UF IFAS
UNIVERSITY of FLORIDA

DeLuca Preserve

Jumpstart Awards for Research

$173,752

Vertebrate surveys through mosquito blood meal-derived DNA at the DeLuca Preserve





PI: **Lawrence Reeves** (Entomology and Nematology/ Florida Medical Entomology Laboratory)

Co-PIs: **Nathan Burkett-Cadena** (Entomology and Nematology/Florida Medical Entomology Laboratory), **Christina Romagosa**, **Katie Sieving** and **Samantha Wisely** (Wildlife Ecology and Conservation)

By coupling mosquito blood meal analysis with standard biodiversity monitoring techniques, this project will provide critical baseline data on the species composition of the DeLuca Preserve's vertebrate community, while exploring the capabilities of mosquito blood meal surveys as a novel method of vertebrate sampling.

$87,724

Characterizing soil-water-microbiome domains as part of an open access database for the DeLuca Preserve




PI: **Jehangir "Jango" Bhadha** (Soil and Water Sciences/ Everglades REC)

Co-PIs: **Willm Martens-Habbena** (Microbiology & Cell Science/ Fort Lauderdale REC), **Anna Braswell** (Forest, Fisheries, & Geomatics Sciences) and **Samuel Smidt** (Soil and Water Sciences)

This project seeks to establish a baseline assessment of hydrology, soil microbiome, soil health, and geospatial features of the diverse ecosystems at the DeLuca Preserve.

$80,000

Planting new improved scion/rootstock combinations from the CREC Citrus breeding program to demonstrate sustainable and profitable citriculture in Florida



PI: **Jude Grosser** (Horticultural Sciences/Citrus REC)

Co-PIs: **John Chater** and **Fred Gmitter** (Horticultural Sciences/Citrus REC)

This team will plant 10 acres of new scion/rootstock combinations that have great potential to demonstrate sustainable and profitable citriculture in an HLB-endemic Florida, providing future opportunities for both processing and fresh fruit studies featuring elite UF germplasm.

$78,247

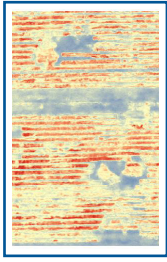
An integrated bioeconomic model for wildfire risk, surrounding forest management and tradeoffs of ecosystem services in the DeLuca Preserve



PI: **Andres Susaeta** (Forest, Fisheries, and Geomatics Sciences)

Co-PIs: **Carlos Silva** (Forest, Fisheries, and Geomatics Sciences) and **Ajay Sharma** (Forest, Fisheries, and Geomatics Sciences/West Florida REC)

This project aims to develop a bioeconomic model that integrates the dynamic risk of wildfires and surrounding forest management, evaluates their implications for the optimal provision of timber, carbon, water and plant biodiversity, and determines associated economic benefits in the DeLuca Preserve.



$75,080

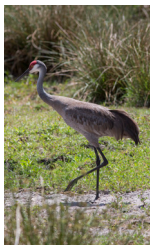
Mapping and inventorying floristic biological, functional, and structural diversity across the DeLuca Preserve using LiDAR and high-resolution airborne hyperspectral imaging



PI: **Aditya Singh** (Agricultural and Biological Engineering)

Co-PIs: **Michael Andreu** (Forest, Fisheries, and Geomatics Sciences) and **Carey Minteer** (Entomology and Nematology/Indian River REC)

This project aims to generate baseline information on the distribution, composition, and structure of the floristic communities of the DeLuca Preserve using an intensive field and airborne data collection campaign.



$71,061

How rangeland bird diversity and abundance respond to grazing management


PI: **Edward "Hance" Ellington** (Wildlife Ecology and Conservation/Range Cattle REC)

Co-PI: **Marcus Lashley** (Wildlife Ecology and Conservation)

This project will quantify the relationship between grazing management, vegetation diversity and structure, and avian diversity at both the pasture and landscape scale across study sites at the DeLuca Preserve, Buck Island Ranch, and the Range Cattle REC.

$68,125

Leveraging Snapshot USA to monitor animal diversity and consequences of oak activity patterns


PI: **Marcus Lashley** (Wildlife Ecology and Conservation)

Co-PI: **Hance Ellington** (Wildlife Ecology and Conservation/Range Cattle REC)

This team is a collaborator on the SNAPSHOT USA project, a standardized yearly camera trap survey of wildlife populations in all 50 states. This team will add the DeLuca Preserve to the Snapshot project for 2021 and 2022 and use the data set in combination with experiments to understand how oak masting behavior influences the probability of an acorn being cached.

$63,372

Florida's fungal diversity: documenting subtropical fungi of the DeLuca Preserve and Archbold Biological Station


PI: **Matthew Smith** (Plant Pathology)

Co-PI: **Laurel Kaminsky** (Plant Pathology)

This project will expand on previous sampling of fungal diversity from north Florida in order to characterize the subtropical fungi of the new DeLuca Preserve (≥75% of proposed sampling effort) and the Archbold Biological Station.