**MIN-VENDITTI, AMELIA** [S22-P94]

*Effects of Public Policies in Central America and Mexico on Deforestation and Reforestation Trends*
Co-author: Forrest D. Fleischman, Assistant Professor, Department of Ecosystem Science & Management, Texas A&M University

Despite many studies of the causal variables responsible for deforestation, there remains little work examining the effect of public policies on deforestation and reforestation trends. This is a problem because public policy is the primary method of altering collective outcomes. In this paper, we conduct a systematic literature review of the impact of public policy on deforestation and reforestation in Central America and Mexico, drawing on a set of 250 published studies. This region has experienced high historical rates of forest cover change, and is well studied, providing a strong sampling frame. We examine whether certain policy types, such as payments for ecosystem services or protected areas are more likely to have a positive impact on forest cover, while also examining the impact of public policies targeted towards agriculture and development. For each study we code both biophysical and social variables. The biophysical measures include scale and location of the study and whether forest cover increased or decreased. The sociopolitical variables include policy type, whether the region studied is a new, developing, or mature agricultural frontier, research paradigm (e.g. land change science), and any stated drivers of deforestation. Preliminary analysis of data indicates that all regions had studies of protected areas using the land change science paradigm and that in Mexico there have been studies of all of major policy types. We find that each policy type is associated with both deforestation and reforestation. Strikingly, many community development and agricultural policies, which are not thought of as forest sector policies, have a substantial impact on forest cover. Taken together, these findings indicate that the current focus on examining particular policies – such as payments for ecosystem services or protected areas – may be less effective than examining the drivers that lead to success or failure in particular cases. Although less widely applied than land change science, common-pool resource and political ecology research paradigms appear to make significant contributions to explaining the processes that produce outcomes, and thus have the potential to play an important role in explaining why policies produce divergent outcomes.