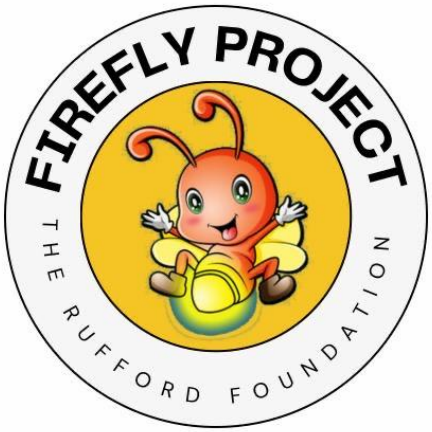
World Firefly Day Report
(5th – 6th July, 2025)



Fireflies, belongs to the family Lampyridae (order Coleoptera), they are far more than a charming sight on warm summer nights. They serve as vital bio-indicators of environmental health. In their larval stage, they act as natural pest regulators, such as feeding on slugs, snails, and other small invertebrates. However, despite their ecological significance, fireflies remain understudied, with limited information available on their species diversity, leading to their conservation status being classified as Data Deficient.

Including 2025, it has been five years since our team launched India's first-ever citizen science initiative dedicated to documenting firefly sightings across the country. By involving volunteers from all corners of India, the project aimed to collect essential information of their occurrence. This effort gave rise to an annual firefly survey, held in alignment with World Firefly Day, observed on the first weekend of July. To facilitate data collection, we used the ArcGIS Survey123 platform to design a comprehensive questionnaire, accessible via a direct link and QR code. The survey was widely shared through the official websites of the Graphic Era (Deemed to be University), Wildlife Institute of India and along with outreach through personal networks.

This year, we were thrilled to see the participation of **citizen scientists**, who contributed data on firefly occurrences from **22 states** across India, (figure.1) two more states added to our data list.

The states from which we received data include **Uttar Pradesh, Uttarakhand, Rajasthan, Kerala, Karnataka, Gujarat, Punjab, Jharkhand, Bihar, Himachal Pradesh, Madhya Pradesh, Tamil Nadu, Jammu & Kashmir, Haryana, Odisha, Mizoram, Arunachal Pradesh, Andhra Pradesh, Maharashtra, Goa, West Bengal, New Delhi.** Notably, the highest participation came from **Uttarakhand, Uttar Pradesh, and Karnataka.**

This year, for the first time, we also analysed the gender-wise participation in the survey and found an encouraging response - **147 men and 86 women** contributed their observations. In addition, we examined participation across age groups to better understand which segment of the population showed greater awareness and interest in firefly conservation. Interestingly, the highest number of contributors belonged to the **21-45** age bracket, indicating that young adults and mid-career individuals are emerging as the most engaged and environmentally responsible group in this citizen science movement.

This combined effort has shed light on the presence and absence of fireflies across diverse regions, inspiring greater appreciation and awareness of these enchanting insects. Future initiatives will aim to strengthen conservation strategies, helping to ensure that the gentle glow of fireflies continues to illuminate our nights and reflect a thriving environment for generations to come.

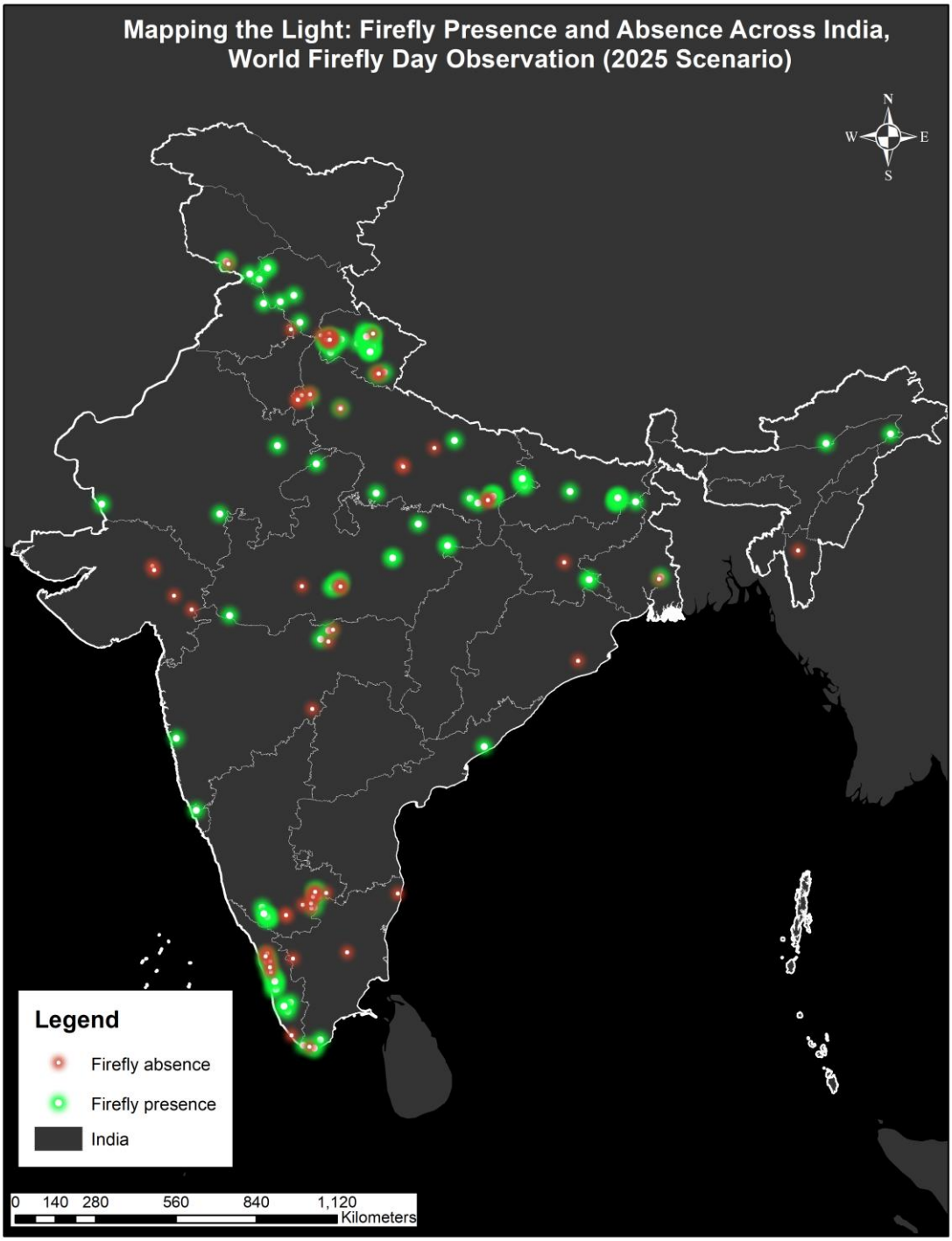


Figure. 1. Map of India showing presence and absence of fireflies.