

Project Update: October 2015

Thus far, my project funded by the Rufford Foundation has been a resounding success. Last year we were primarily modeling the hydrology and physicochemistry of the Napo River Basin using geostatistical techniques and Bayesian clustering algorithms to inform river conservation and management efforts. Beginning in early February 2015, we began our fieldwork along an elevational gradient ranging from nearly 4000 m to 1500 m in the Napo Basin. We are sampling fish, water chemistry, and doing nutrient analysis at 12 sites in the Papallacta, Oyacachi, and Cosanga drainages. We have found that introduced rainbow trout are the primary threat to *Astroblepus* (commonly called the climbing catfish for their ability to climb up rocks through vertical waterfalls tens of metres high), the main genus found in streams at these altitudes. While we find the two species at similar altitudes, we have never found them together. Furthermore, historical reports indicate that *Astroblepus* was found at altitudes up to 3500 m prior to the introduction of rainbow trout, though we have not found them at altitudes higher than 2500 m, which appears to be the optimal range for rainbow trout. We are also testing for differences in the effects of the two populations on stream nutrient cycles. We expect to submit at least three papers to peer reviewed journals detailing this work in the near future.





