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Ecological History of Highlands County

Ever since Richard Archbold founded his biological field station in 1941, continuous scientific exploration has been occurring in Highlands County, Florida. For more than 75 years, staff and visiting scientists at Archbold have worked towards understanding the life histories and ecology of the plants and animals that live here. This long history of exploration, study, and conservation fosters an awareness for the changes in the landscape of Highlands County that have occurred.

The first Director of Research at Archbold, Dr. James N. Layne, understood the importance of a detailed ecological picture for wise management of natural lands. He came to Lake Placid in 1967 determined to establish long-term monitoring of local flora and fauna. He wrote in 1967, "Many field projects will be conducted on a long-term basis with the objective of obtaining a better understanding of the biology of important species. In addition to their intrinsic value, such data will contribute to overall knowledge of the ecosystems represented." He systematically accumulated detailed observations and data on many plants, animals and their habitats. A rigorous monitoring of a wide variety of species defined Dr. Layne's tenure while he worked at Archbold.

Dr. Layne retired in 1994, but continued to work with Archbold research in an emeritus capacity. Beginning in 2011, and with the help and support of his family, Dr. Layne donated materials from his professional career, which are now a part of the 'Dr. James N. Layne Collection'. According to Archbold's Special Collections Archivist Joe Gentili, "These donations continued until Layne's death in 2017 and total over 50 archival boxes of materials. They

represent a treasure trove of data and field notes on dozens of Florida species including Florida Mouse, Crested Caracara, Gopher Tortoise, Florida Panther, Indigo Snake and more. Also included are decades of notes and photographic slides he took of local habitats in Highlands County and the surrounding area.”

Data on how habitats change over time can inform conservation and land management decisions. According to Gentili, “Using Dr. Layne’s material, a more complete picture can be built of how conditions have changed on the ground, day by day, and year by year. One interesting example is a series of documents dedicated to how road traffic contributed to the deaths of birds, mammals, and herptiles. We can use his data to get a snapshot of mortality rates in Highlands County before it became more populous and highways more numerous.”

Using Dr. Layne’s field notes and data one can also see an emerging picture of our evolving understanding of fire and its role in Florida ecology. In the late 1960’s, when he began his studies, the role of fire in scrub ecosystems was poorly understood. Now, thanks in part to his collaboration with Dr. Warren Abrahamson and other research at Archbold, we have a good understanding of the vital necessity for fire in maintaining healthy ecosystems, especially for many threatened and endangered plants and animals.

Dr. Layne documented Highlands County’s flora and fauna for more than forty years. His accumulated wealth of information is being utilized to form a better understanding of how this area changed over the course of the 20th century. The myriad data contained in the Layne Collection are under active archival care and are open for use by Archbold staff and visiting researchers. Most materials have been cataloged and described to allow for easier searching, and more archival work is planned. The James N. Collection is housed in a room in the Archbold Annex. In the years to come this important and unique look at Highlands County will continue to inform the work of scientists trying to preserve the natural beauty of this region of Florida.

Photo 1: West wall of the Collection Room showing Archival boxes of data with 91 volumes of JNL field notes above them. Photo by Joe Gentili.

