

Utilizing Volunteers to Collect Valuable Visitor Data

How do managers at the Rachel Carson and Masonboro Island Reserves learn about how visitors impact Reserve land and resources? In the past, monitoring visitor use of the North Carolina Coastal Reserve sites presented a challenge due to limited resources and staff time. However, a recent partnership between the Coastal Reserve and North Carolina State University (NCSU) focuses on training Reserve volunteers to monitor visitor use and impacts on natural environments. This will ultimately improve staff understanding of how people use the Reserve and help tailor stewardship efforts to benefit both visitors and the Reserves' natural resources.

Dr. Yu-Fai Leung of NCSU's Parks, Recreation & Tourism Management Department is interested in studying sustainable visitor use in protected areas, and how participatory monitoring of visitor impacts can provide useful data to protected area managers. As federal and state protected lands with significant public use for recreation and wildlife viewing, the Coastal Reserve is an ideal study area to implement Dr. Leung's research on using volunteers to monitor visitor use and impacts. Dr. Leung states that data collection by volunteers can "benefit the public good of these coastal resources by balancing visitor use and conservation goals."



Classroom training session with Dr. Leung's graduate students and volunteers.

Collaborative meetings between site managers Paula Gillikin (Rachel Carson Reserve), Hope Sutton (Masonboro Island Reserve), and Dr. Leung's team of graduate students revealed several visitor use indicators that would be appropriate for volunteer monitoring. For the Rachel Carson Reserve, visitor use indicators that have potentially significant impacts to

wildlife and visitor safety are dog leash compliance and human interactions with the wild horses found on the Reserve. Although leashed dogs are welcome on the Reserve, allowing dogs to go off-leash can harm vegetation and be disruptive to other visitors and wildlife found at the Reserve. And while the wild horses found on the Rachel Carson Reserve are a unique part of the region's cultural heritage, harmful interactions with humans can impact the horses' behavior and visitor safety. Indicators for Masonboro Island also include dog leash compliance, as well as photo-monitoring stations designed to monitor trail and campsite development and erosion. Trails and camping activity are useful monitoring indicators because they can alter natural landscapes over time.



Central Sites Manager Paula Gillikin and Dr. Leung (in red) explain volunteer monitoring protocols in the field.

After identifying appropriate visitor use indicators, Dr. Leung's research team developed monitoring protocols that volunteers could use to track visitor impacts. The research team created volunteer manuals with data collection sheets, as well as an Ipad app that allows volunteers to record data to their device while in the field. Data collected will be uploaded by the volunteers to a database organized by the researchers. From there, the visitor use data can be accessed and utilized by site managers to obtain comprehensive information about compliance with Reserve regulations and visitor impact on Reserve resources. This valuable data collection, part of a dedicated volunteer effort at two popular Coastal Reserve sites, will help managers plan for the future to ensure that both recreational use and conservation goals are incorporated into Reserve stewardship and management.