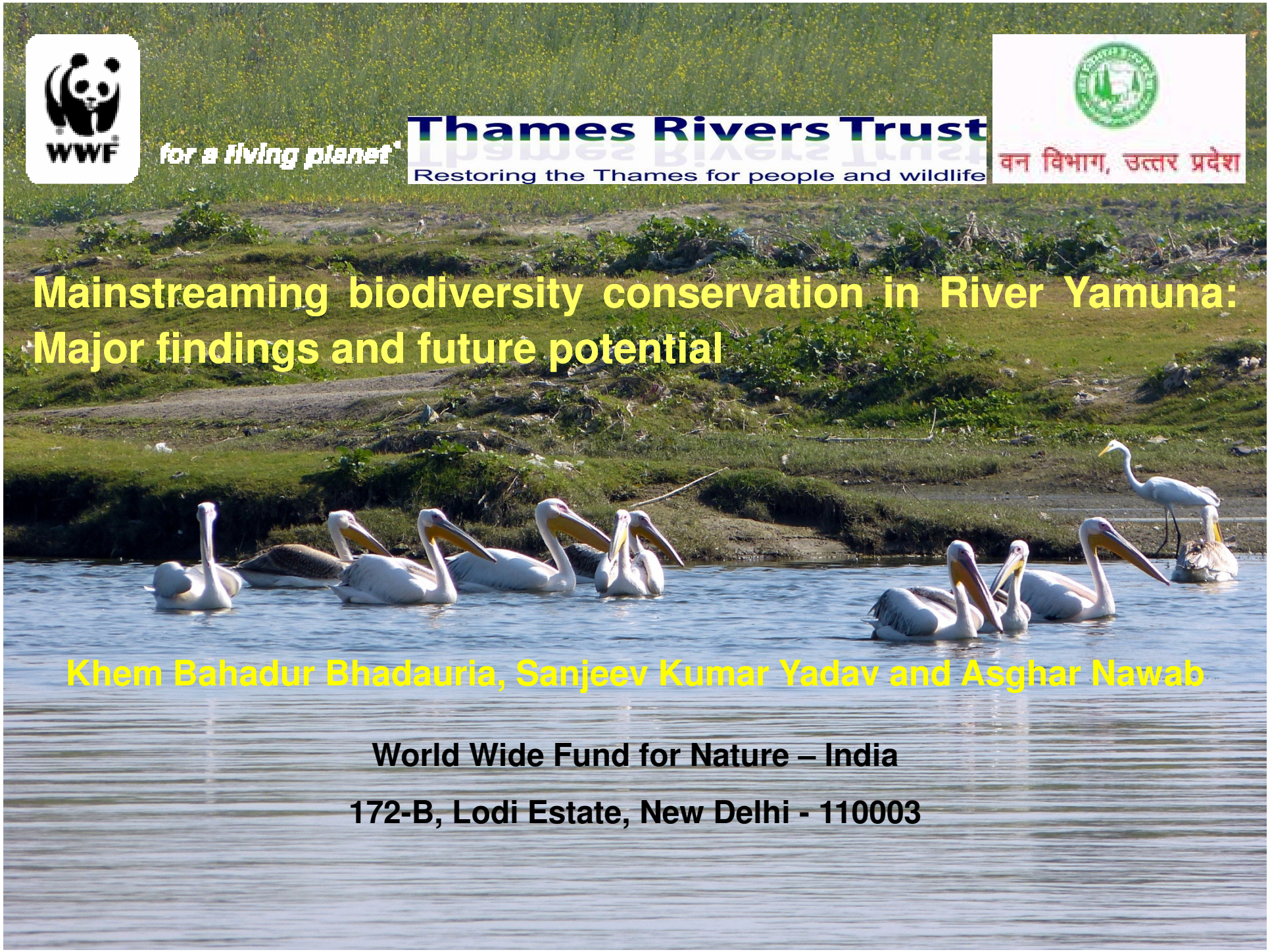


for a living planet

Thames Rivers Trust

Restoring the Thames for people and wildlife

वन विभाग, उत्तर प्रदेश

Mainstreaming biodiversity conservation in River Yamuna: Major findings and future potential

Khem Bahadur Bhadauria, Sanjeev Kumar Yadav and Asghar Nawab

World Wide Fund for Nature – India

172-B, Lodi Estate, New Delhi - 110003

Why Yamuna?

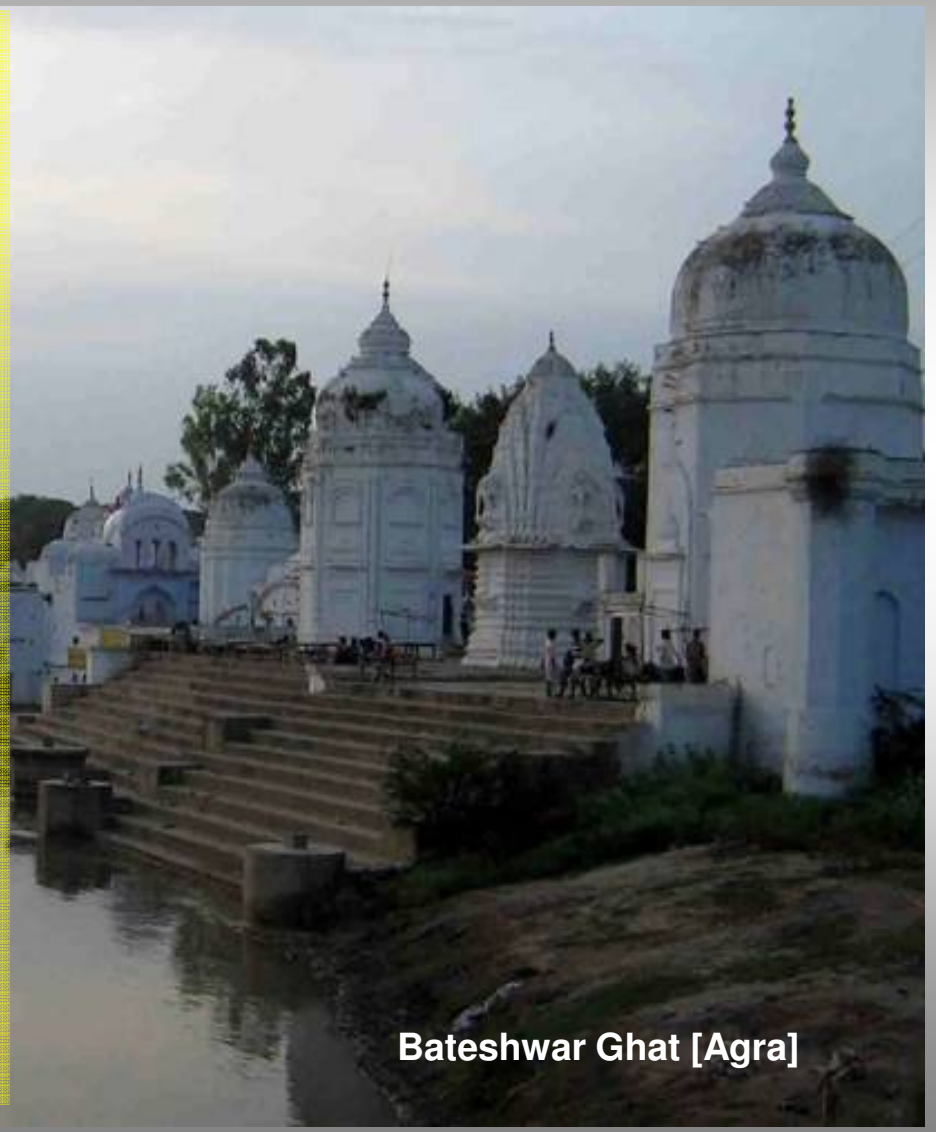
‘Ailing River’

Widespread ignorance and lack of understanding about the conservation needs of the river ecosystem

A deep sense of alienation, hopelessness and helplessness amongst the riparian people as regards any effort to revive the river to its past glory

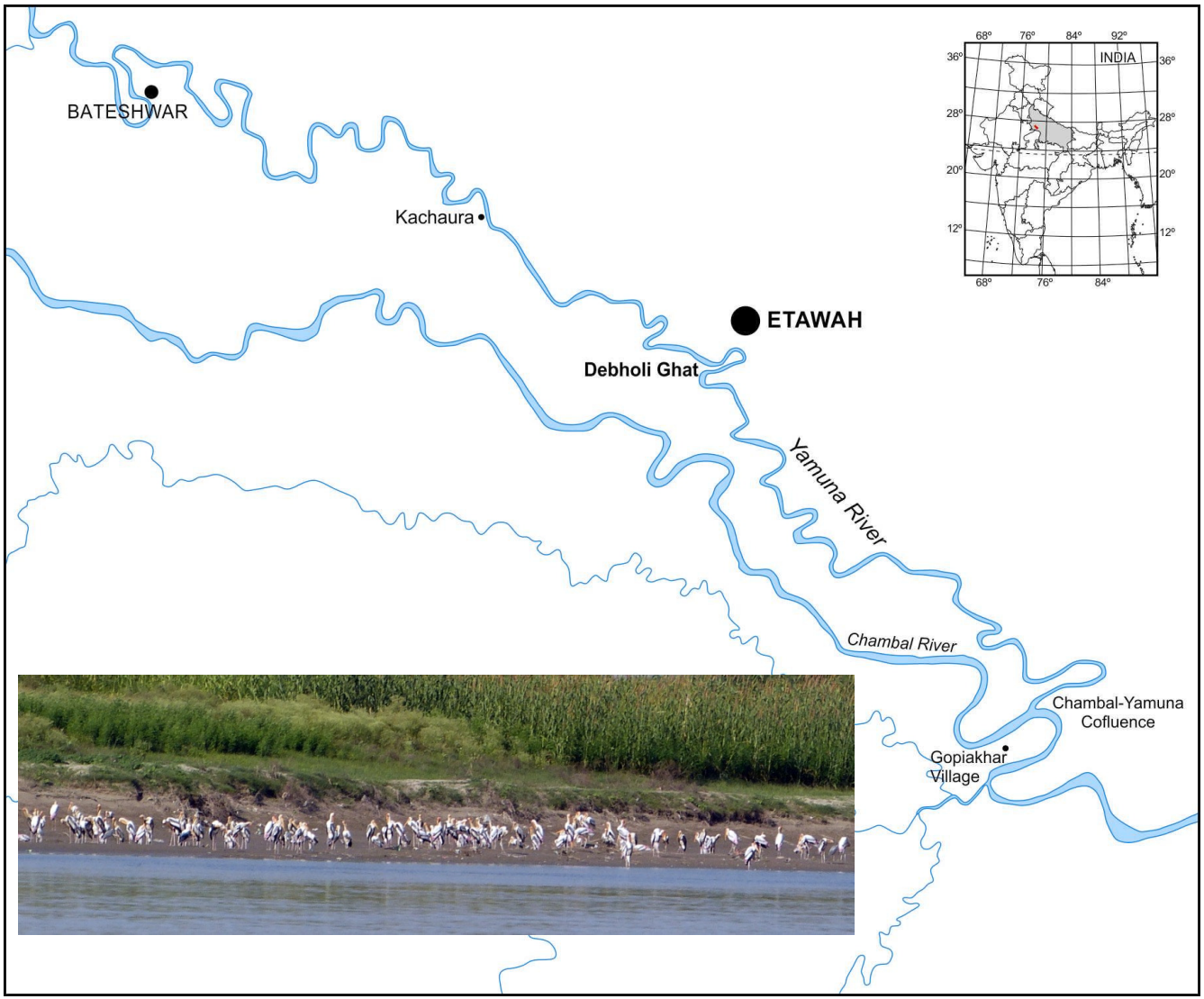
‘The silver lining’

A concept of ecosystem restoration vis-à-vis Biodiversity Conservation



Bateshwar Ghat [Agra]

Project site: c. 194km [Bateshwar Ghat, Agra to Dibholi Ghat, Etawah]



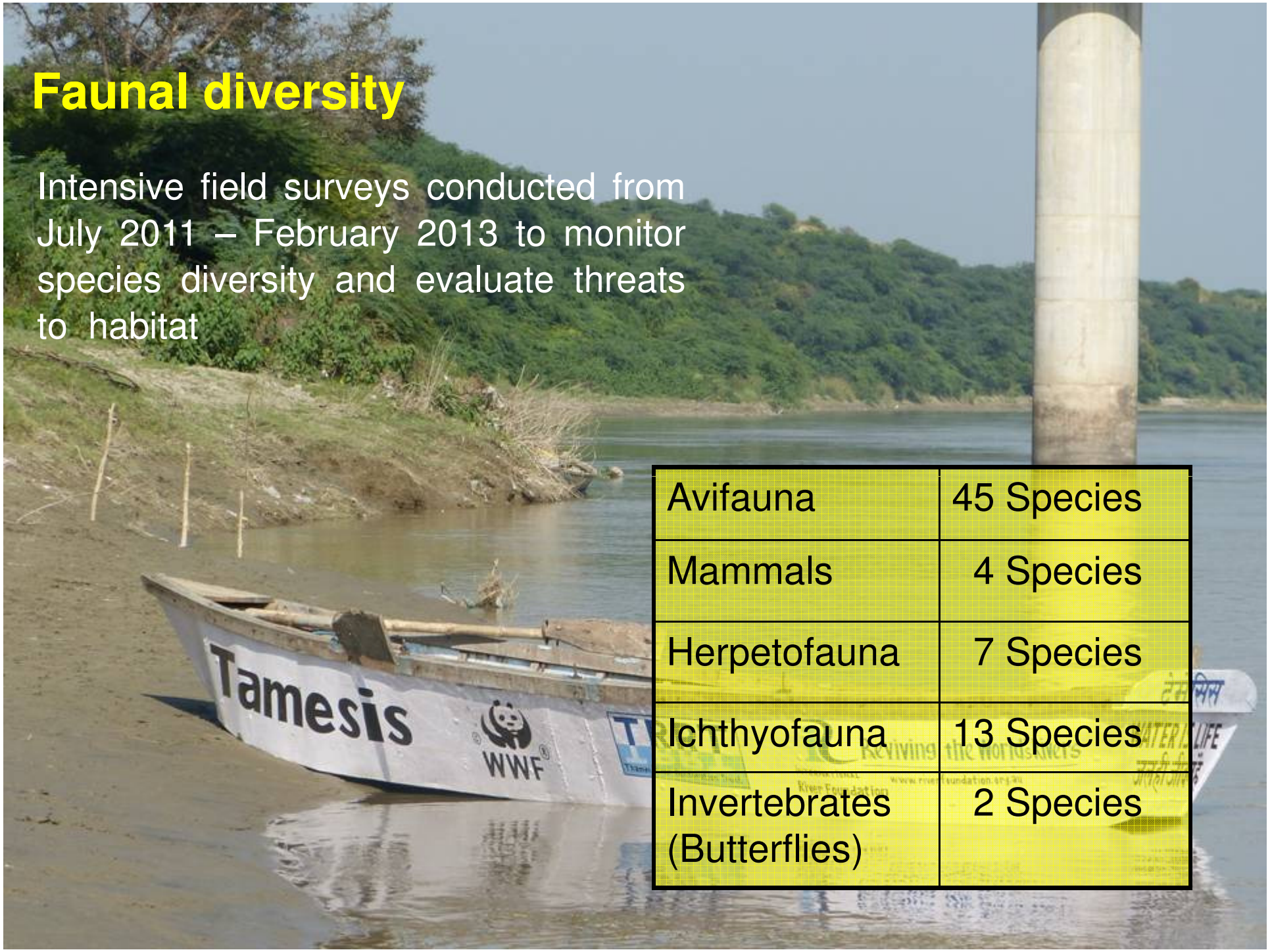
Project objectives

Record faunal diversity and document threats to habitat quality

Assess dependency of riparian communities on natural riverine resources and evaluate people's perception towards biodiversity conservation

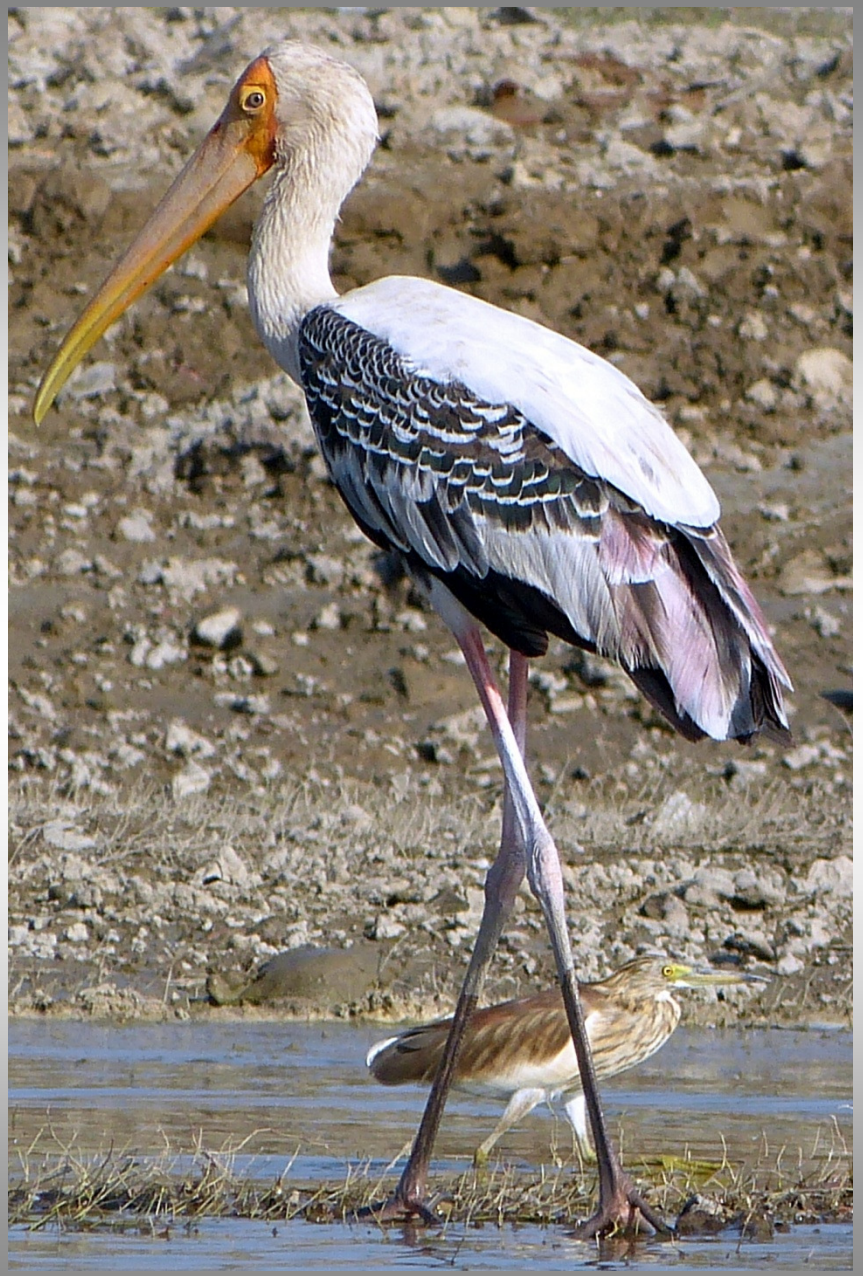
Faunal diversity

Intensive field surveys conducted from July 2011 – February 2013 to monitor species diversity and evaluate threats to habitat

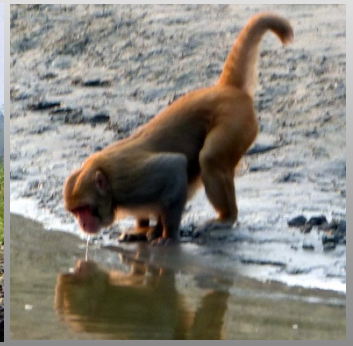


Avifauna	45 Species
Mammals	4 Species
Herpetofauna	7 Species
Ichthyofauna	13 Species
Invertebrates (Butterflies)	2 Species

45 species of birds recorded



Small population of Ganges River Dolphins observed near Pathewara village (Hamirpur Grid)

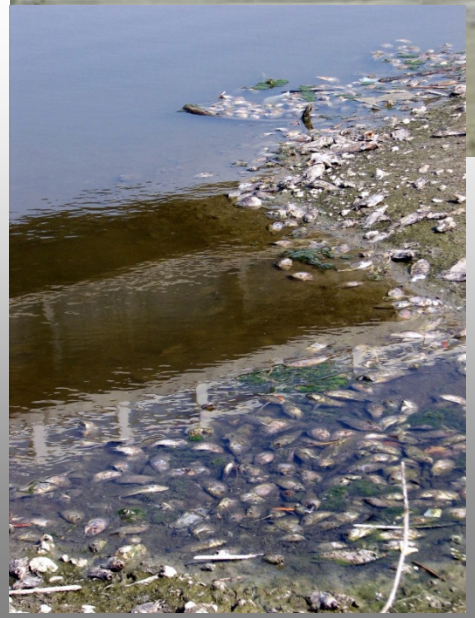


Female Gharial recorded with about 18 hatchlings - This is first record of Gharial ‘nesting’ in River Yamuna

4 species of turtles recorded

13 species of fishes recorded

Conservation threats



Fish die-off

July 2012

August 2012

October 2012

Resource dependency

10% of 320 villages [n=32] comprising of 3187 households surveyed in the study stretch (combining both northern and southern banks)

Other Backward Class are dominating Communities that include Mallah, Aheer, and Lodi

River bed agriculture [*Palaze*] is extensively done, subsidiary income is made through selling of handicrafts at local market

Fishing is largely on contract basis, though locals also fish for personal consumption

Infrastructural capital includes 09 Panchayat community meeting rooms, 24 Aganwadi Centre for women, 1 Health Centre, 09 Ration Shops, 12 Government Primary Schools, 09 Government Junior Schools and 1 Government Inter College

Socio-economic surveys conducted to understand the dependency of the riparian communities on freshwater resources

Fisheries protection and restoration workshops to promote alternative livelihood at Gopiakhar Village, Etawah, Uttar Pradesh

Indigenously made machines for spinning rope and jute material.

Fisherman sharing his experience and thoughts about the project with other participants.

Products made out of *Munj*.

Workshop on promotion of Better Management Practices to develop more efficient agricultural practices by promoting use of vermi-compost for *Palaze* [riverbed cultivation] at Gopiakhar Village, Etawah, Uttar Pradesh

ITEM	Chemical Fertilizer	Vermi-Compost
Plot size (m ²)	20x20 = 400	20x20 = 400
Volume of manure used (Kg)	25 kg	78 kg
Time of crop	90 days	90 days
Productivity (Kg)	182	207
Quality of product	Short sized and dull texture	Long sized and bright texture
Local market value of product (INR)	22.00	25.00
Cost of manure	630.00	Nil*
Total Income (INR)	22.00 x 182.00 = 4004.00	25.00 x 207.00 = 5175.00
Total Income - Cost of manure	4004.00 – 630.00 = 3374.00	5175.00 – 00.00 = 5175.00

Difference (INR) in trial plot of 400 m ² = 5175.00 – 3374.00 = 1801.00

***2500/- One time investment for 5 yrs for maintaining a 10 x 3.5 ft Compost Pit**

For a plot of 1 Acre (4046 m ²) net benefit of approx. 18,010.00 for one season crop can be expected!

Synthesis

Biodiversity conservation - inextricably linked to protection of habitat in terms of availability of prey and suitable sites for shelter - Key Biodiversity Areas (KBAs)

Biodiversity recorded represents endangered species like the Ganges Dolphin, Gharial and the Black-necked Stork

Peripheral areas of the National Chambal Sanctuary fall in the Yamuna which are used as seasonal migratory routes by endangered species like Gharial - such habitats maybe recognised/proposed as Conservation Units and effective protection measures are needed on urgent basis

Outreach Programmes included capacity building of Local Forest Staff and Technical assistance is being provided to the Forest Department in the development of a Biodiversity Conservation Action Plan for Yamuna

Riparian communities with stake in long term future of freshwater species and habitats across the region must be fully engaged in the development and conservation planning processes in order to assure the future sustainability of associated livelihoods and the ecosystem services provided by fully functioning freshwater ecosystems