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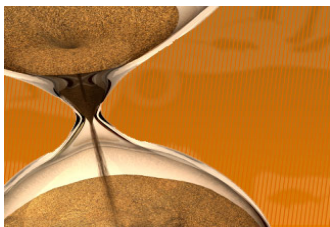
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Another Challenge for Orangutan Conservation: Food

By John R. Platt | October 22, 2015 |

Throughout the Indonesian island of Borneo, orangutans (*Pongo pygmaeus*) are getting squeezed out of their forest habitats by the voracious palm oil industry. Farmers frequently chop or burn down native forests in order to replace them with lucrative and often illegal plantations. This forces any of the arboreal apes that survive the assault—most don't—to attempt moving to new territories, either on their own or with the assistance of orangutan conservation groups.



But not just any new territory will do. A study published October 14 in *PLoS One* finds that orangutans depend on very high-calorie foods for their survival. That means that any new habitats the apes colonize will need to have ready food supplies, something that may not be available in all locations.

The study, by researchers from Rutgers University in New Jersey and six other institutions, examined two of Borneo's healthiest orangutan populations . The

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research, conducted from 2003 to 2010, found that each population’s habitat contains a different makeup of available food, one of which was far less than ideal.

Both populations live in what are known as peat forests, tropical areas with leafy, waterlogged soil that prevents local trees from absorbing much nutrition through the ground. The first population lives in the Sabangau Forest, a very typical peat environment where the peat is up to four meters deep. The second population lives 63 kilometers away in the Tuanan forest where the peat is much shallower (one to two meters deep) and the trees receive additional nutrients from seasonal river floods.

The qualities of the Tuanan forest had two important effects: not only was there more food, there were also more orangutans. The Tuanan apes live at a population density of between 4.3 and 4.5 individuals per square kilometer, compared to 2.3 apes per square kilometer in Sabangau.

In addition to more fruit and other food in Tuanan, the composition of all plants differed. In Tuanan, orangutan diets were higher in lipids and non-structural carbohydrates, which provided them with more energy. The apes in Sabangau had a diet higher in fiber, which did not.

All told, the Tuanan apes were able to consume as much as 2,500 more calories per day while spending less time searching for food. That’s energy they could put into breeding. Sabangau orangutans consumed fewer calories but expended more energy trying to fill their bellies, leaving little for anything else.

Lead author Erin Vogel, an evolutionary anthropologist at Rutgers, said in a [prepared statement](#) that the study shows how environment can affect large, arboreal animals. “If animals can’t obtain enough energy, reproductive output and population sizes will suffer.”

This is especially important since conservation groups are trying to get the Indonesian government and palm oil companies to set aside new habitats for orangutans on both Borneo and Sumatra (the Sumatran apes are a separate species, *P. abelii*, but they’re similar enough to the Bornean orangutans, *P. pygmaeus*, that this study can apply to them both). The areas could serve as new homes for apes that would be relocated away from the palm-oil industry or those who already live in sanctuaries while they await safe new homes. Choosing those new sites for their food content, according to the researchers, will be critical. “If you want to increase the populations of this endangered species, you need to make sure that they are being reintroduced into suitable habitats,” Vogel said. “It means looking at forests carefully, making sure they are productive, and that there is enough food to eat in terms of caloric gain.”

Of course, there’s already a major wrinkle in all of this. Borneo and Sumatra are currently plagued by [thousands of intentionally set forest fires](#) caused by slash-and-burn agriculture. Conservation groups tell me that some of these fires are burning in or near important orangutan habitats, including Sabangau. Not only does this endanger the wild apes, the fires are also quickly eliminating any new habitat that into which they could be relocated.



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Indonesian officials this week said they have little hope of putting the fires out before this November’s rainy season. Similarly, orangutans in the wild have increasingly little hope of having any forest left in which to live as the next few years carve out yet more of their habitat.

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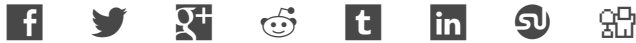


Twice a week, John Platt shines a light on endangered species from all over the globe, exploring not just why they are dying out but also what’s being done to rescue them from oblivion. Follow on Twitter @johnrplatt

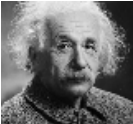


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