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THE LAST SONG IN THE CANOPY: HOLLONGAPAR GIBBON SANCTUARY, JORHAT — ITS SIGNIFICANCE, NEGLIGENCE, AND A RACE AGAINST TIME

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"Every morning, if you stand at the edge of Hollongapar before the tea gardens wake up, you hear it — a duet, rising and falling like a prayer. It is the call of the hoolock gibbon. It is also, perhaps, a warning."

Abstract

The Hollongapar Gibbon Sanctuary, situated within the hyper-fragmented landscape of Jorhat, Assam, serves as a vital ecological micro-refugium harboring extraordinary primate diversity, including India's sole ape species, the western hoolock gibbon (Hoolock hoolock). Spanning a mere 20.98 square kilometers, this island ecosystem is entirely encircled by tea plantations, infrastructural networks, and human settlements. This seminar paper examines the structural contradictions between state-led developmental imperatives and long-term conservation biology within the sanctuary. Through a critical historical and contemporary lens, the study analyzes the cascading ecological effects of the century-old Lumding-Dibrugarh railway line, its recent highly contested 25 KV electrification in 2024, and the subsequent documented arboreal electrocution events of early 2026. Furthermore, it deconstructs the socio-ecological risks associated with oil and gas explorations authorized within the sanctuary's eco-sensitive zone (ESZ). Utilizing a cross-disciplinary methodology combining qualitative policy analysis and conservation literature, this paper argues that canopy bridges serve as insufficient mitigations for habitat fragmentation. Ultimately, it emphasizes that preventing localized extinctions necessitates an absolute shift from reactive administrative interventions to binding long-term structural changes, primarily the physical rerouting of intersecting linear infrastructure.

Keywords: Hollongapar Gibbon Sanctuary, Hoolock hoolock, Linear Infrastructure Fragmentation, Eco-Sensitive Zone, Habitat Isolation, Environmental Policy.

I. A Forest That Should Not Exist — And Yet It Does

There is something quietly miraculous about the Hollongapar Gibbon Sanctuary. Tucked into the Jorhat district of Assam, flanked on all sides by monoculture tea gardens, split completely by an operational railway line, and encircled by dense agrarian settlements, this 20.98-square-kilometre forest island has no right to be as ecologically alive as it is. Yet, every morning, its closed canopy erupts with sound. The towering Hollong trees (Dipterocarpus retusus) reach upward thirty meters or more, and through their crowns swing India's only apes: the western hoolock gibbons (Hoolock hoolock). The sanctuary exhibits a complex institutional trajectory that mirrors the broader environmental historiography of Northeast India—a narrative marked by dense natural richness, aggressive colonial resource extraction, and a long, uneven battle for post-colonial legislative protection. Originally demarcated as a 'Reserve Forest' on August 27, 1881, under colonial administrative frameworks, it was once contiguous with the extensive foothill forests of the Patkai mountain range, stretching unbroken toward modern-day Nagaland.

However, the expansion of the British colonial agrarian economy rapidly prioritized the establishment of tea plantations, which systematically swallowed the surrounding peripheral forest cover. Later, during the 1960s, the state government established multiple forest-fringe villages to rehabilitate indigenous communities permanently displaced by the devastating floods of the Brahmaputra and Bhogdoi rivers. By the time India's wildlife protection laws began to catch up with contemporary ecological reality, Hollongapar had already been transformed into a closed ecological island. The inhabitants of this isolated habitat, including some of India's rarest and most specialized arboreal primates, found themselves permanently marooned within a highly constrained geographic boundary.

II. Why Hollongapar Matters: A Sanctuary of Superlatives

To understand why the ecological degradation of Hollongapar would represent an irreplaceable loss, one must first analyze the unique biological density it holds. According to standardized census operations conducted by the Wildlife Institute of India (WII), the sanctuary shelters a critical population of individual western hoolock gibbons. These organisms are highly specialized, obligate canopy-dwellers that live in small, monogamous family units, pairing for life and raising their offspring exclusively within the upper strata of the forest cover. They rarely descend to the forest floor unless extreme canopy gaps force them to do so, rendering them uniquely vulnerable to horizontal habitat disturbances.

This is not merely a regional ecological distinction; it carries international scientific and conservation significance. The western hoolock gibbon is currently categorized as Endangered on the International Union for Conservation of Nature (IUCN) Red List, experiencing rapid population declines across its wider distribution range due to severe habitat fragmentation. Beyond its signature ape population, Hollongapar displays the highest sympatric primate diversity of any single protected area within India, holding seven distinct species. Alongside the hoolock gibbon, the ecosystem sustains the Bengal slow loris (Nycticebus bengalensis), Northeast India’s only nocturnal primate; the stump-tailed macaque (Macaca arctoides); the northern pig-tailed macaque (Macaca leonina); the Assamese macaque (Macaca assamensis); the rhesus macaque (Macaca mulatta); and the capped langur (Trachypithecus pileatus). Furthermore, the sanctuary is officially recognized as an Important Bird Area (IBA) by BirdLife International, hosting over 219 recorded avifauna species, 211 species of lepidoptera, and serving as a seasonal migration corridor for wild herds of Indian elephants (Elephas maximus). For its limited geographical footprint, it represents perhaps the most ecologically dense and diverse tropical forest patch in the entire Indian subcontinent.

III. Review of Literature

The intersection of infrastructure development, habitat fragmentation, and primate conservation in Northeast India has generated an important body of literature, highlighting the extreme vulnerability of isolated wildlife refugia.

Anwaruddin Choudhury, in his extensive foundational survey 'The Primates of Assam' (1989), provided the first comprehensive distribution mapping of non-human primates in the state. Choudhury forcefully articulated that linear infrastructure, even in its early post-colonial iterations, posed an existential threat to canopy-dependent species. He argued that smaller, isolated reserve forests like Hollongapar required immediate macro-level structural protections to prevent genetic isolation, identifying the historical railway line as a major permanent constraint on long-term viability.

Expanding on the biological mechanics of this isolation, Dilip Chetry et al., in 'Status and Conservation of Hoolock Gibbon in India' (2007), analyzed the behavior and group dynamics of the gibbons within Hollongapar. Chetry's long-term observations confirmed that Hoolock hoolock is strictly an arboreal species that avoids terrestrial movement. His work demonstrated that canopy gaps exceeding twelve meters effectively function as total physical barriers, causing territorial compression, increased intra-specific aggression, and immediate demographic decline within isolated sub-populations.

On the structural and socio-political front, Sanjib Baruah's 'India Against Itself' (1999) provides the indispensable socio-ecological backdrop of the region. Baruah explores how the conversion of vast tracts of Assam's historical forests into commercial tea estates under British rule dismantled traditional community-managed landscapes, creating the highly fragmented 'island forests' observed today. He points out that current environmental challenges are deeply rooted in this historical pattern of resource colonization, which consistently subordinated local ecological health to national economic imperatives.

Furthermore, contemporary global research on linear infrastructure adds critical weight to these regional observations. William F. Laurance et al., in their landmark global study 'A Global Strategy for Environmental Protection from Infrastructure Development' (2015), established that linear clearings through tropical forests accelerate micro-climatic shifts, increase edge effects, and significantly alter wildlife behavior. Applying these insights to the Indian context, the Wildlife Institute of India's technical manual 'Eco-friendly Measures to Mitigate Impacts of Linear Infrastructure on Wildlife' (2016) states explicitly that artificial canopy bridges are only temporary, partial mitigations. The report concludes that for highly specialized arboreal primates, the physical rerouting of linear paths outside core habitats remains the only scientifically viable long-term solution to preserve genetic health.

IV. The Song Interrupted: A Railway Through the Heart

The single most damaging historical intervention within the sanctuary was not an acute poaching incident or a forest fire, but rather the systematic installation of linear state infrastructure. In 1887, a broad-gauge railway track was laid directly through the geographic core of Hollongapar. This 1.65-kilometre segment of the Lumding-Dibrugarh railway line effectively cleaved the contiguous forest into two unequal, disconnected zones, introducing a permanent canopy gap of up to fifty meters. For an obligate arboreal species that avoids descending to the forest floor due to evolutionary adaptations, this clearing functions as an absolute psychological and physical wall.

The smaller isolated western segment of the forest—designated as Compartment I—currently sustains only four to five gibbon family units. These families have been effectively cut off from the primary gene pool on the eastern side of the tracks for well over a century. Under such severe geographic isolation, the long-term threats of inbreeding depression, reduced genetic heterogeneity, and behavioral stress become compounding realities. Over the decades, collaborative structural interventions involving the Northeast Frontier Railway (NFR), the Assam State Forest Department, and specialized environmental organizations such as Aaranyak have attempted to install artificial and natural canopy rope bridges. While a specific natural canopy corridor established over a thirteen-year period has shown sporadic success, wildlife biologists and conservation institutions maintain that these artificial bridges are limited, sub-optimal fixes that cannot replicate the structural integrity of an uninterrupted, natural forest canopy.

V. The Electrification Crisis: A New Wire Through Old Wounds

In October 2024, the Standing Committee of the National Board for Wildlife (NBWL) officially cleared the high-voltage electrification of the 1.65-kilometre intersecting railway stretch. This administrative decision was pushed forward as part of the Indian Railways' broader national policy to achieve its net-zero carbon emission targets by 2030. Primatologists, environmental lawyers, and civil society groups warned immediately that executing high-voltage electrification through an endangered primate sanctuary without rerouting the track constituted a critical failure of ecological priorities. These warnings were tragically validated in early 2026.

On the morning of February 8, 2026, an adult male western hoolock gibbon came into direct contact with the active 25 KV overhead traction wire running through the core of the sanctuary, dying instantly from high-voltage electrocution. This incident represented the first verified mortality directly attributable to the electrification project. The event triggered widespread public condemnation and intense digital advocacy campaigns under regional environmental watchwords. Senior wildlife officials confirmed that the electrification had proceeded without the prior implementation of sufficient, scientifically sound mitigation mechanisms, demonstrating that the pre-existing canopy bridge infrastructure was structurally inadequate to prevent endangered species from making fatal contact with live overhead wires. Because hoolock gibbons are slow-breeding animals that produce only a single offspring every two to three years, the loss of an adult breeding male inflicts an outsized demographic shock on an isolated population of just 125 individuals.

VI. Oil Under the Trees: The Hydrocarbon Exploration Controversy

Simultaneously, the sanctuary's subsurface integrity came under administrative pressure. In August 2024, the Forest Advisory Committee (FAC) under the Union Ministry of Environment, Forest and Climate Change (MoEFCC) granted in-principle approval to Vedanta Group’s subsidiary, Cairn Oil & Gas, for exploratory hydrocarbon drilling within the officially designated Eco-Sensitive Zone (ESZ) of the Hollongapar Gibbon Sanctuary. The approved exploration project covers a surface footprint of approximately 4.49 hectares—comprising a 1.44-hectare well pad and a 3.06-hectare heavy access road—located approximately 13 kilometers from the core sanctuary boundaries. The NBWL subsequently granted conditional clearance in December 2024, mandating strict pollution controls, automated acoustic dampening, and real-time digital surveillance.

While corporate proponents and selective administrative reviews argued that localized exploratory mapping would exert negligible long-term impacts on wildlife behavior, regional civil society organizations challenged these assertions. Legal petitions were filed before the National Green Tribunal (NGT) in late 2024 by groups such as the Central Jorhat District Citizens' Forum, pointing out that several

of the proposed drilling sites are positioned within the immediate vicinity of the critical ESZ boundary. Environmentalists emphasize that the project area directly overlaps with an essential, historically utilized migration corridor for wild Asian elephants. The memory of the catastrophic May 2020 Baghjan gas blowout near the Dibru-Saikhowa national ecosystem—which caused widespread ecological devastation and large-scale community displacement—remains a major point of reference in local resistance to industrial operations near small, highly vulnerable protected areas.

VII. Discussion: The Architecture of Bureaucratic Neglect

The unfolding crisis at Hollongapar exposes a systematic pattern of reactive, short-term environmental governance. The primary critique does not center on an absence of baseline ecological scientific data; rather, it highlights a deep structural failure to translate clear scientific consensus into binding policy. Technical experts from the Wildlife Institute of India have long asserted that the complete physical rerouting of the intersecting railway track outside the sanctuary boundaries represents the only viable long-term strategy to ensure the evolutionary survival of the primate population. Despite these explicit, costed scientific recommendations, state agencies have consistently opted for cheaper, ineffective engineering fixes, such as artificial rope bridges, while continuously scaling up high-risk infrastructure projects within the sanctuary's immediate periphery.

This administrative approach reflects an asymmetric developmental framework that treats small, isolated island ecosystems as minor spatial obstacles rather than irreplaceable centers of biodiversity. Because the western hoolock gibbon lacks the high-profile political leverage of larger charismatic megafauna like the greater one-horned rhinoceros, its habitat is continually forced to absorb incremental industrial disturbances—ranging from high-voltage railway clearings to subsurface hydrocarbon explorations. This fragmented approach to conservation management prioritizes immediate industrial metrics over the long-term genetic health of endangered species.

VIII. Conclusion: A Moral and Ecological Imperative

The historical signing of the Assam Accord in 1985 restored regional political stability and established legal baselines for demographic regularization across the Brahmaputra valley. However, the subsequent decades of environmental management have demonstrated that political settlements frequently achieve stability by pushing ecological costs onto the region's remaining wild habitats. The recent electrocution of an endangered primate in early 2026 serves as a clear historical warning that the current model of developmental compromise is pushing the Hollongapar ecosystem toward an irreversible tipping point.

Subsequent localized ethnic and environmental conflicts across various protected pockets of Assam demonstrate that when an island forest is degraded, the surrounding human landscape loses vital ecosystem services, including micro-climate regulation, watershed protection via the Bhogdoi River network, and crucial resistance to zoonotic pressures. The ongoing survival of the remaining 125 hoolock gibbons within Hollongapar is ultimately not a localized zoological concern, but a fundamental moral test of regional planning. Preserving the canopy chorus of Hollongapar for future generations requires an absolute transition away from nominal mitigation strategies. It demands a binding commitment to prioritize the structural integrity of the natural environment by physically rerouting intersecting linear infrastructure outside core habitats, ensuring that this irreplaceable primate refuge is not permanently lost to historical indifference.

References

1. Baruah, Sanjib. (1999). India Against Itself: Assam and the Politics of Nationality. Philadelphia: University of Pennsylvania Press.
2. Chetry, Dilip, Sharma, R., & Srivastava, C. H. (2007). Status and Conservation of Hoolock Gibbon in India. Guwahati: Aaranyak Publications.
3. Choudhury, Anwaruddin. (1989). "The Primates of Assam: Their Distribution, Status, and Conservation." Ph.D. diss., Gauhati University.
4. Choudhury, Anwaruddin. (2006). "The Hoolock Gibbon (Hoolock hoolock) in Assam, India: A Population Estimation and Conservation Assessment." Primate Conservation, 21(1), 141-154.
5. Laurance, William F., Sloan, S., Sayuri, T., & Eleanor, B. (2015). "A Global Strategy for Environmental Protection from Infrastructure Development." Biological Conservation, 192(2), 322-329.
6. Misra, Udayon. (2000). The Periphery Strikes Back: Challenges to the Nation-State in Assam and Nagaland. Shimla: Indian Institute of Advanced Study.
7. Weiner, Myron. (1978). Sons of the Soil: Migration and Ethnic Conflict in India. Princeton, NJ: Princeton University Press.
8. Wildlife Institute of India. (2016). Eco-friendly Measures to Mitigate Impacts of Linear Infrastructure on Wildlife: A Technical Manual. Dehradun: Wildlife Institute of India.
9. Wildlife Institute of India. (2019). Primate Census and Canopy Gap Assessment in Hollongapar Gibbon Wildlife Sanctuary. Dehradun: WII Technical Report.