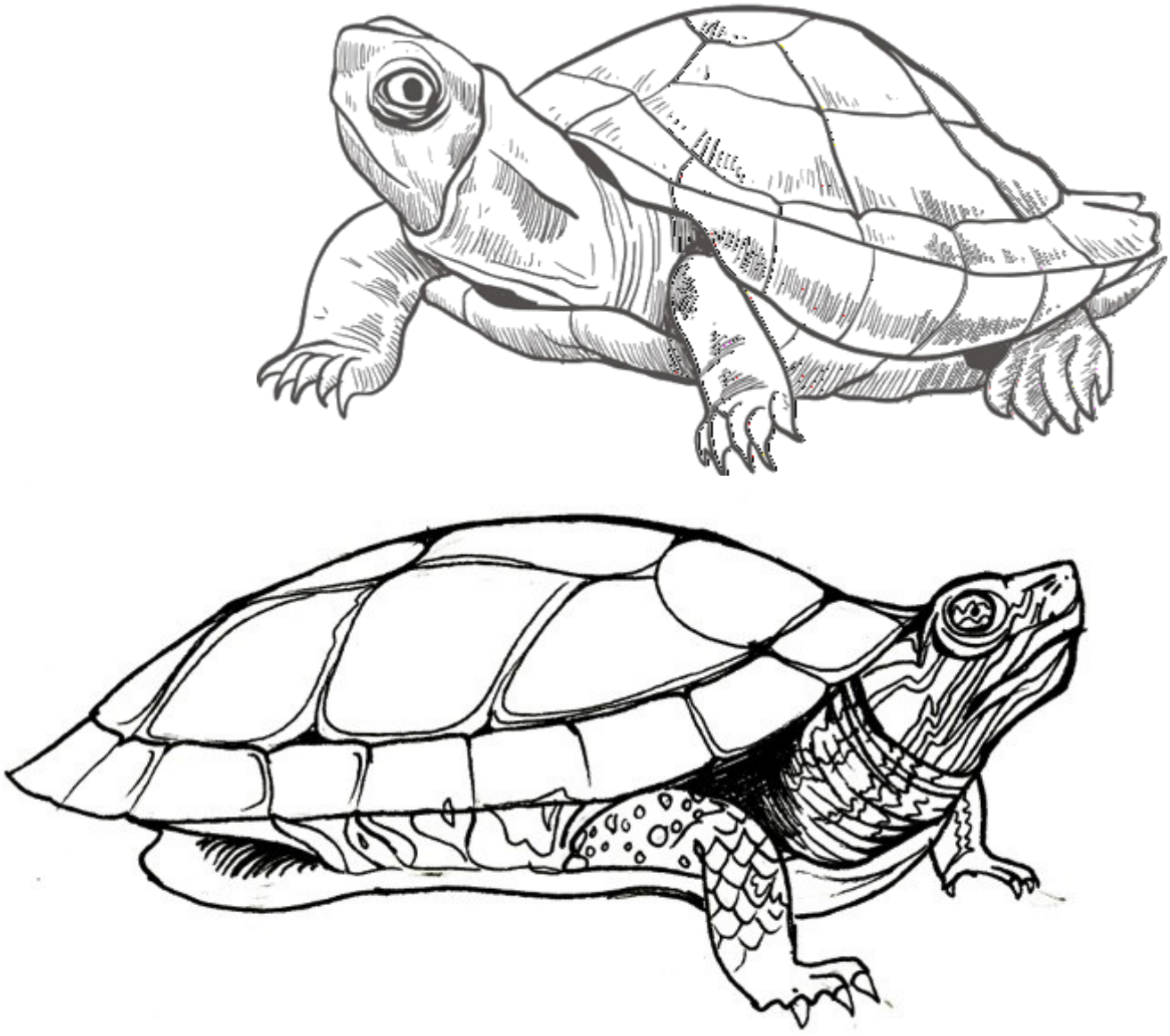
KACHUA PUNARVAS KENDRA, SARNATH, VARANASI

Activity Report

May 2018



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WII-NMCG Biodiversity Conservation and Ganga Rejuvenation Project
Component IV- Rescue and Rehabilitation

भारतीय वन्यजीव संस्थान
Wildlife Institute of India

ACTIVITY REPORT

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May 2018

Component IV- Rescue and Rehabilitation

WII-NMCG Biodiversity Conservation and Ganga Rejuvenation Project

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BACKGROUND

The first technical assessment visit was made in March 2018 and several points were highlighted for upgrades in the infrastructure and husbandry protocols of the facility. In March 2018, the enclosures were bare and had minimal enrichment. The animals thus were in sub-optimal conditions. There was a need for a circulation and filtration system. The water holding capacity of the ponds was poor with several running dry overnight. A generalistic overhaul was on the cards but with a strong minimalistic approach. The summer management activity provided an opportune time to put in place some modifications in the enclosures and animal care regimen.

Facility images from March 2018

Vincent Van Gogh had once said “Great things are done by a series of small things brought together” and it was clear that this was the way forward. The aim of this visit was to bring in some small but

essential, functional changes and additionally to set up the facility for receiving animals in the upcoming monsoon, should such a need arise.

LIST OF ANIMALS CURRENTLY HOUSED AT KACHUA PUNARVAS KENDRA, SARNATH

Sr No	Species	Number of individuals
1	*Lissemys punctata* (Indian Flapshell Turtle)	18
2	*Geoclemys hamiltonii* (Spotted Pond Turtle)	14
3	*Batagur dhongoka* (Three Striped Roofed Turtle)	571
4	*Pangshura tentoria circumdata* (Pink ringed tent turtle)	19
5	*Batagur kachuga (Red Crowned Roofed Turtle)*	32
6	*Nilssonia gangetica (*Ganges/Indian Softshell Turtle*)*	1
ANIMALS UNDER SPECIAL CARE		
6	*Batagur dhongoka* (Three Striped Roofed Turtle) Hatchlings of 2018	52
7	*Lissemys punctata* (Indian Flapshell Turtle) Animal Care Room	1
5	*Pangshura tentoria circumdata* (Pink Ringed Tent Turtle)- Isolation pond	1
TOTAL		709

ENCLOSURE ENRICHMENT

Naturalistic enclosures providing habitat niches are important in any facility that houses animals, irrespective of the time of housing. The various niches available to the animals reduce stress and encourage behavioural attributes. Keeping this in mind some environment enrichment, mainly using locally sourced materials was done.

1. Logs have been strategically placed in water for enrichment:- The logs are used for basking and also as visual barriers in the enclosures. These logs create small nooks where animals can hide and feel secure. Strategic placement allows for animals to hide under and use them for shade and also in an attempt to come out onto the land areas.

Enclosure 1 Pond 1 post enrichment

Enclosure 1 Pond 1 animals using enrichment logs

2. Shades using bamboo platforms with hay cover have been created:- The shades were mainly placed in spots identified as spaces normally used by the animals. They were placed in a manner such that piling up is avoided. Bales of hay were additionally placed in some locations for turtles like Spotted Pond Turtles (*Geoclemys hamiltonii*) that often spend a significant amount of time outside the water. The shades placed in the water provide hides for the animals and keep water temperatures cooler.

Shades created for animals in Enclosure 1 Pond 2

3. Enrichment Ponds:- Two small ponds of 2'x4' and with 3' depth and with gentle slope were made in April 2018 near the existing pond in enclosure 1 pond 3 and Pond 4. These ponds provide opportunity for the smaller animals to have safe spaces. Hydrilla (*Hydrilla verticillata*) was introduced into these ponds for water surface shade.

Enrichment ponds in Enclosure 1 Pond 3 and 4

4. Rubber mats have been placed at several points in all the ponds. They provide a strong grip for the animals to haul out of water and minimise the friction with the coarse cement. The animals are beginning to get acclimatised to using rubber mats for haul out in all ponds. This may eventually allow for enclosure space to be utilised in a better manner.

Lissemys punctata andersonii using rubber mat to haul out

5. Smaller niche areas for fossorial behaviour have been created to encourage natural burrowing behaviour in turtles like flapshells (*Lissemys punctata andersonii*). This allows for regular checks on the animals as they will hopefully remain in these areas and also for controlled use of the space.

Burrowing area created in Enclosure 2 Pond 1

6. Landscaping- Grass has been planted along the edges of the enclosure to provide a more naturalistic space in the enclosure.

Grass Landscaping in the Enclosures

7. Water hyacinth (*Eichhornia crassipes*) and Hydrilla (*Hydrilla verticillata*) have been added to the ponds to provide some water surface shade. Spread has been contained using bamboo or logs. The water hyacinth (*Eichhornia crassipes*) is also used as hides (noted even in wild circumstances-personal observation) by smaller animals. The younger animals are known to feed on aquatic vegetation and the Hydrilla (*Hydrilla verticillata*) encourages this naturalistic behaviour even in captive conditions.

Plants added to ponds for shade in water.

ENCLOSURE UPGRADES

The aim of this was to have usable, species specific enclosures to aid in the care of the animals at the centre and also for ease in specific acclimatisation processes to prepare animals for eventual release in the wild.

1. The submersible pump was fixed with aid from the institute and water supply is now majorly uninterrupted. A routine has been set in place to add water to the ponds, if necessary, first thing in the morning and before end of day to account for evaporation loss.
2. Ponds of enclosure 2 were mainly becoming un-usable as they were not able to hold water overnight due to excessive seepage through cracks.

To overcome this obstacle and to make the ponds available for use, plastic sheet was used to cover the ponds where there was significant leakages. The plastic was anchored into the sand and sand substrate was filled in at the base. The ponds were filled with water and tested overnight for water holding capacity. The animals were then introduced into the ponds the next day. Rubber mats have been placed on the sides to allow for the animals to haul out as needed. A water change routine has been set in place to maintain quality. 3 ponds have now been covered with plastic sheeting and 2 are currently in use. 1 pond is being retained as a spare pond to use in case of emergency or to shift animals when the hatchlings of 2018 will be transferred to a larger pond.

Enclosure 2 with plastic for water retention

3. The water flow out of Enclosure 2 Pond 4 was blocked off and small cracks were fixed. This pond is now able to retain some water as well and houses the only *Nilssonia gangetica* of the facility.

Temporary measures to retain water in Enclosure 2 for *Nissonia gangetica*

4. A simple circulation and filtration unit was installed in Enclosure I in April 2018. The unit is run by a 1 HP electric pump.

Enclosure 1 Pond 2,3 and 4 (Panorama)

Filtration and circulation system of Enclosure 1

The filtration unit has 4 plastic tubs set up on a vertical bamboo lattice. The first (topmost) and the second tub have pebbles of different sizes each. The third tub has sand and last one a mixture of coal and pebbles. The water from the pond water is pulled in through a pipe and is dropped into the topmost tub of the filtration unit. The water follows through the tubs by gravity, passing through the filtration material. This water is then supplied back to the pond. The placement of intake of water going to the filtration system and the outlet furthermore allows for circulation of water in the ponds. The Ponds 2, 3 and 4 of enclosure 1 are separated by a brick barrier but the water flow is connected. Thus the water from ponds 2,3 and 4 is circulated and filtered in the current set up. Fine tuning was done in May 2018 which included, adjustments of some levels of water flow, modifying the mesh to "catch" the algae and the leaf matter etc that falls into the ponds to mainly make sure that no small animals get stuck.

5. Water aeration has been attempted with the use of a smaller water cooler motor and a simple shower head. This set up will be tested for 10 days and if found effective with control of algal bloom, it can be replicated cost effectively.

6. Experiment was conducted using a paddle aerator used extensively in fish farming industry. But this aerator (smallest available) was too large and strong for the water depth. This was

thus removed instantly and returned to manufacturer.

Experiment with paddle aerators

LABORATORY SET-UP (GANGA AQUALIFE FIELD LABORATORY)

With the large number of animals at the facility and moreover with the necessity to plan health assessment on arrival of animals on rescue and before release, it was deemed urgent to have a field laboratory set up at the centre. A microscope (monocular with light source) and basic lab equipment like test-tubes, beakers etc were purchased. The field laboratory is functional and was tested by conducting some basic faecal analysis from samples of animals in the animal care room.

Ganga Aqualife Field Laboratory set-up

ANIMAL CARE ROOM

An animal care room has been set up to accommodate cases that need treatment and in-house care. This room currently houses;

Animal care room for in-house patients

4 *Batagur dhongoka* from Enclosure 1 pond 1. These animals showed swollen eyes, loss of muscle mass and poor ability to swim and dive in the pond and were thus isolated. They have been kept together in a large tub in the animal care room for monitoring feed intake and health progress. Progress will be monitored weekly with basic weights and feeding pattern (amount fed and leftover).

An Indian Flapshell Turtle *(Lissemys punctata andersonii*,) was brought by the team of component V WII-NMCG project with multiple carapace injuries caused due to a tractor hoe injuring the turtle while the field was being ploughed. Treatment was initiated with debridement and bandaging for two days to minimise inflammation and allow for better assessment. The animal was dry docked for these two days. But due to rising temperatures the animal was moved to a tub with low water levels, Antibiotic therapy (Ceftriaxone @20 mg/kg bwt i/m q 48 hrs) and pain medication (Meloxicam @5 mg/kg bwt i/m q 24 hrs) was initiated. Dressing was done daily for 5 days and then moved to every alternate day. The carapace injuries are showing healing by third intention. The area of mal-union was repaired using Hooks and vicryl. The animal may need to be held in observation for atleast 14 days.

Lissemys punctate andersonii with carapace injury (before and after treatment).

A Pink Ringed Tent Turtle (*Panghsura tentoria circumdata)* was brought in on a rescue by the team of Component II WII- NMCG project with a penile prolapse. This animal had been trapped in the turtle traps set for survey purposes. On arrival the prolapse was checked and no other secondary lesions were found. The prolapse was iced and the animal kept isolated in a tub. The attempt was to allow the prolapse to rectify itself. Though the animal was showing normal activity and even accepting food, the prolapse did not rectify. This was then reduced surgically and held in place with purse-string sutures. The animal was again observed in the tub for a day and then released into the isolation pond. The faecal sample has been checked and no parasites were noted. The turtle may be put back in the wild at the same location of being found.

Pangshura tentoria circumdata with penile prolapse (pre surgical intervention)

135 eggs had been brought in March 2018 and crudely incubated. The hatchling emergence started in the second week of May 2018 and till 26th May 2018 fifty-one hatchlings had emerged. On emergence, the hatchlings were brought to the animal care room. They were cleaned of sand and kept in tubs with water for a minimum period of three days where the water was changed at least once a day. The absorption of yolk monitored on a daily basis. On complete closing of the umbilicus the animals were

Hatchling *Batagur dhongoka* after emergence from egg

released into the pond at the isolation set up. Feeding was started with turtle food. Food being given is monitored. All the hatchlings are currently in a single pond.

Enclosure set up for hatchlings in isolation area

Adjacent to the animal care room a separate feed preparation area has been set up. The diet for the animals has been modified as per diet sheet and also for summer requirements. The set up allows for better monitoring with weighing and sorting of the food in a hygienic manner in one spot and then it may be carried to the enclosures for feeding. Individual trays (1 per enclosure) have been purchased and this has systematised and eased the process. The left over food is weighed the next morning and recorded. Feed data in Appendix 1

ISOLATION SET-UP

3 ponds were created next to the Ganga Aqualife Laboratory. The ponds have a water depth of 3 feet and with slopes leading onto land area covered in river sand. The boundary is covered by green shade net and pest proofed. Logs of wood have been added as enrichment and water hyacinth (*Eichhornia crassipes*) is added for water surface shade and cover for the animals. Bamboo platforms covered in hay have been used to provide additional shade. Aeration has been set up by using solar powered pond fountains.

The ponds were planned to accommodate the hatchlings, recovering animals that complete stay in the animal care room and need to be monitored prior to release in pond or release in the wild. The ponds may also be used to keep weaker animals that need more care and possibly smaller spaces for recovery.

Isolation Area for Animal Housing

Ponds of Isolation area

ADDITIONAL ACTIVITIES:

1) A 3 day workshop was conceptualised to familiarise Ganga Praharis with the ideas of First Response and to form a group of people with an understanding of emergent situations and exposure to dealing with these situations mainly along a riverine ecosystem that is under anthropogenic influences. The workshop included interactive talks (in Hindi as much as possible) as well as field inputs. Workshops of this nature aim to create an inclusive trained team that is able to efficiently recognize, assess and deal with emergent situations.

The main objectives were:

1. Identify the diverse Aquatic fauna of the Ganges River Basin and understand the challenges in emergency situations.
2. Introduce techniques related to rescue and rehabilitation of aquatic fauna as first responders.
3. Introduce concepts of ethical and humane handling of Aquatic fauna.
4. Introduce concepts of community based response to emergent situations of aquatic fauna.

The sessions were conducted at The Kachua Punarvas Kendra (Turtle breeding and Rehabilitation Centre) Sarnath Varanasi. The workshop was attended by 32 Ganga Praharis identified as first responders from 27 villages along the Ganges River in Varanasi. The teaching was a mixture of class room based sessions and hands on activity.

Teaching inputs were provided by;

Dr Animesh Talukdar- Veterinary Officer WII-NMCG Biodiversity Conservation and Ganga Rejuvenation Project, Component IV(Rescue and Rehabilitation) and

Dr Gowri Mallapur, Subject Matter Specialist (Veterinary Health Management) WII-NMCG Biodiversity Conservation and Ganga Rejuvenation Project, Component IV(Rescue and Rehabilitation.

The sessions on day one focused on specific attributes of the species of the Ganges (Reptiles and Mammals). The session was interactive. It was interesting to understand the nomenclature that seemed to vary locally. The take home message for them as first responders was to have singular name when dealing with rescue and emergencies and also to understand each species based on its specific attributes. A hand-on demonstration with the species at the Kachua Punarvas Kendra was done to reinforce their understanding of turtle species.

Day two started by a talk by ACF and O/I Kachua Punarvas Kendra, Sarnath, Shri. Anand Kumar Shrivastav who spoke about the Ganga Biodiversity, the Haritima Initiative and the work done by the Forest Department. He encouraged the Ganga Praharis to be ambassadors of Biodiversity Conservation and spread awareness in their villages. The sessions that day focused on Emergency situations related to Aqautic Macro-fauna and their management eg Drowning, stranding, entanglemement, nest endangerment due to rising water levels etc. Participants were involved in assessing scenarios and also identifying potential interventions as first responders. The hands-on session on day two was on correct techniques for assesing nest endangerment due to rising waterlevels, in-situu egg protection and nest collection and egg transport modalities. Correct techniques for ethical handling of turtles and crocodilians was demostrated using props.

Day three was focused on laws and proper action and protocols. ACF and O/I Kachua Punarvas Kendra, Sarnath, Shri. Anand Kumar Shrivastav spoke about the importance of the WLPA act and the combined force of this act with other acts in the constitutions. He elaborated on the roles the Ganga Praharis can play that would be of assistance to the enforcement work of the forest department. The First responders got a chance to carry out some hands on work with enclosure enrichment in the facility at the Kachua Punarvas Kendra.

Workshop group Photo

2) A rescue call was attended on 25.05.2018 at Patterwan Village, Varanasi (N25°13.418' E082°55.004'). The call to team of component IV was made by Shri. Mahandra Sahni "*Ganga Prahari*" at 14:00 hrs on instruction from Ms. Suneeta Rawat, Community Officer, Component V.

Rescue location of 4 *Lissemys punctata andersonii* in Patterwan Village, Varanasi

4 Indian Flapshell Turtles (*Lissemys punctata andersonii*) had been found while a village pond was being dredged to convert into a fish farming pond. Mr Sahni's family had acquired this pond on lease and as preparation were dredging the pond and removing the water hyacinth. The local youth had tried to remove the turtles and the concern was that they would possibly kill the turtles for food. Mr Mahendra Sahni had talked to the youth and kept the turtles back in a box. Due diligence was done before setting out on the operation. The local Ranger at the Kachua Punarvas Kendra was informed of the situation as was the ACF/ O/I Kachua Punarvas Kendra. He deputed Shri Vijay Yadav (Dakiya) who accompanied the team.

Rescued *Lissemys punctata andersonii*

A rapid on-site animal assessment was done. All four turtle had no external injury and no lesions on the carapace or plastron. They had good muscle tone and good reflexes. Individual carapace images were taken so as to have a record (*Lissemys punctata andersonii* has spots on the carapace that may help identify specific individuals).

Rapid onsite animal assessment

With help of the representative of the U.P forest department, "Raja Ka Pokhra" (N25°17.842' E083°02.893') at Ramnagar (Varanasi) was selected as the safe place for release. This pond is under care of the Royal family Trust. The release site was briefly assessed and it was noted that there were no anthropogenic interventions at the location, the water levels were maintained by the trust, presence of basking sites was noted as was the availability of sandy areas for all potential biological and ecological needs. The presence of school of fish was noted in the pond and also Piscivorous birds like cormorants and herons. All four turtle were released gently on land and they went into the water voluntarily.

Release of rescue *Lissemys punctata*

Raja Ka Pokhra- Release site

Team at rescue site

Feed data for May 2018

DATE	ENCLOSURE TYPE	POND NUMBER	SPECIES	FOOD GIVEN	QUANTITY GIVEN	QUANTITY LEFT	REMARKS
03.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Bottle gourd	2kg	480gm	
03.05.2018	ENCLOSURE 1	POND 2A+B	*Geoclemys hamiltonii*	Bottle gourd	1kg	360gm	
03.05.2018	ENCLOSURE 1	POND 3	*Pangshura tentoria*	Bottle gourd	500gm	210gm	
03.05.2018	ENCLOSURE 2	POND 1 +2	*Lissemys punctata*	Bottle gourd	Not Given	NA	
03.05.2018	ENCLOSURE 2	POND 3A	*Batagur kachuga*	Bottle gourd	600gm	400gm	
03.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Bottle gourd	Not Given	NA	
03.05.2018	ENCLOSURE 2	POND 4	*Batagur dhongoka*	Bottle gourd	1kg	550gm	
04.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Fish			
04.05.2018	ENCLOSURE 1	POND 2A+B	*Geoclemys hamiltonii*	Fish			
04.05.2018	ENCLOSURE 1	POND 3	*Pangshura tentoria*	Fish			
04.05.2018	ENCLOSURE 2	POND 1 +2	*Lissemys punctata*	Not Given			
04.05.2018	ENCLOSURE 2	POND 3A	*Batagur kachuga*	Not Given			
04.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish			
04.05.2018	ENCLOSURE 2	POND 4	*Batagur dhongoka*	Not Given			
05.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Turtle Food	250 g	NA	
05.05.2018	ENCLOSURE 1	POND 2A+B	*Geoclemys hamiltonii*	Fish	1kg	NA	
05.05.2018	ENCLOSURE 1	POND 3	*Pangshura tentoria*	Fish	500gm	NA	
05.05.2018	ENCLOSURE 2	POND 1 +2	*Lissemys punctata*	Fish	500gm	NA	
05.05.2018	ENCLOSURE 2	POND 3A	*Batagur kachuga*	Turtle Food	500gm	NA	
05.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	500gm	NA	
05.05.2018	ENCLOSURE 2	POND 4	*Batagur dhongoka*	Turtle Food	1kg	NA	
06.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Spinach + cabbage	1.5kg	NA	
06.05.2018	ENCLOSURE 1	POND 2A+B	*Geoclemys hamiltonii*	Spinach + cabbage	1kg	NA	
06.05.2018	ENCLOSURE 1	POND 3	*Pangshura tentoria*	Spinach + cabbage	500gm	NA	

06.05.2018	ENCLOSURE 2	POND 1 +2	*Lissemys punctata*	Spinach + cabbage	500gm	NA	
06.05.2018	ENCLOSURE 2	POND 3A	*Batagur kachuga*	Spinach + cabbage	500gm	NA	
06.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Spinach + cabbage	500gm	NA	
06.05.2018	ENCLOSURE 2	POND 4	*Batagur dhongoka*	Spinach + cabbage	1kg	NA	
07.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Turtle Food	250 g	NA	
07.05.2018	ENCLOSURE 1	POND 2A+B	*Geoclemys hamiltonii*	Fish	1kg	NA	
07.05.2018	ENCLOSURE 1	POND 3	*Pangshura tentoria*	Fish	500gm	NA	
07.05.2018	ENCLOSURE 2	POND 1 +2	*Lissemys punctata*	Fish	500gm	NA	
07.05.2018	ENCLOSURE 2	POND 3A	*Batagur kachuga*	Turtle Food	500gm	NA	
07.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	500gm	NA	
07.05.2018	ENCLOSURE 2	POND 4	*Batagur dhongoka*	Turtle Food	1kg	NA	
08.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Turtle Food	250 g	NA	
08.05.2018	ENCLOSURE 1	POND 2A+B	*Geoclemys hamiltonii*	Fish	1000 gm	NA	
08.05.2018	ENCLOSURE 1	POND 3	*Pangshura tentoria*	Fish	500gm	NA	
08.05.2018	ENCLOSURE 2	POND 1 +2	*Lissemys punctata*	Fish	500gm	NA	
08.05.2018	ENCLOSURE 2	POND 3A	*Batagur kachuga*	Turtle Food	500gm	NA	
08.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	500gm	NA	
08.05.2018	ENCLOSURE 2	POND 4	*Batagur dhongoka*	Turtle Food	1000 gm	NA	
09.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Turtle Food	1000 gm	NA	
09.05.2018	ENCLOSURE 1	POND 2AB	*Geoclemys hamiltonii*	Fish	1000 gm	0	
09.05.2018	ENCLOSURE 1	POND 3	*Pangshura tentoria*	Turtle Food	300gm	NA	
09.05.2018	ENCLOSURE 2	POND 1 +2	*Lissemys punctata*	Fish	1kg	390gm	
09.05.2018	ENCLOSURE 2	POND 3A	*Batagur kachuga*	Turtle Food	500gm	NA	
09.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	500gm	500 gm	
09.05.2018	ENCLOSURE 2	POND 4	*Batagur dhongoka*	Turtle Food	800gm	NA	
10.5.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Spinach + Soya Beans	1000 gm	0	
10.5.2018	ENCLOSURE 1	POND 2A+B	*Geoclemys hamiltonii*	Fish	1000 gm	0	

10.5.2018	ENCLOSURE 1	POND 3	*Pangshura tentoria*	Fish	300gm	250gm	
10.5.2018	ENCLOSURE 2	POND 1 +2	*Lissemys punctata*	Fish	500gm	Not Left	
10.5.2018	ENCLOSURE 2	POND 3A	*Batagur kachuga*	Spinach + Soya Beans	500gm	380gm	
10.5.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	1000 gm	1000 gm	
10.5.2018	ENCLOSURE 2	POND 4	*Batagur dhongoka*	Spinach + Soya Beans	800gm	658gm	Soya Bean Left Only
11.5.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Turtle Food	500gm	NA	
11.5.2018	ENCLOSURE 1	POND 2A+B	*Geoclemys hamiltonii*	Chicken Intestine	400 gm	5 gm	
11.5.2018	ENCLOSURE 1	POND 3	*Pangshura tentoria*	Chicken Intestine	300 gm	15 gm	
11.5.2018	ENCLOSURE 2	POND 1 +2	*Lissemys punctata*	Fish	500gm	165 gm	
11.5.2018	ENCLOSURE 2	POND 3A	*Batagur kachuga*	Turtle Food	500 gm	NA	
11.5.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Chicken Intestine	300gm	145 gm	
11.5.2018	ENCLOSURE 2	POND 4	*Batagur dhongoka*	Turtle Food	800gm	NA	
12.5.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Spinach + Pumpkin	1kg	0	
12.5.2018	ENCLOSURE 1	POND 2A+B	*Geoclemys hamiltonii*	Fish	1kg	0	
12.5.2018	ENCLOSURE 1	POND 3	*Pangshura tentoria*	Fish	300gm	135 gm	
12.5.2018	ENCLOSURE 2	POND 1 +2	*Lissemys punctata*	Fish	350gm	255 gm	
12.5.2018	ENCLOSURE 2	POND 3A	*Batagur kachuga*	Spinach + Pumpkin	500gm	70 gm	
12.5.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish		120 gm	
12.5.2018	ENCLOSURE 2	POND 4	*Batagur dhongoka*	Spinach + Pumpkin	800gm	20 gm	
13.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Turtle Food	500gm	NA	
13.05.2018	ENCLOSURE 1	POND 2A+B	*Geoclemys hamiltonii*	Fish		Not Left	
13.05.2018	ENCLOSURE 1	POND 3	*Pangshura tentoria*	Fish + Turtle Food	500gm	135gm	
13.05.2018	ENCLOSURE 2	POND 1 +2	*Lissemys punctata*	Fish	500gm		
13.05.2018	ENCLOSURE 2	POND 3A	*Batagur kachuga*	Spinach + Turtle Food	500gm	NA	
13.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	500gm	400gm	
13.05.2018	ENCLOSURE 2	POND 4	*Batagur dhongoka*	Spinach	800gm	315gm	

14.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Spinach+Tomato	1kg	140gm	
14.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Fish	300gm	90gm	
14.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Spinach+Tomato	500gm	165gm	
14.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Chicken Intestine	1kg	0	
14.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Spinach+Tomato	800gm	210gm	
14..05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	1kg	0	
14.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	500gm	480gm	
15.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Spinach	1kg	240gm	
15.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Fish	300gm	100gm	
15.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Spinach	500gm	160gm	
15.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Fish	1kg	0	
15.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Spinach	800gm	80gm	
15.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	1kg	0	
15.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	500gm	480gm	
16.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Turtle Food	1kg	NA	
16.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Turtle Food	300gm	NA	
16.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Turtle Food	500gm	NA	
16.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Fish	1kg	0	
16.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Turtle Food	800gm	NA	
16.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	1kg	0	
16.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	500gm	410gm	
17.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Spinach	1kg	0	
17.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Fish	300gm	180gm	
17.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Papaya	500gm	0	
17.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Fish	1kg	0	
17.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Spinach	800gm	0	
17.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	1kg	0	
17.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	500gm	460gm	
18.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Turtle Food	1kg	NA	

18.05.208	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Turtle Food	500gm	NA	
18.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Turtle Food	300gm	NA	
18.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Fish	1kg	0	
18.05.208	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Turtle Food	800gm	NA	
18.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	1kg	0	
18.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	500gm	470gm	
19.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Spinach	1kg	0	
19.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Fish	300gm	180gm	
19.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Spinach	500gm	240gm	
19.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Fish	1kg	0	
19.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Spinach	800gm	0	
19.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	1kg	0	
19.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	500gm	460gm	
20.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Turtle Food	300gm	NA	500 Live Fingerlings introduced in Pond
20.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Turtle Food	250gm	NA	500 Live Fingerlings introduced in Pond
20.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Turtle Food	400gm	NA	500 Live Fingerlings introduced in Pond
20.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Fish	700gm	0	500 Live Fingerlings introduced in Pond
20.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Turtle Food	500gm	NA	
20.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	500gm	0	
20.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Not Given	NA	NA	
21.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Spinach + Tomato	1kg	0	
21.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Spinach + Tomato	300gm	85gm	
21.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Spinach + Tomato+ soya	500gm	215gm	

				bean			
21.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Chicken Intestine	1kg	0	
21.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Spinach + Tomato	800gm	0	
21.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	440gm	0	
21.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Chicken Intestine	1.4kg		
22.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Carrot+Tomato+soyabean	1kg	10gm	
22.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Not Given			
22.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Carrot+Tomato	500gm	165gm	
22.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Fish + soyabean	1kg	700gm	
22.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	carrot + Tomato	800gm	0	
22.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	500gm	0	
22.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Not Given			
23.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Fish + Turtle Food	500gm	0	
23.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Fish + Turtle Food	250gm	180gm	
23.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Fish + Turtle Food	250gm	85gm	
23.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Fish	1kg	0	
23.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Fish + Turtle Food	250gm	40 gm	
23.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	250gm	0	
23.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	20gm	20gm	
24.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Beans + Papaya	500gm	0	
24.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Beans + Papaya	300gm	0	
24.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Beans + Papaya	500gm	90gm	
24.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Papaya	300gm	0	
24.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Beans + Papaya	800gm	0	
24.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Not Given			
24.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Not Given			
25.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Turtle Food	1 kg	NA	
25.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Turtle Food	300gm	NA	

25.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Turtle Food	500gm	NA	
25.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Papaya	500gm	0	
25.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Turtle Food	800gm	NA	
25.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Not Given			
25.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Not Given			
26.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Fish	500gm	0	
26.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Fish	300gm	240gm	
26.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Fish+Spinach+Pumpkin	500gm	295gm	
26.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Fish	1kg	0	
26.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Fish + Spinach + Pumpkin	800gm	0	
26.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	800gm	0	
26.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	100gm	100 gm	
27.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Turtle Food	1kg	NA	
27.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Papaya + carrot	300gm	300 gm	
27.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Papaya + carrot	500gm	175gm	
27.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Fish	1kg	0	
27.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Papaya + carrot	800gm	0	
27.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	1 kg	0	
27.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	100gm	100 gm	
28.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Spinach+ Tomato	1kg	0	
28.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Spinach+ Tomato	300gm	100gm	
28.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Spinach+ Tomato	500gm	0	
28.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Fish	1kg	0	
28.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Spinach+ Tomato	800gm	0	
28.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	1kg	0	
28.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	100gm	100 gm	
29.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Pumpkin + Fresh Beans	1kg		
29.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Fish	300gm	190gm	

29.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Pumpkin + Fresh Beans	500gm	160gm	
29.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Fish	1kg	0	
29.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Pumpkin + Fresh Beans	800gm	0	
29.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	1kg	0	
29.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	100gm	100 gm	
30.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Spinach + Turtle Food +Fish+Tomato	1kg		
30.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Spinach + Tomato	300gm	300 gm	
30.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Spinach + Tomato	500gm	200gm	
30.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Fish	1kg	0	
30.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Spinach + Tomato	800gm	0	
30.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	1kg	0	
30.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	100gm	100 gm	
31.05.2018	ENCLOSURE 1	POND 1	*Batagur dhongoka*	Fresh Beans + Papaya	1kg		
31.05.2018	ENCLOSURE 1	POND 2A	*Pangshura tentoria*	Fish	300gm	190gm	
31.05.2018	ENCLOSURE 1	POND 2B	*Batagur kachuga*	Fresh Beans + Papaya	500gm	160gm	
31.05.2018	ENCLOSURE 1	POND 3	*Geoclemys hamiltonii*	Chicken Intestine	1kg	0	
31.05.2018	ENCLOSURE 2	POND 1	*Batagur dhongoka*	Fresh Beans + Papaya	800gm	0	
31.05.2018	ENCLOSURE 2	POND 2B	*Lissemys punctata*	Fish	1kg	0	
31.05.2018	ENCLOSURE 2	POND 3B	*Nilssonia gangetica*	Fish	100gm	100 gm	