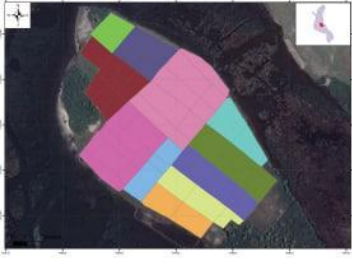




អង្ករក្របីក្បាល (Crane Rice Field Map)



ANNUAL REPORT 2021

Highlight Key Achievements

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❖ BirdLife International Mission

BirdLife International has its origin in the International Council for Bird Preservation (**ICBP**), founded in **1922**. In **1993**, the **ICBP** was restructured to create a global partnership of national conservation organizations and was renamed BirdLife International. Today, the BirdLife International Partnership is a global network of national, membership-based NGO Partners, who are working in over 100 countries for sustainable use and management of the world's natural resources. Together the BirdLife International Partnership forms a powerful global conservation movement working at local, national, and global levels.

- BirdLife International's involvement in Cambodia dates back to the mid-1990s when it was among the first international conservation NGOs invited to work in the country. BirdLife has had a permanent presence in Cambodia since 2001 when it embarked upon a collaborative project with the Forestry Administration, Department of Natural Resource Conservation and Protection, and other partners to identify and document Cambodia's Important Bird Areas (IBAs). Subsequently, the focus of BirdLife's work shifted to taking conservation action on the ground for selected IBAs, with the Eastern Plains Dry Forest Ecoregion becoming a major focus. Birdlife's current work program in several Cambodian IBAs is divided into four goals: 1) Preventing extinction, 2) Site planning, protection, and management, 3) Community-based conservation approaches, and 4) Awareness and education. After more than 15 years of work in Cambodia, it is time for the Cambodia Programme to review the possibility of recruiting BirdLife partners in Cambodia. BirdLife International has established the committee to select the BirdLife partner in Cambodia and BirdLife International Cambodia Programme staff were provided the opportunity to establish a national NGO (called NatureLife Cambodia) to apply for being a BirdLife partner in Cambodia.

BirdLife's vision: is of a world rich in biodiversity, with people and nature living in harmony, equitably, and sustainably.

Our Mission: BirdLife is a worldwide nature conservation partnership that works locally, nationally, and globally for birds, nature, and people. Nature is crucial to people's quality of life and the planet's life support systems. Saving nature is a moral imperative.

❖ **HIGHLIGHTS KEY ACHIEVEMENTS OF PROJECTS OF BIRDLIFE INTERNATIONAL CAMBODIA PROGRAMME IN 2021**

SIEM PANG WILDLIFE SANCTUARY (Former known as Western Siem Pang)

Siem Pang Wildlife Sanctuary (SPWS) is located in Siem Pang district, Stung Treng Province, in Northeast Cambodia. It is the Important Bird and Biodiversity Area (IBA) which is irreplaceable and an excellent example of the dry forest ecosystem of central Indochina, supporting globally significant populations of five Critically Endangered bird species including White-shouldered Ibis *Pseudibis davisoni*, Giant Ibis *Thaumatibis gigantea* (Cambodia's national bird), White-rumped Vulture *Gyps bengalensis*, Slender-billed Vulture *Gyps tenuirostris* and Red-headed Vulture *Sarcogyps calvus*; of these, it has the most important remaining population of the White-shouldered Ibis. The presence of five Critical bird species is globally unique to this small part of Cambodia and Southern Laos. Other threatened bird species include Green Peafowl *Pavo muticus*, Sarus Crane *Antigone antigone sharpii* and Lesser Adjutant *Leptoptilos javanicus*. Moreover, it also supports a range of threatened mammal species including Eld's Deer *Cervus eldii*.



Figure 1 Slender-billed Vulture nesting in the artificial platform and a Giant Ibis nest in the same tree in SPWS

Key Achievements within 2021:**Law enforcement result (Rising Phoenix team)**

On the 30th March 2021, Rising Phoenix signed a Letter of Agreement with the General Directorate of Administration for Nature Conservation and Protection (GDANCP) on the Siem Pang PATROL Programme. Therefore, from this point forward Rising Phoenix was working to support law enforcement efforts at Siem Pang Wildlife Sanctuary under this agreement, not the Memorandum of Understanding between Birdlife International and the Ministry of Environment.

Key Law Enforcement results from 1st January 2021 to the end of March 2021 include as the following table:

No	Types	Number	Others
1	Bird-net	25	400 meters
2	Bushmeat	18	Species: Muntjac, wild pig, and bird
3	Carcass	2	Species: wild-pig
4	Live animal	38	36 birds released
5	Chainsaw	5	Confiscated
6	Electric rods	4	
7	Land encroachment	37	Patrol records only
8	Illegal fishing net	7	
9	Hand tractor	15	6 confiscated
10	Homemade gun	4	
11	Motorbike	9	7 confiscated
12	Minivan	1	luxury wood transportation
13	Snares and traps	876	cable and string snares removed

- Confiscated and collected 25 bird nets approximately length of 400 meters
- Stopped and confiscated bushmeat 18 cases with muntjac wild-pig and bird species
- Recorded two carcasses from law enforcement patrol operation
- Confiscated and released 38 live animals including macaque, tortoise, and birds
- Confiscated 5 chainsaws from illegal logging cases
- Confiscated 4 electric rods and 7 fishing nets from illegal fishing activities
- Encountered 37 land encroachments (from patrol records only)
- Stopped 15 hand tractors of which 6 were confiscated
- Stopped 9 motorbikes of which 7 were confiscated
- Stopped and confiscated 1 minivan transporting luxury wood handover from border army
- Collected 4 homemade guns
- Collected and removed 878 cables and string snare, and traps



Snare removal activities



Bush-meat (muntjac) dropped from suspects motorbike



Minivan handed over from border army



Confiscated hand tractor transporting timbers in the sanctuary



Collected and destroyed wildmeat that collected from poacher camp

From the 1st September 2021, the species and habitat monitoring work of Birdlife International transferred to Rising Phoenix Co. Ltd. From this date, Birdlife International does not have a presence in Siem Pang Wildlife Sanctuary, and all work previously implemented has been fully handed over to Rising Phoenix.

Species and habitat monitoring

Key species and habitat monitoring results from the 1st January 2021 to 1st September 2021 include:

1. Thirty-One White-shouldered Ibis nests were found in 2021, the greatest result recorded, 26 nests successfully with 53 young and five nests failed.
2. We have conducted three roosts count maximum count of 373 in August and a minimum count of 305 individuals in July, the population is stable.
3. Ten Vulture nests were found during the 2020-2021 breeding season including eight Slender-billed Vulture and two Red-headed Vulture. Seven nests were successfully fledged and tree nests failed.
4. Thirty-eight vulture restaurants were run from 1st January to 30th September 2021. The minimum counted was 25 and the maximum counted was 97 birds.
5. By September 2021, 14 Giant Ibis nests were found of which two nests successfully fledged four chicks, at four nests five young are currently being fed, and five nests failed.



Figure 2. White-shouldered Ibis roost count in July 2021. Photo: Eang Samnang.



Figure 3. A Himalayan Griffon joined vulture restaurant in February. Photo: Loun Bunheng.



Figure 4. Giant Ibis nest was incubating in the nest in July. Photo: Eang Samnang.

Local empowerment

Key local empowerment results from the 1st January 2021 to 1st September 2021 include:

➤ **IBIS Rice scheme** - An ethically-driven conservation enterprise that improves the livelihoods and food security of villagers living in remote areas and around the wildlife sanctuary with less opportunity to expand operations and limited market access through growing and selling premium organic jasmine rice. The compliance scheme that participating households are required to adopt, has been proven to reduce rates of forest loss. Through the project, the rice will be purchased and sold for a premium price (more than 50%) as Ibis Rice, thanks to wildlife-friendly and organic certification. Since BirdLife partnered with Sansom Mlup Prey (SMP) introduced the scheme in SPWS, participating households are increased very successfully from 43 families in one village in 2017 to 682 families in ten villages in 2021. The annual rice sales volume to the scheme has increased from 8 tons in 2017 to 396 tons in 2021 and it is not included the rice that farmers kept for consumption for the rest of the year. 509 families sold the rice to the project at a premium price (at 70% above the market) and made a total income of US\$170,920. On average, a participating household received an additional US\$336 as cash income. In return for participating in the scheme, households signed an agreement, agreeing to respect the wildlife sanctuary's boundaries and the Protected Area law. To date 30 out of 682 households have violated the agreement in 2021, compared to 5 in 2020, and the rests are proud of their efforts to save. The Ibis Rice scheme in Siem Pang is now the second biggest and most successful project in Cambodia.

Table 1. IBIS Rice Result

No	Description	2017	2018	2019	2020	2021
1	Members (HH)	43	202	309	530	682
2	Members sold (HH)	32	166	256	441	509
3	Rice sold (Ton)	8	44	182	357	396
4	Income (US\$)	2,896	16,300	77,341	148,596	170,920

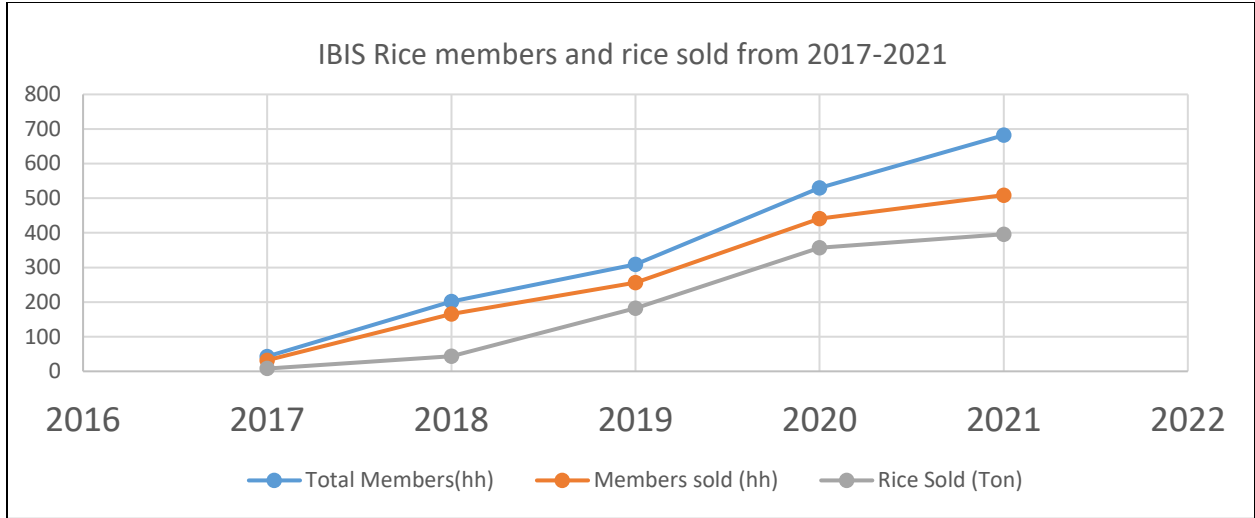


Figure 5 IBIS Rice members and rice sold from 2017-2021

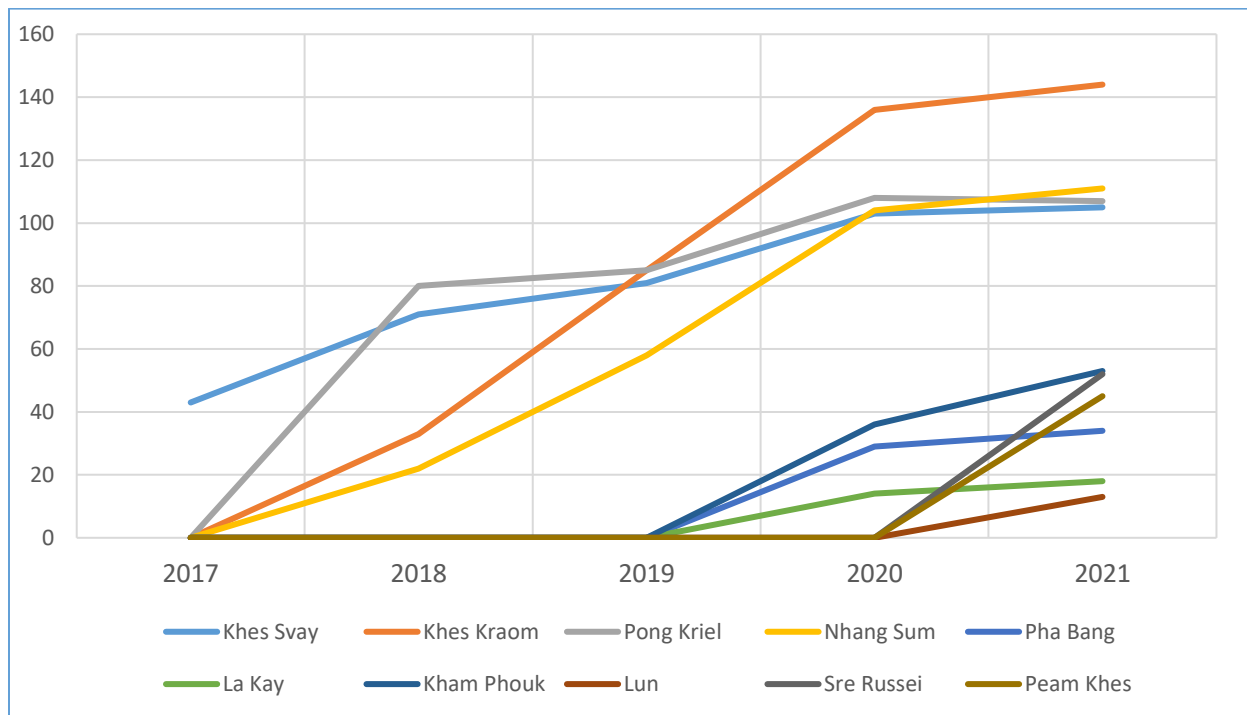


Figure 6 IBIS Rice members in each village by years



Figure 7 Ibis Rice harvesting and sale activities in Khes Svay Village

Financial Management Literacy Training – A life skill training on financial management literacy. When IBIS Rice beneficiaries increase their income, past experiences have shown that they do not know what to do with the surplus money and end up wasting it very quickly. The purpose of the training is to provide training in financial management literacy so that the increase in income we will allow them to generate will be reinvested in reaching food security and securing a budget for the whole year. In November 2021, we have conducted the training in ten villages of Khes Kroam, Khes Svay, Pong Kriel, Kham Phouk, La Kay, Phaban, Nnang Sum, Pean Khes, Sre Russei, and Lun with a total of 396 participants (190 females).



Figure 8. Financial Management Literacy Training activities in Sre Russei Village



Figure 9 Stakeholder Forum meeting in February 2021 in Siem Pang District Hall

- ***Institutional structures*** – Strengthening SPWS Stakeholders Forum at the provincial and district level, and nine Village Forums at the commune level. Four Villages Forum meetings and four Stakeholder Forum meetings were conducted in February, June, September, and December 2021 to discuss issues and opportunities surrounding the management of SPWS. Village issues have been raised honestly and solved together. The relationship between local stakeholders has been strengthened.
- ***SPWS boundary demarcation awareness meeting*** – The boundary demarcation awareness meeting was conducted in Khes Svay village to raise awareness to villagers in three villages of Khes Svay, Khes Kraom, and Pong Kriel to promote the benefits of the demarcation, and encourage villagers to participate in the demarcation activities and respect the sanctuary’s boundary. The meeting was attended by 161 villagers (43 women). The deputy provincial governor H.E Doung Pov chaired the meeting with Siem Pang District Governor and DoE Director.
- ***Rice field mapping*** – In 2021, BirdLife mapped an additional 200 land parcels for 187 households in ten target villages around SPWS. From 2016 to 2021, BirdLife provided technical support to Stung Treng Department of Land Management for mapping a total of 1,347 rice field parcels for 1,042 households in ten villages of Khes Svay, Khe Kraom, Pong Kriel, Nhang Sum, Pha Bang, La Kay, Lun, Sre Rusey, and Peam Khes. A total of 1,139 land certificates have been provided to 847 farmer households. These maps have two purposes: helping the IBIS Rice scheme to monitor the use of lands and providing rice field ownership to villagers as the maps are drawn by the Department of Land Management and registered at the provincial level.

➤ **Cattle and buffalo vaccination** – BirdLife supported the Department of Agriculture of Stung Treng for the vaccination against *Foot and Mouth disease and Haemorrhagic Septicaemia disease* to cattle and buffalos every two times per year, in June and in December in Siem Pang. A total of 1540 cows and 1124 buffalos (total 2664 animals) were vaccinated in June 2021, and 1012 cows and 484 buffalos (total 1,486 animals), or 41% of the total village cattle and buffalo population were vaccinated (a total of 4150 animals annually). The purposes of providing cattle vaccination are to generate income for local people and to protect against spreading illness from domestic animals to wild animals.



Figure 10. Piloted corral vaccination activity in Khes Svay Village in December 2021

Trapeang digging – 20 trapaengs were deepened (15 dug manually, 5 mechanically) to enhance their water retention capacity and as a breeding site for fish and frogs in and around SPWS, involving 278 local villagers from six villages. Trapeangs value for both communities and biodiversity.



Figure 11. Trapeang digging manually in March 2021 in SPWS

➤ **Forest Cover Changer Report** – There were significant forest cover changes between 2010-2021 for whole SPWS sanctuaries, which accounted for 2263 ha (3.81%) of the total forest in 2010 while the forest loss along Sekong River was 924 ha (8.9%), compared to 667 ha (6.43%) in 2019 which is the highest rate. The loss of the forest was because of three drivers, namely community encroachment, road construction, and army base requests for social land concession. The local community encroachment and army base requests for social land concession were the first leading driver of forest loss which the community and farmers encroach and clear land for village settlements and agriculture.

LOMPHAT WILDLIFE SANCTUARY

Lomphat Wildlife Sanctuary covers approximately 250,000 ha. The current BirdLife’s project utilizes field monitoring staff and nine technical staff to work and cover some parts of this enormous landscape. Our work focuses on three main components including 1). Site management and law enforcement (SMLE)—In this component, we work closely with PDOEs (Rattanakiri and Mondulakiri province) by supporting, providing the capacity building, and equipping the rangers to enforce the law enforcement to protect and conserve the natural resources. The patrol event aims to crack down and confiscate illegal activities such as land encroaching, grabbing, logging, hunting, and other activities in LWS, especially core zone and conservation. In addition, to support this part, BirdLife has two technical staff—A law enforcement officer and a SMART and Data Management officer. We supported five sub-stations: Mondulakiri, O’Roveak, and three at Ratanakiri, O’Rohar, Lomphat, and Sre Chrey. The total number of rangers is 23, including the LWS director and deputy directors. The law enforcement teams used the SMART book to record data and patrol information. The data of patrol events were compiled and entered into the SMART desktop stored and produced the report. 2). Biodiversity conservation and protection (BCP)—In this part, we focus on flagship species such as Giant Ibis, white-shouldered ibis, and Sarus crane by conducting several activities such as nest finding and monitoring, roost counting, trapaeng monitoring, awareness-raising, and other species recording. We have seven staff to hold and be in charge of this component with supervision by the project manager. They are field monitoring teams (FMTs), one intern, one biodiversity project assistant, and one biodiversity project officer. 3). Local community empowerment and livelihood improvement (LCELI)—currently, BirdLife has supported three Community Protected Areas (CPAs); O’Rey CPA, Veal Kambor CPA, and O’koki CPA, and a local community called Sre Chrey Biodiversity Conservation Group (SBCG). BirdLife offered the sub-grant to all CPAs and SBCG to implement their management plan or proposed activities facilitated by BirdLife project staff. The main activities of the small grant were conducting forest patrol, CPA members awareness-raising, CPA committee quarterly meeting, and biodiversity monitoring and recording. In addition, BirdLife provides a sub-grant to Sansam Mlup Prey (SMP) to pilot ibis rice at two target villages. We have two community support project officers supervised by the project manager in this component.



Figure 12. The rice paddy where the ibis rice scheme was implemented.

Key Achievements within 2021:

Law enforcement result

Table 2. Enforcement Patrol result

Patrol Effort	Lomphat	O'Rohar	O'Roveak	Sre Chrey	Total
Number of Patrols	70	58	34	12	174
Number of Day	103	183	124	17	427
Number of Night	31	99	78	4	212
Number of Distance	4828	7286	5912	573	18599
Number of Hs	1125	1960	1281	168	4534

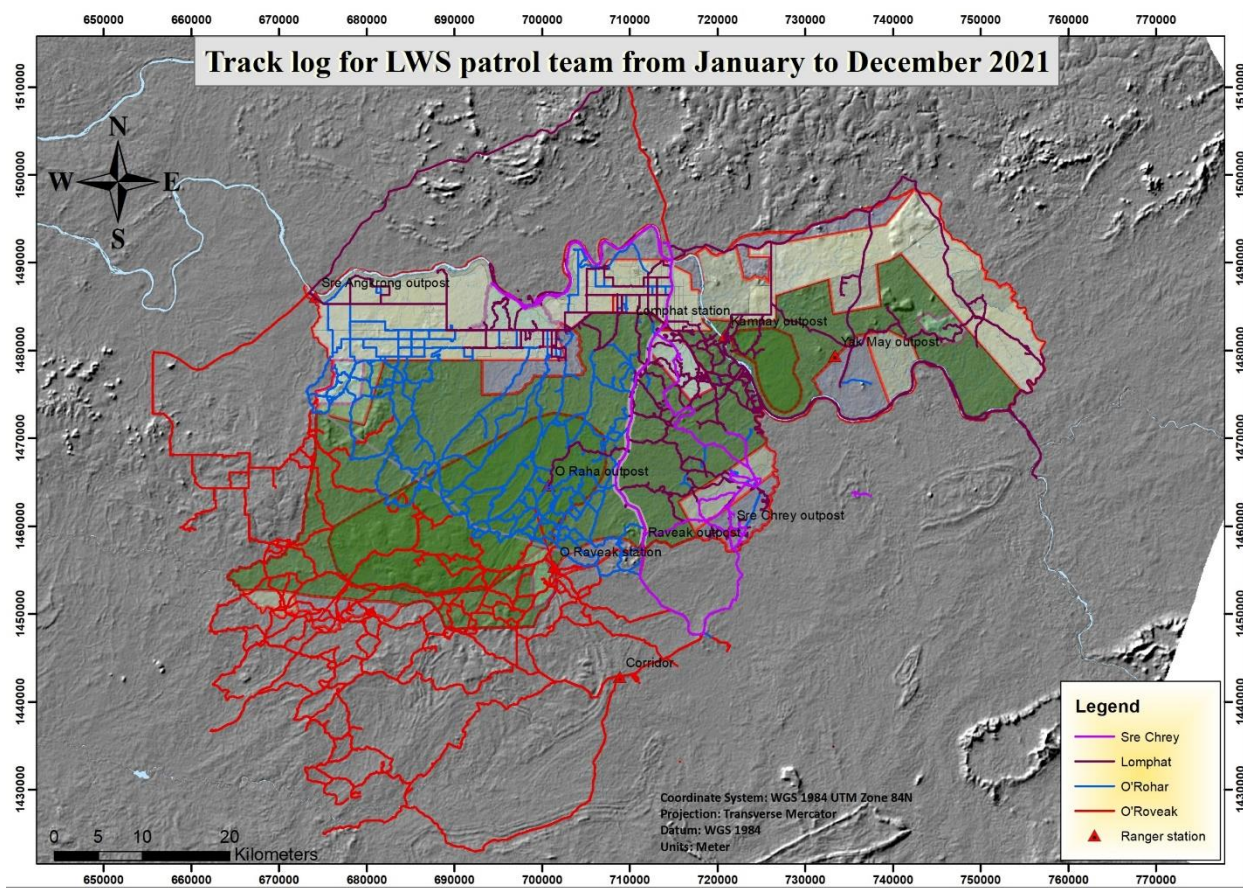


Figure 13 The patrol track covered by rangers in 2021

Table 3. The patrol result for 2021

Description	Amount	Comment/Notice
Chainsaw confiscated	9	LWS ranger teams confiscated nine chainsaws in 2021. So if we compare to 2020, illegal chainsaw use has reduced from 53 chainsaws to 9 chainsaws.
Timber confiscated	3.4m ³	LWS ranger teams have stopped and confiscated one case of illegal transportation of timber 3.4m ³ . These activities have been reduced compared to the year 2020 (8.5m ³).
Logging cases/Trees cutting encountered	193	In 2021 LWS ranger teams encountered 193 trees that were cut down.
Snares/Traps removed	866	In 2020, 1387 snares were removed by rangers; in comparison between the years 2020 and 2021, these activities reduced from 1387 snares to 866 snares.
Land encroachment encountered	37	Illegal land encroachment is the big concern/challenge for us to protect Lomphat wildlife Sanctuary, due to these activities increased, if we compare the year 2020 and year 2021, increased from 27 cases to 37 cases (10 cases were increased).
Illegal building (house, cottage, hut....) destroyed	16	In 2021, LWS ranger teams destroyed 16 illegal houses in LWS.
Live animals rescued and released	11	We have recurred and released eight live animals in LWS in 2021.
Dead animal confiscated	12	LWS ranger teams have cracked down on 12 dead animal crimes in the year 2021.
Illegal logging/poaching camps destroyed	20	Wildlife crimes are reduced too, due to in the year 2020, patrol teams removed and destroyed 38 illegal camps, and in 2021 removed 20 illegal camps.
Crop removed/destroyed	1762	In 2021, LWS rangers removed and destroyed 1772 illegal crops in LWS.
Pole/barbed wire/fence removed	223	In 2021, the LWS ranger team removed 223 poles and 500 meters of barbed wire from LWS.
Military-style rifles confiscated	1	LWS ranger team have cracked down 1 case of illegal military-style rifle (real gun) used in LWS.

		As a result, three offenders who were involved in this case were sent to prison.
Homemade gun confiscated	3	If we compare 2020 with 2021, homemade guns were reduced from 6 to 3. So this activity is reduced.
Motorbike confiscated	22	LWS ranger teams have confiscated 22 motorbikes of illegal wildlife meat transporting, illegal logging, and illegal land encroachment.
Tractor/Hand tractor	1	In 2021 LWS ranger teams confiscated only one hand tractor for transporting illegal timber. The case was fined and released.
Fishing gear equipment confiscated	22	Illegal electronic fishing shocks were confiscated 28 items in 2020, and 22 were confiscated in 2021. 8 Illegal electronic fishing shocks were reduced in comparison between the years 2020 to the year 2021.
File lawsuit to court	7	In 2021, both PDoE of Ratanakiri and Monduliri were sent 7 cases filed lawsuits; most of these cases are illegal land encroachment.
Offenders arrested	25	25 offenders were arrested by LWS ranger teams in 2021,
Written warning	12	Twelve people were gotten writing warnings from LWS teams to stop doing illegal activities in LWS.
Verbal Warning	20	Twenty people were given verbal warnings to stop entering in LWS core zone without permission.
Spray tank confiscated	1	Rangers confiscated 1 Spray tank.
Boat and boat machine	1	LWS ranger teams have confiscated one boat machine for illegal finishing activity.
Grass Cutting Machine	2	Two grass-cutting machines were confiscated by LWS ranger teams in 2021.

- The two-day training on SMART mobile was provided to four patrol teams; ten rangers joined the training. The training aimed to scale up the capacity of rangers in improving the technology used to support law enforcement work. Since the CAMPAS project started, the patrol teams have been using the SMART book to record the data information of patrol events. Moreover, we have provided one Smart Mobile for each patrol station to implement this technology system.

- Each patrol team conducted the regular monthly meeting to report the patrol result and develop the work plan for the next month.
- Provided 18 patrol equipment sets to 18 rangers.
- Support to build the Sre Chrey sub-station and toilet
- Provided four SMART phones to each supported sub-station
- Dig a big pond for O'Roveak sub-station.



Figure 14. SMART mobile training

Biodiversity conservation and protection

- Giant Ibis nest searching and monitoring were one of the priority works. The activity was conducted from May until October. Many locations inside and around the sanctuary had been searched for their nests. As a result, 11 nests of Giant Ibis were found and recorded. Eight nests were successfully fledged with 11 chicks. However, the other three nests were failed due to disturbance and chick collection.

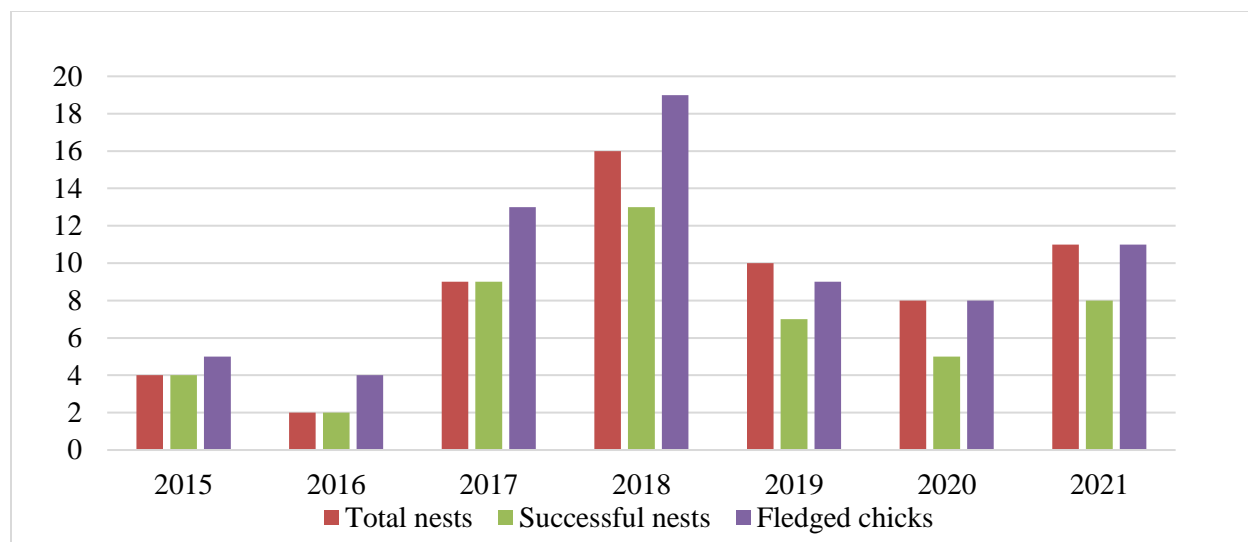


Figure 15. The number of Giant Ibis nests was recorded from 2015 to 2021.

- The White-shouldered Ibis nest searching and monitoring started from December 2020 to May 2021. As a result, 10 White-shouldered Ibis nests were found. Nine chicks were successfully fledged from six nests, while the other four nests failed. The nests failed due to disturbance from humans, forest fire, and other wild animals.

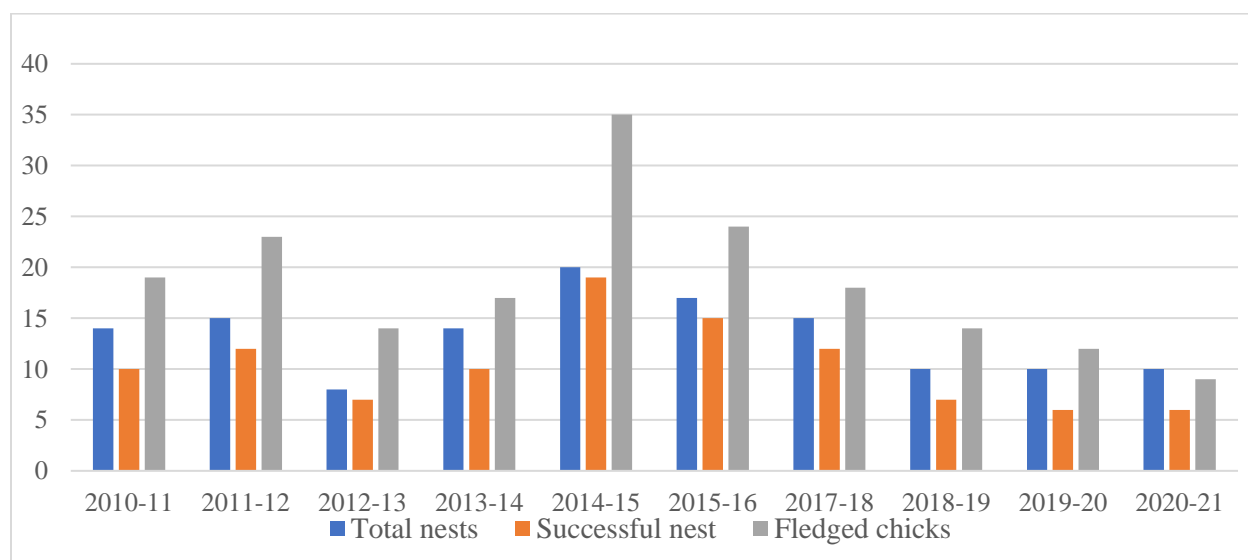


Figure 16. The number of White-shouldered Ibis nests was recorded from 2010-11 to 2020-21.

- Trapaeng monitoring in 2020-2021 was conducted from December 2020 to April 2021. Seven restoration and nine non-restoration trapaengs were monitored twice a month at the middle and the end of every month until the water dried up from trapaengs. After monitoring for five months, the result showed that the non-restoration trapaengs dried up first before the restoration trapaengs. However, most of the monitoring trapaengs completely dried up in April. Moreover,

key species were recorded during the monitoring, including Giant Ibis, White-shouldered Ibis, Lesser Adjutant, and Woolly-necked Stork. Most of the animals were recorded at non-restoration trapaengs. In addition, the FMTs have recorded the track and sighting key species that utilized the restoration trapaeng within the month, excluding the monitoring schedules (figure 4).

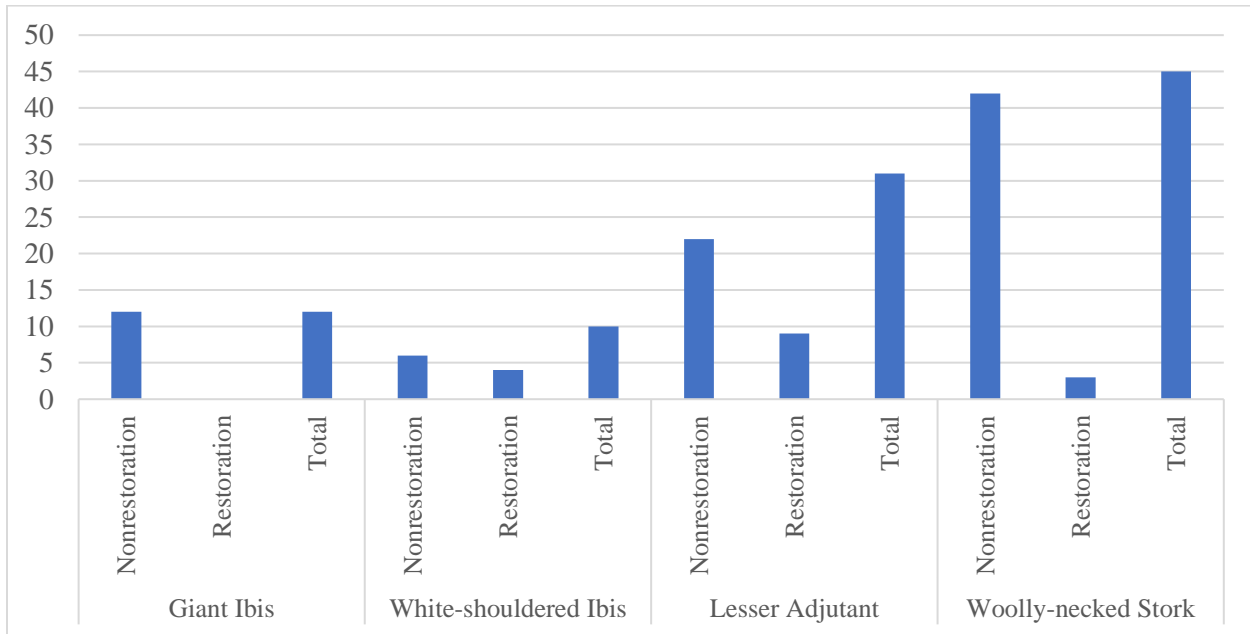


Figure 17. The number of key bird species recorded during trapaeng monitoring.

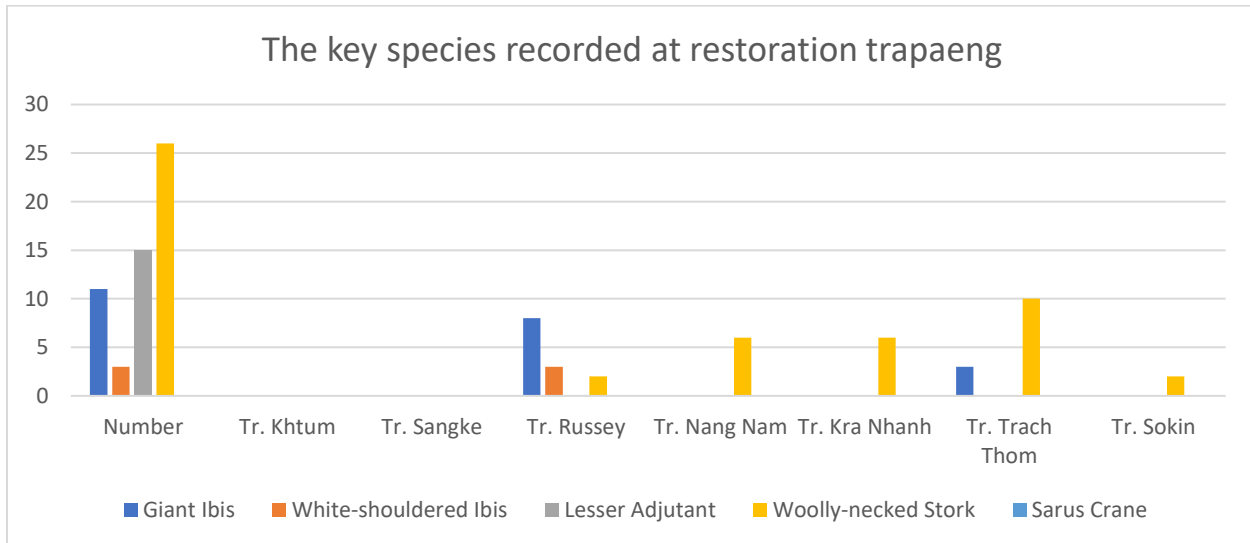


Figure 18. the key species utilized the restoration trapaeng within the month, excluding the monitoring schedules.

- Sarus Crane census was conducted during the first semester of 2021 and the last month of 2020. They were counted once a month at the ended days of every month, from December 2020

to May 2021. In this census season, the highest number of Sarus Crane was counted in May with a number of 5 birds, while the lowest was in February and March with a number of 0 birds.

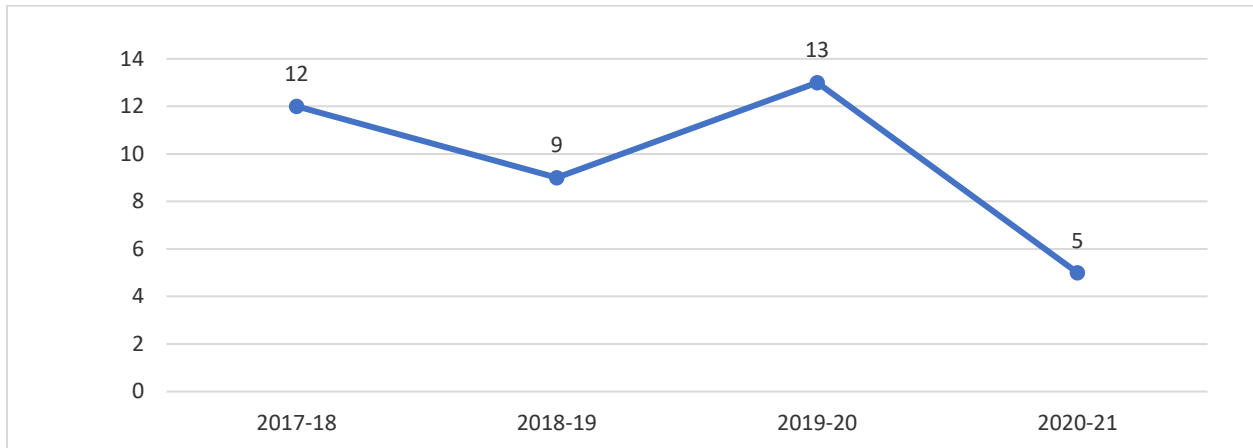


Figure 19. The number of Sarus Crane counted from 2017-18 to 2020-21 season.

- White-shouldered Ibis census was also a priority work in the rainy season. The census was conducted once a month, from July to October. staff worked hard during the counted season to find their roosts. As a result, only five birds were counted. Five birds were the highest number counted from July to September. The lowest number was three birds which were counted in October. Sre Ta Msuk roost held the highest number of birds, five birds among the counted roosts.

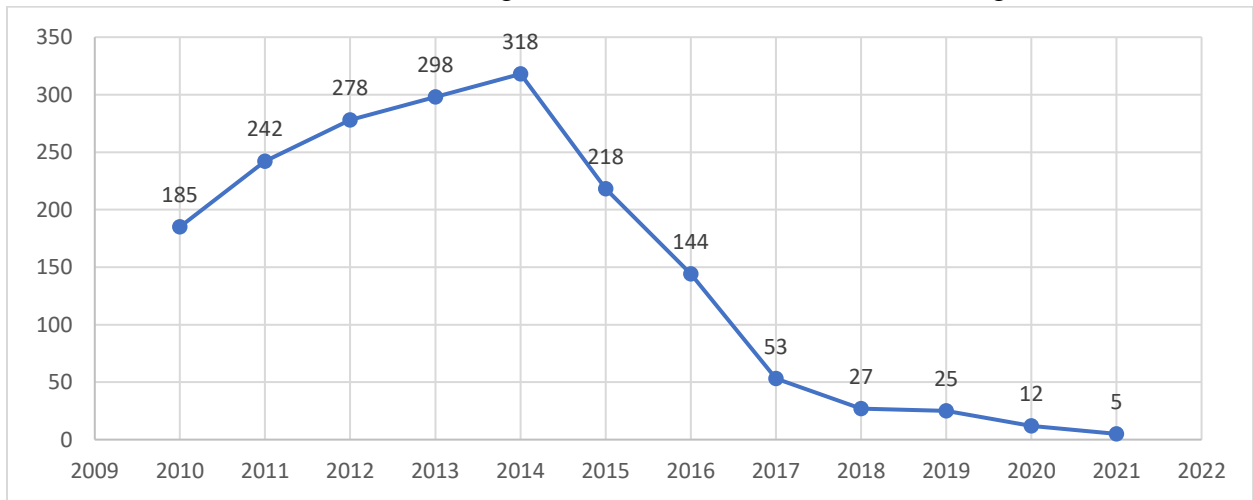


Figure 20. The number of White-shouldered Ibis was recorded during the census season from 2010 to 2021.

- In the breeding season of 2021, Sarus Crane nest finding activity was only conducted in June due to a tight schedule with Giant Ibis nest searching and White-shouldered Ibis census. As a result, the finding activity was mostly focused on the area where their sightings were recorded. One nest with two eggs was found as a result of the finding. Unfortunately, the nest was found destroyed by the wild pigs.

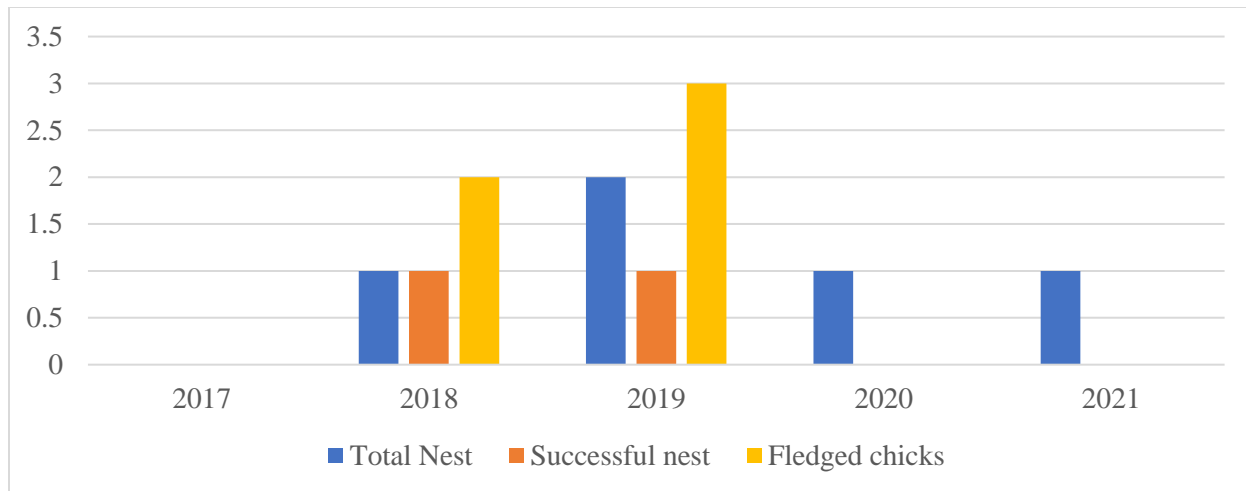


Figure 21. The number of Sarus Crane nests was recorded from 2018 to 2021.

- In the breeding season of 2020-2021, the number of the nest of a vulnerable bird Lesser Adjutant and Near-threatened bird Woolly-necked Stork were found to be 9 and 9, respectively. Six Lesser Adjutant nests were succeeded, with 14 chicks successfully fledged. Eight nests of Woolly-necked Stork were successfully fledged with 13 chicks; however, one nest failed due to disturbance. Although they are not critically endangered birds like both ibises, staff regularly monitored those nests during their field activities.

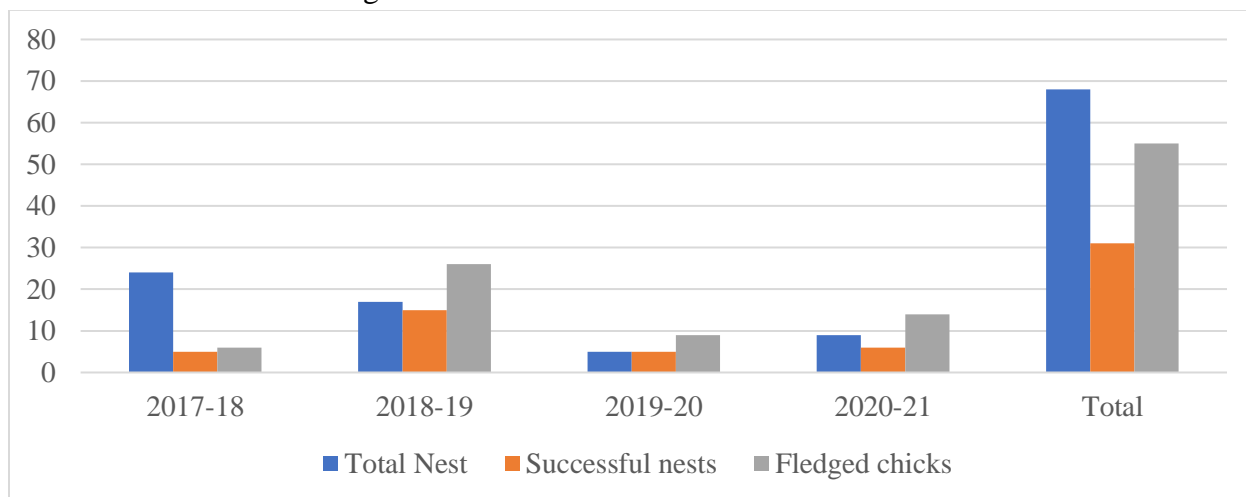


Figure 22. The Lesser Adjutant nest was recorded from 2017-18 to 2020-21 season.

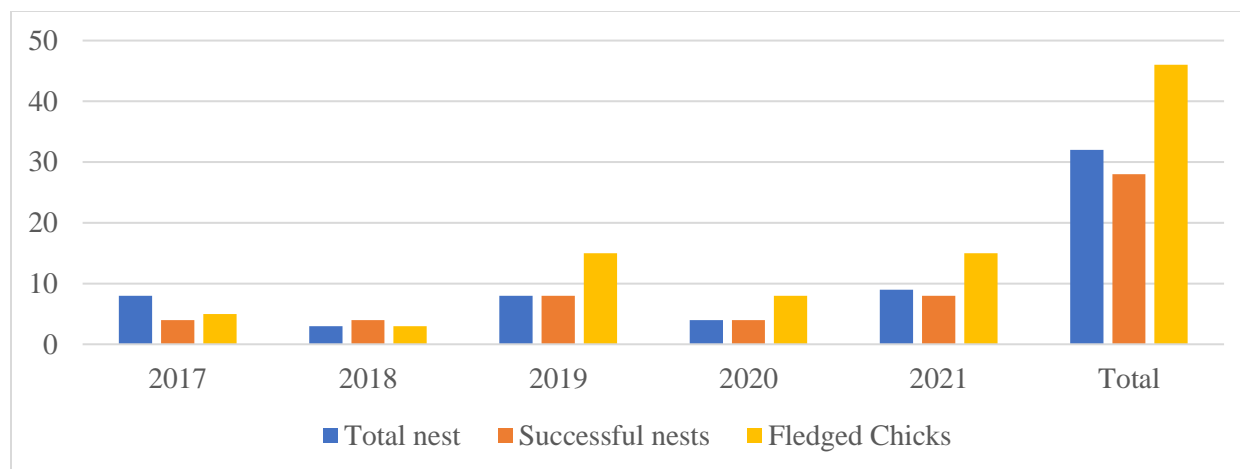


Figure 23. The number of Woolly-necked Stork nests was recorded from 2017 to 2021.

- There were 75 wild animal species recorded in 2021 by field monitoring staff. Among the 75 species, 14 species are globally threatened species. Those species are Giant Ibis, White-shouldered Ibis, Red-headed Vulture, White-rumped Vulture, Green Peafowl, Sarus Crane, Sambar Deer, Woolly-necked Stork, Lesser Adjutant, Great Slaty Woodpecker, Grey-headed Fish-eagle, Alexandrine Parakeet, Oriental Darter, and Silvered Langur.

- Three camera traps were deployed through the year 2021. Two camera traps were deployed in Ratanakiri, and one camera trap was in Mondulkiri province. All camera traps were removed and deployed at new locations to study Eld's Deer in November and December 2021. After almost one year of deployment, 21 animal species were recorded, including five globally threatened species. Those globally threatened species are Silvered Langur, Green Peafowl, Banteng, Long-tailed Macaque, and Northern Pig-tailed Macaque.

Table 4. The list of wild animals captured by camera traps.

No.	Species	Class	IUCN Global	Comment
1	Banteng	Mammal	EN	
2	Berdmore's Squirrel	Mammal	LC	
3	Black Drongo	Bird	LC	
4	Black-naped Woodpecker	Bird	LC	
5	Common Palm Civet	Mammal	LC	
6	Crab-eating Mongoose	Mammal	LC	
7	East Asian Porcupine	Mammal	LC	
8	Eastern Spotted Dove	Bird	LC	
9	Ferret Badger	Mammal	LC	
10	Greater Racquet-tailed Drongo	Bird	LC	
11	Green Peafowl	Bird	EN	
12	Leopard Cat	Mammal	LC	
13	Long-tailed Macaque	Mammal	VU	
14	Northern Pig-tailed Macaque	Mammal	VU	
15	Red Junglefowl	Bird	LC	
16	Red Muntjac	Mammal	LC	
17	Red-billed Blue Magpie	Bird	LC	
18	Silvered Langur	Mammal	EN	
19	Sunda Pied Fantail	Bird	LC	
20	Wild Pig	Mammal	LC	
21	Yellow-throated Marten	Mammal	LC	



Figure 24 Photos of wild animals captured by camera traps

- Asian waterfowl census is an event that is always done once a year in January. Lomphat Wildlife Sanctuary has always joined the census event every year since 2017. As a result, 15 waterbird species were counted in 2021, with 917 individuals. The event was done at 8 locations in Lomphat Wildlife Sanctuary, mostly at small waterholes called Trapaeng.

Table 5. The list of waterbirds was recorded during the water bird census 2021.

No.	Species	No. of species	IUCN Global	Comment
1	White-shouldered Ibis	3	CR	
2	Lesser Adjutant	3	VU	
3	Sarus Crane	2	VU	
4	Cattle Egret	53	LC	
5	Chinese Pond-heron	58	LC	
6	Woolly-necked Stork	34	NT	
7	Whimbrel	1	LC	
8	White-breasted Waterhen	13	LC	
9	Little Cormorant	2	LC	
10	Bronze-winged Jacana	2	LC	
11	Red-wattled Lapwing	3	LC	
12	Purple Swamphen	28	LC	
13	Lesser Whistling-duck	700	LC	
14	Little Egret	13	LC	
15	Yellow Bittern	2	LC	

- In September every year, the International Vulture Awareness Day event was celebrated. In Lomphat Wildlife Sanctuary, the event was done on 24 September 2021 at three villages in Sre Angkrong commune. Due to the Covid-19 restriction, the event was mainly done by playing the recording audio through a motorbike. Aside from the audio playing, we also posted many posters in the villages.

- A wildlife first aid shelter was constructed under the support of the Wildlife Reserves Singapore Group. In 2021, the shelter rescued 15 animals by providing a suitable place for those young or/and injured animals in a short period before they were released or transferred to other rescued centers.

Table 6. The list of animals rescued at BirdLife wildlife first aid shelter in Banlung, Ratanakiri.

No.	Receive date	Species	No. of species	Result
1	23-Feb-21	Leopard Cat	1	Handing over to WRRT
2	06-Mar-21	Leopard Cat	2	Handing over to WRRT
3	06-May-21	Crested Serpent-eagle	1	Handing over to WRRT
4	12-May-21	Oriental Pied Hornbill	2	Handing over to WRRT
5	15-May-21	Leopard Cat	1	Handing over to WRRT
6	22-May-21	Leopard Cat	1	Died
7	15-Jul-21	Malay Night-heron	1	Died
8	21-Jul-21	Crested Serpent-eagle	1	Handing over to ACCB
9	22-Aug-21	Sarus Crane	1	Release immediately
10	29-Aug-21	Asian Woollyneck	4	Handing over to ACCB
11	11-Sep-21	Leopard Cat	2	Handing over to WRRT
12	12-Oct-21	Oriental Pied Hornbill	1	Died
13	19-Oct-21	Bulwer's Petrel	1	Died

Local community empowerment and livelihood improvement

- Provided sub-grant to communities (Veal Kambor CPA, O Rey CPA, Okoki CPA, and Sre Chrey community) to conduct the regular forest patrol and collect birds and Trapeang monitoring data.
- There were at least five training attended by the CPA committees. Some training was organized and facilitated by partner institutions and BirdLife. The training topics were; minute and report writing and letter preparation; compensation on involuntary resettlement caused by the private development project of environmental and social impact context assessment; prevention and control of malaria and parasites; Community-based conflict resolution and management mechanisms; and negotiation and public speaking. About 30 CPA committees were attending the listed training.
- In Covid-19, the awareness or meeting at the village level limited the number of participants. However, O'rey and Okoki CPA still conduct the awareness-raising on natural resource protection and conservation via loudspeaker at six villages.
- Support O'Rey CPA committee chief and members in negotiating with Hoang Anh Lumphat ELC on the compensation cost for the water pumping system installed across the CPA area. The Hoang Anh Lumphat ELC agreed; to provide 300\$ per month to O'Rey CPA for 50 years of their investment contract, remove all build and infrastructure installed with permission, build a gate and fence at the road to the pumping station and build one outpost. However, First-year (2021), the Hoang Ang Lumphat ELC compensated only eight months with 2400 USD because they started to pump in May 2021.
- Supported O'Rey CPA to develop the money using policy.

- Supported Veal Kambor CAP to recruit a new CPA management committee mandate for 2022-2026.
- Support Veal Kambor CPA to organize the CAP committee monthly meeting.
- Support ALL CPA to organize and arrange the CPA quarterly meeting; four quarterly meetings were organized for each CPA.
- Supported O’Koki CPA to build one patrol outpost inside their CPA area.
- Support CPA to install 50 signboards.
- The CPA members and patrol team conducted 151 patrol events; they took three in the forest each patrol event. As a result, the CPA committees removed 375 snare and traps, encountered 19 cases of logging, destroyed seven illegal camps, confiscated nine illegal fishing gears, and encountered two land encroachments. All of these cases were reported to the LWS director.
- At least 130 species were recorded inside CPAs by the CPA patrol teams of Veal Kambor CPA, O Rey CPA, O Koki CPA, and Sre Chrey biodiversity conservation group (SBCG). Those species were included Giant Ibis, White-shouldered Ibis, Sarus Crane, Lesser Adjutant, Asian woolly neck, green peafowl.
- **Ibis Rice scheme:** BirdLife provides the sub-grant to Sansom Mlup Prey (SMP) to introduce the scheme in Lomphat Wildlife Sanctuary. Two villages were selected to pilot the wildlife-friendly rice (ibis rice) scheme, Sre Chrey, and Srepork Thom village. As a result, 31 farmers joined the ibis rice scheme while 40 farmers from SreporkThom.
- **Rice field mapping** – BirdLife work with the LWS management team and local authority to demarcate the land use of Ibis rice registered member. As a result, we demarcated 168 land parcels, including 81 land parcels for the rice paddy, 25 croplands, and 62 homelands. The rice paddy area is 103.48 hectares for both villages (41.98 hectares at Sre Chrey and 61.5 hectares at Srepork Thom village).
- **Cattle vaccination** – BirdLife collaborated with the VET officers of the Department of Agriculture, Forestry, and Fisheries of Mondulhiri Province, local authorities, and village veterinarian to vaccinate cattle in Sre Chrey village, Nong Khileuk commune, Koh Nhek district, Mondulhiri province. The purpose of this event is supporting in agriculture to improve the livelihoods of local communities in the Lomphat Wildlife Sanctuary. In total, 410 cattle were vaccinated from 38 families in Sre Chrey village.



Figure 25 The activity of rice seed distribution to Ibis rice members



Figure 26 Ibis rice member land use demarcation at Sre Chrey village



Figure 27 The ibis rice member at Sre Chrey village removed seedling for transplants



Figure 28 Okoki CPA committee removed the snares during their monthly patrol



Figure 29 The village meeting to select the candidate for Veal Kambor CPA management committee for new mandate.

REDD+ Initiative Project in Lomphat Wildlife Sanctuary

REDD+¹ and the voluntary carbon market are international efforts to innovatively address the increasingly worrisome problem of global climate change. Lomphat REDD+ initiative was considered as an effective strategy to overcome deforestation and forest degradation within the area as well as adjoining meaningfully to access long-term sustainable finance for forest protection. In 2018, BirdLife International has developed its Lomphat strategy that intends to mobilize additional funding sources throughout the REDD + project initiative which has been well-defined as the most appropriate mechanism for dealing with the financial insufficient, refining natural resources for stabilizing and providing improvements for the community livelihoods. This REDD+ initiative project has also vast contributed to the 3rd strategic direction of Cambodia's Climate Change Strategic Plan (CCCSP).

¹ “Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks” (REDD+)

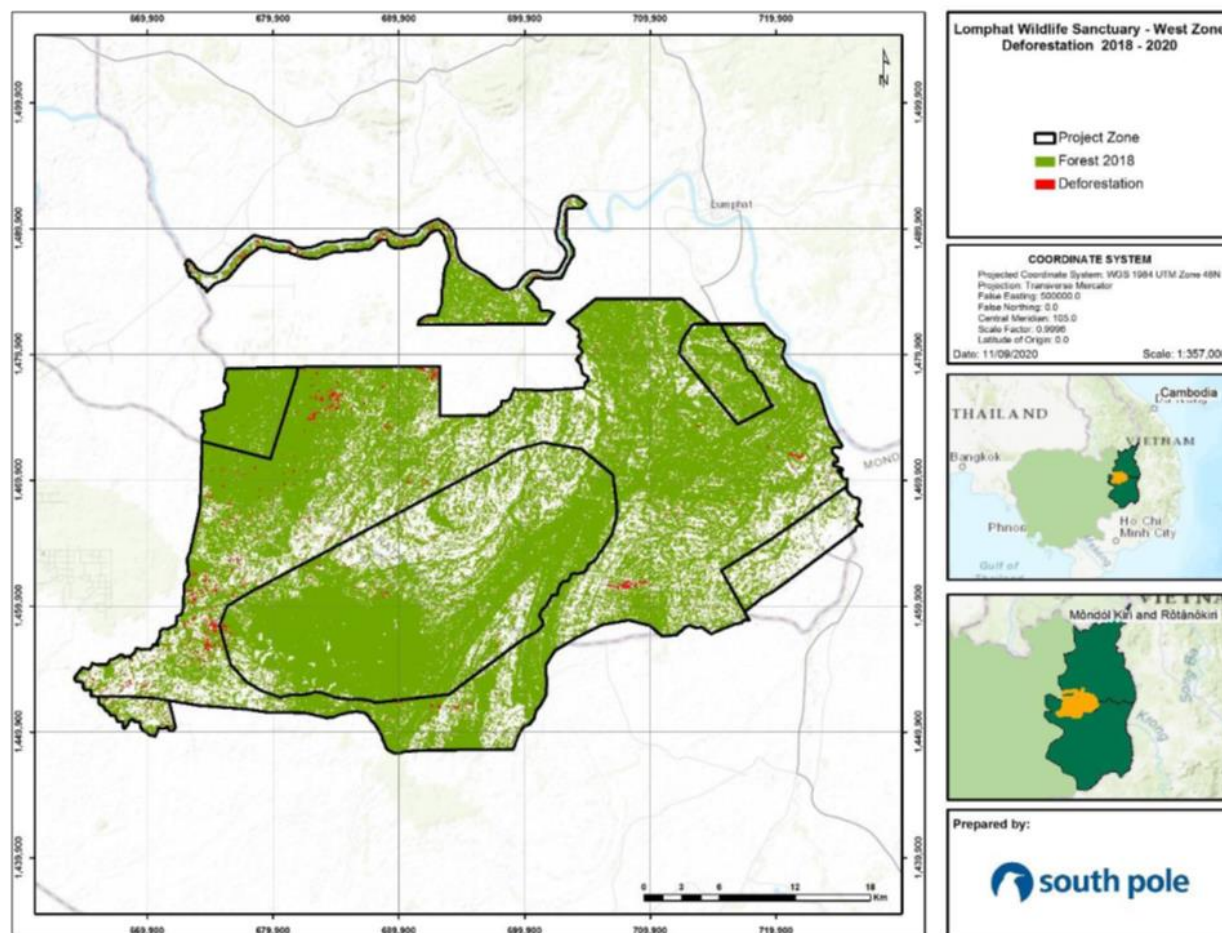


Figure 30. Mapping of REDD+ project in LWS covered total land areas 98,510 hectares located in Ratanakiri and Mondul Kiri provinces

Key Achievements within 2021:

1- Initial assessment of ER Potential

On January 14, 2021, BirdLife submitted a permission letter to the MoE requesting a feasibility study on the potential assessment for the Lomphat REDD + project which covered a land area of 98,510 hectares in the Ratanakiri and Mondul Kiri provinces. In line with this, MoE has principally authorized BirdLife to conduct the potential study on the area as mentioned above via response letter No.013 dated 17 February 2021. The initial assessment was conducted in close collaboration with a technical partner, South Pole, using satellite data. Preliminary results show that LWS has generated an average annual emission reduction (ERs) potential of 161,988tCO₂e per year (for 10 years) coverage 98,510 hectares of core forest area with an estimated total of 776,006tCO₂e in ERs for the first carbon credits verification period of 05 years (2018-2022). However, these estimates are preliminary and may be modified after further more in-depth carbon calculation and verification with the latest data of Cambodia Forest Reference Level (FRL) to ensure that estimates are matching with the national system. The Voluntary Carbon Marketing Mechanism (VCM) and

VM-0015 methodology are defined as appropriate measures for quantitative studies of annual emissions reductions (ER). At present value, for the most likely scenario, the sale of credited RE represents up to USD 42,358,059 million in conservation finance over 30 years, of which about 3 million US dollars is needed for conservation for the first 5 years. These figures would be changed unless the project design document (PDD) has been fully developed.

3- Threat Assessment

NatureLife Cambodia through the Lomphat project team developed a threat assessment and five years strategy to reduce deforestation in the primary target area within Lomphat. This includes law enforcement and forest governance, fire prevention, Community Protected Area strengthening, and biodiversity monitoring. The overall threat to the IBA in 2020 is very high and most threats have significantly increased their impact. There are new threats that have emerged, forest fire is the major threat in 2010 followed by hunting and logging.

4- Courtesy Call Meeting with National REDD+ Focal Person

A courtesy call meeting was facilitated by the NatureLife Cambodia project team in order to build a good collaboration and keep communication well with senior officials of the Ministry of Environment, who are national REDD + focal persons. The most preliminary results and REDD+ project scheme was reported to H.E. Choup Paris, Director General, General Directorate of Environmental Knowledge and Information, and REDD+ focal person together with his subordinate at the meeting on September 09, 2021. There were key recommendations and advisement that had been given by H.E Choup Paris: (1) BirdLife to submit a request letter to MoE to get permission for Lomphat REDD+ project development and implementation in Ratanakiri and Mondulkiri provinces and; permission to facilitate carbon selling follow by VCM mechanism (2) BirdLife to have a proper consultation with MoE to obtain an advance payment for upfront investment fund (3)The Lomphat REDD+ initiative project must include activities on law enforcement, community support, and project design development, as well as biodiversity conservation (4), Develop a budget plan for the first 2 years (2022-2023) with proper consulting with national REDD+ focal person and technical staff BirdLife to review templates of existing documents REDD+ related to project development and implementation, especially Keo Seima REDD+ project and other projects.



Figure 31. NatureLife Cambodia team and REDD+ national team chaired by H.E. Choup Paris at the courtesy call meeting

5- Technical Partner Meeting

Several technical partner meetings were made virtually among the core-three partners for the Lomphat REDD+ initiative project which included: NatureLife Cambodia, BirdLife International, and South Pole (SP) who is a carbon developer/broker company. It should be highlighted that BLI/NLC has MoU with SP to work on the REDD+ initiative project in Lomphat, including having conducted mutual due diligence on each other. Under the current MOU, SP will play a key role in developing the project design document (PDD), carbon registration, and verification while NatureLife Cambodia will provide key assistance in conducting local stakeholder consultation meetings, awareness-raising, field data collecting, and carbon stock inventory. These pieces are seen as an investment that will be recouped through credit sale agreements. No specific budget will be provided by SP for their costs. SP expects to have exclusive marketing rights to the resulting credits. Up to date, all parties have provided common agreed on the 24-months work plan (2022-2023) as well as project roadmap unless the budget plan needs to kick off by January- February 2022 at the earlier.

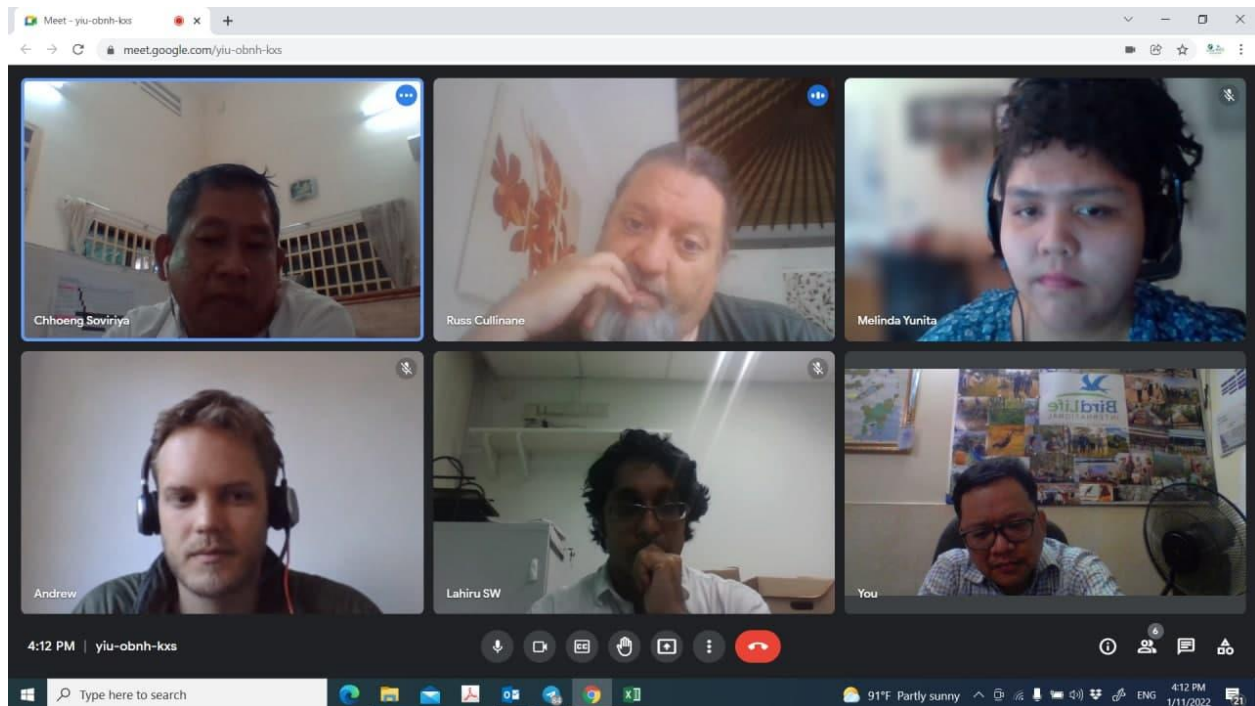



Figure 32. Virtual technical partner meetings among the core-three partners for the Lomphat REDD+ initiative project which included: NatureLife Cambodia, BirdLife International, and South Pole.

6- Permission Letter to REDD+ Implementation

Another request letter has submitted to the Ministry of Environment (MoE) on November 16, 2021, intends to request for permission to authorize BirdLife to develop and implement the REDD+ project in Lomphat Wildlife Sanctuary (LWS) and however, MoE has officially in respond provided authorization to BirdLife to above requests through the letter No. 1640 Sor Chor Nor dated December 10, 2021.



ក្រសួងបរិស្ថាន
លេខ : ១៦៤០.៧៧៧.ប.ស្ត

ព្រះរាជាណាចក្រកម្ពុជា
ជាតិ សាសនា ព្រះមហាក្សត្រ

ថ្ងៃ ពុធ ២០ ខែ វិច្ឆិកា ឆ្នាំ ២០២១ ព្រឹក ៧.២៥៦៥
រាជធានីភ្នំពេញ ថ្ងៃទី ១០ ខែ ធ្នូ ឆ្នាំ ២០២១

ជម្រាបជូន

លោកប្រធានអង្គការជីវិតសត្វស្រស់ស្អាតអន្តរជាតិកម្ពុជា (BirdLife)

កម្មវត្ថុ៖ ករណីសំណើសុំគោលការណ៍អនុញ្ញាតឱ្យអង្គការជីវិតសត្វស្រស់ស្អាតអន្តរជាតិកម្ពុជា រៀបចំ និងអនុវត្តគម្រោងដៃគូ (REDD+) នៅដែនដីប្រកបដោយសត្វព្រៃលំដាប់ក្នុងភូមិសាស្ត្រខេត្តតេតស៊ី និងមណ្ឌលគីរី

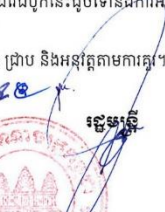
យោង ៖ លិខិតលេខ ០៥៦/២១២៤ ចុះថ្ងៃទី ១២ ខែ វិច្ឆិកា ឆ្នាំ ២០២១ របស់អង្គការ BirdLife ប្រទេសកម្ពុជា

សេចក្តីជូនដំណឹងនេះ មានលក្ខណៈប្រយោជន៍ និងយោងទៅលើ ខ្ញុំសូមជម្រាបជូន លោកប្រធាន ជ្រាបថា ដែនដីប្រកបដោយសត្វព្រៃលំដាប់ក្នុង មានសក្តានុពលខ្ពស់ក្នុងការរៀបចំគម្រោងដៃគូ ដែលអាចទទួលបានឥណទានកាបូន សម្រាប់លក់ក្នុងទីផ្សារអន្តរជាតិ និងទទួលបានចំណូល សម្រាប់ចំណាយលើការងារគ្រប់គ្រងតំបន់ការពារ ធម្មជាតិ ក៏ដូចជាចូលរួមលើកម្មវិធីការពារសត្វព្រៃរបស់សហគមន៍មូលដ្ឋាន។ ក្នុងន័យនេះ ក្រសួងបរិស្ថាន ពុំយល់ទាន់ទៅលើសំណើរបស់អង្គការ BirdLife ដើម្បីរៀបចំ និងអនុវត្តគម្រោងដៃគូ នៅដែនដីប្រកបដោយសត្វព្រៃ លំដាប់ក្នុងភូមិសាស្ត្រខេត្តតេតស៊ី និងមណ្ឌលគីរី។ ជាមួយគ្នានេះ អង្គការ BirdLife ត្រូវអនុវត្តដូចខាងក្រោម៖

១. សម្របសម្រួលការលក់ឥណទានកាបូននៃគម្រោងដៃគូក្នុងក្របខ័ណ្ឌទីផ្សារកាបូន ស្ម័គ្រចិត្ត។
២. រៀបចំបញ្ជីគម្រោងដៃគូនេះទៅក្នុងប្រព័ន្ធដៃគូជាតិ (National Nested System) ក្នុងពេលវេលាណាមួយសមស្រប។
៣. អនុវត្តនីតិវិធីទូទាត់ថ្លៃចំណាយលើការរៀបចំគម្រោងដៃគូនេះដូចទៅនឹងការអនុវត្តរវាង ក្រសួងបរិស្ថាន និងដៃគូពាក់ព័ន្ធនាពេលកន្លងមក។

អាស្រ័យដូចបានជម្រាបជូនខាងលើ សូម លោកប្រធាន ជ្រាប និងអនុវត្តតាមការគ្រូ។

សូម លោកប្រធាន ទទួលនូវការរាប់អានដ៏ស្មោះពីខ្ញុំ។



ស៊ាវី សំរោល

ចម្លងជូន៖

- ឯកឧត្តម សៅ សុភាព រដ្ឋមន្ត្រីទទួលបន្ទុកក្រសួងបរិស្ថាន
- ឯកឧត្តម ជួប ប៊ាវីស អគ្គនាយកនៃអគ្គនាយកដ្ឋានចំណេះដឹង និងព័ត៌មានបរិស្ថាន និងជាជនប្រឈមដៃគូ

Figure 33. Permission letter from Ministry of Environment for REDD+ development in Lomphat

7- Planned Activities for Upcoming Period 2022

No.	Milestone Activities	Expected Result	Timeline
1	Courtesy meeting with H.E Choup Paris, REDD+ focal person on the scheme for the project kick-off meeting	Agreed on a meeting date and program flows	Feb, 2022
2	Kick-off meeting to launch Lomphat REDD+ project	LWS REDD+ project framework will be disseminated and gathered further inputs	March, 2022
3	Finalize Due Diligent	Due Diligence documents gathered and provided to SP	March. 2022

4	Develop an annual operational plan (AoP) and budget plan for REDD+ project implementation. Project activities identification.	Outline of AoP and budget for implementation completed	Mar-April, 2022
5	Conduct an exposure learning visit to KSWS	Community and stakeholders have built their understanding of REDD+ as well as the negative impacts that REDD+ would have	Mar-April, 2022
6	Extensive GIS analysis + Due diligence process + project design	Remote sensing completed for PDD	April-June, 2022
7	Conduct social and economic assessment/survey	Social baseline surveys completed	April-July, 2022
8	Develop a technical agreement with MoE and carry out forest inventory (FI) & carbon stock assessment	Agreement with MoE for carbon assessment signed	April-July, 2022
9	Biodiversity project impact assessment	Biodiversity impact assessment completed	April-July, 2022
10	Preparation Agency and Delegation of Authorization Agreement (ADA)	ADA signed	July-Sep, 2022
11	Local stakeholder consultation including awareness-raising	Community agreements consents, grievance mechanism is well established	Aug-Dec, 2022
12	MRV system design for climate, community, and biodiversity	MRV document developed with monitoring templates	Oct-Dec, 2022
13	Field visit to check data	Assist South pole staff go to the field	Nov-Dec, 2022

BOEUNG PREK LAPOUV PROTECTED LANDSCAPE

Boeung Prek Lapouv (BPL) Protected Landscape is one of the few remaining seasonally inundated grasslands in the Cambodian Lower Mekong. The site is 8,305 ha and supports rich biodiversity, including Black-faced spoonbill, Greater adjutant, and Bengal florican. It is also a vital feeding ground for the declining South-East Asian population of Sarus crane and probably the only important site in Indochina for Yellow Breasted Bunting during their wintering migration. Over 6,000 people are dependent upon BPL for their livelihoods, with local natural resources making up 74% of food provisioning services for local people. BPL is located in the Koh Andeth and Borey Chulsar districts of the Takeo province in the western floodplain of the Bassac River, a distributary of the Mekong River.

Birdlife International, Cambodia Programme implement this project in partnership with the NatureLife Cambodia and Wildfowl & Wetlands Trust (WWT).



Figure 34: Photo of Yellow-breasted Bunting Capture from Boeung Preak Lapouv Protected landscape

Key Achievements within 2021:**Law enforcement**

- The SMART data collection has been upgraded from essential SMART desktop (manual data collected) to SMART mobile data collection (using a smartphone) and has been brought into Boeung Preak Lapouv in 2021. The law enforcement team has been trained with this new modern method of data collection by the project coordinator with technical support from the SMART expert from WCS.
- There are a total of 5 rangers, including the deputy site director and a police officer based in Boeung Preak Lapouv. The ranger team has conducted at least 15 patrols per month in Boeung Preak Lapouv protected landscape to enforce the law. The night patrol is also carried out during the period of nesting of Asian openbill to prevent egg collection and hunting from local villagers from October to November.
- Land encroachment is still a serious problem in Boeung Preak Lapouv. There are a total of five cases of land encroachment in Boeung Preak Lapouv during 2021, which are one case planting the rice and the other four cases plowing the grassland. The total size of encroached land is 85.35 ha. The location of planting rice is on the area of 12.77ha. This area has been encroached on since 2017 and planting rice in 2021. The department of Environmental of Takeo Province has contracted with 10 families who cultivated rice in this area to give back the land after harvesting in 2021. We also prepare a Dyeka to clarify all the encroachment in BPL in 2021 as illegal land clearance and confiscate back to the protected area but not yet approval from Takeo provincial governor.
- The illegal land encroached case has been stuck in Takeo Curt. The Department of Environmental of Takeo Province has been called to clarify the land encroachment case in Boeung Preak Lapouv at Takeo court six times in 2021. The court has issued the letter for calling the offenders but there is no one showed up at court during the presentation of the Department of the environment of Takeo province.
- The Ranger team has confiscated and burned 12m of electric wire, 09 rat tail nets, 65 bamboo poles, and 190 m of fishing net. There is 09 kg of fish that has been released inside the protected area.
- There was a total of 75 Asian Open bills found sick and dead in Boeung Preak Lapouv protected landscape in 2021. Among the specimens taken in collaboration with the vet team from WCS, two specimens were tested positive for Avian Influenza (H5).
- There was one case of bird hunting recorded (Black-headed Ibis) with evidence of bird carcass found near the Thea Canon area. The bird had the sign of shooting with a slingshot. The carcass was packed and sent to the laboratory in collaboration with the vet team from WCS.
- The ranger team has confiscated and burned illegal hunting gear in Beoung Prek Lapouv protected Landscape such as 265 m of wildlife hook line, and 200m of wildlife trap (wire).

- Besides doing the patrol to enforce the law, the awareness-raising has been carried out along in BPL by the ranger team. There is a total of 66 local people who have been aware by rangers and FMTs while they access the BPL for fishing, grass harvesting, wild vegetable collection, and travel. They are educated about land encroachment, fire, hunting, egg collecting, using illegal fishing gear in the protected area. And the ranger team also coordinated an awareness event organized by the Ministry of Environment inside Boeung Preak Lapouv Protected Landscape. The event is a live show from the nesting site of Asian Openbill on social media (Facebook Page of Ministry of the environment).

Education and Awareness

The achievements of our education and awareness projects are as follow:

• Environmental Education

- Integrating the Environmental Education and Sarus Crane Conservation with the three target schools. 14 teachers from three primary schools were invited to join the online training on 4 lessons (Wetland protected landscape, Sarus Crane, Biodiversity and Ecosystem, Environmental pollution).
- Finished teaching on Environmental Education and Sarus Crane Conservation of 5 lessons within 10 lessons in Banteay Tlay primary school with Sangkom Meanchey and Kdol Chrum primary school completed only 3 lessons.
- Organized the examination with students from three primary schools to evaluate the knowledge of students on Environmental Education. The rewarded students are 76 kids who passed the exam with the highest score.
- Provided supporting materials (10 teacher books, 95 student books, 25 pictures books, pens, A4 papers, calendars. else) for teaching to three target schools of Sarus Crane and Environmental Education Project in BPL.

• Community Awareness

- Installed three signboards to promoted Sarus Crane conservation with a message to encourage local communities to manage agricultural wastes at Sangkom Meanchey pagoda, Banteay Sleuk village, and Banteay Tlay Primary school.
- Installed three welcome signboards in Borei Chulsa and Koh Andaet District to let the public know about the Boeung Preak Lapouv location.
- Provided 10 copies of Sarus Crane photos with frames to the Department of Environmental of Takeo Province, Koh Andaet, and Borei Chulsa districts, six communes around BPL, and keep on in headquarter. The purpose of these activities is to remain them that Sarus Crane, the globally threatened species are in BPL. Please conserve this wetland!
- Completed Mobile broadcasting to inform about the negative impact from land encroachment, burning of flood forest, illegal use of the fishing gear, wildlife poisoning, and collected bird eggs to local communities surrounding BPL with distributing of Sarus Crane Calendars. Together to fight with Covid19, we also distributed equipment like masks and Alcohol, to local authorities. There are Kdul

- Chrum, Sangkom Meanchey, Bontey Sleik, Chombok Em, Prolay Meas, Derm Kroch, Bontey Tlay, Dey Lerk, and Keo Kampleng village.
- Celebrated National and World Environment Day and World Migratory Bird Day (WMBD) 2021 online to raise awareness on the importance of the protection of the environment and the importance of wetland for birds and people.

Species and habitat monitoring

- The Boeung Preak Lapouv is probably the only important site for Yellow-breasted Bunting in Cambodia or Indochina. In 2021, We observed Yellow-breasted Bunting from late December 2020 while conducting the Sarus Crane Census, with the first sighting involving 20 individuals. Subsequently, we monitored this roosting site to see if there were variations in the number of individuals using it, and assess the quality of the roosting habitat. We found that the population of roosting Yellow-breasted Bunting increased daily, with the maximum count on 21 March 2021 of 2,780 individuals. Towards the end of April, only about 1-4 individuals were incidentally recorded in front of Boeung Prek Lapouv Protected Landscape headquarter. The manuscript in the title “Emerging evidence shows global importance of Boeung Prek Lapouv Protected Landscape, Cambodia for Yellow-breasted Bunting *Emberiza aureola*” has been submitted to The Cambodia Journal of Natural History (CJNH) for publication as Short Communication.
- 79 species of bird have been recorded in Boeung Prek Lapouv in 2021 including 01 Critically Endanger (Yellow-breasted Bunting), 01 Endanger (Greater Adjutant), 01 Vulnerable (Sarus Crane), 06 Nearthreatend, and others are Least Concern species.
- One part of the northern part (8Ha) of the water management plot has been restored. The restoration is carried out to make the Eleocharist species spread wider in the water plot. The restoration method is to plow the land inside the management plot and fill the two remaining canals along with the management plot dyke. By the middle of November 2021, we have repaired the broken part of the water management plot dyke with a local villager from DeiLerk Village (the village next to the core area) to prevent the water that will flow out from the controlling plot.
- The Asian Waterbirds Census has been conducted annually, a total of 64 bird species was recorded in 2021, and no presence of the Black-faced Spoonbill.
- The Sarus Crane Census was conducted in 2020-2021 with the maximum record of 41 birds (including 05 Juveniles) in December 2021.
- Controlling Invasive plant species is a top priority aspect in the conservation management plan. Thus, it is not one hundred percent successful, but we are helping to low down the stress of natural habitats, restore the foraging habitat of birds, especially the Sarus Crane. Provides free-living to a flooded forest that is roosting, a nesting site for water birds.
 - + From 2019 to 2021, seven plots (including a water management trial) of Giant Mimosa were designed to conduct the experiment on Giant Mimosa management. The treat location was along Canal No.03 to 87 and toward the water management trial plot and behind

DeirLerk village. The method of cutting the mature Giant Mimosa with seasonal flood control has been applied and implemented as a Giant Mimosa management tool. As a result, *Mimosa pigra* was removed on an area of 40 ha (including 16 ha of water management trial) mixed density with other aquatic vegetation and grassland in the former core zone of protected landscape. And pluck 32 ha of Adhoc plot that located behind DeiLerk village. The mature plant is lower down the number from year to year, but the seed growth is still high. The seed is probably brought in from other areas by floods. And the noted point is, this plant grows faster and bloom in August (Early rainy).

+ The study of *Impomea ropeans* mortality after removal since 2020 has been also conducted in February 2021. The quadrat survey resulted that 12% of cut stems have re-grow and 24% were new growing (from seed or root). The other growth from outside into the controlling plot is 21% compared to cut stem. This is a good result that most of the cut stem died at a high rate (about 78% equal) but the concern is growing rate from seed or root that lay under the ground and growing from outside to inside controlling plot. Thus, the big scale of cutting should be applied for landscape control.

+ Water hyacinths have spread and bloomed in most canals of BPL. With funding and technical support from BirdLife International Cambodia Programme, the controlling activities of Water hyacinths were led by Mr. Lim Vart and Ranger in Boeung Preak Lapouv with five local people to take out Water hyacinths from the canal in the area of Fishing Pond to Thea Canon with the length of about 1km as a boat way (1.50m X 1000m). Water hyacinth was taken out from the canal to put on the land surface and make it die by sunlight. Another part was collected for making compost fertilizer by mixing with cow dung (solid compost).

- Birds still use BPL for a nesting site. The study of bird nests has been conducted in BPL Protected Landscape in October and November 2021. There were six species of bird recorded during the census day. There were 2931 nests of Asian Openbill, 285 nests of Little Cormorant, 180 nests of Black-Crown Night-heron, 32 nests of Oriental Darter, 30 nests of Grey Heron, and 22 nests of Purple Heron. Among the total of Asian Openbill, 90% of nests hatched, and about 10% fail due to flood, falling from the nest, and being eaten by rats.



Figure 35. Contract sign with local people who planting rice on the encroachment area in BPL



Figure 36. Water-hyacinths remove from canal in BPL



Figure 37. Wildlife Health monitoring in BPL



Figure 38. Land encroachment area in BPL 2



Figure 39. Provide gifts to 76 students who got the high score



Figure 40. Provide Sarus Crane photos to local authority



Figure 41. Mobile broadcasting and education activities during Covid-19 pandemic

WWT Work in BPL

- The restoration of approximately 25 hectares of seasonally inundated grassland habitat by improving hydrological conditions through blocking unused man-made ditches, lowering the ground, and building dykes.
- Planted a 5-hectare area of inundated forest with native tree species. This included an area of degraded gallery forest historically used as a waterbird roost.
- Drafted a 5-year site management plan. The Plan will be updated and released post zonation.
- Completed a high-resolution elevation survey of land inside the Protected Landscape boundary using a UAV drone.
- Completed site-wide hydrology mapping surveys and channel cross-section surveys to aid future modeling.
- Monthly water quality monitoring commenced; data was collected on meteorological variables, water flow, ground and surface water levels.



Figure 42. Blocking unused man-made ditches in BPL



Figure 43. Planting trees and shrubs in BPL

ANLUNG PRING PROTECTED LANDSCAPE

Anlung Pring Protected Landscape had been established and managed by the Forestry Administration (FA) of the Ministry of Agriculture Forestry and Fishery (MAFF) with the Wildfowl & Wetland Trust and BirdLife International Cambodia Programme (BirdLife) between 2004- 2016. This site was transferred to the Ministry of Environment (MoE), WWT, and BirdLife in early 2016. The Protected Landscape is located in Kampong Trach District of Kampot Province and covers a total area of 217 ha, approximately one kilometer from the border with Vietnam within the lower Mekong Floodplain. The area is low-lying with an elevation range of 0.0–3.5m above sea level and is influenced by a small river that experiences tidal influences, even though the site is approximately 20 km from the Gulf of Thailand.

The characteristic habitat of this site is mostly sedges, interspersed with *Melaleuca* scrub. It is a prime feeding ground for the South-East Asian population of Sarus crane between the months of November and May. This conservation area is divided into two parts by a road embankment; the first of which is Northern part covers 33ha and other parts of which Southern part covers 184ha.

Birdlife International, Cambodia Programme implement this project in partnership with the NatureLife Cambodia and Wildfowl & Wetlands Trust (WWT).



Figure 44. The photo of Sarus Crane feeding in Anlung Pring Protected Landscape

Key Achievements within 2021:**Law enforcement**

- There are 3 rangers (including the site director) and 2 Field monitoring teams based in Anlung Pring Protected Landscape. The Anlung Pring is small and no serious problem occurred. The ranger and FMTs always joined patrolling and Monitoring at least 10 times per month.
- There were three cases of bird hunting outside the Anlung Pring Protected Landscape. With collaboration between Rangers, FMT, Community Protected Area, and local authority, the case has been crake down. The first one in May 2021, the team has confiscated three bird traps with offenders on the location about 850 m away from Anlung Pring. The second case was bird trapping by using a bird net in October located near the Community Center in which one man was educated to remove the trap and warned to stop committing this activity in the future.. The last one was located in the Phnom Teuk Area, the director of Anlung Pring has collaborated with a commune police officer to confiscate two sets of bird net which is equal to 80m in length. The offender has been written a warning by the Director of Anlung Pring.
- Therewas one case of shrub forest destruction recorded in Anlung Pring. One man cut down the shrub on an area of 1203m² in side Anlung Pring and has been educated by the field team.

Education and awareness

- Mobile audio broadcasting has been conducted to raise awareness about the impact of using agricultural hazardous chemicals and their waste to local communities around the protected landscape, and to encourage them to keep agricultural wastes in the boxes around AP. There were over 1000 people who heard this awareness audio.
- A small meeting to raise awareness was also carried out in the villages around Anlung Pring by collaborating with the village chiefs. The key message of this meeting wasabout the impact of agricultural wastes, issues of using agrichemical on the public health and wetland ecosystem, and safeguard method while using this hazardous chemical. The total number of participa per meeting was about 10 to 15 people.
- 07 trash boxes were provided to 6 primary schools and the Anlung Pring station. The trash box aimed to make the local people, students separate their waste in daily life waste management.
- Enlarged the agriculture hazardous waste management in the target village around Anlung Pring. By 2021, 16 storages boxes were installed to enlarge the project to encourage local communities to put hazardous wastes to reduce the impact of agricultural hazardous wastes on Anlung Pring wetlands ecosystems.
- The agricultural hazardous wastes have been collected from the storage boxes and rice fields around Anlung Pring 3 times and transported to keep in a safe place at Kapong Trach garbage area. The total amount of hazardous waste was 617 bottles/bags from

Koh Chhumka village, 212 bottles/bags from Koh Tnout, 190 bottles/bags from Preah Troheing village, and 332 bottles/bags from Chress village.

- To manage daily life's waste, the recycling business team has been set up in Anlung Pring. We have provided the capital and materials (Cart, Motorbike) to buy the daily life waste that can recycle in the target village around Anlung Pring.

Local empowerment

- The Covid-19 project provided donations (food) to 200 local communities to support local livelihood and raise the significance of the wetland landscape.
- Five saving groups were established and operating with 78 members. This scheme will help to support local livelihood during the Covid-19 pandemic period.

Species and habitat monitoring

- The Asian Waterbirds Census has been conducted annually. A total of 44 bird species was recorded in 2021. The Black-tailed Godwit (Near Threatened Species) still access Anlung Pring as previously.
- The Sarus Crane Census was conducted in 2020-2021 with the maximum recorded of 91 birds (including 07 Juvenile) in February 2021. The total number of Sarus Crane recorded in Cambodia and Vietnam was only 164 birds which indicates that over 50% of cranes are using this small wetland in none breeding season.

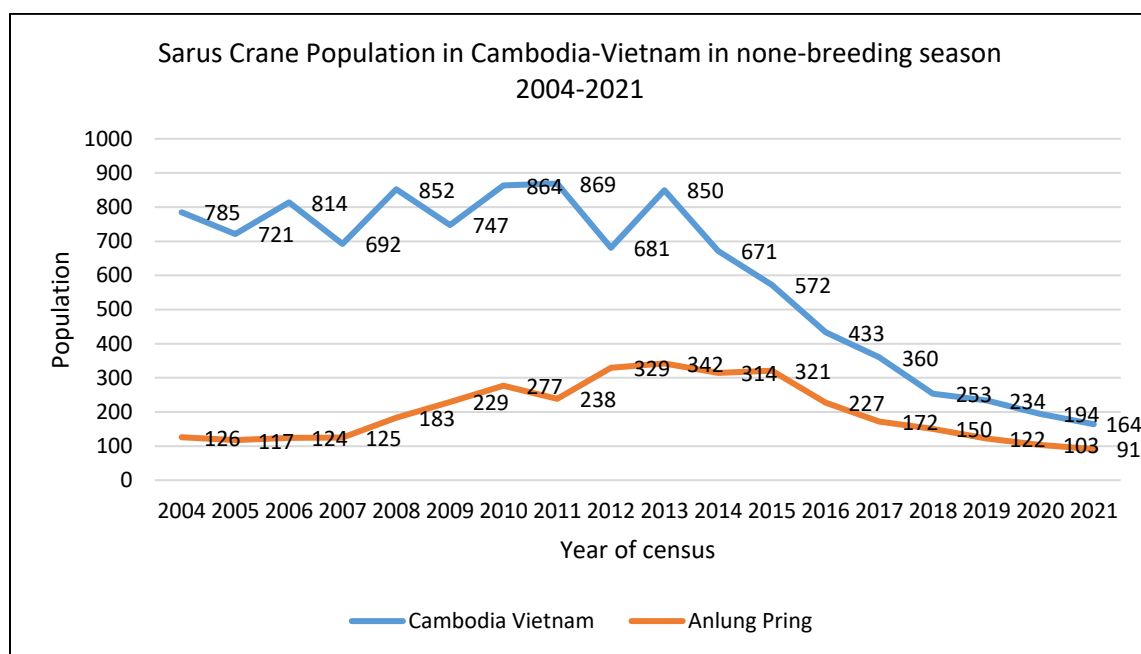


Figure 45. Sarus Crane Population in Cambodia-Vietnam in none-breeding season 2004-2021

- Cooperated with the WCS's vet team in doing wildlife health monitoring in Anlung Pring. The monitoring team has conducted two field monitorings in Anlung Pring during 2021.

- Advised, supported, and facilitated the Young Conservationist Team to conduct a research study on various sites used by Sarus Crane, which are believed to be the secondary feeding grounds of Sarus Crane during the non-breeding season in Anlung Pring Protected Landscape, Kampot, Cambodia. This study recorded the differences in the population of Sarus Crane using the sites that contain inundated grassland and Rice paddy habitat. This study also investigated the human activities, which are among the main threats to wetland ecological structure and biodiversity, specifically Sarus Crane, affecting the behavior of Sarus Crane in foraging site selection. The history data of Sarus Crane forage outside Anlung Pring from the interview with Rangers and Field monitoring teams showed the five important sites such as Phnom Teuk, Preah Traheung, Koh Ansa, Koh Kondal, and Koh Tayoy which support Sarus Crane as a secondary foraging site beside Anlung Pring Protected Landscape. The Phnom Teuk, Preah Traheung, and Koh Tayoy are dominated by Eleocharis communities which are preferred by Sarus Crane (Yav, 2014). The Koh Ansa and Koh Kondal are rice paddy, in which rice crop is known as an essential food of Sarus Crane (Elphick & Taft, 2010). But based on the data collection, Sarus Crane has decreased from these five selected sites to almost zero cranes in 2021. Among the five sites, Phnom Teuk used to record the presence of Sarus Crane foraged about 50% of Sarus Crane available in Anlung Pring protected landscape and still recorded the presence of Sarus Crane in 2021 which maintain its role as the most important site. The disturbance activities mostly committed by the human inside or close to the foraging site, affected habitat selection. Many forms of human activities were recorded in the five sites including fishing, grazing, shrimp farming development, and wetland degradation by converted to economic construction, housing, and other forms of development purposes. More awareness of the importance of Phnom Teuk wetland, Preah Traheung wetland, and Koh Tayoy in playing a crucial role as foraging habitats of Sarus cranes and other bird species should be raised. The ecosystem function of Phnom Teuk, Preah Traheung should be maintained for it to continue to support Sarus cranes and other birds' diet and survival. Human activities that are known as a threat to Sarus cranes at these sites must be mitigated and well managed to ensure the Sarus Cranes are able to find food for the long term in an environment that is safe from threats.

Ecotourism, local livelihood improvement, and others

- Completed site-wide hydrology mapping surveys and channel cross-section surveys to aid future modeling.
- Monthly water quality monitoring commenced; data was collected on meteorological variables, water flow, ground and surface water levels.
- Engaged over 200 rice farms in a sustainable agriculture project which included 55 farmers trialing a cash crop (Mung Bean) and drought-tolerant rice varieties.



Figure 46. Mung Bean crop in a farm next to AP

CRANE RICE INITIATIVE

This new initiative is led and implemented by NatureLife Cambodia with support from BirdLife International Cambodia Programme. The key achievements in 2021 include:

- The size of the crane rice fields was expanded from 8.37 ha in 2020 to 18.41ha in 2021 by leasing local rice fields of farmers nearby Anlung Pring Protected Landscape for conducting the crane-friendly rice experiment for enlarging habitat and supplementing food to Sarus Crane.
- The total Crane Rice yield in 2021 was about 8737 kg (8.737 tones) from two rice species (Pong Roluk rice = 1512kg and Bok kateurm rice = 7225kg)
- A rice field monitoring team for crane and other biodiversity monitoring was established.
- The first-year monitoring report about Crane Rice Experiment in Anlung Pring Protected Landscape was developed.
- The final draft of Crane Rice and Community Crane Rice Protocol was developed.

- 41 collaborated farmers received rice seeds and organic fertilizer from the project and finished their harvesting with 53 tons of rice.
- 2 out of 41 collaborated farmers did not practice the Crane Rice criteria.
- Our project support finding the market for collaborated farmers and they can sell the rice at a higher price (3% higher than the local market).
- Collaborated farmers receive all agricultural training although with a short period of delay due to COVID 19 spreading.
- Field data collection for monitoring according to the PRISM tool is done.
- Crane Rice was promoted in the farmer market exhibition
- The field team and rangers conducted regular monitoring to examine the accessibility of Sarus Crane at the crane rice fields
- Rice Storage Room was completely built next to Anlung Pring Protected Landscape headquarter.



Figure 47. Crane Rice, 2021 harvesting

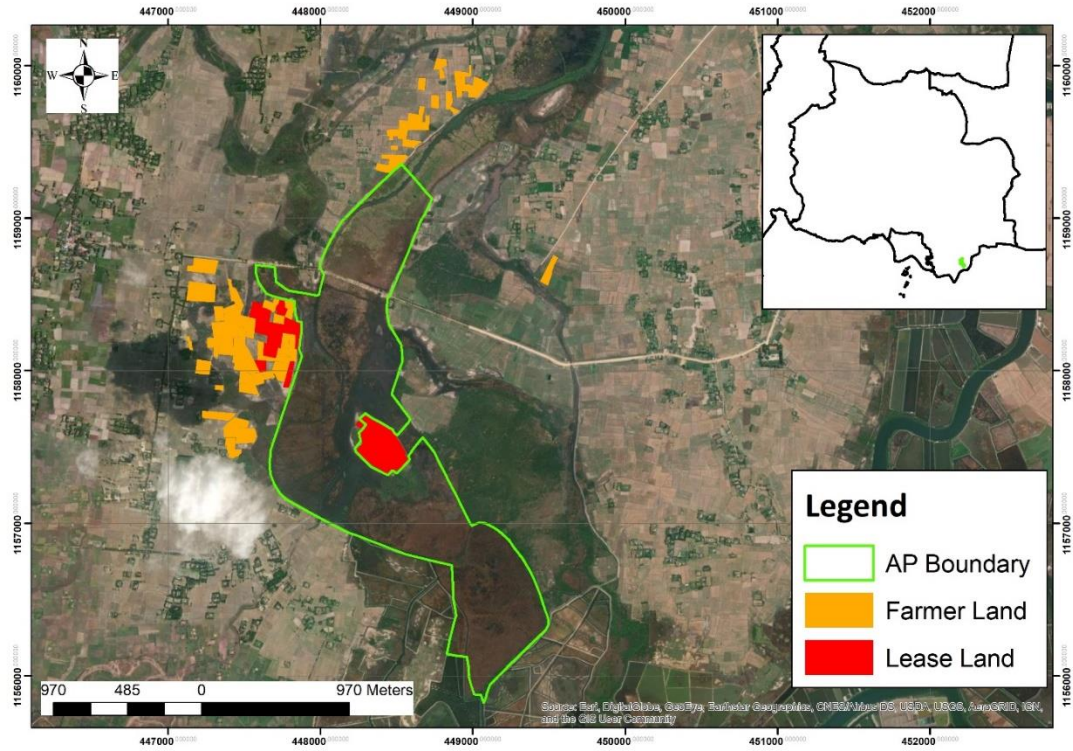


Figure 48. Crane Rice Fields (leasing land and community land)



Figure 49. Collaborated farmers received seed and organic fertilizers

STUNG SEN RAMSAR SITE

Stung Sen has been designated as the fifth Ramsar Site in Cambodia since November 2018 with a coverage size of 9,293 ha in Phat Sanday Commune, Kampong Svay District, Kampong Thom Province. The Ramsar Site sits on intact areas of unique seasonally flooded freshwater swamp forest along with the southeastern edge of the Tonle Sap Great Lake, which is enclosed by gallery forests, low-stature shrub land, inundated/submerged trees, and extensive mats of herbaceous, aquatic vegetation. The water exchange between the Mekong River, the Stung Sen River, and the Tonle Sap Great Lake has a strong influence on the vegetation and regular flooding cycle in Stung Sen Ramsar Site. This Ramsar site has an exceptionally high level of aquatic productivity that supports human livelihoods and unique biodiversity processes.

This project was implemented in collaboration with the Department of Freshwater Wetland Conservation (Ramsar Administration Authority in Cambodian).

Birdlife International, Cambodia Programme implements this project in partnership with NatureLife Cambodia.



Figure 50. Bird Species spotted in Stung Sen Ramsar Site during rangers' monthly patrol

Key Achievements from 2021:

Zoning and Management Plan Development

NatureLife Cambodia has regularly participated in the Provincial Consultation Workshops on Zoning and Management Plan Development of Stung Sen Ramsar site with the World Bank Project (Cambodia Sustainable Landscape and Ecotourism Project) and IUCN (UNESCO). NLC always took the opportunities to speak up, ask questions, and share ideas, especially in the group discussion for further improvement and adjustments on the zoning and management plan.

Capacity Building to the government rangers

With funding support from the European Union (EU) and Critical Ecosystem Partnership Funds (CEPF) in cooperation with the Wildlife Conservation Society (WCS), NatureLife Cambodia has been able to provide a series of technical training to government rangers at Stung Sen Ramsar Site, most of which focus on the improvement of natural resources management through their monthly patrol on Biodiversity Monitoring and Law Enforcement.

- **SMART Mobile**

NLC has started to provide training on SMART Mobile in May 2021 to support law enforcement patrols and increase the efficiency of biodiversity monitoring in the Stung Sen Ramsar Site, in which two smart phones were distributed to the rangers after the training (one for Phat Sanday Station and another for Boeung Thom Station). As a result, 13 rangers in Stung Sen Ramsar Site have been able to apply SMART Mobile in their monthly patrol, and data of SMART had been applied in the monthly report in the following month.

To evaluate the understanding as well as monitor the performance of the rangers after receiving the training, NLC has set up regular On-job training every month so that the technical staff can observe and respond to any difficulties or challenges rangers might encounter during their actual application in the field. Up to now, NLC is giving on-job training on a monthly basis that those addressed challenges were somewhat factors that both technical team and rangers could work together for better adjustment and outcomes.



Figure 51. Training on SMART Mobile to government rangers in Stung Sen Ramsar Site

- **GPS and SMART Book**

As NLC received new funding from the EU in April 2021, SMART has become a core objective for the capacity building to government rangers that different levels of training on SMART are well developed on a planned schedule. Even though the government rangers in Stung Sen Ramsar site had received the training on SMART from NLC, it is compulsory to organize a

refreshment training on the foundation before the actual SMART. Therefore, in September 2021, NLC in cooperation with WCS provided training on GPS and SMART Book to 8 government rangers to review the previous knowledge, address gaps and challenges and introduce a new application of SMART Mobile and relevant dataset for monthly patrol on Biodiversity Monitoring and Law Enforcement.



Figure 52. A refreshment on GPS and SMART Book to government rangers in Stung Sen Ramsar site

• Support and Monthly Patrol

Besides the technical support through various training, NLC has also contributed financial support for monthly expenses on the patrol activities (gasoline, patrol allowance, and other travel costs) and necessary materials (boats, camera, GPS, binoculars, mobile phone, and other equipment) to the rangers in Stung Sen Ramsar Site. With this support in place, in a straight year from January to December 2021, the Rangers have conducted regular monthly patrols with results as follows:

- Number of rangers: 13 rangers
- Number of patrols: 39
- Patrol Distance: 4,234 km
- Intercepted illegal cases: 23
- Recorded species: 43 bird species and 2 mammal species.



Figure 53. Spot-billed pelican and Indochinese Silvered Langur spotted at Stung Seng Ramsar site



Figure 54. Monthly Patrol Activities of government rangers in Stung Sen Ramsar Site

- **Strengthening an existing CPA and establishing a new CPA**
 - With technical and financial support from NatureLife Cambodia, the existing Toul Neang Sav Plov Loung (TPL) CPA has been able to function again since its first establishment in 2007 and has achieved remarkable progress, which includes a developed CPA structure with a new committee and members, amended by-law, Patrol Protocol, Consultation on the Management Plan at commune level and stakeholders, and the two recent awards from MoE and NGOs Forum. Besides, within this year TPL CPA has been able to complete 48 patrols, cracked down on 62 illegal cases, and recorded 30 bird species.
 - NatureLife Cambodia has supported the villagers in Toul Neang Sav Village in the process of requesting to establish a new CPA (Phsort) in Stung Sen Ramsar Site. This includes a consultation at the commune level, ground check and zoning, preparation and submission of CPA establishment proposal to the district office, and Consultation with the district office and Provincial Department of Environment.



Figure 55. Monthly Patrol of TPL CPA



Figure 56. Thumbprint collection for Phsort CPA Establishment Proposal

BOEUNG TONLE CHHMAR RAMSAR SITE

Boeung Tonle Chhmar Ramsar site is located in the northeast of the Tonle Sap Lake with permanently open water surrounded by a system of canals and flooded forests that become the Tonle Sap Lake during the rainy season. This Ramsar site covers an area of 28,000 hectares of Kampong Thom and Siem Reap provinces and is also part of the Tonle Sap Biosphere Reserve. Boeung Tonle Chhmar Ramsar site plays a key role in hydrology and biology in the natural processes of two major rivers, namely Stung Stong and Stung Chikreng, which is geographically well suited to support a large collection of species of plants, fish, and aquatic birds, most of which are listed as endangered or endangered.

This project is implemented in collaboration with the Department of Freshwater Wetland Conservation (Ramsar Administration Authority in Cambodian).

Birdlife International Cambodia Programme implements this project in partnership with NatureLife Cambodia.



Figure 57. Bird species spotted and captured by the rangers in Boeung Tonle Chhmar Ramsar site

Key Achievements from 2021:

Zoning and Management Plan Development

NatureLife Cambodia has regularly participated in the Provincial Consultation Workshops with the World Bank Project (Cambodia Sustainable Landscape and Ecotourism Project) on the first and second drafts of the Zoning and Management Plan of Boeung Tonle Chhmar Ramsar Site. During the discussion, NLC has contributed relevant data and reports to the Zoning Development Committee of the World Bank Project for further documentation.

Implementation of a New Project

- NatureLife Cambodia kicked off an EU-funded project titled “Our Tonle Sap” Project at Boeung Tonle Chhmar Ramsar Site with the introduction of the project’s scope of work and future cooperation between NLC and government rangers in the Ramsar site;

- With financial support from the EU and cooperation from WCS, NLC has been able to organize technical training on GPS and SMART Book to 12 rangers in Boeung Tonle Chhmar Ramsar Site to prepare rangers for their monthly patrol since October 2021 on Law Enforcement and Biodiversity Monitoring with the results below:
 - Number of rangers: 15
 - Number of patrols: 60
 - Number of patrol days: 60
 - Distance of patrol: 2,430 km
 - Number of hours: 342
 - Illegal activities and law enforcement: 49 cases
 - Number of bird Species: 28
 - Number of mammal species: 1



Figure 58. Law Enforcement Activities conducted by the rangers in Boeung Tonle Chhmar Ramsar Site



Figure 59. Python Release at Boeung Tonle Chhmar Ramsar site (left) and SMART Training to Rangers (right)

VULTURE CONSERVATION PROJECT

The vulture conservation project is implemented by a partnership (BirdLife, WWF, WCS, and ACCB). Based on the partnership MoU, BirdLife International Cambodia Programme was assigned to be a coordinator for this partnership since 2013.

There are three vulture species that are resident in Cambodia; White-rumped Vulture (WRV) (*Gyps bengalensis*), Slender-billed Vulture (SBV) (*Gyps tenuirostris*), and Red-headed Vulture (RHV) (*Sarcogyps calvus*) are now restricted to small populations in Cambodia and Myanmar (Clements et al., 2012; Sum and Loveridge, 2016; Hla et al., 2011). The core partners of the Cambodia Vulture Working Group (CVWG) consist of the Angkor Centre for Conservation Biodiversity (ACCB), the World Wildlife Fund (WWF) Cambodia, Wildlife Conservation Society (WCS) Cambodia Program, Rising Phoenix Copay Ministry of Environment (MoE), Ministry of Agriculture, Forestry and Fisheries (MAFF) and is coordinated by BirdLife International Cambodia Programme. Vulture conservation in Cambodia follows the strategies set out in the national guiding document ‘Cambodia Vulture Action Plan’, which is produced by the CVWG and covers ten years; the current plan covers the period from 2016 to 2025 (succeeding the 2006-2015 Action Plan). Conservation interventions have been implemented in Cambodia (CVCP, 2005; Sum and Loveridge, 2016), principally the provision of supplementary food via monthly vulture restaurants, which have been proven as an effective way of monitoring vultures, supporting populations that may be suffering from food shortages (Garcia-Ripolles et al. 2004), and reducing exposure to poisoned carcasses (Gilbert et al. 2007). Additional actions undertaken include; nest protection and monitoring, carcass and prey surveys, mitigation of the threat posed by the illegal poisoning of wild and domestic animals, working with relevant stakeholders to control the use of veterinary drugs harmful to vultures, community-level awareness-raising to promote the benefits of vultures and to discourage all persecution activities and habitat destruction, and the publication of a scientific paper in Bird Conservation International titled ‘Poisoning causing the decline in South-East Asia’s largest vulture population’ (Loveridge et al, 2018) which reviews and analyses Cambodia Vulture population trends and primary threats.



Figure 60. Vulture restaurant at SPWS on 3 April 2021. Photo: Loun Bunpeang.

Key Achievements from 2021:

- **Vulture restaurant**

In 2021, four permanent restaurant sites were in operation (Figure 2). CVWG core members at each site pledged to provide a minimum of one cow carcass per month and to collect the data needed to generate population estimates and trends. The carcasses increase the food availability for vultures, which may improve breeding and fledging success, thus supporting the recovery of vulture populations. The numbers of each species, sex, age, and presence of wing tags or rings, were recorded. In 2021, Siem Pang Wildlife Sanctuary (SPWS) provided a weekly vulture restaurant, Chheb Wildlife Sanctuary (CWS) Restaurant provided restaurants twice per month, Mekong Flood Forest (MFF) and Eastern Plains Landscape (EPL) provided one vulture restaurant per month.

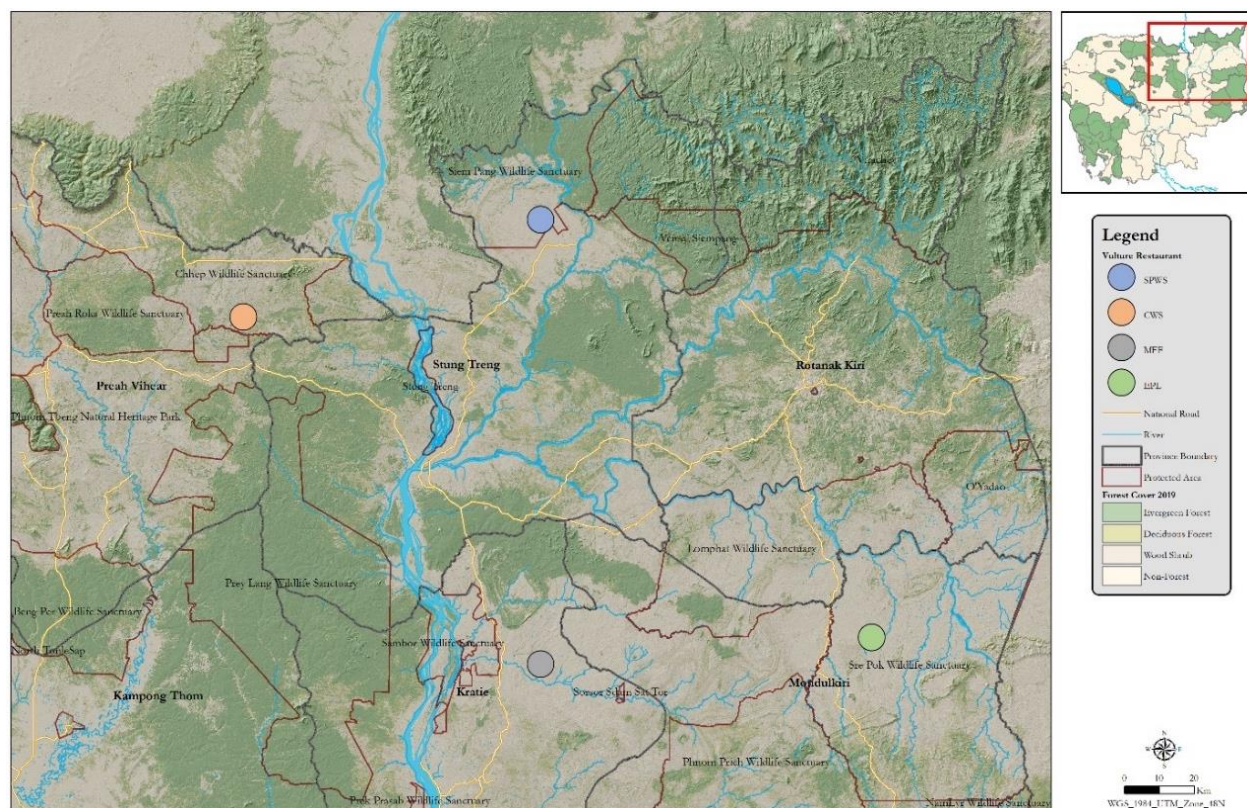


Figure 61. Vulture Restaurants Site Location Update 2021.

- **Vulture Census**

The vulture census has been undertaken biannually since 2004. It is undertaken quarterly in March, twice in June, September, and December, and for these five census events, all restaurant sites provide and monitor one carcass each on the same date to generate a minimum population estimate.

During the reporting period, the Cambodia Vulture Working Group organized the census in September and December. The census on 20th September 2021 recorded 75 vultures (divided into each species are: 14 RHV, 15 SBV, and 46 WRV, and divided into sites are: 25 birds in SPWS,

29 birds in CWS, and 21 birds in MFF), which is the lowest count recorded from 2004 to the present. The maximum count for each species was also significantly lower compared to mean values and previous records. Note: on the 20th of September 2020, we recorded up to 122 vultures (16 RHV, 36 SBV, and 70 WRV). September 2021 result shows the attraction of MFF restaurant since it was the first maximum recorded.

The last census of 2021 is conducted on 24th December. This time census recorded around 89 vultures (18 RHV, 22 SBV, and 49 WRV). SPWS recorded 65 vultures (5RHV, 21SBV, and 39 WRV), CWS recorded as 15 vultures (4RHV, 1SBV, and 10 WRV), Seven RHV from EPL, and two RHV from MFF.

Table 7. Vulture Population Census in 2021.

Census 2021	REV	SBV	WRV	TOTAL
20-Mar 2021	10	28	60	98
10-Jun-21	13	27	42	82
20-Jun-21	20	35	66	121
20-Sep-21	14	15	46	75
24-Dec-21	18	22	49	89

Across the five census events in 2021, the highest total count occurred in June with 121 vultures (divided into 20 Red-headed vultures, 35 Slender Bill Vultures, and 66 White-rumped Vultures). The highest count per year over the last eight years (2014 to 2021) was analyzed and shown in the graph below (Figure 3).

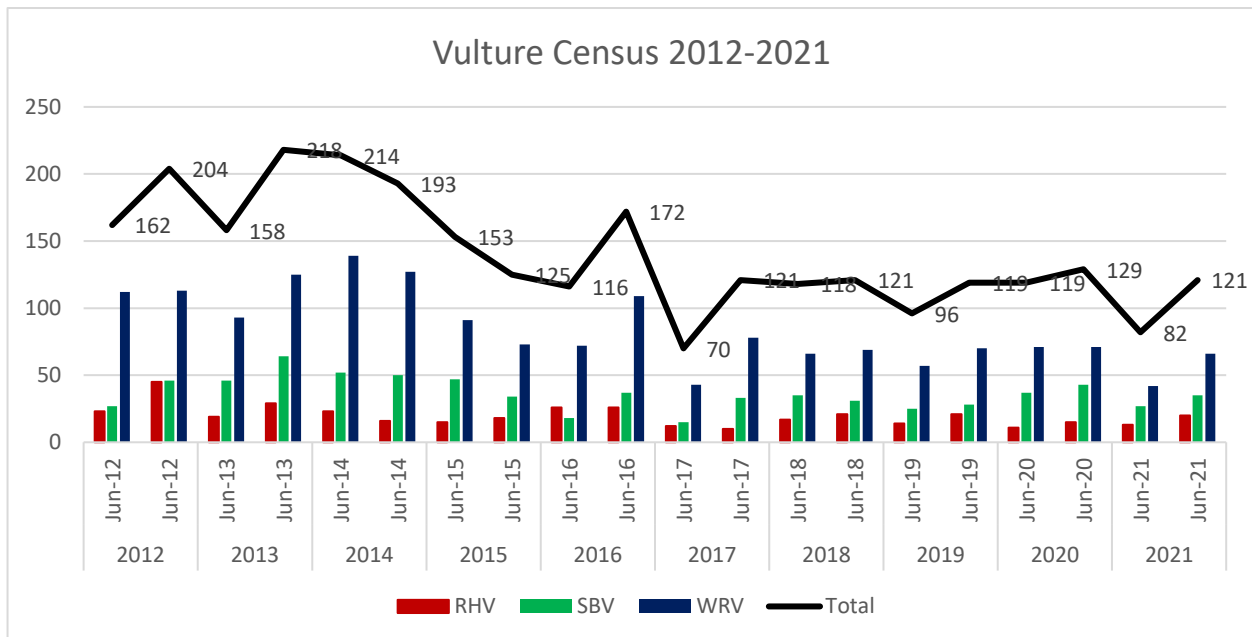


Figure 62. Vulture Census data from 2012-2021.

• **Vulture Population Trend**

Coordinated census events have been undertaken biannually since 2004 and from June 2014 onwards census counts were also held quarterly.

The 2021 census maximum count was 121 vultures (20 RHV, 35 SBV, and 66 WRV), lower than the census maximum counts from 2004 to 2015, but in comparison to the census counts in June for the last five years (2017-2021), it shows a relatively stable trend (see Figure 4).

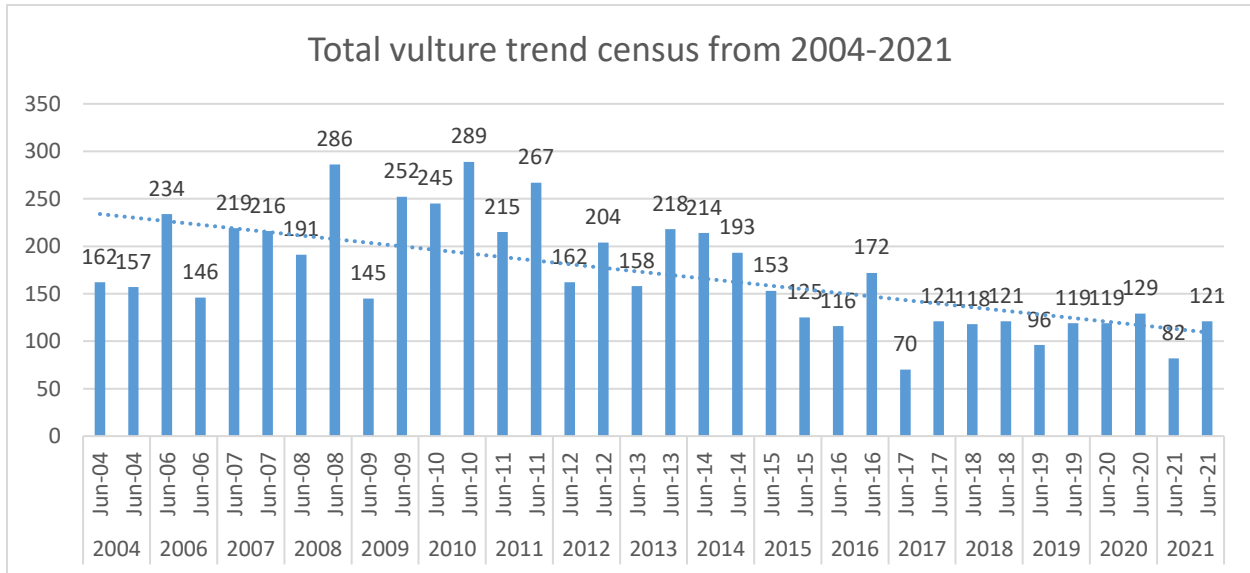


Figure 63. Vulture population census trend from 2004-2021.

When considering each species separately and plotting the census counts, we see similar patterns of decline as in previous years. Figure 4 below details the trend in census counts for RHV and shows a slight drop in its population compared to the other two species. For SBV, the overall population decline is also evident. The 2021 high count for this species was only 20. The maximum record of SBV was 84 birds in 2009 but in the last five years, it has ranged from 35 to 43 birds.

The population of WRV has more than halved since 2006/07. As this species is the most abundant of Cambodia’s vultures, a decline in WRV is reflected in a decline in Cambodia’s overall vulture population. The 2021 high count for this species was only 66, a dramatic decrease from the 2009 birds counted in 2010 (Figure 5).

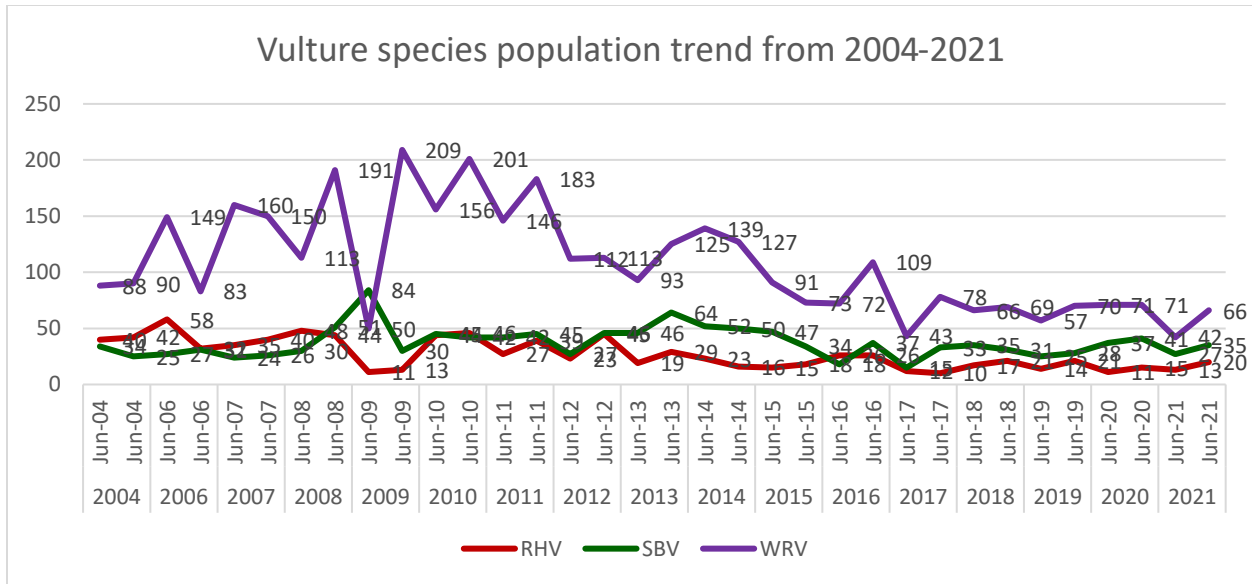


Figure 64. vulture species June population census from 2004-2021.

- **Vulture Nest Searching and Protection**
 - **Vulture nest Searching Proposal**

While CVWG found fewer White-rumped vulture nests and zero vulture nests found in Lomphat Wildlife Sanctuary and Eastern Plain Landscape, CVWG encourages the member to standardize the nest searching and monitoring protocol. A technical group was set up in order to develop the nest searching and monitoring protocol in Siem Pang Wildlife Sanctuary and Chheb Wildlife Sanctuary. This group was led by Mr. Eang Samnang and joined by Ny Naiky and Moa Khean. After several meetings and presentations for inputs during the CVWG meeting, final this protocol was finalized with support from Mr. Jonathan C. Eames. In the coming breeding season with funding support from CEPF, we will train CVWG core staff at key vulture to use this protocol for nest searching and monitoring..



Figure 65. Vulture Nest Searching Protocol.

- *Vulture Nest Platform building*

In 2021, CVWG have developed tens of vulture nest platforms for posting in the forest. At SPWS, nest finding results are less than from year to year. For WRV nest searching results are rare, some years found one or two nests and some years no found WRV nest, while vulture restaurants always much WRV if compare with two other species. Building tens vulture nest platform for posting in the forest around new vulture restaurant location in order to make attractive when vulture fly through to feed the carcass at vulture restaurant.



Figure 66. Vulture nest platform building at SPWS.

- *Nest Finding*

During the 2020 to 2021 breeding season, CVWG core members' staff, and community members successfully found 14 nests (7 SBV nests and 7 RHV nests). The majority of the nests (09) were found at Siem Pang Wildlife Sanctuary (SPWS). These 09 nests represented only 2 of the 3 species, RHV (2 nests) and SBV (7 nests). At Chheb Wildlife Sanctuary (CWS), a total of 3 nests were located in this breeding season, all of them were RHV. Sesan IBA in Stung Treng Province, one RHV nest was found and the other one RHV nest was found at Mekong Flooded Forest (MFF). No nest was found in Lomphat Wildlife Sanctuary (LWS) or the Eastern Plain Landscape (EPL).

Each nest found by community members or CVWG core members' staff was either monitored or guarded. The success of each nest could therefore be recorded and an attempt made to understand the factors surrounding unsuccessful nests. Table 2 details the nest monitoring data for the 2011/2012 to 2020/2021 breeding seasons.

Table 8. Total nest finding from 2011-2021.

Year/Species	RHV		SBV		WRV		total	Combined fledged	Success rate
	Nests	Fledged	Nests	Fledged	Nests	Fledged			
2011/12	3	1	3	3	7	7	13	11	85%
2012/13	1	1	11	8	13	12	25	21	84%
2013/14	1	1	12	10	6	5	19	16	84%
2014/15	3	3	18	11	6	5	27	19	70%
2015/16	6	6	6	4	3	1	15	11	73%
2016/17	10	8	10	7	2	1	22	16	73%
2017/18	10	7	10	7	1	1	21	15	71%
2018/19	11	5	10	8	1	0	22	13	59%
2019/20	6	3	6	5	2	2	14	10	71%
2020/21	7	4	7	5	0	0	14	09	64%

- **Poisoning Protocol**

The poisoning response protocol was finalized and endorsed by CVWG members. This protocol was divided into two main actions 1. Poisoning response protocol-decontamination (It will be used when a poison is detected in the environment and decontamination is deemed necessary) and 2. Protocol for handling the live animals (it will be used to intervene in case of poisoning and disease outbreak incidents when live animals are encountered). In the first quarter of 2022, with funding support from CEPF, we will organize training and workshop to introduce this protocol to all three provincial groups to ensure they will use it when poisoning happens at their sites.

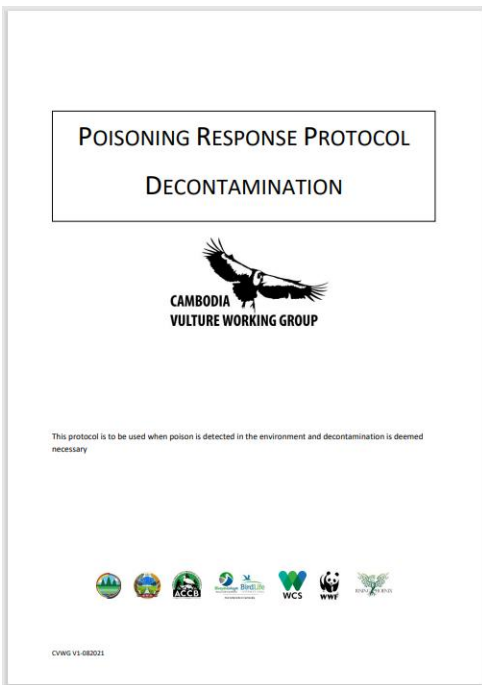


Figure 67 Poisoning Response Protocol.

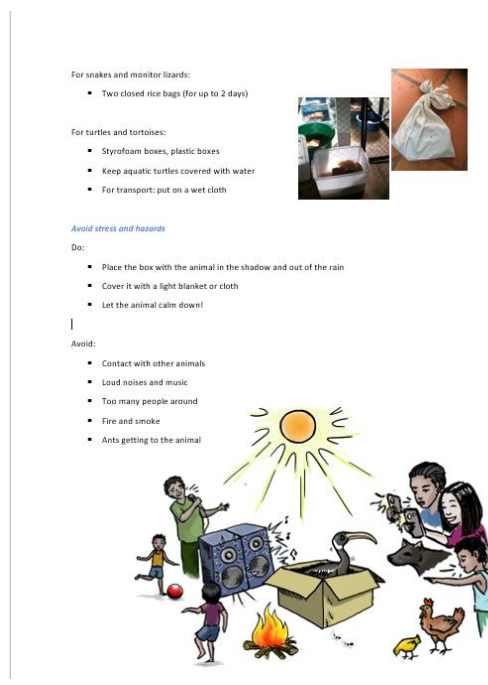


Figure 68 Poisoning Response Protocol.



Figure 69. Poinsoning intervention in Chhep Wildlife Sanctuary by WCS team

• **CVWG Meeting**

On 27th April 2021, CVWG conducted quarterly meetings online with the participation of 14 core members. The main objectives of this meeting were 1) To share the last nine-month vulture conservation result and consolidate the next six-month work plan of 202. 2) To update the poisoning development protocol. 3) To coordinate and collect inputs from CVWG members for developing the 2020 Cambodia vulture conservation report. 4) Update the fund-raising plan for

each core member. The meeting was chaired by Mr. Alistair Mould. The CVWG agreed on key points of BirdLife will hand over the conservation work in Siem Pang to Rising Phoenix in near future, meeting agreed to invite Rising Phoenix to be a new member of CVWG. Completed poisoning protocol with translation from English to Khmer. Completed CVWG 2020 annual report. Completed diclofenac and other NSAID surveys.

05th August 2021, CVWG conduct quarterly meeting online with the participation of 18 core members. The main objectives of this meeting were – 1) To share the last four-months vulture conservation result and consolidate the five-month work plan for 2021. 2) To update the result of poisoning protocol development. 3) To coordinate and collect inputs from CVWG members for finalizing the 2020 Cambodia vulture conservation report. 3) to update the fund-raising plan by each CVWG core member and to discuss celebrating IVAD 2021. The meeting was chaired by Mr. Alistair Mould. The CVWG agreed on key points to maintaining the vulture conservation work in Cambodia during the COVID-19 outbreak period. CVWG core members agreed to speed up the process of poisoning protocol development. Pushing to completed development of nest searching protocol on both version English and Khmer. Start developing the Diclofenac and other NSAID survey report and share them with CVWG members for comments. Agree to conduct IVAD2021 on the first Saturday of September 2021.

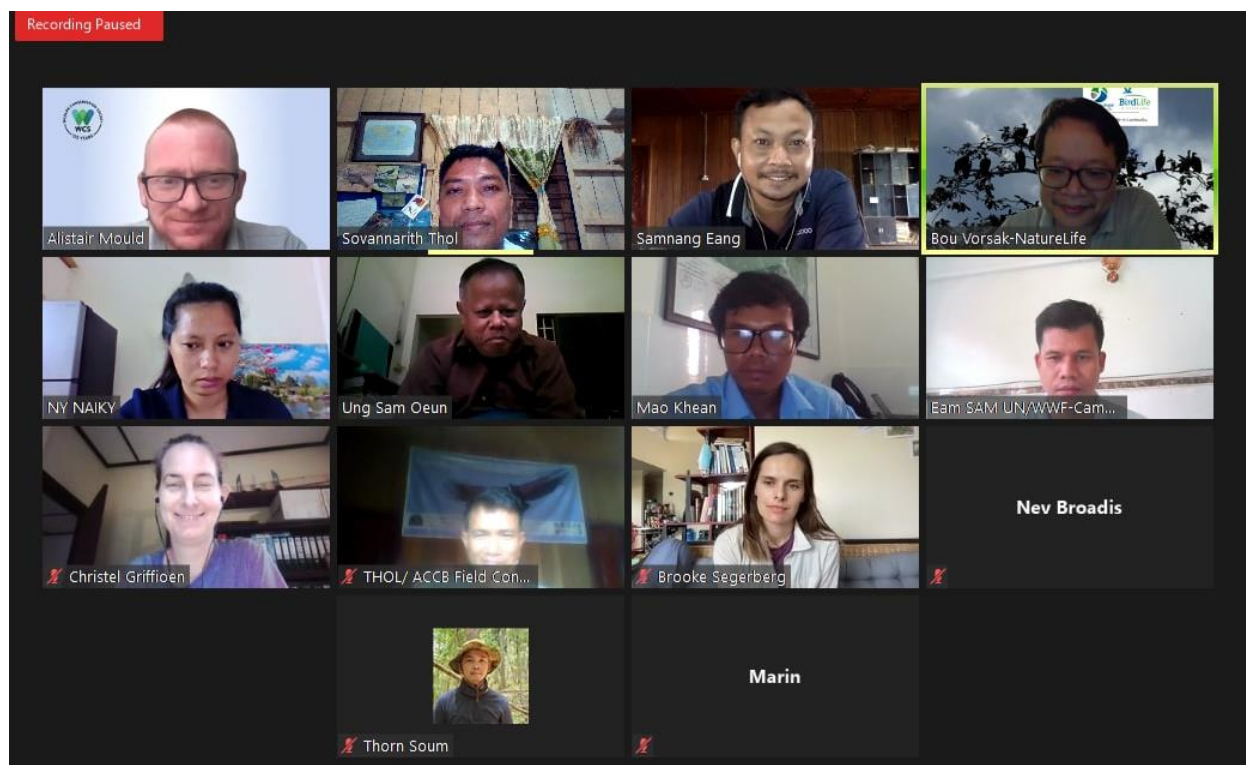


Figure 70. CVWG quarterly meeting.

- **International Vulture Awareness Day 2021**

Cambodia Vulture Working Group (CVWG) organized a national workshop to celebrate the International Vulture Awareness Day 2021 on 03rd September 2021. CVWG have conducted this important event online (Zoom Account) with 130 participants, they are CVWG members, all provincial department of environment, five vulture home rank provincial department of agriculture forestry and fishery, focal agencies of Ministry of Environment (GSSD and GDANCP), Ministry of Agriculture Forestry and Fishery (FA, GDAHP), Mater decree students from Centre Biodiversity Conservation and more bachelor decree student from the Royal University of Phnom Penh. This meeting was presided by H.E. Net Pheaktra, secretary of state, Ministry of Environment to raise awareness of the current conservation status and role of vultures in the ecosystem to the stakeholder and disseminate the negative effects of poisoning on vultures as well as other wildlife, and some measures to prevent and manage the poisoning case. After joining this workshop, the participants have received the up to date information about Cambodia's conservation status, shared knowledge and concerns about vulture conservation with other participants, especially poisoning cases.

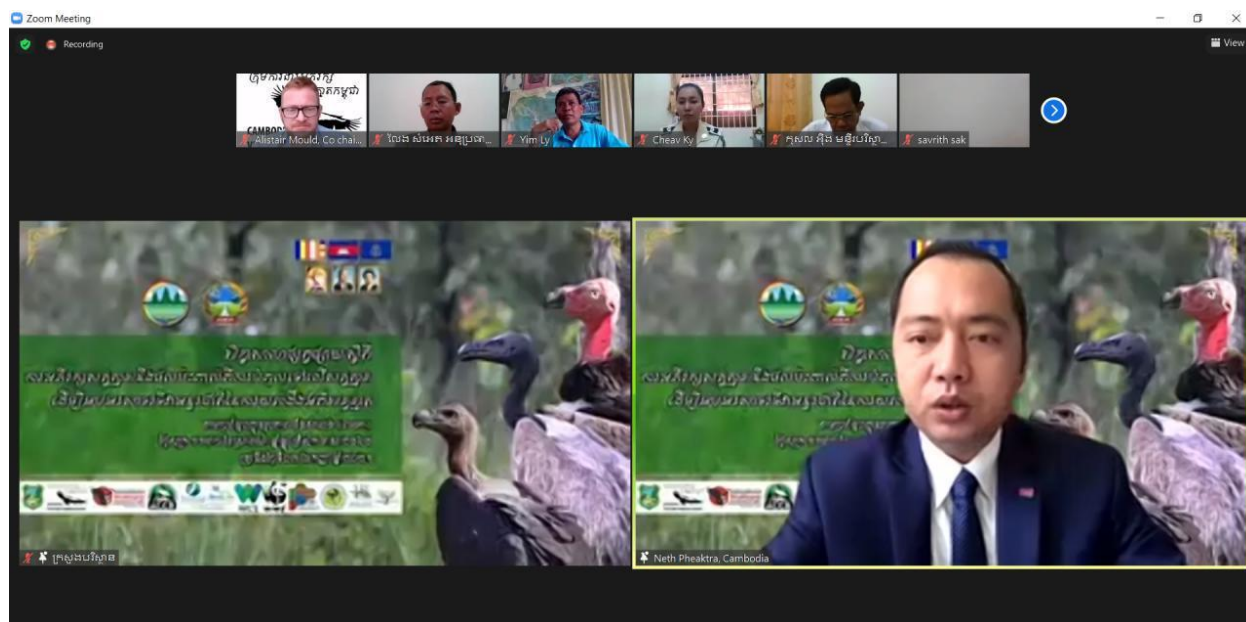


Figure 71. CVWG and MoE have conducted IVAD day event 2021 online.

- **Awareness-raising at Sesan IBA and Lomphat**

With coronavirus and social-distancing restrictions making mass gatherings or events impossible to hold in locations in the vulture's home ranges, CVWG core partners ACCB and NatureLife Cambodia's team members were equipped with motorbikes mounted with sound-broadcasting equipment and awareness materials like posters.

At Lomphat Wildlife Sanctuary, IVAD awareness-raising activity was conducted on 24 September 2021 at three targeted villages in Sre Angkrong commune including Phum 1, Phum 2, and Phum 3. The activity was conducted by broadcasting the recording audio on motorbikes

traveling around the three villages. The broadcast audio message described the importance of vultures in the natural environment and it was produced by the Cambodian Vulture Working Group.

For banners that described the importance of vultures and the identity of vulture species in Cambodia, we had posted in public places such as pagodas, schools, shops, and village meeting halls.



Figure 72. IVAD day event at Lomphat Wildlife Sanctuary.

At Sesan IBA, on the 28th -29th of September 2021, with the financial support of the Birdlife International/NatureLife Cambodia, an International Vulture Awareness Day Outreach Event was conducted in the following two villages: Kbalromeas and Sre Sranok, Sesan district, Stung Treng province. Using a megaphone for broadcasting a pre-recorded voice message on the importance of Saving Vultures from Extinction meant that we could raise awareness while still practicing social distancing and contributing to keeping everyone safe and healthy.



Figure 73. IVAD day event at Sesan IBA.

11th SAVE meeting on 2021, CVWG organized a Pre-SAVE annual virtual meeting on 23rd November 2021 with participants 13 CVWG core-member and two representatives (Chris Bowden and John Mallord) from Save Asian Vulture from Extinction network (SAVE). The main objectives of this meeting were 1) Finalize the Cambodia vulture blueprint report for submission to the Save Asian Vulture from Extinction network (SAVE), 2. Prepare agenda for bringing to the annual SAVE meeting, and 3. Discuss the plan to develop the 2021 Cambodian vulture conservation report. During the discussion meeting, SAVE's representative agreed to invite all CVWG members to join the annual SAVE meeting on the 02nd and 07th of December 2021. The pending points in the Cambodia vulture blueprint report were finalized and submitted to SAVE. The main topic that CVWG will bring to the SAVE meeting was the negative impact and action taken by CVWG to address the poisoning issue. Ms. Christel from ACCB presented this poisoning topic on behalf of CVWG while Ms. Ny Naiky shared the results of Cambodia Vulture Conservation in 2021 during this SAVE meeting. Ms. Ny Naiky and Mr. Nev Broadis were appointed as volunteer authors of the 2021 Cambodia Vulture conservation report, which they will start developing in the first quarter of 2022.

The screenshot shows a Zoom meeting window with a Microsoft Word document open in the background. The document is titled 'Agenda for CVWG Pre-SAVE meeting on 23rd Nov 2021 - Word'. The agenda includes the following items:

- a) Discussion on the opportunity to join SAVE meeting and bring what the Cambodia Vulture concern to SAVE.
- ai) Discuss about 2021 Cambodia Vulture Report development.

Expected outputs:

- 2021 Cambodia Blueprint report to SAVE is finalized and submitted
- Work plan to engage CVWG members at SAVE meeting and topic for CVWG members to share at SAVE meeting in first week of December
- Work plan to develop 2021 Cambodia Vulture Report.

Special guest from SAVE: Mary Davies Species Recovery Officer, Global Species Recovery

Participants: CVWG members (both core and ordinary members)

Time	Itinerary	Present by
02:00-02:10PM	Welcome remark and share information about engagement between SAVE and CVWG	Alistair Mould
02:10-02:30PM	Presentation about 2021 Cambodia Blueprint Report and request for more inputs	Ny Naiky and Bou Vorsak
02:30-03:00PM	Introduction about SAVE and annual SAVE meeting (objective, outputs, procedure, and agenda for 2021 SAVE meeting)	Mary Davies (SAVE representative)
03:00-03:30PM	Discuss about topic and opportunity for CVWG members join SAVE meeting in December 2021	Bou Vorsak and Alistair
03:30-03:50PM	Identify the volunteer to be co-authors and process in collecting data and develop the 2021 Cambodia Vulture Report.	Naiky, Vorsak, Alistair
03:50-04:00PM	Other and closing	Alistair Mould

The Zoom meeting interface shows a list of 13 participants on the right side, including Bou Vorsak-NatureLife/BirdL... (Host), nynaiiky@gmail.com (Host), Alistair Mould, WCS, RUPP-Meas Seanghoun, Chris Bowden, Christel Griffioen/ACCB, johnmalford, Marin Kim, Milou Groenberg WWF-Cambod..., Sarah Banet-Eugene WWF, Seab Chea, Thoi-ACCB FCC, and WCS // Nev Broadis.

Figure 74. CVWG organize pre-SAVE meeting 2021.

SAVE meeting on December 2021: 02nd, 07th, 08th, and 14th were scheduled for the SAVE meeting of 2021. 2021 SAVE annual meeting was conducted online which provided a good opportunity for CVWG members (both core and ordinary members) to participate, more than 10 CVWG members joined. During the meeting CVWG conducted two presentations, one is about the 2021 Cambodia conservation update which was presented by NY Naiky and another one is poisoning protocol which was presented by Christel Griffioen from ACCB (she mainly focused on poisoning status in Cambodia and actions have been taken to address this poisoning issue). CVWG members also learned from another country about the main threats to vultures such as Diclofenac and other NSAIDs, Poisoning, Electricity development... The vulture safe zone is the mechanism for saving vultures that other SAVE country members have applied to their country. Cambodia, India, and the UK are willing to host the 2022 SAVE face-to-face meeting if COVID 19 pandemic finishes. The SAVE core members agreed for NatureLife Cambodia to be a SAVE project partner (replace BirdLife International Cambodia Programme), BirdLife International to be a core member of SAVE, and acknowledged that Rising Phoenix joined the CVWG core member.



Figure 75. 11th SAVE Meeting 2021.

- **Diclofenac and other NSAIDs Survey**

During the first interim report period, we could not collect data due to the COVID-19 outbreak in communities and we requested a delay to process data collected from the NSAID and Diclofenac survey in February 2021. As planned from early February, the project completed the data collection in Siem Pang Wildlife Sanctuary, Sesan Important Bird Area, Lomphat Wildlife Sanctuary, and Mekong Flooded Forest. Unfortunately, at the end of February 2021, Cambodia faced the third wave of COVID-19 outbreaks in communities, which was more serious than the previous two incidents. The government introduced a curfew to Phnom Penh and restricted travel and gatherings. This restriction forced the project to delay data collection at the two remaining sites, Eastern Plain Landscape and Chheb Wildlife Sanctuary. Until the last period of the report, COVID-19 was still the big challenge for data collection as required in the Diclofenac and other NSAID survey. Mondulkiri and Preavihear provincial government did not provide permission for our survey team to visit each household. Due to Mandai Nature approached its end period, we decided to close the survey in November 2021 without surveying two sites Eastern Plain Landscape and Chheb Wildlife Sanctuary. At four main sites, we have interviewed 496 livestock-raising households, 35 animal pharmacies, and 23 veterinary vets.



Figure 76. Diclofenac and other NSAID Survey.

- **Diclofenac and other NSAIDs Monitoring**

To monitor diclofenac and other NSAIDs at five provinces around the vulture site, CVWG has collaborated with the provincial department of agriculture forestry and fishery (PDAFF) at those five provinces to enforce the decree related to Diclofenac veterinary drug at animal pharmacies available in the Provincial towns. By the end of December 2021, the result for three provinces (Ratanakiri, Stung Treng, and Preavihear) show that no Diclofenac veterinary drug available in the market, which is good news for vultures. However, we are still waiting for the results of enforcement of the remaining two provinces (Mondulkiri and Kratie). This enforcement support will be continued beyond the project funded by Mandia Nature. NatureLife Cambodia has received additional funding support from Critical Ecosystem Partnership Fund (CEPF) to cover this cost for another two years.



Figure 77. Diclofenac and other NSAID Monitor.

❖ NATURELIFE CAMBODIA ESTABLISHMENT PROJECT

This project was developed according to the result of a meeting between BirdLife Cambodia staff with BirdLife International senior management team (consisting of Dr. Hazel Thomson, Richard Grimmett, and Cristi Nozawa) during their visit to Cambodia in 2014, with small grant support from IUCN/CEPF small grant to BirdLife International Cambodia Programme.

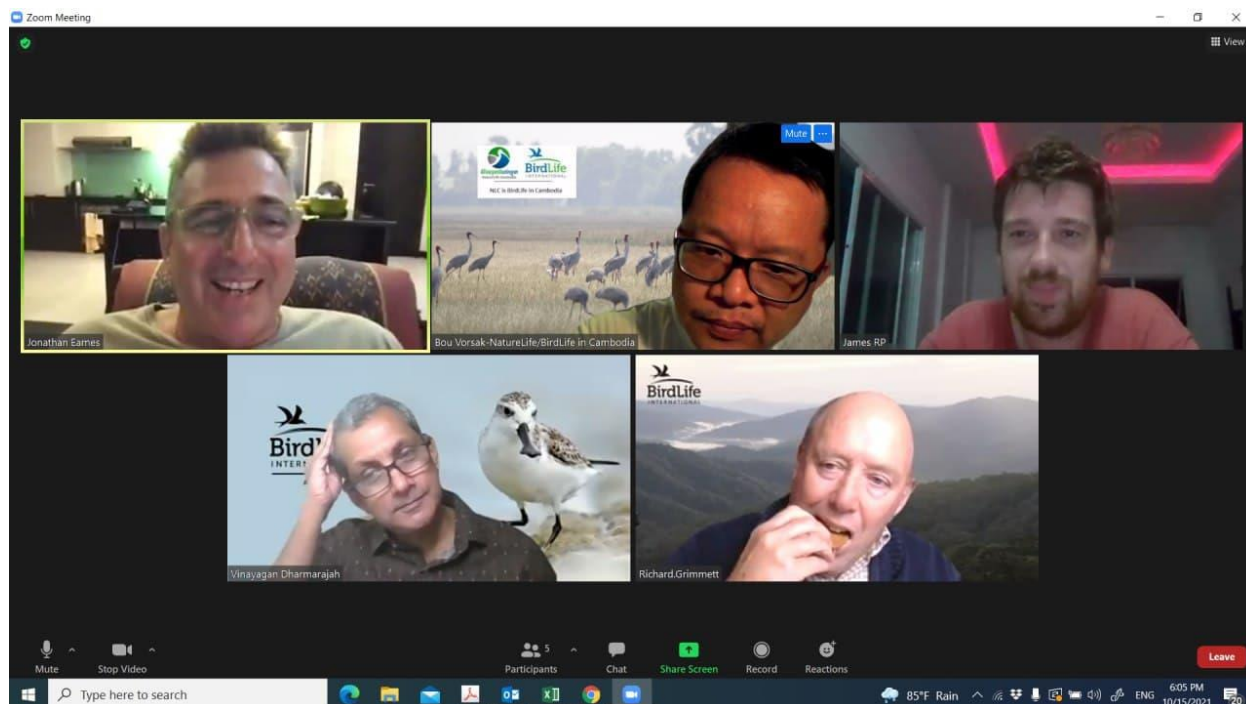


Figure 78. Transition committee meeting

Key Achievements of NatureLife's project from 2021:

- In December 2020, NatureLife Cambodia was recognized as an official partner of BirdLife International in Cambodia.
- BirdLife International completely transferred assets and staff to NatureLife Cambodia by the end of 31 December 2021.
- The staff of NatureLife Cambodia was increased from 6 to 23 people.
- The profile of NatureLife Cambodia have been improving and secured large grant from big donors such as the Critical Ecosystem Partnership Fund, Oxfam, European Union.
- NatureLife Cambodia started working in Boeung Tonle Chhmar Ramsar site in September with funding from European Union
- The executive committee of NatureLife Cambodia organized meetings as planned during 2021 to ensure the operation of this organization.
- With funding support from IUCN-Netherland, NatureLife Cambodia has increased their leasing land next to Anlung Pring Protected Landscape for Sarus Crane conservation from 8.4 ha to 17 ha.
- NatureLife Cambodia has become the Cambodia Vulture Working Group coordinator and project partner of Save Asian Vulture from Extinction (SAVE).

❖ STORY OF THE YEAR

2021 census result: Cambodia; a stronghold for White-shouldered Ibis

The **White-shouldered Ibis** is a relatively large bird species, classified as *Critically Endangered* in the IUCN Red List. This species is native to small regions of Southeast Asia. Populations of the White-shouldered Ibis declined severely in the late 20th century. Today, the global population is estimated at just 1,000 individuals, of which 670 are mature.

Cambodia, by far, forms this species' stronghold with the majority of the global population of individuals found here. The Cambodian White-shouldered Ibis subpopulation resides in Siem Pang Wildlife Sanctuary, Kulen Promtep Wildlife Sanctuary, Lomphat Wildlife Sanctuary, the Eastern Plains Landscape, and along the Mekong River of Sambo Wildlife Sanctuary. However, these populations are threatened by habitat loss, the removal of the nest, and roosting trees through illegal logging, poisoning of water sources, and other human disturbance.

Cambodian Ibis conservation partners began to conduct annual censuses for the species in 2009 within four of these important locations. The first census count was just 310 birds. During the four years following this initial count, the number increased to a high of 973 individuals in 2013. Sadly, the populations declined notably during 2015 and 2016 with numbers dropping to less than 500 individuals.

In 2021, a partnership consisting of the Ministry of Environment, NatureLife/Birdlife in Cambodia, Wildlife Conservation Society (WCS), World Wide Fund for Nature (WWF), Angkor Centre for the Conservation of Biodiversity (ACCB), and Rising Phoenix conducted a simultaneous White-shouldered Ibis census across Cambodia. The consortium launched four monthly (July to October) censuses of this species over the wet season with the August count resulting in a high of 754 individuals. These are very encouraging results and indicate a gradual increase in numbers of this important and Critically Endangered species.

Specifically, the 2021 census identified Siem Pang Wildlife Sanctuary as an important site for the White-shouldered Ibis with a total of 373 individuals. Sambo wildlife sanctuary in Kratie is the second most important site with 252 individuals. Most other sanctuaries showed promising results and gradually increasing numbers of this species.

H.E. Net Pheaktra, Secretary of State and Spokesperson, Ministry of Environment said that “Since Cambodia becomes a country of peace, we have more opportunities and possibilities to perform natural resource and biodiversity conservation work more effectively. The conservation of natural resources has been improving and the increase in the number of white-shouldered ibis and some rare species is the result of our effort between the Ministry of Environment and our partner organizations that have been actively, responsibly, and professionally contributing to protecting and conserving the remaining biodiversity for our future generation. On behalf of the Ministry of Environment, I would like to thank all partners in White-shouldered ibis protection and conservation and urge all our citizens to help and contribute to the conservation of these rare animals because they are highly valued for biodiversity and global conservation and they are valuable for ecotourism in attracting more tourists and making more income for communities, resulting in national economic growth”

“I welcome and congratulate the consortium for the result of the 2021 nationwide census, which represents a positive step of the collective efforts by the Ministry of Environment and all partners in the White-shouldered Ibis protection and in reversing the decline of this critically endangered large bird in the near future,” said **Mr. Seng Teak**, Country Director of WWF-Cambodia. “As a member of the consortium, WWF will continue to work closely together with all actors involved to support the national census and conservation efforts of the species, and continue to actively engage the local communities in the Mekong Flooded Forest landscape in safeguarding this rare bird species and its nests in their natural habitats,” he added.

Dr. Ken Sereyrotha, WCS Country Program Director said that “White-shouldered Ibis is an important and iconic species for the Northern Plains of Cambodia, generating important eco-tourism-based revenues for communities in Tmat Paeuy, Preah Vihear. WCS is looking forward to working more closely with the Ministry of Environment, local communities, and Cambodian Ibis Working Group to ensure that these globally important birds are part of Cambodian natural heritage for years to come.”

Mr. Bou Vorsak, CEO of NatureLife/BirdLife in Cambodia said that “Cambodia is the last hope for conserving the White-shouldered Ibis from extinction, the 2021 census indicates a promising future, however, this bird needs continued attention from all stakeholders. We request to establish the Cambodian Ibis Working Group to leverage more resources and knowledge to address its priority threats.”

Ms. Christel Griffioen, Country Director of ACCB said that “The Cambodian Ibis Working Group is a good example of implementing the One Plan approach to White-shouldered Ibis conservation. By uniting expert knowledge and perspectives from all stakeholders we can bridge the gap between wild and captive population management and improve conservation efforts for the species. Only together will we be able to save the species from extinction.”



Figure 79. Whistled Ibis in the roost at Siempang Wildlife Sanctuary

Positive Signs Shown in the Population Status of Cambodia's Vulture Due to the Efforts of Cambodia Vulture Working Group (CVWG) Meanwhile Boosting Conservation Efforts are Needed

The results of monitoring and survey of the Vulture's population conducted on different days in July and August 2021 have shown 140 birds belong to the three vulture species resident in Cambodia, White-rumped Vulture (*Gyps bengalensis*), Slender-billed Vulture (*Gyps tenuirostris*), and Red-headed Vulture (*Sarcogyps calvus*). Those recorded vultures are present in 4 vulture restaurants in Cambodia's protected areas such as Siem Pang Wildlife Sanctuary in Stung Treng Province, Chheb Wildlife Sanctuary in Preah Vihear Province, Sambo Wildlife Sanctuary in Kratie Province, and Srepok Wildlife Sanctuary in Monduliri Province. These three species of vulture are noted to be Critically Endangered in the Red List of IUCN.

In the results of the survey in the latest month, the number of Vultures in Sambo Wildlife Sanctuary seemed to have increased noticeably. The scientists from the Cambodia Vulture Working Group (CVWG) have expressed their congratulations toward the positive signs of the population status of the three vulture species while International Vulture Awareness Day is being celebrated annually on the 1st week of September.

H.E. Net Pheaktra, Secretary of State and Spokesperson, Ministry of Environment said that “this is great news for the conservation group and the biodiversity of Cambodia and the world. He added that ‘on behalf of the Ministry of Environment (MoE), he would like to commend the Ministry of Environment research team and the NGO partners of the Cambodia Vulture Working Group as well as the rangers who are fulfilling their duties respectively at all the protected areas in order to conserve the natural habitats of the Wildlife Sanctuary that are homes to the vultures. Their efforts will also enable a safe home for vultures and other wildlife species with protected forest habitats, food, and water.

As an output of the same research, the scientists have kept a special record of the return of White-rumped Vulture (WRV) (*Gyps bengalensis*) and Slender-billed Vulture (SBV) (*Gyps tenuirostris*) to its habitats in Srepok Wildlife Sanctuary in Mondulkiri Province after over 5 years of absence in this habitat. Meanwhile, the results from the vulture count in the vulture’s restaurant in Sambo Wildlife Sanctuary, a protected area situated along the Mekong River in Kratie province, has shown that the number of the three species of vulture combined have increased twofold from 20 to 42 birds in the last two months (end of June till the end of August 2021).

Mr. Seng Teak, WWF-Cambodia Country Director, said that ‘this good news definitely encourages everyone involved, especially all staff with the Eastern Plains Landscape Conservation Program, boosting their efforts to protect these birds with hope for an increase in the future. He added that ‘the efforts that the expert institutions, rangers, local authorities, local people and all stakeholders have put in over the past years to protect and conserve the protected areas have a significant contribution to the survival of these vultures. This is a positive evolution that gives hope to the conservation work for the development of Cambodia’.

However, during this International Vulture Awareness Day, the scientists and researchers on vulture in Cambodia have expressed their concern toward the vulture population that are critically endangered. The main threats of vultures include habitat loss, poisoning, toxicity to chemicals used for other purposes, human disturbances, toxicity to chemicals used for other purposes, the presence of Diclofenac, nesting failure, and food shortage. In order to restore the number of vultures, we need to join hands to arrange and implement the appropriate immediate conservation actions, boosting the efforts of the management of the protected area and the protection of the forest resource to become more effective and intensive. These efforts will ensure a safe habitat for vultures, and all the biodiversity and improve Cambodia’s adaptation to risks brought about by climate change. Additionally, ensuring the survival of the vultures is important because vultures play a crucial role in our environment by cleaning up the carcasses of animals in a natural environment that reduces the spread of various infectious diseases from dead animals.

Mr. Alistair Mould Operations Manager for the WCS Cambodia Program and the co-leader of Cambodia Vulture Working Group stated that ‘ it is really important to work closely with the local authorities and local communities in order to raise the awareness and prevent the pollution crime to save Cambodia’s vultures from extinction.’

The results of the national vulture census as of June 2021 have revealed a total of 121 vultures with 20 Red-headed, 66 White-rumped, 35 Slender-billed vultures. The date of the 4th national vulture census this year will take place on the near 20th of September.

Cambodia is the last hope for these rare vulture species in Southeast Asia, however, the population of these species plummet over the last 10 years. The origin of research and conservation of vultures in Cambodia dates back to 2004 when the first vulture census took place with a record of 162 vultures. The second vulture census result showed 289 vultures, an increased number. However, from 2011 until 2014, the number of vultures dropped, posing a concern. From mid-2014 until the present time, the total number of three vulture species is between 120 to 140 birds. The nests that have been discovered and protected also dropped down from 25 nests in 2015 to 14 nests in 2021. Despite very few of its nests being discovered, the White-rumped vulture has the biggest number among the three species in Cambodia.

Mr. Bou Vorsak, the acting CEO of NatureLife Cambodia and Programme Manager of BirdLife International Cambodia Programme said ‘ The last vulture’s nest found at Lomphat Wildlife Sanctuary was in 2016. The decreased number of vulture nests is a concern that requires more research and boosting efforts in protecting the nests. We urge the local authority and local communities to involve in the action against the cutting of big trees that the vultures choose to build their nests, and the illegal vultures’ eggs collection.

H.E Net Pheaktra added, "We urge all stakeholders to participate in conserving these rare vulture species for the benefit of biodiversity and the preservation of Cambodia’s natural resources heritage for future generations."

The core members of the Cambodia Vulture Working Group (CVWG) include the Ministry of Environment (MoE), The Ministry of Agriculture Forestry and Fishery (MAFF), Angkor Center for Conservation of Biodiversity (ACCB), NatureLife Cambodia (BirdLife in Cambodia) Wildlife Conservation Society (WCS), World Wide Fund for Nature (WWF), Rising Phoenix Co. Ltd. CVWG’s ordinary member includes Cambodia Bird Guide Association (CBGA), Sam Veasna Conservation Tours (SVC), Centre for Biodiversity Conservation (CBC) of the Royal University of Phnom Penh (RUPP).



Figure 80. Vulture restaurant play key role in providing supplemental food to vulture

“Crane Rice” – an initiative to improve local livelihoods and conserve the threatened Sarus Crane in Cambodia

“The Ministry of Environment, in collaboration with NatureLife Cambodia and BirdLife International, and supported by IUCN-Netherlands, has now established a new ‘Crane Rice’ initiative, aimed at improving local livelihoods and better conserving the stately Sarus Crane. ‘Crane Rice’ will involve wildlife-friendly rice farming practices which will benefit the cranes and other waterbirds in Cambodia. The Eastern Sarus Crane (*Antigone antigone sharpii*) is the only resident crane in Southeast Asia and is globally threatened under the IUCN Red List,” said **H.E. Neth Pheaktra**, Secretary of State and the spokesperson for the Ministry of Environment on 23 July 2021 during a field visit to the Anlung Pring Protected landscape in Boeung Salang Kang Tbaung and Prek Kruss communes, Kampong Trach district, in Kampong Province.

H.E. Neth Pheaktra added, “Under this initiative, participating farmers need to grow native and crane-preferred rice varieties. They also need to adhere to the guidelines for crane rice. This means that the farmers cannot hunt and snare wildlife on their plots, and apply poisons. Farmers are also expected to avoid encroaching on protected lands and work towards organically grown rice (i.e. no application of chemicals fertilizers and herbicides). Half of the rice grown on leased land, will be harvested and packaged for sale while the remainder will be left in the fields to benefit Sarus Cranes and other biodiversity”.

“For crane conservation and protection to be successful, it needs to consider local livelihoods and engagement with stakeholders. The Ministry of Environment will continue to collaborate with our NGO partners to find markets for Crane Rice to ensure the success of the pilot programmes, while encouraging farmers to participate in this initiative and working to ensure that the rice can be sold at a premium”, **H.E. Neth Pheaktra** noted.

Mr. Bou Vorsak, the acting chief executive officer for NatureLife Cambodia and programme manager for BirdLife International in Cambodia indicated, “to manage and maintain the Anlung Pring protected landscape for long-term conservation of our Sarus Crane, we need to ensure that the rice fields located around this protected area provide food and a safe haven for the cranes. Since its inception, we have collaborated with 16 farmers and over 10 years, leased 17 hectares of rice fields to pilot work to grow crane-friendly rice, thereby benefiting local livelihoods”. Mr. Vorsak added, “The number of farmers who have participated in our Crane rice initiative is increasing this year, which is very welcome.”

Mr. Marc Hoogeslag, the programme coordinator of IUCN-Netherlands, said that, “to reduce the pressures on our natural resources, we need to find a balance between the needs of people and wildlife. This initiative for Sarus Crane rice in the Anlung Pring Protected Landscape is a great example of mutual coexistence between local people, in this case rice farmers, and an amazing migratory bird species that are otherwise facing serious threats in Southeast Asia.”

Mr. Suy Thear, Director of Kampot’s Provincial Department of the Environment, said that “our Department remains committed to protecting biodiversity in the Anlung Pring protected landscape. Our permanently based rangers have collaborated with the local authorities and our NGO partners to educate local people about the legislation that protects wildlife and the value of rare bird species, especially the Sarus Crane. The Sarus Crane rice initiative has provided supplementary feeding for the cranes that annually visit our site during their non-breeding season.”

Mr. Vann Bora, Boeung Salang Kang Tbaung Commune Chief, said that, “I strongly support this project and hope that my commune will become a landscape where our Sarus Crane can continue to use in the future.”

Mr. Teup Khay, a farmer from Kok Chamkar, said that, “I joined the Sarus Crane rice pilot project as it provided me with additional income. At the same time, I am happy that growing rice without the use of chemical fertilizers and pesticides can help provide safer food for the Sarus Crane, which we are very proud of. If our cranes are better conserved, it will also help to draw more tourists to see them, and enjoy the culture and hospitality of our communities.”

Based on the findings of the 2020 Sarus Crane census in Cambodia, only 194 birds have been recorded, an all-time low. In the last few years, the number of cranes has declined steadily due to the high mortality rate and low nesting success in its breeding grounds. Additional threats faced by the cranes include deteriorating habitat conditions, poisoning caused by pesticide use, lack of food, change in water regimes at key wetlands, diseases, and in the long-term, climate change.



Monday, November 29, 2021

Rice-growing scheme to help boost crane's population

Wallace Wong

Here is a staple for many in Asia — not just people, but wildlife too. Now, under a new initiative led by conservation group BirdLife International, some farmers in Cambodia are planting strains of rice favoured by the eastern spoon-bill to help increase numbers of the endangered species. Researchers counted 860 of the world's rarer Dong bird in a 2011 census, but this has since fallen to less than 200 due to habitat loss and poaching. The cranes favour the silk-brown wetlands of the Mekong Delta in Cambodia and Vietnam. They here struggle for food from its insects and food, on rice strains native to Cambodia such as bull rosem and pang and have a harder time than the jasmine rice usually cultivated in human consumption. But as more land is used for agriculture, their natural habitat has dwindled. The local population of the birds has declined by more than 70 per cent over the past decade, said Mr Yee-Hsiang, BirdLife International's regional manager for Cambodia. Farmers welcome them on their paddies, he said, as the birds help with pest control and their droppings make the soil more fertile. But in recent years, as more farmers have turned to pesticides and artificial fertilisers, the cranes have



been affected, with toxins building up in their bodies. This has led to premature death in some of the birds, said Mr Yee. Over 97% of farmland — about four times the size of the Padang in Singapore — has been designated as protected reserves for the growing of 'crane rice'. This is located in Angkor Wat province in southern Cambodia, near the border with Vietnam. Mr Yee said the cranes are typically seen in the area from December to May, before they head to the north of the country during breeding season. Under the initiative by BirdLife International and its local partner Naturess Cambodia, farmers are incentivised to practice eco-friendly farming methods. With the support of Cambodia's Ministry of Environment and the International Union for Conservation of Nature Netherlands, the initiative gives participating farmers 10 years of lease payments upfront. These payments include an additional 30 per cent of the net income they had been reaping from the land. The poorest batch of 41 farmers will have to abide by strict conditions. These include provisions to progressively reduce the use of pesticides and fertilisers, curb logging and illegal encroachment on the reserve, and cooperate with the authorities and agencies in monitoring the programme. They also have to retain at least 5 per cent of their crops for the cranes to feed on. But some farmers are reluctant to discontinue using chemical fertilisers and pesticides, and prefer growing the more popular jasmine rice instead of the native strains, which have a comparatively limited market. 'Yes others are more receptive, but I am not a participant in the programme, said. 'The cranes have been in my village since I was young and they are amazing and beautiful. Some of my fellow villagers are hesitant because they don't understand the scheme, but am happy to join because it will help to conserve the natural habitat of the endangered spoon-bill, which also offering farmers a way to earn an income.' Dr Yong Ding Li, regional coordinator at BirdLife International, said the growing of crane rice is the most recent of biodiversity-linked agricultural programmes implemented in South-east Asia. 'More than 10 years ago before crane rice we already had rice here (in Cambodia), which has been a success,' he said. Meanwhile, in Central Java, Indonesia, a programme to grow coffee plants under trees has helped conserve the natural habitat of the endangered silver gibbon, while also offering farmers a way to earn an income. w.wallace@nhp.com.sg

THE STRAITS TIMES

Figure 81. Crane Rice promoting and product available in the market now

❖ PROGRAMME FINANCIAL REPORT

FINANCIAL STATEMENT IN 2021

RECEIPTS

Funds receive from donor	612,535	
Other income	0	
Total Receipts		US\$ 612,535

DISBURSEMENTS

Personnel costs	335,049	
Office Supp/Mater/Util	8,604	
Telecom/Post/Internet	5,971	
Community conservation	245,403	
Workshops/meetings	22,059	
Equipment & Supplies	42,686	
Travel	8,116	
Audit	1,700	
Overhead	21,388	
Total Disbursements		US\$ 690,975
Surplus/(Deficit) of receipts over disbursement		US\$ (78,440)
Fund balance as at begging of the year		US\$ 411,579
Fund returned		US\$ (89,995)
Fund balance as at end of the year		<u>US\$ 243,144</u>

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Government Partners



NGOs partners



Donors





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