

Ganges River Dolphin Habitats

Environmental, ecological and anthropogenic factors affecting river dolphin distribution and habitat use in the Vikramshila Sanctuary, Bihar, India

Location: Vikramshila Gangetic Dolphin Sanctuary, Bihar, India

Species: Ganges River Dolphin (*Platanista gangetica*)

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The Ganges river dolphin is an obligate freshwater cetacean distributed in the Ganges and Brahmaputra river systems of India, Nepal and Bangladesh. This species has been assigned the status Endangered by the IUCN Red List, 2007. The Vikramshila Gangetic Dolphin Sanctuary (VGDS) in Bihar, India was designated in 1991 and till date happens to be the only protected area in India especially designated for conservation of this species. This 60-km stretch of the Ganges River between Sultanganj and Kahalgaon has a very high population of poor people dependent directly on the river for diverse needs from agriculture to fisheries. Local threats from over-fishing and pollution, as well as future threats like inland waterways threaten the ecology of the dolphins in the river. Conservation efforts by the Vikramshila Biodiversity Research and Education Centre, Bhagalpur and WDCS over the last decade have helped sustain and safeguard the sanctuary population, and have offered the basis for a quantitative exploratory study of the environmental, ecological and anthropogenic determinants of dolphin habitat usage in the sanctuary. In addition, there is a need for understanding the overlap between human resource off-take and dolphin habitat use. The project hopes to study in detail, multiple drivers influencing and modifying dolphin habitat use, thus providing possible inputs to long-term conservation and management.

Aims and Objectives

1. Investigate the relationship between dolphin encounter-rates & distribution with habitat properties



Kahalgaon marks the eastern boundary of the Vikramshila Gangetic Dolphin Sanctuary in Bihar, India. The 60 km long sanctuary is heavily populated by humans and cattle.

like water depth, channel width, flow and fluvial geometry.

2. Use of GIS techniques and satellite imagery for description of the nature of riverine and floodplain habitats, in order to provide a habitat suitability

“Local threats from over-fishing and pollution... threaten the ecology of the dolphins in the river.”

analysis for the species.

3. Measure correlates of prey availability and anthropogenic disturbance like land-use, fishing intensity and water pollution, as well as vessel traffic in relation to dolphin distribution in the sanctuary area.

Methods

Transect surveys across the sanctuary are being conducted regularly for data collection on dolphin sightings. During the transects, data on human use like number of motorized and non-motorized boats, ships, human activities and land-use practices, fisheries and fishing intensity are also collected. Data on water depth and channel width are obtained. Laboratory analyses for basic water quality parameter estimation are being conducted. Interviews with local fishermen are being done to understand overlap of dolphin habitats and preferred fishing areas by people. I plan to use appropriate satellite imagery of the study area in order to identify the coarse-scale habitat covariates affecting dolphin distribution across the sanctuary area. Further, habitat selection by dolphins would be investigated using a comparative approach that involves prey sampling, habitat and disturbance monitoring at different locations like confluences, eroded zone hydraulic refuges and floodplain islands. The chief outputs of the study are expected to be in the form of dolphin distribution maps with satellite imagery and the relationship of dolphin encounter-rates with habitat and anthropogenic covariates.



The Ganges River dolphin is one of the most elusive of riverine species, making photo-ID close to impossible.



Whale and Dolphin Conservation Society

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