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SCIENCE

Declining forest bird species in Western Himalaya

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Invasion by non-native species, land-use changes led to decrease in abundance of important birds



With extremely cold winters and pleasant summers, the State of Uttarakhand is home to the Western Himalayan temperate forests which harbour a large number of endemic bird species. A new study that analysed these natural oak-dominated forests and modified forests has noted that there was a drastic loss of bird species in all modified landscapes.

The researchers studied an area of about 1,285 square kilometres between the altitudes of 1,700 and 2,400 metres. Six major land-use types which included natural oak forest, degraded oak forest (lightly used), lopped oak forest (intensively used), pine forest, agricultural cultivation area and sites with buildings were studied.

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Habitat guilds

Ghazala Shahabuddin, first author of the paper from the Centre for Ecology, Development and Research, Dehradun, adds: "We also noticed strong decline in some of the habitat guilds in the areas that experienced land-use change.

Habitat guilds are groups of bird species that have common habitat preferences. For instance, forest specialists include species which forage and breed only in dense protected oak forests at this altitude, while forest generalists can adapt to modified habitats such as orchards and degraded forests."

The researchers noticed that many of the species that dropped out of the modified land areas were recognised oak forest specialists such as rufous-bellied woodpecker, greater yellownape, rufous sibia, white-throated laughingthrush and black-faced warbler.

Another paper published by the group looked at woodpeckers in the region to understand how they can be used as indicators of bird diversity and also to understand habitat degradation

Woodpeckers enhance

They found that the higher the number of woodpeckers at a site, the higher was the richness of all other birds. "The cavities that woodpeckers make on trees are used by a number of other birds to nest in. This may be the primary reason how woodpeckers enhance the diversity in a region. Woodpeckers are known to abandon their cavities and even be chased away from their own cavity by other birds," explained Tarun Menon, one of the authors of the paper who is currently a PhD student at the Indian Institute of Science, Bengaluru.

They also noted that two species (rufous-bellied woodpecker and greater yellownape) showed great potential as indicators of forest quality as they were most likely to be found in dense canopied forests with larger and taller trees on which they preferred to forage.

"With tourism and other anthropogenic activities increasing in the region, we are witnessing rapid invasion by non-native species. One would not expect to see pigeons and Black Kites in these altitudes, but with increasing concrete urban ghettos, these birds have become a common sight now," adds Rajkamal Goswami who was associated with the Centre for Ecology, Development and Research, Dehradun, while carrying out the field surveys. He is currently working with the Ashoka Trust for Research and the Environment (ATREE) and

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and intensification of land-use has led to a significant decrease in the abundance of



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