

Chapter I

**Performance Audit on Efforts of
the State Government in Wildlife
Protection including mitigation of
Human-wildlife conflict and reducing
illegal trade in wildlife articles**

CHAPTER - I

FOREST DEPARTMENT

1 Performance Audit on Efforts of the State Government in Wildlife Protection including mitigation of Human-wildlife conflict and reducing illegal trade in wildlife articles

Executive Summary

Home to a number of flora and fauna, many of them threatened and quite a few critically endangered, the forests and wildlife of West Bengal are treasures of the State. Known for its Royal Bengal Tigers, the State also boasts of being the one of three Rhino bearing States in the country.

For any forest and its resident wildlife to flourish, the forest management needs to concentrate on two essential areas, namely, protection and conservation of wildlife *per se* and maintaining their habitats in a pristine and consolidated form. This Report on the “**Efforts of the State Government in Wildlife Protection including mitigation of Human-wildlife conflict and reducing illegal trade in wildlife articles**” seeks to draw an assurance that the forests and their wildlife were being cared for and maintained by the Forest Department of the State.

Audit noticed that the Protected Areas (PAs) sampled in audit had not prepared Management Plans (for National Parks, Wildlife Sanctuaries and Conservation Reserves) and Tiger Conservation Plans (for Tiger Reserves). Zonal Master Plans are required to be prepared after the final notification of Eco-Sensitive Zones around the Protected Areas. Audit also found that, though notifications by the Government of India had added 1,097.15 sq km of Eco-Sensitive Zones around 13 PAs, the State Government did not prepare Zonal Master Plans to regulate and prohibit activities in these Eco-Sensitive Zones.

Census of endangered / critically endangered species, like Fishing cat, Indian Wolf, Indian Pangolin, Red Panda, Gangetic Dolphin, Olive Ridley Turtle *etc.* had not been done on regular basis, which had hindered appropriate conservation measures. Issues relating to increasing density of the Rhinos population and consequent effects, like infighting and deaths, possible inbreeding, genetic weaknesses and diseases, are likely to prove more and more difficult to handle and control, in case of delayed implementation of relocation strategy.

Progress in the ‘*Tiger Augmentation Programme*’ in Buxa Tiger Reserve (BTR) was very slow, even after lapse of five years from the date of commencement of the programme. Hence, it required a focused approach in terms of habitat improvement, reducing biotic pressure to the core area of the Tiger Reserve.

Further, progress of the recovery programme for conservation of other critically endangered species *viz.* Red Panda, Vulture, Gangetic Dolphin and Northern Indian Terrapin, was sub-optimal.

Infrastructure of Wildlife Health management was inadequate, which not only affected preparedness for wildlife emergencies but also had an impact on the task of alleviating stress and improving welfare aspects of the displaced wildlife and captive animals. Prevention and control of diseases around the

Protected Areas did not appear to have been adequately monitored by the Forest Department. Cattle, Dogs and Cats around the Protected Areas were not vaccinated and veterinary support was inadequate in many Protected Areas.

Habitat management, activities like natural and artificial regeneration of grass, plantation of fodder species, development of water holes, weed removal and regular maintenance, were not adequate, resulting in degradation of habitats for wildlife.

Short releases, as well as delays in releases of the funds to the Divisions by the Forest Department, led to non-execution of various planned activities during the period, which hampered the wildlife protection and management works.

Human-Elephant Conflicts continued to be of major concern for the State and the mitigation measures undertaken by the Forest Department did not have a major impact. Priority was accorded only towards short-term measures, rather than to long-term steps to improve the habitats and secure identified corridors. Moreover, there were instances of short, delayed and non-payment of compensation, to the victims of conflict, which led to growing antipathy among the people towards wildlife conservation and retaliatory killing or injuries to animals.

Though the cases of Elephant deaths in train accidents during 2017-22, as compared to during 2010-17, reduced, certain portions of the track still remained vulnerable for collision and deaths of wildlife. Illegal fencing and sagging of electric lines were causing electrocution of Elephants. Mitigation measures to control road kill, like speed restriction, night movement restriction, setting up of check posts, construction of underpass/ overpass for safe passage of wildlife were not adequate.

Private tourism establishments still operated in BTR and Departmental tourist camping facilities remained unutilised, as the Department was yet to evolve a plan to utilize the camping infrastructure, as per the directions of the National Green Tribunal. Excess tourists were allowed in the Tiger Reserves, beyond their carrying capacities. Fifteen forest villages, from the core area of BTR, were yet to be relocated.

Shortage of patrolling staff, as well as equipment, affected the conservation and anti-poaching efforts. Further, it was noticed that huge number of cases were pending before the courts and the conviction rate for wildlife crime was too low, due to lack of knowledge of the forest staff regarding legal requirements pertaining to search, seizure, evidence collection and prosecution in courts.

In spite of various steps to control the ritualistic hunting, it was observed that such unlawful assemblies of armed hunters and poaching of various wild animals still continued, particularly in certain areas of South Bengal.

As such, while certain efforts have been made to protect wildlife in the forests of West Bengal, the risks are currently latent and still more needs to be done.

Audit recommendations are geared to aid the Department in taking necessary remedial action in time, so that flora and fauna of the State continue to flourish.

Recommendations:

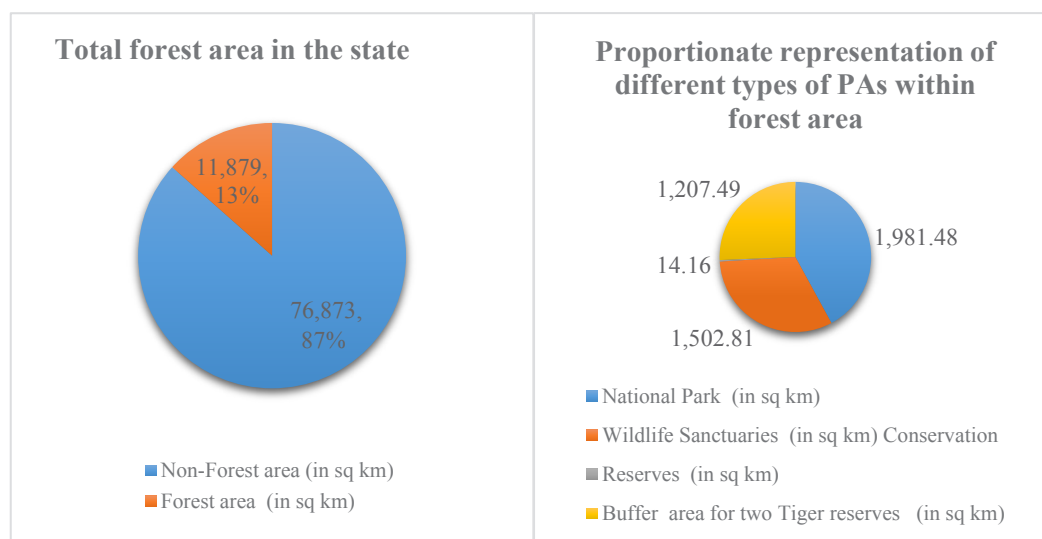
1. *The Department needs to institutionalise the planning process, with specified steps and time frames, to finalise its Management Plan, through a dedicated cell, and a laid down process.*
2. *The Department should complete the process of final notification for the eight PAs in a time bound manner. Difference in area between notified areas and digitized maps should be reconciled and accordingly boundaries of PAs to be demarcated.*
3. *The Government should ensure preparation and notification of Eco Sensitive Zones, Zonal Master Plans and Tourism Plan, in a time-bound manner and ensure effective monitoring of prohibited and regulated activities.*
4. *The Department needs to conduct proper and timely census for all the endangered species, to devise proper conservation strategies for these animals.*
5. *The Department should analyse the reasons for dwindling numbers of critically endangered species and take proactive steps for their conservation, including protection and restoration of habitat, proper breeding programmes and translocation.*
6. *The Department should establish well equipped wildlife rehabilitation-cum-disease surveillance centres, supervised by trained wildlife veterinarians; and introduce technically equipped Mobile Veterinary to attend wildlife emergencies, rescue and rehabilitation and to provide health support. The Department should also initiate a comprehensive immunization programme for livestock, living in and around PAs, in coordination with the State Animal Husbandry Department.*
7. *The Department should take up habitat management of the Protected Areas as a priority and control the influence of weeds and invasive species for restoration of disturbed habitats.*
8. *The Department should mobilise funds as per approved Annual Plan of Operations for implementation of conservation measures for wildlife. The Department should also utilize the available funds promptly and submit utilisation certificate timely for release of central assistance in time.*
9. *The Department should develop a proper Human-Elephant Conflict strategy, along with detailed action plan for its strict enforcement, in consonance with the National Human-Wildlife Conflict Mitigation Strategy and Action Plan (HWC-NAP) 2021-26.*
10. *All entry points of the Sundarban Forest need to be placed under proper surveillance, in conjunction with continuous awareness generation programmes, for educating people about the dangers of illegal entry into the core area of the reserve.*
11. *The Department should take steps to ensure a night ban of traffic inside the Protected Areas, along with construction of underpass and overpass for wildlife, after identifying animal paths in Protected Areas.*

12. The Department should take concrete steps to enforce closure of commercial activities in the PAs and regulate the tourist flow, as per the prescribed procedure. A system of Online booking for safaris should be introduced to have better monitoring on the flow of the tourists.
13. The Government should take steps to augment critical front line field staff and provide them adequate arms and wireless equipment necessary for control of poaching and illegal trade as envisaged in NWAP 2017-21.
14. The Department, in view of the wide spread ramifications of illegal trade in the State, should consider setting up a dedicated Wildlife Crime Control Cell, in co-ordination with the Police Department.
15. In view of the poor conviction rate of wildlife cases, the Department, in collaboration with Ministry of Environment and Forest & Climate Change (MoEF&CC), Ministry of Law & Justice and State Law Department, should consider setting up of fast-track special courts/benches, for dealing with forests and wildlife crimes.
16. The Department needs to improve its monitoring mechanism through regular Inspections by higher officials and implement the electronic surveillance system to check poaching of wild animals.

1.1 Introduction

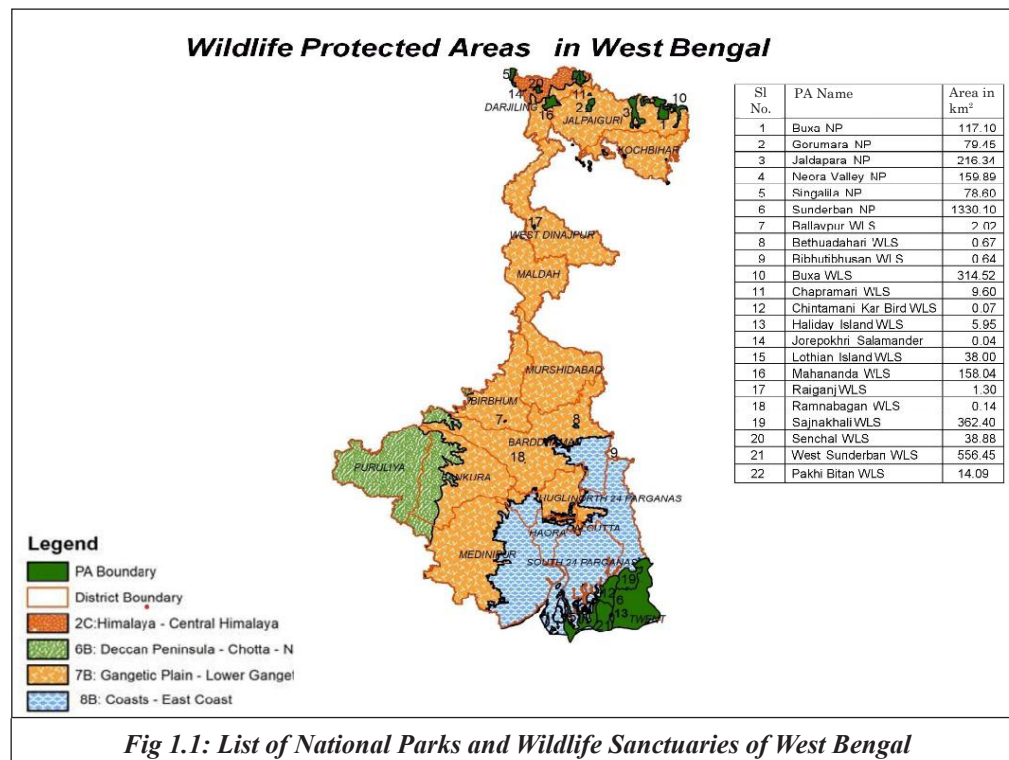
“Wildlife” includes all animals, aquatic or land vegetation which forms part of any habitat. The Wild Life (Protection) Act, 1972, recognises¹ the overarching goals of wildlife protection and empowers the State Government to notify an area of significance as a Protected Area (PA), i.e., National Park, Sanctuary and Conservation Reserve. The total Forest and Protected area distribution in the state of West Bengal, was as mentioned in **Chart-1.1**.

Chart 1.1: Total forest areas and different types of PAs in the State



¹ Under Sections 18 and 35 of the Wild Life (Protection) Act, 1972, the State Government can declare an area of significance as Protected Areas, i.e., Sanctuary and National Park respectively. Further, the notifications for Tiger Reserves are issued by the State Government under Section 38(V) of the Wild Life (Protection) Act, 1972.

In addition, there are two Elephant Reserves viz. Mayurjharna Elephant Reserve, with an area of 414.00 sq km and Eastern Duars Elephant Reserve, with an area of 977.51 sq km. There is one Biosphere Reserve viz. Sundarban Biosphere Reserve (SBR), with an area of 9,630.00 sq km. This includes the Sundarban Tiger Reserve and three Wildlife Sanctuaries (WLSs), viz. Lothian Island, West Sundarban and Haliday Island.



The State is home to a rich variety of forests and wildlife². However, increased human population coupled with fragmentation and degradation of forests is putting pressure on these fragile ecosystems, as evident from increases in Human Wildlife Conflicts, regular occurrence of forest fires, proliferation of invasive weed species *etc.*

In West Bengal, Human-wild animal conflict is generally manifested in: (i) Human-Elephant conflict in North Bengal as well as in South-West Bengal, (ii) Human-Leopard conflict, in North Bengal, (iii) Human-Tiger conflict in Sundarbans and (iv) Human-Gaur (Bison) conflict, in North Bengal. In case of Elephants, instances of loss of crop, property, human life and injury to people as well as retaliatory killing of Elephant have been observed; whereas, in case of Tigers, Leopard, Rhino and Gaur, loss of livestock, life and injury to humans, as well as retaliation by humans, resorting to poisoning/killing of wild animals, are generally seen.

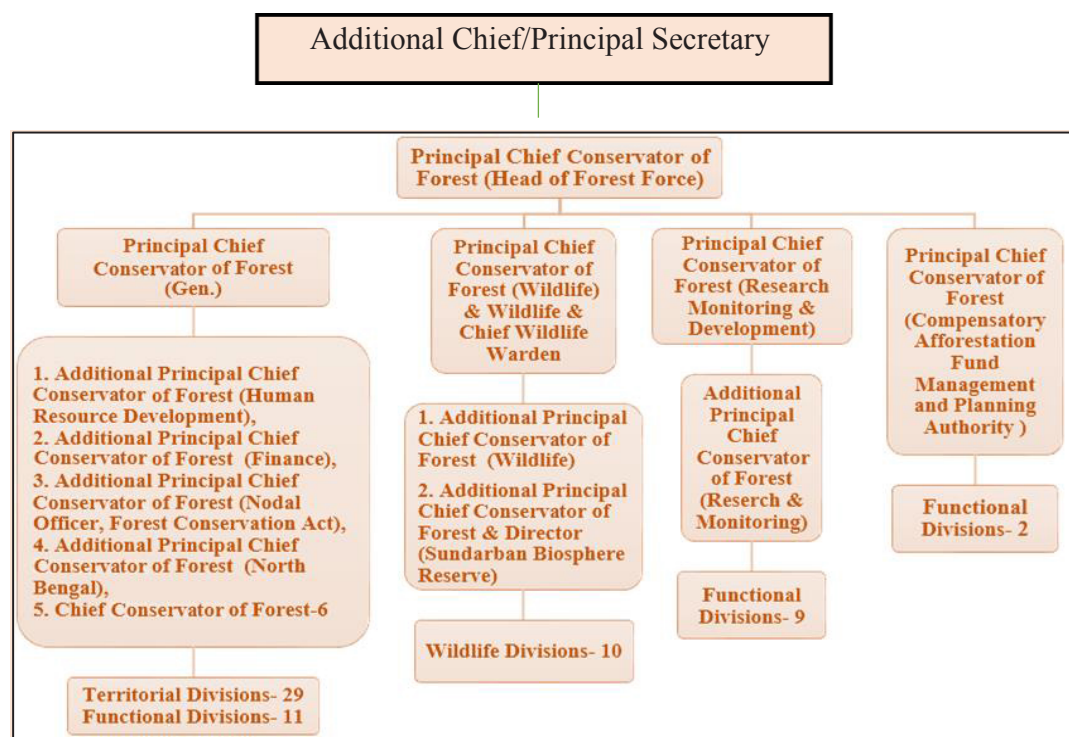
² Royal Bengal Tiger in Sundarbans, one-horned Indian Rhinoceros in the Terai of North Bengal, Leopards in the foothills of the Himalayas and Red Pandas in the bamboo groves of Himalayas. The highly endangered species includes the Asian Elephant, Indian Bison, Estuarine Crocodile, Fishing cat, Pigmy Hog, Bengal Florican, Black Necked Crane, Great pied Hornbill, Goliath Heron, Salvator Lizards, Olive Ridley Marine Turtle and rare Batagur Terrapin.

As per the Annual Report-2019-20 of the Wildlife Wing, Forest Department, the State has become a major transit point in the movement of the illicit wildlife animals and related articles. International trade in wildlife and its derivatives is an organised and established global criminal activity with hubs and trade routes spanning countries and continents. Further, a large number of wildlife species are of great economic importance and losing them to poachers and smugglers is a direct loss to the country's natural wealth. India is a signatory to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)³ and is obliged to undertake necessary steps to prevent illegal trade or transfer of wildlife and wildlife articles, which are prohibited under provisions of CITES. In West Bengal, such illegal trades include Tiger Skin, Bones, Nails, Rhino horn and bone, Elephant ivory and bone, Leopard skin and bone, Snake skin and Venom, Gecko, Birds, Turtles. Curbing illegal trade in live wildlife and their articles, poses a major challenge to the Forest Department of West Bengal.

1.2 Organisational Structure

The Forest Department of the Government of West Bengal (GoWB) is responsible for the management of forests and wildlife in the State. Additional Chief/ Principal Secretary, Department of Forest, GoWB is the administrative head of the Department. Principal Chief Conservator of Forests (Head of Forest Force) (HoFF) is the head of the Forest Directorate and is assisted by four Principal Chief Conservators of Forests (PCCFs).

Chart 1.2: Organizational Chart of West Bengal Forest Department



PCCF & Head of Forest Force (HoFF), West Bengal is the administrative head of the Forest Directorate. The Wildlife Wing of the Forest Directorate is headed by the PCCF, Wildlife & Chief Wild Life Warden (CWLW).

³ An international agreement between Governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species.

Besides, there were 241 Joint Forest Management Committees (JFMCs), comprising of local population in the fringe villages of PAs, to collaborate with Forest Department, for protection of flora and fauna of the State.

1.3 Audit Objectives

The objectives for this Performance Audit were to assess whether:

- Protection and Conservation of Wildlife, including their habitats, were adequately planned for and implemented in the administration of the Protected Areas;
- Adequate measures were taken to address issues relating to human interference in the Protected Areas;
- Adequate measures had been taken for surveillance and control of poaching and illegal trade of wildlife.

1.4 Audit Criteria

Audit findings are based on criteria derived from:

- Indian Wild Life (Protection) Act (WPA), 1972 and Rules thereunder,
- National Wildlife Action Plan (NWAP), 2002-16 and 2017-31,
- Management Plans (MPs) of Protected Areas/ Tiger Conservation Plans (TCP) of Tiger Reserves,
- Guidelines issued by National Tiger Conservation Authority (NTCA),
- Orders of the Hon'ble Supreme Court of India, National Green Tribunal (NGT), guidelines/ orders issued by the GoI/ GoWB/ Wildlife Institute of India (WII), International Union for Conservation of Nature (IUCN) *etc.*

1.5 Audit Scope and Methodology

The State has six National Parks (NPs)⁴, 16 Wildlife Sanctuaries (WLS)⁵, two Tiger Reserves (TRs)⁶, two Elephant Reserves (ER)⁷ and five Conservation Reserves (CR)⁸. All the Tiger Reserves, Elephant Reserves and National Parks were selected for audit. Besides, ten WLS and two CRs were also selected on the basis of statistical sampling through IDEA, covering 22⁹ Protected Areas. Audit was carried out between July and November 2022, for the period 2017-22, including joint site inspections with departmental officials, collection of photographic evidence and discussions with departmental officials, apart from the examination of records of 14 divisions¹⁰. Audit objectives, criteria and methodology of audit, were discussed in an Entry Conference, with the PCCF &

⁴ Singalila, Neora Valley, Buxa, Gorumara, Sundarban and Jaldapara National Park.

⁵ Jorepokhri Salamander, Senchal, Chapramari, Mahananda, Raiganj, Bethuadahari, Ballavpur, Ramnabagan, Bibhutibhusan, Chintamani Kar, Sajnekhali, Haliday Island, Lothian Island, Buxa, West Sundarban and Pakhi Bitan (Bird Sanctuary) Wildlife Sanctuary.

⁶ Buxa and Sundarban Tiger Reserve.

⁷ Eastern Duars and Mayurjharna Elephant.

⁸ Deul, Hijli, Tekonia, Mukutmonipur and Garpanchakot Conservation Reserve.

⁹ All the National parks (six), two Tiger reserves, Two Elephant Reserves. Besides, 10 (out of total 16) WLS and two Conservation reserves (out of total five) were selected on the basis of statistical sampling (IDEA).

¹⁰ Darjeeling Wildlife, Gorumara Wildlife, Jaldapara Wildlife, STR, BTR (East and West), South 24 Parganas, Medinipur, Bankura (North), Bankura (South), Kangsabati (South), Jhargram, Raiganj and Kangsabati (North).

HoFF, in July 2022. The Exit Conference was conducted in February 2023, wherein the Audit observations were discussed. Replies of the Department were received in March 2023 and January 2024 and have been suitably incorporated in the Report.

1.6 Acknowledgement

Audit acknowledges the co-operation extended by the staff of West Bengal Forest Department, Wildlife Crime Control Bureau and Human & Environment Alliance League (HEAL)¹¹, in the conduct of this Performance Audit.

Audit Findings

The audit findings emerging from the Performance Audit, are discussed in the succeeding paragraphs.

1.7 Planning for Conservation and Protection of Wildlife and Management of Habitats

1.7.1 Management Plan/Tiger Conservation Plan

The National Wildlife Action Plan 2002-16 and 2017-31, provides that each Protected Area should have its own Management Plan¹², based on sound scientific and ecological data. The MP focus on general as well as site specific issues which take a longer span of time to show their impact. The long term plans are broken down into more granular Annual Plan of Operations (APOs), which deals with smaller issues needing immediate attention. Further, the Management Plans are being prepared based on guidelines issued by the Wildlife Institute of India *i.e.*, “A Guide to Planning Wildlife Management in Protected Areas and Managed Landscapes”. In respect of Wildlife Sanctuaries and National Parks which were notified as Tiger Reserves, under Section 38 V of Wildlife (Protection) (Amendment) Act, 2006, the management of these Protected Areas is done in accordance with Tiger Conservation Plans (TCPs), approved by National Tiger Conservation Authority (NTCA). Detailed guidelines for preparation of TCPs were issued by NTCA during 2007.

Audit observations in this regard are discussed below:

1.7.1.1 Institutionalisation of Planning Process

According to the “Manual for Planning Wildlife Management in Protected Areas and Forests” (1995), issued by the Wildlife Institute of India¹³, an independent planning cell was required to be established under CWLW. Further, the process of planning needed to be institutionalised, with specified steps and time frames, leading to finalisation of a Management Plan (MP). Further, the National Wildlife Action Plan (NWAP) 2017-31 (Content 1, 5.1) emphasised the establishment of a Management Plan Development Cell at the headquarters of all State Forest Departments, for preparing Management Plans and periodically reviewing the management effectiveness of the PAs.

¹¹ A public charitable trust which works in the field of environment and wildlife conservation across the State of West Bengal.

¹² A Management Plan is a document, prepared by a planning process, which sets out the values and objectives of management for a Protected Area. By presenting strategies and operational schedules, the plan shows how these objectives can be achieved within a time bound framework.

¹³ An institute for Wildlife Management, under the Ministry of Environment, Forest & Climate Change (MoEF&CC), for making the wildlife planning process effective.

Audit, however, observed that an independent planning cell had not been set up for preparation of MPs, as was done for preparation of Working Plans of forest divisions. Instead a “Management Plan Committee” was constituted by PCCF, Wildlife & CWLW, WB, in December 2016, with APCCF (Wildlife) as chairman, concerned CCF/CF as member secretary and Divisional Forest Officer (DFO) & ADFO of the concerned PA as member. However, the task of preparing the MPs was entrusted to Park Managers, in addition to their regular duty of protection and conservation. This affected the planning process, as evident from the fact that as of May 2022, only 10¹⁴ out of total 19 PAs, had approved MPs. The remaining PAs were without MPs, for periods ranging one year to seven years, as shown in Table 1.1.

Table 1.1: Status of Management Plans yet to be approved

Sl. No.	Name of Protected Area	Expiry date of last Management Plan	Current draft Management Plan Period	Remarks
1.	Ballavpur Wildlife Sanctuary	31.03.2020	2020-21 to 2030-31	Preparation of new MP was under process.
2.	Bibhutibhusan Wildlife Sanctuary	31.03.2021	2021-22 to 2031-32	Draft MP returned to DFO, 24 Parganas (North) on 23 December 2022, for rectification by CWLW.
3.	Raiganj Wildlife Sanctuary	31.03.2021	2021-22 to 2031-32	New Draft MP had been submitted (April 2021) to CWLW for approval.
4.	Pakhi Bitan Wildlife Sanctuary	No MP prepared since declaration of the PA	Draft MP yet to be prepared.	Declared as WLS on 11 August 2016, however, approved MP was not in place even after lapse of six years.
5.	Gorumara National Park	31.03.2018	2017-18 to 2026-27	Division submitted new draft MP in September 2018 to CWLW for approval.
6.	Neora Valley National Park	31.03.2022	2018-19 to 2028-29	Draft Management Plan submitted (September 2018) to CWLW by incorporating newly added area of 7,189.35 ha.
7.	Haliday Wildlife Sanctuary	31.03.2018	2019-20 to 2028-29	Earlier drafts were not approved, plan period was subsequently changed and latest draft submitted by Division to CWLW in November 2019.
8.	Lothian Wildlife Sanctuary	31.03.2018	2019-20 to 2028-29	
9.	Chintamani Kar	31.03.2015	2015-16 to 2024-25	Draft management plan returned in April 2021 to DFO, South 24 Parganas for rectification by CWLW.

(Source: Chief Wildlife Warden)

Audit noted that an institutional mechanism, to ensure that Plans are prepared in time, was non-existent. There was no dedicated staff for this work, nor were

¹⁴ Buxa Tiger Reserve (Buxa NP and Buxa WLS), Sundarban Tiger Reserve (Sunderban NP and Sajnekhali WLS), Jaldapara NP, Singhalila WLS, Senchal WLS, Chapramari WLS, Mahananda WLS, Bethuadahari WLS, Ramnabagan WLS and West Sundarban WLS.

timelines prescribed for the work. With shortage of staff at Forest Ranger level (22 *per cent*) and Deputy Forest Ranger level (48 *per cent*) (*refer to Paragraph 1.9.1*), the Divisions could not spare manpower for timely preparation of Management Plans.

Five conservation reserves¹⁵ were created¹⁶ in the year 2017. However, their MPs were not in place, even after a lapse of five years. Reasons for non-preparation of MPs were not on records.

Thus, activities taken up in the Divisions were ad-hoc in nature and were not supported by long-term scientific planning, with properly identified targets. The Department stated (March 2023) that instructions had been issued to CRs to prepare the MPs.

The Department stated (January 2024) that a dedicated cell for preparation of Management Plans, as pointed out by Audit would be welcome but there is acute shortage of manpower that prevents setting up of such cell. Due to change in the overall area of some of the parks, some delay occurred in preparation of Management Plans.

Box 1: Case Study

The Garpanchakot Conservation Reserve (GCR), having an area of 1,340.34 ha, was notified in May 2017. More than five years had been elapsed since the date of notification, but Management Plan had not been prepared for this CR. The constraints faced by this CR are scarcity of water, scarcity of fodder in dry season, immense biotic interference, forest fire, grazing and dependency of fringe population on forest.

Records showed that due to paucity of funds, training on eco-tourism had not been imparted to the 13 Joint Forest Management Committee (JFMC) members, who were not involved in eco-tourism, though it is a tourist spot. Massive forest fires occurred in February 2018 and March 2022, affecting 320 ha and 200 ha forest areas, respectively. Further, during April 2020, there was another forest fire, but the affected area was not measured. During 2017-22, four new water bodies were created in the CR, in addition to existing one water body. To avoid shortage of water during winter and summer seasons, more water bodies are to be created.

To overcome these constraints, more water bodies, new patrolling paths & roads, soil conservation works, fire line creation and awareness among eco-tourists, are required to be taken up. Support is also required to be given to the 13 JFMC villages, for successful management of the PA.

The Kangsabati (North) Division stated (August 2022) that the loss due to forest fire had not been assessed, as it was only a ground fire and to overcome the constraints necessary steps would be taken after approval of MP. Thus, in the absence of an approved MP, appropriate steps for conservation of animals, by improving habitats, protection of fire and livelihood development activities, could not be taken.

¹⁵ Deul Conservation Reserve, Hijli Conservation Reserve, Tekonia Conservation Reserve, Mukutmonipur Conservation Reserve, Garpanchkot Conservation Reserve.

¹⁶ Vide notification no. 1555 dated 19.05.2017.

1.7.1.2 Periodical Assessment of Plan

As per NWAP 2017-31, MPs were to be periodically reviewed, to assess the management effectiveness of the PAs. In respect of three PAs¹⁷, out of financial and physical targets were fixed for five years in the initially approved MP. However, after five years, neither had mid-term reviews been conducted, nor had revised targets been fixed for the balance period of the MPs, as detailed in Table 1.2.

Table 1.2: Management Plans without revised targets

Name of the PA	Management Plan period	Target fixed in MP for the period	Period of MP without any revised target
Mahananda WLS	2011-12 to 2021-22	2011-12 to 2016-17	2017-18 to 2021-22
Senchal WLS	2012-13 to 2021-22	2012-13 to 2017-18	2018-19 to 2021-22
Singalila NP	2013-14 to 2022-23	2013-14 to 2018-19	2019-20 to 2022-23

(Source: Information furnished by the concerned divisions)

The Department stated (March 2023) that mid-term review of MPs would be taken up as indicated.

1.7.1.3 Creation of Protection infrastructure

About 73 sq km i.e. 1/3rd of the total area (216.34 sq km) of the Jaldapara National Park is bifurcated by a National Highway (NH 31C). The northern portion of the area remained out of bound for the Rhinos, due to lack of protection infrastructure and managed habitat. It was observed that, though the Jaldapara NP had been notified in April 2012, the current MP (2018-28) did not plan for extension of the habitat area of the Rhinos to the northern portion. As a result, whenever Rhinos strayed into the northern area, they were driven back, as a protection measure. Thus, their habitat was severely restricted in the southern area. In view of the concentrated population in some ranges in the southern portion of the Park and increased cases of death due to disease and infighting, extension of habitat area of Rhino to the northern portion of the Park should have been considered in the MP, as detailed in the Paragraph 1.7.4.1.

The Department stated (March 2023) that connection of the northern portion of Jaldapara, with the rest of the habitat, was under active consideration.

Recommendation 1:

The Department needs to institutionalise the planning process, with specified steps and time frames, to finalise its Management Plans, through a dedicated cell and a laid-down process.

1.7.2 Territorial integrity of Sanctuaries, ESZ and Corridors

Protected Areas (PAs) are well defined geographical spaces, recognized, dedicated and managed through legal and other effective means to achieve the long-term conservation of nature. Eco-Sensitive Zones (ESZs) are areas notified by the MoEF&CC around the National Parks and Wildlife Sanctuaries. The

¹⁷ Mahananda WLS, Senchal WLS and Singalila NP.

purpose of declaring ESZ is to create a ‘Shock Absorber’/ ‘transition zone’ for the PAs by regulating and managing the activities around such protected areas. They would also act as a transition zone from areas of high protection to areas involving lesser protection. As per NWAP, Eco-Sensitive Zone status under the Environment (Protection) Act, 1986, should be used as a tool to strengthen the buffers and corridors around the PA.

Wildlife habitats are becoming increasingly fragmented due to anthropogenic activities. Corridors help to reduce or moderate some of the adverse effects of habitat fragmentation by facilitating dispersal of wildlife between habitats allowing for both long-term genetic interchange and to re-colonize habitat patches from where wildlife have become locally extinct.

The issues regarding final notification of Sanctuaries and ESZs, maintenance of territorial integrity of Sanctuaries and the formulation of Zonal Master Plans for regulation of development in ESZ have been discussed in the subsequent paragraphs.

1.7.2.1 Notification of Protected Areas under WPA 1972

Clearly defined boundaries and legal status of the PAs help in effective protection of the wildlife. This in turn would ensure long-term conservation and reduce conflicts with local communities and thereby help PA management in effective discharge of their protection and conservation functions.

As per Section 26A of the Wildlife (Protection) Act, 1972 (WPA) (as amended in 1991), the State Government is empowered to declare an area as ‘Sanctuary’ after completion of procedure as contained in Sections 18 to 25 of the Wild Life (Protection) Act, 1972. Further, Section 66(4) of the Act provides that where any proceedings under Sections 19 to 25 are pending on the date of commencement of amendment Act (1991), any Reserve Forest or part of territorial waters declared under Section 18 shall be deemed to be Sanctuary. Thus, issue of Notification under Section 26A of the WPA is essential to grant legal status to areas other than Reserve Forest and territorial waters as a Sanctuary.

Audit observed that final notifications under Section 26A in respect of eight WLS¹⁸, out of total 31 Protected Areas of the State were not issued. Reasons for non-notification were not available on records. State Government did not furnish reply in this regard.

Thus, due to non-issue of final notification under Section 26A of the WPA, these eight Sanctuaries lacked legal status which was detrimental to the conservation and management activities of wildlife and its habitat.

1.7.2.2 Notified area vis-a-vis area as per the GIS map

In the absence of clear boundary demarcation, the field staff of forest division finds it difficult to protect the forest/ Sanctuary land from encroachment. This may result in conflicts with local population and pose a threat to the wildlife habitats due to encroachment. Encroachment in the peripheral forests can be avoided by proper survey, demarcation, erection of boundary cairns and stone/ rubble wall fencing on the boundary.

¹⁸ Jorepokhri, Raiganj, Ballavpur, Ramnabagan, Chintamani Kar, Sajnekhali, Haliday Island and Buxa.

Forest Department created a Geographical Information System (GIS) Cell in July 1999, for interpretation of satellite imageries by integrating Satellite Remote Sensing; GIS and Global Positioning System (GPS) to solve specific problems of decision making in resource management. Satellite Remote Sensing techniques are *inter-alia* being used for demarcation of boundaries.

From the records it was observed that there was a difference between notified area and the digitalised map area in respect of the following six PAs as detailed in the **Table 1.3**.

Table 1.3 : PA wise area as per notified area and GIS map (in sq km)

Sl. No.	Name of PA	Notified Area	Area as per GIS digital map	Difference
1.	Neora Valley NP	159.8917	156.4640	3.4277
2.	Bethuadahari	0.6686	0.6600	0.0086
3.	Sajnekhali WLS	362.4000	362.3790	0.0210
4.	Haliday Island	5.9500	5.7570	0.1930
5.	Buxa WLS	314.5200	277.070	37.4500
6.	Pakhi Bitan (Bird Sanctuary)	14.0900	13.0300	1.0600
	Total			42.1603

Thus, the actual area available for wildlife was less compared to the notified area. This may lead to conflict between locals and the Department due to difference of perception regarding extent of PAs, which might adversely affect the planning and implementation efforts for protection, conservation and management of the respective PAs. Audit observed that there were encroachment (hutment and cultivation) on 68.86 ha of land in two PAs¹⁹.

Recommendation 2:

The Department should complete the process of final notification for the eight Protected Areas in a time bound manner. Difference in area between notified areas and digitized maps should be reconciled and accordingly boundaries of PAs to be demarcated.

1.7.2.3 Implementation of Eco-Sensitive Zone

In pursuance of the decision taken (17 March 2005) by the National Board for Wildlife, MoEF&CC directed (27 May 2005), all States/ Union Territory Governments were to forward site-specific proposals for declaration of Eco-Sensitive Zones (ESZs) around the National Parks (NPs) and Wild Life Sanctuaries (WLSs). It was decided that delineation of ESZs would have to be site-specific and relate to regulation, rather than prohibition, of specific activities. Several reminders in this connection were also sent by MoEF&CC, to the State Governments. Hon'ble Supreme Court had also directed (4 December 2006) States/ UTs Government to forward proposals to the MoEF&CC in this regard. The MoEF&CC, subsequently, issued a set of Guidelines, for declaration of Eco-Sensitive Zones (ESZ) around NPs and WLSs, on 9 February 2011. The guidelines prohibited undertaking several activities like commercial mining,

¹⁹ Neora valley (50.86 ha) and Jaldhapara (18 ha).

saw mills, setting of industries causing pollution, establishment of major hydroelectric projects and brought establishment of hotels / resorts, commercial use of natural water resources, *etc.*, under regulated activities. These Guidelines deal with the process and procedures to be adopted for declaring ESZ. As per the Guidelines, the purpose of declaring ESZs around NPs and WLSs, is to create some kind of shock absorber for the PAs. They would also act as a transition zone from areas of high protection to areas involving lesser protection.

In spite of reminders from the MoEF&CC regarding submission of the draft notifications, the Department did not issue notifications in respect of seven WLSs, as of September 2022, as detailed in **Table 1.4**.

Table 1.4: Details of submission of final notifications of ESZs of various NPs and WLSs

Sl. No	Name of the PA	Date of final notifications
1.	Singalila NP	17.11.2017
2.	Senchal WLS	15.01.2019
3.	Mahananda WLS	22.09.2020
4.	Chapramari WLS	07.06.2019
5.	Neora Valley NP	12.09.2017
6.	Jaldapara NP	22.08.2017
7.	Chintamani Kar Bird WLS	15.01.2019
8.	Buxa NP within Buxa Tiger Reserve	11.06.2019
9.	Buxa WLS within Buxa Tiger Reserve	07.09.2020
10.	Raiganj WLS	26.11.2018
11.	Ballavpur WLS	27.09.2019
12.	Ramnabagan WLS	30.08.2019
13.	Bibhutibhusan WLS	10.10.2019
14.	Pakhi Bitan (Bird Sanctuary)	The transfer of land from the Irrigation Department was yet to be completed and declaration of ESZ around the PA was still pending
15.	Gorumara NP	Draft notifications of these six PAs were yet to be submitted to MoEF&CC.
16.	Sajnekhali WLS and Sundarban NP ²⁰	
17.	Haliday Island WLS	
18.	Lothian Island WLS	
19.	West Sundarban WLS	
20.	Bethuadahari WLS	Are under process in the MoEF&CC
21.	Jorepokhari WLS	

(Source: Information furnished by the Wildlife Directorate)

The Honourable Supreme Court of India directed (03 June 2022) the PCCFs of each State and Union Territory to make a list of subsisting structures and relevant details, within ESZs, forthwith, and furnish a report before the Honourable Supreme Court, within a period of three months. The Department, however, sought (September 2022) time extension for another 90 days for compliance of the Apex Court Directive. Audit observed that, due to prolonged

²⁰ A single draft notification has been prepared for these two as both share common boundary in some areas.

delay in notifying the ESZs and subsequent implementation of the notifications, the expansion of regulated activities continued unabated. The inventory of the subsisting structures within the ESZ of PAs, was still (November 2022) being prepared, as per the directions of the Apex Court.

(i) Preparation of Zonal Master Plan

As per the Guidelines for declaration of ESZ around NPs and WLSs, of MoEFCC (9 February 2011), the State Government, for the purpose of the ESZ, was to prepare a Zonal Master Plan (ZMP), within a period of one year from the date of publication of the Notification, for approval of the Competent Authority of State. The ZMP was not to impose restrictions on the approved existing land use, infrastructure and activities, unless so specified in the notification and was to factor in improvement of all infrastructure and activities, to be more efficient and eco-friendlier.

However, the State Government was yet to (as of August 2022) prepare a Zonal Master Plan including Eco-Tourism Master Plan²¹ even after lapse of two to five years from the date of notification.

The Department stated (January 2024) that ZMP of Buxa Tiger Reserve ESZ and Jaldapara ESZ is being carried out in collaboration with Global Tiger Forum and the rest will be carried out shortly.

(ii) Formation of the Monitoring Committee

For effective monitoring of the provisions of the notification, under sub-section (3) of Section 3 of the Environment (Protection) Act, 1986, the MoEF&CC prescribed formation of Monitoring Committee, headed by the concerned District Collector as the Chairman, Park Manager as the Member Secretary and other nominated members by the State Government from different fields²². The tenure of the Monitoring committee was for three years, or till the re-constitution of the new Committee by the State Government.

The Monitoring Committee was to submit the annual action taken report of its activities as on the 31st March of every year by the 30th June of that year to the Chief Wildlife Warden in the State.

Audit observed that out of 13 PAs where ESZ notification had been made, the Monitoring Committees were constituted only in two PAs (Buxa NP and Sanctuary), though notifications for ESZ had been issued two to five years back. The Monitoring Committee in Buxa Tiger Reserve (BTR) was constituted on 28 June 2022, almost two years after the date of Notification. As of August 2022, three meetings were held, however, members from amongst the environmental experts, PWD, West Bengal Pollution Control Board (WBPCB), were not yet nominated by the concerned Departments. However, records regarding submission of annual action taken report of its activities to Chief Wildlife Warden were not available.

²¹ *Regulation of construction of new hotels and resorts, commercial establishment etc.*

²² *Representative of Non-Govt. Organisation working in the field of Wildlife Conservation, an expert of Biodiversity, Ecology and Environment, a representative from State Public Works Department and State Pollution Control Board.*

Thus, inordinate delay in formation of the committees resulted in non-compliance of the provisions of this notification, it also affected synergies among different stakeholders and line departments.

The Department stated (January 2024) that Monitoring Committees of these ESZs are being notified by the State Government.

Box 2: Case Study

- ▶ In Jaldapara NP, 159 homestays/resorts (regulated activities) had been constructed within the eco-sensitive zone of the NP, since the date of notification. Further, two saw mills, which are under prohibited list of the ESZ notification, were allowed to be constructed after the date of the notification. As commercial activities, like hotels and resorts, need to be regulated in and around the Protected Areas, the absence of approval/regulation will have significant impact on the wildlife and its habitats. In reply, the Department stated (March 2023) that homestays are not prohibited activity in the ESZs. The reply may be seen in view of the fact that, as per the ESZ notification of Jaldapara NP, all new Eco-Tourism activities were to be regulated as per the Tourism Master Plan, which is part of Zonal Master Plan. However, neither the Tourism Master Plan, nor the Zonal Master Plan, for the NP, has been prepared, till date (March 2023).
- ▶ The draft proposal for the Eco-Sensitive Zone for Sajnekhali Wildlife Sanctuary and Sundarban National Park, was yet to be (September 2022) forwarded to MoEFF. Meanwhile, proliferation of tourist lodges continued unabated, due to absence of ESZ notification. As of November 2022, 84 tourist lodges were operating at the boundary of the STR²³. These lodges did not have proper means of garbage and sewage disposal. Garbage was being dumped in open pits on the side of the river banks and during high tides much of this non degradable waste was getting transported by the tidal waters, into the mangrove ecosystem. In reply, the Department stated (March 2023) that the Division had made (August 2022) the inventory of tourist lodges and made sure that no new resorts had been built since then. However, the fact remain that the Department made inordinate delay in notifying the ESZ around STR (as detailed in **Table 1.4**, Sl. No. 16-19)

Recommendation 3:

The Department should ensure preparation and notification of Eco-Sensitive Zones, Zonal Master Plans and Tourism Plan, in a time-bound manner and ensure effective monitoring of prohibited and regulated activities.

1.7.2.4 Management of Corridors

As per the NWAP 2017-31 (8.1 of Chapter 1), the State Forest Department should formulate and implement Management Plans for corridors²⁴. The

²³ Sajnekhali Wildlife Sanctuary and Sundarban National Park are the part of STR

²⁴ A Wildlife Corridor is a narrow strip of land with native vegetation that connects two or more larger areas of similar habitats or forest fragments and is critical for the maintenance of ecological process including migration, colonisation and inter-breeding of plants and animal communities thus enhancing the chances of survival.

North Bengal landscape comprised of 14 identified corridors (as detailed in **Paragraph 1.8.1.2**), spreading over three districts in the Terai region i.e. Darjeeling, Jalpaiguri & Alipurduar. Securing the movement of wildlife in these corridors is crucial, as these are prone to huge economic loss, due to damage done by Elephants during their migration. During 2017-22, 148 human deaths were reported, resulting in payment of compensation of ₹ 12.90 crore.

In reply, the Department stated (March 2023) that seven corridors have been prioritised in North Bengal and then further informed (January 2024) that State Level Monitoring Committee has approved to take up one corridor namely Titi-Rethi as pilot project and a proposal in this matter has been sent, during 2023-24, to the MoEF&CC for fund. However, the Department was yet to prepare a management plan for these corridors, which would minimise human-animal conflict.

1.7.2.5 Monitoring system for Management & Protection of wildlife

Forest Department, GoWB, as per Wild Life (Protection) Amendment Act, 2002 (Section 6), constituted (6 November 2003) the State Board for Wild Life (SBWL). The Act (Section 7 & 8) *inter alia* stipulated that meetings of SBWL were required to be held at least twice a year, to advise the State Government on the subject of management & protection of wildlife and Protected Areas.

It was observed that the first meeting of the SBWL was held on 24 December 2003, and the last meeting (11th meeting) was held on 13 June 2017. Thus, as of March 2022, only 11 meetings had been held, as against the stipulation of 37 meetings. In the absence of regular Board meetings, monitoring of various important issues on management of wildlife and protection like: (i) developing alternate habitats for the Rhino, (ii) creation of a Dolphin Community Reserve and (iii) Canopy opening of teak monoculture, followed by creation of grassland in the PAs of North Bengal, as detailed in the subsequent **Paragraphs 1.7.4.1, 1.7.4.4 and 1.7.6.2**, were adversely affected. In reply, the Department (February 2023) stated that the latest meeting was held in September 2022.

1.7.3 Conservation of threatened species

Conservation of threatened species and their habitat *inter alia* had been accorded high priority in NWAP 2017-31. Under a Centrally Sponsored Scheme (CSS), viz. 'Integral Development of Wildlife Habitat' (IDWH), State Governments were being encouraged to identify habitats for highly threatened species of flora and fauna outside the PAs and undertake conservation and long-term monitoring of such habitats. In response to the requisition by MoEF&CC (August 2018) regarding endangered species, the State informed (December 2018) that, out of 22 such species, it had five species, viz. **Leopard, Royal Bengal Tiger, Gaur, Rhino and Elephant**. In response to MoEF&CC on the subject "*Recovery Programme for critically Endangered Species*" (September 2018), the State reported that, out of the total of 17 such species, it had three such species, viz. **Dolphin (Susuk & Irrawaddy Dolphin), Rhino and Vulture (White-backed vulture & Slender-billed vultures)**. Further, consequent to the decision taken in the 49th Meeting of the Standing Committee National Board for Wildlife (13 June 2018), four species²⁵ were included to the list of 17 from West Bengal.

²⁵ Northern Indian Terrapin, Red panda, clouded Leopard and Arabian Sea Humpback Whale.

1.7.3.1 Estimation of threatened species

The population estimation of wild animals is an important management tool for scientific management of a Protected Areas (PA). NWAP 2017-31 envisaged review and updation of the list of endangered²⁶ and critically endangered²⁷ species of flora and fauna and complete Red Listing²⁸ of endemic species of India. The process was to be completed by 2020. Regular census of wildlife species enables PA manager to undertake effective conservation measures.

Audit observed that:

- Census had been conducted regularly²⁹ in respect of only three animals' viz. Tigers, Elephants and Rhinoceros, while census of Leopard and Gaur had been carried out almost ten years³⁰ back. The Department stated (March 2023) that population estimation of co-predators of Tigers such as Leopard were carried out along with Tiger census. However, fact remains that estimation figure of the co-predators was neither available in the Annual Report nor produced to Audit. The Department further stated (January 2024) that estimation of Himalayan Black Bear has been carried out this year for the first time.
- Red Panda is a critically endangered species of the Himalayan region, as per the International Union for Conservation of Nature (IUCN) Red Data Book³¹ and has been included in Schedule-I³² of the Wild Life (Protection) Act, 1972. Census had been conducted, in March 2018 and 2019, in both the Red Panda bearing National Parks, viz. Singalila National Park (SNP) and Neora Valley National Park (NVNP), respectively. The census in SNP was finalized and showed a marginal increase in numbers, from 38 in 2012, to 49 in 2018. However, as of October 2022, the census report in regard to NVNP, was yet to be finalised. As per the 2012 census, the number of Red Pandas in the NVNP was 32, while the Department did not have data in regard to the present population in NVNP. This affected the ongoing conservation programme in the Park as detailed in **Paragraph 1.7.4.2**.
- Fishing Cat is the State Animal of West Bengal. It is listed as "Vulnerable"³³ in the red list of IUCN and is categorized as a Schedule-I species under the Wild Life (Protection) Act, 1972. A majority of fishing cat population is found outside protected areas, where protective measures are weak. It is found in wetland fields and extensively human dominated areas and is prone to: (i) Road Accidents, (ii) Habitat loss, (iii) Retaliatory or incidental killing and (iv) ritualistic hunting. However, the present status

²⁶ Facing a very high risk of extinction in the wild as per IUCN.

²⁷ Facing extremely high risk extinction in the wild as per IUCN.

²⁸ In the International Union for Conservation of Nature Red list, 'Red' indicates the species that are at highest risk of extinction.

²⁹ Tiger census done in 2012, 2013, 2014, 2016-17, 2018-19, 2019-20, Elephant census done in 2014, 2017 and Rhino Census done in 2012, 2013, 2014, 2015, 2019, 2022.

³⁰ Leopard in 2012, Gaur in 2013-14.

³¹ Red data book is the document established by IUCN for documenting the rare and endangered species of plants, animals, fungi and also a few local species that exist within a state or country.

³² The species listed in Schedule-I of the WPA, 1972 requires conservation action on priority.

³³ Facing a high risk of extinction in the wild as per IUCN.

of the endangered species was yet to be assessed, due to non-availability of census figures. The Department stated (March 2023) that population estimation of Fishing Cats has been carried out (2022) in Sundarbans, however, it was not done in other areas of the State.



Fig 1.2: Fishing Cats and Jungle Cat killed by hunters

(Source: HEAL³⁴)

- The Sundarbans mangrove eco-system harbors many rare and endangered animal species, apart from the Royal Bengal Tiger. These include the Estuarine Crocodile (*Crocodylus porosus*). It was noticed that, as per census conducted in 2021, there were 86 salt water crocodiles (by direct sighting) in Sundarbans (including STR and South 24 Parganas Division), whereas the number was 140, as per the last census (2012 by direct sighting) in the same area.

Field Director (FD), Sundarbans Tiger Reserve (STR), stated (November 2022) that, during the census in February 2021, as the weather had been cloudy and foggy, direct sighting of the crocodiles was minimal. Thus, the census was only partially successful and did not deliver the actual figure. The reply may be seen in view of the fact that the partial success of the census was neither found recorded in the file, nor consequent action to conduct census afresh, to assess the actual count, was seen to have been taken.

Recommendation 4:

The Department needs to conduct proper and timely census for all the endangered species, to devise proper conservation strategies for these animals.

1.7.4 Recovery Programme for conservation of Critically Endangered Species

1.7.4.1 Conservation of Rhino

The State is one of the three³⁵ Rhino bearing states of the country, accounting for about 10 per cent of the wild population of the Indian One Horned Rhinoceros.

³⁴ Human & Environment Alliance League, a public charitable trust works in the field of environment and wildlife conservation across the entire State of West Bengal.

³⁵ Assam, Uttar Pradesh and West Bengal.

Conservation initiatives in two PAs, viz. Jaldapara National Park and Gorumara National Park, had been a success, as evident from the population rise of the species from 14 and 5, in mid 1980s, to the present (2022 Census) level of 292 and 55, respectively. However, the increase in population at both the places had given rise to new issues, which needs to be taken care of as part of the National Conservation Strategy for the Indian One Horned Rhinoceros. MoEF&CC, in the context of “*National Conservation Strategy for the India Rhino*”, *inter alia* prescribed the following:

- Strengthening protection of the existing population, by curbing anti-poaching activities and illegal trade, with effective legal follow-up against the offences.
- Re-introducing Rhinos in potential habitats, for creating viable populations and increasing the present range, through translocation.

The State Board of Wildlife approved (June 2017) the proposal for developing alternate habitats³⁶ for the Rhino. CCF, Wildlife (Headquarters), West Bengal, in its report regarding ‘*Recovery programme for critically endangered species*’, to the MoEF&CC, informed (December 2018) that new sites (Patlakhawa and Nathua) had since been identified, to absorb the excess Rhinos.

In this regard, Audit observed the following:

- The Final Study Report³⁷ (September 2021) on the impact of habitat management and herbivore’s carrying capacity, in the PAs of North Bengal, showed that the total grassland area of Jaldapara and Gorumara NP, could support only 111 and 38 Rhinos, respectively. Therefore, these PAs had reached the limits of carrying capacity and animals had started straying into agriculture fields. The Department stated (January 2024) that the study of carrying capacity of these two NPs was based on wrong assumptions and hence the result is faulty. The audit suggests that the department may conduct survey to assess the carrying capacity of Jaldapara and Gorumara NP.
- The Coochbehar Forest Division has been administering the Patlakhawa Protected Forest (PF), with the assistance of four Forest Protection Committees. Records showed that 70 ha grassland had been created (during 2017-19) in this PF, as part of the habitat development for Rhino re-introduction. However, Rhinos were not introduced here. The concerned DFO (Coochbehar Division), brought (March 2022) various issues/ problems³⁸ to the notice of CWLW, regarding management of the PF and re-introduction of Rhino.

³⁶ Such as Nimati in Buxa, Patlakhawa in Coochbehar and Titi in Jaldapara.

³⁷ *Impact of habitat management practices especially canopy manipulation and grassland restoration on the habitat use pattern of herbivores and the herbivore-carrying capacity in Jaldapara NP, Gorumara NP and Mahananda WLS commissioned by West Bengal Forest and Biodiversity Conservation Project under JICA fund.*

³⁸ (i) Absence of legal status for protection of wild animals, (ii) watch towers were not at proper location and in poor condition without equipment for protection of rhino, (iii) absence of energized power fencing to prevent straying, (iv) Staff strength was very poor and not skilled and trained enough for protection, (v) absence of adequate grassland and (vi) set up for R.T sets/ Walky Talky for communication.

- Subsequently, a proposal for extending the Rhino habitat to the northern part (bifurcated by NH; about 73 sq km *i.e.* 1/3rd of the total area of the park) of the Jaldapara NP, was forwarded to the CWLW, by the CCF, Wildlife (North), in September 2022. This area remained out of bounds for the Rhinos, due to lack of protection infrastructure and managed habitat. The proposal *inter alia* included construction of forest road-cum-embankment on the eastern boundary of the NP, watch towers, pilkhanas³⁹, creation and maintenance of wallow pools and habitat improvement works, at an estimated cost of ₹ 57.27 crore. Permission was accorded (October 2022) by the CWLW, for taking up the works, however, fund was not provided till date (November 2022). No action had been initiated in respect of the proposed site at Nathua for Gorumara population.
- Thus, as of October 2022, the Department had failed to expand the present distribution range to the identified sites. Meanwhile, due to delay in the process of expansion of the present distribution range, incidences of infighting and disease were on the rise. During 2017-22, 78 Rhinos had died. This figures included 24 deaths due to in-fighting and diseases in these NPs.

The Department stated (March 2023) that work for development of northern part of Jaldapara commenced in February 2023.

1.7.4.2 Conservation of Red Panda

The Padmaja Naidu Himalayan Zoological Park (PNZHP), Darjeeling, initiated a project in 2019 titled “*Red Panda Augmentation Programme in Singalila National Park (SNP) and Neora Valley National Park (NVNP)*”, to improve the habitat, assist the recovery and strengthen the protection status of Red Pandas in the forests of SNP and NVNP. The proposal was submitted (April 2019), by the Forest Department, GoWB, to the MoEF&CC. It included an action plan for successful augmentation of red pandas in SNP and NVNP, with assessment of threats and measures to mitigate them; selection of red pandas; capacity building of staff; choice of release sites; habitat improvement and protection plan; post-release monitoring of the released animals and the tentative budget. The project, having a total outlay of ₹ 16.66 crore, for a period of five years, was approved by MoEF&CC in June 2019 and by Central Zoo Authority (CZA), Ministry of Environment and Forests (GoI) in September 2019. The proposal envisaged release of eight Red Pandas, four each in SNP and NVNP from PNZHP. As of March 2022, ₹ 3.79 crore⁴⁰ had been incurred on the conservation programme. However, as of September 2022, only four animals could be released (January 2022) in SNP, against the target of eight (four each in SNP and NVNP), as a site for soft release, in the NVNP, could not be selected.

Records related to release of four pandas in SNP showed that one male panda had died (7 March 2022), in the soft release enclosure, due to Pyothorax (infective origin), before its release in the wild. Subsequently, another female panda had died (9 April 2022) due to pneumonia. It was observed that both the

³⁹ Place where captive elephant kept.

⁴⁰ ₹ 0.76 crore was incurred by PNZHP for restocking of red pandas in SNP, for improvement of habitats of SNP and NVNP expenditure of ₹ 1.54 crore and ₹ 1.49 crore was incurred by Darjeeling Wildlife Division and Gorumara Wildlife Division respectively.

animals were more than nine years of age. This may be seen in view of the fact that the life span of Red Panda, in wild, is between 10-12 years. Therefore, the selection of animals, for release in wild, at the fag end of their life cycle was not justifiable.

The Core Committee⁴¹, in its 8th Meeting held in January 2022, decided to revise the augmentation programme, by proposing release of 20 Red Pandas in the wild (12 at SNP and 8 at NVNP). The Concept Note⁴² (September 2022) proposed to release 20 Red Pandas in SNP, to sufficiently restock the population and then to restock the population in NVNP, so that the reintroduction programme would have long term and real impact. So far (September 2022), only three Red Pandas, below five years of age, were proposed to be released from Conservation Breeding Centre and PNHZP for further release in SNP.

Thus, due to deficient planning, the number of animals to be released in two national parks was frequently changed and the age factor of the animals to be released was not considered before the death of the two nine-year-old animals released in March 2022. Besides, on site for soft release, could not be identified in NVNP, even after expenditure of ₹ 1.49 crore, for improvement of habitats by the concerned Gorumara Wildlife Division.

In reply, the Department stated (March 2023) that the age factor of the animals for release depends on the availability of animals and upon the behavioural competence. It was, however, seen from the Annual Report of the PNZHP that there were 15 animals of age below five years in the Zoo, as of March 2022.

1.7.4.3 Conservation of Vulture

Out of nine species of vultures the White-backed Vulture (*Gyps bengalensis*), Long-billed Vulture (*Gyps indicus*) and Slender-billed (*Gyps tenuirostris*) Vultures, were, by far, the most populous species in India. Over the last decade, however, there has been decline by over 99 *per cent* in the population of these Vultures over most parts of the country. The overall cause of the decline has been identified as a drug called ‘Diclofenac’, given to livestock as an anti-inflammatory drugs which is taken by vulture through feed of dead carcasses of such animals.

A Memorandum of Understanding (MoU) was signed (June 2005) between the Forest Department, GoWB, and the Bombay Natural History Society (BNHS), a Non-Government Organization (NGO), for conservation and breeding of the Gyps species, at the Vulture Conservation Breeding Centre (VCBC), Rajabhatkhawa, in BTR.

The main objective of the centre was to house 25 pairs each of White-backed Vulture, Slender-billed Vulture and Long-billed Vulture and to release 100 pairs of each of three species within a period of 15 years of the start of the release programme since 2005. As per the 6th and 7th meetings of the Governing

⁴¹ A Core Committee consisting of CCF, Wildlife North, Director, PNHZP, DFO, Darjeeling Wildlife Division, DFO, Darjeeling Division, DFO, Gorumara Wildlife Division, Veterinary Officer; PNHZP, Research Biologist, PNHZP, was formed by PCCF, WL and CWLW in July 2018 to look at all the aspects of translocation and restocking of captive bred red pandas in the wild habitats of SNP and NVNP.

⁴² Of Red Panda Augmentation Programme in SNP and NVNP by PNHZP, Darjeeling.

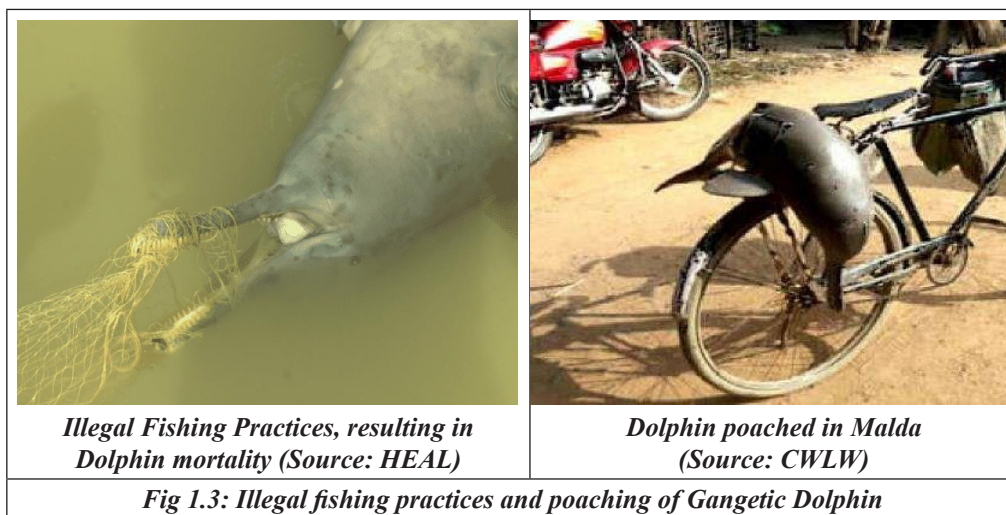
Council⁴³ (19 June 2017 and 22 February 2019, respectively), the main aim of the conservation breeding programme was to release captive bred vulture in the wild, to augment the wild population. However, it was seen that, as of March 2023, only 33 White-backed Vultures had been released in the wild, Slender-billed and Long-billed Vultures could not be released.

The Department stated (March 2023) that the target number for release could not be achieved due to crash in the vulture population and long (5-7 years) time to mature for breeding. However, the fact remains that the targets had been fixed, considering all these aspects.

1.7.4.4 Conservation of Gangetic Dolphin

The Gangetic Dolphin has been designated as the National aquatic animal, since May 2010, and included in Schedule-I of the Indian Wild Life (Protection) Act, 1972. It is also categorised as ‘Endangered’ in the IUCN Red list. The population of Gangetic Dolphin in 1982 was estimated between 4,000 and 5,000. It declined to less than 2,000 by 2014, with an annual mortality rate of 130-160, as per survey of World Wildlife Fund (WWF) the number was further reduced to 650 (minimum), as reported by the Department in January 2024. The major threats identified for the conservation of Gangetic Dolphin *inter alia* included the following:

- Indiscriminate use of illegal size of fishing nets, with mesh size less than 40-90 mm.
- Pollution in river Ganga.
- Construction of barrages, resulting in habitat getting fragmented.
- Poaching for its oil and meat.



The State Board of Wildlife (SBWL) had approved (October 2015) creation of a Dolphin Community Reserve. However, no Community Reserve has been declared till now (October 2022).

⁴³ As per Article 4B of the Mou a Governing Body was set up for the conservation breeding of critically threatened vulture with the Principal Secretary, Forest Department, GoWB, as the Chairman, along with 13 other members.

As per the Wildlife Institute of India (WII) Report 2021, there are increasing incidences of poaching of Dolphins for oil, and deaths due to net entanglement reported in the area (from Farakka to Haldia). With increase in navigation, and motorized boats, there is further stress on the Dolphins which rely on acoustic clues for survival. The report further states that confluences at Roopnarayan and stretch

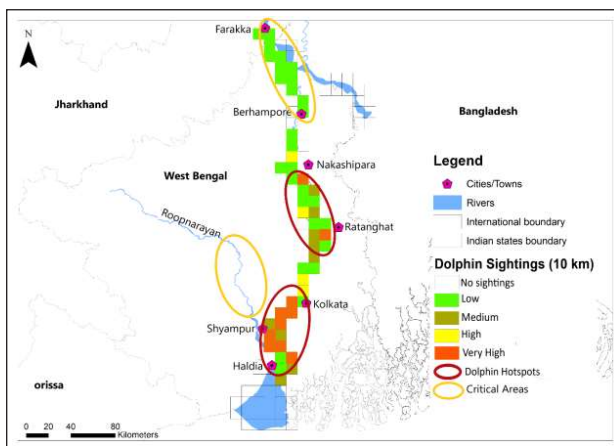


Fig 1.4: Hot spot of Dolphin in Hooghly River

between Farakka and Berhampore have become critical areas while the stretch between Nakashipara and Ratanghat, Kolkata and Hooghly, should especially be conserved, as these are the two major hotspots of Dolphins in Hooghly.

A proposal was sent (November 2020), by the DFO, Coochbehar, regarding conservation of Dolphins in Torsha river, as there were repetitive sightings of Dolphins, but there were issues like sand mining in the river bed, unsustainable fishing by blocking river flow and river pollution due to idol immersion, which affected the habitat. The proposal had not been accepted (as of May 2022), by the PCCF, Wildlife & CWLW.

Apart from few awareness signboards put up at certain locations, visible enforcement efforts or systematic patrolling to track/prevent Dolphin deaths, were not taken. Further, evidence was not available that the forest and fisheries Departments had collaborated to prevent the use of banned fishnets.

In reply, the Department stated (March 2023) that MoEF&CC has approved the plan for Gangetic Dolphin conservation under CSS-IDWH scheme at a cost of ₹ 134.62 lakh. It also stated that the Department had written to the Director, Fisheries Department to take action against use of illegal Chinese nets. The reply may be seen in view of the fact that the State Board of Wildlife (SBWL), had already approved the proposal in 2015, but notification in this regard was still pending.

1.7.4.5 Augmentation of Tigers in the Buxa Tiger Reserve

The health of the Tiger population in a forest is an indicator of the health of its ecosystem. The Buxa Tiger Reserve (BTR) was home to a healthy Tiger population, but gradual degradation of ecosystem over decades, mainly due to anthropogenic factors, witnessed a steady decline of the same. The Tiger Census Report, 2018, of the National Tiger Conservation Authority (NTCA), declared that there were no Tigers in BTR. Among the major factors considered for the decline of the Tiger population were hunting, grazing, illegal felling of trees, firewood collection and presence of enclaved villages. Invasive weed species, coupled with plantation of teak trees in grasslands and other areas, were the other major factors for decline of the quality of habitats for Tigers.

In this context, a Detailed Project Report (DPR) on the ‘Tiger Augmentation Programme’ was prepared and submitted to NTCA, in March 2017. This was an

essential intervention to avoid local extinction and to ensure long term viability of the population. Six tigers (2:1 ratio, i.e., one male for every two females) were proposed to be translocated from the Kaziranga National Park, Assam. Accordingly, the NTCA approved (April 2017) the project, with the condition that the augmentation & long-term monitoring were to be as per the Standard Operating Procedure (SOP) of the NTCA, focusing on strengthening of the protection mechanism, and the relocation of villages would be done in a time-bound manner.

However, Audit observed that since then, only certain minor steps had been taken for Tiger reintroduction in BTR which included:

- 644 Spotted Deer had been translocated (2017-18 and 2022) in the wild, for enrichment of the prey base.
- Two Forest Villages⁴⁴ in the core area, namely Gangutia and Bhutiabasty, were proposed (October 2022) for relocation (Phase-I) to NTCA. However, approval for the proposal was awaited, as of March 2023.
- Preparatory work, viz. habitat mapping, prey base assessment and sign surveys and camera tapping for Tiger and co-predators, was carried out.

In reply, the Department stated (March 2023) that village relocation, habitat improvement and creation of soft release facility for tiger are cost intensive and fund required was not forthcoming. The Department further stated (January 2024) that GoWB has already released ₹ 36.70 crore for relocation of two villages mentioned above and translocation of tigers would be taken up as per the advice of NTCA and Wildlife Institute of India (WII).

Audit is of the view that still pro-active action was needed for minimising the anthropogenic pressures, such as relocation of villages (as there are 13 other villages to be relocated in critical tiger area), tourism activities in and around the TR etc., as detailed in **Paragraphs 1.8.5.1** and **1.8.7.1**. As a result, re-introduction of Tiger could not be done even after a lapse of five years from the approval of the NTCA and the State Board of Wildlife.

Box 3: Good Practice

- The Panna Tiger Reserve is situated in Central India. By the year 2009, the entire population of the Tigers had been eliminated from this Reserve. The Tiger reintroduction programme was started in November 2009 and, as per the 2018 Tiger Census, the Tiger Reserve has 25 adult Tigers, making it a success story.
- Augmentation and Recovery of the Tiger Population in Satkosha Tiger Reserve, Odisha, had been implemented during 2017 to 2022, with successful translocation of two sub-adult Tigers from Madhya Pradesh.

Recommendation 5:

The Department should analyse the reasons for dwindling numbers of critically endangered species and take proactive steps for their conservation, including protection and restoration of habitats, proper breeding programmes and translocation.

⁴⁴ 195 beneficiaries from Gangutia Forest Village and 51 from Bhutiabasty.

1.7.5 Wildlife Health Management

As per the National Wildlife Action Plan (NWAP)-2017-2031, with increasing shared use of forests by communities and wildlife, human population explosion, habitat fragmentation, and land-use-changes that force wild animals to come into frequent contact with humans. Wildlife health management has now expanded to rehabilitating the rescued or displaced animals in the wild, carrying out health assessment of wild animals for the purpose of translocation and reintroduction; maintaining surveillance for both endemic and emerging infectious diseases; and taking preventive measures against any potential spread of zoonotic diseases, due to interactions between wild animals, humans and livestock. NWAP 2017-31, *inter alia* stipulates the following actions in this regard:

- Integrating the practice of disease surveillance, with the regular watch & ward and monitoring regime, in TRs, PAs and general forests.
- Documentation and Reporting of any unusual mortalities or behavioral aberrations in animals.
- Building capacity of veterinarians of the State Forest Departments and those of the State Animal Husbandry departments located in the forest bearing districts, in wildlife health management and dealing with Human Wildlife Conflict (HWC).
- Establishing and strengthening well-equipped centres for wildlife rescue/rehabilitation and disease surveillance, in and around PAs.

1.7.5.1 Management of captive animals in the Rescue centre/Zoo

There are 13 recognised Rescue centres⁴⁵/Zoos in the State. Out of these 13 centres, four⁴⁶ were covered in Audit as these were within the jurisdiction of the sampled units. There were no veterinary hospitals under the control of the Wildlife Division and only three⁴⁷ centres had an animal hospital/ polyclinic attached. Audit further observed the following:

A) Rescue Centre at South Khairabari under Jaldapara Wildlife Division

The South Khairabari Rescue Centre and Leopard Safari/Mini Zoo, South Khairabari, encompassing an area of 65 ha, has been functioning since August 2005. The objective was to act as a centre for receiving ill, injured, seized and orphaned animals from North Bengal, for temporary shelter, treatment and release of the same in wild, subject to availability of suitable habitat. Since September 2015, it had been recognised as rescue centre only. Meanwhile, a series of communications were made between the West Bengal Zoo Authority (WBZA) and CZA, regarding approval of the Master Layout Plan (MLP), for recognition as a mini zoo, including demarcated areas for Leopard safari, herbivore and carnivore enclosures. Finally, CZA approved the MLP in May 2020. However, as of October 2022, construction work had not been started. As of November 2022, there were 21 Leopards of different age groups⁴⁸ in the Centre.

⁴⁵ 'Rescue Centre' means an establishment for the care of animals and not open for exhibition to the public.

⁴⁶ South Khairabari Rescue Centre, Surulia Mini Zoo, Junglemahal Zoological Park and Sundarbans Wild Animals Park.

⁴⁷ Alipur Zoological Garden, Siliguri and Padmaja Naidu Himalayan Zoological Park.

⁴⁸ (i) Less than five year –five, (ii) five to-ten year –four, (iii) Ten to 15 year-eight and (iv) more than 15 years –four.

Audit observed following deficiencies in this regard:

- As per CZA standards, every rescue center is to provide for a proper waste disposal system, for treating both the solid and liquid wastes generated in the zoos. It was observed that a proper waste disposal system was not available in the centre.
- As per the standards a treatment room with basic diagnostic facilities, comprehensive range of drugs and a reference library on animal health care and upkeep, is needed in the centre. However, it was observed that, at present, drugs were being supplied from the central stock situated at Madarihat, which is sixty kilometers away from the zoo.
- The Standards also stipulated isolation and quarantine wards, to take care of newly arriving animals and sick animals, so as to minimise the chances of infections spreading to other animals of the zoo. However, such isolation and quarantine wards were not available. During the period 2017-22, 14 Leopards had died due to different diseases.
- As per the Standards, suitable vegetation or 'furniture' that facilitate natural movement and behavior (climbing, swimming, running, burrowing, digging, *etc.*), should be kept for the captives. Joint site inspection (12 November 2022), with Audit and Departmental staff, revealed that Leopards were reluctant to go to the open enclosures adjacent to the closed compartment. As per the discussions held during the Joint Inspection, some more facilities needed to be provided, so that the leopards could spend more time in the open enclosure, in a stress-free environment.

The Department stated (March 2023) that, the West Bengal Zoo Authority (WBZA) had planned renovation of the rescue centre and the deficiencies pointed out in audit would be addressed.

B) Sundarban Wild Animal Park at Jharkhali

Scrutiny of the inventory register of the Park revealed that there were no Deer in the Zoo till December 2018. In January 2019, twenty-two Deer were brought to the Zoo, from the Garchumuk Mini Zoo. During January 2019 to March 2022, twenty-eight Deer were born. However, 27 Deer died during that time. Thus, as of March 2022, their total number was 23. The main reason for the deaths included inundation of the Deer enclosure due to tidal saline water, along with Snake bites, infighting injuries, outside animal attacks *etc.* During joint site visit of the Zoo on 16 August 2022, it was observed that the tidal water remained in the Deer enclosure, even at the time of low tide. The Forest Range Officer (FR) of Matla Range brought (August 2020) this matter to the notice of the DFO, South 24 Parganas Division. The FR suggested increasing the embankment height and installing a sluice gate system, on an urgent basis, for saving captive animals.

The Department stated (March 2023) that proposal for increase of height of the embankment had been under consideration from Compensatory Afforestation Fund Management and Planning Authority (CAMPA) Fund.

However, the fact remains that, as of March 2023, neither had the embankment height been increased, nor had the sluice gate been installed, to save the captive Deer from the saline water, leaving the condition of the Deer enclosure susceptible to inundation by tidal water.

C) Surulia Mini Zoo, Purulia

As per Central Zoo Authority's (CZA) Guidelines-2008⁴⁹, the pre requisites for a successful release⁵⁰ programme are assessment of the capacity of wildlife habitat at the release site; assessment of the capacity of the animals that are being released, to adapt themselves in the wild and fend for themselves successfully; and assessment of the critical needs of the species to be released. The animals earmarked for the release should initially be shifted to a soft release⁵¹ facility to acclimatise for survival in the wild, through training, and through experts, if so required. Further, post-release activities, including demographic, ecological and behavioral studies, on released animals, should be continued.

Scrutiny of records of the Kangsabati (North and South) Divisions revealed that a proposal was sent (January 2019) to the CCF/South-West Circle, for release of 30 Spotted Deer, from Surulia Mini Zoo to a site⁵², on trial basis, as the site was suitable in terms of food, forest cover, water source *etc.* As per the approval (February 2019) of the CF Wildlife (H.Q.), the translocation programme was to be undertaken during March 2019. However, it was seen that 30 Spotted Deer were released at a new site - Natundih Mouza, in March 2019 instead of Kantagora Mouza, which had been identified earlier. The site was changed as the proposed site was too far away, to be monitored against the poaching threat during the upcoming *shikar utsav*⁵³.

However, the suitability of the changed site was not assessed. Records regarding approval of the same by the competent authority were not available at the Kangsabati (South) Division. Out of 30 released Deer, nine Deer died (between March 2019 and 2021) due to dog bites.

The Department stated (March 2023) that the released Deer were kept under surveillance, with the help of Joint Forest Management Committee (JFMC) members, upto three weeks. However, during night it was not possible to track them. Further, it was stated that trial release had not been taken up in the earlier site, as there had already a pre-existing and growing population in that site. However, the fact remains that the CZA Guidelines had not been followed in respect of pre-release requisites and post-monitoring, for successful release of captive zoo animals in the wild.

Thus, the site of the final release was changed (6 March 2019) three days before the date of final release, due to which, the practice of soft release, on trial basis, was not conducted. The post-release monitoring was also inadequate, as a result of which nine Deer died, after being released into the new wild habitat.

⁴⁹ For establishment & scientific management of Zoo in India.

⁵⁰ Release of animals directly in wild.

⁵¹ Soft release is the release into a facility specially created near the release site, which has all the attributes of the wildlife habitat in which the animals are to be released, to give them time to acclimatise for survival in the wild.

⁵² Kantagora Mouza (JL No. 122) under Nanna Beat of Jamuna Range.

⁵³ Hunting festival of tribals.

D) Treatment of rescued and seized animals

Apart from the recognised zoo/rescue centres mentioned in the preceding paragraph there are five centres⁵⁴ for treating rescued seized animals, in the wildlife divisions. Audit observed that these centres had acute infrastructural bottlenecks. In reply, the Department stated (March 2023) that setting up two animals rescue centres (one each in North Bengal and South Bengal) are in active consideration. This impacted the treatment of the rescued animals. It also had an impact on identification of the cause of death through post mortems.

E) Rescue centre at Kulik Wildlife Range under DFO Raiganj

Wild animals rescued by the different Range Offices of the Raiganj Division, as well as other departments, like police and BSF are brought to the Kulik Wildlife Range for treatment and subsequent release to the forest. The Management Plan (2011-12 to 2020-21) envisaged setting up a full-fledged rescue centre with proper veterinary care. Audit observed the following:

- Veterinary trained personnel were not posted, nor was a primary treatment facility available at the centre. The veterinary Doctor of Animal Resources Development Department (ARDD) was being called for treatment, in cases of emergency.
- The Range Office/ Rescue Centre did not have stock of medicines, surgical apparatus, post mortem room and quarantine places.
- During November 2018 to April 2022, 11 rescued Nilgais were brought and kept in an enclosure and seven calves were born in the period, but the space in the Nilgai enclosure was not enough. The matter was brought to the notice of the DFO, Raiganj Division, by the Range Officer, Kulik Wildlife Range, in March 2022. But neither had steps been taken to augment space for the additional Nilgais, nor had the excess Nilgais been translocated to another place.
- Overpopulation of Nilgais led to fierce infighting, leading to injuries, which resulted in infections and led to the death of 13 Nilgais, during March 2022 to August 2022. Only two Nilgais were released in the wild in September 2022.

The Department in reply stated (March 2023) that the audit observation had been noted and the matter was being looked in by WBZA.

F) Management of the Departmental captive Elephant at Jaldapara NP

Departmental captive Elephants play a vital role in forest protection and ecotourism in the PAs of North Bengal. In addition, they were regularly sent to South Bengal, for Elephant driving operations⁵⁵. The Jaldapara National Park possesses 83 captive Elephants, which are stationed at the Central Pilkhana, Hollong⁵⁶ located along with 33 other Pilkhana where Elephants are kept,

⁵⁴ (i) Rajabhatkhawa for BTR, (ii) Madarihat for Jaldapara NP, (iii) Lataguri for Gorumara, Neora NP and Chapramari WLS (iv) STR and (v) Raiganj for Kulik WLS.

⁵⁵ The process by which wild elephants are driven into the forests, from places of human settlement.

⁵⁶ Elephant shelter, where captive departmental Elephants are kept, for protection and tourism duties.

for protection duties and tourist purposes. Newly born Elephants and rescued Elephants are normally kept in the Central Pilkhana.

Joint inspection of the five pilkhanas⁵⁷ disclosed the following:

- Except one⁵⁸, none of the other pilkhanas had adequate sheds⁵⁹ or no sheds⁶⁰ at all for Elephants. The Department, in reply, stated (March 2023) that pilkhana attached to the watch tower were temporary in nature and large pilkhanas were having pacca sheds. The reply may be seen in view of the fact that field visit of two⁶¹ large pilkhanas, having total elephants of 18 showed that the sheds could accommodate only ten elephants.
- At present 83 packaged daily labourers (PDLs) and 76 daily labourers (DLs) were engaged as Mahout and Patawalas, working for more than ten years. Both PDLs and DLs are not afforded official medical benefits. During the Audit period, 18 DL/PDL were either killed or injured by the captive Elephants, which indicated their vulnerable situation. The Department accepted (March 2023) the fact and said that the matter of employment conditions of Mahout and Pattawalas were under consideration by the Government.
- As per the Management Plan of Jaldapara NP, Elephant gears like Gaddi, belt are to be checked and changed regularly. At present, Elephant gears like Gaddi, Belt, Dhuchi⁶² are changed once in a year. However, due to wear and tear, these get damaged. Therefore, field level staff were of the opinion that change once every six months may be considered, for the overall well-being of the Elephants. In reply, the Department stated (March 2023) that this is not required, as the equipment easily lasts for one year. However, the reply was not in consonance with the opinion of the field level staff.

To overcome the problem a new Elephant training centre at Salkumar Forest Block was proposed (April 2019) in the Management Plan (2018-28), to impart training to Mahout and Patawalas, to upgrade their skills, on a regular basis, to train departmental Elephants, to improve their efficiency. An Elephant rescue and training centre and a veterinary centre was also proposed at the site. But the centre was not established till date (November 2022).

The Department did not offer comment as to why the Elephants training centre at Salkumar was not taken up, however, it stated (March 2023) that training of Mahouts and Patawalas were being regularly conducted. However, fact remains that, during the Audit period, only three trainings were conducted.

1.7.5.2 Vaccination of livestock around National Park

NWAP-2017-31 envisaged maintaining surveillance for both endemic and emerging infectious diseases and taking preventive measures against the potential spread of zoonotic diseases due to interactions between wild animals, humans

⁵⁷ Chilapata Watch Tower (CWT), Hollong, Jaldapara East Range (HQ), NEC and Jaldapara Watch tower.

⁵⁸ Chilapata Watch Tower.

⁵⁹ Hollong and Jaldapara East Range (HQ).

⁶⁰ NEC and Jaldapara Watch tower.

⁶¹ Hollong and Jaldapara East Range (HQ).

⁶² It is made of GI pipe and is an elephant gears.

and livestock. Grazing by cattle, inside the PA of Jaldapara, Gorumara and BTR exposed wild animals to the risk of cattle borne diseases. In these PAs the total livestock population in fringe villages, forest villages and tea gardens, is about 2.70 lakh⁶³ as per the records of the divisions. The cattle also share the common water holes, with wild animals. As such, there are chances of dissemination of cattle borne diseases (Anthrax, FMD, HSBQ, etc.) among the wild animals. The status of vaccination in these PAs, during the audit period, is detailed in **Table 1.5**.

Table 1.5: Vaccination of cattle population in Gorumara, Jaldapara NP and BTR

PA	Population	2017-18	2018-19	2019-20	2020-21	2021-22
Gorumara	41,000	23,900	15,250	5,930	1,100	0
Jaldapara	78,496	68,500	73,500	85,000	50,800	50,900
BTR	1,50,000	1,023	956	1,200	1,820	0

(Source: Information furnished by the concerned divisions)

Thus, it was seen that the vaccination in Gorumara ranged between 1,100 to 23,900 (2.7 to 58 per cent), whereas in BTR it was 956 to 1,820 (0.64 to 1.21 per cent), during 2017-18 to 2020-21, respectively. There was no vaccination in the year 2021-22, in Gorumara and BTR, which had left the wild animals susceptible to cattle borne diseases. Records of these PAs showed that during the Audit period (2017-22), 39 animals⁶⁴ had died of suspected FMD, Anthrax and unspecified diseases. It was also observed that in Jaldapara NP, during 2019-20, the number of vaccination was higher than the cattle population. Reasons in this regard were, however, not forthcoming from the records made available.

The Department stated (March 2023) that regular vaccination programme was undertaken in collaboration with the Animal Resources Development Department. However, deaths of large number of animals due to diseases indicated need for a more intensive vaccination programme.

1.7.5.3 Standard Operating Procedure (SOP) for reporting death of animals

NWAP-2017-31, stipulated for documentation and reporting of unusual mortalities or behavioural aberrations in animals. The SOP for dealing with the carcasses of Major Wildlife, published by the Directorate of Forest (Wild Life Wing), GoWB, *inter alia* provided that the Department Veterinary Officer or the local Veterinary Officer should be immediately informed and should be taken to site of carcasses found. As per the suitability and advise of the Veterinary Officer, the carcass should be subjected to Post Mortem (PM), either at the site or at a suitable location. Necessary samples were to be collected, for further forensic tests. DFOs were to submit detailed reports in this regard, as per the prescribed proforma, along with the PM report and DFO's comments, to the CWLW.

Scrutiny of the registers/files of death of wildlife, of five wildlife divisions⁶⁵, revealed that there had been 1,223 wildlife deaths, during the period from

⁶³ 41,000-Gorumara, 78,496- Jaldapara and 1,50,000-BTR.

⁶⁴ Gour-17, Rhino-14, Leopard-4 and Sambar-4.

⁶⁵ Buxa Tiger Reserve (West and East), Jaldapara Wildlife division, Gorumara Wildlife Division and Darjeeling Wildlife Division.

2017-22. Of this, 236⁶⁶ PM Reports of wildlife were not found on records, including 165 major animals⁶⁷ listed in Schedule-I of the Wildlife (Protection) Act, 1972.

This indicated lapses on the part of the Department, in documentation and reporting of mortalities, as per the SOP, which impacted the health management system of the PAs.

The Department stated (March 2023) that all deaths were recorded and autopsy are invariably conducted and such reports are available in divisions. However, such reports were not furnished during Audit.

Box 4: Good Practice

The Mobile Veterinary Service (MVS) unit in Similipal Tiger Reserve (in Odisha) has been functioning since April 2014. The MVS unit is involved in rescue and rehabilitation of displaced wild animals, clinical interventions of diseased animals, attending Veterinary aid and emergency responses in human-wildlife interaction (HWI) cases and post-mortem examinations of different wild animals. The dedicated MVS team also looks after the health and management aspects of the captive Elephants of the Similipal Tiger Reserve.

Recommendation 6:

The Department should establish well equipped wildlife rehabilitation-cum-disease surveillance centres, supervised by trained wildlife veterinarians; and introduce technically equipped Mobile Veterinary to attend wildlife emergencies, rescue and rehabilitation and to provide health support. The Department should also initiate a comprehensive immunisation programme for livestock, living in and around PAs, in coordination with the State Animal Husbandry Department.

1.7.6 Habitat Management

The goal of habitat management is to identify disturbed habitats and restore the native flora and fauna to ensure the continued use of the land by both wildlife and humans. An integral part of MPs, habitat restoration includes activities like natural and artificial regeneration of grass, plantation of fodder species, development of water holes, weed removal and regular maintenance of fire lines to control ground fire. All habitat improvement activities were to be carried out in line with the approved MP.

1.7.6.1 Grassland Management

Jaldapara and Gorumara NPs are famous for one-horned rhinos. As per the MPs, a limiting factor for conservation of Rhinos in these two NPs was inadequate grassland habitat for this species. In these two NPs, the grasslands available were 30.55 sq km and 7.5 sq km *i.e.*, 14.11 and 9.38 *per cent* of the total area, respectively. As per the MPs, the two National Parks were required to expand the area under grassland, as well as to maintain the existing grassland. Targets *vis-à-vis* achievements, in Fodder tree and fodder grass *etc.* are detailed in **Table 1.6**.

⁶⁶ Bison-119, Elephant-24, Rhino-13, Leopard-19 and other-61.

⁶⁷ Bison, Elephant, Rhino and Leopard.

Table 1.6: Targets vis-à-vis achievements in habitat management

Activity	During the period 2017-22					
	Targets (in ha)		Achievement (in ha)		Achievement in percentage	
	Jaldapara	Gorumara	Jaldapara	Gorumara	Jaldapara	Gorumara
Fodder tree and grass plantation	2,500	925	1,735.03	570	69	62
Removal of Invasive species/weed	2,500	750	1,252	325.9	50	43
Over-wood removal	1,000	300	500	183.14	50	61

(Source: Management Plan and information furnished by the concerned divisions)

Thus, it can be seen that the achievements ranged between 43 to 69 per cent, against the targets set in the management plans. Joint field inspection (12 and 13 November 2022) of four ranges⁶⁸ of Jaldapara showed that grasslands had degraded due to infestation of weeds (like *Lantana camara*) and suppression by the over woods⁶⁹. Therefore, urgent intervention is required, in view of the increase in population of herbivores.



Fig 1.5: Degraded grassland in Malangi 1 & 2 of Jaldapara East Range

(Source: Field visit)

The Department stated (March 2023) that the target could not be achieved due to COVID and lack of funds. However, the fact remains that the targets were not achieved even prior to and also after the COVID period.

1.7.6.2 Canopy opening of teak monoculture followed by creation of grassland

The State Board of Wildlife (SBWL), in its 11th Meeting, directed (13 June 2017) that monoculture of teak in National Parks and Wildlife Sanctuaries in Jalpaiguri, Alipurduar, Kalimpong and Darjeeling, needed to be converted to grassland and managed for increasing prey base and proper herbivore management, as also for creation of open areas, as prescribed under the approved Management Plan/ Tiger Conservation Plan. It was also proposed that the timber will be disposed

⁶⁸ Chilapata, Kodalbasti, Jaldapara (East) and Jaldapara (West).

⁶⁹ The areas of grassland, where grass fodder species are in the process of being suppressed by woody species and the stock has become very poor are to be selected for over woods removal.

as per the existing provisions of the Forest Directorate, GoWB and the fund would be ploughed back for the development of the respective MPs/WLSs and for the benefit of JFMCs.

The Tiger Conservation Plan (TCP) of BTR (in Alipurduar and Jalpaiguri districts) proposed 381.68 ha of canopy opening⁷⁰ of teak monoculture, followed by creation of grassland, during the period 2014-15 to 2022-23 and the draft MP of Gorumara NP (Jalpaiguri district) proposed 100 ha during the period 2017-22. MP of Jaldapara (Jalpaiguri district) did not propose any canopy opening.

It was observed that during 2017-22, canopy opening of teak monoculture had not been taken up in all the PAs. The BTR sent (June 2022) a proposal for conversion of monoculture of teak to grasslands, by canopy opening, to the PCCF, Wildlife & CWLW, as per the direction of the SBWL. Canopy opening and grassland creation of 120 ha at South Rajabhatkhawa-2 compartment was proposed to be taken up during the period 2022-23 to 2028-29. However, as of September 2022, the proposal had not been approved. As a result, wildlife habitat could not be improved by creating of grassland in these PAs.

The Department stated that (March 2023) the Hon'ble Supreme Court in its verdict did not allow removal of teak woodland in BTR. However, the fact remains that as per recommendations of the Central Empowered Committee on this matter constituted by the Hon'ble Supreme Court, wherever it is absolutely necessary to remove trees for management purposes, the felled timber should not be taken outside the boundary of the PA or used for any commercial purposes at all. Thus, the Department might undertake canopy opening without removing the felled trees as per direction of Hon'ble Supreme Court.

1.7.6.3 Improvement of degraded land

As per TCP, BTR had 5,550 ha of blank and degraded areas (2016). These degraded areas were to be taken up for plantation, fodder plantations and grasslands. The habitats in these areas were to be restored by plantations of local and native species, palatable grasses and fruit and fodder species.

From the data furnished by the BTR (East and West), it was observed that, during 2017-22, only 892.50 ha⁷¹ of land had been rejuvenated through the plantation of trees and grasslands and soil conservation, for providing adequate cover to wildlife and availability of fodder. Thus, 4,657.50 ha of land remained degraded, as of March 2022. In reply the Department stated (March 2023) that the degraded area would be taken up for afforestation in coming year.

1.7.6.4 Monitoring and Managing Invasive Alien Species

In the PAs, as elsewhere, Invasive Alien Species (IAS)⁷² take the form of impacts on ecosystem function, ecosystem structure and at the level of species

⁷⁰ The term canopy opening refers to identification of dense Teak and felling of the same.

⁷¹ BTR (West)-251.50 ha (Misc. plantation), 200 ha (Fodder) and BTR (East)-251 ha (Misc. plantations, 190 ha (Fodder).

⁷² Invasive Alien Species (IAS), in the context of Convention on Biological Diversity (CBD), for which India is one of the signatories are species whose introduction and/or spread outside their natural past or present distribution threatens biological diversity. IAS occur in all taxonomic groups, including animals, plants, fungi and microorganisms, and can affect all types of ecosystems.

communities or habitats as well as the level of species. The Convention on Biological Diversity (CBD)⁷³ recognises the importance of this global issue and calls on contracting parties to: “prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitat and species” {Article 8(h)}. As per India’s National Biodiversity Action Plan (NBAP) 2019, IAS is the second most common threat, in case of species that have gone completely extinct. The NBAP



Fig 1.6: Lantana camara in Jaldapara NP

(Source: Field visit)

prescribed identification and treatment of IAS to be made an essential part of management of PAs and wetlands. The National Wildlife Action Plan (NWAP-2017-31) also envisaged making suitable provisions in the management plans, for assessing, monitoring and managing the IAS, by the year 2019.

Though IAS had become a major threat, Audit observed that departmental research had not been conducted to assess its impact and ensure rapid response to this threat, in the selected PAs. Audit further observed the following:

- As per the current management plan (2018-19 to 2028-29) of Jaldapara NP, weed is a major problem and, except in teak plantations, all other plantations are infested with prolific weed⁷⁴ growth, particularly during the rainy season, which may pose a threat to the grassland habitat.
- The TCP of BTR (2016-17 to 2026-27) mentioned the existence of invasive weeds like eupatorium, michenia and lantana.

However, no suitable provisions, for assessing, monitoring and managing the IAS, were envisaged therein.

The Department accepted (March 2023) the audit observation and stated that it took up weed eradication programmes at local levels and also monitors IAS through Satellite Imageries.

Recommendation 7:

The Department should take up habitat management of the protected areas as a priority and control the influence of weeds and invasive species for restoration of disturbed habitats.

⁷³ The United Nations Convention on Biological Diversity, informally known as the Biodiversity Convention, is a multilateral treaty opened for signature at the Earth Summit in Rio De Janeiro in 1992. It is a key document regarding sustainable development.

⁷⁴ Including Lantana Camara, Eupatorium odoratum, Ageratum conizoides, Clerodendron spp, Cassia tora, Solanum nigrum and Mimosa himalayensis, were found in the NP.

1.7.7 Management of Financial Resources

The Wildlife Wing has been implementing various Centrally Sponsored Schemes (CSS), as well as State Plan Schemes, for conservation of wildlife and their habitat in the State. Project Tiger⁷⁵ (STR & BTR), Project Elephant⁷⁶ and Integrated Development of Wildlife Habitats' (IDWH)⁷⁷ etc. are on-going CSS under which financial assistance is provided to States/ UT Governments for protection and conservation of wildlife and its habitats in PAs, as well as outside PAs, as also for the recovery programmes of critically endangered species. Allotment *vis-à-vis* expenditure incurred under CSS schemes are detailed in **Table 1.7**.

Table 1.7: Amount released *vis-à-vis* expenditure incurred under CSS

(₹ in crore)

Centrally sponsored Scheme							
Year	Amount Released		Expenditure		Un-utilised Amount		Total unutilised fund
	Central Share	State Share	Central Share	State Share	Central Share	State Share	
2017-18	16.78	13.96	14.94	12.65	1.84	1.32	3.16
2018-19	25.33	17.09	22.16	16.75	3.16	0.34	3.50
2019-20	21.15	14.25	17.83	13.26	3.32	0.99	4.31
2020-21	16.68	10.64	15.63	10.20	1.05	0.44	1.49
2021-22	13.37	9.05	3.06	2.16	10.31	6.89	17.20
Total	93.31	64.99	73.62	55.02	19.68	9.98	29.66

(Source: Departmental Records)

From the above table, it can be seen that complete funds could not be utilised during 2017-22, leaving unspent balances ranging from ₹ 1.49 to ₹ 17.20 crore. Besides, the State Government also provides budget funds under State Development Schemes, for Wildlife Management under different heads, *viz.* Forest protection, Nature Conservation, Control of Poaching, Elephant Conservation *etc.*, as detailed in **Table 1.8**.

Table 1.8: Allotment *vis- a-vis* expenditure incurred under State Development Schemes for wild life management

(₹ in crore)

State Development Scheme for Wildlife Management				
Year	Budget Provision	Fund Released by State Govt.	Expenditure incurred	Un-utilised amount
2017-18	24.55	22.08	21.40	0.68
2018-19	27.81	24.34	23.53	0.81
2019-20	28.10	21.63	19.24	2.39
2020-21	30.97	14.25	14.17	0.08
2021-22	41.46	20.21	19.77	0.43
Total	152.89	102.51	98.11	4.39

(Source: Departmental Records)

⁷⁵ GoI scheme which provides 60 per cent funds for non-recurring expenditures and 50 per cent for recurring expenditures.

⁷⁶ 60:40 CSS for conservation of wild Elephant population.

⁷⁷ GoI share: 60; State share: 40.

From the above table, it was evident that there were unspent balances during 2017-22, ranging from ₹ 0.08 to ₹ 2.39 crore.

1.7.7.1 Fund Management in centrally sponsored schemes

Allotment *vis-à-vis* expenditure related to CSS - Project Tiger', IDWH and Project Elephant during the period from 2017-22 are detailed in **Table 1.9**.

Table 1.9: Utilisation of CSS funds under Project Tiger, IDWH and Project Elephant in the State

(₹ in crore)

Year	Amount sanctioned in APO by GoI			Net amount released by GoI	Unspent balance of previous year adjusted	Total amount released by GoI	Short release by GoI	Amount released by Department		Short release by Department		Amount utilised as per UC		Shortage of expenditure against released fund	Shortage of expenditure against total APO
	Total APO	Central share	State share					Central Share	State Share	Central Share	State Share	Central Share	State Share		
1	2	3	4	5	6	7 = 5+6	8 = 3-7	9	10	11 = 7-9	12 = 4-10	13	14	15 = (9+10) – (13+14)	16 = 2- (13+ 14)
2017-18	25.75	14.79	10.96	11.24	0.86	12.1	2.69	10.97	9.44	1.13	1.52	10.45	8.8	1.16	6.5
2018-19	29.27	16.98	12.29	13.87	1.42	15.29	1.69	13.99	11.00	1.30	1.29	13.79	10.73	0.47	4.75
2019-20	28.69	16.56	12.13	13.51	1.26	14.77	1.79	12.55	9.33	2.22	2.80	12.27	8.73	0.88	7.69
2020-21	18.81	10.80	8.01	5.51	2.14	7.65	3.15	7.02	4.80	0.63	3.21	6.26	4.79	0.77	7.76
2021-22	27.65	16.03	11.62	10.17	1.58	11.75	4.28	8.33	6.16	3.42	5.46	8.26	6.16	0.07	13.23
Total	130.17	75.16	55.01	54.30	7.26	61.56	13.6	52.86	40.73	8.7	14.28	51.03	39.21	3.35	39.93

(Source: Departmental Records)

In this regard, Audit observed that:

- Government of India (GoI) had approved the Annual Plan of Operations (APOs), having a total amount of ₹ 130.17 crore (Central share: ₹ 75.16 crore and State share: ₹ 55.01 crore). However, GoI had released only ₹ 61.56 crore, due to non-receipt of proposals for the second installment from Government of West Bengal (GoWB).
- Out of ₹ 61.56 crore, released by GoI, the Department released ₹ 52.86 crore, i.e., short release of ₹ 8.7 crore. Further, against the mandatory matching share of ₹ 55.01 crore, the Department released ₹ 40.73 crore i.e., short release amounting to ₹ 14.28 crore. Thus, the total short release by Department was ₹ 22.98 crore (₹ 8.7 crore + ₹ 14.28 crore).
- Out of the total funds of ₹ 93.59 crore (₹ 52.86 crore + ₹ 40.73 crore) actually received, the Department had spent ₹ 90.24 crore (₹ 51.03 crore + ₹ 39.21 crore). This resulted in unspent balance of ₹ 3.35 crore which results in curtailment of GoI funds in the subsequent APOs of each year.

It was observed that, due to short release of funds to the PAs, wildlife protection and management works like hiring of boats/launches, purchase of fuel for anti-poaching patrolling duties, maintenance of nylon net fencing for mitigating

Human-Tiger conflict, construction of enclosures for Tiger Augmentation programme *etc.*, hampered as detailed in **Appendix 1, 2 and 3**.

In reply, the Department (March 2023) stated that the delay was due to lengthy procedure of taking approval and admitted that there was scope of simplifying the procedure for expenditure and timely release of funds. It further stated that non-utilisation of fund was also due to late release of fund by GoI and release of funds in number of instalments and linking release of each instalment to utilisation certificates of the former release.

1.7.7.2 Distribution of benefit to the Forest Management Committees

The National Forest Policy of 1988 recognised that Joint Forest Management Committees (JFMCs) are central to forest protection and management. A programme of wildlife conservation and management of PAs in the State, was taken up in 1996⁷⁸. As per the programme, Eco-Development Committees (EDC/JFMCs) were to be formed for protection and management of the PAs. The EDC members were eligible to get 25 *per cent* share of Government receipts, on account of tourist, transport entry, photography, and such other related activities in the PAs.

The function of the JFMC was to ensure protection of forests and wildlife by preventing trespass, encroachment, grazing, fire, poaching, theft *etc.*, through the members of the committee, to inform forest personnel about illegal activities in the PAs; actively participate in mitigation of human-wildlife conflict; and to prepare action plans and implement them. The members, on their satisfactory contribution in regard to protection and participation in the management of PAs, for a minimum period of one year, become eligible for 40 *per cent* share of Government receipts on account of tourist and transport entry and photography and such other activities related to Ecotourism in PAs.

The monetary receipts realized from eco-tourism activities in the PAs were deposited in account of the West Bengal State Forest Development Agency (WBSFDA)⁷⁹, from which 40 *per cent* amount was released to PA managers, for distribution to different JFMCs, as usufruct benefit. Test-check of four Divisions⁸⁰ revealed that there were 123 JFMCs⁸¹, for protection of eight PAs. During 2017-22, ₹ 19.45 crore was realised from eco-tourism activities, in these wildlife areas, and the same was deposited in the account of WBSFDA. Thus, JFMCs were entitled to get benefit of ₹ 7.78 crore⁸². However, Audit observed that:

- For the period 2017-18 and 2018-19, WBSFDA released ₹ 2.46 crore in 2019-20 to three Divisions⁸³ on the basis of their requisition, which was

⁷⁸ Resolution No. 3841-For/d/11M-795, Dated 26th June, 1996.

⁷⁹ West Bengal State Forest Development Agency (WBSFDA) is a registered society under 'West Bengal Societies Registration Act, 1961' and is under the administrative control of Forest Directorate of West Bengal.

⁸⁰ Gorumara, Darjeeling, Raiganj & Jaldapara Wildlife Division.

⁸¹ 31 JFMCs of Darjeeling Wildlife Division, 18 JFMCs of Gorumara Wildlife Division & 71 JFMCs of Jaldapara WL Division and 3 JFMCs of Raiganj Division.

⁸² 40 *per cent* of 19.45 crore.

⁸³ Gorumara, Darjeeling & Jaldapara Wildlife Division.

distributed among 114 JFMCs⁸⁴ till August 2022. Six JFMCs in Gorumara did not get benefit during the period. The Raiganj Division did not send requisition to WBSFDA, for the distribution of benefit to the three JFMCs, on the ground that JFMCs had remained non-functional, though monetary receipts of ₹ 0.55 crore were realized from eco-tourism activities during 2017-22.

- The Gorumara Division sent requisition of ₹ 1.05 crore to WBSFDA in January 2022 and received the same in February 2022. However, even after a lapse of eight months, the amount of ₹ 1.05 crore had not been distributed (October 2022).

Due to non-distribution/delay in distribution of usufruct benefit, the purpose of engaging fringe people in wildlife protection and management works was frustrated to an extent as revealed from the instances of illegal activities like grazing in the Gorumara NP and Raiganj Wildlife Sanctuary. Joint site visit (November 2022), with Audit and Departmental officers, confirmed that local people were easily entering the unfenced parts of Raiganj WLS, for cattle grazing, picnic and other activities, causing threats to the wildlife of the sanctuary.

The Department in reply (January 2024) stated that delay was mainly due to non-conduct of annual general meetings, non-preparation of accounts *etc.*

Recommendation 8:

The Department should mobilise funds as per approved Annual Plan of Operations for implementation of conservation measures for wildlife. The Department should also utilise the available funds promptly and submit utilisation certificate timely for release of central assistance in time.

1.8 Human-wildlife Conflict

Human-wildlife Conflict (HWC) refers to the negative interaction between humans and wild animals, leading to adverse impacts, such as injury or loss of human lives, crop, livestock and other properties, or even their emotional well-being, and equally negative impacts on wild animals and their habitats.

Conflicts usually arise due to straying of wild animals into habitations, which results into either killing of the wild animals, or death/injury of human beings, loss of crop/cattle/houses, which become acute due to shrinkage of habitats, and loss of fodder/prey base in the forests and increased activities around the forests. Rapid expansion of habitations, agriculture and tea gardens, cut off the corridors needed for migration of wide-ranging animals. Reduction of natural grassland and conversion of natural forests into plantations of commercial species has further restricted the fodder base of the Elephants and other wild animals. Poaching of Deer and other smaller prey-animals had resulted into reduction in prey-base for big cats like Tiger & Leopard in some areas. Conflicts result in harm to both wild animals, as well as humans, which ultimately hampers wildlife conservation measures.

Some of the major species involved in HWCs in the State are the mega herbivores, like Elephant and carnivores like Tigers and Leopards. Apart from these major

⁸⁴ 31 JFMCs of Darjeeling Wildlife Division, 12 JFMCs of Gorumara Wildlife Division & 71 JFMCs of Jaldapara Wildlife Division.

flagship species, even Gaur and Rhino also inflict damages to standing crops, human life and property. The overall number of conflict cases, as well as the compensation paid on account of animal depredation, during 2017-22, are detailed in **Table 1.10**.

Table 1.10: Year-wise compensation paid on account of animal depredation

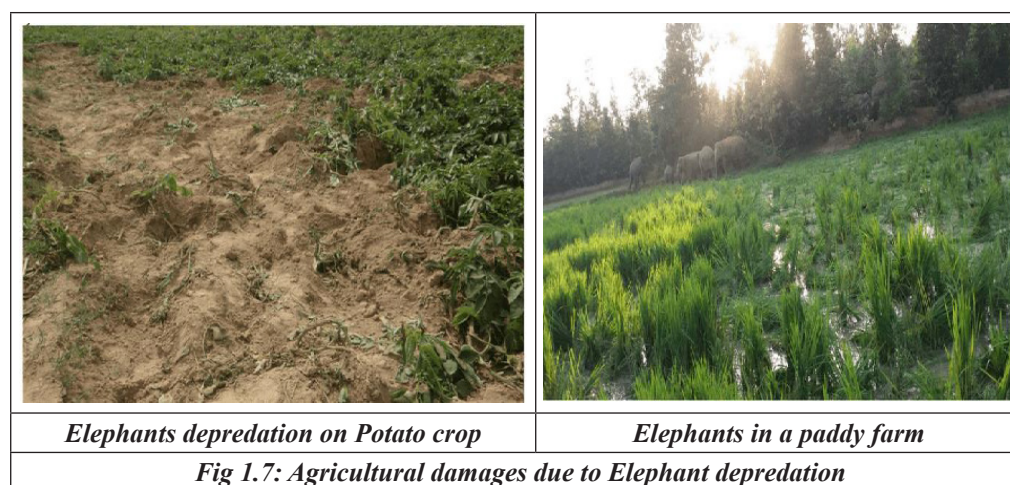
(₹ in crore)

Year	Persons killed (Nos.)	Persons injured (Nos.)	Persons killed & injured (Nos.)	Compensation paid for human death/injury (₹)	Livestock killed/injured (Nos.)	Compensation paid for livestock killed (₹)	Crop damage (ha)	Compensation paid for crop damage (₹)	Hut damage (Nos.)	Compensation paid for hut damage (₹)	Total Compensation paid (₹)
2017-18	73	185	258	1.54	423	0.07	4613	8.53	3516	1.18	11.32
2018-19	104	159	263	2.34	514	0.13	3771	5.10	3531	1.49	9.06
2019-20	134	229	363	3.29	430	0.08	3905	5.45	2928	1.06	9.88
2020-21	122	229	351	3.37	367	0.08	5123	5.31	2812	1.16	9.92
2021-22	117	88	205	2.70	272	0.06	4853	5.03	2321	1.01	8.80
Total	550	890	1,440	13.24	2006	0.42	22,265	29.42	15,108	5.90	48.98

(Source: Records of CWLW)

1.8.1 Human-Elephant conflict

Elephants stand out as a key conflict species, as they cause high economic losses and are also responsible for a high number of human fatalities. Out of the total compensation of ₹ 48.98 crore paid during 2017-22, ₹ 46.70 crore (96 per cent) was on compensation for Human-Elephant Conflict (HEC). The Elephant habitat (forest) is very fragmented, comprising of both forest & agricultural land. Paddy, Maize, Cucumber, Pumpkin, Gourd & Potato, are cultivated extensively, which attracts Elephant.

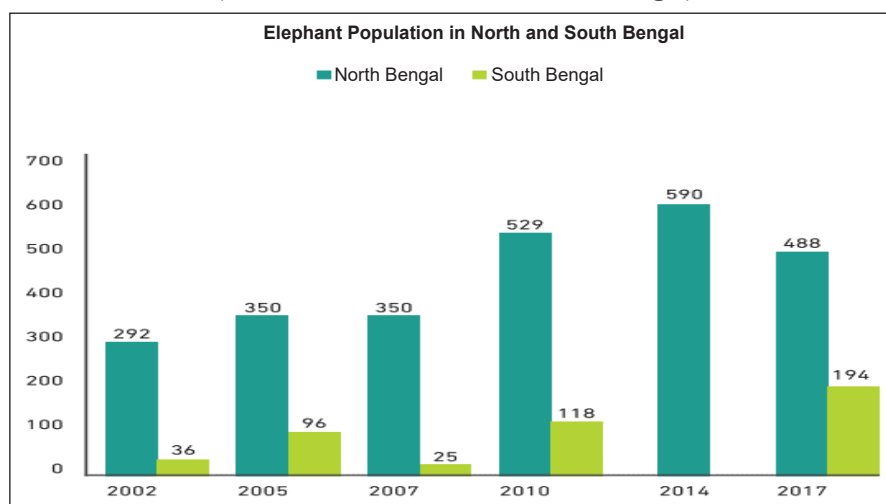


(Source: JICA Report)

As of April 2022, the total area of Elephant habitat in West Bengal was 6,392.83 sq km, in two landscapes, viz. (i) South Bengal (3,740.51 sq km),

consisting of ten territorial divisions⁸⁵ and (ii) North Bengal (2,652 sq km), consisting of total six wildlife⁸⁶ and four territorial divisions⁸⁷. There are two notified Elephant Reserves in the State, viz. Eastern Duars Elephant Reserve in North Bengal and Mayurjharna Elephant Reserve (MER), in South West Bengal, covering a total area of 1,391.51 sq km. As per records, the total zone of influence is 3,236 sq km. As per the last Elephant census, 2017, there were 488 and 194 Elephants in North and South Bengal, respectively.

**Chart 1.3: Year-wise Elephant population in North and South Bengal
(Census not done in 2014 in South Bengal)**



(Source: Annual Report of the Wildlife Wing)

During 2017-22, ₹ 6.83 crore, was incurred against the allotment of ₹ 7.23 crore under 'Project Elephant' (a centrally sponsored scheme with 60:40 sharing). In addition, ₹ 41.09 crore was released against the budget provision of ₹ 55.00 crore under the head- Elephant Conservation a State Development Schemes for Wildlife Management Schemes⁸⁸; against which and ₹ 37.96 crore was incurred. Further, ₹ 46.42 crore was incurred by the Department for wildlife depredation from State Forest Development Agency Fund.

The details of human deaths and compensation paid due to HEC, detailed in the **Table 1.11**.

⁸⁵ Purulia, Kangsabati (South), Kangsabati (North), Bankura (South), Bankura (North), Panchet, Medinipur, Rupnarayan, Kharagpur and Jhargram.

⁸⁶ BTR (East), BTR (West), Jaldapara, Gorumara, Neora Valley and Mahananda wildlife divisions.

⁸⁷ Kurseong, Kalimpong, Jalpaiguri and Baikunthapur.

⁸⁸ Construction of watch towers, trench/ fencing, hiring of manpower/ wages, purchase of safety equipment, training on tranquilization etc.

Table 1.11: Year-wise total compensation paid on account of Elephant depredation

(₹ in crore)

Year	Persons killed (Nos.)	Persons injured (Nos.)	Compensation paid for human death/ injury (₹)	Crop damage (ha.)	Compensation paid for crop damage (₹)	Hut damage (Nos.)	Compensation paid for hut damage (₹)	Livestock killed/ injured (Nos.)	Compensation paid for livestock killed (₹)	Total (₹)
2017-18	66	98	1.44	4613	8.53	3516	1.17	0	0.00	11.14
2018-19	80	81	1.94	3771	5.10	3531	1.49	0	0.00	8.53
2019-20	116	80	3.07	3905	5.45	2928	1.06	0	0.00	9.58
2020-21	117	229	3.17	5123	5.31	2812	1.16	367	0.08	9.72
2021-22	77	190	2.96	4058	3.90	2879	0.85	81	0.01	7.72
Total	456	678	12.59	21,470	28.29	15,666	5.73	448	0.09	46.70

(Source: Records of CWLW)

The HEC in the State in two different landscape level viz. South Bengal and North Bengal are detailed below:

1.8.1.1 Human-Elephant conflict in South Bengal

As per the 2017 Elephant census, there were 194 Elephants (including migratory population) in South Bengal. Around 120-135 Elephants migrate every year in the state of West Bengal, from the Dalma forest of Jharkhand. Normally these Elephants enter West Bengal near the Kankrajhore forest (Jhargram) in the month of July and leave in the month of February/March of the succeeding year. During their prolonged stay, their zone of influence is around 3236 sq km, in the districts of Paschim Medinipur, Purba Medinipur, Bankura and Purulia.

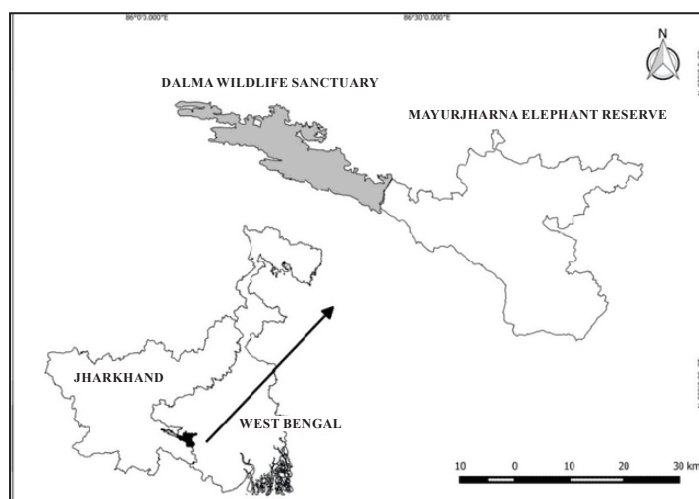


Fig 1.8: Map of Mayurjharna Elephant Reserve and Dalma Wildlife Sanctuary

The Department had taken up various mitigation measures to reduce conflicts viz. (i) Elephant Driving Squad, (ii) erection of Elephant Proof Electric Fencing, (iii) excavation of Elephant Proof Trenches (EPT) etc. Further, the Management Plan of Mayurjharna Elephant Reserve (MER) envisaged long-term plans, which, *inter alia*,

included extensive habitat improvement activities, so as to provide high quality food, water and shelter to the Elephant population of the landscape. However,

instances of human death had increased and crop depredation remained high, as ₹ 31 crore was paid as compensation during 2017-22, in South Bengal Districts, which was almost 66 *per cent* of the total compensation of the State on HEC.

Scrutiny of records of the five selected divisions⁸⁹ from South Bengal, further revealed the following:

(i) Implementation of mitigation measures

Annual expenditure on Elephant driving and restriction of their movement in non-forest areas was as shown in **Table 1.12**.

Table 1.12: Allotment *vis-à-vis* expenditure in five Forest Division on different mitigation programmes.

(₹ in crore)

Period	Allotment (₹)	Expenditure (₹)	Exp. on Elephant driving (wages of Hulla Party, burnt oil, Hull, fuel etc.) (₹)	Expenditure on construction of EPT, erection of EPF including maintenance (₹)	Expenditure on creation of Water Bodies (₹)	Expenditure on Fodder plantation (₹)	Others expenditure (₹)
2017-18	4.49	4.47	2.00	1.61	0.20	0.00	0.65
2018-19	3.90	3.90	2.12	0.78	0.16	0.00	0.83
2019-20	3.61	3.61	2.15	0.46	0.09	0.00	0.91
2020-21	1.58	1.58	1.16	0.19	0.00	0.00	0.23
2021-22	0.86	0.75	0.31	0.20	0.00	0.00	0.24
Total	14.44	14.31	7.74	3.24	0.45	0.00	2.86

(Source: Divisional Records)

From the above, it can be seen that the division had spent ₹ 7.74 crore (54 *per cent* of the total expenditure of Elephant conservation) for Elephant driving and ₹ 3.24 crore on Elephant movement restriction but had spent negligible funds on long-term management *i.e.* development of Elephant habitats, by means of fodder plantation. The Department stated (January 2024) that an assessment was made recently wherein 1,831.66 ha and 2507.90 ha areas were found to have been planted in the year 2022-23 and 2023-24 respectively.

(ii) Mitigation of conflict through Hulla driving

Records showed that, during the crop-raiding season, every division of the Forest Department had a squad for responding to Elephant movement and helping villagers in chasing away the animals from the crop fields. The members of the squad used powerful spotlights, sirens, crackers, Hulla⁹⁰, to chase the wild Elephants from the area. The squads provided temporary relief, since Elephants come back and, therefore, this could not serve as a sound conflict mitigation policy. Further, such intensive drives forced the Elephants to move

⁸⁹ Three divisions – Jhargram, Bankura (South) and Kangsabati (South) of MER and two most affected divisions -Bankura (North) & Medinipur Forest Division in the zone of influence selected in pilot study.

⁹⁰ A long stick with burning materials at one end.

continuously without much rest and food, prompting them to take more risks while depredating the cropland. This risk-taking attitude had led to increased interactions with humans and could increase the conflict rate.



Fig 1.9: Elephant driving force (Hulla party)

(Source: HEAL)

(iii) Management of the Mayurjharna Elephant Reserve (MER)

With the objective of providing a safe habitat for the Elephant population of South-West Bengal and mitigating Human-Elephant conflict, the Mayurjharna Elephant Reserve (MER) was created (October 2002), comprising of 414 sq km in the Jhargram, Bankura and Purulia Districts.

The main objectives of the first approved Management Plan (MP) (2015) of MER were (1) Confinement of Elephant herds within MER, by scientific and intensive habitat improvement so as to provide high quality food, water and shelter, to the Elephant population of the landscape for the maximum period of the year (2) Upliftment of the local fringe population, through sustainable, scientific and need based eco-development activities, in and around MER and (3) Mitigation of man-Elephant conflict. The MP also envisaged protection and management of corridors, required to ensure free movement of Elephants within the MER and optimization of the carrying capacity of MER, by enhancing the fodder availability of Elephants.

Further, as per the report⁹¹ of the Biodiversity Conservation Project, GoWB, restoration of degraded habitat and planting more fodder tree species, might help in improving the habitat. The replacement of species⁹² was expected to help in enriching the forests, in terms of food availability for Elephants. The presence of an adequate amount of palatable fodder in the forests might make the Elephants spend more time within these forests. Thus, eventually, interactions and conflicts in the landscape could be reduced.

It was observed from the said report that, currently, small herds or lone individual animals, were spending some time in the reserve, but they were using MER as a corridor to reach West Medinipur. As per the report, the estimated Elephant density was 0.0029 Elephants/ km² in MER, as compared to that of 0.52 Elephant/ km², in other parts of the District. The erstwhile entry point, at

⁹¹ 'Ecology of Elephant in South West Bengal including population dynamics, migratory pattern, feeding habits and human-Elephant conflict (June 2019)'

⁹² Like *Shorea robusta* and *Eucalyptus tereticornis* with fodder species like *Lannea grandis*, *Aegle marmelos*, *Madhuca longifolia*, *Pterocarpus marsupium*, and *Buchanania cochinchinensis*.

Kakrajore, within the MER, along the Bengal-Jharkhand border, had not been used by the migratory Elephant herd of Dalma, in last three years. Instead, the Gidhni and Parihati range, outside MER, were being used as a new entry points. Joint site inspection (21 and 26 July 2022) of three ranges⁹³ within the MER, showed extensive cultivation of Babui grass in the forest areas, which is not a fodder of Elephant and is responsible for degradation of the Mayurjharna ER. On the contrary, the joint site inspection (28 July 2022) of the new entry points where good numbers (average 60-100) of Elephants had stayed throughout the year, in the last three years and had a potential natural habitat for the Elephants, revealed the following:

- Activity for habitat improvement, like creation of waterbodies, salt-pits or fodder/ fruit plantations, had not been taken up.
- Elephant Proof Trenches (EPTs), in 7.2 km length constructed during 2018-19 in these two Ranges, required immediate maintenance, as these trenches had gradually turned shallow for the Elephants to cross over easily.
- Only one watch tower⁹⁴ was available at this new entry point along the Bengal-Jharkhand border. More watchtowers with adequate infrastructure for surveillance needed to be constructed, at various strategic locations.

This indicated that priority had been accorded to short-term measures, rather than to long-term measures for improving the habitat, so that Elephant remains within the reserve area. Thus, the main objective of creation of the reserve, *i.e.* to confine Elephant herds within MER, by scientific and intensive habitat improvement for the maximum period of the year, was largely not achieved.

In reply, the Department accepted (March 2023) the facts and stated that more expenditure was incurred on elephant driving rather than on habitat management because protecting life and property took precedence over strategic long term interventions.

(iv) Project for Management of Human-Elephant conflict in South Bengal

The Department of Forest, GoWB, accorded (September 2019) administrative approval for management of Human-Elephant conflict and minimizing loss of human life and property in South Bengal, at an expenditure of ₹ 32.74 crore. The project, *inter alia*, included (i) renovation of existing 30 km of Elephant Proof Trench (EPT), over the most vulnerable stretches, (ii) Construction of power fence along the existing EPT, (iii) Making fence with spinous plants along the existing EPT and (iv) approach road, besides the existing EPT. Against this administrative approval, financial sanction of ₹ 40.50 lakh only had been received, as of July 2022. Subsequently, as per the direction of CWLW, WB, a revised proposal was submitted by DFO, Jhargram Division in December 2020. The scope of work included (i) digging of EPT for the balance 60 km of border, (ii) construction of power fence for the entire 123 km and (iii) boulder pitching of 25.97 km for protection of the EPT at vulnerable locations, at a total estimated cost of ₹ 32.33 crore.

However, neither had revised proposal been approved by the Department, nor had

⁹³ Burdwan-I, Belpahari and Bhulabedha.

⁹⁴ Chandua Jonka mouza of Amtalia Beat under Gidhni Range.

further funds been released except ₹ 40.50 lakh, which was utilized for construction of two watch towers⁹⁵ and creation of 2.23 km new EPT during 2019-20.

(v) Setting up of Wildlife division (South) for management of the Mayurjharna Elephant Reserve

PCCF, Wildlife & CWLW, GoWB, submitted a proposal to create a Wildlife (South) Division, primarily for better management of the MER, in order to (i) co-ordinate human-Elephant mitigation measures, (ii) enhance co-ordinated efforts to fight the menace of ritualistic tribal hunting and (iii) better conservation of endangered fauna of Southern West Bengal e.g., Hyena, Bengal Fox and Wolves. Accordingly, the Department of Forest, GoWB, issued order (February 2016) for creation of a new division in the name of Wildlife (South) Division, with headquarters at Jhargram. The division was to be operational with effect from the financial year 2017-18. However, as of May 2022, the division was not operational, the reasons of which were not available on record.

In reply Department stated (March 2023) that as Elephants hardly stay in MER, setting of a new wildlife division is not prudent. The reply may be seen in the light of the fact that the zone of influence is still under the districts which are part of MER. Further, the role of the proposed wildlife division was to enhance coordinated efforts among forest division against human-elephant conflict, to mitigate ritualistic hunting and to conserve the endangered wildlife of South Bengal. The Department needs to finalise strategy as to how these will be taken up in absence of a field office in the area. The Department further stated that habitat improvement measures were being planned in some selected pockets to hold the elephants for longer period of time.

1.8.1.2 Elephant conflict in North Bengal

The Elephants of North Bengal represent the western most extension of the North Eastern population of Asian Elephants in India. The Elephant range is bounded by Nepal to the west, Bhutan to the north, Assam to the east and Bangladesh to the south. The region has about 488 Elephants, according to the census of 2017. The migration path of the Elephant is from the Assam border to the Nepal border in North Bengal, covering nine forest divisions⁹⁶. About 34 *per cent* of the Elephant range in North Bengal is under forest cover, 22 *per cent* under tea plantation, 17 *per cent* under agriculture and 27 *per cent* under habitation and development activities. The average human density in the Duars and the Terai region was 679 per sq km. Although the region supports less than two *per cent* of the total Elephant population of India, it accounts for almost 12 *per cent* of all human deaths caused by Elephants in the country. Cases of human injury or death, crop depredation and property damage, are on the increase.

From the records furnished by the office of the Chief Wildlife Warden (CWLW), it was seen that, during the period 2017-22, 259 people were killed by Elephants and ₹ 16.08 crore had been paid for compensation⁹⁷ in the North Bengal districts.

⁹⁵ At Dhangikusum of Odalchua beat under Bhulabedha range and at mouza Chandra –Jonka of Amtolia beat under Gidhni range.

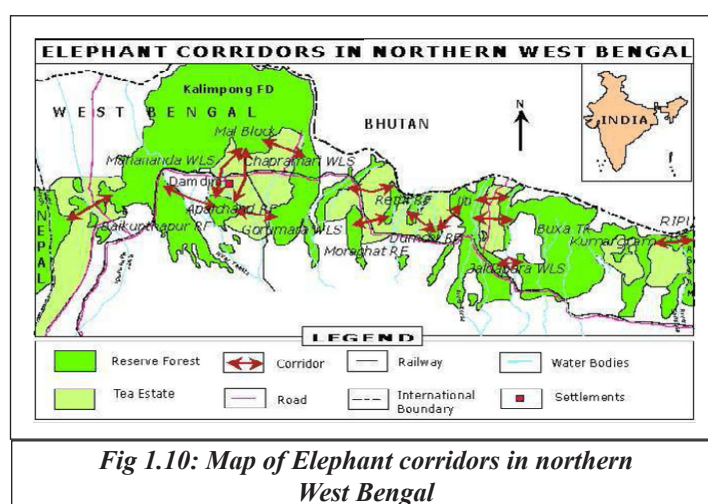
⁹⁶ BTR (East), BTR (West), Jaldapara Wildlife Division, Jalpaiguri, Gorumara Wildlife Division, Baikunthapur Division, Kurseong, Kalimpong and Darjeeling Wildlife Division.

⁹⁷ Instances of crop, cattle and human depredations, human injuries and loss of property.

The Eastern Duars Elephant Reserve (EDER) was created (August 2002), comprising of three districts, *i.e.* Darjeeling, Jalpaiguri & Alipurduar. The total geographical area of the EDER is 484 sq km. However, a separate management plan had not been prepared for this reserve.

Restoration of Wildlife Corridors

A Wildlife Corridor is a narrow strip of land with native vegetation that connects two or more larger areas of similar habitats or forest fragments and is critical for the maintenance of ecological process including migration, colonisation and interbreeding of plants and animal communities, thus enhancing the chances of survival. Fragmentation of forests, due to rapid human development and encroachment along the paths connecting the two forest patches, affected the movement of large mammals, like Elephants and Tigers. A total of 88 wildlife (Elephant) corridors were identified by the Wildlife Trust of India which has been brought out in its report “The Right of Passage” (2005) for conservation of the Elephants, of which 14 corridors were identified in North Bengal, as shown in **Fig 1.10**.



Among these, one is considered as high ecological priority⁹⁸ and 13 as medium. In terms of conservation feasibility⁹⁹, nine were of Medium and five were Low. The status, ecological priority and conservation feasibility of these corridors, have been brought out in **Appendix-4**.

The CF & FD, BTR and CCF Wildlife North, proposed (September 2022) securing of seven out of these 14 corridors. The proposals stated that economic loss was being caused in those areas, due to the damage done by migrating Elephants through these corridors. During 2017-22, the total number of cases of human death was 148 and the compensation payment was ₹ 12.90 crore in this seven corridors.

The report¹⁰⁰ of the Elephant Task Force, MoEF&CC (31 August 2010) recommended that all Elephant corridors listed should be notified as ecologically sensitive areas, by the respective State Governments.

In reply Department stated (March 2023) that one¹⁰¹ out of seven identified important corridors had been planned to developed as a pilot for declaring as community reserve.

⁹⁸ Elephant corridors are categorized as High, Medium and Low on the basis of the regularity of elephant movement.

⁹⁹ Corridors are graded on conservation feasibility as high, low and medium taking into factors such as land ownership, number of human settlements, fragmentation of the corridors etc.

¹⁰⁰ Gajah, securing the future for Elephants in India.

¹⁰¹ Titi Buxa corridor.

Recommendation 9:

The Department should develop a proper Human-Elephant Conflict strategy, along with detailed action plan for its strict enforcement, in consonance with the National Human-Wildlife Conflict Mitigation Strategy and Action Plan (HWC-NAP) 2021-26.

1.8.2 Ex-gratia payment to the victims

Human-Wildlife Conflict brings many losses, especially killing of humans, which has the effect of making communities less tolerant to wildlife. However, prompt delivery of assistance may help mitigate local hostility towards wildlife to some extent. The NWAP 2017-31, made State Forest departments responsible for streamlining the official procedure for payment of *ex-gratia* relief, to the victims of HWC, to ensure that the relief was disbursed immediately, with minimal paperwork and hindrances.

As per notification¹⁰², 75 per cent of the total *ex-gratia* grant¹⁰³ was to be paid on spot, after obtaining a written petition from legal heirs/next of kin of the person killed by wildlife. The remaining 25 per cent, was to be paid, after obtaining (i) cause of death-report of the Police/Range Officer and (ii) Medical certificate, issued by the Doctor of a Government Health Centre. In cases of exigency, the DFO could make full payment at a time, after observing the formalities mentioned above.

Scrutiny of records of five wildlife divisions¹⁰⁴ revealed that 203 humans had died in HWC, during 2017-22. It was observed that the compensation amount was not paid in a timely manner to the dependents of the deceased persons. Only ₹ 20,000 to ₹ 30,000 was paid to the legal heirs of deceased persons on the spot, in most cases and the balance amount of compensation was paid belatedly. It was observed that, out of the total 203 death cases, only in 59 cases (29 per cent) had *ex-gratia* been disbursed in a timely manner. In the remaining 144 cases, 13 victims had not been received compensation, even after a lapse of more than two years. In regard to 17 cases, compensation had not been paid, as death had occurred within the restricted area and, in the balance 127 cases, there were delays in payment ranging from one month to more than two years, as detailed below:

Table 1.13: Delays in payment of compensation

Period of delay	No. of cases
01 to 03 months	23
03 to 06 months	24
06 to 12 months	35
01 year to 02 years	18
More than two years	14
Did not get any benefit	13
Total	127
Could not be paid as the death occurred within forest area	17

(Source: Divisional Records)

¹⁰² No. 1547, dated 13.06.2016 Department of Forest, Govt. of West Bengal.

¹⁰³ April 2017- October 2018- ₹ 2.5 lakh, November 2018- February 2021- ₹ 4.0 lakh and March 2021 till date- ₹ 5.0 lakh.

¹⁰⁴ BTR (West), BTR (East), Jaldapara, Gorumara and Darjeeling.

Such delayed and/or non-payment cases would lead to growing antipathy among the local communities towards wildlife conservation, resulting in retaliatory killings or injuries to animals.

In reply, the Government stated (March 2023) that from January 2023, 100 per cent payment would be made for human deaths due to Elephants attack within 24 hours and pending cases of *ex-gratia* amount had since been disbursed. The Department further stated (January 2024) that the GoWB has recently (May 2023), launched a programme of giving employment as Forest Volunteer to the next of kin of persons killed by wildlife.

Box 5: Good Practice

“Anukampa” is a user-friendly software developed and launched by the Government of Odisha, in association with its Technical Partner, *i.e.* the Odisha Space Application Centre (ORSAC), Bhubaneswar. The portal is being used for claiming compassionate payment towards human kill, human injury, cattle kills, crop damage or house damage by Wild Animals. Accepting the Audit suggestion, the Department stated (January 2024) that a similar application was being developed in the State.

1.8.3 Human-Tiger Conflict in STR

Sundarban is the largest mangrove in the world and the only mangrove forest where Tigers are found. Tigers of Sundarban are known for their, man eating behavior and peculiar habit of straying into the human habitation, generally due to the fact that forest and village are separated only by a small river channel and the people of the vicinity are dependent on the forest for their livelihood.

Nylon-net fencing has been found to play an important role in preventing the straying out of Tigers into villages. 106 km of nylon-net fencing has been erected along the vulnerable areas, with the TR. A protocol for maintenance of the nylon-net fencing has also been designed, with the aim of carrying out thorough checking and proper maintenance. The Protocol includes involvement of local Stakeholders in Forest Protection Committees or Eco-Development Committees (FPCs/EDCs) as members, along with forest staff. As a result, Tiger straying outside the core-area had been reduced considerably and conflict outside the reserved area had also reduced. During 2017-22 there were only 14 Tiger straying cases in Sundarban, as compared to 61 during 2010-17.

However, considerable cases of deaths still occur due to illegal entries into the core area. During the period 2017-22, there were 68 human deaths due to Tiger attacks.

Fishermen enter into the STR area for fishing, after getting permits from the office of Sundarbans Tiger Reserve. These permits issued against registered Boat License Certificates (BLCs) are given for a specific time and area. In case of Tiger accidents in the buffer area, compensation for deaths or injuries by Tiger attack is being provided in case the person has a legal BLC, with proper permits for fishing activity. In case the person has entered without the legal permission, the claim for compensation is rejected.

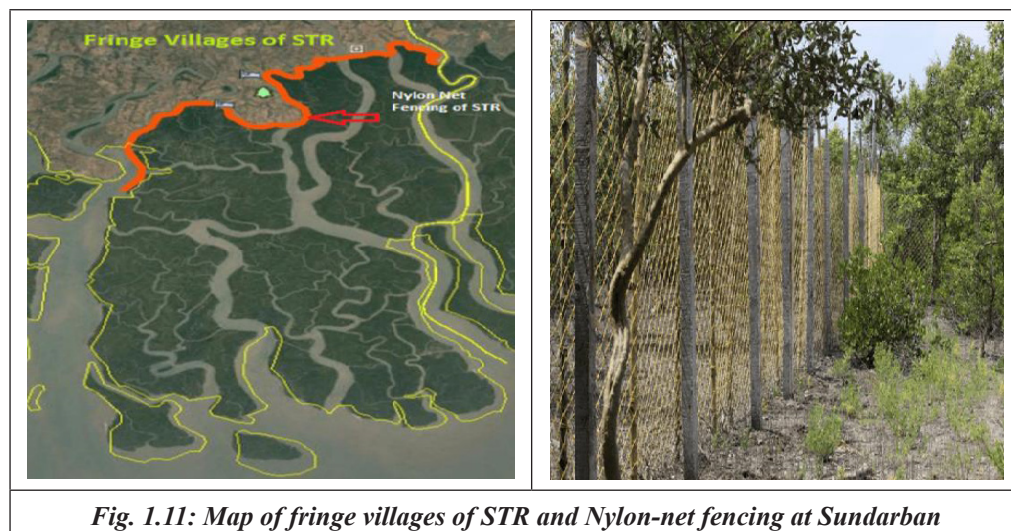


Fig. 1.11: Map of fringe villages of STR and Nylon-net fencing at Sundarban

(Source: Department)

Audit observed that, during the period 2017-20, the maximum incidents (29 out of 34 cases) of human death by Tiger attack, had taken place in the Pirkhali and Panchamukhani areas whereas, during the period 2020-22, the maximum incidents (27 out of 34 cases) had taken place in the Jhila area. Despite such incidences in these two areas, STR management had not initiated studies or surveys to find out reasons for conflict in these areas.

During 2017-22, only 12 dependent families' members of Tiger victims had received compensation, out of a total number of 68 death cases. There are no villages inside the boundary of the Tiger reserve and the core area is restricted to all kinds of anthropogenic activities. However, sometimes Fishermen, who get permits for fishing in specified areas, enter the restricted area illegally, for fishing and crab collection along the narrow creeks, where incidents of Tiger attacks had been reported. As a result, Tiger victims did not get compensation, as the place of incident was in restricted area, as per TCP. This, besides the wrong actions on part of the Fishermen also indicated poor patrolling and monitoring on the part of the STR management, in restricting movement into the restricted areas.

The Department attributed (March 2023) deficiency of patrolling staff to such illegal entries. It also stated that proposal for construction of barriers on creeks was under consideration.

Recommendation 10:

All entry points of the Sundarban Forest need to be placed under proper surveillance, in conjunction with continuous awareness generation programmes, for educating people about the dangers of illegal entry into the core area of the reserve.

1.8.4. Impact of Linear Developments in wildlife protection

One of the major risk in wildlife protection is linear developments, viz. railways, power line and roads within the PAs. As per minutes of the 47th meeting of the Standing Committee for the National Board for Wildlife, held on 25 January 2018, high speed and multiple lane roads, wide canals and railway lines not only

cause deaths of animals but also block wildlife movement completely, thereby fragmenting the habitat. In this background, every linear project proposal is to contain a one-page passage plan, with location of wildlife passages on map, duly examined on the ground and approved by the State Chief Wildlife Warden. The Committee also recommended that, in future, user agencies involved in linear infrastructure development should take into consideration the advisory made in the guidelines of the Wildlife Institute of India, while designing the linear infrastructure inside Protected Areas (PAs), notified ESZ areas around PAs.

1.8.4.1 Impact of Railway lines through the Protected Area

In the North Bengal landscape, 74 km of railway track, from east to west, passes through the Mahananda WLS, the Chapramari WLS, Jaldapara National Park, Gorumara NP and Buxa Tiger Reserve. In the South Bengal vulnerability to wildlife, especially Elephants, has taken place on two railway tracks of South Eastern Railways viz. Khargapur-Tatanagar and Khargapur – Adra. The vulnerability section in the Khargapur-Tatanagar segment is between Manikpara to Gidhni, under the Jhargram Forest Division.



Fig 1.12: Death of Elephant due to accident on railway track

(Source: Department)

The Hon'ble Supreme Court of India passed (2 September 2014) orders, giving directions to the Indian Railways and the Forest Department, GoWB, and others, to take suitable measures¹⁰⁵ in this regard. Since then, Railway authorities had undertaken measures for compliance to the directives, like speed restriction, route diversion, constructing ramps, vegetation clearance for better visibility *etc.*

The number of cases had reduced to some extent, as 14 Elephant deaths in train accidents occurred during 2017-22, as compared to 51 deaths during 2010-11 to 2016-17. However, it was observed that, out of the 14 cases, eight had taken place in the jurisdiction of the Gorumara NP and Jhargram division only. This indicate that certain portions still remained vulnerable.

In reply, the Government stated (March 2023) that use of technology for constant vigil and provision of under passes or over passes would be considered to reduce such accidents.

1.8.4.2 Electrocution due to power lines

The power lines in the North Bengal had caused the deaths of 27 Elephants, in a period of four years, from 2017-22. The primary reason for the electrocution of Elephants was illegal hooking and sagging of high-voltage power lines.

¹⁰⁵ Construction of trench, underpass at the identified corridor; restriction of speed, use of technology like radar system, satellite space navigation system and modern wireless animal tracking system.

A joint meeting, between the Forest Department & Power Department, regarding these unnatural deaths of wildlife in North Bengal, due to electrocution, was held in November 2020 and the decisions of the meeting *inter alia* included the following:



Fig 1.13: Death of Elephants due to electrocution

(Source: HEAL)

- Constitution of an anti-electrocution cell at the earliest, consisting of local officials of the Forest Directorate, West Bengal State Electricity Distribution Company Limited (WBSEDCL), District Administration, Panchayats and Police, to strategise various preventive and mitigation measures, to avoid accidents and monitor ways to prevent the existence of illegal electric fences and also identify sagging of high-tension lines which required to be raised.

- WBSEDCL was to provide insulated aerial bunched cables on LT lines, along the identified corridors, by 30 April 2021.
- WBSEDCL was to complete the GIS mapping of LT lines, with immediate effect.

Audit observed, in this regard, that:

- Anti-electrocution cells had been formed in all the selected divisions. However, illegal power fencing, sagging of power lines still continued and, during 2021-22, four Elephants had died due to these.
- In Gorumara Wildlife Division, 408.91 km was mapped for insulated Cable/ Aerial bunch cables on LT lines in sensitive Elephant corridors/zones. However, only 59.08 km of the work had been executed till July 2022. Post November 2020, one Elephant had died due to electrocution in the area.
- In BTR, primary survey had been done (November 2021) for the areas where insulated aerial bunch cables needed to be installed. However, installation had not been done as of November 2022. Further, GIS mapping of LT lines had also not been completed, as of December 2022.
- In the Darjeeling Wildlife Division, 79.80 km of electric line passes through the PAs. However, the Division was yet to undertake comprehensive survey, along with Power Department, in tea gardens, to identify the sagging of electric lines within the wildlife corridor. Out of total 12 working Ranges, only one Range (Squad-1, Sukna) had mapped two locations and identified total length of 470 meters as comprising sensitive areas of the Elephant corridor for provision of insulated cable.
- In South Bengal, Audit noticed that post November 2020, in the Bankura North Division three death cases were due to electrocution from LT power lines. A joint survey with the electricity authorities had been conducted, in regard to insulating the LT power lines, but the work had not been completed.

In reply, the Government stated (March 2023) that the work ariel bunch cabling would be expedited in consultation with WBSEDCL. It further stated that the issue of electric lines through Mahananda, WLS would be reviewed.

1.8.4.3 Road kills

The Expert Committee Report on unnatural deaths of wild life due to human activities and linear developments 2020 recommended mitigation measures, like speed restrictions, night movement restrictions, setting up of check posts, construction of underpasses/ overpasses for safe passage of wildlife in a phased manner *etc.*

National Highway-31C is the main highway which cuts across these forests of Buxa Tiger Reserve, Jaldapara NP, Gorumara NP and Mahananda WLS. During the Audit period, 62 cases (Leopard-16, Gour-4, Rhino-2, Elephant-2 and others-38 like Deer, Sambar Pythons, Monkey, Jackal *etc.*) of wildlife deaths had been recorded during 2017-22.

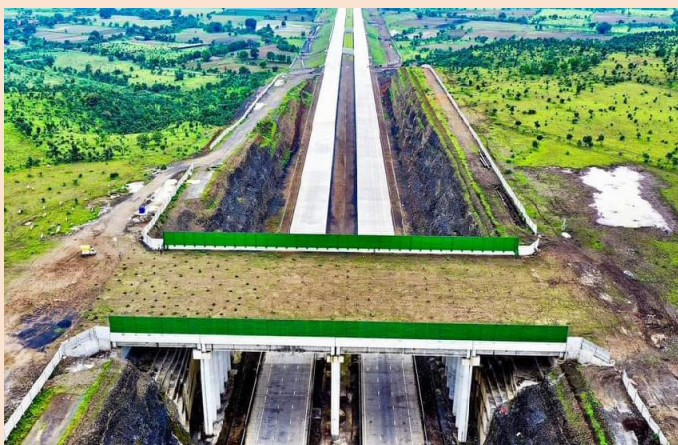
Audit observed that no such measures as recommended in the Report had been taken up.

Instances of such deaths of 13 wild animals (under Schedule-I, II & III) were reported by DFO/ Gorumara Wildlife Division in one year (October 2020 to September 2021). In spite of requests to the National Highway Authority, by the concerned DFO (September 2017 and September 2021), speed breakers had not been installed in those vulnerable locations, to save wild animals from road accidents. In respect of other PAs (Jaldapara and BTR), communications with NHAI, regarding steps taken to mitigate road kill, were not found available on records.

In reply, Government stated (March 2023) that steps like movable barriers near entry points on highways, signage along the stretches are being taken up. Further, it stated that animal underpasses/ overpasses were being taken up in Kharagpur-Chichira Highway and Kumari-Gairibas Road *etc.* However, the fact remains that killings of the wild animals in road accident is a grave issue and requires proactive action on part of the Department.

Box 6: Good Practice

Samruddhi Mahamarg (expressway) between Nagpur and Mumbai have nine green bridges (overpasses) and 17 underpasses for movement of wild animals



Recommendation 11:

The Department should take steps to ensure night ban of traffic inside the Protected Areas, along with construction of underpass and overpass for wildlife, after identifying animal paths in Protected Areas.

1.8.5 Commercial activities in and around the Protected Areas and Eco-tourism

As per the National Wildlife Action Plan (NWAP) 2017-31, eco-friendly and regulated wildlife based tourism (Eco-tourism) has the potential to be a vital conservation tool, as it helps to win public support for wildlife conservation. However, in recent years mushrooming of eco-tourism facilities has led to overuse, disturbance and serious management problems in a number of PAs.

1.8.5.1 Eco-tourism in Buxa Tiger Reserve

NTCA, *vide* a guideline¹⁰⁶ prescribed adoption of low-impact wildlife tourism, which protects the ecological integrity of forests and wildlife areas, and secures wildlife values of the destinations and their surrounding areas. The guidelines (*vide* Para 2.2.9) recommended permitting a maximum of 20 *per cent* of the core or critical Tiger habitat usage for regulated, low-impact tourist visitation. Such areas were to be demarcated as tourism zones and be strict adherence to the site specific carrying capacity was required. The Guidelines further stipulated that no new tourist infrastructure should be set up within the core or critical Tiger habitat of Tiger reserves, in violation of the provisions of the Wild Life (Protection) Act, 1972, and the directives of the Honourable Supreme Court. The Chief Wildlife Warden of the State was to ensure that each Tiger Reserve prepares a tourism plan, as part of the Tiger Conservation Plan *vis-à-vis* the Technical Guidelines of the National Tiger Conservation Authority. This site-specific tourism plan, forming part of the Tiger Conservation Plan, was approved as per the provisions of the Wild Life (Protection) Act, 1972.

The said guidelines (*vide* Para 2.2.13) further stipulated that the permanent tourist facilities, located inside the core or critical Tiger habitat, which were being used for wildlife tourism, would be phased out on a time-frame decided by the Local Advisory Committee (LAC)¹⁰⁷. There were to be no privately run facilities, such as catering, *etc.*, inside the core or critical Tiger habitat, where night stay was permitted. Such existing facilities if any, were to be run by the Tiger Conservation Foundations. Further, as per the proviso under Section 33 (a) of the Wild Life (Protection) Act, 1972, no construction of commercial tourist lodges, hotels, zoos and safari parks can be undertaken inside a Sanctuary, except with the prior approval of the National Board. NTCA reiterated (18 July 2018) the above prescriptions regarding phasing out of tourism (Night

¹⁰⁶ *Guidelines for Tourism in and around Tiger Reserves vide F. No. 15-31/2012-NTCA dated 15 October 2012.*

¹⁰⁷ *A committee to be constituted for each Tiger reserve by the State Government consisting of Divisional Commissioner or an officer of equivalent rank to be nominated by the State Government as chairperson and other members viz. (a) Member/s of the State Legislature representing the area comprising of the concerned Tiger reserve; (b) District Collector/s; (c) Tiger Reserve Field Director (Member Secretary) Local; (d) Territorial Divisional Forests Officers; (e) Honorary Wildlife Warden (if present) and (f) Official of State Tourism Department etc.*

Stay) from the Core Areas of the Tiger Reserves. Again, in October 2019, NTCA requested to Chief Wild Life Wardens of all States having Tiger Reserves, to furnish the details of permanent tourism facilities (Night Stay), available inside the Core Areas of Tiger Reserves, the extent of phasing out done so far, after the aforesaid guidelines of 2012, and the timeline in which these permanent tourism facilities would be phased out completely from the Tiger Reserves. In this regard, Audit observed the following:

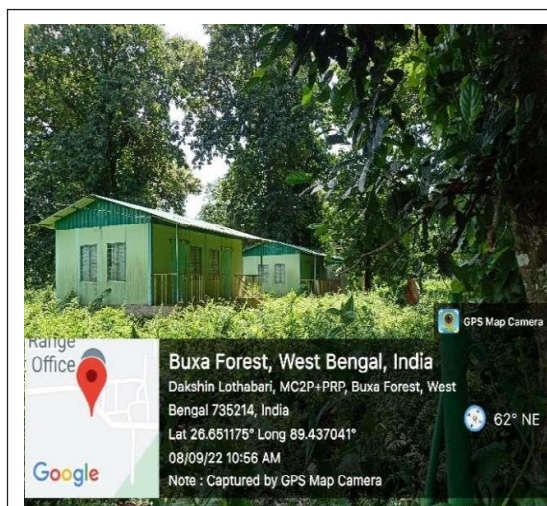


Fig 1.14: Illegal establishments within the core area of the Buxa Tiger Reserve

(Source: Field Visit)

the guidelines of the phasing out of tourism (Night Stay) from Core Areas of Tiger Reserves.

- The objectives of promoting and providing livelihood opportunities to local people and reducing their dependence on the fragile ecosystem were prioritized in the Eco Tourism Plan of the TCP of BTR (2016-27). It identified an Eco-tourism zone of total area of 7,749.65 ha in the core area, which was around 19.80 per cent of the total core area. The TCP also envisaged Jayanti and Buxaduar, both in core area, to be developed as satellite tourist spots. This was contrary to the
- Local Advisory Committee (LAC) which was to be constituted for each Tiger reserve, by the State Government was not formed, as of September 2022.
- As of August 2017, there were 69 establishments under private ownership and 20¹⁰⁸ under the management of the GoWB, in the core area of BTR. National Green Tribunal (NGT), vide its order dated 31 August 2017, had directed closing down of all illegal establishments which have been raised within the core area of the Buxa Tiger Reserve. However, the Department did not initiate action other than issuing (September 2017) of closure notice to the unauthorized establishment. Audit observed that instead of closing down the hotels/resorts and illegal establishment, more such constructions have been allowed. Consequently, NGT directed (May 2022) to close all the illegal establishments within two months. Further, tourist camping facilities, which were run by the Tourist Department inside the core areas, were directed to be handed over to the Forest Department, which would be used as an Interpretation-cum-Training Center for nature conservation and management. In compliance to the NGT order, all the commercial establishments, running hotels/restaurants, were served notices again in July 2022 for compliance.

¹⁰⁸ Establishment under Public Works, Irrigation & Waterways and Tourism Departments.

However, different hotel/ homestay were still being run (*Appendix-5*). Further, tourist camping facilities, which were being run by the Tourist Department remained unutilised as the Department was yet to evolve a plan to utilize such camping infrastructure, as per the directions of the NGT.

The Government stated (March 2023) that order of Hon'ble NGT had been implemented by closing down eco-tourism facilities at BTR, however, Hon'ble Kolkata High Court stayed (July 2022) the operation of the order of NGT.

1.8.5.2 Operation of tourist vehicles in Tiger Reserves

As per the guidelines of NTCA, the number of tourists needs to be worked out, on basis of the carrying capacity of the area. The Effective Permissible Carrying Capacity (ECC) is the maximum number of visitors that a site can sustain, given the Management Capacity (MC) available.

(i) Tourist boats allowed in STR

The Tiger Conservation Plan (2017-2027) of STR envisaged the carrying capacity, in terms of watercraft per day¹⁰⁹. It was observed that the carrying capacity in terms of the number of tourists, had not been estimated as was done in the previous TCP (2012-17) *i.e.* 650 persons per day. It was, however, observed that, as per the NTCA guidelines of 2012, the minimum gap between two consecutive vehicles, carrying six tourists per vehicle, was required to be maintained at 500 m, whereas, in the TCP (2017-2027) of STR, the minimum gap was considered as 200 m. As a result, the carrying capacity, in terms of vehicles, was inflated to 212. Had the NTCA guidelines been followed, the carrying capacity of vehicles would have been 85, *i.e.* 510 tourists¹¹⁰ to be allowed per day, as detailed in *Appendix-6*. The number of tourists visiting the Reserve, during 2017-22, is detailed in **Table 1.14**.

Table 1.14: Number of tourists allowed into the Reserve

Period	No. of tourists	Tourist per day during peak season (December to February)	Admissible as per NTCA Guidelines	Excess allowed (percentage)
2017-18	2,29,051	1,781	510	1,271 (249)
2018-19	2,05,581	1,584	510	1,074 (211)
2019-20	2,12,782	1,632	510	1,122 (220)
2020-21	50,158	672	510	162 (32)
2021-22	1,22,039	879	510	369 (72)

(Source: Divisional Records)

Thus, it can be seen that, during the peak seasons (December to February) of financial years 2017-18 to 2019-20, excess number of tourists had been allowed with the excess ranging between 211 to 249 *per cent*. In financial years 2020-21 and 2021-22, during the pandemic, the excess numbers came down.

In reply, the Government stated (March 2023) that animals stay at islands, hence, there was a physical separation between tourists and wild life and carrying capacity had been calculated on the basis of number of watercrafts allowed. The

¹⁰⁹ 212 (two cylinder) boats equivalent to 151 (four cylinder) boats equivalent to 118 (six cylinder) boats and equivalent to 88 launches per day.

¹¹⁰ 85 × 6

reply may be seen in view of the fact that the Sundarbans is a unique ecosystem where the habitats of the animals comprise of both land and water. Further, the calculation of carrying capacity in the TCP was not in consonance with the NTCA Guidelines which stipulated restriction on the number of vehicles based on their seating capacity.

(ii) Jeep Safari in BTR

In BTR, there are three safari routes, totalling 69 km, in the core area and one safari route of 25 km, in the buffer zone. The Effective Permissible Carrying Capacity (ECC)¹¹¹ of the BTR, as envisaged in the Tiger Conservation Plan (2016-27), was 19 vehicles per day. Therefore, considering a maximum six persons allowed per vehicle, the total tourists per day would be 114. As the forest is open for nine months, the maximum tourist allowed would have been 30,780 (114 x 30 x 9). The number of tourist vehicles allowed into the Reserve, during 2017-22, is detailed in **Table 1.15**.

Table 1.15: Number of tourist vehicles allowed into the Reserve

BTR Year	Number of Tourist	Tourist per day	Admissible as per TCP	Excess allowed (percentage)
2017-18	64,376	238	114	124 (109)
2018-19	1,62,638	602	114	488 (428)
2019-20	1,32,400	490	114	376 (330)
2020-21	18,694	69	114	NA (due to COVID)
2021-22	56,117	208	114	94 (82)

(Source: Divisional Records)

It can be seen that, during the period 2017-18 to 2019-20 and in 2021-22, the number of tourists allowed in the park was in excess (ranging between 82 and 428 *per cent*), as compared to the prescribed number. In the year 2020-21, it was less due to COVID pandemic.

In reply, the Government stated (March 2023) that the carrying capacity as per the TCP was in terms of jeep safari and not in terms of tourists/visitors/fringe villagers. However, the fact remains that the TCP should consider all types of entries in the Tiger Reserve.

Recommendation 12:

The Department should take concrete steps to enforce closure of Commercial activities in the PAs and regulate the tourists flow, as per prescribed procedure. A system of Online booking for safaris should be introduced to have better monitoring on the flow of the tourists.

1.8.6 Fishing in STR

After formation of the Sundarbans Tiger Reserve (STR), as well as declaration of Sajnekhali Wildlife Sanctuary and the core area of STR as a National Park, fishing restrictions were introduced in these areas, as per the provisions of the Wild Life (Protection) Act, 1972. However, as fishermen being an integral

¹¹¹ The maximum number of visitors that a site can sustain, given the Management Capacity (MC) available.

part of Sundarbans, they had been traditionally allowed fishing, based on the issuance of permits known as “Boat License Certificates” (BLCs). There has been constant demand to increase the number of BLC’s. Director, Sunderban Biosphere Reserve pointed out (September 2015) several issues relating to fishing in Sundarban, which *inter alia* included (i) cases of benami BLCs (ii) absence of any assessment of the carrying capacity of the Sundarbans Biosphere Reserve, regarding sustainable fishing operations (iii) absence of clear-cut rules and policy for renewal of BLCs. These resulted in indiscriminate exploitation of fish, which could lead to an adverse effect on the conservation of the regional biodiversity. As of November 2015, out of 4,722 BLCs, 1,719 had remained inactive, as detailed in **Table 1.16**.

Table 1.16: Fishing Permissions (BLC) by Forest Department in Sundarbans

Unit	Total number of Fishing BLCs	No. of active BLCs	No of inactive BLCs
24 PGS (S) Division	3,793	2,312	1,481
Sundarban Tiger Reserve	929	691	238
Total BLCs for Sundarban	4,722	3,003	1,719

(Source: Divisional Records)

In response to the proposal for changing the procedure of issuing BLCs, made by the PCCF, Wildlife & CWLW, the Department of Forests, GoWB, issued (February 2017) the following directives:

- Cancellation of inactive BLCs with immediate effect and conducting a process of identifying genuine fishermen, amongst the active BLCs.
- BLCs to be restricted to fishermen from the JFMC, constituted from the fringe villages only.
- BLCs to be restricted to boats registered under the West Bengal Marine Fishing Regulation Act, 1993, for proper identification of boats.
- Study to be carried out by a reputed organization, to look at the carrying capacity of fishing areas, permitted by law in the SBR.

The APCCF & Director, Sundarban Biosphere Reserve (SBR) cancelled (June 2017) 862 of the defunct BLCs (207 number of STR and 655 number of South 24 Parganas) and directed Field Director (FD), STR and DFO, South 24 Parganas, to follow the procedure as approved in above mentioned order, for issue of new BLCs. FD, STR stated (November 2022) the process of identifying genuine fishermen amongst the active BLCs and from the JFMCs was still under process.

However, the fact remains that, as of August 2022, the process of identifying genuine fishermen from the active BLCs and from the JFMCs had not been carried out and the study¹¹² to assess the carrying capacity of fishing areas was still in the draft stage. Illegal entry into the prohibited areas was still continuing, which resulted in adverse effects on the conservation of the biodiversity of the region, as well as human-tiger conflicts. The Government accepted (March 2023) the audit observation.

¹¹² Assessing the quantum and spatial extent of aquatic biodiversity including fisheries extracted from Sundarban Biosphere Reserve.

1.8.7 Removal of human and biotic pressure

The National Wildlife Action Plan 2002-16 stated that voluntary relocation and rehabilitation of villages, out of PAs, needed to be done and that relocation and rehabilitation of villages should be undertaken on a voluntary basis, or by persuasion from high conservation value segments of PAs e.g. pristine/old growth areas or the core segments of NPs. This was also essential for reducing and preventing human and wildlife conflict.

In the State, as of December 2022, there were 73 forest villages in six PAs¹¹³. Audit however, observed that effective steps had not been taken to relocate the forest villages. The only initiative taken, had been in regard to two villages within the core area of BTR, had since been taken up as detailed below:

1.8.7.1 Relocation of villages from the BTR

As per Wild Life (Protection) Act, 1972 (WPA)¹¹⁴, core or critical Tiger habitats areas of NPs/WLSs, were required to be kept inviolate for Tiger conservation and to be notified by the State Government, in consultation with an Expert Committee constituted for the purpose, without affecting the rights of the Scheduled Tribes and other Traditional Forest Dwellers. The voluntary relocation of people was to be carried out only in the identified core/critical Tiger habitats of a Tiger reserve.

Further, as per the guidelines for preparation of the Tiger Conservation Plan (2007), issued by the National Tiger



Fig. 1.15: Gangutia Forest Village

(Source: Field visit)

Conservation Authority (NTCA), a minimum inviolate area of 800-1,200 sq km was required for a viable population of Tigers (20 breeding tigresses) and an ecologically sensitive zone (buffer/ co-existence area/ multiple use area) of 1,000-3,000 sq km was required around this inviolate space, for sustenance of surplus breeding age Tigers and old displaced Tigers. NTCA Guidelines (March 2010) prescribed two options for relocation of forest Villages: Option I involved payment of the entire package amount (₹ 10 lakh per family) to the family, in case the family so opted, without involving any rehabilitation/ relocation process by the Forest Department. Option II involved carrying out relocation/ rehabilitation of village from the Protected Area/ Tiger Reserve, by the Forest Department. The financial limits, under the above packages, were revised to ₹ 15 lakh per family, with effect from 8 April 2021. The Field Director was to submit a Village Relocation Proposal (VRP), to the National Tiger Conservation Authority/ Project Tiger, for funding support, through the Chief Wildlife Warden/ State Government, as per the prescribed format.

¹¹³ 37 forest villages and three Fixed Demand Holing villages in BTR, 12 forest villages in Jaldapara NP, seven in Gorumara NP, six in Senchal WLS, seven in Mahananda WLS, one in Singhalila NP.

¹¹⁴ Section 38V.

As per TCP (2016-17 to 2026-27) there were 40 forest villages, in the BTR, out of which 15 forest villages¹¹⁵ having 1,019 families existed in the critical Tiger area. Since these villages existed in the core area, BTR was required to carry out relocation of people living in these villages. In this regard, Audit observed the following:

- A State Level Monitoring Committee had been formed (April 2010), for relocation of these 15 forest villages from the core area. Further, families from nine villages (August 2010) were willing to relocate and the committee decided (September 2010) to sign a Memorandum of Understanding (MoU) with these villagers. Audit, however, observed that MoU had not been signed with the villagers opting for relocation.
- Subsequently, in accordance with the provisions of the Wildlife (Protection) Act 1972, and the guidelines issued by NTCA, the proposal for relocation of Bhutia Basti village (51 family) was submitted (July 2019) to the Secretary, Forest Department, GoWB. Further, the relocation plan of the Gangutia village (195 family), was submitted to the CCF & Field Director, on 9 November 2021. Villagers from both of these forest villages had opted for option I. The amount of compensation to be paid would be ₹ 36.90 crore.
- It was further observed that the Department had set up a District Level Implementation Committee (DLIC) on 8 October 2021, *i.e.* more than two years after receipt of the relocation proposal, despite the fact that the formation of the DLIC was a pre-requisite for the proposal of relocation, as per the guidelines of NTCA.

In reply, the Government stated (March 2023) that proposals for relocation of the two villages had been sent to the NTCA in October 2022.

Thus, the process of relocation, in regard to only 246 families, out of the total 1,019 families, living in the core area of BTR, could be initiated, till date (March 2023).

Box 7: Good Practice

The Odisha State Government issued (2016) an additional set of guidelines, further extending financial assistance and other incentives/ benefits, for the inhabitants of core villages located inside the Tiger reserve. The benefit was also available to villages situated in PAs, other than the core areas of the Tiger reserves. The State guidelines had a wider applicability and extended to all villages in National Parks and Sanctuaries not covered by NTCA guidelines.

These guidelines provide for financial assistance (an incentive of ₹ 5.00 lakhs per family, in addition to a lump sum amount of ₹ 15.00 lakh) and other incentives/ benefits to the villages situated in all PAs, as well as inaccessible forest areas, including areas connecting wildlife habitats. During 1994-95 to 2021-22, 18 villages, consisting of 1,280 families, were relocated from the PAs (these included 6 villages, with 479 families, in 2021-22).

¹¹⁵ Raimatang, Adma, Chunabhati, Santrabari, Lepchakhawa, BhutiaBasty, Newlands, Kumargram, Buxa Duar FD Holding, Pampu basti, Gangutia, 28th Mile, 29th Mile, Jainti Fixed Demand Holders and Pana.

1.9 Surveillance and control of poaching and illegal trade of wildlife

West Bengal shares its border with Bhutan, Nepal and Bangladesh. The Duars and the Terai region of North Bengal, as well as Kolkata, have been used as transit routes for illicit wildlife trade. NWAP 2017-31, envisaged the following actions in regard to control of poaching and illegal trade:

- Strengthening the capacity of frontline field staff to protect wildlife, through training and proper equipping, to increase focused crime prevention, patrolling and reporting,
- Establishing fast-track special courts/ benches, for dealing with forests and wildlife crimes,
- Engaging and networking with the Customs, Police, Paramilitary Forces, Coast Guard, Postal and Courier services and other agencies that could play a key regulatory role in preventing wildlife offences,
- Promoting international co-operation, to combat organised wildlife crime.

Audit observed that, during 2017-22, 75,254 live animals had been rescued and 1,24,322 wildlife articles, including 36 jars of venom and 1,321.64 Kg of different wildlife articles/ products had been seized. Further, scrutiny of records of the selected divisions revealed that 58 cases¹¹⁶ of poaching had been officially recorded and 13 wild animals¹¹⁷ had died due to poisoning.

1.9.1 Patrolling staff

Patrolling is integral for ensuring protection and conservation of wildlife in the PAs. The responsibility of securing the PAs, by and large, rests with the forest guards, head forest guards and foresters, as their duties include patrolling and watching, as well as camping at chowkis to facilitate patrolling deep inside the forests.

Audit observed that there were significant shortages in the staff engaged for patrolling. The sanctioned strength *vis-à-vis* men-in-position of the wildlife wing, as on 1 April 2017 and 31 March 2022, are detailed in **Table 1.17**.

Table 1.17: Sanctioned strength *vis-à-vis* men-in-position in the wildlife wing

Name of Post	As on 01.04.2017				As on 31.03.2022			
	Sanctioned Strength	Men-in-position	Vacancy	Percentage	Sanctioned strength	Men-in-position	Vacancy	Percentage
Forest Ranger	108	68	40	37	115	90	25	22
Deputy Ranger/Forester	258	160	98	38	285	149	136	48
Head Forest Guard	73	31	42	58	73	22	51	70
Forest Guard	728	391	337	46	757	310	447	59

(Source: Information furnished by Wildlife Wing)

¹¹⁶ Tigers-2, Bison-2, Rhino-6, Leopard-4 and other-35 like Deer, Sambar, Hyena, Dove, Pangolin etc.

¹¹⁷ Leopard-4 and Elephant-2 and other-6 like Deer, Duck etc.

Thus, there were significant vacancies in different frontline staff, ranging from 38 to 58 *per cent* and 48 to 70 *per cent*, as of 1 April 2017 and 31 March 2022, respectively, and the vacancies had increased across all cadres, except in the cadre of Forest Ranger. The Government accepted (March 2023) the audit observation.

1.9.2 Availability of arms

Arms and ammunitions are vital for management of PAs, for countering the armed attacks of poachers and other offenders, in addition to safeguarding against sudden attacks of wild animals.

Audit observed that the Department had not conducted a proper need analysis, for assessing the requirement of arms, in the absence of which the adequacy of availability of arms could not be ensured. Details of the arms and ammunitions supplied to seven Wildlife Divisions and their status, are given at **Table 1.18**.

Table 1.18: Status of arms in wildlife divisions

Wildlife Division	Double Bored/Single Barrel Gun		Pump action gun		Rifles		Total	
	No.	In Working condition	No.	In Working condition	No.	In Working condition	No.	In Working condition
South 24-Pgns.	31	13	02	02	45	28	78	43
Gorumara WL	52	37	20	15	18	17	90	69
Darjeeling WL	53	26	25	10	18	09	96	45
Jaldapara WL	104	74	21	17	40	40	165	131
Buxa Tiger Reserve (East)	53	53	02	02	14	14	69	69
Buxa Tiger Reserve (West)	111	87	12	11	15	14	138	112
Sunderban Tiger Reserve	32	24	17	16	55	35	104	75
Total							740	544

(Source: Divisional Records)

As may be seen, out of 740 arms supplied to seven wildlife divisions, only 544 arms (74 *per cent*) were in working condition.

In reply, the Government stated (January 2024) that a fresh consignment of arms and ammunitions have been purchased in the financial year 2023-24, after the audit was over and more such purchases are proposed in the next financial year.

1.9.3 Availability of Wireless, RT sets

Wireless communication network was established in all Forest Divisions for effective all-weather communication amongst the staff. The wireless equipment used for this purpose included Static sets, Mobile sets, Walkie Talkies, Repeaters, Chargers for Repeaters *etc.* For wireless network to be effective, it is essential that all the units/equipment are functional. The status of wireless equipment, in the seven wildlife divisions, is given in **Table 1.19**.

Table 1.19: Status of wireless equipment in the wildlife divisions

Wildlife Division	Walky-Talky		RT set		Total instruments	
	No.	In Working condition	No.	In Working condition	No.	In Working condition
South 24-Pgns.	25	18	24	16	49	34
Gorumara WL	70	44	52	40	122	84
Darjeeling WL	69	36	45	41	114	77
Jaldapara WL	61	33	56	35	117	68
Buxa Tiger Reserve (East)	22	19	18	15	40	34
Buxa Tiger Reserve (West)	30	30	34	34	64	64
Sunderban Tiger Reserve	29	29	29	29	58	58
Total					564	419

(Source: Divisional Records)

From the table, it may be seen that, out of 564 wireless sets, 419 (74 per cent) were in working condition.

In reply, the Government stated (March 2023) that steps would be taken to repair the defective RT sets.

Recommendation 13:

Government should take steps to augment critical front line field staff and provide them adequate arms and wireless equipment necessary for control of poaching and illegal trade as envisaged in NWAP 2017-21.

1.9.4 Installation of “E-eye” – a real time anti-poaching surveillance system

NWAP 2017-31 in the context of Strengthening and improving the Protected Area network (Para 6.1, chapter 1) envisaged setting up Electronic eye (E-eye) surveillance in highly sensitive Tiger Reserves (TRs) and PAs and also initiate the use of drone/ unmanned aerial vehicle technology as an airborne monitoring/ warning system for better protection and monitoring of wildlife.

With a view to provide live visual monitoring of remote area using unmanned surveillance system, a proposal for installation of “E-eye”– a real time anti-poaching surveillance system was approved (October 2019) by the PCCF, Wildlife and CWLW at an estimated cost of ₹ 1.88 crore in Jaldhapara National Park only. The system was based on long range clear vision optical and thermal sensors to support seamless electronic surveillance wireless technology to ensure minimal setup and interference in the reserve area. Accordingly, e-tender was floated and only one bidder was technically qualified. As a result, the tender was cancelled (July 2020) and no further action was taken for its implementation.

It was seen that Electronic eye (E-eye) surveillance is being successfully implemented in three PAs, viz. Jim Corbett National Park (Uttarakhand), Kaziranga National Park (Assam) and Ratapani TR (Madhya Pradesh). However, the State was yet to implement real time anti-poaching surveillance system through Electronic eye (E-eye) surveillance in any of its PAs. This was despite the fact that PAs of North Bengal are sensitive in view of high cases of poaching.

1.9.5 Convictions for wildlife offences

As per the handbook for Wildlife Crime Investigation-2013, of Wildlife Control Crime Control Bureau, MoEF&CC, trials of cases, instituted on complaints under Section 55¹¹⁸ of the Wild Life (Protection) Act, 1972, are conducted as per the provisions of Sections 244 to 248 of the Code of Criminal Procedure. The handbook further stipulated that process against the accused should not be delayed after filing the complaint. The Investigating Officer and the Public Prosecutor should work together, to avoid such delays. The Investigating Officer should ensure attendance of witnesses in the court on the date of hearing, brief the witnesses properly and co-ordinate with the P.P/Magistrate, for timely completion of trial.

Records related to the disposal of the cases in the selected wildlife divisions, revealed that, during 2017-22, 225 cases had been registered, against which the conviction/ disposal was only four (two *per cent*). It was further observed that, as of March 2022, 1,290 cases pertaining to the years 1991-2022, were pending before the courts and 206 cases were pending with the Forest offices.

Test check of records further showed that, in the BTR (West) wildlife division, out of total 471 pending cases, in 429 cases, Prosecution Offence Reports (PORs) had not been submitted. Besides, in respect of 82 cases¹¹⁹, Divisions had taken 01 to 20 years for submission of PORs.

It was further observed that, in March 2021, Addl. Chief Judicial Magistrate, 2nd Court, Alipurduar, under direction of the Honorable High Court, wrote to the CCF and FD, BTR, with a request to instruct the subordinate offices to file the PORs in all pending cases, as early as possible and further to ensure that forest personnel attend court as and when directed, in connection with such cases.

In reply, the Government stated (March 2023) that timely POR submission has been affected due to shortage of qualified staff.

Audit also observed following lapses with regard to control of crime in the State:

1.9.5.1 Institutional setup to deal with the wildlife crime control

Audit observed that there was no institutional set-up in the Wildlife Wing, for mitigating wildlife crimes in the State, as well as for intelligence gathering or tracking the movement of poachers/ illegal traders.

The DFOs of the territorial and wildlife divisions deal with wildlife crime, including information gathering, and report to the CWLW, through their respective CFs/ CCFs. It was, however, observed that the State Board for Wildlife, in its 9th meeting held on 10 February 2015, had approved the setting up of a Wildlife Crime Control Cell, under the Wildlife Wing of the Directorate of Forests, for better and co-ordinated efforts to control wildlife related crime in the State, with its Headquarters at Kolkata and two 'Wildlife Crime Control Cells' one at North Bengal (Siliguri) and another in South Bengal (Kolkata).

¹¹⁸ Any person who has given notice of not less than 60 days, in the manner prescribed, of the alleged offence and of his intention to make a complaint, to the Central Government or the State Government or the officer authorised.

¹¹⁹ BTR (West) (34), Gorumara WLD (22), Darjeeling WLD (18) and Raiganj Div (8).

Accordingly, a draft notification, giving the composition of different committees and units, with their terms of reference, was submitted (July 2015), to the Forest Department, GoWB, for approval and issue of necessary notifications. However, such notification had not been issued so far (March 2023).

Box 8: Good Practice

The Madhya Pradesh Forest Department had set up a Wildlife Crime Control Cell, with members from the State Police. Similarly, the Odisha Police Department had established a Wildlife Crime Control Cell with a member from the Forest Department. Wildlife Crime Control Unit were also functional in States like Assam and Nagaland.

Recommendation 14:

The Department, in view of the wide spread ramifications of illegal trade in the State, should consider setting up a dedicated Wildlife Crime Control Cell, in co-ordination with Police Department.

1.9.5.2 Fast track special courts/ benches, for forests and wildlife crimes

NWAP 2017-31 envisaged establishing fast-track special courts/benches, for dealing with forests and wildlife crimes. The Wildlife Crime Control Bureau (WCCB) is a multi-disciplinary body, established under the Wildlife (Protection) Act, 1972, to combat organised wildlife crime in the country. Its mandate includes co-ordination of action by various enforcement agencies, with regard to wildlife offences, capacity building in investigation, assistance in prosecution of cases related to wildlife crimes *etc.* WCCB regularly conducts Inter-Agency Coordination meetings at the national and regional levels. In this regard, Audit observed the following:

- The Additional PCCF (North Bengal) reiterated (7 March 2017) the need for expert legal assistance, to Public Prosecutors dealing with wildlife offence cases, in the regional Inter-Agency Coordination Meeting on prevention of wildlife crimes. He also suggested forming a central pool of legal experts on wildlife & forest cases, who could be approached by individual officers/ State Forest Departments to enable handling of wildlife cases more effectively.
- In response to the Audit query, the Regional Deputy Director of WCCB mentioned (June 2022) that paucity of competent Advocates is the major hindrance, as most of the Government empaneled Advocates were not well conversant with the Wild Life (Protection) Act, 1972.
- From the minutes of the meeting¹²⁰ (December 2020) it was seen that the representative of CID, West Bengal, proposed that Special Courts be set up to deal with the Forest and Wildlife cases in order to expedite the proceedings. In the said meeting PCCF, Wildlife & CWLW, West Bengal, said that the proposal was with the Government.

However, as of October 2022, such courts had not been established in the State.

¹²⁰ 1st Co-ordination Meeting for mitigating illegal trade of wildlife and wildlife articles held on 15 December 2020.

Recommendation 15:

In view of the poor conviction rate of wildlife cases, the Department, in collaboration with Ministry of Environment and Forest & Climate Change (MoEF&CC), Ministry of Law & Justice and State Law Department, should consider setting up of fast-track special courts/benches, for dealing with forests and wildlife crimes.

The Department welcomed (January 2024) the suggestion of setting up of *Fast Track special courts* and *Wildlife Crime Control Cell* and stated that the matter would be taken up with the State Government.

1.9.6 Poaching during Ritualistic hunting

Ritualistic hunting is outlawed under the Wildlife (Protection) Act, 1972. This kind of hunting, known as “Shikar Utsav”, results in mass slaughter of ecologically crucial endangered wildlife. Hunting festivals, which occur over more than 50 days in a year, are recreational.



Fig 1.16: Poaching in ritualistic hunting

(Source: HEAL)

In response to a public interest litigation, Hon’ble Calcutta High Court, by its order dated 18 April 2019, directed the Chief Wildlife Warden, along with the district administration and Railways, to take immediate steps to stop ritualistic hunting. The South Eastern Railway and the Eastern Railway were also directed to provide all possible help and co-operation to the Forest Department, to prevent ritualistic hunting. The directions of the High Court were reiterated in its order dated 26 March 2021, in a *suo motu* public interest litigation concerning wildlife conservation.

It was seen that, on the basis of the alerts issued from time to time by the Wildlife Crime Control Bureau (WCCB), the PCCF (Wildlife) & CWLW, issued advisory and directives for taking suitable measures, *viz.* suitable picketing at strategic locations, co-ordination with District Authorities, Railway Authorities, JFMC members, sensitising people *etc.* Records showed that various steps, such as wide publicity by means of putting up posters at various strategic locations, distribution of leaflets, anti-poaching meetings in forest fringe villages, co-ordination meetings with the District Administration, Police and Railways,

NAKA checking at various points *etc.*, had been taken up by the division, to control the mass gathering for hunting.

However, from the contempt petition filed and consequent order (29 June 2022) of the Hon'ble High Court, it was observed that such unlawful assemblies of armed hunters had continued, particularly in some places within the jurisdiction of the Jhargram and West Medinipur Divisions and poaching of wild animals such as Small Indian Civet, Jungle Cat, Wild Boar, *etc.*, had taken place during the hunting festival in April/May 2022. It was further seen from the reports by the divisions to the CWLW, that neither had any complaints been filed, nor had any person been arrested against ritualistic hunting, in April/May 2022.

Box 9: Case Study

Failure of the Department in catching a Tiger alive, which was straying for more than two months

Tiger movement was reported from Lalgarh territorial forest area of Paschim Medinipur district at the end January 2018, and its pugmarks were noticed in early February 2018. The Tiger was first spotted through the camera trap installed in the Melkheria forest, in the Kantapahari Beat, Lalgarh Range, on 02 March 2018. However, the Tiger could not be caught live, even though there was prior information about the hunting festival in that area. Finally, the Tiger carcass was found (13 April 2018) at Garrah Mouza, under the Chandra Range in Paschim Medinipur.

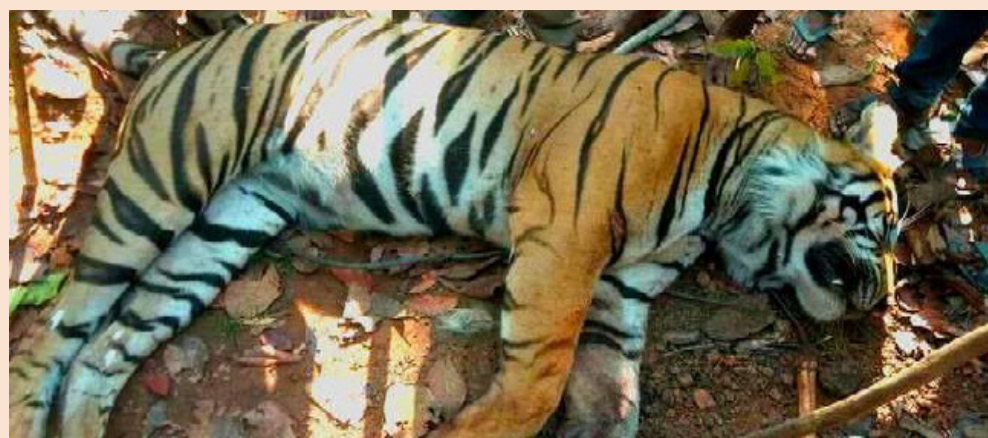


Fig. 1.17: Victim of “Shikar Utsab”– Royal Bengal Tiger, Location: Lalgarh, West Medinipur, on 13 April 2018

(Source: HEAL)

The external examination report of the carcass, by the NTCA designated team, found that the carcass had severe head injury, with sharp objects. As per the Panchnama Report conducted by the concerned Veterinary Officer of Animal Resource Development Department, the reason of death was coma. However, final PM report had not been received, till June 2022. As a result, investigation could not be processed. A case was also registered with the Chief Judicial Magistrate, Medinipur. However, no further progress was made in this regard.

Box 10: Case Study

Poaching case in Sundarban

Scrutiny of records of the office of the DFO, South 24 Parganas, revealed that, on 8 April 2019, a Tiger carcass was found trapped in the snare in the Reserve Forest (Ajmalhari-I compartment under Kultali Beat) in the Sundarbans. A case regarding poaching of the Tiger and illegal possession of hunting equipment was filed against the 11 accused on 8 April 2019. Scrutiny revealed that the Final POR was submitted in April 2021, after two years from filing of the case. However, the trial of the case has not yet started. This instance showed that the practice of laying traps, in different places of the Sundarbans, for Deer meat, was still prevalent in the area. Two Wildlife cases¹²¹, relating to Deer meat, had been filed previously. However, no convictions had taken place, as of August 2022.

Government stated (March 2023) that the Honorable High Court at Kolkata constituted (February 2023) a “Humane Committee” comprising of all relevant stakeholders at each district to deal with ritualistic hunting in a holistic manner and the committee had started functioning. Subsequently (January 2024) accepting the audit observations, the Department stated that due to strong and multi prompted action taken by the Forest Directorate, ritualistic hunting had since been drastically come down. The Department further stated that the Audit observations in this matter had been noted for future compliance.

Recommendation 16:

The Department needs to improve its monitoring mechanism through regular Inspections by higher officials and implement the electronic surveillance system to check poaching of wild animals.

¹²¹ CMC-8344/15(POR No-50/RD of 2015-16 and No-405/RD of 2018-19).