



*Capturing thoughts and opinions on how 'Wildlife Institute of India' is spearheading training and education in wildlife management and conservation.*



### A brief about Wildlife Institute of India

Established in 1982, Wildlife Institute of India (WII) is an internationally acclaimed Institution, which offers training programs, academic courses, and advisory in wildlife research and management. The Institute is actively engaged in research across the breadth of the country on biodiversity-related issues. The mission of WII is to nurture the development of wildlife science and promote its application in conservation, in consonance with our cultural and socio-economic milieu.

### What are the key priorities, goals, and vision of the Wildlife Institute of India?

We all are familiar with the issues of climate change that our world faces today, but there is an equally or more important issue faced by us, i.e., rapid loss of biodiversity and habitats. Wildlife Institute of India is dedicated to achieving ecological security for the country. Since inception, we have been working towards building up scientific knowledge on biodiversity resources, training personnel at various levels for conservation and management of wildlife, and carry out research relevant to management. WII is acclaimed for wildlife conservation and management both across National and International forums. We provide technical assistance to the state and central government on policies concerning wildlife research and management. Our research projects span across the length and breadth of the country and are the primary source of scientific information to help conservation.

### Currently, in what ways, GIS, is already a part of the cross-functional activities of Wildlife Institute of India?

GIS is part of our ongoing project 'Tracking the Rainbird'. In this project, we try to understand the migratory route of the bird Pied Cuckoo (a brood-parasitic bird migrant to Northern India) utilizing satellite transmitters and ArcGIS for analysis

and visualization. We tagged two individuals of Pied Cuckoo from Dehradun, India, using 2gm Argos Platform Transmitter Terminal (PTT) tags to understand its movement patterns. One of the tagged individuals covered approx. 5,000 km distance. Our study provides the first evidence that the bird traveled to Africa from Northern India crossing the Arabian sea. The solution from Esri India, helped us visualize and map near real-time movement and flight path of the Pied Cuckoo. Features like the easy-to-operate interface and agile designing tools of ArcGIS Pro enabled us to create informative and detailed maps. Below, projects where ArcGIS is enabling our organization:

- All India Tiger Monitoring
- Biodiversity Conservation and Ganga Rejuvenation project
- Endangered species recovery programme namely, Great Indian Bustard, Dugong, Gangetic Dolphin, and Manipur Brow-antlered Deer

### What have been the key achievements attained by your organization from using Esri technology?

Without robust technology backup, conservation actions are rarely a success. The advancement in geospatial technology makes it possible to study the complex spatial dimension in ecology. In addition, the living atlas, and inbuilt analytical tools in ArcGIS Pro aids to visualize, analyze, and map spatial patterns. In our study, the locational data enabled us to map the movement pattern of the Pied Cuckoo. The data revealed that the migratory pattern of the Pied Cuckoo from India to Africa coincides with the receding Indian Southwest monsoon.

### How do you see the role of GIS expanding further to help you achieve your vision?

Rapid advancements in technology have provided conservationists and scientists with the opportunity to better understand wildlife, their habitats, and the threats they face. Application of satellite imaging, analysis, and visualization via Geographic Information technology helps in framing conservation strategies. Wildlife tracking and monitoring are two very significant components of wildlife management wherein GIS enables:

- Ecological and environmental data collection; contributing towards a much greater understanding of species
- Monitoring of animal movements over vast distances and time
- Distribution modeling of species

The integration of satellite tracking, remote sensing, and GIS mapping is helping our organization to tackle large-scale conservation questions through conservation strategies. Having said this, while traditional management methods help, solutions backed by state-of-the-art technologies effectively help in conservation efforts through sustainable management.

