

LINKING BURMESE PYTHON ECOLOGY WITH REMOVAL EFFORTS IN THE EVERGLADES

Melissa A. Miller

University of Florida, Fort Lauderdale Research and Education Center, Davie, FL, USA

The invasive Burmese python (*Python bivittatus*) is established across South Florida and is implicated in negative impacts to native wildlife. For over a decade, scientists and natural resource managers have investigated python ecology to understand its habits and develop targeted removal and control tools. However, due to their incredible cryptic nature, pythons have proven extremely difficult to assess, and no tractable abundance estimates have yet been made. Several successful python removal programs and tracking efforts have been implemented across South Florida. With few exceptions, these programs are focused in accessible areas or high ground habitats containing a mix of hardwood hammock, pinelands, prairie, cypress swamps, and estuaries that constitute only a portion of South Florida wildlands. In addition, most pythons removed from the region are captured while crossing roads or levees transecting vast wild habitats that may be flooded year-round. As such, there is an informational gap regarding python ecology and removal efficacy in the eastern Greater Everglades Ecosystem region, where landscapes primarily consist of sawgrass marsh interspersed with sloughs and tree islands. To address this need, we initiated a collaborative multifaceted study to integrate radio-telemetry field techniques and advanced modelling approaches to estimate population-level metrics to inform python removal efforts within the eastern Everglades. Additionally, we initiated a scout snake program, where adult pythons are tracked during the breeding season to lead researchers to mating aggregations, to increase the ability to detect and remove pythons from the interior of the landscape and provide critical information on movements, behaviors, and demographic rates (i.e., survival and reproduction). Knowledge of python spatial ecology in the eastern Everglades can inform targeted removal efforts, allowing for more effective management strategies while reducing resources necessary for python control.

PRESENTER BIO: Dr. Miller has studied biological invasions of large reptiles in the Greater Everglades Ecosystem for over a decade with focus on understanding how invasions impact native ecosystems. Through her research, she addresses ecological and evolutionary questions to further our understanding of invasions and aid natural resource managers in control efforts.