ARCHBOLD JULY 2015 NEWSLETTER

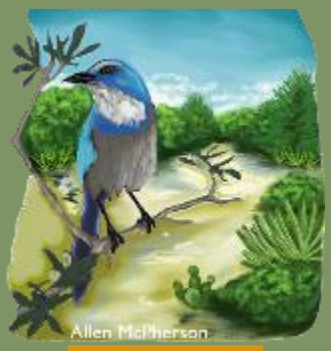
for curious minds

In This Issue:

Methane Production in Subtropical Cattle Pastures

Sam Chamberlain working at a methane monitoring tower at MAERC.

Methane (CH_4) is a greenhouse gas with a global warming potential 25 times greater than carbon dioxide. Cattle are known methane producers primarily from forage digestion but a **new study at the**

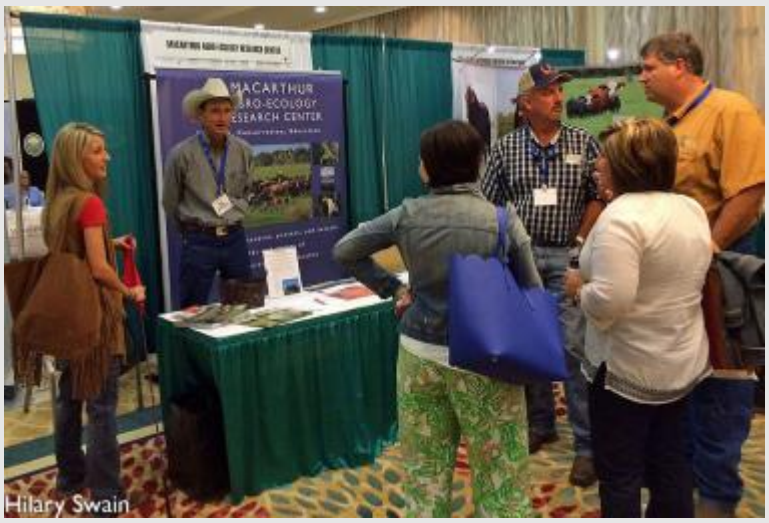


Donate Now

Archbold Biological Station Website

MacArthur Agro-ecology Research Center MAERC **is the first to assess landscape scale methane emissions** from cattle pastures and associated wetlands and ditches. Sam Chamberlain, PhD student at Cornell University, in collaboration with Dr. Jed Sparks (Cornell) and Dr. Betsey Boughton (MAERC) recently published 'Underlying Ecosystem Emissions Exceed Cattle-Emitted Methane from Subtropical Lowland Pastures' in the journal Ecosystems. The study **found that the ecosystem was the dominant source of methane and cattle were responsible for 19-30% of annual methane emissions.** Methane emissions were highest during the wet season, primarily from seasonal wetlands, with lower dry season emissions associated with cattle. 'Subtropical pasture ecosystems are potentially large and unaccounted for methane sources in regional greenhouse gas inventories'. Ecosystem methane emissions from seasonal wetlands are a natural process.

Connecting Conservation and Ranchers



Gene Lollis, Ranch Manager, representing MAERC at the 2015 Annual Florida Cattlemen's Association meeting in Orlando.

The word is out about research conducted at the MacArthur Agro-ecology Research Center MAERC **relevant to conservation and ranchers** with a recent flurry of visitors including Larry Clemens, Interim Director for North America Agriculture at The Nature Conservancy TNC. Clemens then arranged a webinar about MAERC by Hilary Swain and Betsey

Subscribe to our Newsletter

Connect with us on Facebook!

Check out our Youtube Videos!

"Archbold Biological Station is one of America's iconic centers of continuous research and education in field biology. It is a prototype of what we need all across America."
— Edward O. Wilson

Boughton for the TNC grassland conservation network. The MAERC/Univ Florida IFAS ranchland sustainability pilot project was just reviewed by the livestock team from World Wildlife Fund, Florida rancher representatives and McDonalds in preparation for the US Roundtable on Sustainable Beef. David Augustine from the USDA Central Plains Experimental Range in Colorado did an exchange visit as our USDA Long-Term Agro-ecosystem Research collaborator. Neil Wilkins and Tyler Campbell visited to compare MAERC grazing research with the newly established non-profit in Texas, East Wildlife Foundation. Staff and Board members from the Savory Institute and Grasslands LLC visited. Last but not least, statewide staff from Florida's DEP sought guidance on grazing and wetland restoration. MAERC stakeholders are ever-expanding!

Blueberry Connections

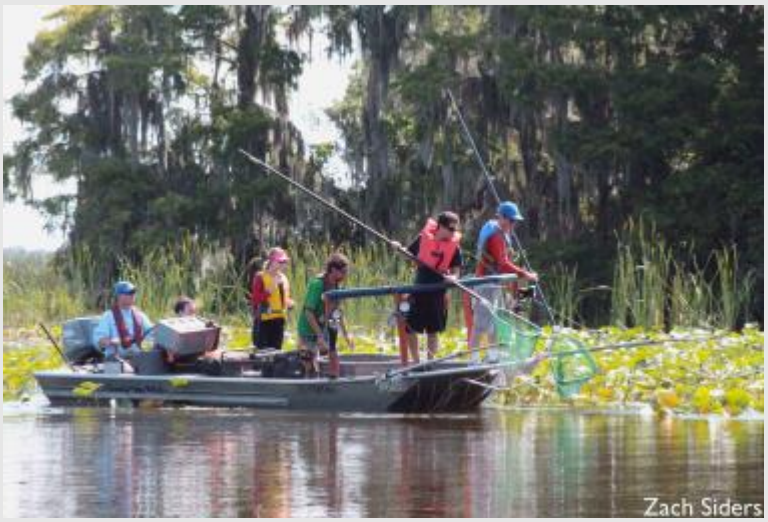
Honeybee pollinating Shiny Blueberry.

The springtime white-pink, urn-shaped flowers become sweet blueberries in the Florida scrub. **Kaitlin Griffith is a** Plant Ecology **intern studying the relationships among Shiny Blueberry *Vaccinium myrsinites*, fire, nectar robbers, and bee pollinators**. Griffith found

Goodbye and good luck to Roberta Pickert, Archbold's dedicated GIS Manager for 20 years!

significantly more pollinators visiting blueberry flowers in scrub that was recently burned and flower patches that were larger in size. Griffith is supported by a grant from the Vaughn Jordan Foundation. **She presented her exciting research to a large audience at the recent 2015** Florida Native Plant Society 'Born to Burn' conference in Tallahassee, FL , commenting, 'Getting experience communicating my research to my peers has helped prepare me for the future, and now, without total trepidation! I was able to talk with a graduate student after my presentation who shared some great resources for my project. It was so wonderful to collaborate with other young scientists.' Whether you are a Shiny Blueberry or a young scientist, interconnections matter in life!

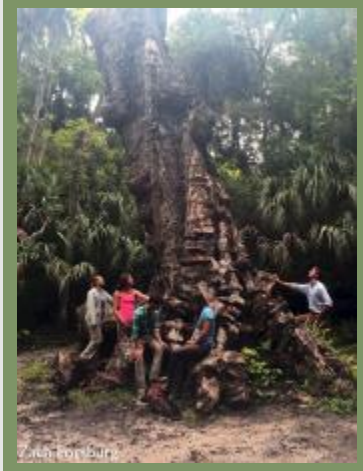
High Scrub to Low Hydrilla



University of Florida students sampling at Lake Istokpoga.

Dr. Mike Allen **and graduate student Zach Siders brought their University of Florida 'Field Ecology of Aquatic Organisms' class to Archbold in early June to explore the diverse, complex lake types in the area**. Driving south from Gainesville via Highway 27 on the Lake Wales Ridge, the class visited Lake Clay in the town of Lake Placid and Lake Annie at Archbold. Siders describes Florida's oldest ridge as 'the remnants of paleoislands from the time when all of Florida was beneath the sea'. The Florida scrub around Lake Annie at Archbold is 'reminiscent of the American Southwest, with low shrubby trees and bushes growing in dry sandy

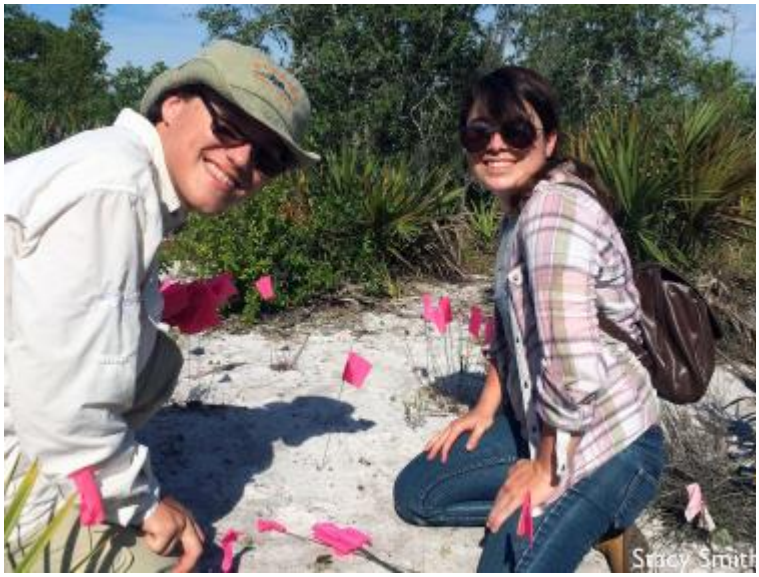
Archbold Facebook
Event Calendar



Archbold staff and interns visited Highlands Hammock State Park near Sebring recently to recreate a photograph taken in 1948 (below) of a Laurel Oak reported by the park to be about 1000 years old.

soils'. He continues, 'Off the highland ridge into clastic soils, Lake Istokpoga sits covering 27,000 acres with a maximum depth of 10 feet. A highly productive fishery, **Lake Istokpoga is a testament to the trials and tribulations of managing invasive aquatic plants, namely Hydrilla** *Hydrilla verticillata*'. The class also explored 'the massive expanse of Lake Okeechobee from the mouth of the Kissimmee River'. Read more about the class visit in Zach's blog!

Training the Next Generation



Amy Platt and Forest Ritenour doing fieldwork in the Florida scrub.

What were you doing the summer before your senior year in high school? **Amy Platt and Forest Ritenour (Sebring High School) are conducting research contributing to the survival of endangered scrub plants and educating 4-6th graders about science in the scrub! Ritenour and Platt were selected for a competitive National Science Foundation** (NSF) 'Research Assistantships for High School Students' summer opportunity with Archbold's Plant Ecology Program. Supervised by Stacy Smith, they spend mornings assisting long-term research projects, like the population biology of the endangered Avon Park

Directions to Archbold Biological Station

Eight miles south of Lake Placid. Entrance is 1.8 miles south of SR 70 on Old SR 8.

Harebells *Crotalaria avonensis*. In the afternoons, they work on independent research projects. Platt said, '**At Archbold, you don't just get a few good learning experiences, you get an entirely new outlook on life and the world surrounding you**'. NSF emphasizes 'When students participate in cutting-edge research activities under the guidance of the Nation's most creative scientists and engineers, the students can gain the up to date knowledge and practical, hands-on experience needed to develop into creative contributors who can engage in innovative activities throughout all sectors of society'.

Archbold
123 Main Drive, Venus, FL 33960