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Archbold Intern Peyton Breault advances Florida stewardship with digital technologies

By: Archbold Biological Station

Florida is a paradise for nature lovers. Residents, snow-birds, and tourists alike flock to our beaches, lakes, and other natural areas for sport, recreation, and relaxation. Unfortunately, our growing population of 21 million people and over 100 million tourists each year puts at risk the very wildlife, lands, and waters we love and depend on. In an effort to keep up with environmental changes, Peyton Breault is incorporating the latest digital technologies into scientific research methods, conservation efforts, and public education.

Peyton, age 23, grew up in Jacksonville, Florida. She earned a biology degree last spring from Florida Southern College, and in May began a residential research internship at Archbold Biological Station in Venus, FL. She recalls that she wanted to work at Archbold for “the opportunity to get to know the Florida scrub, a place most other people don’t see.” The position wrapped up last week, making her one of over 550 interns to have trained at Archbold.

Vivienne Sclater, Archbold’s Geographic Information System (GIS) Specialist was Peyton’s supervisor. She described Peyton as a “huge asset to the lab.” Although her main responsibility was to analyze digital drone imagery of Archbold’s 20,000 acres of nature preserves and ranch lands, Peyton also improved the work of other departments by offering her digital technology skills. Vivienne reports that this included “assisting researchers in setting up mobile apps for field data collection,” as well as “creating online story maps for use in public outreach to tell the story of what we do here and why it is important.”

For her independent research project, Peyton chose to study the role of European Honeybees (*Apis mellifera*) in the Florida scrub. European Honeybees, a common backyard flower visitor and agricultural pollinator, are an exotic species in the Americas. Peyton explains, “scientists are split on whether honeybees in our native ecosystems are helpful or not.” European Honeybees pollinate Florida’s wildflowers, but researchers are worried they might also be pushing out other native bees and flower visitors.

On December 19th, Peyton’s presented her research findings at a public seminar at Archbold Biological Station. After over 100 observation sessions of insect visitors to the Florida wildflower called Feay’s

Palafox (*Palafoxia feayi*), she saw that the European Honeybees had not pushed out the native insects. Though they were frequent flower visitors, accounting for 39% of visitors, other insects, like the Eastern Bumblebee (*Bombus impatiens*) were still present. When recording data in the field, she used an electronic tablet instead of a traditional notebook. This tracked her location and allowed her data to automatically upload to pre-made spreadsheets without having to be typed in by hand later.

While at Archbold, Peyton was also able to use her digital photography skills to support science and conservation through public engagement. Archbold's Development Director, Deborah Pollard, appreciated Peyton's contributions, saying "her extraordinary talent has been instrumental in helping our Instagram platform receive increased reach and followers." In addition to contributing to social media, Peyton also had one of her photographs included in the Florida Ranches 2019 Calendar. The annual calendar, a project of one of Peyton's photographer heroes, Carlton Ward Jr., highlights the conservation value of ranches and advocates for their protection from development. Peyton says she want to "emulate the photographs that inspire me and make people care."

Even though Peyton is using digital technologies to support Florida stewardship, she values spending time connecting to nature. She reflects, "the longer I'm out there, the more aware I am of my surroundings. And sometimes, instead of photographing, I'll just observe nature."

With Peyton's Archbold internship complete, she will continue her stewardship work as the Youth Ambassador and Civic Leadership Intern at Gulf Islands National Seashore in Gulf Breeze, FL, a position supported by AmeriCorps.



Figure 1 Peyton Breault, Research Intern at Archbold Biological Station in Venus, Florida. Photo: Dustin Angell



Figure 2 Photo of a Crested Caracara, one of Peyton's popular Instagram pictures for Archbold. Photo: Peyton Breault



Figure 3 Peyton uses an electronic tablet to record insect flower visitors. Photo: Dustin Angell