Impact Spotlight

Keo Seima REDD+ Project





SPOTLIGHT SUMMARY

The Keo Seima Wildlife Sanctuary (KSWS) REDD+ Project has a world-class, long-term biodiversity monitoring program. Core to this is program is a distance sampling line transect methodology, which provides estimates of key species abundance, distribution, and population trends for six primate species, six ungulate species, and one bird species.



A subset of species analysed, comparing the global population trends with those estimated in the Keo Seima Wildlife Sanctuary. 6 of the 13 species demonstrated improved trends (stable or increasing) compared to global estimations.

In addition to this, the project records all species found at the site, including more than 20 species newly described by science. Elephant populations are monitored using mitochondrial DNA surveys, and nests of threatened bird species are recorded and protected. Camera traps are used to record the presence of rare and cryptic species, and newly developed techniques such as passive acoustic monitoring are being trialed.

Griffin O. & Nuttall M. (2020). Status of Key Species in Keo Seima Wildlife Sanctuary 2010–2020. WCS Cambodia, Phnom Penh.



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KEY ACTIVITIES

KSWS is home to more than 950 wild species, including 75 globally threatened species and plays a vital role in the preservation of the region's important and vulnerable wildlife, including the world's largest populations of endemic primates.



To collect this data, field teams comprised of Wildlife Conservation Society Staff and local community members walk more than 1,000 km through KSWS, camping in the forest each night, recording detections of key species.

Biodiversity monitoring is key to measuring progress and informing the design of successful conservation interventions. It allows for the direct assessment of the overall impact of the project on wildlife and can provide early warning of issues, as well as quantification of successes.

MILESTONES

With world-class biodiversity monitoring and data, Keo Seima features the highest number of species recorded for any Cambodian protected area, with 20 species new to science:



In 2021, a technical report and peer-reviewed scientific article were published analyzing and summarizing population trends over the previous decade. Biodiversity monitoring has helped focus attention on threats and issues, as well as allowing efficient prioritization of resources. In some cases, such as the nest protection program, the work has direct wildlife conservation impacts.

- To date, 959 species have been recorded to occur within the boundaries of KSWS, the highest number published for any protected area in Cambodia.
- The 356 bird species recorded in KSWS show the site is one of the richest bird areas in Cambodia. For comparison, the most species-rich hotspot on eBird at time of publication, Bokor National Park, records only 345 species. More than half of all bird species recorded in Cambodia are found in KSWS.
- W KSWS has one of the highest diversities of Picadae (woodpecker) species globally, with 21 species recorded.

CURRENT NEWS

Field teams are currently walking in the forest and collecting data. At the end of Q2 and in Q3, these data will be analyzed to produce abundance and distribution estimates. Long term trend analysis shows stability of many key species, especially primates, but also highlights concerns about declines of ungulates, which are seen across Cambodia.

An exciting development at the project is the trial of a passive acoustic monitoring method in partnership with a team at Cornell University and World Hope International - who manage the Jahoo Gibbon Camp. Essentially the passive acoustic monitoring is a camera trap for sound, recording the continuous soundscape of the forest. Recording devices have been placed throughout the project area, with a computer chip and a microphone which will be analyzed with Artificial Intelligence. The monitoring can track how often there are gunshots, estimate a population from the frequency of wildlife calls heard, can recognize individual wildlife making those sounds and can detect different bird species that otherwise wouldn't be seen.



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THE FUTURE



The ultimate ambition of the project's biodiversity monitoring program is to produce reliable and useful data. The project will continue to implement world-class monitoring that adopts new methods over time, to ensure results lead to improved management decisions. The quality of existing biodiversity monitoring programs will continue to be improved, and new programs will be implemented as new methodologies become available. Effective monitoring will lead to improved protected area management and can reduce the threats to and loss of wildlife species in the KSWS.