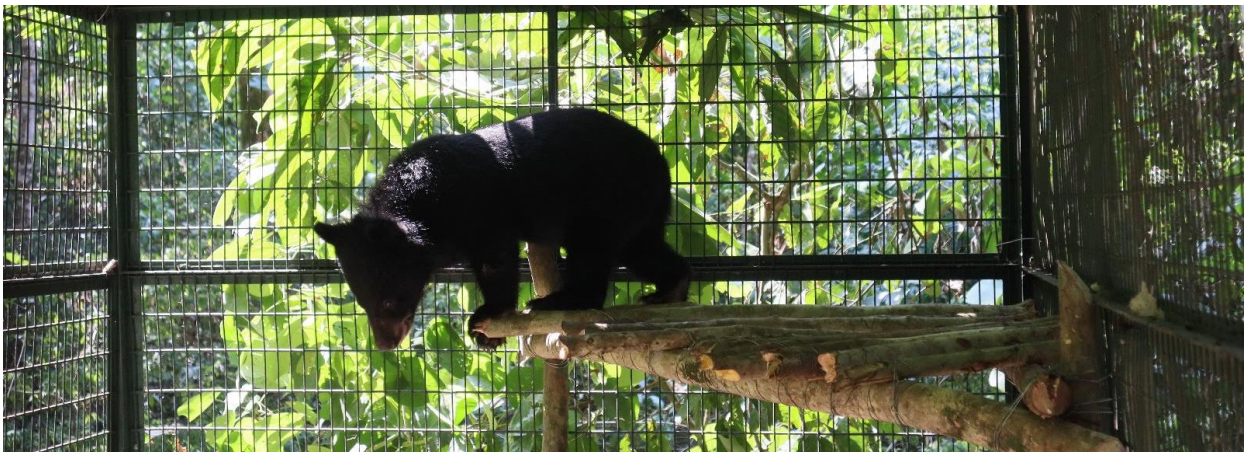
CBRC Quarterly report (2nd) 2023-24

Site Selection, Bear-cub in-situ shifting, Sick elephant case and Resighting of previously released Asiatic Black bear at Pakke tiger reserve



Panjit Basumatary,
Subhasish Arandhara

Contents

Summary

This report presents a comprehensive analysis of the site selection process for the rehabilitation of Asiatic Black Bear cubs at the CBRC during the period of 2023-2024. Additionally, it includes a detailed examination of a sick elephant case and the resighting of previously released Asiatic Black bear.

For 2023-24, Two male Asiatic black bear cubs were rescued by the Sagalee Social Forestry department on June 7, 2023, and taken to the Itanagar Zoo in Arunachal Pradesh. When the cubs, then about 3 months old, were brought to the CBRC for ongoing nursing and care, their respective weights were 2.8 kg for *cub-1* and 2.2 kg for *cub-2.* However, on June 8th, 2023, CBRC confirmed that *cub-2* had passed away from respiratory failure caused by Infectious Canine Hepatitis (ICH). The first bear cub-1, named Sagalee, is being considered for a soft release procedure for acclimatizing in the wild.

The nursed bear cub, Sagalee, has been relocated to Khari, Pakke for the purpose of in-situ acclimatization. This relocation was facilitated by the construction of a machan for the bear enclosure and a camp for the rehabilitator.

1. Site Selection Report for Rehabilitation of Asiatic Black Bear Cubs at CBRC 2023-2024

Acclimatization Site Selection:

In Pakke Tiger Reserve, three locations, Khari, Upper Dekorai, and Doigurung, were chosen as possible acclimatization sites for the bears. On July 16th and 17th, 2023, a survey was conducted at the first location (Khari) to determine how suitable it would be as an acclimatization site. The second and third sites, Doigurung and Upper Dekorai, were evaluated based on data collected during post-release surveys of previously released bears in March and May of 2023.

Each of the three site selection surveys involved walking a trail and placing quadrats every 250 metres; data on habitat type, vegetation, water availability, and the presence of predators were recorded. Additionally, 5 square metre plots were set up on each of the 30 square metre quadrats for gathering data on the shrubs and herbs available (detailed in the resource availability survey technique).

Bear holding enclosure and rehab team camp.

During the survey, a suitable location for the bear holding enclosure and the rehabilitator's camp (machan) was also selected, based on accessibility of logistics and ease in access to water.

Release Suitability Index

To maintain consistency with earlier site selection reports, we've assigned score (ranks or value) from 1 to 3 to each of the selection variables we've gathered, with higher values indicating greater suitability.

Also, important variables for the bear species were given the following relative weights (given in table 1):

5 -Very important
4 -Very important
3 - Important
2 - Moderate
1 - Less important

Release suitability index was determined by multiplying the score (ranks or value) given per variables with the weightage given to the respected variable.

Table 1: Variables weightage for site selection criteria

Sl. No.	**Variables for site selection criteria**	**Weightage**
1	Site in distribution range	3
2	Cover, food and water for animal	5
3	Vegetation type of the area	2
4	Altitude and terrain of release site	1
5	Human settlements near release site	5
6	Accessibility of the site for monitoring	5
7	Presence of wild bears in the area	4
8	Reports of hunting of wildlife	5
9	Reports of any wildlife disease	2
10	Threat from predators: tigers and leopards	3
11	Local community awareness about bear project and release	4

General description of the shortlisted sites

1.1. Resources availability

a. Habitat type

The habitat type of the three sites Khari, Doigurung and Upper Dekorai are broadly classified under Assam valley tropical semi-evergreen and evergreen primary forest with patches of lowland secondary forest (Champion and Seth 1968).

The trails were walked through the broad habitat types, all of which are sub-categorised as either (1) open (open ground with a few sparsely distributed shrubs and grassland), (2) semi-open (many trees and shrubs but with fairly large patches of open ground), or (3) dense (little open ground visible, with a dense covering of woody vegetation).

b. Food plant availability survey

Method: In the food plant survey exercise, sampling plots were established in each habitat type linked by 2 km trails. Accordingly, in dense forests 4 transects and 10 (30 x 30 m) plots were established for trees, inside which 2 subplots for shrub (5 x 5 m) and 2 for herb (1 x 1 m) was plotted. Similarly, in open and semi open (secondary forests with open grasslands), 1-trial that consist of 8 sampling plots was established. Trails and plots were designed considering 250 m distance between each transect also between each plot.
Result:

1.2. Comparison of food availability

The site selection team surveyed with an effort of 6 km in Khari, 5 km in Upper Dekorai, 5 km in Doigurung. Overall, in the three sites consisting composite of 48 plots, we found 65 plant species; 33 were trees, 16 were shrubs, and 16 were herbs or grasses. Of them 29 species were earlier recorded to be food plant species.

According to earlier findings during bear walk on Jan-March 2023 at Doigurung area, Alpinia sp. has the greatest feeding preference, ranking above *Caseria glomerata, Rubus lucens, Mikania scandens, etc.* When the bears go on their regular walks, they can easily reach and eat these food plants. (given in Table 2).

According to Dasgupta et al. 2014, the cubs of the Asiatic black bear live off of soft mast, which consists mainly of leaves, fruits, and succulent vegetation, in the low altitude area of Pakke Tiger reserve (Dasgupta et al., 2014 given in table 3). There is evidence to suggest that *Dilenia indica* fruit, *Macaranga spp., Livistona jenkinsiana, Calamus spp., and Thysanolaena spp*. are all favourites of bears. Insects, bamboo shoots, Pinanga gracilis, *Alpinia nigra, Horsefieldia kingii, Synzigium spp.,* and other plants have all been found in the diet of bears between November and March. Our investigation revealed that compared to Khari, Upper Dekorai is home to more cane patches, bamboo groves, equisetum and other grasses. Dekorai and Khari rivers, as well as their numerous tributaries and nallahs, supply the area with water all year long.

Table 2: Feeding preference indices and ranks of 10 most used plant species consumed by bears during Jan-March 2023, based on frequency of usage and occurrence at Doigurung acclimatization site, Pakke TR (from 4rd Quarterly report 2022-2023).

Plant species	**Frequency of occurrence**	**Frequency of usage**	**Feeding preference**	**Rank**	**Part used**
Alpinia sp.	0.13	0.21	1.59	1	Fruit
Caseria glomerata	0.07	0.09	1.39	2	Fruit
Rubus lucens	0.07	0.08	1.24	3	Flowers/Fruit
Mikania scandens	0.17	0.19	1.15	4	Flowers
Colocasia spp.	0.20	0.21	1.06	5	Leaves
Livistona jenkensii	0.20	0.20	1.00	6	Seed
Dillenia indica	0.17	0.17	1.00	7	Leaves
Eleocarpus serratus	0.10	0.07	0.74	8	Leaves/Flowers
Oxypora cernua	0.10	0.07	0.73	9	Flowers
Coffea benghalensis	0.11	0.08	0.79	10	Flowers

Table 3: Food preference of bear is estimated by subtracting Frequency of Feeding from frequency of availability to give weightage to the food plants. (Secondary data from (Dsagupta et al. 2014)

Species	**Availability frequency**	**Feeding frequency**			**Preference**
Dilenia indica	2.44	9.53	-7.09	-1	7.09
Macaranga sp	1.83	7.34	-5.51	-1	5.51
Livistona jenkinsiana	0.04	15.21	-15.17	-1	15.17
Horsfieldia kingii	0.31	3.44	-3.13	-1	3.13
Dendrocalamus sp	1.83	3.1	-1.27	-1	1.27
Neolemackia cadamba	0.31	0.57	-0.26	-1	0.26
Calamus sp.	3.38	28.8	-25.42	-1	25.42
Baccaura ramiflora	1.22	0.28	0.94	-1	-0.94

Table 4: Feeding preference indices from Dasgupta et al 2014 and CBRC Quarterly report 2022-23

Preference Index (Dasgupta et al, 2014)	**Preference Index (CBRC Quarterly report, 2023)**	**Plant Weightage**
<1	<0.5	1
1-5	0.5-0.7	2
6-10	0.7-1.0	3
11-15	1.0-1.2	4
16-20	1.2-1.4	5
>25	1.4-1.6	6

Table 5: Comparison of food availability among sites surveyed.

Food plants	**Weightage**	**Khari**		**Upper Dekorai**		**Doigurung**	
		Abundance	**RVR**	**Abundance**	**RVR**	**Abundance**	**RVR**
Alpinia sp.	6	35	210	32	192	22	132
Atrocarpus chaplasha	1	2	2	2	2	0	0
Baccaura ramiflora	1	5	5	3	3	1	1
Begonia spp.	1	12	12	13	13	16	16
Boehravia spp.	2	9	18	6	12	8	16
Bombax ceiba	1	10	10	5	5	3	3
Calamus sp	6	21	126	14	84	9	54
Canarium bengalense	2	1	2	1	2	5	10
Caseria glomerata	5	14	70	9	45	12	60
Chisocheton cumingianus	1	9	9	12	12	4	4
Clerodendrum bracteatum	2	6	12	3	6	5	10
Clerodendrum laevifolium	1	4	4	5	5	5	5
Coffea benghalensis	3	3	9	3	9	3	9
Colocasia spp.	3	9	27	3	9	3	9
Crypteronia paniculata	1	5	5	4	4	4	4
Dendrocalamus sp	2	2	4	2	4	1	2
Diaplazum esculentum	1	25	25	25	25	25	25
Dilenia indica	3	9	27	8	24	8	24
Dysoxylum gotadhora	1	2	2	2	2	1	1

Eleocarpus serratus	3	4	12	2	6	5	15
Ficus sp.	3	8	24	6	18	7	21
Gynocardia odorata	2	3	6	5	10	3	6
Horsfieldia kingii	2	5	10	6	12	3	6
Lauraceae spp.	2	6	12	4	8	4	8
Litsea spp.	1	4	4	4	4	5	5
Livistona jenkensii	3	7	21	4	12	4	12
Macaranga sp	2	3	6	3	6	3	6
Melastoma spp.	1	8	8	12	12	7	7
Micromelum integerrimum	1	9	9	7	7	10	10
Mikania scandens	4	12	48	7	28	7	28
Neolemackia cadamba	1	2	2	3	3	2	2
Oxypora cernua	3	7	21	6	18	6	18
Polygonum spp.	2	12	24	8	16	9	18
Rubus lucens	4	4	16	2	8	4	16
Sterculia hamiltoni	1	4	4	5	5	4	4
Thysanolaena spp.	3	3	9	2	6	4	12
Turpinia pomifera	2	4	8	6	12	6	12
Vibrunum colebrookeanum	2	4	8	7	14	6	12
Total		**97**	**216**	**91**	**181**	**87**	**182**

RVR=Relative Vegetation Rating (Plant weightage x abundance)

Table 6: Presence of bear and co- predator from camera trap data, personal observations and secondary data from (Selvan 2010).

Species	**Khari**	**Upper Dekorai**	**Doigurung**
Tiger	1	7	2*
Leopard	7	3	1*
Bear sign	5	3	+5*

*Observed by WTI keepers during bear acclimatization

1.3. Co-predators and anthropogenic threats

According to camera trap data from 2019–20 obtained from the Arunachal Pradesh Forest Department, tigers and leopards have been spotted in all three locations. Pug marks seen during the survey, as well as camera trap data from the above year, suggest the presence of adult bears at all three locations. We found no evidence of hunting or poaching at any of the sites, and there are no nearby human settlements to pose a threat.

1.4. Accessibility

Given that there are fewer steep slopes in Khari, it is easier to access than Upper Dekorai and Doigurung. The rainy season places significant restrictions on any activity that can take place in this region, Khari is exempted from major seasonal constraints. Heavy precipitation, unexpected landslides, and an increase in the water levels of Khari and Dekorai river as well as other small nallahs cause severe damage to the forest route towards the later two locations and have made it difficult to travel through the area.

1.5. Rehabilitator's Facilities

For Site 1 (Khari), the nearest anti-poaching camp is located 4 kilometres southward from the site, the Khari River flows nearby the site, so water availability is better, there is an ease in shipping of medicines, food and other provisions, and furthermore, the road connectivity is maintained throughout the year, which enables the veterinarian to visit the site on a monthly basis for the cubs' health monitoring purposes. The anti-poaching camp that is closest to Site 2 (Upper Dekorai) is located 7 kilometres to the north. There are groves of bamboo that can be utilized for the building of enclosures as well as their maintenance. However, there are logistical challenges because the road connectivity is more than 8 kilometres away. At Site 3 (Doigurung), the region is blanketed in dense vegetation on both sides, which results in an exceptionally damp forest floor. Even though the road connectivity

is superior to that of Upper Dekorai, this route could not be taken because the most recent batch of bear cubs were released in the area.

Table 7: Release suitability variable and scores for the sites surveyed.

Sl. No	Suitability variables	Weightage	Sites			Release suitability index		
			Khari	Upper Dekorai	Doigurung	Khari	Upper Dekorai	Doigurung
1	Site within distribution range (3: Within bear range, 2: Fringe area, 1: Not part)	3	3	3	3	9	9	9
2	Wild bears in the area (3: Common, 2: Not common, 1: Not reported)	4	2	2	2	8	8	8
3	Natural cover , food & water (3: Plenty, 2: Moderate, 1: Less)	5	3	2	2	15	10	10
4	Vegetation type of the area (3: Ideal, 2: Suitable, 1: Not appropriate)	2	3	3	3	6	6	6
5	Human settlements near release site (3: None, 2: Far, 1: Nearby)	5	3	3	3	15	15	15
6	Reports of human trespassing/tourist activities (3: None, 2: Rare, 1: Common)	4	3	3	3	12	12	12
7	Accessibility to site for coordination and monitoring (3: Readily accessible, 2: Accessible but difficult, 1: Isolated and inaccessible)	5	3	1	2	15	5	10
8	Reports on wildlife hunting (3: Absent, 2: Irrelevant, 1: Reported)	5	3	3	3	15	15	15
9	Reports on any wildlife diseases (3: Absent, 2: Irrelevant, 1: Reported)	2	3	3	3	6	6	6
10	Threat from predators (3: Absent, 2: Present, 1: High)	3	2	2	2	6	6	6
11	Insurgency problem (3: Absent, 2: Present but not a threat, 1: Threat possible)	4	3	3	3	12	12	12
Total Points		**42**	**31**	**28**	**29**	**119**	**104**	**109**

Site Selection

Khari has the highest release suitability index, 119, followed by Doigurung, which has 109, and Upper Dekorai, which has 104. As a result, Khari (Fig 1.) has been suggested as the new rehabilitation site. In this location, the majority of the cub's rehabilitation will take place during the winter and pre-monsoon seasons (October–March), which is also the time period in which accessibility to the site can be easily managed.

The site is situated in an optimal location, devoid of tourist attractions or any human activities. Furthermore, the site possesses all the essential resources and facilities required for the effective rehabilitation of the bear cubs. However, the potential difficulty in accessing the remaining two sites promptly due to the challenging terrain poses a logistical concern. The site for the bear cub enclosure (26.995016 N, 092.915405 E) has been chosen at a distance of 2.7 kilometres from the Khari beat office and 200 metres from the rehabilitators' machan (26.995330 N, 092.917216 E).

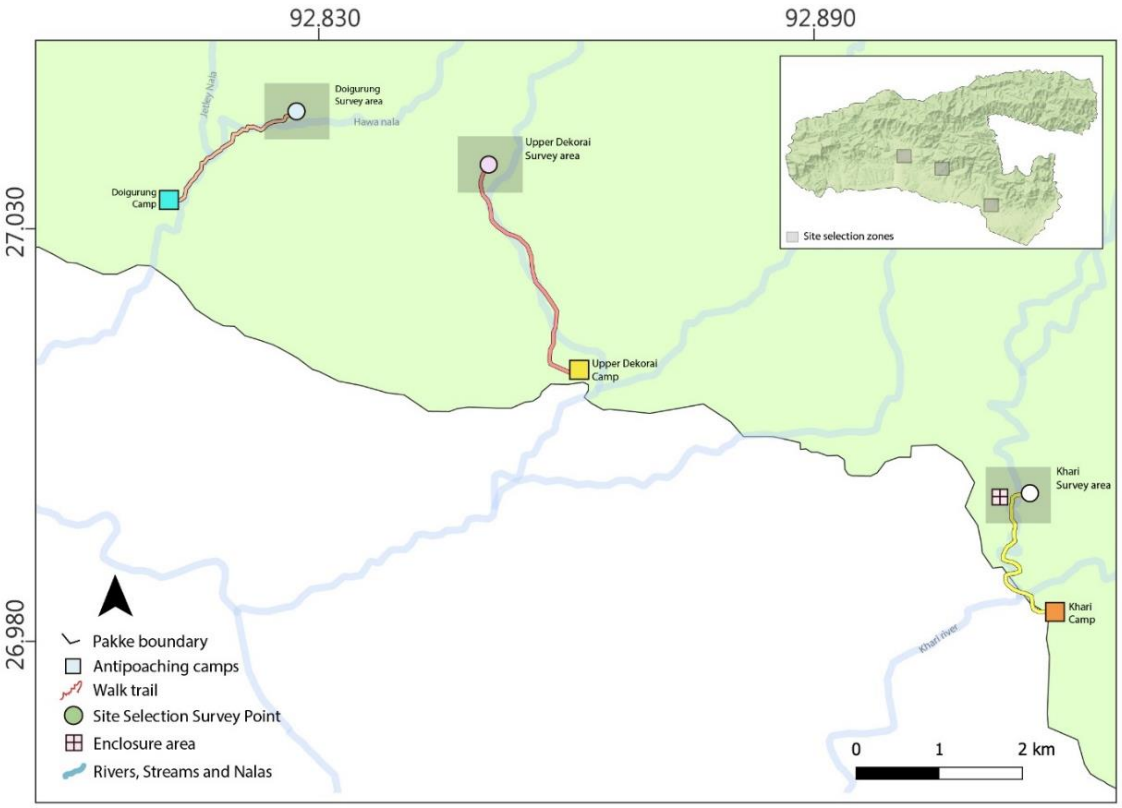


Figure 1: Map of Pakke TR, with site selection survey locations.

Figure 2: Location in Khari for carrying out the in-situ acclimatization procedure, featuring a perennial nallah.

Figure 3: Site for construction of rehabilitators' Machan using natural biodegradable elements

Figure 4: Site for bear cub enclosure construction

2. Shifting Sagalee for in-situ acclimatization

Sagalee underwent a process of in-situ acclimatisation for the period of 2023-24. The initial step involved informing the Divisional Forest Officer (DFO), who supervised the subsequent planning of the shifting process. A team consisting of eight members, including Dr Panjit Basumatary (Veterinarian) and Subhasish Arandhara (Biologist), was assembled to carry out the acclimatisation. The shifting mechanism was equipped with an aluminium cage that was specifically designed to reduce weight and facilitate transportation. The veterinary aspects of the relocation process were overseen by Dr. Panjit, who was responsible for collecting data on the morphometry, weight, and overall health of the bear cub. The team commenced their journey at 7:45 am using an MVS vehicle and arrived at Khari camp by 10 am. From there, they transported the animal manually on their shoulders to the bear enclosure, which was situated on a machan constructed following a site selection process. The duration of the entire process extended by an additional two hours following the relocation. The team took measures to ensure adequate environmental enrichment within the cage, such as the inclusion of logs and leaves. After conducting a thorough examination of the team's health, Dr. Panjit led the group back to the campsite to continue the process of acclimatisation. The following section presents the morphometric details.

Table : Sagalee: Body weight and morphometry of bear cub at CBRC.

Date	Bear Id	Weight(kg)	Head-tail length (cm)	Neck girth (cm)
8/6/2023	Sagalee	2.8	28	64
13/6/2023	Sagalee	3.15	30	72
24/6/2023	Sagalee	4	31	74
6/7/2023	Sagalee	5.4	33	80
22/7/2023	Sagalee	6.56	36	85
31/7/2023	Sagalee	7.78	36	85
8/8/2023	Sagalee	9.7	39	86
16/8/2023	Sagalee	10.2	39	86
24/8/2023	Sagalee	11.37	39	86

6/9/2023	Sagalee	13.4	40	86
14/09/2023	Sagalee	14.2	40	86
16/09/2023	Sagalee	14.2	40	86

When the bear was first brought in and admitted to CBRC, it weighed 2.8 kg. Length from snout to tail was 35 centimeters, while the neck circumference was 84 centimeters. The bear cub's rapid weight gain after being nursed and given intensive care by CBRC was between 0.8 and 1 kilograms each week. Additionally, the body morphometry was improving, with the body length increasing from 28 cm at admission to 40 cm after 3 months of nursing and the neck girth growing from 64 cm to 86 cm till shifting time.

Figure 5: The enclosure-machan constructed for rehabilitation process

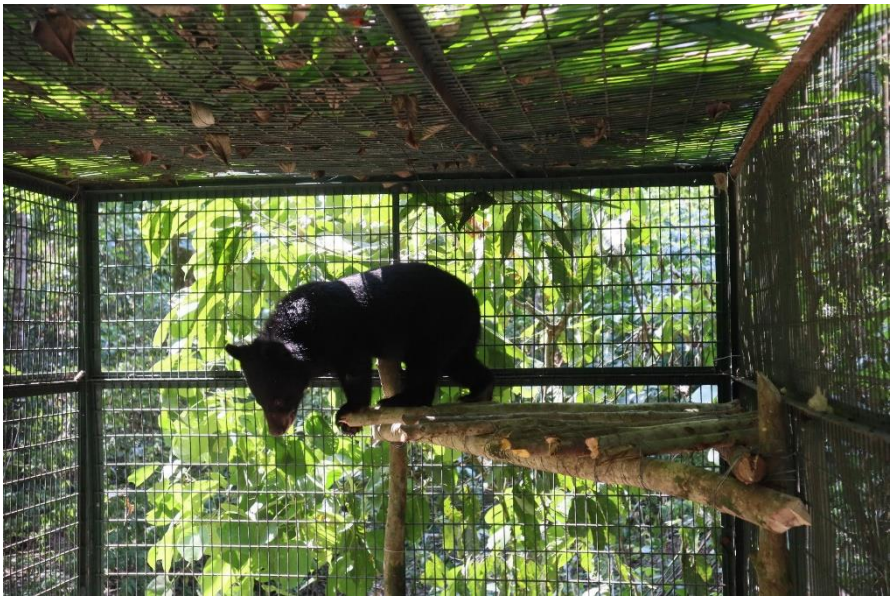


Figure 6: The bear cub-Sagalee after shifting in-situ

Figure 7: The shifting process using an aluminum cage.

Figure 8: Vet- Dr Panjit observing the cub while sifting for any observable stress or injury.

3. Sick Asian elephant (*Elephus maximus*) sighting and treatment at Monai, Papum RF, Under Khellong Forest Division, Arunachal Pradesh

Brief History:

On September 3rd, 2023, a sighting of a wild elephant family (Mother-Calf) was recorded at Monai, Papum Reserved Forest, within Khellong Forest Division. According to information provided by local residents, it has been observed that the family has caused significant damage to crops in the Monai region, specifically affecting the agricultural land owned by Mr. Ram Leiz. Mr. Leiz's farmland consists of various crops such as beetle nut, chilli, Dragon fruits, and several other types of micro plants. According to the available information, it has been observed that the mother-calf has been consistently traversing this region for a duration of three months.

Team Visited to the site:

1. Mr. Rubu Tado (FRO Seijosa, PTR)

2. Mr. Chandan Ri (Field biologist, PTR)

3. Mr. Subhashish Arandhara (Biologist, WTI)

4. Dr. Panjit Basumatary (Manager, WTI, CBRC)

5. Other forest staffs from Wildlife Division, PTR

The above mentioned team has been visited the same site till 5th Septembar'2023

We've started chasing this unfortunate elephant family with crackers every night, and we have wildlife staff on site around the clock (27x7). We're also using captive elephants to try to chase the family away from the same area. Despite our best efforts, we continue to see the same family creating issue on the nearby farmland. Now the owner of farm land showing panic to us and keep asking to remove the same elephant family from the site

GPS Location:

26.9329056 N, 093.0168139 E

Figure 9: Map showing the elephant location.

Brief about the elephant family and their complicacy:

Mother: Approximate age 16-20 years

Calf: Approximate age 2-3 months, Sex: Male

Complicacy:

The mother exhibits signs of poor health, as she experiences difficulty in walking due to significant deformities in both of her forelegs. It is possible that the subject has previously experienced fractures or dislocations in both forelegs, which may have healed naturally but resulted in persistent deformities.

Obtaining milk from the mother has become challenging for the suckling calf due to the mother's abnormal posture.

Treatment:

Not yet given

Recommendation:

1. Implement limitations on the unrestricted movement of the mother (Physically/Chemically).
2. Provide treatment to the mother and allowing *ad libitum* access to food and water supplement.
3. Provide calf with a supplementary diet consisting of elephant milk formula until weaned.
4. Ensure dedicated veterinary support.
5. Provision of adequate welfare and round-the-clock care.

4. Released Bear resighting in Pakke

On the 19th of August, 2023, a bear that had been previously released into the wild was observed in close proximity to the "Rhino-Antipoaching camp" located within the Pakke Tiger Reserve. This sighting occurred approximately six months after the bear's initial release on the 13th of February, 2023. The subject was affixed with an ear tag, allowing for its identification named as Den. The animal ventured into the campsite in search of food within the kitchen area. The anti-poaching surveillance team (STPF) made efforts to deter the animal, yet it stayed and followed the STPF to the adjacent Upper Dekorai camp situated approximately 5 kilometres away. The animal remained in that location until the subsequent day. On August 21, 2023, the WTI rehabilitation team proceeded to the designated area and successfully released the animal at a specific location (27.05250/092.85924) situated approximately 7 kilometres away from the Upper Dekorai camp.

Figure 10: The resighted bear in Dekorai camp, re-released later.

5. Annexures: Permissions and documents

Wildlife Trust of India

Dated 29th Aug'2023
Letter no: WTI/CBRC/2023-24/08

To

Divisional Forest Officer,
Pakke WL Sanctuary - Tiger Reserve,
Seijosa Arunachal Pradesh

Sub: Shifting of an Asiatic black bear cub to rehabilitate within Pakke Wildlife sanctuary.

Sir,

With due above mentioned subject cited, I have the honor to inform you that, as per sign MoU between WTI and Forest Dept. Arunachal Pradesh the one bear cub hand raising at CBRC facility needs to be shifted inside sanctuary for acclimatization before releasing to him. We have selected the site for releasing same bears within Khari forest area (Site selection reports attached herewith). During the rehabilitation exercise we will be fabricating temporary iron cage for bear and one makeshift camp for rehabber.

This is for favor of your kind information and permission please.

Enclosed as: - a) Bear cub details and Site selection report

b) Health screening test report.

Centre Manager
Centre For Bear Rehabilitation and Conservation.
Wildlife Trust of India
Seijosa. (A. P.)

Sincerely Yours

Dr Panjit Basumatary
Manager & Head,
CBRC, Pakke Conservation

Copy to,

1. Head, Wild rescue Division WTI for his information
2. Office copy

Centre for Bear Rehabilitation and Conservation (CBRC), Wildlife Trust of India, Pakke Kessang, Seijosa, -790103, Tel: +91-86382-96302, Arunachal Pradesh.
Head Office: B-13, Second floor, Sector 6, NOIDA 201301, Uttar Pradesh, India, Tel: 91-120-4143900, Fax: 91-120-4143933 E-mail: info@wti.org.in Website: www.wti.org.in

6.

Wildlife Trust of India

Details of Asiatic black bear cubs

Sl. No	Species	Age Approx.	Sex	Place of rescue	Date of Rescued	Date of admission	Outcome
01	Asiatic black bear	5 month	male	Sagalee, Arunachal Pradesh	01.06.23	07.06.2023	Pending at CBRC

Centre Manager
Centre For Bear Rehabilitation
and Conservation.
Wildlife Trust of India
Seijosa. (A.P.)

Dr Panjit Basumatary
Manager & Head,
CBRC, Pakke Conservation

7.

ADVANCED CENTRE FOR DISEASE DIAGNOSIS & MANAGEMENT OF WILDLIFE
COLLEGE OF VETERINARY SCIENCE AND ANIMAL HUSBANDRY, CENTRAL AGRICULTURAL UNIVERSITY (IMPHAL)
KHANAPARA, GUWAHATI-781022

99(142)/F 23(b)/DRV/DBT-ADMaC/2023-24/ **Date: 26/07/2023**

Owner's name and Address: Dr. P. Basumatary, Manager, WTI, CBRC Pakke TR, Seijosa

Species: Bear (Sasalee)

Type of sample: Blood, nasal swab, oral swab and rectal swab

Date of received in laboratory: 11/07/2023

Sample Lab. id: ADMaC/AS/Bear/474/1 to 5

TYPE OF EXAMINATION

Bacterial/Fungal/Protozoal Agent:

Cultural examination: All the swab samples were processed for bacterial isolation and microscopic examination

Microscopic:

Biochemical:

Molecular:

Serological:

Antibiogram:

Sensitive to:

Resistant to:

Viral Agent:

Isolation of virus:

Detection of antigen:

Detection of antibody:

Molecular : The blood sample was processed for detection of **CDV and Adenovirus** infection by PCR.

RESULT:

1. The blood sample was found to be negative for CDV and Adenovirus infection by PCR.
2. On bacterial isolation of swab samples, ***E.coli*** and ***Staphylococcus spp.*** could be isolated.

N.B: The laboratory findings of the given sample should be correlated with clinical findings.

Signature of the Investigator

Signature of the In charge

Contact in 09435558788 E mail: nnbarman@gmail.com

Details of the result:

Owner's Name & Address	Lab Code	Type of sample	Results
Dr. P. Basumatary, Manager, WTL CBRC, Seijosa	ADMaC/AS/Bear/474 1	Blood	Negative for CDV and Adenovirus infection by PCR
	ADMaC/AS/Bear/474 3	Nasal swab	***Staphylococcus spp.*** could be observed on microscopic examination
	ADMaC/AS/Bear/474 4	Oral swab	Both ***E.coli*** and ***Staphylococcus spp.*** could be observed on microscopic examination
	ADMaC/AS/Bear/474 5	Rectal swab	***E. coli*** could be observed on microscopic examination

8.

5.1 Site -selection Proforma:

Site Selection for in-situ Rehabilitation and Release of Hand-Raised Bear Cubs
CBRC, Wildlife Trust of India, Pakke Tiger Reserve 2023-24

Name of sites surveyed:

1. **Khari**. (26.995016°N/ 092.915405°E)
2. **Upper Dekorai.** (27.032280°N/ 92.851738°E)
3. **Doigurung.** (27.037913°N/ 92.813911°E)

Variables and score for habitat suitability for bears:

Sl. No	Suitability variables	Weightage	Sites		
			Khari	Upper Dekorai	Doigurung
1	**Site within distribution range** (3: Within bear range, 2: Fringe area, 1: Not part)	3	3	3	3
2	**Wild bears in the area** (3: Common, 2: Not common, 1: Not reported)	4	2	2	2
3	**Natural cover, food & water** (3: Plenty, 2: Moderate, 1: Less)	5	3	2	2
4	**Vegetation type of the area** (3: Ideal, 2: Suitable, 1: Not appropriate)	2	3	3	3
5	**Human settlements near release site** (3: None, 2: Far, 1: Nearby)	5	3	3	3
6	**Reports of human trespassing/tourist activities** (3: None, 2: Rare, 1: Common)	4	3	3	3

7	**Accessibility to site for coordination and monitoring** (3: Readily accessible, 2: Accessible but difficult, 1: Isolated and inaccessible)	5	3	1	2
8	**Reports on wildlife hunting** (3: Absent, 2: Irrelevant, 1: Reported)	5	3	3	3
9	**Reports on any wildlife diseases** (3: Absent, 2: Irrelevant, 1: Reported)	2	3	3	3
10	**Threat from predators** (3: Absent, 2: Present, 1: High)	3	2	2	2
11	**Insurgency problem** (3: Absent, 2: Present but not a threat, 1: Threat possible)	4	3	3	3
	Total Points	**42**	**31**	**28**	**29**

Note on ranking (1-3): Greater the value, better the suitability

Site selected for release: **Khari:**

Sagalee: Body weight and morphometry of bear cub at CBRC.

Date	Bear Id	Weight(kg)	Head-tail length (cm)	Neck girth (cm)
8/6/2023	Sagalee	2.8	28	64
13/6/2023	Sagalee	3.15	30	72
24/6/2023	Sagalee	4	31	74
6/7/2023	Sagalee	5.4	33	80
22/7/2023	Sagalee	6.56	36	85
31/7/2023	Sagalee	7.78	36	85
8/8/2023	Sagalee	9.7	39	86
16/8/2023	Sagalee	10.2	39	86
24/8/2023	Sagalee	11.37	39	86
6/9/2023	Sagalee	13.4	40	86
14/09/2023	Sagalee	14.2	40	86
16/09/2023	Sagalee	14.2	40	86

When the bear was first brought in and admitted to CBRC, it weighed 2.8 kg. Length from snout to tail was 35 centimeters, while the neck circumference was 84 centimeters. The bear cub's rapid weight gain after being nursed and given intensive care by CBRC was between 0.8 and 1 kilograms each week. Additionally, the body morphometry was improving, with the body length increasing from 28 cm at admission to 40 cm after 3 months of nursing and the neck girth growing from 64 cm to 86 cm till shifting time.

Name and Signature:

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