

WHY ARE FIRES FREQUENT AT THE BANDIPUR RESERVE?

Relevant for: Environment | Topic: Disaster and disaster management

What happened?

A five-day fire that raged through the Bandipur Tiger Reserve has reportedly burnt more than 15,400 acres of forests. Between February 21 and 25, the reserve saw 127 fire counts in various ranges of the 912 sq km forest. The largest of the fires was contained only on Monday.

While Karnataka Forest Department officials scrambled to put out the blaze, an Indian Air Force helicopter sprayed over 19,000 litres of water in seven sorties.

While fires are not uncommon at Bandipur, what has surprised officials is their intensity and frequency. The worry now is the long-term damage to the ecosystem, which is a part of the Nilgiri Biosphere that hosts the world's largest tiger population, at more than 575 (2014 census).

How did it start?

The 2018 monsoon was particularly strong, but the year-end northeast monsoon has failed. If the monsoon led to dense growth, the blistering heat since September has turned vegetation brittle and dry, with vast swathes becoming tinderboxes. As with most forest fires, it is assumed that Bandipur's ignition was man-made. Forest Department officials believe miscreants set fire in multiple locations.

The suspicion stems out of a growing animosity between the Department and forest-dwellers who accuse officials of harassment through the wildlife rules. Any investigation into the fires is unlikely to pinpoint a cause or culprits. Strong gusts ensured that the fires spread quickly. Compounding matters is the ubiquity of *lantana camara*, an invasive weed species native to South America, that has spread through nearly two-thirds of the forest area.

Over 400 fire watchers were placed, but questions have arisen whether the precautions were enough, especially since Bandipur has had frequent fires.

How susceptible is it to fires?

Bandipur is a dry deciduous forest in the rain shadow region of the Western Ghats, and is no stranger to fires. Periods of drought invariably lead to fires. In 2017, a forest guard was killed while attempting to douse a fire in the region.

A study has shown that between 1974 and 2014, 67% of the Nilgiri Biosphere had seen some form of forest fire, with Bandipur having reported the most incidents. However, the number of forest fires had considerably come down over the decades as the Forest Department attempted to pre-empt them through fire control lines and fire watchers, notes the study.

What is the impact?

The country's forest policy encourages a zero forest fire approach for its protected landscapes — whether it is Bandipur or the rainforests of the upper Western Ghats. Scientific literature have shown this blanket approach may be doing harm to dry, deciduous forests where trees have

evolved to co-exist with fire.

Jayashree Ratnam from the National Conservation for Biological Sciences and fellow authors have noted in a recent study that the trees in this landscape were closer to those in a savanna than in rainforests 100 km away. Trees have dramatically thicker barks, implying that they had evolved to be fire-resistant.

“When fires are relatively frequent, adult tree mortality in these systems is very low. Many saplings sprout shortly after the fire from underground reserves, and the system returns to its original state in a few years,” she told *The Hindu*.

Conversely, when fires are suppressed — including by curbing the tribal practices of controlled fire burning — a greater biomass builds up that can lead to high intensity fires which affect the ecosystem negatively. Moreover, there might be a correlation between fire suppression and growth of *lantana camara*, which has replaced the grassy undergrowth in many areas.

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