

Sighting of Swamp Deer in Uttarakhand

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Swamp deer (*Cervus duvauceli duvauceli*) has been categorised as Endangered on the IUCN SSC Red List using information from the Cervid Specialist Group. The taxon has dwindled primarily due to loss and fragmentation of their flood-plain habitat. Dudhwa Tiger Reserve together with Kishanpur Wildlife Sanctuary forms one of the major strongholds of the Swamp deer with a population of 1250+ in 2004. One small population of swamp deer is also reported in Hastinapur in Uttar Pradesh which is under threat due to poaching, degradation of habitat by grazing pressure and removal of grasses. All the populations are below historical numbers and presumed carrying capacity.

Jhilmil Jheel is situated between N 29° 32' to 29° 50' and E 78° to 78° 15' covering an area of 3800 ha of Reserve Forest. The altitude of the area varies from 200 to 250 meters above MSL. It is located between the Haridwar – Najibabad Highway and the natural course of the Ganges to the south of it in Chiryapur Range of Haridwar Forest Division, Uttarakhand. It is connected to River Ganga and is surrounded by Reserve Forest of Chiryapur Range.

The Jhilmil Jheel area is located at the junction of the Bhabhar and Terai formations extending up to the Ganges. The flood plains of the Ganges are characterized by deep sandy loam soils containing coarse sand and stone in shallow patches. The texture of the soil varies from fine sand to clayey loam.

Land Use Pattern

Jhilmil Jheel falls within Chiryapur Range of Haridwar Forest Division as shown in the accompanying map. The project area includes Comptt: Nos Nalowala 3, 4, 5, 6, 7a, 7b, 8a, 8b, 9a, 9b, 10a, 10b, Amsot 1a, 1b, Ganga 1a & 1b. The Jheel is flanked by Tantpur village to the west having about



Swampdeers in Jhilmil Jheel. Photo by Vinod Verma

130 families of farmers living within an area of 303.265 ha. The adjoining area of Jhilmil Jheel lies in the flood plain of River Ganga. The villagers cultivate largely sugarcane, wheat and paddy. This area is inundated during 4 months of the monsoon and the farmers get limited months for active cultivation. In addition, nine Gujjar families live around the Jheel and use the surrounds of the Jheel for grazing. Sand and boulder mining is also prevalent in the adjoining riverbeds.

Floral Diversity

Till today no detailed floristic studies have been conducted in the Jhilmil Jheel and its adjoining areas. The preliminary effort during the first sighting of Swamp deer in this area shows the dominance of *Typha angustifolia* and *Phragmites karka* in the main

swamp of Jhilmil Jheel, typical of upper Gangetic flood plain habitat. A few grassy galdes dominated by *Cynodon dactylon* and *Imperata cylindrica* form the regular grazing ground for domestic livestock. The margins of swamp have mixed woodland characterized by miscellaneous tree species especially *Ficus benghalensis*, *Azadirachta indica*, *Anogeissus latifolia*, *Streblus asper*, *Adina cordifolia*, *Acacia catechu*, *Dalbergia sissoo* and *Zizyphus mauritiana*. The other floral components of this area are *Cordia obliqua*, *Asparagus adscendens*, *Adhatoda zeylanica*, *Cassia fistula*, *Aerva lanata*, *Ehretia laevis*, *Capparis sepiaria*, *Ipomoea carnea*, *Dendrocalamus strictus*, *Limonia acidissima*, *Sida cordifolia*, *Grewia tiliifolia*, *Schleichera oleosa*, *Bauhinia racemosa*, *Aegle marmelos*, *Murraya koenigii*, *Helecteris isora*, *Mitragyna*

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parviflora, *Chrysopogon fulvus*, *Carissa carandas*, *Hemigraphis latibrosa*, *Adiantum edgeworthii*, etc. Among aquatic and semi-aquatic plants are *Ammania baccifera*, *Medicago polymorpha*, *Phyla nodiflora*, *Ranunculus scleratus*, *Typha angustifolia*, *Cyperus alopecuroides*, *Veronica anagalis-aquatica*, *Polygonum barbatum* and *Ceratophyllum demersum*. A detailed inventory of flora of this area is yet to be made.

Faunal Diversity of the area

Among the endangered fauna inhabiting the area are Swamp deer (*Cervus duvauceli duvauceli*), only recently confirmed authentically in Uttarakhand. A striking feature of this area is the presence of four species of deer in this area. The shallow water with swampy habitat in Jhilmil Jheel also attracts a variety of water fowl and more than 30 species of both migratory and resident birds have been recorded in this area. Raptors such as Marsh harrier, Egyptian eagle, Honey buzzard and Osprey have been sighted around Jhilmil Jheel. As per information gathered from local inhabitants a group of 4-6 elephants and good number of nilgai regularly raid the sugarcane and paddy crops.

The forest edge around Jhilmil Jheel is also extremely rich in herpetofauna, specially Python and entomofauna as also the Phragmites patches. Another striking feature of the area is presence of very high concentration of honey bees and high production of honey. It was interesting to see large flocks of Braminy Ducks in the cultivation around Jhilmil Jheel without any fear of the presence of people around. The behaviour of the Birds shows that they feel safe here, possibly because of the conservation friendly attitude of the local people towards wild animals.

Fortunately the local villagers around Jhilmil Jheel are vegetarian. Since they are followers of Sanatan dharma.



Landscape of Jhilmil Jheel. Photo by Satya Priya Sinha

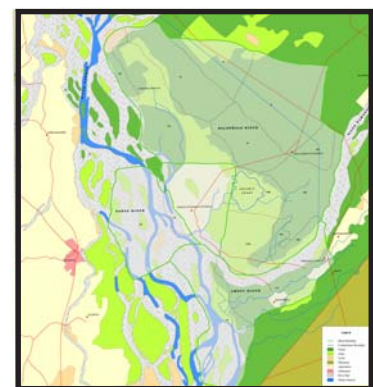
During a meeting held by the Hon Minister of Forest, Uttarakhand with the local villagers, the villagers expressed their willingness to help in the conservation of swamp deer. Jhilmil Jheel is a saucer shaped wetland situated on the right bank of River Ganges in Chidiyapur forest range in Haridwar district in Uttaranchal. Around Jhilmil Taal, nine huts of *Gujjars* (a pastoralist community) are situated along the forest belt and a village on the southern side. People are settled here since 50's. Most of them are from Punjab, Himachal Pradesh and Garhwal. In the recent past there were no authentic data or information on swamp deer in this area.

First authentic report on 34 Swamp deer sighting in Jhilmil Jheel in Uttarakhand State

On 1 February 2005 Jhilmil Jheel was visited by the first two authors to evaluate the possibilities of reintroduction of rhino. While surveying the area on foot and on the elephant back we found hoof marks of swamp deer and heard a call of a stag. Later, 34 Swamp deer were sighted in an open patch of grassland along a water channel. Nine adult stags along with doe and first year fawn were seen. Swamp deer antlers were also

collected from the area as evidence.

The area was visited again on 3rd February, 2005 with Director, IGNFA, Dehra Dun and Dr.G.S. Rawat, Wildlife Institute of India and sighted 30 swamp deer. On 6 February, 2005, Former Hon Minister of Forest, Uttarakhand, and Shri.Nav Prabhat visited the area and interacted with local villagers. Later, on 14 August, 2005, this area declared as Conservation Reserve by Hon'able President of India, Prof APJ Abdul Kalam. Recent Swamp deer count in April, 2007 shows the presence of 124 swamp deer in Jhilmil Jheel Conservation Reserve. First census for Swamp deer in Jhilmil Jheel Conservation Reserve and Ban Ganga area, Haridwar Forest Division, Uttarakhand will be carried out on 10,12 And 15 May 2007.



Map of Jhilmil Jheel