



Raging forest fires threaten orangutans such as this one at a rehabilitation centre in Borneo.

CONSERVATION

Scramble to save Borneo's orangutans

Fuelled by El Niño and land-management blunders, Indonesian fires are consuming precious habitat.

BY NADIA DRAKE

The world's only wild orangutans — already besieged by logging, hunting, pet trading and the steady expansion of palm-oil plantations — are now threatened by forest fires that have burned for months on the islands of Borneo and Sumatra in southeast Asia. In the toxic smoke and haze, locals and researchers are scrambling to protect the estimated 50,000 remaining orangutans that live only on those two islands.

Fires erupt every year in Indonesia during the dry season, as farmers, plantation owners and others deliberately burn forest to clear land or to settle territorial disputes. But this year's El Niño weather pattern, combined with a legacy of land-management practices that have dried the soil and degraded vast swathes of peat-swamp forest, turned this burning season into an environmental catastrophe that has destroyed more than 2 million hectares of forest throughout Indonesia, to which

Sumatra and much of Borneo belong.

Since late summer, teams of researchers have headed out from the city of Palangkaraya in Borneo to find and fight new blazes. Some patrol the rivers and others head into the forest, where extinguishing the flames can require drilling more than 20 metres down to reach the water table — tough, gruelling work that is carried out amid tropical heat and in a persistent, menacing orange haze.

One day in October, Simon Husson, director of the UK-based Orangutan Tropical Peatland Project, deployed a drone at the Borneo Orangutan Survival Foundation's centre for orangutan rescue and rehabilitation near Palangkaraya. "Eyes in the sky are a huge help," he says. "On the ground, you're in choking smoke and the haze is severely restricting visibility."

As the drone rose above the smoggy blanket, its camera glimpsed a new fire burning deep in the forest. The fire was remote enough not to threaten the orphaned and injured orangutans

being readied for reintroduction to the forest, "but you can't help thinking about the wild ones out there", Husson says.

Husson and his colleagues have temporarily abandoned their normal research activities in the 6,000-square-kilometre Sabangau Forest, which is home not just to orangutans but also to rare Bornean white-bearded gibbons, sun bears and pangolins, to help local fire-fighting teams with cash and personnel. "Not only is [research] pretty unimportant right now," he says, "it's basically impossible to study the orangutans in the canopy as we can't see them for the smoke."

Peat fires devastate orangutan populations primarily by destroying crucial habitat, but the animals are also susceptible to the same types of smoke- and haze-induced respiratory problems as humans. The charismatic arboreal apes are already endangered throughout their range; their population is estimated to have declined by 78% from more than 230,000 a century ago. "Over half the world's orangutans live in peat-swamp forests, and every one of these peatlands in Borneo right now is on fire, somewhere," Husson says.

Undisturbed peat forests are actually incredibly fire resistant, says Susan Page, a geographer at the University of Leicester, UK, who studies peatlands in southeast Asia, because the swamps are damp enough to make ignition difficult. But, unfortunately, large tracts of Borneo's peatland are anything but undisturbed. In 1996, Indonesia's then-president Suharto launched the Mega Rice Project, which tried to transform 1 million hectares of Bornean peatland into rice paddies. Draining the peat was essential for the plan, and despite the fact that no rice was ever harvested, canals that were cut through the forests have been draining water from the peat ever since.

The infernos in Indonesia have climate implications as well. Normally, Borneo's peat forests are efficient carbon stores, holding tonnes of organic matter in layers of compressed plant material that can be more than 15 metres thick. But when that peat burns, the accumulated carbon is released. This year, the fires have already released more than 1.5 billion tonnes of carbon dioxide into the atmosphere — more than Japan's annual carbon emissions. Since September, carbon emissions due to the fires have exceeded the daily production of the United States on at least 38 days, prompting one conservation scientist to call this year's fires the "biggest environmental crime of the twenty-first century".

The situation is unlikely to get better without an extended period of rain or a serious commitment from the Indonesian government. If the El Niño-driven drought persists, as some climate models predict, this year's fire season could last well into 2016.

"Severe fires did not occur before there was intensive land-use development," Page says. "Solutions will require strong political leadership and investment." ■