

APPLICATION FOR APPOINTMENT – Martin County Agriculture and Natural Resources Advisory Committee – Please Print

Entity You Represent:

- ☐ Treasure Coast Chapter of the Florida Nursery, Growers, and Landscape Association
- ☐ Martin County Farm Bureau
- ☐ Florida Cattleman's Association, Martin County
- ☐ Localecopia
- ☐ Port Salerno Commercial Fishing Dock Authority
- ☐ Audubon of Martin County
- ☒ Florida Oceanographic Society
- ☐ Martin County Chapter of the Florida Native Plant Society
- ☐ National Estuary Program
- ☐ Environmental Studies Center
- ☐ If Alternate for ANY check here

Check One: ☐ Mr. ☐ Mrs. ☐ Ms. ☐ Miss ☒ Dr.

RECEIVED

By Donna Gordon at 1:13 pm, Jul 14, 2020

Name: Lorae' T. Simpson

Residence Address: 345 Granada St., Fort Pierce, FL 34949
Street/City/Zip Code

Mailing Address: _____
(if different) Street/City/Zip Code

Telephone numbers: ^(office) daytime: 225-0505 x114 ^{cell} alternate: 916-717-5249 alternate: _____
~Area Codes are considered 772 unless you note otherwise.

EMAIL: LSimpson@floridaocean.org

Have you ever pled guilty or "no contest" to a crime, been convicted of a crime, had adjudication withheld, prosecution deferred, been placed on probation, received a suspended sentence or forfeited bail in connection with any offense (except minor traffic violations)? Please show all convictions, including driving while intoxicated (DUI) convictions. ☐ yes ☒ no If yes, please provide the following information:

TYPE OF OFFENCES: _____

DATES: _____

PLACES (city/state): _____

SENTENCES OR FINES: _____

A conviction record does not necessarily disqualify you for consideration. Factors such as age at time of offense, nature of violation, and rehabilitation will be considered. The Martin County Board of County Commissioners retains the right to remove, at will, any appointee to a Board or Committee with or without cause.

→ CONTINUED →

EDUCATION/EXPERIENCE: A resume is recommended to be attached containing this and any other information that would be helpful to the Board in evaluating your application. Resume or letter of qualifications attached? ☒ yes ☐ no

Education: see resume below

Employment Experience: see resume below

Other experience you feel would like the Commission to know about you: _____

Community Experience and Affiliations: Coastal Conservation Association,
Backcountry Fishing Association

Other County Boards/Committees/Task Forces on which you have served: n/a

Do you or any member of your immediate family work for Martin County or hold a position that might conflict with your duties for this Board/Committee/Task Force? If yes, please explain: no

REFERENCES: Please list two references:

Mark Perry - mperry@floridaocean.org - 225.0505 x 103
Valerie Paul - Paul@si.edu - 402.0982

- Applicants may be required by State Law and County Ordinance to file a Financial Disclosure Statement as part of the appointment process.
- Under penalties of perjury, I declare that I have read the foregoing and that the facts stated in it are true. (Pursuant to Section 92.525 Florida Statutes, falsifying this application is a Third Degree Felony punishable by up to five years imprisonment and up to a \$5,000 fine.)
- Florida law prohibits an advisory board member from doing business with its agency (the County). Section 112.313(3) and (7), Fla. Stat.

→ Signature: _____

Date: 7/14/2020

Applications must be filed with Martin County Administration, 2401 SE Monterey Road, Stuart, Florida 34996. All information submitted becomes public record. If you have any questions, please call (772) 221-1352 or send email to dgordon@martin.fl.us.

LORAE' T. SIMPSON

345 Granada Street, Fort Pierce, Florida 34949 ■ 916.717.5249 ■ lorae.simpson@gmail.com

Wetland ecologist with 12 years of experience in mangrove and saltmarsh ecosystems. Highly skilled at developing, designing and conducting field research relating to wetland ecosystem structure and function. Demonstrates technical writing ability and strong communication and collaboration skills.

EDUCATION

DOCTOR OF PHILOSOPHY IN SOIL AND WATER SCIENCE, UNIVERSITY OF FLORIDA, 2016
WHITNEY LABORATORY FOR MARINE BIOSCIENCES, ST AUGUSTINE, FLORIDA

MASTER OF SCIENCE IN BIOLOGY, VILLANOVA UNIVERSITY, 2011
VILLANOVA, PENNSYLVANIA

BACHELOR OF SCIENCE IN BIOLOGY, CALIFORNIA STATE UNIVERSITY, 2007
SACRAMENTO, CALIFORNIA

PROFESSIONAL EXPERIENCE

FLORIDA OCEANOGRAPHIC SOCIETY, DIRECTOR OF SCIENTIFIC RESEARCH AND CONSERVATION
STUART, FLORIDA

MARCH 2020 – PRESENT. 40 HOURS PER WEEK.

- Serve as lead spokesperson for FOS research, conservation and advocacy efforts
- Develop, conduct and maintain monitoring and research projects in brackish and saline habitats in Florida
 - Habitats of research and monitoring include; mangroves, seagrass, oysters and clams
- Supervise research scientists and associates
- Mentor/supervise undergraduates interns in research plans, objectives and field work
- Grant writing and budgeting for the department
- Publish peer-reviewed papers and present findings at scientific meetings
- Act as a peer reviewer for several journals

UNIVERSITY OF ALABAMA, POST-DOCTORAL ASSOCIATE
TUSCALOOSA, ALABAMA

DECEMBER 2018 – MARCH 2020. 40 HOURS PER WEEK.

- Plan and conduct field work in brackish saltmarsh in Alabama and Louisiana
 - Areas of research include; nutrient cycling, carbon storage, herbivory and detritivory, tissue and soil chemistry, soil respiration, litter decomposition, and biomass allocation
- Designed and currently maintain a greenhouse experiment at the University of Alabama
- Coordinate, plan and conduct field work in mangrove ecosystems in Florida and Belize on carbon storage dynamics
- Mentor/supervise undergraduates and graduate students in research plans, objectives and field work
- Grant writing
- Publish peer-reviewed papers and present findings at scientific meetings
- Act as a peer reviewer for several journals

WHITNEY LABORATORY FOR MARINE BIOSCIENCES, POST-DOCTORAL ASSOCIATE
ST AUGUSTINE, FLORIDA

JULY 2017 – DECEMBER 2018. 40 HOURS PER WEEK.

- Plan and conduct field work in brackish saltmarsh and mangroves around the state of Florida

- Areas of research include; nutrient cycling, carbon storage, tissue and soil chemistry, soil respiration, litter decomposition, and biomass allocation
- Plan and conduct field work in wetland ecosystems in Everglades National Park
 - Areas of research include; Phosphorous nutrient cycling and carbon storage
- Coordinate, plan and conduct field work in mangrove ecosystems around Panama and Belize
- Mentor/supervise undergraduates and graduate students in research plans, objectives and field work
- Publish peer-reviewed papers, assist with technical reports and present findings at scientific meetings
- Operate boats, trucks and kayaks to complete work. Conduct work out of helicopters in the Everglades.
- Acted as a peer reviewer for several journals

SMITHSONIAN MARINE STATION, BIOLOGICAL SCIENCE TECHNICIAN

FORT PIERCE, FLORIDA

JUNE 2011-JULY 2017. 40 HOURS PER WEEK.

- Planned and conducted field work in brackish saltmarsh and mangroves around the state of Florida
 - Areas of research included; nutrient cycling, carbon storage, herbivory and detritivory, tissue and soil chemistry, soil respiration, litter decomposition, biomass allocation, and flora monitoring
 - Independently planned and implemented the setup of 60 permanent, 10 x 10 m plots, along the Atlantic coast of Florida for long term monitoring of mangrove and saltmarsh species. These plots are still in operation today
 - Coordinated and lead multiple trips into the field with crews of 2 – 10 people
- Coordinated, planned and conducted field work in mangrove ecosystems around Belize, Panama and Baja California
 - Assisted with coral spawning 3 times in Belize, which required technical scuba diving at night
- Many trips required local or global travel and involved irregular and long hours, under harsh working conditions
- Maintained, trailered, and drove boats 14 – 18 feet in length
 - Comfortably utilized kayaks and paddleboards to achieve work objectives
- Performed administrative duties for the lab, as well as maintaining, organizing and restocking the lab and its equipment
 - Properly maintained a government issued purchase and travel credit card
- Managed (entry, QA/QC, and analysis of) various data sets, for both myself and other researchers
- Worked in conjunction with several state and federal entities to obtain collecting and research permits
- Independently developed an outdoor mangrove nursery to grow plants for experiments
 - Maintained outdoor mangrove nursery, including nurturing of plants as well as facility maintenance
- Assisted visiting scientists, ~4 a year, with trip logistics and field work around the state
- Mentored 8 graduate students and 4 interns over the course of my tenure
- Participated in monthly station tours to the public and took part in 3 public outreach events a year
- Represented the lab in multiple conferences and symposia around the country
- Published peer-reviewed papers while in the lab
 - Acted as a peer reviewer for several journals

SMITHSONIAN MARINE STATION, LINK FELLOWSHIP

FORT PIERCE, FLORIDA

JUNE 2010 – OCTOBER 2010. 40 HOURS PER WEEK.

- Designed, implemented and conducted field work in Avalon State Park
- Participated in monthly station tours to the public

VILLANOVA UNIVERSITY, RESEARCH AND TEACHING ASSISTANT

VILLANOVA, PENNSYLVANIA

AUGUST 2008 – JUNE 2011. 40 HOURS PER WEEK.

- Conducted field and laboratory research on competitive interactions between mangroves and salt marsh in Florida
 - Research conducted focused on interspecies competition, nutrient cycling, litter tissue chemistry and biomass allocation of mangrove species
- Carried out research objectives in the field without supervision

- Performed administrative duties for the lab, as well as maintaining, organizing and restocking the lab and its equipment
- Taught two semesters of Introductory Biology laboratories independently. Responsible for 60 students a semester
- Teaching assistant in Biostatistics, Physiological Ecology, Microbiology, and Marine Biology

ALASKA HERITAGE PROGRAM, FIELD TECHNICIAN

ANCHORAGE, ALASKA

JUNE – AUGUST 2008, JULY – SEPTEMBER 2010. 40 HOURS PER WEEK.

- Performed field work around the state of Alaska over two summers
 - Field work included native species inventory, invasive species monitoring, and quantification of Alder dieback
- Worked irregular hours, under harsh conditions in remote locations
- Worked independently on native and invasive flora identification
- Assisted in writing and data collection for the annual monitoring report
- Managed (entry, QA/QC, and analysis of) various data sets, for both myself and other researchers

UNIVERSITY OF PENNSYLVANIA, FLORA OF PENNSYLVANIA INTERN

PHILADELPHIA, PENNSYLVANIA

JUNE 2007 – JUNE 2008. 40 HOURS PER WEEK

- Conducted independent field and laboratory research on the reproductive modes of *Solidago speciosa* var. *speciosa*
 - Field work included pollinator exclusions and observation, and plant monitoring
 - Lab work included genetic protocols (i.e. CTAB and PCR)
- Assisted with native vegetation inventory and identification as well as water quality testing around the state of Pennsylvania
- Worked long days that included overnight trips
- Worked in the herbarium at the Academy of Natural Sciences doing general herbarium maintenance and giving public tours

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE, AGRICULTURAL INTERN

SACRAMENTO, CALIFORNIA

JUNE 2006 – MAY 2007. 15 HOURS PER WEEK.

- Carried out extensive eradication protocols (both herbicide and biological) in efforts to eradicate *Lythrum salicaria* and *Hydrilla* in Northern California
- Assisted in research on the germination potential of *Lythrum salicaria*
- Performed GPS surveying for *Hydrilla*, *Milfoil* and *Egeria* on the Delta
- Worked 10 – 12 hour days which included long distance commutes around the state with several overnight trips
- Hiked, kayaked and used other forms of watercraft (fishing boats and airboats) in high temperatures to carry out fieldwork

CALIFORNIA STATE UNIVERSITY, RESEARCH INTERN

SACRAMENTO, CALIFORNIA

JUNE 2005 – MAY 2007. 20 HOURS PER WEEK.

- Assisted in field and laboratory research on the hybridization of *Penstemon* in Northern California
- Independently and effectively carried out field work which included pollinator observations, collection and identification, as well as plant morphological measurements and nectar collection
- Lab work included molecular techniques (i.e. PCR, AFLP)
- Lead a team of 7 with Earthwatch, researching reproduction of the *Camassia quamash*

TRAINING, LEADERSHIP

TRAINING

- Boaters Safety (Florida) (2017)
- A – 100 Basic Aviation Safety (2016)
- DAN Diving First Aid (2012 - current)

- Smithsonian Institution Scientific SCUBA Diver (2012)
- NAUI Advanced Dive and Rescue SCUBA Diver (2012)

LEADERSHIP

- Mentor two graduate students and multiple undergraduate students (2018 – present)
- Mentor two graduate students and act as an REU near – peer mentor (2017 – 2018)
- Backcountry Fishing Association vice president, Fort Pierce, FL (2017 – 2018)
- Backcountry Fishing Association board member and secretary, Fort Pierce, FL (2016 – 2017)
- Indian River Women's Rugby Club captain, Vero Beach, FL (2014)
- Indian River Women's Rugby Club board member, Vero Beach, FL (2014 – 2016)
- Mentored 8 graduate students and 4 interns at the Smithsonian Marine Station, FL (2012 – 2016)
- Teaching assistant at Villanova University, PA (2008 – 2010)
- Women's rugby club president, California State University, Sacramento, CA (2003 – 2006)
- AmeriCorps through California State University, Sacramento, CA (2008)

COMPUTER SKILLS

Microsoft suite (PC and MAC), ArcGIS, ArcMap, Adobe Photoshop, Adobe Acrobat, Google Earth, JMP 14.0, PRIMER v7, Sigmaplot, HOBO Onset, ImageJ

SELECTED PUBLICATIONS AND PRESENTATIONS

PUBLICATIONS

- **Simpson, L.T.**, C.E. Lovelock, J.A. Cherry and I.C. Feller. 2019. Short-lived Effects of Nutrient Enrichment on *Avicennia germinans* in a Saltmarsh-Mangrove Ecotone. *Coastal, Estuarine and Shelf Science*. In press.
- Kauffman, J.B., M.F. Adame, V.B. Arifanti, L.M. Schile-Beers, A.F. Bernardino, R.K. Bhomia, D.C. Donato, T. Ferreira, M.C. Jesús García, R. MacKenzie, I.C. Feller, **L.T. Simpson**, J.P. Megonigal, D. Murdiyarso, H. Hernandez Trejo. 2019. Total ecosystem carbon stocks of mangroves across broad global environmental and physical gradients. *Ecological Monographs*. In revision.
- Dangremond, E.M., **L.T. Simpson**, T.Z. Osborne, I.C. Feller. 2019. Nitrogen Enrichment Accelerated Mangrove Range Expansion in the Temperature-Tropical Ecotone. *Ecosystems*. <https://doi.org/10.1007/s10021-019-00441-2>
- **Simpson, L.T.**, C.M. Stein, T.Z. Osborne and I.C. Feller. 2019. Mangroves Dramatically Increase Carbon Storage after 3 Years of Encroachment. *Hydrobiologia*, 834(1): 13-26
- **Simpson, L.T.**, T.Z. Osborne and I.C. Feller. 2019. Coastal Wetland Soil CO₂ Efflux along a Latitudinal Gradient of Spatial and Temporal Complexity. *Estuaries and Coasts*, 42(1):45-54
- **Simpson, L.T.**, T.Z. Osborne L.J. Duckett and I.C. Feller. 2017. Carbon Storages along a Climate Induced Coastal Wetland Gradient. *Wetlands*, Doi: 10.1007/s13157-017-0937-x
- **Simpson, L.T.**, T.Z. Osborne and I.C. Feller. 2016. Establishment and Biomass Allocation of Black and Red Mangroves: Response to Propagule Flotation Duration and Seedling Light Availability. *Journal of Coastal Research*, 33(5): 1126-1134
- Lovelock, C.E., **L.T. Simpson**, L.J. Duckett, and I.C. Feller. 2015. Carbon Budgets for Caribbean Mangrove Forests of Varying Structure and with Phosphorous Enrichment. *Forests*, 6: 3528-3546
- **Simpson, L.T.**, I.C. Feller and S.K. Chapman. 2013. Effects of competition and nutrient enrichment on *Avicennia germinans* in the salt marsh mangrove ecotone. *Aquatic Botany*, 104: 55-59

ORAL PRESENTATIONS

- **Simpson, L.T.**, **J.A. Cherry**, **I.C. Feller**. 2019. "Marsh to Mangroves: Does Alteration of Ecosystem Structure Lead to Changes in Decomposition Function?" Coastal and Estuarine Research Federation Annual Meeting, Mobile, AL
- Cherry, J.A., **L.T. Simpson**, M. Nugent, L. Battaglia. 2019. "Prescribed Fire Drives Decomposition Dynamics Along a Coastal Elevation Gradient." Coastal and Estuarine Research Federation Annual Meeting, Mobile, AL
- **Simpson, L.T.**, C.E. Lovelock, J.A. Cherry, T.Z. Osborne and I.C. Feller. 2019. "Leaf Litter Decay Rates with Nutrient Enrichment of *Avicennia Germinans*." Society of Wetland Scientists Annual Meeting, Baltimore, MD
- **Simpson, L.T.**, I.C. Feller, T.Z. Osborne. 2018. "Effects of Nutrient Enrichment on Carbon Dynamics in the Salt-Marsh – Mangrove Ecotone." 12th International Symposium on Biogeochemistry of Wetlands, Coral Springs, FL
- **Simpson, L.T.** 2018. "Mangroves and their Northern Migration". Education Learning Center, Vero Beach, FL
- **Simpson, L.T.**, T.Z. Osborne and I.C. Feller. 2017. "Effects of Nutrient Enrichment on Carbon Dynamics in the Salt-Marsh – Mangrove Ecotone." Society of Wetland Scientists Annual Meeting, San Juan, Puerto Rico
- **Simpson, L.T.** 2017. "Impacts of Global Climate Change on Carbon Storage in the Salt – Marsh Mangrove Ecotone in Florida." Whitney Laboratory for the Marine Biosciences. St. Augustine, FL
- **Simpson, L.T.**, T.Z. Osborne and I.C. Feller. 2015. "The Salt Marsh Mangrove Ecotone in a Changing Climate; Structure, Biomass and Carbon Stocks." Coastal and Estuarine Research Federation Annual Meeting, Portland, OR

- **Simpson, L.T.** and I.C. Feller 2013. "Influence of propagule flotation and light availability on establishment and productivity of mangroves transgressing poleward." Coastal and Estuarine Research Federation Annual Meeting, San Diego, CA
- **Simpson, L.T.**, I.C. Feller and S.K. Chapman. 2010. "Eutrophication and Interspecific Competition alter *Avicennia germinans* Growth in the Salt Marsh-Mangrove Ecotone." Society of Wetland Scientists Annual Meeting, Salt Lake City, Utah.
- **Simpson, L.T.** 2008. "Reproductive modes of *Solidago speciosa* var. *speciosa*". Pennsylvania Academy of Sciences annual meeting. Grantville, PA

POSTERS

- **Simpson, L.T.**, C.M. Stein, T.Z. Osborne, and I.C. Feller. 2019. "Mangroves Dramatically Increase Soil Carbon Storage After Three Years of Encroachment." Mangroves and Macrobenthos Meeting, Singapore.
- **Simpson, L.T.**, T.Z. Osborne and I.C. Feller. 2015. "Soil Carbon Stocks in a Shifting Ecosystem: Climate Induced Migration of Mangroves into Salt Marsh." American Geophysical Union Annual Meeting, San Francisco, CA
- **Simpson, L.T.**, I.C. Feller and S.K. Chapman. 2011. "Interacting effects of sea level rise, nitrogen enrichment and competition in the salt marsh mangrove community." Indian River Lagoon Symposium. Fort Pierce, FL.
- **Simpson, L. T.** and S.L. Datwyler. 2007. "Testing the hypothesis of hybridization in *Penstemon newberryi* var. *newberryi*". Annual Botany meeting, Chicago , IL