

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL  
BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 1158 OF 2024

IN THE MATTER OF

News Item titled "Indus river dolphins in troubled waters" appearing in  
Mongabay dated 15.08.2024

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Respondent No.- 5

Through

DT.18-11-25

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News Item titled "Indus river dolphins in troubled waters" appearing in Mongabay dated 15.08.2024

REPLY BY WAY OF AFFIDAVIT ON BEHALF OF RESPONDENT NO. 5  
WILDLIFE INSTITUTE OF INDIA.

I, G. S. BHARDWAJ, aged about 57 years S/O GIAN CHAND working as DIRECTOR WILDLIFE INSTITUTE OF INDIA CHANDRABANI P.O MOHBEWALA DEHRADUN UTTARAKHAND officer do hereby solemnly state and affirm as under: -

1. That deponent is well conversant with the facts and circumstances of the case and duly authorized to swear and affirm this affidavit on behalf of the Respondent No.5 i.e. Wildlife Institute of India. (hereinafter also referred as WII)
2. That Instant Original Application no. 1158 of 2024 registered *sue-motu* on the basis of the News Item titled "Indus river dolphins in troubled waters" appearing in Mongabay dated 15.08.2024, this Hon'ble Tribunal passed the order dated 12.09.2024 with the following observation: -

*The matter relates to the decrease in the habitat of Indus river dolphins. As per the article, the Indus river dolphin (Platanista minor) is a critically endangered freshwater dolphin species found only in the lower Indus river system in Pakistan and India. Since the 1870s, its*



habitat has decreased by 80% due to irrigation barrages, leaving around 2,000 individuals today.

3. The article states that in 2007, a small isolated population of dolphins was discovered in the Beas River in India, about 600 kilometers from their main habitat. This population is crucial for genetic diversity. The article states that as apex predators, the Indus river dolphins shape the population dynamics of fish and other aquatic species. They are crucial for sustaining the overall health of the river system. Furthermore, the dolphins face threats from habitat degradation and other challenges.

4. The article further explains that as per recent data, fewer than 10 dolphins, primarily located in the lower third of the river are left. Recent surveys (2011-2022) also show counts ranging from one to eight individuals, with annual calf sightings indicating ongoing reproduction. However, the overall population size has been consistently low raising concerns about habitat usage and range shifts.

5. The article highlights that reconnecting the small population of Indus River dolphins in the Beas River with those in the Indus River is unlikely due to physical barriers like barrages and dry rivers. The Beas River dolphins face significant challenges, including entanglement in fishing gear, water pollution, and difficulties escaping through the Harike Barrage. The specific habitat needs of these dolphins are not fully understood, but they likely prefer high-volume pools, which may be diminishing due to hydrological changes. The main threats include water availability and pollution, worsened by upstream hydropower projects causing fluctuating water levels. The Beas River population is critically small, making their survival highly vulnerable.



6. *The above news item indicates violation of the provisions of the Water (Prevention and Control of Pollution) Act, 1974, Biological Diversity Act, 2002 and the Environment (Protection) Act, 1986.*

7. *The news item raises substantial issue relating to compliance of the environmental norms and implementation of the provisions of scheduled enactment."*

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3. That this Hon'ble Tribunal impleaded the answering respondent as Respondent No. 5 and issued Notice to file response/reply by way of affidavit.
4. That it is humbly submitted that The Indus River dolphin (*Platanista minor*) has lost approximately 80% of its historical range, equating to over 2,500 km of Indus River habitat, primarily due to the construction of 20 irrigation barrages and depletion of dry season flows for irrigation and human use (Braulik et al. 2004; Reeves et al. 1991; Pilleri and Pilleri 1979). Once widespread across the five largest tributaries of the Indus River—Jhelum, Chenab, Ravi, Sutlej, and Beas (collectively termed the Punjab rivers)—the species is now confined to the Indus mainstem, Pakistan. In 2006, a remnant population was discovered in the Beas River, India, over 600 km from other known populations (Behera et al. 2008). The reasons for their persistence in the Beas, despite extirpation from similar habitats, remain unclear.
5. Furthermore, Contraction of geographic range, a hallmark of declining species (IUCN 2001), often follows predictable patterns, with populations persisting in core habitats until the final stages of decline (Lomolino and Channell 1995). However, the distribution of threats, rather than habitat quality, frequently dictates where populations persist (Channell and



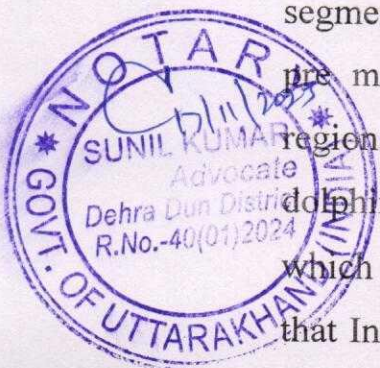
Lomolino 2000). In rivers, habitat fragmentation exacerbates extinction risks, as subpopulations face limited dispersal opportunities and are more vulnerable to localized catastrophes (Fagan 2002). Freshwater species declines, driven by habitat degradation, overexploitation, pollution, and climate change, remain understudied compared to terrestrial species, despite potentially more severe consequences in riverine ecosystems (Allan and Flecker 1993; Fagan et al. 2002). Enhanced understanding of these processes is critical for conserving endangered species like the Indus River dolphin.

6. It is most respectfully submitted that River dolphins are vital components of freshwater ecosystems, acting as key indicators of ecosystem health and biodiversity. As flagship and sentinel species, their presence and health reflect the condition of their habitats and the status of other species. Declines in river dolphin populations often correlate with ecosystem degradation, highlighting their role as ecological indicators. Monitoring their populations can also provide insights into the status of other threatened species experiencing similar environmental pressures.
  7. Further, the Human activities, such as habitat fragmentation caused by dams and water infrastructure, and competition with fisheries, significantly impact river dolphins. Habitat degradation restricts their movement and reduces suitable living areas, posing a major threat to their survival. Despite these challenges, dolphins have shown resilience to changes in fish communities, suggesting potential coexistence with regulated fishing practices.
8. That effective conservation strategies, including habitat restoration, regulated fishing, and monitoring human-induced stressors, are essential for preserving river dolphins. Protecting these species is not only crucial



for their survival but also for maintaining the ecological balance and overall health of freshwater ecosystems.

9. That with respect to genetic diversity, until the genetic diversity of the Indus river dolphins in Beas is compared to the remaining population in Pakistan, it is difficult to conclude the genetic importance of the population in India.
10. That it is humbly submitted that a total of 16 sightings was recorded during the study period in 2010 by WWF India (Khan & Pant, 2014). Field assessment between 2011-2013 by WWF-India reported 25 sightings (Punjab Envis Centre Newsletter).
11. That during a range-wide estimation survey conducted by the Wildlife Institute of India in November 2021, three individuals (two adults and one neonate) were visually recorded in the lower 101 km stretch of the Beas River, from Sri Hargobindpur to Harike Wetland in Punjab, India. In March 2024 one individual was found dead at Harike, located at the confluence of the Sutlej and Beas rivers in Punjab, India. The dolphin, measuring 7 feet and weighing 100 kg, was discovered near gate number 2 of the Ferozepur feeder canal.
12. That river dolphins, including the Ganges, Amazon, and Indus River dolphins, rely on habitats with adequate flow depth, velocity, and connectivity, favoring areas near confluences and slightly sinuous river segments. Seasonal variations, such as increased use of deep pools during pre monsoon periods, influence their habitat preferences. Further, In regions like the Amazon and Ganges & Brahmaputra river systems, dolphins are found in high densities near confluences and channels, which are rich in prey. It is further submitted that It is safe to conclude that Indus river dolphins also respond to similar needs. However, habitat



fragmentation, pollution, water development projects, and fishing activities adversely affect their survival by degrading habitats, restricting movement, increasing risk of entanglement and reducing water quality. Conservation strategies, including hydrological management to maintain flow regimes, habitat restoration, and the creation of sanctuaries, are essential to mitigate these threats and preserve the specific environmental conditions required by river dolphins.

13. That despite habitat improvement measures, the current population size is critically low, and additional actions are necessary to prevent extirpation. Conservation translocations, involving the relocation of individuals from healthier populations in its range, should be explored to enhance the genetic diversity and population size of the Beas River dolphins in India. While translocation involves risks, such as habitat suitability, stress during transport, and potential political hurdles, it presents a unique opportunity to establish additional populations and enhance genetic diversity, thereby ensuring long-term conservation. A cost-benefit risk analysis, alongside comprehensive bilateral agreements and detailed scientific studies is crucial before implementation.

14. That it is humbly submitted that with respect to flow and discharge fluctuations, WII does not have information regarding fluctuations, however, the average depth of the river was recorded at 2.2 meters, with an average width of 238 meters. In low discharge season this depth is not maintained. Preliminary studies indicate that it is necessary to maintain at least 4m of water across all seasons for optimal habitat for Ganges river dolphins. Fluctuations due to release of water from dams upstream may cause severe changes in habitat, especially in low depth habitats like the Beas.



15. That habitat alterations also affect fish and plankton habitats, and in turn affect dolphins. The encounter rate of fishing gear was observed to be 0.06/km, while sand mining emerged as the dominant human activity along the river. A total of 39 sand-mining boats were recorded within this 101 km stretch during the rangewide survey carried out. Regulations to these human activities need to be carried out to ensure minimal disturbance to the Indus river dolphins and their optimal habitat.
16. It is respectfully submitted that the Indus River dolphin has lost most of its natural range due to irrigation barrages, declining river flows, habitat fragmentation, pollution, and other human activities, leaving only a small and fragile population in the Beas River. These dolphins are important indicators of freshwater ecosystem health, and their decline signals serious ecological stress. Although a few sightings have been recorded over the years, the population remains critically low and continues to face threats from fishing activities, sand mining, and fluctuating water levels that do not meet the depth needed for their survival. Protecting this species requires restoring habitats, regulating fishing, managing river flows, and closely monitoring human disturbances. Translocation from healthier populations may also be needed to strengthen genetic diversity, subject to scientific evaluation and cooperation between concerned authorities. Strict control of harmful activities and maintenance of suitable flow conditions are essential for the dolphin's long-term survival.
17. That the present Reply by way of affidavit may kindly be taken on record and into consideration, and the Hon'ble Tribunal may pass appropriate order(s), direction(s) as deemed fit and proper under the facts and circumstances of the present case.



18. That the Answering Respondent seeks leave to make additional submissions, if required, during the course of the proceedings as and when directed by this Hon'ble Tribunal.

  
DEPONENT

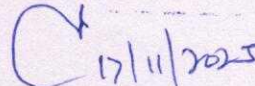
Verification

Verified at New Delhi on 17 November 2025 that the contents of the above reply affidavit are derived from the official records and personal knowledge and are correct and true to the best of my knowledge and belief. Nothing material has been concealed therefrom.

  
DEPONENT



श्री. G. S. Bhardwaj  
who is identified by Shri.  
of Bahradun as

  
17/11/2025  
SUNIL KUMAR  
ADVOCATE & NOTARY