearly data collection is conducted to a high standard
  - Work with education partners during outreach
- **Biodiversity monitoring reporting**
  - Support Government partners through provision of biodiversity monitoring data and interpretation
  - Provide KSWs biodiversity data for project management, provincial DoE, and national MoE as needed
  - Provide biodiversity data for donor reporting as needed
  - Provide support to biodiversity education, outreach, and awareness raising in local communities

#### **Deliverables and outputs**

- In alternating years:
  - Key species population and distribution report
  - Forest Degradation Assessment report
- Donor reports

- Government reports
- Datasets
  - Key species population results
  - Key species distribution maps
  - Camera trap images in WI

**Duty station**

The position is based at the WCS Mondulkiri office, Sen Monorom Town.

**Reporting to**

- Data Analyst and Operations Technical Advisor
- Chief of Party

**Qualifications and skills***Required*

- Master's degree or equivalent in relevant field, especially conservation science
- Experience with biodiversity monitoring methods
- Ability to work and learn independently
- Technical reporting ability
- Ability to work in difficult field conditions, with field missions of up to 6 days
- Attention to detail to ensure high quality data collection

*Desired*

- Familiarity with specific monitoring methods discussed above
- Familiarity with analysis in R or Python