

Announcing the
**Final Examination of
Monica Paulson Priebe**
for the Degree of
Doctor of Philosophy in Environmental Science

Friday, January 6th at 1pm
Deans Conference Room Suite 300, School of Public and Environmental Affairs

**Dissertation: Ecological conservation and institutional dimensions of dynamic, human
influenced tropical forests**

Protecting forests in Central America, where people live in and around protected areas, has unique challenges. Various institutions, rules created to protect natural resources, have been employed to help protect these areas. This work focuses on the impact of institutions on forest cover and condition through a multi-scale, interdisciplinary approach. Decentralization of natural resource protection to regional arenas is examined for the effects on forest cover across Guatemalan municipalities by examining differences in various socio-economic variables before and after decentralization through a land-cover change analysis. Under a decentralized forestry sector, forest area protection has shifted from protecting standing forests to increased forest turn-over and reforestation efforts. La Fraternidad Biosphere Reserve, located in Guatemala, Honduras and El Salvador shares international and national natural resource use legislation. Nonetheless, the ways that these natural resource laws are interpreted locally through rules-in-use, and how they are enforced differ greatly among countries. Monitoring and enforcement of these laws are examined in this protected area for impacts on forest cover and forest condition through a comparative land cover change analysis and forest mensuration techniques coupled with household survey data. Within La Fraternidad biosphere reserve, monitoring and enforcement are strong indicators of forest area protection; however difficult to access forest areas may be protected without these efforts. Finally, forest harvesting behaviors of selected tree species are apparent where there is a lack of monitoring and enforcement. These harvesting patterns change substantially where monitoring and enforcement are high. This work builds on previous research by exploring, in greater depth, the relationship of socio-economic variables on the success of forest protection under decentralization. It corroborates findings in the field by reiterating the importance of monitoring and enforcement on forest protection and expands current understanding of how these activities change the pattern of illegal forest harvesting and forest conditions.