

Project Update: October 2010

We made three field excursions between June 11th and October 20th 2010. This effort completed the data-collection stage of our project which comprised 91 days in the forest, 500 km of walking, and 1800 hours of audio recordings from 152 sampling points both in primary and secondary forest. Our next step is to process audio recordings and identify species from their calls. This will involve five people with experience in identifying central Amazon birds from their calls. Listeners will work for 4 months on a collection of 3,000 5-minute sub-samples of the recordings we just brought from the field. At the end of this process, we will have one list of species detections for each visit to each sampling point. Those lists will form the core of the data that will be analyzed in the following stage. So now we'll move from forest to lab and tune into the world of bird communication.

Environmental heterogeneity

During our time in the field it was impossible to overlook the heterogeneity of the forest environment. Our perception of spatial variability in the primary forest was so striking that we decided to capture some of it in our sampling design. Perhaps, the strongest source of heterogeneity inside the forest is the tree-fall gap. Its dynamics, since the falling of a tree to complete gap disappearance, creates a rich spatial distribution of vegetation density. Open gap areas are quite different from closed primary-forest vicinity without gaps. Besides, big gaps resemble secondary forest in many ways, raising a number of interesting questions: is bird species occupancy in secondary forest similar to bird species occupancy in gaps? Do gap-avoiding primary forest species occur in secondary forest?

In order to capture some of this environmental variability, we divided our primary forest data into gap and gapless points. We sampled 44 points in secondary forest and 108 in primary forest. Of the latter, 51 were in gap and 57 in gapless sites. Next step: listening to bird recordings!

