Video Trap Monitoring the Birth of Javan Rhinoceros in Ujung Kulon National Park
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One of the most important aspects of wildlife monitoring is to determine the birth rate within a population to further assess if the population is increasing, stagnant, or declining.

Similarly for the javan rhinoceros (Rhinoceros sondaicus) population in Ujung Kulon, the birth rate is an important indicator that shows the capability of this small population to replenish.

Unfortunately, monitoring such aspect for javan rhinoceros is not an easy task, as the animals spend most of their time hiding and avoiding encounters with humans.

After identifying this challenge, a team consisting of Ujung Kulon National Park authority and WWF Indonesia sets out a special procedure for monitoring the birth of rhino in this National Park.

Based on previous experiences, it is generally agreed that the newborn rhino calf will have a foot print size in the range of approximately 14-17 cm wide that is usually accompanied by the mother's foot print, while foot print larger than 17 cm is normally considered as young or juvenile rhino that has been separated from the mother. Therefore, finding a new small footprint size always gives excitement for the rhino observation and monitoring team (ROAM team), as it indicates that a new member in the rhino population has just been born.

This was the case from the previous rhino survey activity conducted last year where the team detected a foot print size of 14cm wide, but the automatic cameras used in that activity did not manage to record the presence of this newly born rhino.

This finding was followed up by designing video trap camera placement specifically for monitoring the newborn rhino.

This required special modification to the existing video trap monitoring method to allow detection of the mother and calf pair without creating unnecessary disturbances to them. This was achieved by carefully identifying the blocks where the footprints are detected and placing video trap equipments such that these devices were concealed from possible detection by the rhinos. The video trap devices were placed at the height of 2.5 meters with a down angle so that the rhino path would be covered within the field of vision of these video camera units. The angle was checked using digital pocket camera to ensure that this was an appropriate angle for recording the rhinos, as well as ensuring that this angle would allow identification of the individual rhinos.

Sixteen video trap units were used to identify the newborn rhinos, and the survey area covered an area in the south coast of Ujung Kulon national Park (Cibunar to Citadahan blocks) where the footprint was first detected. These video trap cameras were placed for 30 days and the data was collected afterwards. Using this method the team managed to record two mother-calf pairs, as well as identifies the sex of the

Top: Mother and calf pair recorded in the second occasion at precisely the same location in Citadahan Block Ujung Kulon National Park.
Bottom: Mother and calf pair recorded in the first occasion in Citadahan Block Ujung Kulon National Park.
Photos: Ujung Kulon NP Authority – WWF

newborn calves. This finding confirms that with minor modifications on camera placing and sample site selection these equipments can be used for detecting and identifying the newborn rhinos in the wild. Advance sampling methodology is being discussed in

order to allow long term monitoring of the calves that will yield information on the population growth, as well as the growth rate of the individual calf. Current data shows that the calf can grow from 13-cm foot print size to 18-cm size in a period of 18 months.

Strengthening Conservation Measures of Greater One-horned Rhino in Orang National Park, Assam, India

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Though the Greater One horned rhino *(Rhinoceros unicornis)* is considered as vulnerable by IUCN it is still in high risk for its survival in Assam because of severe threats from poachers, wildlife traficking, fragmentation and degradation of its habitat in the past couple of decades. Assam is one of the last strongholds of the Indian rhino with a total population of 2201 as estimated by the Assam Forest Department in the year 2009. Orang National Park, with an area of 78.8 sq. km. is an important rhino bearing area having 64 wild rhinos as estimated by Assam Forest Department in 2009. The rhino population in Orang National Park is fluctuating from 35 rhinos in the year 1972 to 97 rhinos in the year 1991 and which is again reduced to 64 rhinos in the 2009. This fluctuation of rhino population in Orang National Park is mainly due to the severe intesity of poaching in comparison to other rhino bearing areas of Assam. From 1983 to 2009, 122 rhinos were poached in Orang National Park. During the period from 2006 to 2009 approximately 30 rhinos were poached in the park. The major factors attributable to the increased poaching are lack of awareness among the local stakeholders about the need to conserve rhinos, unscientific monitoring system of rhino and lack of socio-economic database of the fringe villages of the park.

The overall goal of this project is to provide training on handheld GPS to the ground staff of the Orang National Park which will be useful for monitoring of rhino and other wild animals in the park.

Progress till 10 January, 2011.

Purchase of GPS60 device:

One of the major objectives of this current project was the purchase of GPS devise. Aaranyak has purchased 33 number of GPS 60 devise in the month of December, 2010, which was funded by Asian Rhino Project to provide support to the frontline staffs of Orang National Park.

GPS training to the frontline staffs:

Two training programmes on GPS devise has been given to the frontline staffs of Orang National Park in the month of January, 2011 for regular monitoring of rhino and other animals and also to map the distribution pattern of invasive species like Mimosa invesa in the park.

A questionnaire is developed to do the socio-economic survey of the fringe villages of the park.