

# Ecuador's Yasuni National Park identified as one of the most biodiverse places on earth

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This is the Yasuni rainforest canopy. Credit: Bejat McCracken

Yasuní National Park, located in the core of the Ecuadorian Amazon, shatters a range of world biodiversity records -- from trees to amphibians to insects to mammals and an array of other plant and animal groups -- new research from U.S. and Ecuadorian scientists shows.

The analysis, published in the journal *PLoS ONE*, also notes that the greatest threat to this diversity is proposed oil development projects—leased or proposed oil concessions cover the northern half of Yasuní, and four oil access roads have already been built into the park or its buffer zone.

"One of our most important findings about Yasuní is that small areas of forest harbor extremely high numbers of animals and plants," says lead

author Margot Bass, president of Finding Species, a non-profit with offices in Maryland and Quito, [Ecuador](#). "Yasuní is probably unmatched by any other park in the world for total numbers of species."

"This study convincingly demonstrates that Yasuní is the most diverse area in South America, and possibly the world," says primatologist Anthony Di Fiore of New York University. "Both of my study sites in Yasuní contain 10 co-existing primate species. That's incredible diversity for one small patch of rainforest."

Di Fiore emphasizes that two of the species, the White-bellied Spider Monkey and Poepig's Woolly Monkey, are highly threatened in most of their range but maintain healthy populations in Yasuní.

The extraordinary diversity of Yasuní is best exemplified at the 6.5 km<sup>2</sup> (1600 acre) Tiputini Biodiversity Station, located on the northern edge of the park.

"The Tiputini Biodiversity Station is home to 247 amphibian and reptile species, 550 bird species, and over 100 bat species," says Kelly Swing of the University of San Francisco in Quito, Ecuador.

Other specialists who contributed note that the analysis also provides the first complete picture of the extraordinary diversity found in Yasuní National Park for other taxonomic groups.

"The 150 amphibian species documented to date throughout Yasuní is a world record for an area of this size," says Shawn McCracken of Texas State University. "There are more species of frogs and toads within Yasuní than are native to the United States and Canada combined."

The scientists also confirm that an average upland hectare (2.47 acres) in Yasuní contains more tree species, 655, than are native to the continental

United States and Canada combined. The number of tree species rises to over 1,100 for an area of 25 hectares.

"In just one hectare in Yasuní, there are more tree, shrub, and liana (woody vines) species than anywhere else in the world," says Gorky Villa, an Ecuadorian botanist working with both the Smithsonian Institution and Finding Species.

Perhaps the most impressive statistic of all is that a single hectare of forest in Yasuní is projected to contain 100,000 different insect species. According to entomologist Terry Erwin, that is the highest estimated diversity per unit area in the world for any plant or animal group.

"What makes Yasuní especially important is its potential to sustain this extraordinary [biodiversity](#) in the long term," says Matt Finer of Save America's Forests. "For example, the Yasuní region is predicted to maintain wet, rainforest conditions even as climate change-induced drought intensifies in the eastern Amazon."

The paper concludes with a number of science-based policy recommendations. One key recommendation is as a moratorium on new oil exploration or development projects within the park, particularly in the remote and relatively intact—but oil rich—northeast corner that contains oil blocks 31 and the Ishpingo-Tambococha-Tiputini (ITT) oilfields.

The Ecuadorian government is currently promoting a plan, known as the Yasuní-ITT Initiative, which would leave the park's largest oil reserves in the ITT block permanently under the ground. A lack of funding commitments, however, now threatens the proposal.

"The Yasuní-ITT Initiative urgently needs international funders to step up and make it a success, or else more drilling in the core of Yasuní may

become a tragic reality," concludes Finer.

Provided by New York University

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