

Project Update: October 2015

High Andean forest are ecosystems of major regional importance due to: 1) their outstanding biodiversity and endemism which attracts tourists thereby generating income; and 2) the ecosystems services that they provide to human settlements, among them, a remarkable capacity of fresh water catchment and supply and carbon storage. However, Andean forests in Ecuador face severe threats due to human activities that jeopardise their long-term persistence and functioning. Among these threats land use conversion and slash-and-burn agriculture are probably the most detrimental practices for biodiversity. Besides its deleterious effects on biodiversity, these human practices may also have an effect on animal-mediated ecosystem process such as pollination, which is in turn critical for forest restoration in tropical forests. Although there is a consensus that pollinator communities and plant-pollinator interactions are susceptible to human-induced disturbances, how they respond to disturb is far from being fully understood.



Our team tries to understand how bird-plant pollination networks will respond to widespread forms of land use change such as forest fragmentation and forest fires. To achieve this we rely on the use of Plotwatcher Pro cameras deployed in front of flowering plants, at different sites exhibiting different levels of disturbance, these include pristine forests, forest edges and forest areas recovered from fires. Up to date we have installed cameras in eight flowering plants. Eight hummingbirds and two species of flower piercers have been recorded visiting these plants, including the Critically Endangered hummingbird black-breasted puffleg. So far we have obtained 463 hours of video and 73 bird-plant interactions are documented in photos. Two species of bromeliads are among the most visited flowering plants, suggesting that this family may be an important contributor to the persistence of hummingbird communities and also to the pollination systems. Furthermore two local undergraduate students are being trained in camera setting, video filtering and soon in data analyses. We expect also to engage local high-school students and land owners to keep monitoring using this approach.



