

## Tiger Reintroduction in Buxa Tiger Reserve

**Mains:** *GS III - Environment*

### Why in News?

*A 3 year-old female tiger (T138) was translocated from Bihar's Valmiki Tiger Reserve to Buxa Tiger Reserve marking the official launch of a phased reintroduction initiative aimed at building a self-sustaining resident tiger population.*

### What is the significance of the Buxa Tiger Reserve?

- **Strategic Geographic Location** - Established in 1983 as India's 15th Tiger Reserve, Buxa spans 760.87 sq km in the Alipurduar sub-division of northern West Bengal.
- **Transboundary ecological hinge** -
- **North** - Shares an international boundary with Phibsoo Wildlife Sanctuary in Bhutan.
- **East** - Links with Kochugaon Forest Division and Manas Tiger Reserve in Assam.
- **West** - Connects with Jaldapara National Park via the Chilapata forest corridor.
- **Correction of Local Extirpation** - Buxa experienced a prolonged absence of resident breeding tigers due to prey depletion, habitat fragmentation, and anthropogenic interference.
- The National Tiger Conservation Authority (NTCA) identified Buxa along with Dampa (Mizoram) and Palamu (Jharkhand) as high-priority reserves needing species recovery intervention under the Tiger Augmentation and Recovery Project (TARP).

### Why was Valmiki Tiger Reserve chosen over the Sundarbans for donor stock?

- **Ecological and Topographical Alignment** - Valmiki Tiger Reserve lies in the easternmost stretch of the Terai Arc Landscape.

- Its sub-Himalayan Bhabar-Terai terrain, dense deciduous canopy, and seasonal riverine ecology mirror Buxa's ecological features, this minimizes habitat adaptation shock for the translocated animals.
- **Unsuitability of Mangrove Adaptation** - West Bengal Sundarbans supports a thriving population of around 100 tigers, its big cats are genetically and behaviourally adapted to a saline mangrove ecosystem, tidal swimming, and specialized prey matrices.
- Moving tigers from the Sundarbans to Buxa's terrestrial sub-montane forest would have posed major survival and physiological adaptation risks.

## What key learnings and statutory protocols govern tiger reintroductions in India?

- **Evolution of the Reintroduction Framework** - India pioneered scientific big-cat reintroduction in 2008 with successful relocations to Sariska (Rajasthan) and Panna (Madhya Pradesh).
- The NTCA and the Wildlife Institute of India (WII) have since expanded reintroduction frameworks across 12 tiger reserves under statutory mandates of the Wildlife (Protection) Act, 1972.
- **Mixed Historical Performance** - While Panna and Sariska rebuilt breeding populations, attempts such as the Satkosia Tiger Reserve (Odisha) translocation ran into severe obstacles.
- Satkosia highlighted the risks of inadequate local consultation, severe human-tiger conflict, livestock depredation, and hostile local reactions.
- **Statutory NTCA Reintroduction Protocol** -
- Detailed ecological feasibility and prey-density assessments before release.
- Multi-stage soft-release enclosures (e.g., Buxa's 2.3-hectare pre-release acclimatization site).
- Continuous post-release tracking using satellite GPS radio-telemetry, camera trapping, and field patrols.
- Mandatory disease screening and genetic suitability profiling.

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## Tiger Reintroduction in Buxa Tiger Reserve

### Why in News?

A three-year-old female tiger (T138) was translocated from Bihar's Valmiki Tiger Reserve and released into a soft-enclosure at West Bengal's Buxa Tiger Reserve, marking the launch of a **phased reintroduction initiative** to build a self-sustaining resident tiger population.

### About Buxa Tiger Reserve

**Established** – 1983 (India's 15th Tiger Reserve)

**Area** – 760.87 sq km (Alipurduar sub-division, West Bengal)

**Significance** – Strategic location in the eastern Himalayan landscape and a transboundary ecological hinge.

### Location and Connectivity

### Why was Reintroduction Needed?

- Prolonged absence of resident breeding tigers due to prey depletion, habitat fragmentation and anthropogenic interference.
- Identified by NTCA along with Dampa (Mizoram) and Palamu (Jharkhand) as high-priority reserves for species recovery under the **Tiger Augmentation and Recovery Project (TARP)**.

### Why Valmiki Tiger Reserve was Chosen (Over Sundarbans)?

#### Ecological and Topographical Alignment

- Valmiki lies in the easternmost stretch of the Terai Arc Landscape.
- Its sub-Himalayan Bhabar–Terai terrain, dense deciduous canopy and seasonal riverine ecology mirror Buxa's ecological features.
- Minimises habitat adaptation shock for translocated animals.

#### Unsuitability of Sundarbans Tigers

- Sundarbans tigers are genetically and behaviourally adapted to a saline mangrove ecosystem, tidal swimming and specialised prey matrices.
- Translocating them to Buxa's terrestrial sub-montane forest would pose major survival and physiological risks.

### Key Learnings and Statutory Protocols

- India pioneered reintroduction in 2008 with successful relocations to **Sariska** (Rajasthan) and **Panna** (Madhya Pradesh).
- Frameworks expanded across 12 reserves by NTCA and WII under the **Wildlife (Protection) Act, 1972**.
- Mixed performance – Panna and Sariska succeeded, but **Satkosa** (Odisha) faced obstacles due to inadequate local consultation, human-tiger conflict and hostile local reactions.

### NTCA Reintroduction Protocol

- 1 Detailed ecological feasibility and prey-density assessments before release.
- 2 Multi-stage soft-release enclosures (e.g., Buxa's 2.3-ha pre-release site).
- 3 Post-release tracking using satellite GPS, radio-telemetry, camera traps and field patrols.
- 4 Mandatory disease screening and genetic suitability profiling.

### Ecological and Operational Challenges

#### Prey Base Deficit and Habitat Alteration

- Canopy closure and invasive weeds have suppressed grassland growth, leading to low ungulate densities.
- Over 800 spotted deer introduced and 380 hectares of grasslands restored, but stable prey density remains a key challenge.

#### Anthropogenic Pressures and Core Fragmentation

- Bordered and intersected by human settlements, revenue villages and commercial tea estates.
- Voluntary relocation of enclaved villages (approx. 300 families) is needed to reduce human footprint inside the core zone.

#### Linear Infrastructure Barriers

- Traversed by a broad-gauge railway line and high-density commercial roadways connecting India and Bhutan.
- Heavy traffic causes habitat fragmentation and poses vehicle-strike risks to elephants, ungulates and carnivores.

### Policy Measures for Long-term Population Viability

- **Strengthen Transboundary Ecological Corridors** – Protect Buxa–Phibsoo and Buxa–Manas corridors with Bhutan and Assam for natural dispersal and genetic exchange.
- **Mitigate Linear Infrastructure Impacts** – Construct wildlife underpasses, overpasses and canopy bridges; enforce night-traffic regulations.
- **Community-Led Stewardship** – Involve local communities in eco-tourism and protection, rapid-response teams and transparent compensation for livestock losses.
- **Sustained Scientific Prey and Habitat Management** – Grassland management, invasive weed removal, systematic ungulate releases and long-term genetic monitoring.

## What ecological and operational challenges face tiger recovery in Buxa?

- **Prey Base Deficit and Habitat Alteration** - Decades of canopy closure and the spread of invasive weeds have suppressed natural grassland growth, leading to low ungulate densities.
- While forest authorities have introduced over 800 spotted deer (chital) and restored 380 hectares of grasslands, establishing a stable prey density remains a primary ecological bottleneck.
- **Anthropogenic Pressures and Inviolate Core Fragmentation** - Buxa is bordered and intersected by human settlements, revenue villages, and commercial tea estates.
- Voluntary relocation of enclaved villages (approx. 300 families relocating) is necessary to reduce human footprint inside the core zone.
- **Linear Infrastructure Barriers** - The reserve is traversed by a broad-gauge railway line and high-density commercial roadways connecting India and Bhutan.
- Heavy traffic along these routes causes habitat fragmentation and poses ongoing vehicle-strike risks to elephants, ungulates, and carnivores.

## What policy measures are needed for long-term population viability?

- **Strengthening Transboundary Ecological Corridors** - Establish integrated landscape-level protection protocols with Bhutan's Royal Government and Assam's Forest Department.
- Safeguarding the *Buxa-Phibsoo* and *Buxa-Manas* corridors allows natural dispersal, prevents genetic isolation, and supports regional meta-population dynamics.
- **Mitigating Linear Infrastructure Impacts** - Construct eco-friendly mitigation structures, such as dedicated wildlife underpasses, overpasses, and canopy bridges, alongside night-traffic regulations on key transit routes.
- **Fostering Community-Led Stewardship** - Integrate local forest-dwelling and fringe communities into eco-tourism and protection roles.
- Establish rapid-response anti-depredation teams and transparent, fast-tracked compensation schemes for livestock losses to prevent retaliatory actions.
- **Sustained Scientific Prey and Habitat Management** - Grassland management, invasive weed removal, and systematic ungulate releases alongside long-term genetic tracking to build a balanced prey-predator ratio.

## Reference

[The Hindu | Buxa](#)