

UF/IFAS

Range Cattle Research & Education Center NEWS

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The UF/IFAS Range Cattle Research and Education Center (RCREC) Rangeland Wildlife & Ecosystems Program

Andrea Dunlap with Raoul Boughton



The Rangeland Wildlife & Ecosystems Program at the UF/IFAS Range Cattle REC is led by Raoul Boughton, an assistant professor specializing in rangeland ecosystems and wildlife. Originally from Australia, Raoul earned his Bachelor of Applied Science majoring in Environmental Resource Management from Southern Cross University, in 1998. Continuing his education, Raoul moved to the United States and completed his Ph.D. in Physiology at the University of Memphis in Tennessee in 2007. Afterwards Raoul worked at the Archbold Biological Station in Venus, Florida as a Post-Doctoral Fellow in 2007 in the Avian Ecology Program and then in 2009 as a Post-Doctoral Affiliate funded by the Morris Animal Foundation Fellow in Disease and Conservation Biology.

In a recent interview, I asked Raoul about his work prior to coming to Ona

in 2014. He shared, "I have always been interested in the outdoors and wildlife. My education found me initially focused on diversity of wildlife in Australian National Parks and I worked at a Research and Education facility known as the Barren Grounds Bird Observatory. This was a live in position on a remote 50,000 acre nature reserve to manage the site. The historic name for the position was a Warden. My job was to support visiting researchers, run guided tours, and develop educational activities. Low pay, awesome place to live, and I spent 7 years wandering the heathlands."

Raoul is a member of several societies, including the American Ornithologists Union, Ecological Society of America, The Wildlife Society and most recently, the Society of Rangeland Management. He has served for 5 years on the Graduate Research Award Committee for the American Ornithologists Union reviewing 150 applications each year.

During our interview I asked, "During your 3 years with UF, what awards or special recognitions have you received?" Raoul responded, "Wildlife and Invasive Species Education (W.I.S.E.) program run in February 2016 by a collaborative team of extension agents was the National Winner for National Association County Agricultural Agents. I contributed to the program with two 1 hour sem-

Rangeland Wildlife & Ecosystems Program 1

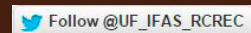
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UF UNIVERSITY of FLORIDA
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inars, one on feral swine and one on coyote. This same program was the state winner for Florida Association County Agricultural Agents for Search for Excellence in Forestry and Natural Resources, and placed 3rd in the Florida Association of Natural Resource Extension Professionals (FANREP) Innovative Program.”

Research

I asked, “Regarding your research, what would you like to share about your current projects?” Raoul said, “I have three main research projects that are currently underway. The first is investigating the biology of wild hogs and their interaction with cattle and wildlife. Over the last three years we have captured over 300 hogs, tested them for diseases, and deployed GPS units and proximity devices to both measure how far they move and how often they interact with cattle and wildlife. The second is focused around calf loss to Florida ranchers. I initially began investigating how the newly arrived coyote used ranch habitats, impacted cattle, and how often they potentially killed calves. This work showed that coyotes extensively use ranch grasslands, have home ranges of about 4,000 acres, are almost entirely nocturnal in Florida, and spend most of their time in open pasture habitats with and without cattle present. This project led to asking the question, how much calf loss in Florida is caused by predators (Coyote, Black Bear, and Panther) compared to other causes (disease, nutrient deficiency, still births, etc.), and where should we be focusing our efforts to reduce calf loss the most? As most calf loss is in the first 48 hours after birth, I focused on finding tools that would allow researchers to find newly born calves. Using birthing sensors and mortality ear tags we can now track a calf’s life from birth to weaning and monitor survival. I have just embarked on this project with full scale monitoring multiple herds with many collaborators in the ranching community and government agencies. We are excited to see what the 2017-2018

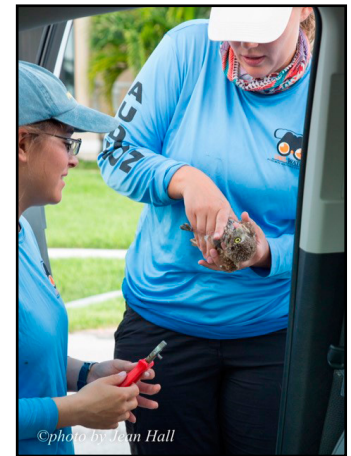


Ke Zhang, Connor Crank, Wes Anderson, Bethany Wight, Julie Burford, with Raoul at the 2015 RCREC Field Day.

calving season tells us. The final project we are setting up is managing cattle in native Florida flatwoods and range with a focus on improving habitats for wildlife and cattle at the same time. This is an on-site collaborative project using the 1000 acres of woods at the Range Cattle Research and Education Center that will investigate the use of multiple annual fires to reduce a legacy of woody shrubs encroaching flatwoods and to increase grass patches, a legacy that is occurring across Florida because of lack of fire. Cattle will be stocked in the flatwoods and metrics of habitat shifts, forage quantity and quality, wildlife use, soil changes and carbon cycling will be measured over the period of this long term project.”

Extension

Raoul’s appointment is 40% research and 60% extension. He seeks to promote environmental stewardship and provide information to ranchers and land owners on managing their land to improve wildlife habitats and practice conservation. When asked about his present extension efforts, Raoul had this to say, “One of my current foci has been on providing information on how two conflict species, wild hogs and coyote, impact ranches, habitats, and wildlife. This is sometimes very hard when the research behind impacts does not exist or is controversial, as in coyote. This has driven some of the extension/research applied questions



Alli Smith (new masters students) and Liz White (PhD student) working on owls in Marco Island.

that we have asked in the last three years. I can then provide accurate information on the impact of these species to ranchers. One big project my program has worked on is “A Ranchers Guide to Identifying Predator Attacks on Livestock.” This is a collaborative project with Texas A&M to help ranchers assess if livestock was killed or scavenged and by what animal. We will be launching the guide this fall. A separate project we continue to work on is providing wildlife factsheets that give the community an accurate picture of the biology and threats to different wildlife in Florida, examples can be seen here (<http://www.rangelandwildlife.com/rangeland-wildlife-species.html>). Finally, we

have just launched a new workshop that focuses on the question of “Is a conservation easement right for your land”. This workshop focuses on the nuances of what an easement means, the benefits an easement may provide, and restrictions an easement may incur.”

International Activities

“Many of the issues we face here in Florida in working ranch landscapes are faced around the world,” says Raoul. “In particular, I see many parallels in Australia with conflict species such as wild pig and dingo, but also big stations (ranches) that provide important protection and conservation for habitats and wildlife. I collaborate with Dr. Ben Allen from the University of Southern Queensland on conflict species as he has dealt with similar issues regarding Dingo impacts, and studies how we can provide management direction to enable wildlife and livestock to both prosper. In 2017, I also co-led with Dr. Steve Johnson a University of Florida study abroad program for undergraduate students to learn about the diversity of wildlife in sub-tropical – tropical northern Australia, which included a great trip to the long-term grazing trials of Wambiana Station (<https://futurebeef.com.au/projects/wambiana-grazing-trial/>).”

Students

Raoul says working with graduate students is one of the favorite aspects of his job. “I enjoy seeing students inquire, develop ideas, test those ideas, sometimes fail in those tests, come up with new ideas, test again, and eventually before they know it they have achieved their degree of choice. Confidence and independence in scientific thought is something I strive to impart to my students. Good graduate students form good science arguments that test my limits and find new ways to get at hard questions. I have had a great team of graduate students who are independent thinkers and have asked a diverse array of questions. I can guide them in where

to find information, undertake experimental design, how to analyze data, but the most important concerns to me are: Did I increase their curiosity, are they excited about science, and has being in graduate school helped them with a career?”

“Since my arrival here I have graduated two Master’s students Connor Crank and Ke Zhang, and currently have two PhD students Wesley Anderson and Elizabeth White, and three masters students Julie Burford, Samantha Baraoidan, and Alli Smith. I am taking on one more student to work on our wild hog project and one more student to work on our calf loss project. Please apply if interested.”

“As your Research Biologist, how does Bethany support your program?” Raoul’s response, “An amazing part of my position is the ability to have a support Research Biologist. I have been extraordinarily lucky to have Bethany Wight come to work for me since July 2014. Bethany has a Master’s degree in biology and supports the program through coordinating projects, helping graduate students, maintaining enormous datasets, and



Raoul resides in Lake Placid with his wife Betsey and sons, Bryce and Russel.

catching and sampling wildlife. Bethany also fields stakeholder questions when I am not available, helps write press articles, prepares data for analysis, and continues to prepare manuscripts. This program would not be the same without an excellent Research Biologist, which Bethany is.”

Learn More

Visit Raoul’s faculty or program page on the RCREC website: <http://rcrec-ona.ifas.ufl.edu> or visit his page: <http://www.rangelandwildlife.com/>.

New Construction is Underway at the RCREC



(above) Building before demolition.



Laying out the foundation.

On the week of July 3, demo began on the old forage lab, greenhouse, and wildlife lab. The new construction will hold 2 labs, a student work room, and a collaboration space.

Watch for construction updates on Facebook.



Foundation poured.

Ona Cattlemen's College Offered at FCA Convention

Chris Prevatt

On Thursday, June 22, 2017 at the Florida Cattlemen's Association Annual Convention the UF/IFAS Range Cattle Research and Education Center's faculty members presented the Ona Cattlemen's College. This year's Cattlemen's College focused on forage related topics and was sponsored by the Florida Cattlemen's Association and Dow AgroSciences. Sixty-two producers from around Florida and the southeast attended the Cattlemen's College and heard topics on forage and drought management, soil fertility and using bio-solids, weed management, and forage economics. Of the sixty-two producers who attended this event, thirty-five completed an evaluation. Based on the completed evaluations, producers in attendance reported an economic benefit of \$1,795 per cattle and forage operation from the education they received from this program. Therefore, the total economic impact this program had on Florida's Beef Cattle and Forage Producers was \$62,825. The success of the 2017 Ona Cattlemen's College has encouraged us to plan to hold this program again in 2018 at the FCA Annual Convention in Orlando.



Maria Silveira speaks to attendees about soil fertility and the use of bio-solids.

Perennial Peanut Field Day - June 30



Videos From Field Days Are Available

Click on the presenter below to open the video.

University of Florida College of Agricultural and Life Sciences (CALS) Prospective Student Workshop – June 29



- [Jason Steward](#), an Academic Advisor, UF CALS introduction and distance education possibilities
- [Charlotte Emerson](#), the Director of Student Development & Recruitment, speaks about applying to college
- [Amie Imler](#), an Undergraduate Program Advisor, speaks about considering a college major
- [Cathy Carr](#), the Director of Alumni and Career Services, uses an interactive game to explore scholarships
- [UF CALS Graduates](#) share their college experience (Julie Warren, Paige Petteway, Andy Heine, Brittany Dunlap, and Taylor Davis)
- [Shelby Oseterreicher](#), a current graduate student, shares about her UF experience on campus
- [Jennifer Peters](#), a current undergraduate student, shares about her distance education experience at the UF Plant City Campus.

- [Dr. Lynn Sollenberger](#), UF Agronomy Department, Gainesville - Establishment & Management
- [Dr. Jose Dubeux](#), UF North Florida REC, Marianna - North Florida Variety Trials
- [Dr. Brent Sellers](#), UF Range Cattle REC, Ona - Herbicide Management
- [Joao Sanchez](#), UF Agronomy Ph.D. Student - Local Variety Trials
- [Glenn Emerson](#), Rancher/Forage Producer (Live Oak Ventures, Wauchula, FL) - Producer Testimonial

Faculty News



On July 1 Brent Sellers was promoted to professor. Congratulations Brent!



Visit Brent's page on the RCREC website to learn more about his work: <http://rcrec-ona.ifas.ufl.edu/faculty/sellers.shtml>

Joe What? Podcasts are a recent addition. In them, Joao 'Joe' Vendramini interviews leaders in agriculture and science about current challenges and opportunities in beef cattle production. To date, interviewees include Jim Strickland, George Kempfer, and Dr. Reinaldo Cooke. This monthly podcast can be found at: <http://ufifasrcrec.podbean.com>.

Student News



Gleise Medeiros da Silva graduated on 8/5 with her master's degree in Animal Sciences. During her studies she was advised by Philippe Moriel. Her research evaluated the effects of reducing the frequency of supplementation and timing of vaccination on growth and immune response of preconditioning beef calves. Gleise will be continuing her studies at the University of Florida as a PhD student and graduate research assistant with Nicolas DiLorenzo at the North Florida Research and Education Center.

Congratulations Gleise, we wish you the best!

Upcoming Presentations

Save the date for these upcoming informative webinars! Presentations will begin at 11:00 a.m. and last about 30 minutes. You may attend in person (call to register: 863-735-1314) or by webinar (see links below).

Sept. 12 - Joao Vendramini (Agronomy)

Register: <https://register.gotowebinar.com/register/4429675447219575810>

Oct. 10 - Maria Silveira (Soil & Water Sciences)

Register: <https://register.gotowebinar.com/register/8023147727628781314>

Nov. 14 - Chris Prevatt (Livestock & Forage Economics)

Register: <https://attendee.gotowebinar.com/register/2862380995453009410>

Upcoming Events

Is A Conservation Easement Right For Your Land?

- September 15, 9:00 a.m. - 2:00 p.m.

UF/IFAS Extension Osceola County, Osceola Heritage Park, 1921 Kissimmee Valley Lane, Kissimmee. For more information call Jessica at 321-697-3000

Register at: <http://conservationeasement.eventbrite.com>

Florida Cattle Enhancement Program – Ona Faculty Report

- September 19, 8:00 a.m. - 3:30 p.m.

RCREC, Grazinglands Education Building, Ona For more information call 863-735-1314

Register prior to 9/19 at <https://fcep-ona.eventbrite.com>

Winter Supplementation Seminar

- September 22, 3:00 - 6:00 p.m.

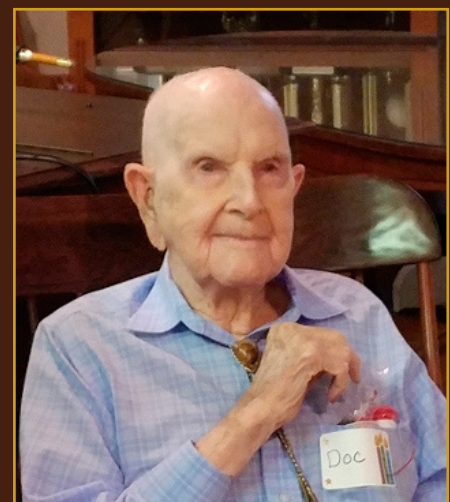
Arcadia Stockyard, 2719 Earnest Street, Arcadia For more information call 863-674-4092 or 863-494-3737.

Register at: <https://www.eventbrite.com/e/winter-supplementation-seminar-tickets-35238356874>

SAVE THE DATE!

UF/IFAS Range Cattle REC Field Day

- April 5, 2018



Dr. Elver Hodges, the Center's first agronomist, celebrated his 105th birthday on August 2nd.

[Click here to learn more about Dr. Hodges.](#)

Webinar's continued...

Past Ona Report Webinars (recordings and slides) are available on the RCREC website, go to: <http://rcrec-ona.ifas.ufl.edu/> look under **Extension** in the left navigation panel and then visit the "Virtual Classroom."

Recent Publications

Kay, S.L, J.W. Fischer, A.J. Monaghan, J.C. Beasley, R. Boughton, T.A. Campbell, S.M. Cooper, S.S. Ditchkoff, S.B. Hartley, J.C. Kilgo, S.M. Wisely, A.C. Wyckoff, K.C. VerCauteren, and K.M. Pepin. 2017. Quantifying drivers of wild pig movement across multiple spatial and temporal scales. *Movement Ecology* DOI: 10.1186/s40462-017-0105-1

Liu, Kesji, L.E. Sollenberger, M.L. Silveira, J.M.B. Vendramini, and Y.C. Newman. 2017. Nutrient pools in bermudagrass swards fertilized at different nitrogen levels. *Crop Science* 57:525-533

Martins, P.G.M., P. Moriel, and J.D. Arthington. 2017. Effects of storage temperature and repeated freeze-thaw cycles on stability of bovine plasma concentrations of haptoglobin and ceruloplasmin. *Journal of Veterinary Diagnostic Investigation*. DOI: 10.1177/1040638717712756

Martins, P.G.M., P. Moriel, J.M.B. Vendramini, G.P. Caputti, and J.D. Arthington. 2017. Effects of multiple oral administrations of fenbendazole on growth and fecal nematodes infection of early-weaned beef calves grazing perennial, warm-season or annual, cool-season grasses. *The Professional Animal Scientist*. 33:432-439.

Mckee, R.W., J.J. Tucker, M.K. Mullenix, C. Prevatt, and E. van Santen. 2017. Grazing evaluation of annual and perennial cool-season forage systems for stocker production in the lower transition zone. *Forage and Grasslands: Crop Forage Turfgrass Manage*. Doi: 10.2134/cftm2016.06.0048

Moriel, P., P. Lancaster, G.C. Lamb, J.M.B. Vendramini, and J.D. Arthington. 2017. Effects of post-weaning growth rate and puberty induction protocol on reproductive performance of *Bos indicus*-influenced beef heifers. *Journal of Animal Sciences*. 95:3523-3531

Reyes-Cabrera, J., J.E. Erickson, R.G. Leon, M.L. Silveira, D.L. Rowland, L.E. Sollenberger, and K.T. Morgan. 2017. Converting bahiagrass pasture land to elephantgrass bioenergy production enhances biomass yield and water quality. *Agriculture, Ecosystems and Environment* 248:20-28

Silveira, M.L., J.M.B. Vendramini, H.M.S. da Silva, B.M.M.N. Borges, V.S. Ribeirinho, J.J.J. Lacerda, M.V. Azenha, P.R.A. Viegas, and A.D. Aguiar. 2017. Potassium and phosphorus fertilization impacts on bermudagrass and limpgrass herbage accumulation, nutritive value, and persistence. *Crop Science*. 57:1-10

Silveira, M.L., J.M.B. Vendramini, and B.A. Sellers. 2017. Nitrogen fertilizer source effects on bahiagrass responses. *Crops & Soils Magazine* doi: 10.2134/cs2017.50.0312

Xu, S., M.L. Silveira, L.W. Ngatia, A.E. Normand, L.E. Sollenberger, and K.R. Reddy. 2017. Carbon and nitrogen pools in aggregate size fractions as affected by sieving method and land use intensification. *Geoderma* 305:70-79

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ABOUT THIS NEWSLETTER

This newsletter is a publication of the UF/IFAS Range Cattle Research and Education Center (RCREC) located in South Central Florida in the heart of Florida's cattle country. Our goal is to keep you up to date on RCRC happenings, publications, research, faculty & student news, upcoming events and bring you beneficial information you can use in your beef cattle or forage operation.

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