



ANNUAL REPORT 2017



National Trust for Nature Conservation

MISSION STATEMENT

“To conserve, manage and promote nature in all its diversity balancing human needs with the environment on a sustainable basis for posterity-ensuring maximum community participation with due cognizance of the linkages between economics, environment and ethics through a process in which people are both the principal actors and beneficiaries.”

With over 3 decades of experience in the field of participatory conservation, right from the grassroots level to policy and core research, the National Trust for Nature Conservation (NTNC) continues to steer a phenomenal track record of driving the principal of Conservation for Development. NTNC, established in 1982 by a legislative act, is an autonomous and not-for-profit organization, mandated to work in the field of nature conservation in Nepal. From its very inception the Trust fully understands that local communities matter, and that they are eventually stipulated to become the flag bearers of all conservation initiatives. To ensure that the locus of sustainable conservation is bearing on each of these communities, the Trust has successfully implemented various projects from nature and biodiversity conservation, cultural heritage protection, ecotourism development, alternative energy promotion, gender empowerment, livelihood enhancement. Given its deep integration with the community, and coupled with its expertise, the Trust maintains an unmatched advantage—whether it be in matters related to wildlife research and monitoring, community engagement, anti-poaching, conservation education, needs identification, assessment and impact study, capacity building, or in matters related to good governance and local institutional empowerment. This is one of the main reasons why NTNC continues to embrace a reputation that is crucial in cohabiting the development agendas for a large number of multilateral stakeholder projects. Its unique ability to perceive and interpret both from the point of view of resource conservation as well as conservation resourcefulness is been a notable model emulated by many others.

Working at both the levels of species and landscape conservation, geographically, the Trust’s activities are spread from the sub-tropical plains of Chitwan, Bardia, Kanchanpur and Parsa in the lowlands to the Annapurna, Manaslu and Gaurishankar region of the high Himalayas, including the trans-Himalaya region of Upper Mustang and Manang. Currently, the Projects of the Trust are divided into three geographical areas - the lowland, the mid hills and the high mountains. The Trust’s activities in the lowlands are based in and around Chitwan National Park, Parsa Wildlife Reserve, Bardia National Park, Banke National Park and Shuklaphanta Wildlife Reserve located in the central, western and far-western development regions of Nepal, through the Biodiversity Conservation Center (BCC) and Parsa Conservation Program (PCP) in Chitwan and Parsa, the Bardia Conservation Program (BCP) in Bardia/Banke and the Shuklaphanta Conservation Program (SCP) in Kanchanpur. Similarly, the Annapurna Conservation Area (ACA), the Manaslu Conservation Area (MCA) and the Gaurishankar Conservation Area (GCA) are the three protected areas managed by the Trust in the mountain region. The Central Zoo is the only project managed by the Trust in Kathmandu Valley.



NTNC

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Biodiversity Conservation Center (BCC)

Biodiversity Conservation Centre (BCC), formerly known as Nepal Conservation Research and Training Centre (NCRTC) established in 1989 at Sauraha, Chitwan is one of the largest undertakings of NTNC. BCC has been working in numerous thematic areas since its establishment for research and monitoring and bringing local communities into the mainstream of conservation. Currently, BCC is working in and around Chitwan National Park and Parsa National Park focusing on biodiversity conservation. Over 80,000 local communities are direct beneficiaries of the project. BCC implements its project activities in close collaboration and coordination with CNP, Nepal Army, buffer zone management committees, user committees, community forest user groups, local government bodies and NGOs.

The main objectives of this center are to promote biodiversity research and monitoring capacitating wildlife research and promote biodiversity conservation in and around CNP and PWR with due focus to local livelihood. Major programs implemented by BCC are research and monitoring, natural resources conservation, human wildlife conflict management, conservation education, livelihood support, wildlife health, etc. The center also provides technical and financial assistance to Vulture Conservation and Breeding Centre, Elephant Breeding Centre and Gharial Breeding Centre.

WILDLIFE RESEARCH AND MONITORING PROGRAMME

Rhino Translocation

Within the next three years, a total of thirty rhino reintroductions have been planned from Chitwan National Park to Bardia National Park and Shuklaphanta National Park, wherein between 2016 and 2017, thirteen rhinos have already been translocated

With the aim of establishing viable rhinoceros populations in Bardia and Shuklaphanta National Parks the government of Nepal approved to translocate 20 rhinoceros from Chitwan National Park. A total of five rhinoceros were translocated in Babai valley of Bardia National Park in 2016. While additional eight rhinoceros were translocated from CNP in 2017, of which five (4 F & 1M) were released in Shuklaphanta and three (2 F & 1 M) in Babai valley of BNP. NTNC provided partial technical and financial support on this endeavor. The reintroduced rhinoceros are being regularly monitored by the wildlife technicians of NTNC and park Rangers. Rhino translocation in Nepal started from 1986, wherein to-date a total of 100 rhinos have already been translocated to BNP and SNP



Arna Translocation

Over the past century, *Arnas* (Wild Water Buffaloes) have been among the most vulnerable animals due to overexploitation and habitat loss resulting from anthropogenic pressure. In Nepal, Koshi-tappu Wildlife Reserve remains the only habitat for these animals with an estimated population of 432 (as of 2016). Surviving in a fragmented habitat, they are in constant threat of being extinct from Nepal if natural calamities such as flood, fire and epidemics were to occur. To

establish a second ecologically viable population of the highly vulnerable species, a total of 15 *Arnas* were translocated to the Chitwan National Park between January 23 and February 6, 2017 (12 from KTWR; 3 from Central-Zoo). The past experience of NTNC remained very helpful for making the translocation a success.

The translocated *Arnas* are being kept in a 30 ha enclosure inside the Chitwan National Park at Padampur to allow them to settle in the new habitat and to increase their population. Some additional *Arnas* will be translocated from Koshi Tappu in the coming years and once their population is over 50 individuals, the enclosure will be removed so as to allow them to roam in the Chitwan National Park. The USAID funded Hariyo Ban Program provided financial support for the whole operation.

Fishing Cat Survey in Koshi Tappu Wildlife Reserve

Over the last decade fishing cat population continue to be threatened by destruction of wetlands. There has been considerable damage on riparian and wetland habitats mainly due to large scale illegal grazing of domestic livestock. To study the situation of fishing cat in Koshi Tappu Wildlife Reserve (KTWR), their population and density, and subsequently develop a fishing cat conservation strategy NTNC undertook a dedicated survey between September and December 2016 with the support from the Taronga Foundation, Australia. The survey involved major tasks related to camera trapping, questionnaire surveys along with other awareness programmes. Before installing the camera traps, a questionnaire survey was conducted with 51 fish pond owners about the fishing cat status and loss on fish farms caused by them. Based on questionnaire survey, fish ponds were stratified into two categories: (1) ponds reporting loss from fishing cat (conflict), and (2) ponds not reporting any loss from fishing cat. Ten fish ponds within each category were selected randomly. Out of the 20 fish ponds surveyed, only 16 ponds were able to camera trap the cat. Besides this, 500 fishing cat conservation posters were distributed, along with reaching out to 937

A group of sloth bears is walking across a grassy bank near a river. The bears are dark brown with lighter patches on their chests and faces. The background shows a river and some trees.

Bardia Conservation Program (BCP)

Bardia National Park (BNP), covering an area of 968 sq. km, is the largest national park in the Terai region with 507 sq. km of buffer zone. It is famous for its rich floral and faunal biodiversity; its mosaic landscape of forest, grassland, and river provides suitable habitats for a wide range of wildlife species. The NTNC initiated its conservation activities in and around the park after the translocation of first batch of rhinoceros (*Rhinoceros unicornis*) from Chitwan in 1986. Bardia Conservation Program (BCP) was launched as regular program in 1994 focusing on biodiversity conservation through research and monitoring together with sustainable community development and livelihood support programs. Besides this, the project has also been assisting national and international students to conduct field research on biodiversity, protected area management and socio-economic disciplines.

BCP implements its conservation and development activities inside the park working in close ties with BNP, Banke National Park (BaNP), buffer zone management council (BZMC), BZUCs, buffer zone users group (BZUG), buffer zone community forest users group (BZCFUG), community based organizations (CBOs), local government institutions and other conservation partners. Besides research, it also conducts community engagement programs at the buffer zone that covers not only Bardia but also in Surkhet, Banke, Dang and Salyan districts benefitting a population of over 75,000 regularly.

NATURAL RESOURCE CONSERVATION PROGRAMME

Orahi River Restoration

Flash floods that occur mostly during the summer season have been largely responsible for the rapid degradation of the Orahi river bank. Thus, to advance restoration activities as well as to minimize grazing threats and unsustainable use of community forest resources, plantation initiatives along with applications of bio-engineering solutions were undertaken throughout the first phase of the Hariyo Ban Programme. During this year, 8 ha of the river bank was restored along with installation of barbed wire fencing along the forest area. This has led to control in grazing coupled with increased growth in forest cover. Consequently the visiting of wild animals in the restored area indicate positive impact on wildlife as well as the 202 households of the Sukhad Sutaiya Buffer Zone Community Forest in Thakurbaba Municipality

Tiger and Prey Base Monitoring

Keeping with the country's target to double its tiger number by 2022, Banke and Bardia National Parks, along with its adjoining areas promise great potential. These areas inhabit substantial

number of tigers with low density. Thus, in order to determine their status, tiger population and prey base density was established after conducting monitoring between November 2016 and January 2017. Undertaken as a part of the annual exercise to assess occupancy of tiger and its prey base along with analyzing anthropogenic-related threats, findings indicate an upward trend. This year, a total of 75 breeding individuals were identified in and around the Banke-Bardia corridor (Bardia NP: 62; Banke NP: 11; Shared Habitats in Banke and Bardia NP: 2).

Before starting tiger and prey base monitoring, Bandevi puja was observed and orientation training to field technicians was given to cover different aspects of tiger and prey base monitoring such as camera trapping protocol, prey base monitoring techniques, occupancy surveys, use and handling of equipment, GPS and map reading, systematic data collection, and record keeping. Photographic capture-recapture method was used for estimating abundance of tiger in light of the species' elusive nature, making use of the unique identification patterns on each individual. Capture-recapture models provide a statistically robust framework to estimate species abundance, particularly when a population is said to be closed to births, deaths, immigration or emigration during the survey period.



Translocation of Rhinos in Babai Valley

Bardia National Park holds second largest rhino population in Nepal after Chitwan National Park (CNP) and promises a great habitat potential for the one horned specie. Considering the translocation of 5 rhinos in 2015, the Government of Nepal decided to translocate more rhinos to ensure immediate sex balance. This year in March, 3 more rhinos (M:1, F: 2) were successfully translocated from CNP into the Mulghat area and Babai Valley of Bardia National Park. The target of the government is to ensure a second viable population of rhinos in Bardia valley which has focused equally on stepping up habitat management-related tasks and controlling of illegal activities.

Community Forest and Wildlife Habitat Restoration

Plantation support to the Siddhapuri user committee at Chisapani, Banke included 1500 seedlings of North Indian Rosewood (*Dalbergia sissoo*) Jamun (*Syzygium cumini*) White Siris (*Albizia procera*) Black Siris (*Albizia chinensis*) etc. Besides this, an artificial pond ensuring consistent water supply was also constructed in the community forest to support tiger and prey species with drinking water. Since the community forest connects Bardia National Park's Babai valley and the Banke National Park it is a vital corridor for wildlife. Recent camera trap monitoring exercises have indicated prominent tiger movement from Bardia to Banke National Park that further connects to India's Suhelba wildlife sanctuary. For tigers moving from the Babai valley, this pond will therein support prey species and tiger in the dry season and be a great impetus to transboundary tiger conservation efforts. Additionally a 600 meter long forest fireline has also been improved to control the forest fire and save the newly planted seedlings.

Guard Post Construction

Between March and November 2017, 3 new guard posts namely Dhakela Post in Bardia National Park,



and Sikta and Deorali Post in Banke National Park were constructed to ensure better park security. Wildlife conservation in Terai protected areas is becoming a greater challenge day by day due to threats from illegal wildlife hunting and poaching. This has necessitated extending vigilance capacity at strategic locations and developing infrastructures that will help equip security forces to take the task of better park management in the future. For instance, the guard post in Dhakela area of BNP that is equipped with both army post and game scout posts will help maintain improved coordination among security personnel.

Training to Nepal Army on Law Enforcement

Nepal Army personnel from Rana Sardul battalion, Bardia and Gorakh Dal battalion Banke were trained about basic wildlife identification techniques and effective ways of law enforcement and patrolling. The training was conducted between 21-23 February and was attended by 50 participants from each site. Training aspects covered theoretical sessions on changing paradigm of conservation, roles of army personnel in conservation and pragmatic sessions on wildlife identification techniques, patrolling and monitoring tools and techniques. It is expected that this training will especially help newly recruited army staffs to carry out their work.

Following the translocation of 5 rhinos in 2015, this year 3 more rhinos were successfully translocated from CNP. The target of the government is to ensure a second viable population of rhinos in Bardia valley which has focused equally on stepping up habitat management-related tasks and controlling of illegal activities



Shuklaphanta Conservation Program (SCP)

Shuklaphanta Conservation Program was started in 1999 as a satellite project under Bardia Conservation Program to monitor translocated rhinoceros from Chitwan. Regular activities have been carried out as independent program under NTNC since 2000. Currently SCP is working in and around Shuklaphanta National Park (SNP) focusing on biodiversity conservation. In buffer zone, majority of the activities are focused in Bageshwari, Shuklaphanta, Sundevi, Kalikich, Himalaya and Sagarmatha BZUCs. Over 50,000 local communities are direct beneficiaries of the program. SCP implements its project activities in close collaboration and coordination with SWR, Nepal Army, Buffer Zone Management Council (BZMC), BZUCs, BZUGs, BZCFUGs, locals agencies and I/NGOs.

The main objectives of the Shuklaphanta Conservation Program (SCP) are to safeguard endangered wildlife species and their habitats in and around SNP, and to improve the livelihood of marginalized communities around the park premises.

WILDLIFE RESEARCH AND MONITORING

Besides regular activities related to wildlife research and monitoring SCP continuously implemented the site specific management plan of blackbucks in the Hirapurphanta. Success in this was achieved in terms of the stability of the population with control in mortality. The species seem healthier and habitat extension has helped to create more space and feeding ground. Besides tiger monitoring in Suklaphanta, SCP carried out the translocation of 7 swamp deer to the Chitwan National Park (CNP) and 5 Rhinos from CNP to SuNP. The ecological study of swamp deer focused on habitat utilization, preference and population dynamics.

Tiger Monitoring

Prey base monitoring was accomplished mostly using camera trapping and line transect survey methods. The total area of the park was designed in two blocks consisting of a total of 87 grids wherein a pair of motion sensor camera trap was installed in the center of the 2*2 sq.km grids. Initial findings shows that 17 individual tigers were identified (8 Females and 9 Males). A total of 1449 camera trap nights were carried out in different 85 locations. From field level analysis 366 tiger images were found trapped in 43 locations. The camera trap was initiated from 23rd November 2016 to 11th December 2016. Data entry of line transects survey for prey base density calculation is completed and final data publication

Over a fortnight long intensive camera trapping exercises undertaken in 85 locations across SuNP area identified 17 individual tigers from 366 tiger images



is remaining during this reporting period. Species wise photographs sorting have been submitted to SuNP office of DNPWC technical team for final analysis and result publication.

Rhino Translocation and Monitoring

During this year, five rhinos were translocated from the Chitwan National Park to the Suklaphanta National Park. The location was identified through field observation and rhino habitat survey of the park. After several rounds of observations by the Chief Conservation officer of SuNP, along with the team of SCP, the area around Hariyaphanta that lies by the edge of the Chaudhar River near the Rani Tal was identified as the most suitable location for the rhino on the basis of the food availability, shelter and marshy type land. The details about the rhinos are shown in the table.

After completion of the translocation, regular monitoring activities continue to be pursued diligently. On the basis of 2016 ID based rhino monitoring there are 10 rhinos in the SuNP. This year 5 rhinos were added to establish the genetic viable population of rhino in western Terai region of Nepal. Since the new rhinos are expected to take some time to familiarize themselves into their new habitat, possibilities for interaction with the local people in the buffer zones areas may increase. Thus consistent monitoring is crucial to avoid potential rhino-community conflicts, besides understanding their status and studying their behavior. Monitoring methodology used include direct observation from elephants, tracking by the receivers, pugmark observation and photo analysis.



Most of the rhinos were found in Darak (Chaudhar khola) area. The prime area of rhino habitat in SuNP is Hariya phanta and Chaudhar khola. All of the rhinos have been confirmed to be sound in their habitat.

Blackbuck Habitat Extension and Management

The management of reintroduced blackbuck in Hirapurphanta has been a case of success as part of the Hariyo Ban Program phase I. Intensive habitat management work continues to be pursued into phase II as well. With this, the population of blackbuck is following an increasing trend. A site specific management plan is being followed for the management of blackbuck, wherein efforts includes habitat extension (an additional 20ha area is in progress), nutrient supplement from crop cultivation (maize, lentil and cowpea etc.), and diet and medicine supplement among others. From a source population of 42, at present the population of blackbuck is 59 (26 Male, 18 Female, 11 Fawn and 4 Yearling).

Blackbucks Translocated to Hirapur phanta			
SN	Date	Source	Number
1	9/18/2012	Nepalgunj	8
2	9/20/2012	Nepalgunj	14
3	10/1/2012	Central zoo	6
4	7/4 - 10/2015	Khairapur	14
Total			42

Ecological Study of Swamp Deer

Swamp deer monitoring is a part of the regular work undertaken by SCP and it is done with close collaboration with the SuNP. Technicians of SCP and SuNP conducted monitoring across locations from 28th to 31st March 2017. Direct head count method was applied wherein elephants, binoculars, GPS, and vehicles were used in the monitoring process. The count found almost same population as published previously with no significant change in population (2301 no.). On the other part of ecological study, the species composition of grassland area by the vegetation survey method was carried out to assess the habitat pattern, their utilization and preference by fixing the permanent plots in between 500 meter



in grassland and 1 km in Sal Forest area. Five km transect in grassland with 500m interval and 1km interval in Sal Forest area was fixed. The finding of the study is the part of PhD study of Mr Hemanta Kumar Yadav from the Messey University New Zealand.

Faunal Assessment of Biodiversity of Chure Range (Far-West Nepal)

To understand the biodiversity status of the Mahakali Block along the Churia range, camera trapping, occupancy survey and encroachment were carried out from the Mahakali river to the Karnali river wherein data collected is being reviewed for analysis and research to be published in the near future. Intensive camera trapping methods were used, wherein a pair of camera traps were placed in 2.5 km x 2.5 km grid cells. Density of prey species in all the Churia range will be estimated using a line transect method.

Swamp Deer Translocation

As per the decision of Ministry of Forest and Soil Conservation, Park officials and NTNC carried out the translocation of 7 swamp deer (male: 2, female: 5) to the Chitwan National Park (CNP). The prime objective of the translocation initiative is to enhance the genetic diversity and establish a genetically and ecologically viable population in CNP. Officers and technicians from park office and SCP were actively involved during the translocation process, with key role of veterinary doctor's team. The detail of translocated swamp deer is presented as follows.

From a source population of 42, at present the population of blackbuck is 59. An additional 20ha area of blackbuck habitat extension in progress in Hirapurphanta will further help to ensure the successful management of the species: first introduced from the Blackbuck Conservation Area in Khairapur, Bardia



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